Location:

REGIONAL TRANSPORTATION COMMISSION
1105 Terminal Way, 1st Floor Great Room, Reno, NV
Date/Time: 9:00 A.M. - Friday, October 16, 2026

REGIONAL TRANSPORTATION COMMISSION
OF WASHOE COUNTY
BOARD MEETING AGENDA

I. The Regional Transportation Commission Great Room is accessible to individuals with disabilities. Requests for auxiliary aids to assist individuals with disabilities should be made with as much advance notice as possible. For those requiring hearing or speech assistance, contact Relay Nevada at 1-800-326-6868 (TTY, VCO or HCO). Requests for supporting documents and all other requests should be directed to Michelle Kraus at 775-348-0400 and you will receive a response within five business days. Supporting documents may also be found on the RTC website: www.rtcwashoe.com.

II. This meeting will be televised live and replayed on RTC's YouTube channel at: bit/ly/RTCWashoeYouTube

III. Members of the public in attendance at the meeting may provide public comment (limited to three minutes) after filling out a request to speak form at the meeting. Members of the public that would like to provide presentation aids must bring eight (8) hard copies to be distributed to the Board members at the meeting. Alternatively, presentation aids may be emailed, in PDF format only, to mkraus@rtcwashoe.com prior to 4:00 p.m. on the day preceding the meeting to be distributed to the Board members in advance of the meeting. Members of the public may also provide public comment by one of the following methods: (1) emailing comments to: rtcpubliccomments@rtcwashoe.com; or (2) leaving a voicemail (limited to three minutes) at (775) 335-0018. Comments received prior to 4:00 p.m. on the day preceding the meeting will be entered into the record.

IV. The Commission may combine two or more agenda items for consideration and/or may remove an item from the agenda or delay discussion relating to an item on the agenda at any time.

V. The supporting materials for the meeting will be available at https://rtcwashoe.com/news/meetings-agendas/. In addition, a member of the public may request supporting materials electronically from Michelle Kraus at the following email address: mkraus@rtcwashoe.com.

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1. Call to Order:

1.1. Roll Call

1.2. Pledge of Allegiance

1.3. Special Recognitions

1.3.1 Proclamation Honoring the Service of Commissioner Hillary Schieve

2. Public Comment: *Public comment taken under this item may pertain to matters both on and off the agenda. The Chair may take public comment on a particular item on the agenda at the time it is discussed. Comments are to be made to the Board as a whole and not to individual commissioners.*

3. Approval of Agenda (For Possible Action):

4. Consent Items (For Possible Action):

4.1. Minutes

4.1.1 Approve the meeting minutes for the 09/18/2026 RTC Board meeting. (For Possible Action)

4.2. Reports

4.2.1 Acknowledge receipt of the monthly Procurement Activity Report. (For Possible Action)

4.2.2 Acknowledge receipt of the monthly Planning Activity Report. (For Possible Action)

4.2.3 Acknowledge receipt of the monthly Engineering Activity Report. (For Possible Action)

4.2.4 Acknowledge receipt of the monthly Public Transportation and Operations report for September. (For Possible Action)

4.2.5 Acknowledge receipt of the Summary Report for the Technical, Citizens Multimodal, and Regional Road Impact Fee Advisory Committees. (For Possible Action)

4.2.6 Acknowledge receipt of the monthly Community Outreach and Media Activity Report. (For Possible Action)

4.3. Planning Department

4.3.1 Approve a contract with The Langdon Group for planning services to complete the 2050 Regional Transportation Plan Community Engagement Effort, in an amount not-to-exceed $111,256. (For Possible Action)

4.4. Engineering Department

4.4.1 Approve a contract with Nichols Consulting Engineers, CHTD to provide design and optional construction management services related to the Mill Street Rehabilitation Project, in an amount not-to-exceed $1,232,269. (For Possible Action)

4.4.2 Approve a Regional Road Impact Fee (RRIF) offset agreement between RTC, Oakmont Properties-South Virginia, LLC, and City of Reno for offset-eligible improvements and intersection signalization at Virginia Street and South Hills Drive for Elysium Apartments. (For Possible Action)

4.5. Executive, Administrative and Finance Department

4.5.1 Acknowledge receipt of the Asset Donation Log for the second and third quarters of calendar year 2026. (For Possible Action)

4.5.2 Approve the Executive Director employment contract between RTC and Dale Keller. (For Possible Action)

5. Public Hearing:

5.1. Conduct a public hearing regarding approval of Amendment No. 4 to the FFY 2025-2029 Regional Transportation Improvement Program (RTIP); adopt a resolution approving Amendment No. 4 to the FFY 2025-2029 Regional Transportation Improvement Program (RTIP). (For Possible Action)

a. Staff Presentation
b. Public Hearing
c. Action

6. Discussion Items and Presentations:

6.1. Receive a presentation on the draft Rock Boulevard Corridor Study. (Informational Only)

6.2. Receive a presentation on the draft Sun Valley/Panther Valley & Meadowood/Hidden Valley Neighborhood Network Plans. (Informational Only)

7. **Reports (Information Only):**
   - 7.1 Monthly verbal update/messages from RTC Executive Director Bill Thomas - no action taken.
   - 7.2 Monthly verbal update/messages from Paul Nelson, RTC Government Affairs Officer on federal matters related to the RTC - no action will be taken.
   - 7.3 Monthly verbal update/messages from NDOT Director Tracy Larkin Thomason or designated NDOT Deputy Director - no action will be taken.

8. **Commissioner Announcements and Updates:** *Announcements and updates to include requests for information or topics for future agendas. No deliberation or action will take place on this item.*

9. **Public Comment:** *Public comment taken under this item may pertain to matters both on and off the agenda. The Chair may take public comment on a particular item on the agenda at the time it is discussed. Comments are to be made to the Board as a whole and not to individual commissioners.*

10. **Adjournment (For Possible Action)**

Posting locations: RTC, 1105 Terminal Way, Reno, NV, RTC website: www.rtcwashoe.com, State website: https://notice.nv.gov/

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 4.1.1**

To: Regional Transportation Commission

From: Michelle Kraus, Clerk of the Board

SUBJECT: Draft Meeting Minutes for 09/18/2026

RECOMMENDED ACTION

Approve the meeting minutes for the 09/18/2026 RTC Board meeting.

BACKGROUND AND DISCUSSION

See attachment for Background and Discussion.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

REGIONAL TRANSPORTATION COMMISSION
WASHOE COUNTY, NEVADA

FRIDAY **8:31 A.M.** **September 18, 2026**

PRESENT:

Alexis Hill, Chair, Washoe County Commissioner
Devon Reese, Vice Chair, Reno City Council (Via Phone)
Ed Lawson, Mayor of Sparks
Mariluz Garcia, Washoe County Commissioner
Hillary Schieve, Mayor of Reno
Bill Thomas, RTC Executive Director
Adam Spear, Legal Counsel

ABSENT:

Tracy Larkin Thomason, Director of NDOT

The regular monthly meeting, held in the 1st Floor Great Room at Regional Transportation Commission of Washoe County, Reno, Nevada, was called to order by Chair Hill. The Board conducted the following business:

Item 1 CALL TO ORDER

1.1 Roll Call
1.2 Pledge of Allegiance

Item 2 PUBLIC COMMENT

Dora Martinez thanked RTC staff for addressing her concerns regarding audible bus announcements, explaining their importance to riders who are blind or visually impaired. She also expressed concern regarding ACCESS/MTM driver compensation and staffing, stating that experienced drivers have left and that some replacement drivers require additional training and patience when assisting individuals with disabilities. She encouraged RTC to review the matter and thanked the Board and staff for their responsiveness to concerns raised by the disability community.

The Board Clerk reported that three emailed public comments had been received, distributed to the Board, and would be made part of the permanent record. Chair Hill requested that staff review traffic recommendations submitted in one of the written comments.

Item 3 APPROVAL OF AGENDA

Chair Hill requested that the Consent Items be considered before Item 4.

On motion of Commissioner Garcia to approve the agenda as amended to move the Consent Items before Item 4, seconded by Mayor Schieve, which motion unanimously carried, Chair Hill ordered the agenda approved.

Item 4 DISCUSSION ITEMS AND PRESENTATIONS

4.1 Discussion and possible action to consider and interview the following candidates for the RTC Executive Director position: Daniel Gabiou, Dale Keller, Mukesh Kumar; and select the next Executive Director pending negotiation and execution of an employment contract for Board approval. (For Possible Action)

The Board interviewed Executive Director candidates Daniel Gabiou, Dale Keller, and Mukesh Kumar. Each candidate provided introductory remarks regarding professional experience, leadership philosophy, and qualifications for the position and responded to substantially the same questions from Board members.

Following the interviews, Mayor Schieve commended all three candidates and the recruitment process and stated that each candidate provided thoughtful responses.

Vice-Chair Reese also expressed appreciation for the recruitment process and the quality of the candidates and indicated his preference to submit the Board's individual ranking sheets rather than further deliberate.

Board members submitted individual ranking sheets. Legal Counsel Adam Spear announced that the results were unanimous, with each Commissioner selecting Dale Keller as the top choice for RTC Executive Director.

Chair Hill thanked all three candidates for participating in the public recruitment process and noted the support for Mr. Keller expressed by RTC employees and community members.

Mayor Schieve also thanked the other candidates for their participation and encouraged them to remain engaged with opportunities in the region.

On motion of Mayor Schieve to select Dale Keller as RTC Executive Director, pending negotiation and execution of an employment contract for Board approval, seconded by Mayor Lawson, which motion unanimously carried, Chair Hill ordered the item approved.

Items 5 CONSENT ITEMS

5.1 Minutes

5.1.1 Approve the meeting minutes for the 8/21/2026 RTC Board meeting. (For Possible Action)

5.2. Planning Department

5.2.1 Approve a contract with Parametrix, Inc., for planning services to complete Neighborhood Network Plans 5 & 6, in an amount not-to-exceed $224,600. (For Possible Action)

5.2.2 Approve a contract with Parametrix, Inc., for consulting services on the Silverada-Wedekind-Clear Acre-Sutro and 7th-Kings Row-Keystone Corridor Studies, in an amount not-to-exceed $399,360. (For Possible Action)

5.2.3 Approve a contract with GCW, Inc., for planning services to complete the 4th Street Corridor Study, in an amount not-to-exceed $149,900. (For Possible Action)

5.2.4 Approve the RTC staff-recommended appointments/reappointments to the Citizens Multimodal Advisory Committee (CMAC) with terms through June 2027. (For Possible Action)

5.3 Engineering Department

5.3.1 Approve a contract with Lumos and Associates, Inc., for design and engineering during construction services related to the 2027 Preventive Maintenance Project, in an amount not-to-exceed $1,166,935. (For Possible Action)

5.3.2 Approve Amendment No. 2 to the contract with Wood Rodgers, Inc., for additional engineering design and engineering during construction services to extend the scope through final design and construction of the Ninth Street Extension from Evans Avenue to Wells Avenue in connection with the University Area Transportation Project, in the amount of $1,147,621, for a new total not-to-exceed amount of $1,806,271. (For Possible Action)

5.4 Public Transportation/Operations Department

5.4.1 Approve an Interlocal Cooperative Agreement with Washoe County Human Services Agency to provide funds for senior/disabled transportation services in the non-urbanized area of Gerlach, in the amount of $20,000. (For Possible Action)

5.5 Executive, Administrative and Finance Departments

5.5.1 Approve a contract with Trifox LLC for wage compliance services related to certified payroll monitoring, prevailing wage and Davis-Bacon Act compliance, and related LCP Tracker administration for the period January 1, 2027 through June 30, 2030, in an amount not-to-exceed $264,285. (For Possible Action)

On motion of Mayor Schieve to approve the consent items, seconded by Commissioner Garcia, which motion unanimously carried, Chair Hill ordered that these items be approved.

Item 6 COMMISSIONER ANNOUNCEMENTS AND UPDATES

Vice Chair Reese thanked Executive Director Bill Thomas for his service to RTC and for assisting with the leadership transition. He congratulated Mr. Keller and noted the significance of the Board's unanimous selection. Vice Chair Reese also thanked his fellow Commissioners for working collaboratively across jurisdictional boundaries and reaching consensus on the selection.

Chair Hill announced that RTC would hold a special joint meeting with Storey County on September 29, 2026, at 6:00 p.m. to discuss transportation alternatives intended to support employees who live in Washoe County and work in the Tahoe-Reno Industrial Center. She stated that the meeting would involve discussion of a regional transportation effort extending across county boundaries.

Item 7 PUBLIC COMMENT

Dora Martinez congratulated Dale Keller on his selection as Executive Director and requested that RTC consider providing free RTC ACCESS transportation during the early voting period for individuals with disabilities and their personal care attendants traveling to voting locations. She

explained that providing the service during early voting could help individuals who require assistance avoid lengthy Election Day waits that may conflict with their attendants' schedules. Chair Hill stated that RTC would follow up regarding the request.

Item 8 ***ADJOURNMENT***

The meeting was adjourned at 10:24 a.m.

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ALEXIS HILL, Chair
Regional Transportation Commission

**Copies of all presentations are available by contacting Michelle Kraus at mkraus@rtcwashoe.com.

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 4.2.1**

To: Regional Transportation Commission

From: Amber Bowsmith, Organizational Effectiveness Manager

SUBJECT: Procurement Activity Report

RECOMMENDED ACTION

Acknowledge receipt of the monthly Procurement Activity Report.

BACKGROUND AND DISCUSSION

See attached for Background and Discussion.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

ATTACHMENT A

PROJECTS CURRENTLY ADVERTISED

Invitations for Bids (IFB)	
Project	**Due Date**
White Fir Street Rehabilitation	September 28, 2026

Request for Proposals (RFP)	
Project	**Due Date**
Sparks Industrial Study	October 1, 2026
Bus Stop Shelters	November 5, 2026

REPORT ON INVITATION FOR BID (IFB) AWARDS

Per NRS 332, NRS 338 and RTC's Management Policy P-13 "Purchasing," the Executive Director has authority to negotiate and execute a contract with the lowest responsive and responsible bidder on an Invitation for Bid (IFB) without Commission approval.

Project	Contractor	Award Date	Contract Amount
Galletti Way Rehabilitation Project	Sierra Nevada Construction	8/20/2026	$1,696,007
Stead Signal Improvements	Titan Electrical	9/1/2026	$3,331,272
Bus Stop Improvements 26-01	Sierra Nevada Construction	9/2/2026	$1,127,007

PROFESSIONAL SERVICES/CONSULTING AGREEMENTS

Per RTC's Management Policy P-13 Executive Director has authority to approve contracts greater than $25,000 and less than (or equal to) $100,000.

Project	Contractor	Contract Amount
RTC FY27 Landscaping Services	Town & Country Landscaping	$49,634.80
Transit Outsourcing Study	Transportation Management & Design (TMD)	$99,926.72

CHANGE ORDERS AND CONTRACT AMENDMENTS WITHIN EXECUTIVE DIRECTOR'S RTC's P-13 PURCHASING POLICY AUTHORITY

Project	Contractor	Approval Date	CO / Amend. Number	CO / Amend. Amount	Revised Total Contract Amount
Spare Resolve Add Scout AI	Spare Labs	7/23/2026	Amend. 3	$49,992	$1,615,167
Traffic Data Licenses FY27	INRIX	8/3/2026	Amend. 2	$26,775	$56,525
Rock & Hymer Intersection	GCW, Inc.	9/15/2026	Amend. 1	$49,260	$543,880

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 4.2.2**

To: Regional Transportation Commission

From: Vanessa Lacer, Director of Planning

SUBJECT: Planning Activity Report

RECOMMENDED ACTION

Acknowledge receipt of the monthly Planning Activity Report.

BACKGROUND AND DISCUSSION

See attachment for Background and Discussion.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

REGIONAL TRANSPORTATION COMMISSION
OF WASHOE COUNTY
ENGINEERING • PLANNING • PUBLIC TRANSPORTATION

PLANNING STUDIES

SS4A Comprehensive Safety Action Plan

Project Manager: Graham Dollarhide
Website: https://rtcwashoe.com/truckee-meadows-safety/

Status: RTC was awarded $1.2 million in federal dollars through the FHWA Safe Streets and Roads for All grant program to develop a regional Safety Action Plan. A contract with FHWA has been executed and a vendor contract was approved by the RTC Board in February 2026. Planning activities began in March 2026. The project team is currently in the data collection phase. A final plan is expected in fall of 2028. More project information can be accessed at the web address above.

Truckee River Path Implementation Plan

Project Manager: Vanessa Lacer

Status: Planning activities began in December 2025. Stakeholder engagement has concluded and the project team is now incorporating stakeholder comments into the draft plan. A final plan is expected in fall of 2026.

2050 RTP Engagement Effort

Project Manager: Vanessa Lacer

Status: Procurement activities have concluded and approval of a vendor contract will be sought in October 2026. Planning activities are expected to begin in late 2026, and a final report is expected in summer of 2027.

Rock Blvd Corridor Study

Project Manager: Shay League
Website: https://rtcwashoe.com/planning/corridor-studies/rock-boulevard-corridor-study/

Status: Planning activities for the Rock Blvd Corridor/Area Study began in October 2025. Data collection and public engagement have concluded. The draft plan will be presented to the RTC TAC, CMAC, and Board in October 2026. The final plan is expected to go to the RTC Board for approval in November 2026. More project information can be accessed at the web address above.

4th St Corridor Study

Project Manager: Shay League

Status: Procurement activities have concluded and a vendor contract was approved in September 2026. Planning activities will begin in October 2026, and a final plan is expected in December 2027.

Sparks Industrial Area Study

Project Manager: Shay League

Status: Procurement activities have begun and approval will be sought for a vendor contract in December 2026. Planning activities will begin in early 2027 and a final plan is expected in March 2028.

Kirman/Locust/Wells/Taylor Corridor Study

Project Manager: Xuan Wang
Website: https://rtcwashoe.com/planning/corridor-studies/locust-taylor-kirman-wells-corridor-study/

Status: Planning activities for the Kirman/Locust/Wells/Taylor Corridor/Area Study began in October 2025. Data collection and public engagement have concluded. A plan development update was provided to the RTC TAC, CMAC and Board in July 2026. A final plan is expected in January 2027. More project information can be accessed at the web address above.

Congestion Management Process

Project Manager: Xuan Wang

Status: Planning activities began in December 2025, and a final report is expected in January 2027.

Silverada/Wedekind/Clear Acre/Sutro Corridor Study

Project Manager: Xuan Wang

Status: Procurement activities have concluded and a vendor contract was approved in September 2026. Planning activities will begin in October 2026, and a final plan is expected in December 2027.

W. 7th/Kings Row/Keystone Corridor Study

Project Manager: Xuan Wang

Status: Procurement activities have concluded and a vendor contract was approved in September 2026. Planning activities will begin in October 2026, and a final plan is expected in December 2027.

Neighborhood Network Plans 3 & 4

Project Manager: Marquis Williams
Website: https://rtcwashoe.com/planning/neighborhood-network-plan/

Status: Planning activities for Neighborhood Network Plans (NNPs) 3 & 4, Meadowood/Hidden Valley and Sun Valley/Panther Valley, began in October 2025. The project team has concluded public outreach and data collection for both plans. Draft plans will be presented to the RTC TAC, CMAC, and Board in October 2026. Final plans are expected to go to the RTC Board for approval in November 2026. More project information can be accessed at the web address above.

Neighborhood Network Plans 5 & 6

Project Manager: Marquis Williams

Status: Procurement activities have concluded and a vendor contract was approved in September 2026 for Neighborhood Network Plans (NNPs) 5 & 6, West Reno and South Meadows. A kickoff meeting was also held in September 2026. Final plans are expected in November 2027.

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 4.2.3**

To: Regional Transportation Commission

From: Dale Keller, Deputy Executive Director

SUBJECT: Engineering Activity Report

RECOMMENDED ACTION

Acknowledge receipt of the monthly Engineering Activity Report.

BACKGROUND AND DISCUSSION

See attachment for Background and Discussion.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

RTC Engineering Monthly Report

Active Transportation Projects

2026 Active Transportation Program	
Sara Going, Project Manager	https://rtcwashoe.com/project/2026-active-transportation-program/
Status: The project is currently under final design.	

Biggest Little Bike Network	
Sara Going, Project Manager	https://rtcwashoe.com/projects/biggest-little-bike-network/
Status: Construction began on North Virginia Street this September with the striping of the green bike lanes. Work will continue this winter and spring.	

Sixth Street - Safety for All	
Alex Wolfson, Project Manager	https://rtcwashoe.com/project/sixth-street-safety-for-all/
Status: The project design has reached the 60% milestone! For additional information on this project, please visit https://www.SixthStreetForAll.com	

Wedekind Road Pedestrian Improvements	
Ashley Hurlbut, Project Manager	https://rtcwashoe.com/project/wedekind-road-pedestrian-improvements/
Status: AtkinsRealis is advancing 100% design. Construction is anticipated in summer 2027.	

Capacity/Congestion Relief Projects

Buck Drive Circulation	
Bryan Byrne, Project Manager	https://rtcwashoe.com/projects/buck-drive-circulation/
Status: Construction is substantially complete. Traffic signal at Buck Dr and North Hills will look to be installed in October 2026.	

Geiger Grade Road Realignment	
Kimberly Diegle, Project Manager	https://rtcwashoe.com/projects/geiger-grade-road-realignment/
Status: The feasibility study is finalized including traffic analysis and environmental review of the study area. RTC is currently considering next steps based on the results of this study.	

Highland Ranch Capacity and Safety	
Austin McCoy, Project Manager	https://rtcwashoe.com/project/highland-ranch-capacity-and-safety/
Status: The RTC, in coordination with Washoe County, has begun preliminary design.	

Military Road Capacity & Safety	
Austin McCoy, Project Manager	https://rtcwashoe.com/projects/military-road-capacity-safety/
Status: Construction has begun and is anticipated to be completed in fall 2027.	

Pyramid Highway Operations Improvements	
Jessica Dover, Project Manager	https://rtcwashoe.com/projects/pyramid-highway-operations-improvements/
Status: Q&D is working toward an interim solution to accommodate detection needs at Calle De La Plata to assist with congestion in the Pyramid Hwy southbound direction work progresses for the project. Work near the regional culvert is tentatively scheduled to be complete in September 2026. Paving on Pyramid Hwy is tentatively scheduled to start in October 2026.	

Pyramid Wy, Sparks Blvd, Highland Ranch Pkwy Intersection	
Austin McCoy, Project Manager	https://rtcwashoe.com/projects/pyramid-way-sparks-boulevard-highland-ranch-intersection/
Status: Preliminary design and data collection have begun. This project involves providing 60% level design for the Pyramid/Sparks Interchange as well as preliminary (30%) design of the Connector (the new roadway from Pyramid Highway to US 395), identified as Phase 3 in the draft phasing plan of the FEIS. A packaging plan and phasing evaluation will be conducted for the overall Pyramid Highway/US 395 Connector project to better address potential funding availability for construction implementation. Traffic modeling and analysis will be utilized in a scenario approach to support the packaging and phasing effort alongside public involvement and a National Environmental Policy Act (NEPA) compatibility review.	

Sparks Boulevard Capacity Improvement	
Garrett Rodgers, Project Manager	https://rtcwashoe.com/projects/sparks-boulevard-capacity-improvement-greg-street-to-baring-boulevard/
Status: The project has recently achieved several major milestones such as completion of sound walls, retaining walls, box culvert extensions, and all other structural work within the North Truckee Drain. Storm drain improvements, utility relocations, and landscaping are on-going. Roadway widening and paving operations are being actively advanced. The community is encouraged to stay informed of the project. More information is available at SparksBlvdProject.com.	

Steamboat / Rio Wrangler Roundabout	
LaShonn Ford, Project Manager	https://rtcwashoe.com/project/steamboat-rio-wrangler-roundabout/
Status: Preliminary engineering design is complete and under review. The project team will review the initial layout of the intersection and look for opportunities to refine the design. The next design milestone is scheduled for fall 2026, at which point the layout and resulting land impacts should be known. Construction of the project has been moved back to begin in early 2028.	

Corridor Improvement Projects

Butch Cassidy Drive Extension	
Kimberly Diegle, Project Manager	https://rtcwashoe.com/projects/butch-cassidy-drive-extension/
Status: 90% design is complete. The right of way process is underway.	

Keystone Ave Bridge Replacement	
Sara Going, Project Manager	https://rtcwashoe.com/projects/keystone-avenue-bridge-replacement/
Status: The project is advancing on 90% design.	

Lemmon Drive Traffic Improvements and Resiliency	
Bryan Byrne, Project Manager	https://rtcwashoe.com/projects/lemmon-drive-traffic-improvements-and-resiliency/
Status: The project team has completed and submitted the 90% design package, which is currently under review. All NEPA studies have been finalized, and the project has received a Finding of No Significant Impact (FONSI), representing a major milestone toward project delivery and advancement into the final design phase. More information can be found on the project's website at https://northvalleysimprovements.com/	

McCarran Boulevard Safety and Operational Improvements	
Jessica Dover, Project Manager	https://rtcwashoe.com/projects/mccarran-boulevard-safety-and-operational-improvements/
Status: Task Order No. 1 of the MSA is complete. Task Order No. 2 is underway to advance the Plumas to Lakeside segment of McCarran Blvd to final design. The 60% plans and a public outreach meeting are scheduled to occur in spring 2027.	

Moya Blvd	
Ashley Hurlbut, Project Manager	https://rtcwashoe.com/project/moya-boulevard-capacity/
Status: Design is 60% complete. The public meeting has been postponed; the new date and location are to be determined. Construction is expected to start in 2028 or 2029.	

North Valleys North Virginia Street Capacity	
Garrett Rodgers, Project Manager	https://rtcwashoe.com/projects/north-valleys-north-virginia-street-capacity/
Status: Project is just getting started and looking at early scoping and schedule items. Currently performing survey, geotechnical investigations, hydrology/hydraulics analysis, traffic modeling, utility coordination, and preliminary engineering. Preliminary engineering is advancing from 60% design to 90% design.	

Pembroke Drive Capacity & Safety	
Ashley Hurlbut, Project Manager	https://rtcwashoe.com/projects/pembroke-drive-capacity-safety/
Status: Construction started on September 14th. Normal working hours are 7:00 AM - 5:00 PM, Monday through Friday. The first phase of construction will include earthwork on the north side of Pembroke and the installation of underground utilities and storm drain infrastructure. Minimal traffic impacts are anticipated during the first phase of construction. The roadway shoulder on the north side of Pembroke will be closed 24 hours a day and intermittent lane closures will occur to install underground infrastructure across Pembroke Drive.	

Sierra Street Bridge Replacement	
Bryan Byrne, Project Manager	https://rtcwashoe.com/projects/sierra-street-bridge-replacement/
Status: The project team has successfully completed the 100% design milestone. Work is now shifting towards the Final submittal. Construction is expected to begin in spring 2027. For more details, visit the project website at www.sierrastreetbridge.com.	

Sun Valley Boulevard Corridor Improvements - Phase 2	
Jessica Dover, Project Manager	https://rtc2023.wpengine.com/construction-projects/sun-valley-boulevard-corridor-improvements-phase-2/
Status: The team is progressing to 90% design; anticipated winter 2026.	

West Fourth Street Downtown	
Scott Gibson, Project Manager	https://rtcwashoe.com/projects/west-fourth-street-downtown/
Status: Project is substantially complete.	

West Fourth Street Safety	
Scott Gibson, Project Manager	https://rtcwashoe.com/projects/west-fourth-street-safety/
Status: RTC has awarded the construction contract to SNC and the construction management contract to CME, Inc. Construction is underway with significant traffic control systems in place. One-way configurations will be implemented in the following weeks as roadwork nears completion.	

Pavement Preservation Projects

2026 Preventative Maintenance	
Jessica Dover, Project Manager	https://rtcwashoe.com/project/2026-preventative-maintenance-program/
Status: A portion of South Meadows Parkway, from Gateway Dr to Double Diamond Pkwy, is tentatively scheduled for slurry during the weekend of October 03, 2026, weather permitting. Utility adjustments will continue through early October for various roadways, including Disc Dr, University Terrace, Vassar St, Arrowcreek Pkwy and Veterans Pkwy.	

7th, 6th & West	
Ashley Hurlbut, Project Manager	https://rtcwashoe.com/project/7th-street-6th-street-arlington-to-west-west-street-5th-to-6th-pavement-rehab/
Status: Project is complete.	

Corrective Maintenance 2027	
Garrett Rodgers, Project Manager	https://rtcwashoe.com/project/corrective-maintenance-2027/
Status: Project is advancing to final design and pursuing right-of-way needs. Project will advertise for bidding in October/November 2026.	

Galletti Way Rehabilitation	
Scott Gibson, Project Manager	https://rtcwashoe.com/project/galletti-way-rehabilitation/
Status: Construction awarded to SNC with a construction start date of October 5, 2026. Traffic control plans will limit access during construction.	

Keystone Rehabilitation	
Austin McCoy, Project Manager	https://rtcwashoe.com/project/keystone-rehabilitation/
Status: RTC's consultant, Lumos and Associates, has begun final design.	

PCC Preventive Maintenance	
Scott Gibson, Project Manager	https://rtcwashoe.com/project/pcc-preventative-maintenance/
Status: This project is expected to start in the 2027.	

Prater Way Rehabilitation	
Kimberly Diegle, Project Manager	https://rtcwashoe.com/projects/prater-way-rehabilitation/
Status: Sierra Nevada Construction began work on June 8, 2026 and is scheduled to be completed in November 2026. The Road Diet configuration will be implemented with this project.	

Smithridge Rehabilitation	
Bryan Byrne, Project Manager	https://rtcwashoe.com/project/smithridge-rehabilitation/
Status: The project has completed the 50% design package, which is currently under agency review. The project team will evaluate and incorporate agency comments as the design advances into the next phase.	

White Fir Rehabilitation	
Austin McCoy, Project Manager	https://rtcwashoe.com/project/white-fir-rehabilitation/
Status: Construction is temporarily on pause due to paving related issues. RTC remains committed to completing the project this construction season and is advancing several options concurrently to ensure that happens. In the meantime, the contractor is continuing to perform daily traffic-control inspections and maintain all traffic-control devices until construction resumes.	

Traffic Engineering/ITS

Eagle Canyon Safety and Operations	
LaShonn Ford, Project Manager	https://rtcwashoe.com/projects/eagle-canyon-safety-and-operations/
Status: The project is substantially complete. There may be intermittent closures as crews work to complete final items.	

Rock & Hymer Intersection	
Sara Going, Project Manager	https://rtcwashoe.com/project/rock-boulevard-hymer-avenue-intersection-improvement-project/
Status: The project is in the final design phase.	

S. Verdi Safety Project	
Austin McCoy, Project Manager	https://rtcwashoe.com/project/s-verdi-road-safety-project/
Status: The RTC, in cooperation with the City of Reno and Washoe County, are in the initial design phase for the project.	

Sparks/Ion Traffic Signal	
LaShonn Ford, Project Manager	https://rtcwashoe.com/projects/sparks-boulevard-ion-drive-traffic-signal/
Status: The construction of roadway improvements is complete at the intersection. Work is now paused while we wait for signal equipment to be delivered. The project is anticipated to be completed sometime in early fall. Drivers can anticipate minimal lane closures while work is paused, though crews may have intermittent lane closures during the day as they address outstanding items.	

Sierra St / 9th St Intersection Improvement Project	
LaShonn Ford, Project Manager	https://rtcwashoe.com/project/sierra-st-9th-st-intersection-improvement-project/
Status: The project has reached 90% design. RTC will begin right-of-way acquisition and preparation of final design plans. The project is anticipated to advertise and begin construction by spring 2027.	

Stead Signal Improvements	
Alex Wolfson, Project Manager	https://rtcwashoe.com/project/stead-signal-improvements/
Status: Construction contract has been awarded to Titan Electrical Contracting. Initial exploratory work is expected to begin in October or November with larger scale work occurring in the first half of 2027.	

Traffic Signal Fiber 26-01	
LaShonn Ford, Project Manager	https://rtcwashoe.com/project/traffic-signal-fiber-26-01/
Status: Crews will be working on El Rancho Drive from Greenbrae Dr to Wedekind Rd throughout the month of October. Anticipate single lane closures in the northbound direction during daytime working hours.	

TE Spot 26-01	
Ashley Hurlbut, Project Manager	https://rtcwashoe.com/project/te-spot-improvements-26-01/
Status: CA Group, Inc. is advancing 100% design for the project. Construction is expected to start in spring 2027.	

Traffic Signal Modifications (TSM) 25-01	
LaShonn Ford, Project Manager	https://rtcwashoe.com/projects/traffic-signal-modifications-25-01/
Status: The project is substantially complete.	

Traffic Signal Modifications 26-01	
Alex Wolfson, Project Manager	https://rtcwashoe.com/project/traffic-signal-modifications-26-01/
Status: Large scale construction on this project will occur in the first half of 2027 with some smaller sections of work occurring earlier.	

Traffic Signal Improvements 2028	
Alex Wolfson, Project Manager	https://rtcwashoe.com/project/traffic-signal-improvements-2028/
Status: Initial project scoping and design is underway.	

Other Projects

Bus Stop Improvement Project 26-01	
Ashley Hurlbut, Project Manager	https://rtcwashoe.com/project/bus-stop-improvement-26-01/
Status: Sierra Nevada Construction , Inc (SNC) has been awarded construction of the project. Construction of the bus stop on Robb Dr. at McQueen High School started on October 5th during Washoe county School District Fall Break. Construction of the remaining bus stops is anticipated to start in November.	

Northeast Connector	
Bryan Byrne, Project Manager	https://rtcwashoe.com/project/northeast-connector/
Status: The Northeast Connector Feasibility Study has been completed. The Final Feasibility Report, including the technical appendices, will be available for public review in early September 2026.	

Virginia Line BRT Improvements	
Kimberly Diegle, Project Manager	https://rtcwashoe.com/projects/virginia-line-brt-improvements/
Status: Q&D Construction commenced work on the project on June 1, 2026. While some NV Energy and other communications utility work continues through the summer, Q&D will perform nighttime water line relocation work, and modifications of existing bus stations along the Virginia Line.	

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 4.2.4**

To: Regional Transportation Commission

From: James Gee, Director of Public Transportation and Operations

SUBJECT: Public Transportation and Operations Activity Report

RECOMMENDED ACTION

Acknowledge receipt of the monthly Public Transportation and Operations report for September.

BACKGROUND AND DISCUSSION

See attachment for Background and Discussion.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

BACKGROUND AND DISCUSSION **ATTACHMENT A**

Highlights -



Free Flu Vaccine Clinics Offered – Free flu shot clinics sponsored by REMSA Health, Renown Health, University of Nevada, Street Reach and KT Grace Foundation were offered to the community at each of RTC's Transit Center locations on October 5 at Fourth Street Station in Reno, and on October 15 at Centennial Plaza in Sparks.

SENIOR FEST 2026 - RTC participated in the 29th Annual Senior Fest on September 8th at the Reno Town Mall. This event brings together more than 2,000 seniors, caregivers, service providers, and community organizations from throughout the area.



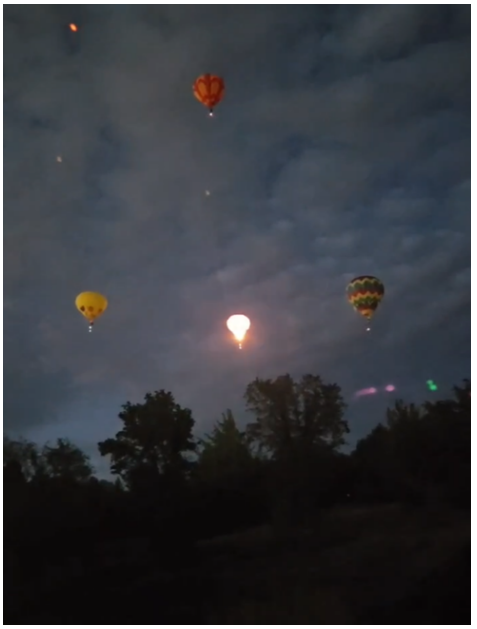
RTC staff were available throughout the event to answer transportation related questions and share information about programs and services available to seniors in Washoe County. This included information on RTC RIDE, RTC ACCESS paratransit, the Washoe Senior Ride program, and other transportation options. Staff were also able to help attendees with questions about eligibility, applications, trip planning, and how to access different services.



RTC also provided an ACCESS vehicle to shuttle attendees between the Atlantis parking area and the Reno Town Mall. Senior Fest is a great opportunity for RTC to connect directly with seniors in the community, provide information about available transportation options, and hear firsthand about the transportation needs and questions they may have.

RTC RIDE Key Highlights – September

- 4 trainees released to Operations for revenue service.
- 99.44% of service hours and trips were completed.
- Bus Request: Labor Fest
- Bus Request: Balloon Races
- Employee Engagement: Baseball Jersey Fridays
- LIT Leadership Summit Ceremony
- 0 new Grievances filed; 0 Grievances settled, and 0 open unfair labor charges.



Keolis represented staffing headcount as of September 30, 2026:

Position	Total Employed	#Needed
Coach Operator Trainees	3	1
Coach Operators	162	8
Dispatchers	6	0
Road Supervisors	6	0
Mechanic A	6	0
Mechanic B	3	0
Mechanic C	3	0
Facilities Technician	2	0
EV Technician	1	0
Utility Worker	13	0
Electronics Tech	2	0
Body Technician	1	0

RTC ACCESS Key Highlights – September

Classes: September 14, 1 hired, 1 in service
September 21, 3 hired (2 resigned while in training, 1 in training

Safety:

- **Accidents:**
  - 0 Preventable
  - 0 Non-Preventable
- **Incidents**
  - 8
- **Injuries:**
  - 0
- **YTD Preventable Accident Count:** 15
- **YTD Injury Count:** 6

September Safety Blitzes:

- 20 Day Challenge

September Safety Meeting – Drug & Alcohol Refresher and School Zones

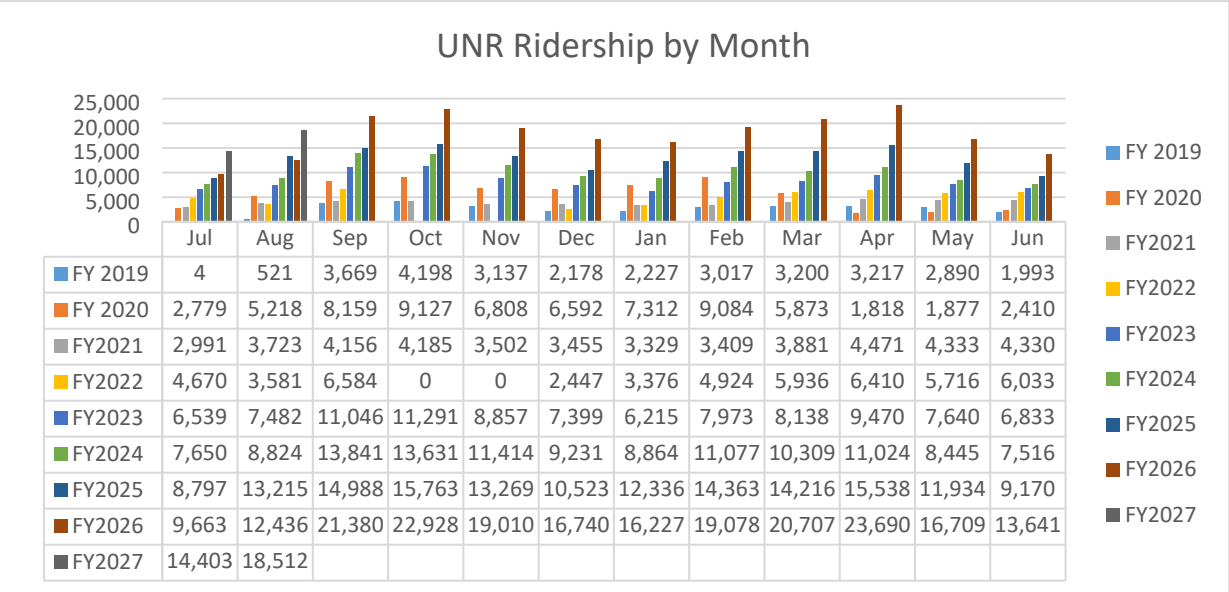
MTM represented staffing headcount as of September 30, 2026:

Position	Total Employed	#Needed
Drivers	58 FT – 1PT	12 FT – 0 PT
Dispatchers	4 FT	0
Reservationists	4 FTE's	0
Mechanic A	2.5 FT	1
Utility Worker	1	0
Facility/Maintenance Technician	1	0

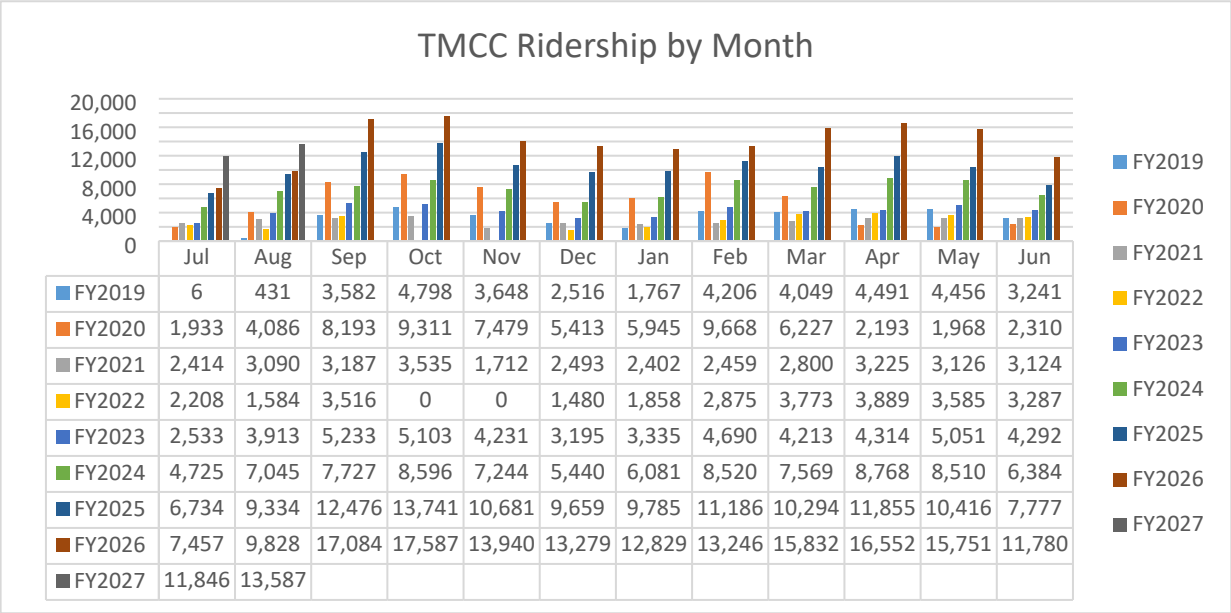
TRANSIT DEMAND MANAGEMENT (TDM) Update

- Vanpools stayed at 298. Staff continues to work with both the Tahoe folks and Commute with Enterprise to add more vans.
- The program reduced 1,633,482 miles from being driven in August.
- Program mailer is being published and distributed in October.
- Staff shot two *Road Ahead* segments - one on Transportation Demand Management week and the other on RTC's ED Pass program.

Ridership numbers from the ED Pass Program through the month of August 2026.



	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY 2019	4	521	3,669	4,198	3,137	2,178	2,227	3,017	3,200	3,217	2,890	1,993
FY 2020	2,779	5,218	8,159	9,127	6,808	6,592	7,312	9,084	5,873	1,818	1,877	2,410
FY2021	2,991	3,723	4,156	4,185	3,502	3,455	3,329	3,409	3,881	4,471	4,333	4,330
FY2022	4,670	3,581	6,584	0	0	2,447	3,376	4,924	5,936	6,410	5,716	6,033
FY2023	6,539	7,482	11,046	11,291	8,857	7,399	6,215	7,973	8,138	9,470	7,640	6,833
FY2024	7,650	8,824	13,841	13,631	11,414	9,231	8,864	11,077	10,309	11,024	8,445	7,516
FY2025	8,797	13,215	14,988	15,763	13,269	10,523	12,336	14,363	14,216	15,538	11,934	9,170
FY2026	9,663	12,436	21,380	22,928	19,010	16,740	16,227	19,078	20,707	23,690	16,709	13,641
FY2027	14,403	18,512										

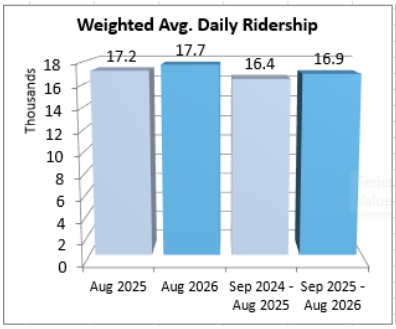


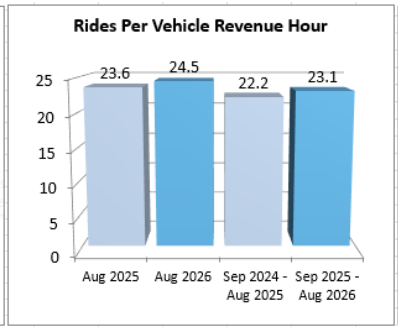
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY2019	6	431	3,582	4,798	3,648	2,516	1,767	4,206	4,049	4,491	4,456	3,241
FY2020	1,933	4,086	8,193	9,311	7,479	5,413	5,945	9,668	6,227	2,193	1,968	2,310
FY2021	2,414	3,090	3,187	3,535	1,712	2,493	2,402	2,459	2,800	3,225	3,126	3,124
FY2022	2,208	1,584	3,516	0	0	1,480	1,858	2,875	3,773	3,889	3,585	3,287
FY2023	2,533	3,913	5,233	5,103	4,231	3,195	3,335	4,690	4,213	4,314	5,051	4,292
FY2024	4,725	7,045	7,727	8,596	7,244	5,440	6,081	8,520	7,569	8,768	8,510	6,384
FY2025	6,734	9,334	12,476	13,741	10,681	9,659	9,785	11,186	10,294	11,855	10,416	7,777
FY2026	7,457	9,828	17,084	17,587	13,940	13,279	12,829	13,246	15,832	16,552	15,751	11,780
FY2027	11,846	13,587										

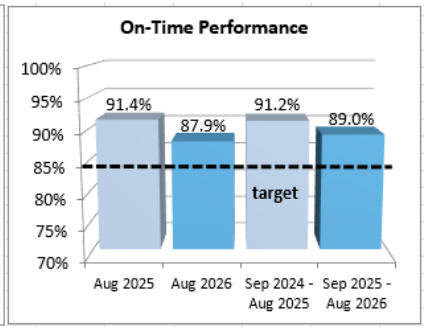
Monthly records for both UNR and TMCC have been achieved during the past 17 months. UNR hit an all-time record for July with over 14,400 trips. TMCC had the highest ridership for July with almost 12,000 trips. For the year, UNR's ridership increased from the previous year 71%. TMCC increased 33%.

AUGUST 2026 TRANSIT PERFORMANCE

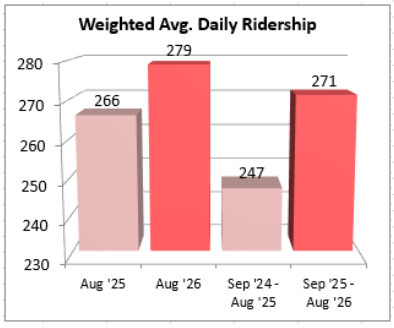
RTC RIDE

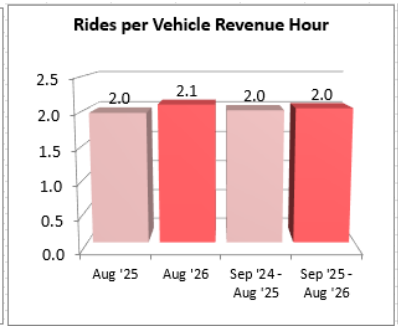


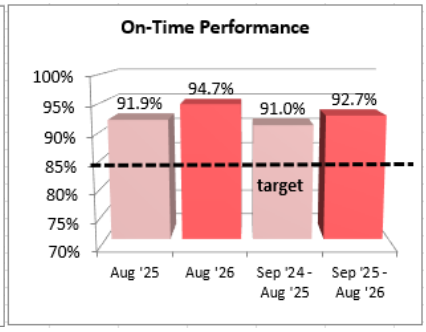




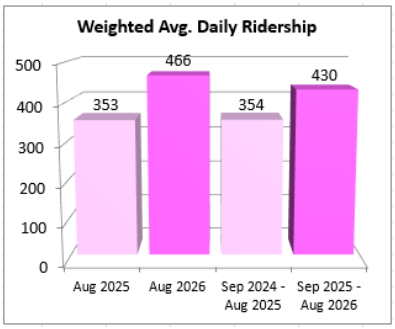
RTC ACCESS

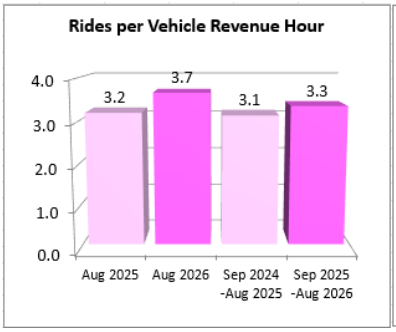


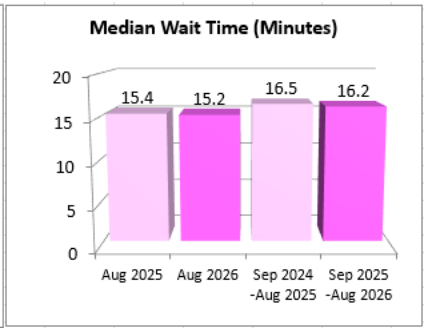




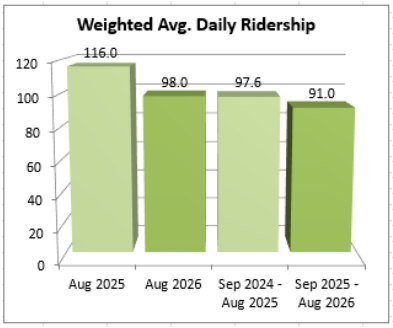
RTC FlexRIDE

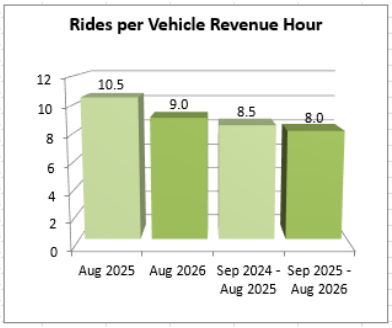




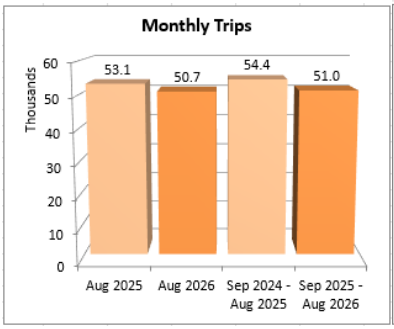


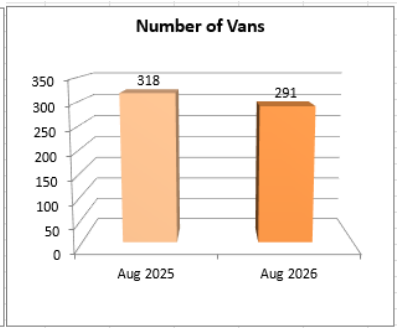
TART





RTC VANPOOL





REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 4.2.5**

To: Regional Transportation Commission

From: Xuan Wang, PHD, PE, PTP, RSP2, Transportation Planning Manager

SUBJECT: Advisory Committee Report

RECOMMENDED ACTION

Acknowledge receipt of the Summary Report for the Technical, Citizens Multimodal, and Regional Road Impact Fee Advisory Committees.

BACKGROUND AND DISCUSSION

The RTC has three advisory committees that provide input on a wide range of policy and planning issues as well as key planning documents and the RTC Budget. The committees include:

- The Citizens Multimodal Advisory Committee (CMAC), which includes members from the community. The RTC Board approves appointments to this advisory committee.
- The Technical Advisory Committee (TAC), which includes local public works directors, community development directors, and staff from other key agencies.
- The Regional Road Impact Fee Technical Advisory Committee (RRIF TAC), which was created to oversee and advise the local governments regarding land use classification assumptions and the Capital Improvements Plan (CIP) used in the impact fee program. The RRIF TAC consists of three representatives from each local entity, two RTC representatives, and four private sector members who are appointed by the RTC Board.

The CMAC met on October 7, 2026. The meeting covered several key agenda items, including the approval of the August meeting minutes. Presentations were given by Josh MacEachern on the EV road use fee ballot advisory question for Washoe County voters in November, Graham Dollarhide on the proposed amendment to the Federal Fiscal Year 2025–2029 Regional Transportation Improvement Program (RTIP), and Shay League on the draft study report for the Rock Boulevard Corridor Study. Marquis Williams also presented the draft study reports for the Sun Valley/Panther Valley and Meadowood/Hidden Valley Neighborhood Network Plans, which included recommendations for approximately 10 total miles of active transportation improvements. The committee elected Panah Stauffer as Chair and Kelly Orr as Vice Chair

to serve until June 30, 2027. Public comment was provided by Damien Cole regarding concerns about the multilane bike boxes on Virginia Street and the need for delineators to prevent double parking.

The TAC met on October 1, 2026, and discussed and recommended approval of Amendment No. 4 to the FY 2025–2029 Regional Transportation Improvement Program, including updates to the I-80 Verdi Commercial Vehicle Inspection Station and a new pavement preservation project. The Washoe County School District presented its five-year Capital Improvement Program, highlighting facility modernization, the planned rebuilding of Sparks Middle School, and the conversion of Trainer Campus into an elementary school. The committee also received informational updates on the upcoming electric-vehicle fee ballot question for Washoe County voters, draft Neighborhood Network plans for the Sun Valley/Panther Valley and Meadowood/Hidden Valley areas, and the Rock Boulevard Corridor Study. The Neighborhood Network plans recommended approximately 10 miles of improvements, including bike lanes and pedestrian facilities, while the Rock Boulevard recommendations included multi-use paths, wider sidewalks, and traffic-calming measures.

There has not been a RRIF TAC meeting since the Board previously met.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 4.2.6**

To: Regional Transportation Commission

From: Josh MacEachern, Public Information Officer

SUBJECT: Community Outreach and Media Activity Report

RECOMMENDED ACTION

Acknowledge receipt of the monthly Community Outreach and Media Activity Report.

BACKGROUND AND DISCUSSION

See attached for Background and Discussion.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

RTC Communications & Outreach Report

August – September 2026

www.rtcwashoe.com

Outreach Activities

Josh MacEachern, Project Manager

August - September Overview:

RTC earned **207 media mentions with an estimated 1,050,022 local views, and an earned media value of $50,101.** September outpaced August, with mentions up 42 percent and TV audience up 70 percent. Coverage focused largely on:

- Northeast Connector special meeting
- The Road Ahead with RTC on KOLO
- Hot August Nights and Rib Cook-off free rides
- Youth Ride partnership with WCSD
- Sierra Street Bridge business and neighborhood outreach
- Sun Valley Boulevard tour with Sen. Catherine Cortez Masto
- Dale Keller selected as executive director
- Prater Way, Fourth Street and Sparks Boulevard construction
- Stuff a Bus Diaper Drive with Baby's Bounty

August - September Highlights:

- **207 media mentions**
- **Estimated local views 1,050,022**
- **Earned media value: $50,101**
- **Featured coverage of the Northeast Connector, Sierra Street Bridge, and event free rides.**

Outreach Activities

August - September Public Outreach:

- 8.5 – Reed HS Back-to-School (Garrett/Josh)
- 8.12 – Sierra St. Bridge Business Walk (Bryan/Josh)
- 8.26 – Sierra St. Bridge Pop-Up (Bryan/Josh)
- 8.28 – Stuff A Bus Diaper Drive
- 9.1 – Sun Valley CAB (Paul)
- 9.3 – Pyramid Hwy Media Opp (Jessica/Amanda/Josh)
- 9.9 – State of NV Association of Providers General Membership Meeting (Jim)
- 9.21 – West Truckee Meadows/Verdi Township (Paul)
- 9.23 – APTA Fall Conference (Paul)
- 9.23 – Association of Metropolitan Planning Organizations (Jim)
- 9.24 – ITE Luncheon (Paul)
- 9.25 – Carriage Stone Senior Apartments Presentation (Julia)
- 9.30 – ASCE Luncheon (Paul)

Outreach Activities

Josh MacEachern, Project Manager

Highlights:







Social Media August – Sept.

Josh MacEachern, Project Manager

**results cover both August and September*

Facebook

- Viewers: 349.5k (up 63%)
- Content Interactions: 3k (up 80%)
- Link Clicks: 16k (up 32%)
- Visits: 6.5k (up 29%)
- New Follows: 193 (up 109%)
- Followers: 5,836

Instagram

- Views: 638k (up 196%)
- Content Interactions: 3.7k (up 132%)
- Followers: 3,011

Email Marketing

- Subscribers: 3k

X

- Impressions: 1.1k
- Engagements: 18
- Likes: 12
- Followers: 2,251

YouTube

- Views: 559.6k
- Watch time (hours): 1.5k
- Subscribers: 597

RTC Graphics Dept. August – Sept.

Aug/Sept Graphics Project Requests:

- 77 Completed
- 3 In progress

Aug/Sept Graphics Project Highlights:

- Logo and branding for the 2050 Regional Transportation Plan Update
- Graphics to enhance job recruitments
- Style Guide refresher training for RTC staff

Video Production

Paul Nelson, Project Manager

The Road Ahead:

- Stuff A Bus Diaper Drive
- Free RIDE to the Rib Cookoff
- Transit to Wolf Pack Games
- Biggest Little Bike Network
- Transportation Demand Management Week
- Pembroke Drive Capacity & Safety Project

• Other:

- September Board Meeting

Addendum

August 1, 2026 - September 30, 2026

RTC - Aug-Sept Report

207 events

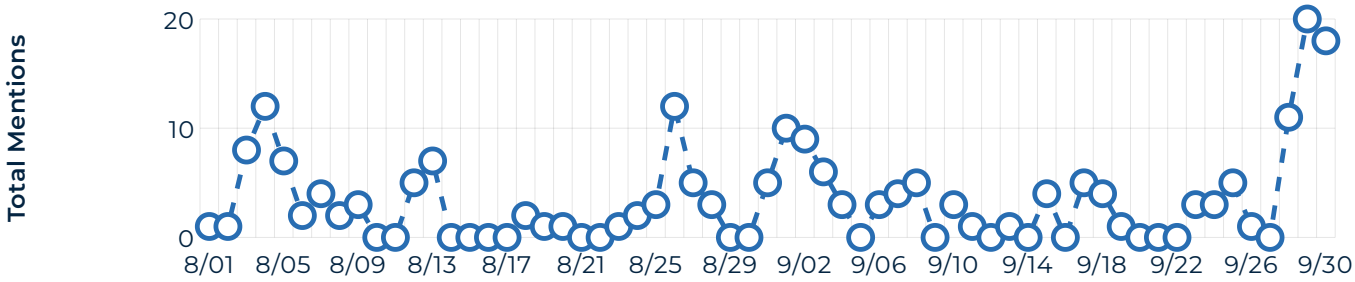
About This Report

This report summarizes media coverage across Television and Radio over the August 1, 2026 - September 30, 2026. It includes an overview of mention activity, audience reach insights, and a detailed list up to 200 events.

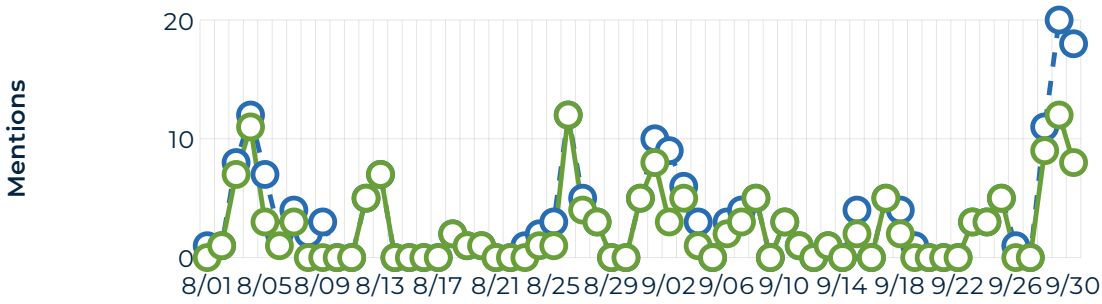
You'll find:
- A daily breakdown of mentions.
- Audience analytics per event type (where available).
- A detailed list up to 200 events included in the report.

Mentions Over Time

The chart below illustrates how frequently your keywords were mentioned between August 1, 2026 - September 30, 2026, across all sources included in this report. Each data point represents the total mentions per day.



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📺 Syndicated Viewership

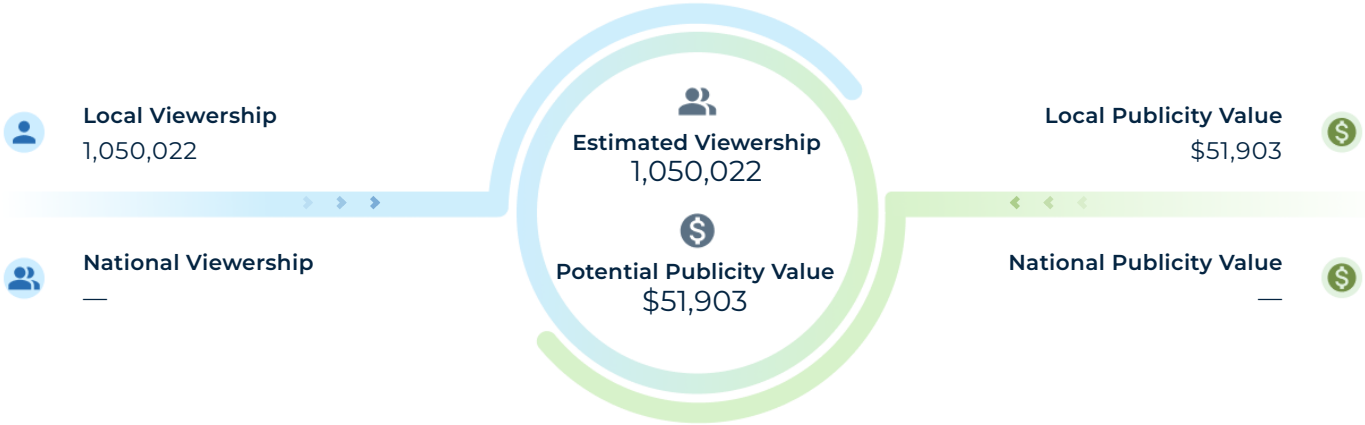
National Viewership	Local Viewership	# of Distinct Airings
—	**1,050,022**	**6**

💰 Syndicated Publicity Value

National Publicity Value	Local Publicity Value
—	**$51,903**

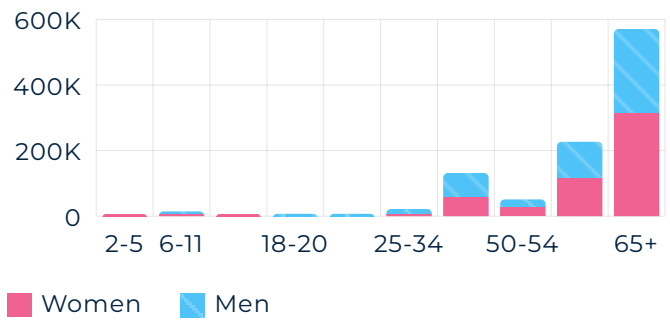
⚖️ Gender Breakdown

48% **52%**

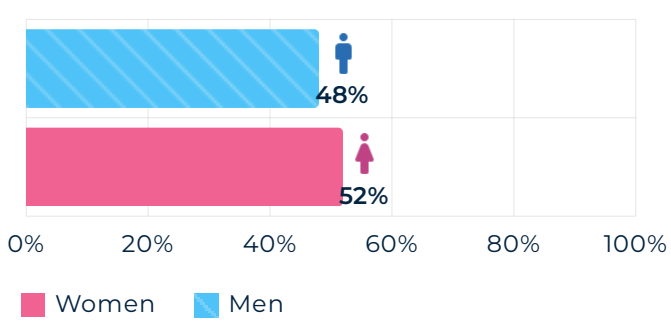


* Broadcast audience measurement only

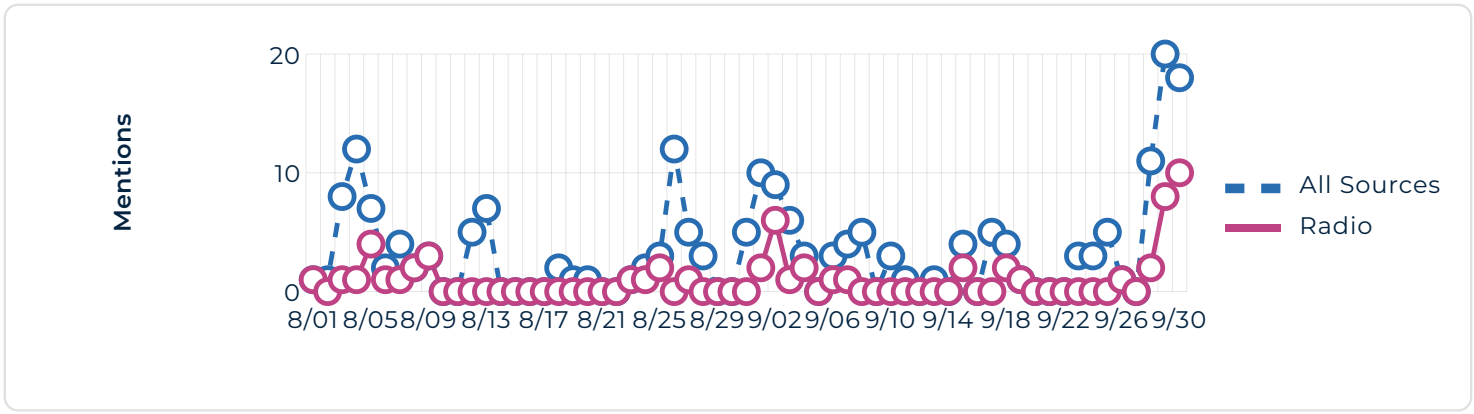
Age Distribution



Gender Breakdown



Some events may lack audience data due to their type or region.
Totals reflect only events with available viewership or demographic information.



📻 Audience

Audience Reach	Publicity Value
1,143,000	—

Some events may lack audience data due to their type or region.
Totals reflect only events with available viewership or demographic information.



KOLO 8 News Now @ 5:30PM

Event Type: **TV**
Sep 30, 2026 5:35:53 PM
Source: **KOLO (ABC)**
Market: **Reno, NV**
Audience: **13,108**
Category: **News**
Country: **US**

I'm Makenzie Morgan for The Road Ahead with **rtc**. College students and employees have a free public transit option through RTC's Ed Pass Program. The I'm Makenzie Morgan for The Road Ahead with **rtc**.



KOLO 8 News Now @ 5PM

Event Type: **TV**
Sep 30, 2026 5:00:04 PM
Source: **KOLO (ABC)**
Market: **Reno, NV**
Audience: **14,263**
Category: **News**
Country: **US**

And the project manager with **rtc** says that having these closures in place helps crews get the job done fast. These closures help us get the job done quicker. We're this is a one season project. It's a big project, but we've gotten it all.



2 News Nevada at 4:30pm

Event Type: **TV**
Sep 30, 2026 4:30:02 PM
Source: **KTVN (CBS)**
Market: **Reno, NV**
Audience: **6,394**
Category: **News**
Country: **US**

The **regional transportation commission of washoe county** will be closing sections of the road to finish paving on the south side. Starting tomorrow and running until october 29th -- west fourth street will be closed between keystone avenue and vine street. Detours will be in place on second and fifth streets.



KOLO 8 News Now @ 4PM

Event Type: **TV**
Sep 30, 2026 4:09:00 PM
Source: **KOLO (ABC)**
Market: **Reno, NV**
Audience: **8,689**
Category: **Other**
Country: **US**

As the **rtc** "gears up" to begin a*repaving projec*... That will bring major traffic change*... To west fourth street. It starts tomorrow... And the work will stretch all the way -- from parts of downtown -- to mccarran. Kolo 8 news now's emily benito joins us live... Emily-- this starts tomorrow morning...

99.1 FM Talk - Midday (2:15 PM)

Event Type: **RADIO**
Sep 30, 2026 2:29:57 PM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

Last night, the **RTC** holding a public meeting to talk about two possible versions of the north-East connector. One plan would, at the freeway, connect to pasta, the other directly to Sparks, sorry to stib of art in Sparks, both in sparks and a more North northerly approach.

99.1 FM Talk - Midday (1:30 PM)

Event Type: **RADIO**
Sep 30, 2026 1:30:03 PM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

Last night, the **RTC** holding a public meeting to talk about two possible versions of the north-east connector. One plan would have the freeway connect to La Pasada in Sparks, the other directives the boulevard in Sparks and a more northerly approach. Both met with pushback.

99.1 FM Talk - Midday (12:15 PM)

Event Type: **RADIO**
Sep 30, 2026 12:29:57 PM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

Nevada last night, the **RTC** holding a public meeting to talk about two possible versions of the north-east connector. One plan would have the freeway connect to lap sat and Sparks, the other, director Vista in a more northern. The approach. Both were met with pushback.

99.1 FM Talk - Midday (12:15 PM)

Event Type: **RADIO**
Sep 30, 2026 12:17:57 PM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

The **RTC** Board voted three to one to move the controversial project ahead. For the national environmental review process. But there was opposition to the plan to add a new connector route to 80 from Sparks, mainly over how it would promote more development and affect residents' quality of life.

99.1 FM Talk - Midday (12:00 PM)

Event Type: **RADIO**
Sep 30, 2026 12:05:59 PM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

Directly ahead, what the **RTC** decided to do at last night's public meeting and a finance complaint against one Reno mayoral candidate on the way who it is and why the? Why the complaint was filed. These stories and more on northern Nevada is only live and local mid-day radio news, the KFT news at noon. I'm Greg n.



Noon News on FOX 11

Event Type: **TV**
Sep 30, 2026 12:00:16 PM
Source: **KRXI (FOX)**
Market: **Reno, NV**
Audience: **4,015**
Category: **News**
Country: **US**

You can find more information on the North Valleys Highway Improvements website and starting tomorrow, **RTC** will fully close Fourth Street between Keystone Avenue and Vine Street for paving from Stoker to Keystone.

99.1 FM Talk - Midday (11:30 AM)

Event Type: **RADIO**
Sep 30, 2026 11:30:01 AM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

The **RTC** Board voted three to one last night to move it ahead to the national environmental review process. There was opposition to the plan to add a new connector route to 80 at USA Parkway from Sparks, mainly. Over how it would promote more development and affect residents quality of life.

99.1 FM Talk - Morning Drive (9:30 AM)

Event Type: **RADIO**
Sep 30, 2026 9:30:03 AM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

East connector, in front of a full house at the Washoe County chambers, including Story county commissioners, the **RTC** board voted. Three to one last night to move the project ahead for the? National environmental review process.

99.1 FM Talk - Morning Drive (7:30 AM)

Event Type: **RADIO**
Sep 30, 2026 7:30:03 AM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

RTC last night voted three to one to proceed on environmental studies on possible alternatives involving Lofaso or Vista extensions. We're here with Dustin from Pro One Automotive Dustin. What sets you guys apart from other? Motive shops in town here at Pro one, we're family.



Mornings on Fox 11

Event Type: **TV**
Sep 30, 2026 7:00:14 AM
Source: **KRXI (FOX)**
Market: **Reno, NV**
Audience: **6,548**
Category: **News**
Country: **US**

So starting tomorrow, **RTC** is going to fully close fourth between Keystone Avenue and Vine Street for paving from Stoker to Keystone. Traffic will only move westbound. Then starting on Monday, traffic from McCarran to Summit Ridge will only move eastbound.

99.1 FM Talk - Morning Drive (6:30 AM)

Event Type: **RADIO**
Sep 30, 2026 6:30:00 AM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

And now the **RTC** has voted three to one to look at environmental impacts on two possible alternates one. The APSA extension, the other Vista Boulevard extension to the Industrial Centre light rail also brought up in the meeting last night some pushback on either alternative the?



2 News Nevada at 6:00am

Event Type: **TV**
Sep 30, 2026 6:29:13 AM
Source: **KTVN (CBS)**
Market: **Reno, NV**
Audience: **14,012**
Category: **Other**
Country: **US**

Last nights meeting saw washoe county, story county and **rtc** meet and hear...

99.1 FM Talk - Morning Drive (6:15 AM)

Event Type: **RADIO**
Sep 30, 2026 6:17:09 AM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

Both the La fa Saana and Vista options presented at the **RTC** meeting with Story county commissioners on a possible alternative to the I 80 corner at the industrial Center got a little bit of pushback three to one. The vote to do an environmental study on the? Proposed alternatives if you have more than 25,000.



News 4 (KRXI-DT2) - Early Morning (6:00 AM)

Event Type: **TV**
Sep 30, 2026 6:00:40 AM
Source: **News 4 (KRXI-DT2)**
Market: **Reno, NV**
Audience: **-**
Category:
Country: **US**

RTC will fully close fourth Street between Keystone and Vine as crews begin paving between Stoker and Keystone. Traffic will only be allowed to travel westbound. Then, starting on Monday, traffic between McCarran and Summit Ridge Drive will only be allowed to travel eastbound.



KOLO 8 News Now @ 5PM

Event Type: **TV**
Sep 29, 2026 5:00:00 PM
Source: **KOLO (ABC)**
Market: **Reno, NV**
Audience: **15,685**
Category: **News**
Country: **US**

The **rtc** -- and the storey county commissioners... Are set to hear results tonight -- from a feasibility study... Involving*route* from the vista boulevard -- and la posada corridors... Kolo 8 news now's dax mccoy joins us for a preview -- of what could happen tonight.. Dax..what are advocates calling for? Why is the



KOLO 8 News Now @ 4:30PM

Event Type: **TV**
Sep 29, 2026 4:35:59 PM
Source: **KOLO (ABC)**
Market: **Reno, NV**
Audience: **12,740**
Category: **News**
Country: **US**

The **rtc** -- and the storey county commissioners... Are set to hear results tionight -- from a feasibility study... Involving the vista boulevard -- and la posada corridors... Dax mccoy joins us for a preview -- of what could happen tonight.. Dax. Why is this necessary?



KOLO 8 News Now @ 3PM

Event Type: **TV**
Sep 29, 2026 3:05:29 PM
Source: **KOLO (ABC)**
Market: **Reno, NV**
Audience: **4,482**
Category: **News**
Country: **US**

The **rtc** is holding a public meeting tonight -- to discuss the proposed -- northeast connector... Which would build a road -- between spanish springs -- and the tahoe- reno industrial center... A feasibility study -- has found two areas -- for the potential road... La posada -- and vista boulevard...

99.1 FM Talk - Midday (12:30 PM)

Event Type: **RADIO**
Sep 29, 2026 12:33:09 PM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

The **RTC** is hosting a public meeting at six, presenting what they call their final report to their board on building a north-east connector route. It's an attempt to fix the I. A to USA Parkway traffic problem right now. That is the only.

99.1 FM Talk - Midday (12:15 PM)

Event Type: **RADIO**
Sep 29, 2026 12:20:16 PM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

Could we soon get a new road to the Giga factory **RTC**, holding a meeting tonight to discuss such a road from Sparks to trick? It's from 69 p.m. At Washoe County Chambers in Reno and number three. Epic bass sales to North Star, heavily and Kirkwood, along with other resorts nationwide, are down double digits.



Noon News on FOX 11

Event Type: **TV**
Sep 29, 2026 12:13:54 PM
Source: **KRXI (FOX)**
Market: **Reno, NV**
Audience: **4,040**
Category: **News**
Country: **US**

It's getting a closer look tonight, so the **RTC** in Story County, they're holding a special meeting on the proposed northeast connector. A study looked at six possible routes with two now moving forward for more review, one would use Vista Boulevard or Golden Eagle. The other would use La Posada.

99.1 FM Talk - Midday (12:00 PM)

Event Type: **RADIO**
Sep 29, 2026 12:10:10 PM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

On the **RTC** 's Youtube channel well. Do you need a job? The city of Sparks says they're looking for their next city attorney West Duckett was elected who da? So he's leaving the job. The city Attorney for Sparks is an elected position.

99.1 FM Talk - Midday (12:00 PM)

Event Type: **RADIO**
Sep 29, 2026 12:05:09 PM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

What the **RTC** is doing to try and get a new road. Out to trick these stories and more on northern Nevada's only live and local midday radio news, the Kkft news at noon. I'm Greg. No for the Keystone CPA studios right here in downtown Reno. And it is our top local story.

99.1 FM Talk - Midday (10:30 AM)

Event Type: **RADIO**
Sep 29, 2026 10:30:01 AM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

Tonight, the **RTC** presents what they call their final report to their board on building a new north-east connector route to fix the problems. Go in eastbound 80, the USA Parkway, especially in the morning.

99.1 FM Talk - Morning Drive (9:30 AM)

Event Type: **RADIO**
Sep 29, 2026 9:30:00 AM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

The **RTC** presents what they call their final report to their board. I'm building a new north-east connector route. It would stretch from Spanish Springs and go through East Sparks, utilising either Lapo Sato or Vista boulevard. The meeting is at six tonight.



Good Morning America

Event Type: **TV**
Sep 29, 2026 8:27:03 AM
Source: **KOLO (ABC)**
Market: **Reno, NV**

Audience: **8,234**
Category: **News**
Country: **US**

Happening tonight--- **rtc** discussing the potential routes for the northeast connector project... It aims to add a new roadway connecting the spanish springs area with the tahoe- reno industrial center... The meeting will begin at 6 p-m at the washoe county chambers on east ninth street...

KOH-AM (Radio) - Morning Drive (7:00 AM)

Event Type: **RADIO**
Sep 29, 2026 7:05:03 AM
Source: **KOH-AM (Radio)**
Market: **Reno, NV**

Audience: **-**
Category:
Country: **US**

RTC tells us that they're looking for two potential routes that can be used for this project to create a second route. Into the Tahoe Reno industrial Center. Lost Pasados and Vista Drive.



Mornings on Fox 11

Event Type: **TV**
Sep 29, 2026 7:00:13 AM
Source: **KRXI (FOX)**
Market: **Reno, NV**

Audience: **5,837**
Category: **News**
Country: **US**

The **RTC** and Story County are holding a special meeting on the proposed northeast connector. A study looked at six possible routes, with two. Now moving forward for more review. One would use Vista Boulevard or Golden Eagle. The other would use La Posada.

KOH-AM (Radio) - Morning Drive (7:00 AM)

Event Type: **RADIO**
Sep 29, 2026 7:00:02 AM
Source: **KOH-AM (Radio)**
Market: **Reno, NV**

Audience: **-**
Category:
Country: **US**

The meeting will present the final report to the **RTC** Board. And get direction on how they want to handle the



Good Morning Reno 6am

Event Type: **TV**
Sep 29, 2026 6:56:00 AM
Source: **KOLO (ABC)**
Market: **Reno, NV**

Audience: **9,677**
Category: **News**
Country: **US**

And tonight--- **rtc** is holding a special meeting to discuss the potential routes for the northeast connector project... The project aims to add a new roadway connecting the spanish springs area with the tahoe-reno industrial center... The meeting will begin at 6 p-m at the washoe county chambers on east ninth street...



News 4 (KRXI-DT2) - Early Morning (6:30 AM)

Event Type: **TV**
Sep 29, 2026 6:35:43 AM
Source: **News 4 (KRXI-DT2)**
Market: **Reno, NV**

Audience: **-**
Category:
Country: **US**

The **RTC** and Story County holding a special meeting on the proposed northeast connector. A feasibility study looked at six possible routes, with two moving forward. For more detailed review. Those include a Vista Boulevard or Golden Eagle route a la Posada route.



2 News Nevada at 6:00am

Event Type: **TV**
Sep 29, 2026 6:30:54 AM
Source: **KTVN (CBS)**
Market: **Reno, NV**

Audience: **9,785**
Category: **Other**
Country: **US**

rtc pio: Everyone knows it's not a very resilient route, people know there should be some kind of backup option. But also people that live in the area have concerns about environmental impacts, about potential noise from large trucks.



Good Morning Reno 6am

Event Type: **TV**
Sep 29, 2026 6:17:15 AM
Source: **KOLO (ABC)**
Market: **Reno, NV**

Audience: **14,147**
Category: **News**
Country: **US**

Just download the Transit App or go to **rtc Washoe** Dot Com to find out which routes work best for you. I'm Makenzie Morgan for The Road Ahead with **rtc**. We're building a better community through quality transportation.



Good Morning Reno 6am

Event Type: **TV**
Sep 29, 2026 6:12:15 AM
Source: **KOLO (ABC)**
Market: **Reno, NV**

Audience: **12,458**
Category: **News**
Country: **US**

Nevada was proud to lead states in defending this authority." script: intro: I'm Makenzie Morgan for The Road Ahead with **rtc**. College stunts and employees have a free public transit option through RTC's Ed Pass Program. The program has been available for years and



Good Morning Reno 6am

Event Type: **TV**
Sep 29, 2026 6:05:11 AM
Source: **KOLO (ABC)**
Market: **Reno, NV**

Audience: **12,458**
Category: **News**
Country: **US**

Rtc is holding a special meeting to discuss the corridors under consideration as part of the northeast connector project... The project aims to add a new roadway that connects the spanish springs area with the tahoe-reno industrial center... At this time... No decision has been made to advance either corridor...



2 News Nevada at 11:00pm

Event Type: **TV**

Sep 28, 2026 11:22:29 PM

Source: **KTVN (CBS)**

Market: **Reno, NV**

Audience: **3,681**

Category: **News**

Country: **US**

Regional **Transportation Commission of Washoe CountY** : "The **rtc** team was presented with the problem, and the problem was there's a lot of traffic on i-80. Any kind of incidents can severely delay or put safety at risk. And there's not a lot of backup options.



FBI

Event Type: **TV**

Sep 28, 2026 10:33:52 PM

Source: **KTVN (CBS)**

Market: **Reno, NV**

Audience: **3,916**

Category: **Other**

Country: **US**

RTC WILL BE ASKING FOR YOUR THOUGHTS ON A FUTURE NORTHEAST CONNECTOR, CONNECTING SPARKS TO U-S-A PARKWAY. HOW YOU CAN MAKE YOUR VOICE HEARD. AND THE PROBLEM GAMBLING CENTER IS SET TO OFFER NEW SERVICES. HOW IT HOPES TO HELP EVEN MORE PEOPLE IN TROUBLE--TONIGHT



2 News Nevada at 7:00pm

Event Type: **TV**

Sep 28, 2026 7:12:56 PM

Source: **KTVN (CBS)**

Market: **Reno, NV**

Audience: **6,383**

Category: **News**

Country: **US**

Regional **Transportation Commission of Washoe CountY** : "The **rtc** team was presented with the problem, and the problem was there's a lot of traffic on i-80. Any kind of incidents can severely delay or put safety at risk. And there's not a lot of backup options.



2 News Nevada at 6:30pm

Event Type: **TV**

Sep 28, 2026 6:39:26 PM

Source: **KTVN (CBS)**

Market: **Reno, NV**

Audience: **9,423**

Category: **News**

Country: **US**

Regional **Transportation Commission of Washoe CountY** : "The **rtc** team was presented with the problem, and the problem was there's a lot of traffic on i-80. Any kind of incidents can severely delay or put safety at risk. And there's not a lot of backup options.

KOH-AM (Radio) - Afternoon Drive (5:30 PM)

Event Type: **RADIO**
Sep 28, 2026 5:30:00 PM
Source: **KOH-AM (Radio)**
Market: **Reno, NV**
Audience: **-**
Category:
Country: **US**

RTC. Story county will host a public meeting from six pm to nine pm at the washer county chambers. At 10. 01 East Ninth street. The meeting will also be livestreamed on **RTC** 's Youtube channel. Currently, it is the only direct connection between the two areas. And is often congested. With no alternate routes.



2 News Nevada at 5:00pm

Event Type: **TV**
Sep 28, 2026 5:25:33 PM
Source: **KTVN (CBS)**
Market: **Reno, NV**
Audience: **10,455**
Category: **News**
Country: **US**

Regional **Transportation Commission of Washoe CountY** : "The **rtc** team was presented with the problem, and the problem was there's a lot of traffic on i-80. Any kind of incidents can severely delay or put safety at risk. And there's not a lot of backup options.



2 News Nevada at 5:00pm

Event Type: **TV**
Sep 28, 2026 5:20:32 PM
Source: **KTVN (CBS)**
Market: **Reno, NV**
Audience: **10,455**
Category: **News**
Country: **US**

Regional transportation commission of washoe county will discuss their final presentation for their northeast connector project. When and where the meeting will be happenin if you drive on i-80 east you've no doubt noticed how bad traffic can pile up there. The regional transportation



2 News Nevada at 4:30pm

Event Type: **TV**
Sep 28, 2026 4:32:42 PM
Source: **KTVN (CBS)**
Market: **Reno, NV**
Audience: **5,406**
Category: **News**
Country: **US**

Regional **Transportation Commission of Washoe CountY** : "The **rtc** team was presented with the problem, and the problem was there's a lot of traffic on i-80. Any kind of incidents can severely delay or put safety at risk. And there's not a lot of backup options.



2 News Nevada at 4:00pm

Event Type: **TV**
Sep 28, 2026 4:29:00 PM
Source: **KTVN (CBS)**
Market: **Reno, NV**
Audience: **5,402**
Category: **News**
Country: **US**

Regional **Transportation Commission of Washoe CountY** : "We got a lot of public feedback on this particular project. We want to make sure that all that is presented to the elected officials.



2 News Nevada at 4:00pm

Event Type: **TV**
Sep 28, 2026 4:23:52 PM
Source: **KTVN (CBS)**
Market: **Reno, NV**
Audience: **5,402**
Category: **News**
Country: **US**

Regional transportation commission of washoe county will discuss their final presentation for their northeast connector project. When and where the meeting will be happening, up next. As problem gambling continues to raise alarm in northern nevada -- a local gambling center is offering new services to clients.

99.1 FM Talk - Midday (12:45 PM)

Event Type: **RADIO**
Sep 28, 2026 12:56:25 PM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **30,800**
Category:
Country: **US**

There's going to be an **RTC** public meeting along with Story County on Tuesday. They're going to be doing this at. From 69 pm at the Washa county chambers that off of ninth street there at the county building. The meeting will also be livestreamed. On r TCS Youtube channel.

99.1 FM Talk - Evening (9:45 PM)

Event Type: **RADIO**
Sep 26, 2026 9:45:51 PM
Source: **99.1 FM Talk**
Market: **Reno, NV**
Audience: **11,900**
Category:
Country: **US**

How is the **RTC** continuing to maintain control? Inside of Iran? How are they electronically being able to, you know, command their, you know their battalions, their brigades, you know their? Police forces. Well, they're doing it via old school hardwires you can't jam old-school hardwires or fiber optic.

The full 207 documents can be viewed in TVEyes Insight application

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 4.3.1**

To: Regional Transportation Commission

From: Vanessa Lacer, Director of Planning

SUBJECT: 2050 Regional Transportation Plan Community Engagement Effort

RECOMMENDED ACTION

Approve a contract with The Langdon Group for planning services to complete the 2050 Regional Transportation Plan Community Engagement Effort, in an amount not-to-exceed $111,256.

BACKGROUND AND DISCUSSION

The objective of the 2050 Regional Transportation Plan Community Engagement Effort is to conduct a robust public and stakeholder engagement process that identifies the community's transportation needs and desires through the year 2050. The project will engage the public, stakeholders, RTC leadership, and Board of Commissioners through a survey, stakeholder interviews, outreach events, presentations, and the facilitation of a regional Outreach Committee. The results of public engagement will be utilized to develop the vision, goals, and objectives for the 2050 Regional Transportation Plan (RTP).

RTC is the designated Metropolitan Planning Organization (MPO) for the Truckee Meadows region and is therefore required by state and federal law to develop the RTP for the region, in collaboration with policy makers, elected officials, stakeholders, and the public. Public and stakeholder engagement is vital to the RTP development process, and the process itself is intended to build greater consensus around the RTP. The RTP, and the planning program it reflects, allows the region and its projects to be eligible for federal formula funding and to compete for federal discretionary grants to help deliver roadway projects and other multimodal facilities that address current and future transportation demand.

Three proposals were received in response to a Request for Proposals (RFP). A technical evaluation of the proposals was conducted by an Evaluation Committee comprised of five RTC staff members, with one representative from the Planning Department, and four representatives from the Communications Department. All members of the Evaluation Committee evaluated and scored the proposals independently in accordance with the evaluation criteria set forth in the in the RFP. The proposal from The Langdon Group received the highest score and is recommended for award of the contract.

FISCAL IMPACT

Funding for this item has been budgeted in the FY 2026 – FY 2027 UPWP.

PREVIOUS BOARD ACTION

04/18/2025 - Approved the FY 2026 – FY 2027 Unified Planning Work Program (UPWP)

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AGREEMENT
FOR
PROFESSIONAL SERVICES

This agreement (this "Agreement") is dated and effective as of October 16, 2026, by and between the Regional Transportation Commission of Washoe County ("RTC") and The Langdon Group (TLG) ("CONSULTANT").

WITNESSETH:

WHEREAS, RTC issued a Request for Proposals for interested persons and firms to perform the 2050 RTP Public Engagement Project in connection with RTC 26-12; and

WHEREAS, CONSULTANT submitted a proposal (the "Proposal") and was selected to perform the work.

NOW, THEREFORE, RTC and CONSULTANT, in consideration of the mutual covenants and other considerations set forth herein, do hereby agree as follows:

ARTICLE 1 – TERM AND ENGAGEMENT

1.1. The term of this Agreement shall be from the date first written above through December 30, 2027, unless terminated at an earlier date, or extended to a later date, pursuant to the provisions herein.

1.2. CONSULTANT will perform the work using the project team identified in the proposal. Any changes to the project team must be approved by RTC's Project Manager.

1.3. CONSULTANT will promptly, diligently and faithfully execute the work to completion in accordance with applicable professional standards subject to any delays due to strikes, acts of God, act of any government, civil disturbances, or any other cause beyond the reasonable control of CONSULTANT.

1.4. CONSULTANT shall not proceed with work until both parties have executed this Agreement and a purchase order has been issued to CONSULTANT. If CONSULTANT violates that prohibition, CONSULTANT forfeits any and all right to reimbursement and payment for that work and waives any and all claims against RTC, its employees, agents, and affiliates, including but not limited to monetary damages, and any other remedy available at law or in equity arising under the terms of this Agreement. Furthermore, prior to execution and issuance of a purchase order, CONSULTANT shall not rely on the terms of this Agreement in any way, including but not limited to any written or oral representations, assurances or warranties made by RTC or any of its agents, employees or affiliates, or on any dates of performance, deadlines, indemnities, or any term contained in this Agreement or otherwise.

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ARTICLE 2 - SERVICES OF CONSULTANT

2.1. SCOPE OF SERVICES

The scope of services consists of the tasks set forth in Exhibit A.

2.2. ACCESSIBILITY REQUIREMENTS

CONSULTANT's delivery of products and documentation that are digitally accessible to people with disabilities is key to RTC making sure that everyone has equitable access to information. CONSULTANT shall ensure that contract deliverables that will be posted on RTC's website, including documents, attachments and exhibits, spreadsheets, presentations, websites, software, videos and other deliverables, are provided using information and communication technology that makes those deliverables digitally accessible to people with disabilities in compliance with the requirements of Title II of the Americans with Disabilities Act and applicable Web Content Accessibility Guidelines (WCAG).

2.3. SCHEDULE OF SERVICES

Tasks and subtasks shall be completed in accordance with the schedule in Exhibit A. Any change(s) to the schedule must be approved by RTC's Project Manager.

2.4. CONTINGENCY

Contingency line items identified in the scope of services are for miscellaneous increases within the scope of work. Prior to the use of any contingency amounts, CONSULTANT shall provide a letter to RTC's Project Manager detailing the need, scope, and not-to-exceed budget for the proposed work. Work to be paid for out of contingency shall proceed only with the RTC Project Manager's written approval.

2.5. OPTIONS

RTC shall have the right to exercise its option(s) for all or any part of the optional tasks or subtasks identified in Exhibit A. CONSULTANT will prepare and submit a detailed scope of services reflecting the specific optional services requested, a schedule for such services, and a cost proposal. RTC will review and approve the scope of services and RTC and CONSULTANT will discuss and agree upon compensation and a schedule. CONSULTANT shall undertake no work on any optional task without written notice to proceed with the performance of said task. RTC, at its sole option and discretion, may select another individual or firm to perform the optional tasks or subtasks identified in Exhibit A.

2.6. ADDITIONAL SERVICES

CONSULTANT will provide additional services when agreed to in writing by RTC and CONSULTANT.

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2.7. PERFORMANCE REQUIREMENTS

Any and all design and engineering work furnished by CONSULTANT shall be performed by or under the supervision of persons licensed to practice architecture, engineering, or surveying (as applicable) in the State of Nevada, by personnel who are careful, skilled, experienced and competent in their respective trades or professions, who are professionally qualified to perform the work, and who shall assume professional responsibility for the accuracy and completeness of documents prepared or checked by them, in accordance with appropriate prevailing professional standards. Notwithstanding the provision of any drawings, technical specifications, or other data by RTC, CONSULTANT shall have the responsibility of supplying all items and details required for the deliverables required hereunder.

2.8. ERRORS AND OMISSIONS

CONSULTANT shall, without additional compensation, correct or revise any deficiencies, errors, or omissions caused by CONSULTANT in its analysis, reports, and services. CONSULTANT also agrees that if any error or omission is found, CONSULTANT will expeditiously make the necessary correction, at no expense to RTC. If an error or omission was directly caused by RTC, and not by CONSULTANT and RTC requires that such error or omission be corrected, CONSULTANT may be compensated for such additional work.

ARTICLE 3 - COMPENSATION

3.1. CONSULTANT shall be paid for hours worked at the hourly rates in Exhibit B. RTC shall not be responsible for any other costs or expenses except as provided in Exhibit B.

3.2. The maximum amount payable to CONSULTANT to complete each task is equal to the not-to-exceed amounts identified in Exhibit B. CONSULTANT can request in writing that RTC's Project Manager reallocate not-to-exceed amounts between tasks. A request to reallocate not-to-exceed amounts must be accompanied with a revised fee schedule and must be approved in writing by RTC's Project Manager prior to performance of the work. In no case shall CONSULTANT be compensated in excess of the following not-to exceed amount of $111,256.

3.3. For any work authorized under Section 2.6, "Additional Services," RTC and CONSULTANT will negotiate not-to-exceed amounts based on the standard hourly rates in Exhibit B. Any work authorized under Section 2.6, "Additional Services," when performed by persons who are not employees or individuals employed by affiliates of CONSULTANT, will be billed at a mutually agreed upon rate for such services, but not more than 105% of the amounts billed to CONSULTANT for such services.

3.4. CONSULTANT shall receive compensation for preparing for and/or appearing in any litigation at the request of RTC, except: (1) if such litigation costs are incurred by CONSULTANT in defending its work or services or those of any of its sub-consultants; or (2) as may be required by CONSULTANT's indemnification obligations. Compensation

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for litigation services requested by RTC shall be paid at a mutually agreed upon rate and/or at a reasonable rate for such services.

ARTICLE 4 - INVOICING

4.1. CONSULTANT shall submit monthly invoices in the format specified by RTC. Invoices must be submitted to accountspayable@rtcwashoe.com and copied to the RTC Project Manager. RTC's payment terms are 30 days after the receipt of the invoice. Simple interest will be paid at the rate of half a percent (0.5%) per month on all invoices approved by RTC that are not paid within thirty (30) days of receipt of the invoice.

4.2. RTC shall notify CONSULTANT of any disagreement with any submitted invoice for consulting services within thirty (30) days of receipt of an invoice. Any amounts not in dispute shall be promptly paid by RTC.

4.3. CONSULTANT shall maintain complete records supporting every request for payment that may become due. Upon request, CONSULTANT shall produce all or a portion of its records and RTC shall have the right to inspect and copy such records.

ARTICLE 5 - ACCESS TO INFORMATION AND PROPERTY

5.1. Upon request and without cost to CONSULTANT, RTC will provide all pertinent information that is reasonably available to RTC including surveys, reports and any other data relative to design and construction.

5.2. RTC will provide access to and make all provisions for CONSULTANT to enter upon RTC facilities and public lands, as required for CONSULTANT to perform its work under this Agreement.

ARTICLE 6 - OWNERSHIP OF WORK

6.1. Plans, reports, studies, tracings, maps, software, electronic files, licenses, programs, equipment manuals, and databases and other documents or instruments of service prepared or obtained by CONSULTANT in the course of performing work under this Agreement, shall be delivered to and become the property of RTC. Software already developed and purchased by CONSULTANT prior to the Agreement is excluded from this requirement. CONSULTANT and its sub-consultants shall convey and transfer all copyrightable interests, trademarks, licenses, and other intellectual property rights in such materials to RTC upon completion of all services under this Agreement and upon payment in full of all compensation due to CONSULTANT in accordance with the terms of this Agreement. Basic survey notes, sketches, charts, computations and similar data prepared or obtained by CONSULTANT under this Agreement shall, upon request, also be provided to RTC.

6.2. CONSULTANT represents that it has secured all necessary licenses, consents, or approvals to use the components of any intellectual property, including computer software, used in providing services under this Agreement, that it has full legal title to and the right to reproduce such materials, and that it has the right to convey such title and other necessary rights and interests to RTC.

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6.3. CONSULTANT shall bear all costs arising from the use of patented, copyrighted, trade secret, or trademarked materials, equipment, devices, or processes used on or incorporated in the services and materials produced under this Agreement.

6.4. CONSULTANT agrees that all reports, communications, electronic files, databases, documents, and information that it obtains or prepares in connection with performing this Agreement shall be treated as confidential material and shall not be released or published without the prior written consent of RTC; provided, however, that CONSULTANT may refer to this scope of work in connection with its promotional literature in a professional and commercially reasonable manner. The provisions of this subsection shall not apply to information in whatever form that comes into the public domain. The provisions of this paragraph also shall not restrict CONSULTANT from giving notices required by law or complying with an order to provide information or data when such order is issued by a court, administrative agency, or other entity with proper jurisdiction, or if it is reasonably necessary for CONSULTANT to defend itself from any suit or claim.

ARTICLE 7 - TERMINATION

7.1. CONTRACT TERMINATION FOR DEFAULT

If CONSULTANT fails to perform services in the manner called for in this Agreement or if CONSULTANT fails to comply with any other provisions of this Agreement, RTC may terminate this Agreement for default. Termination shall be effected by serving a notice of termination on CONSULTANT setting forth the manner in which CONSULTANT is in default. CONSULTANT will only be paid the contract price for services delivered and accepted, or services performed in accordance with the manner of performance set forth in this Agreement.

If it is later determined by RTC that CONSULTANT had an excusable reason for not performing, such as a fire, flood, or events which are not the fault of or are beyond the control of CONSULTANT, RTC, after setting up a new performance schedule, may allow CONSULTANT to continue work, or treat the termination as a termination for convenience.

7.2. CONTRACT TERMINATION FOR CONVENIENCE

RTC may terminate this Agreement, in whole or in part, at any time by written notice to CONSULTANT when it is in RTC's best interest. CONSULTANT shall be paid its costs, including contract closeout costs, and profit on work performed up to the time of termination. CONSULTANT shall promptly submit its termination claim to RTC to be paid CONSULTANT. If CONSULTANT has any property in its possession belonging to RTC, CONSULTANT will account for the same and dispose of it in the manner RTC directs.

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ARTICLE 8 - INSURANCE

8.1. CONSULTANT shall not commence any work or permit any employee/agent to commence any work until satisfactory proof has been submitted to RTC that all insurance requirements have been met.

8.2. In conjunction with the performance of the services/work required by the terms of this Agreement, CONSULTANT shall obtain all types and amounts of insurance set forth in Exhibit C and shall comply with all provisions set forth therein.

ARTICLE 9 - HOLD HARMLESS

9.1. CONSULTANT's obligation under this provision is as set forth in Exhibit C. Said obligation would also extend to any liability of RTC resulting from any action to clear any lien and/or to recover for damage to RTC property.

ARTICLE 10 - EQUAL EMPLOYMENT OPPORTUNITY

10.1. During the performance of this Agreement, CONSULTANT agrees not to discriminate against any employee or applicant for employment because of race, color, religion, sex, age, disability, or national origin. CONSULTANT will take affirmative action to ensure that applicants are employed, and that employees are treated fairly during employment, without regard to their race, color, religion, sex, age, disability, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. CONSULTANT agrees to post in conspicuous places available to employees and applicants for employment, notices to be provided by RTC setting forth the provisions of this nondiscrimination clause.

10.2. CONSULTANT will, in all solicitations or advertisements for employees placed by or on behalf of CONSULTANT, state that well qualified applicants will receive consideration of employment without regard to race, color, religion, sex, age, disability, or national origin.

10.3. CONSULTANT will cause the foregoing provisions to be inserted in all sub-agreements for any work covered by this Agreement so that such provisions will be binding upon each sub-consultant.

ARTICLE 11 - RESOLUTION OF CLAIMS AND DISPUTES

11.1. NEGOTIATED RESOLUTION

In the event that any dispute or claim arises under this Agreement, the parties shall timely cooperate and negotiate in good faith to resolve any such dispute or claim. Such cooperation shall include providing the other party with all information in order to properly evaluate the dispute or claim and making available the necessary personnel to discuss and make decisions relative to the dispute or claim.

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11.2. MEDIATION

If the parties have been unable to reach an informal negotiated resolution to the dispute or claim within thirty (30) days following submission in writing of the dispute or claim to the other party, or such longer period of time as the parties may agree to in writing, either party may then request, in writing, that the dispute or claim be submitted to mediation (the "Mediation Notice"). After the other party's receipt or deemed receipt of the Mediation Notice, the parties shall endeavor to agree upon a mutually acceptable mediator, but if the parties have been unable to agree upon a mediator within ten (10) days following receipt of the Mediation Notice, then each party shall select a mediator and those two selected mediators shall select the mediator. A mediator selected by the parties' designated mediators shall meet the qualification set forth in as provided in Rule 4 of Part C., "Nevada Mediation Rules" of the "Rules Governing Alternative Dispute Resolutions adopted by the Nevada Supreme Court." Unless otherwise agreed to by the parties, in writing, the mediator shall have complete discretion over the conduct of the mediation proceeding. Unless otherwise agreed to by the parties, in writing, the mediation proceeding must take place within thirty (30) days following appointment of the mediator. The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in Washoe County, Nevada, unless otherwise agreed to by the parties, in writing. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

11.3. LITIGATION

In the event that the parties are unable to settle and/or resolve the dispute or claim as provided above, then either party may proceed with litigation in the Second Judicial District Court of the State of Nevada, County of Washoe.

11.4. CONTINUING CONTRACT PERFORMANCE

During the pendency of any dispute or claim the parties shall proceed diligently with performance of this Agreement and such dispute or claim shall not constitute an excuse or defense for a party's nonperformance or delay.

ARTICLE 12 – PROJECT MANAGERS

12.1. RTC's Project Manager is Vanessa Lacer or such other person as is later designated in writing by RTC. RTC's Project Manager has authority to act as RTC's representative with respect to the performance of this Agreement.

12.2. CONSULTANT' Project Manager is Rebecca Coulter or such other person as is later designated in writing by CONSULTANT. CONSULTANT's Project Manager has authority to act as CONSULTANT's representative with respect to the performance of this Agreement.

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ARTICLE 13 - NOTICE

13.1. Notices required under this Agreement shall be given as follows:

RTC: Bill Thomas, AICP
Executive Director
Vanessa Lacer
RTC Project Manager and Director of Planning
Regional Transportation Commission
1105 Terminal Way
Reno, Nevada 89502
Email: vlacer@rtcwashoe.com
(775) 335-1901

CONSULTANT: Rebecca Coulter
Project Lead
The Landon Group
5190 Neil Rd. Ste 500
Reno, NV 89502
Email: rcoulter@landongroupinc.com
(208) 501-4010

ARTICLE 14 - DELAYS IN PERFORMANCE

14.1. TIME IS OF THE ESSENCE

It is understood and agreed that all times stated and referred to herein are of the essence. The period for performance may be extended by RTC's Executive Director pursuant to the process specified herein. No extension of time shall be valid unless reduced to writing and signed by RTC's Executive Director.

14.2. UNAVOIDABLE DELAYS

If the timely completion of the services under this Agreement should be unavoidably delayed, RTC may extend the time for completion of this Agreement for not less than the number of days CONSULTANT was excusably delayed. A delay is unavoidable only if the delay is not reasonably expected to occur in connection with or during CONSULTANT's performance, is not caused directly or substantially by acts, omissions, negligence or mistakes of CONSULTANT, is substantial and in fact causes CONSULTANT to miss specified completion dates and cannot adequately be guarded against by contractual or legal means.

14.3. NOTIFICATION OF DELAYS

CONSULTANT shall notify RTC as soon as CONSULTANT has knowledge that an event has occurred or otherwise becomes aware that CONSULTANT will be delayed in the completion of the work. Within ten (10) working days thereafter, CONSULTANT shall

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provide such notice to RTC, in writing, furnishing as much detail on the delay as possible and requesting an extension of time.

14.4. REQUEST FOR EXTENSION

Any request by CONSULTANT for an extension of time to complete the work under this Agreement shall be made in writing to RTC. CONSULTANT shall supply to RTC documentation to substantiate and justify the additional time needed to complete the work and shall provide a revised schedule. RTC shall provide CONSULTANT with notice of its decision within a reasonable time after receipt of a request.

ARTICLE 15 - GENERAL PROVISIONS

15.1. SUCCESSORS AND ASSIGNS

RTC and CONSULTANT bind themselves and their successors and assigns to the other party and to the successors and assigns of such party, with respect to the performance of all covenants of this Agreement. Except as set forth herein, neither RTC nor CONSULTANT shall assign or transfer interest in this Agreement without the written consent of the other. Nothing herein shall be construed as creating a personal liability on the part of any officer or agent or any public body which may be a party hereto, nor shall it be construed as giving any rights or benefits hereunder to anyone other than RTC and CONSULTANT.

15.2. NON-TRANSFERABILITY

This Agreement is for CONSULTANT's professional services, and CONSULTANT's rights and obligations hereunder may not be assigned without the prior written consent of RTC.

15.3. SEVERABILITY

If any part, term, article, or provision of this Agreement is, by a court of competent jurisdiction, held to be illegal, void, or unenforceable, or to be in conflict with any law of the State of Nevada, the validity of the remaining provisions or portions of this Agreement are not affected, and the rights and obligations of the parties shall be construed and enforced as if this Agreement did not contain the particular part, term, or provision held invalid.

15.4. RELATIONSHIP OF PARTIES

CONSULTANT is an independent contractor to RTC under this Agreement. Accordingly, CONSULTANT is not entitled to participate in any retirement, deferred compensation, health insurance plans or other benefits RTC provides to its employees. CONSULTANT shall be free to contract to provide similar services for others while it is under contract to RTC, so long as said services and advocacy are not in direct conflict, as determined by RTC, with services being provided by CONSULTANT to RTC.

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15.5. WAIVER/BREACH

Any waiver or breach of a provision in this Agreement shall not be deemed a waiver of any other provision in this Agreement and no waiver is valid unless in writing and executed by the waiving party. An extension of the time for performance of any obligation or act shall not be deemed an extension of time for the performance of any other obligation or act. This Agreement inures to the benefit of and is binding upon the parties to this Agreement and their respective heirs, successors and assigns.

REGULATORY COMPLIANCE

A. CONSULTANT shall comply with all applicable federal, state and local government laws, regulations and ordinances. CONSULTANT shall be responsible for obtaining all necessary permits and licenses for performance of services under this Agreement. Upon request of RTC, CONSULTANT shall furnish RTC certificates of compliance with all such laws, orders and regulations.

B. CONSULTANT represents and warrants that none of the services to be rendered pursuant to this Agreement constitute the performance of public work, as that term is defined by Section 338.010(17) of the Nevada Revised Statutes. To the extent CONSULTANT does engage in such public work, CONSULTANT shall be responsible for paying the prevailing wage as required by Chapter 338 of the Nevada Revised Statutes.

15.7. EXCLUSIVE AGREEMENT

There are no verbal agreements, representations or understandings affecting this Agreement, and all negotiations, representations and undertakings are set forth herein with the understanding that this Agreement constitutes the entire understanding by and between the parties.

15.8. AMENDMENTS

No alteration, amendment or modification of this Agreement shall be effective unless it is in writing and signed by both parties.

15.9. CONTINUING OBLIGATION

CONSULTANT agrees that if, because of death or any other occurrence it becomes impossible for any principal or employee of CONSULTANT to render the services required under this Agreement, neither CONSULTANT nor the surviving principals shall be relieved of any obligation to render complete performance. However, in such event, RTC may terminate this Agreement if it considers the death or incapacity of such principal or employee to be a loss of such magnitude as to affect CONSULTANT's ability to satisfactorily complete the performance of this Agreement.

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15.10. APPLICABLE LAW AND VENUE

The provisions of this Agreement shall be governed and construed in accordance with the laws of the State of Nevada. The exclusive venue and court for all lawsuits concerning this Agreement shall be the Second Judicial District Court of the State of Nevada, County of Washoe, and the parties hereto submit to the jurisdiction of that District Court.

15.11. ATTORNEYS' FEES

In the event of a dispute between the parties result in a proceeding in any Court of Nevada having jurisdiction, the prevailing party shall be entitled to an award of costs and any reasonable attorneys' fees.

15.12. CERTIFICATION REQUIRED BY NEVADA SENATE BILL 27 (2017)

CONSULTANT expressly certifies and agrees, as a material part of this Agreement, that it is not currently engaged in a boycott of Israel. CONSULTANT further agrees, as a material part of this Agreement, it will not engage in a boycott of Israel for the duration of this Agreement. If, at any time during the formation or duration of this Agreement, CONSULTANT is engaged or engages in a boycott of Israel, it will constitute a material breach of this Agreement.

ARTICLE 16 - FEDERAL FORMS AND CLAUSES

16.1. CONSULTANT has completed and signed the following: (1) Affidavit of Non-Collusion; (2) Certification Regarding Debarment, Suspension, Other Ineligibility and Voluntary Exclusion; (3) Certification Required by 31 U.S.C. § 1352, Restrictions on Lobbying Using Federal Appropriated Funds, and "Instructions for Completion of SF-LLL, Disclosure of Lobbying Activities". CONSULTANT affirms that such certifications remain valid and shall immediately notify RTC if circumstances change that affect the validity of these certifications.

16.2. This Agreement is funded in whole or in part with money administered by the Nevada Department of Transportation on behalf of the Federal Highway Administration. As a condition for receiving payment under this Agreement, CONSULTANT agrees to comply with the federally required clauses set forth in Exhibit D, E and F.

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IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement the day and year first above written.

REGIONAL TRANSPORTATION COMMISSION
OF WASHOE COUNTY

By: _____
Bill Thomas, AICP, Executive Director

THE LANGDON GROUP (TLG).

By: Signed by: Rebecca Coulter 5E1418800B2C4AA... _____
Rebecca Coulter, Project Manager

By: Signed by: Alyssa Stephens 3027CE8E01F3441... _____
Alyssa Stephens, Project Manager

By: Signed by: Jestin Hurst 0F44199C0E8E47C... _____
Jestin Hurst, Senior Project Engineer

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Exhibit A

Scope of Services

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THE LANGDON GROUP
a J·U·B Company

THE LANGDON GROUP, Inc.
AGREEMENT FOR PROFESSIONAL SERVICES

Attachment 1 – Scope of Services, Basis of Fee, and Schedule

PROJECT NAME: Washoe County RTC 2050 Transportation Planning Public Engagement
CLIENT: Washoe County Regional Transportation Commission
THE LANGDON GROUP PROJECT NUMBER: RP-26-01013
CLIENT PROJECT NUMBER: N/A
ATTACHMENT TO:

☒ **AGREEMENT DATED: 9/28/2026; or**

☐ **AUTHORIZATION FOR ADDITIONAL SERVICES #X; DATED:** Click or tap to enter a date.

The referenced Agreement for Professional Services executed between THE LANGDON GROUP, Inc. (TLG) and the CLIENT is amended and supplemented to include the following provisions regarding the Scope of Services, Basis of Fee, and/or Schedule:

PART 1 - PROJECT UNDERSTANDING

TLG's understanding of this project's history and CLIENT's general intent and scope of the project are described as follows:

Washoe County seeks to conduct a robust public and stakeholder engagement process that identifies the community's transportation needs and desires through the year 2050. This comprehensive ten-month engagement process will ensure public feedback is gathered from a broad and representative sample of County residents. This feedback will be a cornerstone of goal-setting for the 2050 Regional Transportation Plan.

PART 2 - SCOPE OF SERVICES BY TLG

TLG's Services under this Agreement are limited to the following tasks. Any other items necessary to plan and implement the project, including but not limited to those specifically listed in PART 3, are the responsibility of CLIENT.

A. Task 01: Project Management

1. **Management Plan** – Prepare a project management plan, schedule, and budget. Identify key staff roles and outline deliverables for each task.
2. **Invoicing and Progress Reports** – Prepare monthly invoices and progress summaries.
3. **Coordination** – Conduct an initial kickoff meeting to communicate and confirm project objectives. Maintain regular communication with the project manager. It is anticipated that the consultant will agendize and document regularly scheduled meetings with the project management team, which may occur weekly. These meetings may be conducted virtually. This task will also involve maintenance of a joint access, web-based repository of project related documents. All publicly available documents must comply with ADA and other requirements as outlined in the RTC Style Guide.
4. **Scope and Budget Management** – Consistently monitor project scope and budget to ensure contract compliance. Major and minor changes to project timing or tasks must be documented, with the impacts to the budget clearly outlined. Provide a revised labor/dollar allocation and project task cost breakdown if necessitated by scope or schedule refinements.
5. Coordinate quality assurance / quality control (QA/QC) processes
   a. Assumptions:

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i. Coordination meetings will be held approximately weekly with project manager. The length and frequency of meetings will be modified throughout the project according to the needs of the project.

b. Deliverables:
   i. Staff assignments and budget for each task
   ii. Project schedule
   iii. Monthly progress summaries
   iv. Monthly invoices
   v. Agendas and minutes for regular project team meetings
   vi. Joint access, web-based repository for project-related documents
   vii. Redlined and clean versions of revised scope and budget, as needed

B. Task 02: Public and Stakeholder Engagement

1. **Engagement Strategy -** Design public and stakeholder engagement strategy to include Outreach Committee meetings, outreach events, stakeholder interviews, social media promotion, and feedback points for RTC TAC, CMAC, and Board.
   a. Assumptions:
      i. Engagement Strategy Memo will be reviewed and approved by the Client prior to implementation.
      ii. The Engagement Strategy Memo will serve as an implementation guide and alignment tool rather than a detailed standalone planning document.
   b. Deliverables:
      i. Engagement Strategy Memo
2. **Engagement Materials** - Develop public and stakeholder engagement materials to support ongoing engagement of community members and relevant Boards and Committees.
   a. Assumptions:
      i. RTC will provide existing branding standards, logos, style guidance, and any required messaging or technical content needed for material development.
      ii. Social media and website content will be developed for RTC distribution channels in conjunction with RTC staff. Ongoing website hosting, maintenance, paid advertising, and boosted social media campaigns are not included unless specifically authorized.
      iii. RTC staff will be responsible for the distribution of engagement materials.
   b. Deliverables:
      i. Presentations for outreach events, and for the RTC Board and RTC's TAC and CMAC Committees
      ii. Community survey questions
      iii. Interview guide
      iv. Social media and website content
      v. Additional digital and print components deemed necessary to meet engagement goals
3. **Outreach Events -** Support at least four public outreach events in each of three (3) member jurisdictions and (1) tribal community, including virtual and multilingual options as appropriate.
   a. Assumptions:
      i. RTC will assist with venue coordination and promotion of outreach events through its established communication channels.
      ii. Venue recommendations for outreach events will be developed in coordination with the Outreach Committee and Client as part of the engagement planning process.
      iii. Specific event formats, locations, multilingual accommodations, and virtual participation options will be finalized in coordination with RTC and may be adjusted as needed to support engagement goals.

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b. Deliverables:
    iv. Public outreach event design and materials such as presentations, maps, flyers, social media/website content

4. **Community Survey -** Conduct one (1) survey to be open for four (4) months. In collaboration with RTC staff the survey should collect 2,500 survey responses. Washoe County demographics should be compared monthly with those of respondents with a goal of matching the percentage of key demographics (gender, age, race, and income). As gaps are identified, the survey distribution strategy should be adjusted to reach those groups. Additionally, for groups underrepresented by the survey, stakeholder interviews should be identified with individuals knowledgeable about the needs of those groups.
    a. Assumptions:
        i. RTC staff will create the survey product in Survey123 and host the online survey after questions are developed.
        ii. RTC and project partners will distribute and promote the survey through available communication channels and community networks.
        iii. Achievement of the 2,500-response target is dependent on public participation and cannot be guaranteed by the consultant.
        iv. TLG is committed to supporting RTC in achieving the project's goal of obtaining 2,500 survey responses and broad demographic representation. TLG will develop the survey questionnaire, conduct regular participation and demographic reviews, identify gaps in representation, and recommend targeted outreach strategies to help improve participation throughout the survey period.
    b. Deliverables:
        v. Community Survey
        vi. Monthly status report to assess target response number.
5. **Outreach Committee Meetings** - Identify key team members from RTC and the community and facilitate eight (8) Outreach Committee meetings. The work of the Committee will be to help develop the outreach strategy, review engagement materials, identify stakeholders, disseminate the survey, and review findings.
    a. Assumptions:
        i. RTC will assist in identifying and recruiting committee members representing key agencies, organizations, stakeholder groups, and community interests.
        ii. All Outreach Committee meetings will be held in person. To maximize available budget and efficiency, TLG will participate virtually in up to four (4) meetings and attend up to four (4) meetings in person, while RTC staff and committee members will participate in person for all meetings.
        iii. Meetings are assumed to be conducted in existing RTC facilities. Venue rental, catering, or other special meeting expenses are not included.
        iv. TLG will work with RTC and project partners to identify opportunities for pop-up outreach events and co-located engagement activities throughout the project.
        v. Committee recommendations will inform project decision-making; however, final decisions regarding outreach activities, materials, and engagement strategies remain with RTC.
    b. Deliverables:
        i. Outreach Committee meeting agendas and meeting summaries
6. **Stakeholder Interviews** – Meet with and interview up to (10) key stakeholders in the study area. Interview subjects should be strategically selected to address demographic gaps/underrepresentation in survey respondents.

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a. Assumptions:
   i. Interview participants will be identified in coordination with RTC
   ii. TLG will conduct interviews virtually.
   iii. Stakeholder participation is voluntary and interview availability cannot be guaranteed by the consultant.
   iv. AI-enabled transcription tools and/or third-party transcription services may be used to efficiently capture and transcribe stakeholder interviews, subject to participant consent. AI-generated transcripts are intended to serve as draft working documents *only* and will be reviewed, edited, revised and validated by the project team before being incorporated into any project deliverables, findings, or recommendations.

b. Deliverables:
   i. Interview questions and verbatim transcripts of interviews

C. **Task 03: Engagement Results and Analysis**

1. **Quantitative Data Analysis-** Analyze and prepare a summary of quantitative data gathered through the online survey.
2. **Qualitative Data Analysis –** Analyze and prepare a summary of qualitative data gathered through the online survey and interviews.
3. **Stakeholder Engagement Summary –** Combine all survey and interview results and analyses into final graphics-rich summary that also includes an explanation of the engagement methodology. The final document must meet all RTC ADA and other requirements as outlined in the RTC Style Guide. This document will be provided to stakeholders, the RTC Board, TAC, and CMAC, utilized for the development of the 2050 RTP, and incorporated into the final document as an appendix.

   a. Assumptions:
      i. RTC will provide high-quality survey response data files to TLG monthly to support the required analyses.
      ii. TLG will analyze and prepare a summary of quantitative and qualitative data. Quantitative survey data will be evaluated by demographic category to identify trends, patterns, and areas of agreement or divergence. Qualitative data collected through surveys, stakeholder interviews, and in-person engagement activities will be analyzed to identify key themes, priorities, concerns, and opportunities.
      iii. RTC will provide timely access to branding standards and RTC Style Guide requirements necessary for document preparation.
      iv. TLG will provide one preliminary draft for review and commenting by RTC staff. Relevant edits will be incorporated into a final draft for publication and dissemination.

   b. Deliverables:
      i. Qualitative data analysis summary
      ii. Quantitative data analysis summary
      iii. Stakeholder Engagement Summary

PART 3 - CLIENT-PROVIDED WORK AND ADDITIONAL SERVICES

A. **Additional Services** - CLIENT reserves the right to add future tasks for subsequent phases or related work to the scope of services upon mutual agreement of scope, additional fees, and schedule. These future tasks, to be added by amendment at a later date as Additional Services, may include:

1. Not Applicable. No Additional Services are anticipated for this scope of work.

PART 4 - BASIS OF FEE AND SCHEDULE OF SERVICES

A. CLIENT shall pay TLG for the identified Services in PART 2 as follows:

1. For Time and Materials fees:

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a. For all services performed on the project, Client shall pay TLG an amount equal to the TLG's standard billing rates. cumulative hours charged to the Project by each class of TLG's personnel.
b. Client shall pay TLG for Reimbursable Expenses times a multiplier of 1.0.

2. TLG may alter the distribution of compensation between individual tasks to be consistent with services actually rendered while not exceeding the total project amount.

B. CLIENT acknowledges that **TLG** will not be responsible for impacts to the schedule by actions of others over which **TLG** has no control.

C. The following table summarizes the fees and anticipated schedule for the services identified in PART 2.

Task Number	Task Name	Fee Type	Amount	Anticipated Schedule
001	Project Management	To Be Determined (Estimated Amount Shown)	$19,065	October 2026 – August 2027
002	Public and Stakeholder Engagement	To Be Determined (Estimated Amount Shown)	$63,950	November 2026 – June 2027
003	Engagement Results and Analysis	To Be Determined (Estimated Amount Shown)	$22,184	May 2027 - August 2027
950	Expenses	To Be Determined (Estimated Amount Shown)	$6,057	November 2026 – August 2027
		Total:	**$111,256**	

D. The above fees were developed from the Work Breakdown Structure (WBS), attached as Exhibit 1-A.

E. Electronic deliverables provided to the CLIENT as part of the work described within this Attachment are subject to the provisions of J-U-B's "electronic document/data limited license" found at edocs.jub.com.

Exhibit(s):

- Exhibit 1-A: Work Breakdown Structure

For internal TLG use only:

PROJECT LOCATION (STATE): Nevada
TYPE OF WORK: County
R&D: No
GROUP: Public Involvement

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Exhibit B

Compensation

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EXHIBIT 1-A: WORK BREAKDOWN STRUCTURE

BASIS OF FEE ESTIMATE

J-U-B ENGINEERS, INC. | THE LANGDON GROUP | GATEWAY MAPPING INC.
J-U-B FAMILY OF COMPANIES

Project Title, Client: RTC 2025 Public Engagement
Project Number: RP-26-01013
Prepared By: Alyssa Stephens and Rebecca Coulter

			Stephens, Alyssa	Coulter, Rebecca	Oksol, Garth	Fowler, Jennifer	Burt, Melissa			
Task Number	Subtask Number	Task/Subtask Name / Activity Description	TLG Practitioner - Lead	TLG Practitioner - Senior	Program Manager - Lead	TLG Practitioner - Lead	Project Accountant	J-U-B Expenses	Subconsultant Expenses	Total Compensation
001		**Project Management**	**65**	**23**	**0**	**0**	**12**	**$0**	**$0**	**$19,065**
		Management Plan	3	3	0	0	0	$0	$0	$1,269
		Invoicing and Progress Reports	12	0	0	0	12	$0	$0	$3,696
		Coordination	40	20	0	0	0	$0	$0	$12,220
		Scope and Budget Management	10	0	0	0	0	$0	$0	$1,880
002		**Public and Stakeholder Engagement**	**204**	**84**	**10**	**16**	**0**	**$0**	**$0**	**$63,950**
		Engagement Strategy	10	6	0	0	0	$0	$0	$3,290
		Engagement Materials	42	10	0	16	0	$0	$0	$13,254
		Outreach Events	32	16	10	0	0	$0	$0	$12,626
		Community Survey	48	10	0	0	0	$0	$0	$11,374
		Outreach Committee Meetings	42	36	0	0	0	$0	$0	$16,356
		Stakeholder Interviews	30	6	0	0	0	$0	$0	$7,050
003		**Engagement Results and Analysis**	**80**	**24**	**0**	**8**	**0**	**$0**	**$0**	**$22,184**
		Survey Findings (includes quantitative data analysis)	20	10	0	0	0	$0	$0	$6,110
		Survey and Interview Findings (includes qualitative data analysis)	30	10	0	0	0	$0	$0	$7,990
		Stakeholder Engagement Summary (integrated report of all findings)	30	4	0	8	0	$0	$0	$8,084
950		**Expenses**	**0**	**0**	**0**	**0**	**0**	**$6,057**	**$0**	**$6,057**
		Mileage						$1,305	$0	$1,305
		Car Rental						$800	$0	$800
		Per Diem						$952	$0	$952
		Lodging						$1,600	$0	$1,600
		Flights						$1,400	$0	$1,400
	Total Hours		**349**	**131**	**10**	**24**	**12**			**526**
	Total Costs		**$65,612**	**$30,785**	**$2,850**	**$4,512**	**$1,440**	**$6,057**	**$0**	**$111,256**

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Exhibit C

Indemnification and Insurance Requirements

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INDEMNIFICATION AND INSURANCE REQUIREMENTS FOR PROFESSIONAL SERVICE AGREEMENTS [NRS 338 DESIGN PROFESSIONAL]

1. INTRODUCTION

IT IS HIGHLY RECOMMENDED THAT CONSULTANTS CONFER WITH THEIR INSURANCE CARRIERS OR BROKERS TO DETERMINE THE AVAILABILITY OF THESE INSURANCE CERTIFICATES AND ENDORSEMENTS IN ADVANCE OF PROPOSAL SUBMISSION. IF THERE ARE ANY QUESTIONS REGARDING THESE INSURANCE REQUIREMENTS, IT IS RECOMMENDED THAT THE AGENT/BROKER CONTACT RTC'S FINANCE DIRECTOR AT (775) 332-9511.

2. INDEMNIFICATION

CONSULTANT agrees, subject to the limitations in Nevada Revised Statutes Section 338.155, to save and hold harmless and fully indemnify RTC, Washoe County, City of Reno and City of Sparks including their elected officials, officers, employees, and agents (hereafter, "Indemnitees") from and against any and all claims, proceedings, actions, liability and damages, including reasonable attorneys' fees and defense costs incurred in any action or proceeding (collectively "Damages") arising out of the:

A. Negligence, errors, omissions, recklessness or intentional misconduct of CONSULTANT or CONSULTANT's agents, employees, officers, directors, subconsultants, or anyone else for whom CONSULTANT may be legally responsible, which are based upon or arising out of the professional services of CONSULTANT; and

B. Violation of law or any contractual provisions or any infringement related to trade names, licenses, franchises, patents or other means of protecting interests in products or inventions resulting from the use by the Indemnitees of any materials, devices, processes, equipment, or other deliverable (including software) supplied by CONSULTANT under or as a result of this Agreement, but excluding any violation or infringement resulting from the modification or alteration by the Indemnitees of any materials, devices, processes, equipment, or other deliverable (including software) not consented to by CONSULTANT.

CONSULTANT further agrees to defend, save and hold harmless and fully indemnify the Indemnitees from and against any and all Damages arising out the negligence, errors, omissions, recklessness or intentional misconduct of CONSULTANT or CONSULTANT's agents, employees, officers, directors, subconsultants, or anyone else for whom CONSULTANT may be legally responsible, which are not based upon or arising out of the professional services of CONSULTANT.

The Damages shall include, but are not limited to, those resulting from personal injury to any person, including bodily injury, sickness, disease or death and injury to real property or personal property, tangible or intangible, and the loss of use of any of that property, whether or not it is physically injured.

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If the Indemnitees are involved in defending actions of CONSULTANT or anyone else for whom CONSULTANT is legally responsible, CONSULTANT shall reimburse the Indemnitees for the time spent by such personnel at the rate of the Indemnitees pay or compensation for such services.

If an Indemnitee is found to be liable in the proceeding, then CONSULTANT'S obligation hereunder shall be limited to the proportional share of the liability attributed to CONSULTANT.

In determining whether a claim is subject to indemnification, the incident underlying the claim shall determine the nature of the claim.

In the event of a violation or an infringement under paragraph 2.B above and the use is enjoined, CONSULTANT, at its sole expense, shall either (1) secure for the Indemnitees the right to continue using the materials by suspension of any injunction or by procuring a license or licenses for the Indemnitees; or (2) modify the materials so that they become non-infringing. This covenant shall survive the termination of the Professional Services Agreement.

The provisions of this Agreement are separate and severable and it is the intent of the Parties hereto that in the event any provision of this Agreement should be determined by any court of competent jurisdiction to be void, voidable or too restrictive for any reason whatsoever, the remaining provisions of this Agreement shall remain valid and binding upon said Parties. It is also understood and agreed that in the event any provision should be considered, by any court of competent jurisdiction, to be void because it imposes a greater obligation on CONSULTANT than is permitted by law, such court may reduce and reform such provisions to limitations which are deemed reasonable and enforceable by said court.

3. GENERAL REQUIREMENTS

Prior to the start of any work on a RTC project, CONSULTANT shall purchase and maintain insurance of the types and limits as described below insuring against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONSULTANT, its subconsultants, or their employees, agents, or representatives. The cost of all such insurance shall be borne by CONSULTANT.

4. VERIFICATION OF COVERAGE

CONSULTANT shall furnish RTC with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth herein, on forms acceptable to RTC. All deductibles and self-insured retentions requiring RTC approval shall be shown on the certificate. All certificates and endorsements are to be addressed to RTC's Finance Director and be received by RTC before work commences. Upon request, CONSULTANT agrees that RTC has the right to review CONSULTANT'S and the Sub's insurance policies, or certified copies of the policies. Copies of applicable policy forms or endorsements confirming required additional insured, waiver of subrogation and notice of cancellation provisions are required to be provided with any certificate(s) evidencing the required coverage.

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5. NOTICE OF CANCELLATION

CONSULTANT or its insurers shall provide at least thirty (30) days' prior written notice to RTC prior to the cancellation or non-renewal of any insurance required under this Agreement. An exception may be included to provide at least ten (10) days' written notice if cancellation is due to non-payment of premium. CONSULTANT shall be responsible to provide prior written notice to RTC as soon as practicable upon receipt of any notice of cancellation, non-renewal, reduction in required limits or other material change in the insurance required under this Agreement.

6. SUBCONSULTANTS & SUBCONTRACTORS

CONSULTANT shall include all Subcontractors and Subconsultants (referred to collectively as "Subs") as insureds under its liability policies OR shall cause Subs employed by CONSULTANT to purchase and maintain separate liability coverages and limits of the types specified herein. If any Subs maintain separate liability coverages and limits, each shall include the RTC, Washoe County, City of Reno and City of Sparks as additional insureds under its commercial general liability policy, subject to the same requirements stated herein, without requiring a written contract or agreement between each of the additional insureds and any sub-consultant or sub-contractor. Any separate coverage limits of liability maintained by Subs shall be at least **$1,000,000** per occurrence and at least **$2,000,000** for any applicable coverage aggregates or the amount customarily carried by the Sub, whichever is GREATER. If any Subs provide their own insurance with limits less than required of the Contractor, Contractor shall include Subs in their coverage up to the full limits required of the Contractor. When requested by RTC, CONSULTANT shall furnish copies of certificates of insurance evidencing coverage for each subconsultant. CONSULTANT need not require its non-design subcontractors to carry Professional Errors and Omissions Liability insurance.

7. DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions that exceed $25,000 per occurrence or claim must be declared to RTC's Finance Director prior to signing this Agreement. RTC is entitled to request and receive additional documentation, financial or otherwise, prior to giving its approval of the deductibles and self-insured retentions. Any changes to the deductibles or self-insured retentions made during the term of this Agreement or during the term of any policy must be declared to RTC's Finance Director prior to the change taking effect.

8. ACCEPTABILITY OF INSURERS

Required insurance is to be placed with insurers with a Best's rating of no less than A-VII and acceptable to RTC. RTC may accept coverage with carriers having lower Best's ratings upon review of financial information concerning CONSULTANT and the insurance carrier. RTC reserves the right to require that CONSULTANT'S insurer(s) be licensed and admitted in the State of Nevada or meet any applicable state and federal laws and regulations for non-admitted insurance placements.

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9. OTHER CONDITIONS

A. Failure to furnish the required certificate(s) or failure to maintain the required insurance may result in termination of this Agreement at RTC's option.

B. If CONSULTANT fails to furnish the required certificate or fails to maintain the required insurance as set forth herein, RTC shall have the right, but not the obligation, to purchase said insurance at CONSULTANT's expense.

C. Any waiver of CONSULTANT's obligation to furnish such certificate or maintain such insurance must be in writing and signed by an authorized representative of RTC. Failure of RTC to demand such certificate or other evidence of full compliance with these insurance requirements or failure of RTC to identify a deficiency from evidence that is provided shall not be construed as a waiver of CONSULTANT's obligation to maintain such insurance, or as a waiver as to the enforcement of any of these provisions at a later date.

D. By requiring insurance herein, RTC does not represent that coverage and limits will necessarily be adequate to protect CONSULTANT, and such coverage and limits shall not be deemed as a limitation on CONSULTANT's liability under the indemnities granted to RTC in this contract.

E. If CONSULTANT'S liability policies do not contain the standard ISO separation of insureds condition, or a substantially similar clause, they shall be endorsed to provide cross-liability coverage.

10. COMMERCIAL GENERAL LIABILITY

CONSULTANT shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance with a limit of not less than **$2,000,000** each occurrence. If such CGL insurance contains a general aggregate limit, it shall be increased to equal twice the required occurrence limit or revised to apply separately to this project.

CGL insurance shall be written on ISO occurrence form CG 00 01 04 13 (or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operations, products-completed operations, personal and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).

RTC and any other Indemnitees listed in Section 2. INDEMNIFICATION of this Agreement shall be included as an additional insured under the CGL, using ISO additional insured endorsement CG 20 10 07/04 or CG 20 33 07/04 or a substitute providing equivalent coverage, and under the commercial umbrella, if any.

This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to RTC or any other Indemnitees under this Agreement.

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CONSULTANT waives all rights against RTC and any other Indemnitees listed in section 2. INDEMNIFICATION of this Agreement for recovery of damages to the extent these damages are covered by the commercial general liability or commercial umbrella liability insurance maintained pursuant to this agreement. CONSULTANT's insurer shall endorse CGL policy to waive subrogation against RTC with respect to any loss paid under the policy.

11. COMMERCIAL AUTOMOBILE LIABILITY

CONSULTANT shall maintain automobile liability and, if necessary, commercial umbrella liability insurance with a limit of not less than **$1,000,000** each accident. Such insurance shall cover liability arising out of any auto (including owned, hired, and non-owned autos).

Coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 25, or a substitute form providing equivalent liability coverage for all owned, leased, hired (rented) and non-owned vehicles (as applicable). RTC may agree to accept auto liability for non-owned and hired (rented) vehicles under the CGL if CONSULTANT does not own or operate any owned or leased vehicles.

CONSULTANT waives all rights against RTC, its officers, employees and volunteers for recovery of damages to the extent these damages are covered by the automobile liability or commercial umbrella liability insurance obtained by CONSULTANT pursuant to this Agreement.

12. INDUSTRIAL (WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY) INSURANCE

It is understood and agreed that there shall be no Industrial (Worker's Compensation and Employer's Liability) Insurance coverage provided for CONSULTANT or any subconsultants by RTC. CONSULTANT, and any subconsultants, shall procure, pay for and maintain the required coverages.

CONSULTANT shall maintain workers' compensation and employer's liability insurance meeting the statutory requirements of the State of Nevada, including but not limited to NRS 616B.627 and NRS 617.210. The employer's liability limits shall not be less than **$1,000,000** each accident for bodily injury by accident or **$1,000,000** each employee for bodily injury by disease.

CONSULTANT shall provide a Final Certificate for itself and each subconsultant evidencing that CONSULTANT and each subconsultant maintained workers' compensation and employer's liability insurance throughout the entire course of the project.

If CONSULTANT, or any subconsultant is a sole proprietor, coverage for the sole proprietor must be purchased and evidence of coverage must appear on the Certificate of Insurance and Final Certificate.

CONSULTANT waives all rights against RTC, its elected officials, officers, employees and agents for recovery of damages to the extent these damages are covered by the workers compensation and employer's liability or commercial umbrella liability insurance obtained by Tenant pursuant to this

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agreement. CONSULTANT shall obtain an endorsement equivalent to WC 00 03 13 to affect this waiver.

13. PROFESSIONAL ERRORS AND OMISSIONS LIABILITY

CONSULTANT shall maintain professional liability insurance applying to liability for a professional error, omission, or negligent act arising out of the scope of CONSULTANT'S services provided under this Agreement with a limit of not less than **$1,000,000** each claim and annual aggregate. CONSULTANT shall maintain professional liability insurance during the term of this Agreement and, if coverage is provided on a "claims made" or "claims made and reported" basis, shall maintain coverage or purchase an extended reporting period for a period of at least three (3) years following the termination of this Agreement.

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Exhibits D, E and F

Federally Required Clauses

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Exhibit D

Federally Required Clauses

1. PROMPT PAYMENT PROVISION

CONSULTANT must pay all subconsultants for satisfactory performance of their contracts no later than thirty (30) days from the receipt of payment made to CONSULTANT by RTC. Prompt return of retainage payments from CONSULTANT to the subconsultants will be made within fifteen (15) days after each subconsultant's work is satisfactorily completed. Any delay or postponement of payment among the parties may take place only for good cause and with RTC's prior written approval. If CONSULTANT determines the work of the subconsultant to be unsatisfactory, it must notify RTC's project manager immediately in writing and state the reasons. The failure by CONSULTANT to comply with this requirement will be construed to be a breach of the Contract and may be subject to sanctions as specified in the Contract or any other options listed in 49 C.F.R. 26.29.

2. NONDISCRIMINATION

During the performance of this Contract, CONSULTANT, for itself, its assignees, and successors in interest, agrees as follows:

A. Compliance with Regulations. CONSULTANT shall comply with the regulations relative to nondiscrimination in DOT-assisted programs, 49 C.F.R. Part 21, as they may be amended from time to time (referred to in this section as the "Regulations"), which are herein incorporated by reference and made a part of this Contract.

B. Nondiscrimination. CONSULTANT shall not discriminate on the grounds of age, race, color, sex, or national origin in the selection and retention of subconsultants, including procurement of materials and leases of equipment. CONSULTANT shall not participate, either directly or indirectly, in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.

C. Solicitations for Subcontracts, including Procurement of Materials and Equipment. In all solicitations, whether by competitive proposing or negotiation made by CONSULTANT for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subconsultant or supplier must be notified by CONSULTANT of CONSULTANT's obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of age, race, color, sex, or national origin.

D. Information and Reports. CONSULTANT must provide all information and reports required by the Regulations or directives issued pursuant thereto, and must permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by RTC to be pertinent to ascertain compliance with such Regulations, orders, and instructions.

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Where any information is required, or the information is in the exclusive possession of another who fails or refuses to furnish this information, CONSULTANT must so certify to RTC and must set forth what efforts it has made to obtain the information.

E. Sanctions for Noncompliance. In the event of CONSULTANT's noncompliance with the nondiscrimination provisions of this Contract, RTC shall impose such contract sanctions as it may determine to be appropriate, including, but not limited to: (1) withholding of payments to CONSULTANT under the Contract until CONSULTANT complies, and/or (2) cancellation, termination, or suspension of the Contract, in whole or in part.

CONSULTANT shall include the provisions of this clause in every subcontract. CONSULTANT must take such action with respect to any subcontract or procurement as RTC may direct as a means of enforcing those provisions, including sanctions for noncompliance. However, if CONSULTANT becomes involved in or is threatened with litigation with a subconsultant as a result of such direction, CONSULTANT may request RTC to enter into the litigation to protect the interests of RTC.

3. AFFIRMATIVE ACTION IN EMPLOYMENT

CONSULTANT shall comply with the provisions of Section 503 of the Rehabilitation Act of 1973 (the "Rehabilitation Act").

A. CONSULTANT will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. CONSULTANT agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: employment, upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

B. CONSULTANT agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor pursuant to the Rehabilitation Act.

C. In the event of CONSULTANT's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations, and relevant orders of the Secretary of Labor pursuant to the Rehabilitation Act.

D. CONSULTANT agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the director, provided by or through the contracting officer. Such notices shall state CONSULTANT's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment, and the rights of applicants and employees.

E. CONSULTANT shall include the provisions of this clause in every subcontract or purchase order of $2,500 or more unless exempted by rules, regulations, or orders of the

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Secretary of Transportation issued pursuant to Section 503 of the Rehabilitation Act, so that such provisions will be binding upon each subconsultant or vendor. CONSULTANT will take such action with respect to any subcontract or purchase order as the director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for noncompliance (41 C.F.R. 60-741.4.4).

4. INTEREST OF MEMBERS OF, OR DELEGATES TO, CONGRESS

In accordance with 18 U.S.C. 431, no member of, or delegate to, the Congress of the United States shall be admitted to any share or part of this Contract or to any benefit arising therefrom.

5. INTEREST OF PUBLIC OFFICIALS

No member, officer, or employee of any public body, during his tenure, or for one (1) year thereafter, shall have any interest, direct or indirect, in this Contract or the benefits thereof.

6. CIVIL RIGHTS

The following requirements apply to the underlying Contract:

A. Nondiscrimination. In accordance with Title Vl of the Civil Rights Act, as amended, 42 U.S.C. 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. 12132, and Federal transit law at 49 U.S.C. 5332, CONSULTANT agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age or disability.

B. Equal Employment Opportunity. The following equal employment opportunity requirements apply to the underlying contract:

(1) Race, Color, Creed, National Origin, Sex. In accordance with Title Vll of the Civil Rights Act, as amended, 42 U.S.C. 2000e, and Federal transit laws at 49 U.S.C. 5332, CONSULTANT agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor", 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, Equal Employment Opportunity", as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity", 42 U.S.C. 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. CONSULTANT agrees to take affirmative action to ensure that applicants are employed, and that employees are treated equally during employment, without regard to their race, color, creed, national origin, sex, or age. Such action must include, but not be limited to, the

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following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

(2) Age. In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. 623 and Federal transit law at 49 U.S.C. 5332, CONSULTANT agrees to refrain from discrimination against present and prospective employees for reason of age.

(3) Disabilities. In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. 12112, CONSULTANT agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act", 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities.

C. CONSULTANT also agrees to include these requirements in each subcontract.

7. INELIGIBLE CONSULTANTS

In the event CONSULTANT is on the Comptroller General's List of Ineligible Consultants for Federally financed or assisted projects, this contract may be canceled, terminated, or suspended by RTC.

8. NOTICE OF FEDERAL REQUIREMENTS

New Federal laws, regulations, policies, and administrative practices may be established after the date of this Contract, which may apply to this Contract. If Federal requirements change, the changed requirements will apply to the Contract or the performance of work under the Contract as required. All standards or limits set forth in this Contract to be observed in the performance of the work are minimum requirements.

9. THIRD-PARTY RIGHTS

Notwithstanding anything herein to the contrary, the services provided under this Agreement shall not give rise to, nor shall be deemed to or construed so as to confer any rights on any other party, as a third-party beneficiary or otherwise.

10. RECORDS RETENTION; AUDIT AND INSPECTION OF RECORDS

A. CONSULTANT shall permit the authorized representatives of RTC, FHWA, the U.S. Department of Transportation's Inspector General, NDOT, and the Comptroller General of the United States, or any of their duly authorized representatives to inspect and audit all data and records of CONSULTANT relating to its performance under the contract until the expiration of three (3) years after final payment under this Contract.

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B. CONSULTANT further agrees to include in all subcontracts hereunder a provision to the effect that the subconsultant agrees that RTC, FHWA, the U.S. Department of Transportation's Inspector General, NDOT, and the Comptroller General of the United States, or any of their duly authorized representatives shall, until the expiration of three (3) years after final payment under the subcontract, have access to and the right to examine any books, documents, papers, and records of the subconsultant directly pertinent to this contract. The term "subcontract" as used in this clause excludes (1) purchase orders not exceeding $10,000 and (2) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.

C. The periods of access and examination described above, for records which relate to (1) appeals under the dispute clause of this Contract, (2) litigation or the settlement of claims arising out of the performance of this Contract, or (3) costs and expenses of this Contract to which an exception has been taken by the U.S. Comptroller General or any of his duly authorized representatives, shall continue until such appeals, litigation, claims or exceptions have been disposed of.

11. NO FEDERAL GOVERNMENT OBLIGATION TO THIRD PARTIES

A. RTC and CONSULTANT acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying Contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this Contract and shall not be subject to any obligations or liabilities to RTC, Consultant, or any other party (whether or not a party to that Contract) pertaining to any matter resulting from the underlying Contract.

B. CONSULTANT agrees to include the above clause in each subcontract. It is further agreed that the clause shall not be modified, except to identify the subconsultant who will be subject to its provisions.

12. DEBARMENT, SUSPENSION, OTHER INELIGIBILITY AND VOLUNTARY EXCLUSION

A. This Contract is a covered transaction for purposes of 2 C.F.R. Part 1200 and 2 C.F.R. Part 180. As such, CONSULTANT is required to verify that none of CONSULTANT, its principals, as defined at 2 C.F.R. 180.995, or affiliates, as defined at 2 C.F.R. 180.905, are excluded or disqualified as defined at 2 C.F.R. 180.940 and 180.945.

B. CONSULTANT is required to comply with 2 C.F.R. 180, Subpart C, and must include the requirement to comply with 2 C.F.R. 180, Subpart C, in all contracts for lower-tier transactions over $25,000 and in all solicitations for lower tier contracts.

CONSULTANT agrees that it shall not knowingly enter into any lower-tier covered transaction with a person or firm who is debarred, suspended, declared ineligible, or voluntarily excluded from

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participation in this contract.

13. COMPLIANCE WITH FEDERAL LOBBYING POLICY

Section 1352 of Title 31, United States Code, provides in part that no appropriated funds may be expended by the recipient of a federal contract, grant, loan, or cooperative agreement to pay any person by influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement.

Consultants who apply or bid for an award of $100,000 or more shall file the certification required by 49 C.F.R. Part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any Federal Agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal Contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-federal funds with respect to that federal Contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

CONSULTANT also agrees to include these requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance.

14. REPORTING REQUIREMENTS

CONSULTANT shall provide all information and reports required by the Regulations, or directives issued pursuant shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its facilities as may be determined by RTC or the Federal Highway Administration (FHWA) to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a Consultant is in the exclusive possession of another who fails or refuses to furnish this information, CONSULTANT shall so certify to RTC, or the FHWA as appropriate, and shall set forth what efforts it has made to obtain the information.

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Exhibit E

During the performance of this contract, CONTRACTOR, for itself, its assignees, and successors in interest, agrees as follows:

1. **Compliance with Regulations:** The Consultant (hereinafter includes subconsultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Non-discrimination:** The Consultant, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subconsultants, including procurements of materials and leases of equipment. The Consultant will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 C.F.R. Part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the Consultant for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subconsultant or supplier will be notified by the Consultant of the Consultant's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports:** The Consultant will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the FHWA to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a Consultant is in the exclusive possession of another who fails or refuses to furnish the information, the Consultant will so certify to the Recipient or the FHWA, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a Consultant's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:

    a. withholding payments to the Consultant under the contract until the Consultant complies; and/or

    b. cancelling, terminating, or suspending a contract, in whole or in part.

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6. **Incorporation of Provisions:** The Consultant will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Consultant will take action with respect to any subcontract or procurement as the Recipient or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Consultant becomes involved in, or is threatened with litigation by a subconsultant, or supplier because of such direction, the Consultant may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the Consultant may request the United States to enter into the litigation to protect the interests of the United States.

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Exhibit F

During the performance of this contract, CONSULTANT, for itself, its assignees, and successors in interest, agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq*., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 C.F.R. Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq*.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq*.), as amended, (prohibits discrimination on the basis of disability), and 49 C.F.R. Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq*.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 U.S.C. § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and Consultants, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 C.F.R. Parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

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- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. § 1681 et seq).

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 4.4.1**

To: Regional Transportation Commission

From: Bryan Byrne, Project Manager

SUBJECT: Mill Street Rehabilitation Project Professional Services Agreement

RECOMMENDED ACTION

Approve a contract with Nichols Consulting Engineers, CHTD to provide design and optional construction management services related to the Mill Street Rehabilitation Project, in an amount not-to-exceed $1,232,269.

BACKGROUND AND DISCUSSION

This Professional Services Agreement with Nichols Consulting Engineers, CHTD is for design and optional construction management services for the Mill Street Rehabilitation Project, extending from Lake Street to approximately 200 feet east of Gould Street in Reno.

The project includes pavement maintenance, rehabilitation or reconstruction, pedestrian accessibility improvements, drainage repairs, utility adjustments, and updated pavement markings. Design will also evaluate lane configurations and bicycle lane continuity and include selected signal detection and pedestrian equipment upgrades.

Nichols Consulting Engineers, CHTD was selected from the Civil Engineering Design and Construction Management Services for the Streets & Highways Program Qualified List to perform engineering, construction management, and quality assurance services. The negotiated scope, schedule, and budget confirm that design services are within the appropriated budget. Design is anticipated from October 2026 through December 2027, with construction anticipated in 2028, subject to agency coordination and final design requirements.

FISCAL IMPACT

Fuel Tax appropriations are included in the Fiscal Year 2027 Budget for this item.

PREVIOUS BOARD ACTION

4/18/2025 - Approved the Qualified Consultant List for Engineering Design and Construction Management Services for the Street and Highway Program.

AGREEMENT
FOR
PROFESSIONAL SERVICES

This agreement (Agreement) is dated and effective as of _____, 2026, by and between the Regional Transportation Commission of Washoe County (RTC) and Nichols Consulting Engineers, CHTD (CONSULTANT).

WITNESSETH:

WHEREAS, RTC has selected CONSULTANT from the Civil Engineering Design and Construction Management Services for the Streets & Highways Program shortlist to perform Design and Engineering Services in connection with the Mill Street Rehabilitation Project.

NOW, THEREFORE, RTC and CONSULTANT, in consideration of the mutual covenants and other consideration set forth herein, do hereby agree as follows:

ARTICLE 1 – TERM AND ENGAGEMENT

1.1. The term of this Agreement shall be from the date first written above through December 31, 2028, unless terminated at an earlier date, or extended to a later date, pursuant to the provisions herein.

1.2. CONSULTANT will perform the work using the project team identified in Exhibit A. Any changes to the project team must be approved by RTC's Project Manager.

1.3. CONSULTANT will promptly, diligently and faithfully execute the work to completion in accordance with applicable professional standards subject to any delays due to strikes, acts of God, act of any government, civil disturbances, or any other cause beyond the reasonable control of CONSULTANT.

1.4. CONSULTANT shall not proceed with work until both parties have executed this Agreement and a purchase order has been issued to CONSULTANT. If CONSULTANT violates that prohibition, CONSULTANT forfeits any and all right to reimbursement and payment for that work and waives any and all claims against RTC, its employees, agents, and affiliates, including but not limited to monetary damages, and any other remedy available at law or in equity arising under the terms of this Agreement. Furthermore, prior to execution and issuance of a purchase order, CONSULTANT shall not rely on the terms of this Agreement in any way, including but not limited to any written or oral representations, assurances or warranties made by RTC or any of its agents, employees or affiliates, or on any dates of performance, deadlines, indemnities, or any term contained in this Agreement or otherwise.

ARTICLE 2 - SERVICES OF CONSULTANT

2.1. SCOPE OF SERVICES

The scope of services consists of the tasks set forth in Exhibit A.

2.2. ACCESSIBILITY REQUIREMENTS

CONSULTANT's delivery of products and documentation that are digitally accessible to people with disabilities is key to RTC making sure that everyone has equitable access to information. CONSULTANT shall ensure that contract deliverables that will be posted on RTC's website, including documents, attachments and exhibits, spreadsheets, presentations, websites, software, videos and other deliverables, are provided using information and communication technology that makes those deliverables digitally accessible to people with disabilities in compliance with the requirements of Title II of the Americans with Disabilities Act and applicable Web Content Accessibility Guidelines (WCAG).

2.3. SCHEDULE OF SERVICES

Tasks and subtasks shall be completed in accordance with the schedule in Exhibit A. Any change(s) to the schedule must be approved by RTC's Project Manager.

2.4. CONTINGENCY

Contingency line items identified in the scope of services are for miscellaneous increases within the scope of work. Prior to the use of any contingency amounts, CONSULTANT shall provide a letter to RTC's Project Manager detailing the need, scope, and not-to-exceed budget for the proposed work. Work to be paid for out of contingency shall proceed only with the RTC Project Manager's written approval.

2.5. OPTIONS

RTC shall have the right to exercise its option(s) for all or any part of the optional tasks or subtasks identified in Exhibit A. CONSULTANT will prepare and submit a detailed scope of services reflecting the specific optional services requested, a schedule for such services, and a cost proposal. RTC will review and approve the scope of services and RTC and CONSULTANT will discuss and agree upon compensation and a schedule. CONSULTANT shall undertake no work on any optional task without written notice to proceed with the performance of said task. RTC, at its sole option and discretion, may select another individual or firm to perform the optional tasks or subtasks identified in Exhibit A.

2.6. ADDITIONAL SERVICES

CONSULTANT will provide additional services when agreed to in writing by RTC and CONSULTANT.

2.7. PERFORMANCE REQUIREMENTS

Any and all design and engineering work furnished by CONSULTANT shall be performed by or under the supervision of persons licensed to practice architecture, engineering, or surveying (as applicable) in the State of Nevada, by personnel who are careful, skilled,

experienced and competent in their respective trades or professions, who are professionally qualified to perform the work, and who shall assume professional responsibility for the accuracy and completeness of documents prepared or checked by them, in accordance with appropriate prevailing professional standards. Notwithstanding the provision of any drawings, technical specifications, or other data by RTC, CONSULTANT shall have the responsibility of supplying all items and details required for the deliverables required hereunder.

Any sampling and materials testing shall be performed by an approved testing laboratory accredited by AASHTO or other ASTM recognized accrediting organization in the applicable test methods. If any geotechnical or materials testing is performed by a sub-consultant, that laboratory shall maintain the required certification. Proof of certification shall be provided to RTC with this Agreement. If certification expires or is removed during the term of this Agreement, CONSULTANT shall notify RTC immediately and propose a remedy. If an acceptable remedy cannot be agreed upon by both parties, RTC may terminate this Agreement for default.

CONSULTANT shall provide only Nevada Alliance for Quality Transportation Construction (NAQTC) qualified personnel to perform field and laboratory sampling and testing during the term of this Agreement. All test reports shall be signed by a licensed NAQTC tester and notated with his/her license number.

2.8. ERRORS AND OMISSIONS

CONSULTANT shall, without additional compensation, correct or revise any deficiencies, errors, or omissions caused by CONSULTANT in its analysis, reports, and services. CONSULTANT also agrees that if any error or omission is found, CONSULTANT will expeditiously make the necessary correction, at no expense to RTC. If an error or omission was directly caused by RTC, and not by CONSULTANT and RTC requires that such error or omission be corrected, CONSULTANT may be compensated for such additional work.

ARTICLE 3 - COMPENSATION

3.1. CONSULTANT shall be paid for hours worked at the hourly rates and rates for testing in Exhibit B. RTC shall not be responsible for any other costs or expenses except as provided in Exhibit B.

3.2. The maximum amount payable to CONSULTANT to complete each task is equal to the not-to-exceed amounts identified in Exhibit B. CONSULTANT can request in writing that RTC's Project Manager reallocate not-to-exceed amounts between tasks. A request to reallocate not-to-exceed amounts must be accompanied with a revised fee schedule and must be approved in writing by RTC's Project Manager prior to performance of the work. In no case shall CONSULTANT be compensated in excess of the following not-to-exceed amounts:

Design Services	$522,252.00
Optional Design Services	$113,224.00
Design Contingency	$75,000.00
Optional Engineering During Construction Services	$471,793.00
Engineering During Construction Services Contingency	$50,000.00
Total Not-to-Exceed Amount	$1,232,269.00

3.3. For any work authorized under Section 2.6, "Additional Services," RTC and CONSULTANT will negotiate not-to-exceed amounts based on the standard hourly rates and rates for testing in Exhibit B. Any work authorized under Section 2.6, "Additional Services," when performed by persons who are not employees or individuals employed by affiliates of CONSULTANT, will be billed at a mutually agreed upon rate for such services, but not more than 105% of the amounts billed to CONSULTANT for such services.

3.4. CONSULTANT shall receive compensation for preparing for and/or appearing in any litigation at the request of RTC, except: (1) if such litigation costs are incurred by CONSULTANT in defending its work or services or those of any of its sub-consultants; or (2) as may be required by CONSULTANT's indemnification obligations. Compensation for litigation services requested by RTC shall be paid at a mutually agreed upon rate and/or at a reasonable rate for such services.

ARTICLE 4 - INVOICING

4.1. CONSULTANT shall submit monthly invoices in the format specified by RTC. Invoices must be submitted to accountspayable@rtcwashoe.com. RTC's payment terms are 30 days after the receipt of the invoice. Simple interest will be paid at the rate of half a percent (0.5%) per month on all invoices approved by RTC that are not paid within thirty (30) days of receipt of the invoice.

4.2. RTC shall notify CONSULTANT of any disagreement with any submitted invoice for consulting services within thirty (30) days of receipt of an invoice. Any amounts not in dispute shall be promptly paid by RTC.

4.3. CONSULTANT shall maintain complete records supporting every request for payment that may become due. Upon request, CONSULTANT shall produce all or a portion of its records and RTC shall have the right to inspect and copy such records.

ARTICLE 5 - ACCESS TO INFORMATION AND PROPERTY

5.1. Upon request and without cost to CONSULTANT, RTC will provide all pertinent information that is reasonably available to RTC including surveys, reports and any other data relative to design and construction.

5.2. RTC will provide access to and make all provisions for CONSULTANT to enter upon RTC facilities and public lands, as required for CONSULTANT to perform its work under this Agreement.

ARTICLE 6 - OWNERSHIP OF WORK

6.1. Plans, reports, studies, tracings, maps, software, electronic files, licenses, programs, equipment manuals, and databases and other documents or instruments of service prepared or obtained by CONSULTANT in the course of performing work under this Agreement, shall be delivered to and become the property of RTC. Software already developed and purchased by CONSULTANT prior to the Agreement is excluded from this requirement. CONSULTANT and its sub-consultants shall convey and transfer all copyrightable interests, trademarks, licenses, and other intellectual property rights in such materials to RTC upon completion of all services under this Agreement and upon payment in full of all compensation due to CONSULTANT in accordance with the terms of this Agreement. Basic survey notes, sketches, charts, computations and similar data prepared or obtained by CONSULTANT under this Agreement shall, upon request, also be provided to RTC.

6.2. CONSULTANT represents that it has secured all necessary licenses, consents, or approvals to use the components of any intellectual property, including computer software, used in providing services under this Agreement, that it has full legal title to and the right to reproduce such materials, and that it has the right to convey such title and other necessary rights and interests to RTC.

6.3. CONSULTANT shall bear all costs arising from the use of patented, copyrighted, trade secret, or trademarked materials, equipment, devices, or processes used on or incorporated in the services and materials produced under this Agreement.

6.4. CONSULTANT agrees that all reports, communications, electronic files, databases, documents, and information that it obtains or prepares in connection with performing this Agreement shall be treated as confidential material and shall not be released or published without the prior written consent of RTC; provided, however, that CONSULTANT may refer to this scope of work in connection with its promotional literature in a professional and commercially reasonable manner. The provisions of this subsection shall not apply to information in whatever form that comes into the public domain. The provisions of this paragraph also shall not restrict CONSULTANT from giving notices required by law or complying with an order to provide information or data when such order is issued by a court, administrative agency, or other entity with proper jurisdiction, or if it is reasonably necessary for CONSULTANT to defend itself from any suit or claim.

ARTICLE 7 - TERMINATION

7.1. CONTRACT TERMINATION FOR DEFAULT

If CONSULTANT fails to perform services in the manner called for in this Agreement or if CONSULTANT fails to comply with any other provisions of this Agreement, RTC may terminate this Agreement for default. Termination shall be effected by serving a notice of termination on CONSULTANT setting forth the manner in which CONSULTANT is in default. CONSULTANT will only be paid the contract price for services delivered and accepted, or services performed in accordance with the manner of performance set forth in this Agreement.

If it is later determined by RTC that CONSULTANT had an excusable reason for not performing, such as a fire, flood, or events which are not the fault of or are beyond the control of CONSULTANT, RTC, after setting up a new performance schedule, may allow CONSULTANT to continue work, or treat the termination as a termination for convenience.

7.2. CONTRACT TERMINATION FOR CONVENIENCE

RTC may terminate this Agreement, in whole or in part, at any time by written notice to CONSULTANT when it is in RTC's best interest. CONSULTANT shall be paid its costs, including contract closeout costs, and profit on work performed up to the time of termination. CONSULTANT shall promptly submit its termination claim to RTC to be paid CONSULTANT. If CONSULTANT has any property in its possession belonging to RTC, CONSULTANT will account for the same and dispose of it in the manner RTC directs.

ARTICLE 8 - INSURANCE

8.1. CONSULTANT shall not commence any work or permit any employee/agent to commence any work until satisfactory proof has been submitted to RTC that all insurance requirements have been met.

8.2. In conjunction with the performance of the services/work required by the terms of this Agreement, CONSULTANT shall obtain all types and amounts of insurance set forth in Exhibit C and shall comply with all provisions set forth therein.

ARTICLE 9 - HOLD HARMLESS

9.1. CONSULTANT's obligation under this provision is as set forth in Exhibit C. Said obligation would also extend to any liability of RTC resulting from any action to clear any lien and/or to recover for damage to RTC property.

ARTICLE 10 - EQUAL EMPLOYMENT OPPORTUNITY

10.1. During the performance of this Agreement, CONSULTANT agrees not to discriminate against any employee or applicant for employment because of race, color, religion, sex, age, disability, or national origin. CONSULTANT will take affirmative action to ensure that applicants are employed, and that employees are treated fairly during employment, without regard to their race, color, religion, sex, age, disability, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. CONSULTANT agrees to post in conspicuous places available to employees and applicants for employment, notices to be provided by RTC setting forth the provisions of this nondiscrimination clause.

10.2. CONSULTANT will, in all solicitations or advertisements for employees placed by or on behalf of CONSULTANT, state that well qualified applicants will receive consideration of employment without regard to race, color, religion, sex, age, disability, or national origin.

10.3. CONSULTANT will cause the foregoing provisions to be inserted in all sub-agreements for any work covered by this Agreement so that such provisions will be binding upon each sub-consultant.

ARTICLE 11 - RESOLUTION OF CLAIMS AND DISPUTES

11.1. NEGOTIATED RESOLUTION

In the event that any dispute or claim arises under this Agreement, the parties shall timely cooperate and negotiate in good faith to resolve any such dispute or claim. Such cooperation shall include providing the other party with all information in order to properly evaluate the dispute or claim and making available the necessary personnel to discuss and make decisions relative to the dispute or claim.

11.2. MEDIATION

If the parties have been unable to reach an informal negotiated resolution to the dispute or claim within thirty (30) days following submission in writing of the dispute or claim to the other party, or such longer period of time as the parties may agree to in writing, either party may then request, in writing, that the dispute or claim be submitted to mediation (the "Mediation Notice"). After the other party's receipt or deemed receipt of the Mediation Notice, the parties shall endeavor to agree upon a mutually acceptable mediator, but if the parties have been unable to agree upon a mediator within ten (10) days following receipt of the Mediation Notice, then each party shall select a mediator and those two selected mediators shall select the mediator. A mediator selected by the parties' designated mediators shall meet the qualification set forth in as provided in Rule 4 of Part C., "Nevada Mediation Rules" of the "Rules Governing Alternative Dispute Resolutions adopted by the Nevada Supreme Court." Unless otherwise agreed to by the parties, in writing, the mediator shall have complete discretion over the conduct of the mediation proceeding. Unless otherwise agreed to by the parties, in writing, the mediation proceeding must take

place within thirty (30) days following appointment of the mediator. The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in Washoe County, Nevada, unless otherwise agreed to by the parties, in writing. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

11.3. LITIGATION

In the event that the parties are unable to settle and/or resolve the dispute or claim as provided above, then either party may proceed with litigation in the Second Judicial District Court of the State of Nevada, County of Washoe.

11.4. CONTINUING CONTRACT PERFORMANCE

During the pendency of any dispute or claim the parties shall proceed diligently with performance of this Agreement, and such dispute or claim shall not constitute an excuse or defense for a party's nonperformance or delay.

ARTICLE 12 – PROJECT MANAGERS

12.1. RTC's Project Manager is Bryan Byrne, P.E. or such other person as is later designated in writing by RTC. RTC's Project Manager has authority to act as RTC's representative with respect to the performance of this Agreement.

12.2. CONSULTANT' Project Manager is Doug Maloy, P.E. or such other person as is later designated in writing by CONSULTANT. CONSULTANT's Project Manager has authority to act as CONSULTANT's representative with respect to the performance of this Agreement.

ARTICLE 13 - NOTICE

13.1. Notices required under this Agreement shall be given as follows:

RTC:
Bill Thomas, AICP
Executive Director
Bryan Byrne, P.E.
RTC Project Manager
Regional Transportation Commission
1105 Terminal Way
Reno, Nevada 89502
Email: Bbyrne@rtcwashoe.com
(775) 335-1865

CONSULTANT:
Angela Hueftle, P.E.
Principle
Nichols Consulting Engineers
300 E. 2nd Street, Suite 1210
Reno, NV 89501

Email: Ahueftle@ncenet.com
Phone: (775) 329-4955

ARTICLE 14 - DELAYS IN PERFORMANCE

14.1. TIME IS OF THE ESSENCE

It is understood and agreed that all times stated and referred to herein are of the essence. The period for performance may be extended by RTC's Executive Director pursuant to the process specified herein. No extension of time shall be valid unless reduced to writing and signed by RTC's Executive Director.

14.2. UNAVOIDABLE DELAYS

If the timely completion of the services under this Agreement should be unavoidably delayed, RTC may extend the time for completion of this Agreement for not less than the number of days CONSULTANT was excusably delayed. A delay is unavoidable only if the delay is not reasonably expected to occur in connection with or during CONSULTANT's performance, is not caused directly or substantially by acts, omissions, negligence or mistakes of CONSULTANT, is substantial and in fact causes CONSULTANT to miss specified completion dates and cannot adequately be guarded against by contractual or legal means.

14.3. NOTIFICATION OF DELAYS

CONSULTANT shall notify RTC as soon as CONSULTANT has knowledge that an event has occurred or otherwise becomes aware that CONSULTANT will be delayed in the completion of the work. Within ten (10) working days thereafter, CONSULTANT shall provide such notice to RTC, in writing, furnishing as much detail on the delay as possible and requesting an extension of time.

14.4. REQUEST FOR EXTENSION

Any request by CONSULTANT for an extension of time to complete the work under this Agreement shall be made in writing to RTC. CONSULTANT shall supply to RTC documentation to substantiate and justify the additional time needed to complete the work and shall provide a revised schedule. RTC shall provide CONSULTANT with notice of its decision within a reasonable time after receipt of a request.

ARTICLE 15 - GENERAL PROVISIONS

15.1. SUCCESSORS AND ASSIGNS

RTC and CONSULTANT bind themselves and their successors and assigns to the other party and to the successors and assigns of such party, with respect to the performance of all covenants of this Agreement. Except as set forth herein, neither RTC nor CONSULTANT shall assign or transfer interest in this Agreement without the written consent of the other. Nothing herein shall be construed as creating a personal liability on the part of any officer or agent or any public body which may be a party hereto, nor shall it be construed as giving any rights or benefits hereunder to anyone other than RTC and CONSULTANT.

15.2. NON-TRANSFERABILITY

This Agreement is for CONSULTANT's professional services, and CONSULTANT's rights and obligations hereunder may not be assigned without the prior written consent of RTC.

15.3. SEVERABILITY

If any part, term, article, or provision of this Agreement is, by a court of competent jurisdiction, held to be illegal, void, or unenforceable, or to be in conflict with any law of the State of Nevada, the validity of the remaining provisions or portions of this Agreement are not affected, and the rights and obligations of the parties shall be construed and enforced as if this Agreement did not contain the particular part, term, or provision held invalid.

15.4. RELATIONSHIP OF PARTIES

CONSULTANT is an independent contractor to RTC under this Agreement. Accordingly, CONSULTANT is not entitled to participate in any retirement, deferred compensation, health insurance plans or other benefits RTC provides to its employees. CONSULTANT shall be free to contract to provide similar services for others while it is under contract to RTC, so long as said services and advocacy are not in direct conflict, as determined by RTC, with services being provided by CONSULTANT to RTC.

15.5. WAIVER/BREACH

Any waiver or breach of a provision in this Agreement shall not be deemed a waiver of any other provision in this Agreement and no waiver is valid unless in writing and executed by the waiving party. An extension of the time for performance of any obligation or act shall not be deemed an extension of time for the performance of any other obligation or act. This Agreement inures to the benefit of and is binding upon the parties to this Agreement and their respective heirs, successors and assigns.

15.6. REGULATORY COMPLIANCE

A. CONSULTANT shall comply with all applicable federal, state and local government laws, regulations and ordinances. CONSULTANT shall be responsible for obtaining all necessary permits and licenses for performance of services under this Agreement. Upon request of RTC, CONSULTANT shall furnish RTC certificates of compliance with all such laws, orders and regulations.

B. CONSULTANT represents and warrants that none of the services to be rendered pursuant to this Agreement constitute the performance of public work, as that term is defined by Section 338.010(17) of the Nevada Revised Statutes. To the extent CONSULTANT does engage in such public work, CONSULTANT shall be responsible for paying the prevailing wage as required by Chapter 338 of the Nevada Revised Statutes.

15.7. EXCLUSIVE AGREEMENT

There are no verbal agreements, representations or understandings affecting this Agreement, and all negotiations, representations and undertakings are set forth herein with the understanding that this Agreement constitutes the entire understanding by and between the parties.

15.8. AMENDMENTS

No alteration, amendment or modification of this Agreement shall be effective unless it is in writing and signed by both parties.

15.9. CONTINUING OBLIGATION

CONSULTANT agrees that if, because of death or any other occurrence it becomes impossible for any principal or employee of CONSULTANT to render the services required under this Agreement, neither CONSULTANT nor the surviving principals shall be relieved of any obligation to render complete performance. However, in such event, RTC may terminate this Agreement if it considers the death or incapacity of such principal or employee to be a loss of such magnitude as to affect CONSULTANT's ability to satisfactorily complete the performance of this Agreement.

15.10. APPLICABLE LAW AND VENUE

The provisions of this Agreement shall be governed and construed in accordance with the laws of the State of Nevada. The exclusive venue and court for all lawsuits concerning this Agreement shall be the Second Judicial District Court of the State of Nevada, County of Washoe, and the parties hereto submit to the jurisdiction of that District Court.

15.11. ATTORNEYS' FEES

In the event of a dispute between the parties result in a proceeding in any Court of Nevada having jurisdiction, the prevailing party shall be entitled to an award of costs and any reasonable attorneys' fees.

15.12. CERTIFICATION REQUIRED BY NEVADA SENATE BILL 27 (2017)

CONSULTANT expressly certifies and agrees, as a material part of this Agreement, that it is not currently engaged in a boycott of Israel. CONSULTANT further agrees, as a material part of this Agreement, it will not engage in a boycott of Israel for the duration of this Agreement. If, at any time during the formation or duration of this Agreement, CONSULTANT is engaged or engages in a boycott of Israel, it will constitute a material breach of this Agreement.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement the day and year first above written.

REGIONAL TRANSPORTATION COMMISSION
OF WASHOE COUNTY

By: _____
Bill Thomas, AICP, Executive Director

NICHOLS CONSULTING ENGINEERS, CHTD

By: _____
Angela Hueftle, P.E., Principle

Exhibit A

Scope of Services

EXHIBIT A

SCOPE OF SERVICES
FOR THE
MILL STREET REHABILITATION PROJECT

2.1. SCOPE OF SERVICES

CONSULTANT will provide engineering services for the Mill Street Rehabilitation Project. The project limits include Mill Street from Lake Street to approximately two-hundred (200) feet east of Gould Street in Reno, Nevada. The Lake Street and Wells Avenue intersections are not included with the exception of striping improvements that may result from proposed improvements adjacent to the intersections.

CONSULTANT will evaluate all pavement rehabilitation options including corrective maintenance treatments between Lake Street and Wells Avenue and pavement rehabilitation/reconstruction design alternatives between Wells Avenue and Gould Street. Pavement design will be in accordance with the RTC's Pavement Design Manual.

CONSULTANT will evaluate all existing pedestrian facilities within the project limits for ADA and PROWAG compliance. Non-compliant curb ramps will be identified and replacements will be included in the design. An assessment of all existing PCC curb and gutter, sidewalk and driveways will be performed and the results of the assessment and an estimate of the replacement costs will be presented to the RTC to determine the limits of PCC improvements prior to the 50% design.

Other design elements include bike lanes, lane assignments and reconfigurations, pavement markings, traffic sign assessment and replacements, drainage inlet replacements and associated connections, utility adjustments, traffic signal equipment assessment and modifications and traffic loop replacements. No new utility or utility relocation design, other than utility adjustments, is included. The scope of services will generally consist of the following tasks:

2.1.A. Project Management

1. Team and Project Management

a. CONSULTANT'S Project Manager will serve as RTC's single point of contact on the contract and will have primary responsibility for coordinating the efforts of the project team and subconsultants. Specific project management tasks to be conducted by CONSULTANT'S Project Manager include monthly budgeting, invoicing, scheduling, subconsultant invoicing, and general project administration throughout design. It is assumed the design phase duration will be fifteen (15) months, approximately October 2026 through December 2027. The duration is based on the assumption of minor property rights

acquisitions i.e. Permissions To Construct occurring concurrently with final design.

2. Project Coordination

a. CONSULTANT'S Project Manager will be responsible for ongoing project coordination of CONSULTANT activities for the duration of work. CONSULTANT'S Project Manager will keep the RTC Project Manager well informed of progress with bi-weekly informal briefings via email or phone call.

CONSULTANT will hold a project kickoff meeting with RTC staff. CONSULTANT'S Project Manager will participate in 50% and 90% design review meetings and shall meet as necessary with RTC staff to discuss project requirements.

Deliverables:

1.0 Monthly invoices and progress report
2.0 Project schedule
3.0 Kick off meeting agenda and notes

2.1 B. Investigation of Existing Conditions

1. Falling Weight Deflectometer (FWD) Testing. Not applicable.

2. Visual Condition Survey.

a. CONSULTANT will visually evaluate and document the condition of the existing pavement to include cracking, potholes, rutting, and raveling. Pavement coring locations will be marked during this site visit.

b. CONSULTANT will evaluate median, curb and gutter, sidewalk, and driveway approaches based upon RTC criteria. The CONSULTANT shall also evaluate existing pedestrian ramps for compliance with current ADA standards.

3. Traffic Data.

a. Traffic data is needed to estimate future 18-kip ESAL applications that will be required for rehabilitation/reconstruction design. It is assumed that all the information on average daily traffic (current and future), truck percentages and truck factors will be available from the Regional Transportation Commission, City of Reno and/or the Nevada DOT traffic records.

b. RTC Bus Route 14 operates on East Mill Street (both directions) through the project limits. It is assumed that the RTC will provide the bus type, bus weight, and operating schedule (current and future) to estimate the future 18-kip ESAL applications from these busses.

4. Pavement Structural Investigation

a. Coring/Boring. Information from the visual condition surveys will be reviewed and locations for pavement coring and boring will be identified by CONSULTANT and reviewed and approved by the RTC. USA Dig will be contacted prior to starting coring/boring. It is anticipated that four (4) pavement core/boring locations, twelve (12) bulk samples of subgrade material, and four (4) bulk samples of existing aggregate base will be required to obtain enough soil for laboratory testing. CONSULTANT will obtain a no-cost encroachment permit from the City of Reno for coring/soil sampling. Traffic control (lane closure) will be provided.

The primary objective of the coring program will be to establish pavement layer thicknesses, determine cracking depth, and determine if stripping is present. Results will be summarized in the project pavement design report.

Following pavement coring, the subsurface soils will be augered to a depth of three feet to determine the thickness of aggregate base present and to obtain samples of the aggregate base and subgrade soils for classification. Representative samples of the aggregate base and subgrade soils encountered will be used for the following laboratory testing: soil classification, PI, moisture, gradation, and R-values. Per the 2021 RTC Structural Design Guide for Flexible Pavements, two (2) R-value tests will be conducted per sampling location. If the two (2) tests (at a location) do not fall within the ASTM D2844 precision statement, an additional R-value test will be conducted. The results of the field investigation and associated laboratory testing will be summarized in a written report.

b. Ground Penetrating Radar (GPR) Testing. CONSULTANT will collect ground penetrating radar (GPR) data in the four lanes (two in each direction) and analyze the data to estimate pavement thickness within the project limits.

5. Backcalculation Analysis. Not applicable.

6. Develop Feasible Rehabilitation/Reconstruction Alternatives. Based upon the results of the backcalculation, CONSULTANT will identify feasible pavement rehabilitation and/or reconstruction alternatives for the project. Among the alternatives that will be considered are:

- Mill and fill (plus AC overlay)
- Full Reconstruction
- Roadbed modification (reconstruction)

Upon completion of the pavement structural investigation, CONSULTANT will meet with RTC to present feasible rehabilitation alternatives. CONSULTANT will apply the design procedures contained in the 1993 AASHTO Guide for Design of Pavement Structures and the 2021 RTC Structural Design Guide for Flexible Pavement to generate the design layer thickness associated with each pavement alternative.

7. Conduct Life-Cycle Cost Analysis. (Not Applicable)

8. Finalize Pavement Design Recommendations. Based upon cost analysis, as well as some practical construction considerations, CONSULTANT will prepare the recommended rehabilitation or reconstruction alternative(s) for the project.

9. Utility Investigation/Depiction

   a. Overhead Utilities: CONSULTANT will investigate and locate all overhead utilities within the roadway right of way and areas reasonably affected. Deliverable will include depiction of all overhead utilities within the roadway right-of-way on plans developed under Section 2.1.F, Preliminary Design.

   b. Subsurface Utilities: CONSULTANT will investigate and locate subsurface utilities within the roadway right-of-way, and areas reasonably affected, in accordance with the American Society of Civil Engineers Standard guideline for the Collection and Depiction of Existing Subsurface Utility Data, Quality Level C.

   c. Utility Coordination: Based on field investigation, CONSULTANT will provide RTC a list of utility companies whose utilities are likely to be within the project limits or reasonably affected by the project. RTC will issue the initial notification to the utility agencies on the list and CONSULTANT will coordinate with the utility agencies for upcoming work, facility relocation and new installation, and to insure utilities likely affected by the project are drawn on the plan and profile, evaluate potential conflicts through field investigation, investigate conflict resolution strategies. CONSULTANT will assist in relocation of utilities with prior rights by facilitating meetings and reviewing utility's design/cost for incorporation into a reimbursement agreement and/or incorporation of the utility work into the RTC plans. Utility coordination meetings will be held with the RTC and affected utility companies. CONSULTANT will

coordinate the meetings with the RTC Project Manager, prepare meeting agendas, and provide meeting summaries following the meeting. It is assumed five (5) utility coordination meetings will be held.

CONSULTANT will distribute design review submittals (50% & 90%) to utility agencies for review and comment and provide RTC a list of utility agencies provided design review submittals and Utility Agency review comments.

d. Utility Pothole Exploration (Optional): Should insufficient information be available from existing records to determine whether or not conflicts between the proposed work and existing utilities will occur, the CONSULTANT shall prepare a pothole plan and procure the services of a qualified contractor to obtain encroachment permits and provide potholing in accordance with the plan. CONSULTANT will observe and record pothole information. The estimated cost for this task as included in the fee schedule is based on ten (10) pothole locations.

10. Report. The findings and recommendations of CONSULTANT for all tasks identified in Section 2.1.B (with the exception of the utility investigation task) shall be submitted by report with backup documentation. The pavement design shall also be submitted to the Local Entity if the recommended pavement section varies from the Entities standards.

Deliverables:

1.0 Draft and final pavement design report
2.0 Pothole plan and field report (Optional)

2.1C. Topographic Mapping

1. Topographic Survey. CONSULTANT will establish a horizontal and vertical survey control network on-site that coincides with the North American Datum (NAD 83/94), Nevada State Plane West Zone horizontal datum with the combination factor of 1.000197939 and the Reno Vertical Control System based on North American Vertical Datum (NAVD 88) vertical datum. CONSULTANT will utilize the survey control network to conduct a topographic survey within the roadway right-of-way of Mill Street from Lake Street east to a point roughly 300’ easterly of the Gould Street intersection along with fifty (50) feet into adjoining streets at intersections. The survey will consist of gathering survey data associated with ground topography and drainage features, existing property corners encountered, roadway centerline monuments, trees in excess of 6” in diameter, existing roadway and site improvements, roadway striping, evidence of existing utilities, storm drain and sanitary sewer dips,

planometrics (buildings, fences, signs, power poles, etc.) and any other pertinent physical features as determined applicable.

CONSULTANT will obtain current Washoe County's GIS boundary shape files relative to the right-of-way and the boundaries of the parcels which adjoin the roadway. CONSULTANT will utilize this data in conjunction with centerline monuments or property corners found during the topographic survey to geo-reference boundary line work to resolve the project site's boundaries. The record right-of-way information will be shown on the project plans. No further resolution of the roadway right-of-way is included in this task. CONSULTANT will utilize the data gathered during the topographic survey in conjunction with the GIS level boundary base map to prepare a digital base map for the project site.

2.1D. Right-of-Way Engineering (Optional)

1. Preliminary Title Reports. Preliminary Title Reports. CONSULTANT will obtain up to twenty (20) preliminary title reports including exceptions and updates. CONSULTANT will review the assessor parcel map, address, and owner information within the title reports and verify the document links within the title reports are correct and functioning. CONSULTANT will coordinate necessary revisions to the preliminary title reports with the title company. CONSULTANT will deliver the electronic preliminary title reports to RTC. CONSULTANT assumes one update to each of the twenty (20) title reports will be required for the duration of the project. CONSULTANT will coordinate the updates with the title company and deliver the updated title reports to RTC.

2. Boundary Survey & Legal Descriptions, If required, CONSULTANT will perform survey level boundary mapping on up to twenty (20) parcels where it is determined through design and direction from the RTC that permanent or temporary easements will be required. CONSULTANT will obtain and review title reports for an estimated twenty (20) subject parcels to identify existing encumbrances, record mapping, parcel boundary and/or easement legal descriptions detailed within the exceptions portion of said reports. CONSULTANT will utilize County records to obtain deeds and other record data for the parcels to be surveyed. CONSULTANT will use this information to create digital AutoCAD boundary line work necessary for generating search survey coordinates for boundary monuments associated with the subject subdivisions and parcels.

3. Permissions to Construct. There are approximately fifty-five (55) non-ADA compliant driveways within the project limits, most of which are significantly deteriorated. CONSULTANT assumes reconstruction of the driveways can occur with a permission to construct. CONSULTANT will utilize the GIS boundary prepared as part of Task 2.1C to prepare up to fifty-five (55) permission to construct exhibits.

4. Right-of-Way Setting. CONSULTANT will participate in a meeting to set the right-of-way requirements for the project. CONSULTANT will prepare a meeting agenda and meeting summary. CONSULTANT will prepare a right-of-way summary that identifies all properties requiring permissions to construct, permanent and temporary easements. The summary will include APN, property owner, address, easement type, easement size, and easement purpose. The summary will be updated as needed throughout the project to reflect updated vesting deeds and final easements.

Deliverables:

1.0 Preliminary title reports and updated vesting deeds
2.0 Right of way setting meeting agenda and summary
3.0 Permission to construct exhibits
4.0 Boundary survey and (20) legal descriptions, if applicable
5.0 Right-of-way summary

2.1E. Public Outreach

1. Public Information Meeting. CONSULTANT will prepare applicable exhibits for one (1) public information meeting. A virtual presentation will be made by RTC to properties adjacent to the project work zone to discuss project improvements, limits, scope, tentative schedule, traffic controls, driveway access, public notification requirements, and concerns of adjacent properties before the plans and specifications are finalized.

   CONSULTANT will also participate in one (1) pre-public information meeting with RTC staff to discuss and review exhibits, topics, and appropriate responses to questions. CONSULTANT will provide RTC with all publicly viewed information, two weeks prior to their public release for review and comment.

   It is assumed RTC will identify appropriate venues, design and place print ads, prepare mailers and press releases, cover the direct costs associated with the meeting venues, print ads, court reporter, Spanish translator, and mailers and those costs are not included as part of the CONSULTANT'S fee.

Deliverables:

1.0 Public information meeting exhibits

2. One-on-One Meetings with Community Stakeholders. CONSULTANT will be available for one-on-one briefings/meetings with and presentations to community stakeholders as requested by the RTC Project Manager. It is anticipated that the CONSULTANT will attend up to four (4) one-on-one presentations and/or meetings during this project. CONSULTANT will provide meeting minutes as directed by RTC.

Deliverables:

1.0 Community stakeholder meeting exhibits and summaries

2.1.F. Preliminary Design

1. Plans and Estimate. Prepare 50% preliminary Plans and a preliminary cost estimate suitable for RTC and Local Government review. Construction plans shall cover an area sufficient for contractor's later use as a base for traffic control plans, e.g., coverage should include traffic control taper areas across intersections. Curb and gutter, sidewalk and driveways that are deficient according to both RTC and local entity standards shall be identified.

2. Loop Detection Plans. CONSULTANT will prepare 50% plans, specifications, and estimate (PS&E) for the replacement of loop detection for the Lake Street/Mill Street intersection.

3. Traffic Signal and RRFB Modification Design. CONSULTANT will provide a field review, evaluate ADA compliance and inventory signal equipment at the following locations.

   - Wells Avenue intersection
   - Kirman Avenue intersection
   - Ryland Street/Renown intersection
   - RRFB at Yori Ave
   - RRFB at Renown/Park

   CONSULTANT will identify ADA compliance issues and any pedestrian equipment not consistent with PROWAG and/or City of Reno standard practices. CONSULTANT will prepare 50% traffic signal modification and RRFB modification design for the five (5) locations above including:

   - Video detection system replacing the existing loops
   - Pedestrian equipment upgrades for ADA compliance and City of Reno standard practices

CONSULTANT will identify any right-of-way impacts and areas for potential acquisition at a preliminary level related to the signal and RRFB modifications above. Scope of traffic signal and RRFB design modifications is in accordance with correspondence received from the RTC on September 18, 2026 following a meeting with the City of Reno. CONSULTANT will attend up to two (2) traffic signal design related coordination meetings.

4. Lane Reconfiguration Alternatives Development.

Traffic Analysis: CONSULTANT will perform traffic analysis to evaluate potential lane reconfigurations and reductions in various segments within the project limits. AM and PM peak period turning movement counts will be collected at the Wells Avenue and Kirman Avenue intersections with Mill Street. CONSULTANT will review RTC travel demand model outputs and create 2050-year traffic forecasts for the signalized intersections and the road segment between Wells Avenue and Kirman Avenue. CONSULTANT will perform traffic operations analysis for the intersections to test proposed configurations and report resulting LOS and vehicle queuing as well as identify the necessary lane configurations to provide policy LOS and reasonable queuing.

Lane Reconfiguration Alternatives Development: Using the results of the traffic analysis, CONSULTANT will prepare up to three (3) roadway striping alternatives to accommodate bike lane continuity, operational and safety improvements and MUTCD compliance throughout the Project limits. Schematic plans consisting of cross-sections and long plots will be submitted to the RTC and City of Reno for review prior to the 50% stage of completion. The approved roadway striping configuration will be incorporated into the 50% preliminary and final construction plans.

Deliverables:

1.0 Pedestrian equipment evaluation memorandum
2.0 Draft and final traffic analysis memorandum
3.0 Lane reconfiguration alternatives electronic (PDF) to RTC and Local Entity
4.0 50% plans and estimate electronic (PDF) to RTC, Local Entity, each utility agency and other affected parties.

2.1.G. Final Design

1. Prepare Final Plans and Specifications

a. Prepare Final Construction Plans, Contract Documents and Technical Specifications suitable for construction bid advertisement for the approved alignment in accordance with RTC standards and requirements. RTC will provide the boilerplate via email in MS Word format. The RTC, Local Entity and Quality Control review comments will be incorporated into the final Plans and Specifications.

The final construction plans will be on 22" x 34" size sheets and will show all elements of the project construction, including plan/profile view, parcel lines, cross-sections, and construction/slope limits. The final plan set will include, as a minimum:

- Cover Sheet
- Legend, General Notes, and Abbreviations
- (12) Improvement Plan/Profile Sheets (at 1" = 20' scale)
- (2) Intersection, Grading, and Pedestrian Ramp Sheets (at 1" = 20' scale)
- (2) Loop Detection Plan Sheets (at 1" =10' scale)
- (5) Pedestrian Equipment and RRFB Modification Plan Sheets (at 1"=10' scale)
- (6) Signage and Striping Sheets (at 1"=20')
- (6) Detail Sheets (scales as noted)

Depths of existing sanitary sewer and storm drain utilities will be checked and noted on the plans if there is any reason to expect conflict due to vertical clearances. All located, existing underground utilities will be shown on the Plan Sheets accompanied with the following "Note: Subsurface utilities are depicted by their Quality Levels in accordance American Society of Civil Engineers Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data (CI/ASCE 38-02). All utility information shown hereon is depicted to Quality Level "C", unless otherwise noted."

The Contract Documents and Technical Specifications will reference the latest edition of Standard Specifications for Public Works Construction (Orange Book) for standard construction items. Technical provisions will be prepared for approved deviations from the Orange Book and unique construction items not adequately covered in the Orange Book. The final plans and specifications will be signed and sealed by a Nevada Registered Professional Civil Engineer in responsible charge of preparation. Plans and specifications will be submitted to the RTC, City of Reno, utility agencies and other affected parties for review at the 90%, 100%, and Issue For Bid stages of completion per the following:

- 90% Plans electronic (PDF) to RTC, Local Entity, each utility agency and other affected parties.
- 90% Specifications electronic (PDF) to RTC and Local Entity.
- 100% Plans electronic (PDF) to RTC and Local Entity.
- 100% Specifications electronic (PDF) to RTC and Local Entity.
- Issue for Bid Plans and Solicitation Documents electronic (PDF) to RTC and Local Entity.
- MS Word format of the Contract Documents and Technical Specifications to RTC.
- Final CAD files for bidding purposes

Independent Checker. An independent checker will check, initial and date each plan sheet. A quality control review of the plans, contract documents and technical specifications will be performed which will focus on technical aspects of the plans and specifications and will ensure that all items of work are adequately covered.

2. Final Engineer's Opinion of Probable Construction Costs and Time. Provide a final Engineer's opinion of probable construction costs for the project based on the final design and any alternatives or options. The cost opinion will be in the same format as the bid proposal form included in the contract documents. A quality control review of the cost opinion will be performed by the CONSULTANT. The CONSULTANT will also estimate the number of working or calendar days, as appropriate, for the construction of the projects.

2.1.H. Bidding Services

1. Plan Set and Specification Distribution. CONSULTANT will provide RTC with final plans and specifications, including addenda, in Portable Document Format (PDF), for use in the ProcureWare system.

2. Pre-bid Meeting. CONSULTANT will be available during the bidding process to answer technical questions and will assist in preparing for and attend the pre-bid meeting. All questions and responses will be documented and provided to RTC. CONSULTANT will prepare and provide PDF addenda, if required. All questions regarding legal aspects of the contract documents will be referred directly to RTC. CONSULTANT will prepare and provide a PDF summary of the pre-bid meeting, as directed by the RTC.

3. Bid Opening. CONSULTANT will attend the bid opening and review the bids received for irregularities and provide a recommendation for award. CONSULTANT will tabulate bid results into a MS Excel spreadsheet and check multiplication and addition of bid items.

2.1.I. Design Contingency (Optional)

1. This is a contingency for miscellaneous increases within the scope of this contract in the performance of services under Tasks 2.1.A. to 2.1.H. If CONSULTANT determines that it is necessary to perform work to be paid out of contingency, CONSULTANT shall provide a letter detailing the need, scope, and not-to-exceed budget for any proposed work. Work under this task shall proceed only with the RTC Engineering Director's prior written approval.

2.1.J - O Construction Services (Optional) – Services are anticipated to occur over an estimated seven (7) month period based on a ninety (90) working day contract duration.

The RTC and CONSULTANT shall review Optional Construction Services following the completion of final design to determine their appropriateness to the project.

2.1.J. Contract Administration (Optional)

1. Project Management
    - Project Manager shall perform monthly budgeting, invoicing, scheduling, subconsultant invoicing, and general project administration throughout the construction phase.

2. Provide contract administration services (CONSULTANTS Construction Manger shall be the primary point of contact for activities) as listed below:

    - Prepare conformed plans and specifications
    - Attend the preconstruction conference
    - Perform construction coordination
    - Review and provide recommendations on contractor's traffic control plans
    - Review and stamp contractor's submittal for conformance to the contract documents, including plantmix bituminous pavement and Portland Cement concrete mix designs
    - Review and provide recommendations on test results
    - Review and provide recommendations on contractor's construction schedule and work progress
    - Review construction for acceptance and/or mitigation
    - Provide verification and approval of contractor's monthly pay request
    - Supervise the inspection, surveying, and material testing activities
    - Provide recommendations to the RTC for any necessary construction changes due to field conditions
    - Assist in change order review and approval

2.1.K. Construction Surveying (Optional)

Provide construction staking as follows:

- One set of construction stakes for proposed traffic signal improvements i.e. poles, pedestrian pedestals and if needed cabinet and controller locations.
- One set of stakes for the curb and gutter and related improvements will consist of offset and when required line stakes for proposed curb and gutter, sidewalk, pedestrian ramps, driveway aprons, and median curbs. Construction stakes will be set at angle points, grade breaks, radius points, centerline pedestrian ramps, pedestrian ramps ¼ points around curb returns, begin and end of driveways, begin and end of curves, and points on line not to exceed 50' station increments on tangent runs and 25' increments along

curves. Stakes will be graded to the nearest one hundredth of a foot of the proposed finished grade and/or top of curb.

- One set of stakes for the roadway improvements will consist of offset and when required line stakes for the proposed vertical and horizontal roadway centerline alignments. Construction stakes will be set at angle points, grade breaks, radius points, begin and end of horizontal and vertical curves, high and low points of vertical curves, and points on line not to exceed 100' station increments on tangent runs and 50' increments along curves. Stakes will be graded to the nearest one hundredth of a foot of the proposed roadway centerline finished grades and will depict the roadway stationing, offset distances, and paving cross slope to the street centerline.
- Upon completion of paving, reset of centerline survey monuments. The estimated number of Survey Monuments is ten (10).

2.1.L. Inspection (Optional)

1. Provide Inspector. Provide one full time inspector during all construction activities. 10-hour work days and a ninety (*90)* working day contract period are anticipated. This inspector will:

    - Attend the preconstruction conference
    - Monitor the work performed by the Contractor and verify that the work is in accordance with the plans and specifications
    - Assist in problem resolution with the RTC, contractor personnel, utility agencies, the public and others
    - Prepare daily inspection reports, submitted daily to RTC and weekly to the appropriate government jurisdiction(s).
    - Provide quantity reports and assist in contractor's monthly progress payments
    - Provide verification of the distribution of public relation notices required to be delivered by the contractor
    - Assist in preparation of the Punch List
    - Maintain a field blueline set of drawings to incorporate contractor record drawing mark-ups

2. Provide Additional Inspector During Paving Operations. Provide additional inspector during mainline paving days to monitor plantmix bituminous pavement placement and in-place density tests. *90* hours of field inspection and sampling are anticipated.

2.1.M. Materials Testing (Optional)

1. Provide Material Testing for compliance with the specifications per the latest edition of the Standard Specifications for Public Works Construction (Orange Book) testing requirements. Materials to be tested will include plantmix bituminous pavement, aggregate base, native subgrade material, structural fill material and Portland Cement Concrete. Test reports,

accompanied with CONSULTANT's recommendation regarding acceptance/mitigation of materials, shall be submitted promptly to the RTC and CC'd to appropriate governmental jurisdiction(s).

2. Provide AC Plant Inspection and Testing. Provide plantmix bituminous pavement plant inspection and laboratory aggregate testing. *3* hours for plant visits and sampling are anticipated. Laboratory tests will consist of sieve analysis, percent of wear, fractured faces, and plasticity index.

3. Provide Asphalt Cement Testing. Sampling and testing of asphalt cement binder material shall be in accordance with Section 1.01A ASPHALT CEMENT of the RTC's Special Technical Specifications. For each paving day, the CONSULTANT's designated representative shall coordinate with and receive asphalt cement binder samples from the designated plant representative. The CONSULTANT's designated representative shall be present during all sampling operations. Each sample will be properly labeled and signed off by both representatives. A sample shall be taken during the production of each "lot" (500 ton) of plantmix bituminous pavement using container no larger than a quart in size. CONSULTANT to submit all asphalt cement binder samples to the Nevada Department of Transportation (NDOT), Material Laboratory, for testing. All samples should accompany with a NDOT form titled "Transmittal for Asphalt Samples" to be provided by the RTC.

4. Provide On-site Nuclear Gauge Testing & Sampling during the placement of aggregate base and fill materials, sampling for plantmix bituminous pavement placement, and on-site PCC testing & sampling. *165* hours of field testing are anticipated, and laboratory tests will include moisture density curves, Atterberg limits, and sieve analysis. Test frequency shall comply with the latest edition of the Orange Book.

5. Provide Plantmix Bituminous Pavement Testing. Provide plantmix bituminous pavement tests per each "lot" (500 tons) placed. Laboratory test shall include extraction, aggregate gradation, specific gravity, flow & stability, and Marshall unit weight. Reports will also include voids in total mix and voids filled.

6. Provide Plantmix Bituminous Pavement coring and Lab Testing. Lab test shall include core unit weight. Test reports will include percent compaction.

7. Provide Top Lift Longitudinal Joint Testing and Coring. Nuclear density testing will be performed on each side of all longitudinal joints at 200 foot intervals per every 1,000 foot segment. A core will be taken in every 1,000 foot segment near the point of one of the density tests on the side of the joint with the lowest mean joint density. The cores will be tested for specific gravity (air voids and compaction). The test report will include a Paving Plan and a Data/Calculation Sheet.

2.1.N. As-Built Information (Optional)

Record Drawings. Provide as-built record drawings for the completed project. Two sets of electronic drawings, in single file PDF format (22" x 34" at 300 dpi), on flash drives will be provided to RTC for its files and distribution to the Local Entity. The PDF file shall include all plan sheets in one file with index/bookmark for easy access to different sheets or sections of the plan set.

The final record drawings must be identified, dated, and signed as the record drawings and must also contain the engineer's stamp and signature. The Consultant may either:

1. Provide the final revisions on the original engineer-stamped/signed reproducible drawings, which will then also be identified as the record drawings, or

2. Provide new engineer-stamped/signed reproducible drawings identified as the record drawings.

The Record Drawings shall include a scan of the original title sheet (including the appropriate signatures by RTC, local government, signed and stamped by the CONSULTANT) and identified as record drawings.

2.1.O Construction Contingency (Optional)

This is a contingency for miscellaneous increases within the scope of this contract in the performance of services under Tasks 2.1.J. to 2.1.N. If CONSULTANT determines that it is necessary to perform work to be paid out of contingency, CONSULTANT shall provide a letter detailing the need, scope, and not-to-exceed budget for any proposed work. Work under this task shall proceed only with the RTC Project Manager's prior written approval.

EXHIBIT A

KEY PERSONNEL

Key personnel assigned to this project include:

- Angie Hueftle, PE – Principal
- Doug Maloy, PE – Project Manager/Associate
- Franz Haidinger, PE – QA/QC
- Sean Teeter – Design Lead
- Nicole Self – Staff Engineer
- Noah Ramos – Engineering Technician
- Nicholas Schaffer - CAD Designer II
- Jeff Stempihar, PE– Materials Engineer
- Dick Minto – Construction Manager/Inspector
- Erik Lee, PE (BBV) – Topographic Mapping and Survey
- Grant Alexander, PLS (BBV) – Right-of-Way Services
- GCW – Traffic Engineering
- CME – Geotechnical Investigation, Laboratory Services and Materials Testing

Exhibit B

Compensation

Fee Proposal for the
Mill Street Rehabilitation Project
Exhibit B

Task No.	Description	Principal	Associate	Project I	Senior Designer II	CAD Designer II	Staff II	Engineering Technician	Senior Construction Manager	Senior Technician/ Construction Inspector	Clerical	Expenses	Subconsultant	**Totals**
	Hourly Rate	$345.00	$273.00	$201.00	$210.00	$180.00	$189.00	$128.00	$179.00	$156.00	$117.00			
2.1A	**Project Management**	**0**	**110**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**18**			138
1	Team and Project Management		75								18			$22,581.00
2	Project Coordination		35				10							$11,445.00
	Subtotal Fees	**$0.00**	**$30,030.00**	**$0.00**	**$0.00**	**$0.00**	**$1,890.00**	**$0.00**	**$0.00**	**$0.00**	**$2,106.00**	**$0.00**	**$0.00**	**$34,026.00**
2.1B	**Investigation of Existing Conditions**	**13**	**23**	**10**	**2**	**0**	**100**	**40**	**0**	**26**	**8**			222
2.a	Pavement Condition Survey	1					6			8		$140.00		$2,867.00
2.b	Sidewalk, Driveway & Curb/Gutter Survey		2				12			12		$140.00		$4,826.00
3.a	Traffic Analysis	1					6							$1,479.00
4.a & 4.b	Pavement Structural Investigation	1		2			6			6			$32,591.00	$35,408.00
6	Develop Feasible Alternative	2		2			12							$3,360.00
8	Finalize Pavement Design Recommendations	4		2			8							$3,294.00
9.a & 9.b	Utility Investigation		1		2		16	40						$8,837.00
9.c	Utility Coordination		20				24							$9,996.00
10	Prepare Written Report	4		4			10				8			$5,010.00
	Subtotal Fees	**$4,485.00**	**$6,279.00**	**$2,010.00**	**$420.00**	**$0.00**	**$18,900.00**	**$5,120.00**	**$0.00**	**$4,056.00**	**$936.00**	**$280.00**	**$32,591.00**	**$75,077.00**
2.1B 9.d	Utility Potholing (Optional)		8		2		8			16		$25,000.00		$31,612.00
	Subtotal Fees (Optional)	**$0.00**	**$2,184.00**	**$0.00**	**$420.00**	**$0.00**	**$1,512.00**	**$0.00**	**$0.00**	**$2,496.00**	**$0.00**	**$25,000.00**		**$31,612.00**
2.1C	**Topographic Mapping**	**0**	**0**	**0**	**1**	**0**	**0**	**8**	**0**	**0**	**0**			9
1	Topographic Survey				1			8					$65,000.00	$66,234.00
	Subtotal Fees	**$0.00**	**$0.00**	**$0.00**	**$210.00**	**$0.00**	**$0.00**	**$1,024.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$65,000.00**	**$66,234.00**
2.1D	**Right of Way Engineering (Optional)**	**0**	**9**	**0**	**26**	**52**	**15**	**0**	**0**	**0**	**0**			102
1	Preliminary Title Reports		1				3					$10,000.00		$10,840.00
2	Boundary Survey and Legal Descriptions		2		2	16							$51,500.00	$55,346.00
3	Permission To Construct Exhibits		2		4	36	12							$10,134.00
4	Right of Way Setting		4		20									$5,292.00
	Subtotal Fees (Optional)	**$0.00**	**$2,457.00**	**$0.00**	**$5,460.00**	**$9,360.00**	**$2,835.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$10,000.00**	**$51,500.00**	**$81,612.00**
2.1E	**Public Outreach**	**0**	**16**	**0**	**14**	**8**	**0**	**0**	**0**	**0**	**0**			38
1	Public Information Meeting		8		4	8						$500.00		$4,964.00
2	One-on-One Meetings		8		10							$30.00		$4,314.00
	Subtotal Fees	**$0.00**	**$4,368.00**	**$0.00**	**$2,940.00**	**$1,440.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$530.00**	**$0.00**	**$9,278.00**
2.1F	**Preliminary Design**	**16**	**19**	**0**	**72**	**136**	**86**	**140**	**0**	**0**	**0**			469
1	Prepare 50% P&E	12	8		60	100	80	140				$100.00		$70,064.00
2	Loop Detection 50% Plans	1	1				4						$4,840.00	$6,214.00
3	Traffic Signal and RRFB Modification Design 50% Plans	1	6				2						$27,480.00	$29,841.00
4	Traffic Analysis and Bike Lane Alternatives Development	2	4		12	36						$300.00	$13,080.00	$24,162.00
	Subtotal Fees	**$5,520.00**	**$5,187.00**	**$0.00**	**$15,120.00**	**$24,480.00**	**$16,254.00**	**$17,920.00**	**$0.00**	**$0.00**	**$0.00**	**$400.00**	**$45,400.00**	**$130,281.00**
2.1G	**Final Design**	**25**	**66**	**8**	**38**	**200**	**154**	**260**	**0**	**0**	**6**			757
1.a	Prepare 90% PS&E	20	40		30	200	100	180			4			$102,528.00
1.a	Prepare 100% and Final PS&E	2	20		8		26	80			2			$23,218.00
	Loop Detection 90% & 100% PS&E												$5,800.00	$5,800.00
	Traffic Signal and RRFB Design 90% & 100% PS&E	1	2										$54,320.00	$55,211.00
2	Prepare Final Engineer's Estimate	2	4	8			28							$8,682.00
	Subtotal Fees	**$8,625.00**	**$18,018.00**	**$1,608.00**	**$7,980.00**	**$36,000.00**	**$29,106.00**	**$33,280.00**	**$0.00**	**$0.00**	**$702.00**	**$0.00**	**$60,120.00**	**$195,439.00**
2.1H	**Bidding Services**	**0**	**12**	**0**	**2**	**10**	**12**	**0**	**0**	**0**	**4**			40
1	Distribute Final PS&E		4			2	2				2			$2,064.00
2	Pre-Bid Meeting & Addenda		4		2	8	6						$3,660.00	$7,746.00
3	Attend Bid Opening & Tabulate Bids		4				4				2	$25.00		$2,107.00
	Subtotal Fees	**$0.00**	**$3,276.00**	**$0.00**	**$420.00**	**$1,800.00**	**$2,268.00**	**$0.00**	**$0.00**	**$0.00**	**$468.00**	**$25.00**	**$3,660.00**	**$11,917.00**
	Sub-Total Design Services	**$18,630.00**	**$67,158.00**	**$3,618.00**	**$27,090.00**	**$63,720.00**	**$68,418.00**	**$57,344.00**	**$0.00**	**$4,056.00**	**$4,212.00**	**$1,235.00**	**$206,771.00**	**$522,252.00**
	Sub-Total Design Services (Optional)	**$0.00**	**$4,641.00**	**$0.00**	**$5,880.00**	**$9,360.00**	**$4,347.00**	**$0.00**	**$0.00**	**$2,496.00**	**$0.00**			**$113,224.00**
2.1.I	**Design Contingency**													**$75,000.00**

2.1.J-N	**Engineering During Construction Services (Optional)**	**13**	**52**	**80**	**6**	**40**	**0**	**40**	**308**	**900**	**0**			1,439
J.	Contract Administration (Optional)	12	50	80		40			300			$3,500.00	$40,700.00	$138,970.00
K.	Construction Surveying (Optional)												$56,500.00	$56,500.00
L.	Inspection (Optional)									900		$12,600.00	$14,760.00	$167,760.00
M.	Materials Testing (Optional)												$91,670.00	$91,670.00
N.	As-Builts (Optional)	1	2		6			40	8			$150.00	$8,040.00	$16,893.00
	Subtotal Construction Services Fees (Optional)	**$4,485.00**	**$14,196.00**	**$16,080.00**	**$1,260.00**	**$7,200.00**	**$0.00**	**$5,120.00**	**$55,132.00**	**$140,400.00**	**$0.00**	**$16,250.00**	**$211,670.00**	**$471,793.00**
2.1O	**Engineering During Construction Services Contingency**													**$50,000.00**
	Total Fees	**$23,115.00**	**$85,995.00**	**$19,698.00**	**$34,230.00**	**$80,280.00**	**$72,765.00**	**$62,464.00**	**$55,132.00**	**$146,952.00**	**$4,212.00**	**$17,485.00**	**$418,441.00**	**$1,232,269.00**

Exhibit C

Indemnification and Insurance Requirements

INDEMNIFICATION AND INSURANCE REQUIREMENTS FOR PROFESSIONAL SERVICE AGREEMENTS
[NRS 338 DESIGN PROFESSIONAL]
2022-07-08 Version

1. INTRODUCTION

IT IS HIGHLY RECOMMENDED THAT CONSULTANTS CONFER WITH THEIR INSURANCE CARRIERS OR BROKERS TO DETERMINE THE AVAILABILITY OF THESE INSURANCE CERTIFICATES AND ENDORSEMENTS IN ADVANCE OF PROPOSAL SUBMISSION. IF THERE ARE ANY QUESTIONS REGARDING THESE INSURANCE REQUIREMENTS, IT IS RECOMMENDED THAT THE AGENT/BROKER CONTACT RTC'S FINANCE DIRECTOR AT (775) 332-9511.

2. INDEMNIFICATION

CONSULTANT agrees, subject to the limitations in Nevada Revised Statutes Section 338.155, to save and hold harmless and fully indemnify RTC, Washoe County, and City of Reno including their elected officials, officers, employees, and agents (hereafter, "Indemnitees") from and against any and all claims, proceedings, actions, liability and damages, including reasonable attorneys' fees and defense costs incurred in any action or proceeding (collectively "Damages") arising out of the:

A. Negligence, errors, omissions, recklessness or intentional misconduct of CONSULTANT or CONSULTANT's agents, employees, officers, directors, subconsultants, or anyone else for whom CONSULTANT may be legally responsible, which are based upon or arising out of the professional services of CONSULTANT; and

B. Violation of law or any contractual provisions or any infringement related to trade names, licenses, franchises, patents or other means of protecting interests in products or inventions resulting from the use by the Indemnitees of any materials, devices, processes, equipment, or other deliverable (including software) supplied by CONSULTANT under or as a result of this Agreement, but excluding any violation or infringement resulting from the modification or alteration by the Indemnitees of any materials, devices, processes, equipment, or other deliverable (including software) not consented to by CONSULTANT.

CONSULTANT further agrees to defend, save and hold harmless and fully indemnify the Indemnitees from and against any and all Damages arising out the negligence, errors, omissions, recklessness or intentional misconduct of CONSULTANT or CONSULTANT's agents, employees, officers, directors, subconsultants, or anyone else for whom CONSULTANT may be legally responsible, which are not based upon or arising out of the professional services of CONSULTANT.

The Damages shall include, but are not limited to, those resulting from personal injury to any person, including bodily injury, sickness, disease or death and injury to real property or personal

property, tangible or intangible, and the loss of use of any of that property, whether or not it is physically injured.

If the Indemnitees are involved in defending actions of CONSULTANT or anyone else for whom CONSULTANT is legally responsible, CONSULTANT shall reimburse the Indemnitees for the time spent by such personnel at the rate of the Indemnitees pay or compensation for such services.

If an Indemnitee is found to be liable in the proceeding, then CONSULTANT'S obligation hereunder shall be limited to the proportional share of the liability attributed to CONSULTANT.

In determining whether a claim is subject to indemnification, the incident underlying the claim shall determine the nature of the claim.

In the event of a violation or an infringement under paragraph 2.B above and the use is enjoined, CONSULTANT, at its sole expense, shall either (1) secure for the Indemnitees the right to continue using the materials by suspension of any injunction or by procuring a license or licenses for the Indemnitees; or (2) modify the materials so that they become non-infringing. This covenant shall survive the termination of the Professional Services Agreement.

The provisions of this Agreement are separate and severable and it is the intent of the Parties hereto that in the event any provision of this Agreement should be determined by any court of competent jurisdiction to be void, voidable or too restrictive for any reason whatsoever, the remaining provisions of this Agreement shall remain valid and binding upon said Parties. It is also understood and agreed that in the event any provision should be considered, by any court of competent jurisdiction, to be void because it imposes a greater obligation on CONSULTANT than is permitted by law, such court may reduce and reform such provisions to limitations which are deemed reasonable and enforceable by said court.

3. GENERAL REQUIREMENTS

Prior to the start of any work on a RTC project, CONSULTANT shall purchase and maintain insurance of the types and limits as described below insuring against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONSULTANT, its subconsultants, or their employees, agents, or representatives. The cost of all such insurance shall be borne by CONSULTANT.

4. VERIFICATION OF COVERAGE

CONSULTANT shall furnish RTC with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth herein, on forms acceptable to RTC. All deductibles and self-insured retentions requiring RTC approval shall be shown on the certificate. All certificates and endorsements are to be addressed to RTC's Finance Director and be received by RTC before work commences. Upon request, CONSULTANT agrees that RTC has the right to review CONSULTANT'S and the Sub's insurance policies, or certified copies of the policies. Copies of applicable policy forms or endorsements confirming required additional insured, waiver of subrogation and notice of

cancellation provisions are required to be provided with any certificate(s) evidencing the required coverage.

5. NOTICE OF CANCELLATION

CONSULTANT or its insurers shall provide at least thirty (30) days' prior written notice to RTC prior to the cancellation or non-renewal of any insurance required under this Agreement. An exception may be included to provide at least ten (10) days' written notice if cancellation is due to non-payment of premium. CONSULTANT shall be responsible to provide prior written notice to RTC as soon as practicable upon receipt of any notice of cancellation, non-renewal, reduction in required limits or other material change in the insurance required under this Agreement.

6. SUBCONSULTANTS & SUBCONTRACTORS

CONSULTANT shall include all Subcontractors and Subconsultants (referred to collectively as "Subs") as insureds under its liability policies OR shall cause Subs employed by CONSULTANT to purchase and maintain separate liability coverages and limits of the types specified herein. If any Subs maintain separate liability coverages and limits, each shall include the RTC, Washoe County, and City of Reno as additional insureds under its commercial general liability policy, subject to the same requirements stated herein, without requiring a written contract or agreement between each of the additional insureds and any sub-consultant or sub-contractor. Any separate coverage limits of liability maintained by Subs shall be at least **$1,000,000** per occurrence and at least **$2,000,000** for any applicable coverage aggregates or the amount customarily carried by the Sub, whichever is GREATER. If any Subs provide their own insurance with limits less than required of the Contractor, Contractor shall include Subs in their coverage up to the full limits required of the Contractor. When requested by RTC, CONSULTANT shall furnish copies of certificates of insurance evidencing coverage for each subconsultant. CONSULTANT need not require its non-design subcontractors to carry Professional Errors and Omissions Liability insurance.

7. DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions that exceed $25,000 per occurrence or claim must be declared to RTC's Finance Director prior to signing this Agreement. RTC is entitled to request and receive additional documentation, financial or otherwise, prior to giving its approval of the deductibles and self-insured retentions. Any changes to the deductibles or self-insured retentions made during the term of this Agreement or during the term of any policy must be declared to RTC's Finance Director prior to the change taking effect.

8. ACCEPTABILITY OF INSURERS

Required insurance is to be placed with insurers with a Best's rating of no less than A-VII and acceptable to RTC. RTC may accept coverage with carriers having lower Best's ratings upon review of financial information concerning CONSULTANT and the insurance carrier. RTC reserves the right to require that CONSULTANT'S insurer(s) be licensed and admitted in the State

of Nevada or meet any applicable state and federal laws and regulations for non-admitted insurance placements.

9. OTHER CONDITIONS

A. Failure to furnish the required certificate(s) or failure to maintain the required insurance may result in termination of this Agreement at RTC's option.

B. If CONSULTANT fails to furnish the required certificate or fails to maintain the required insurance as set forth herein, RTC shall have the right, but not the obligation, to purchase said insurance at CONSULTANT's expense.

C. Any waiver of CONSULTANT's obligation to furnish such certificate or maintain such insurance must be in writing and signed by an authorized representative of RTC. Failure of RTC to demand such certificate or other evidence of full compliance with these insurance requirements or failure of RTC to identify a deficiency from evidence that is provided shall not be construed as a waiver of CONSULTANT's obligation to maintain such insurance, or as a waiver as to the enforcement of any of these provisions at a later date.

D. By requiring insurance herein, RTC does not represent that coverage and limits will necessarily be adequate to protect CONSULTANT, and such coverage and limits shall not be deemed as a limitation on CONSULTANT's liability under the indemnities granted to RTC in this contract.

E. If CONSULTANT'S liability policies do not contain the standard ISO separation of insureds condition, or a substantially similar clause, they shall be endorsed to provide cross-liability coverage.

10. COMMERCIAL GENERAL LIABILITY

CONSULTANT shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance with a limit of not less than **$2,000,000** each occurrence. If such CGL insurance contains a general aggregate limit, it shall be increased to equal twice the required occurrence limit or revised to apply separately to this project.

CGL insurance shall be written on ISO occurrence form CG 00 01 04 13 (or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operations, products-completed operations, personal and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).

RTC and any other Indemnitees listed in Section 2. INDEMNIFICATION of this Agreement shall be included as an additional insured under the CGL, using ISO additional insured endorsement CG 20 10 07/04 or CG 20 33 07/04 or a substitute providing equivalent coverage, and under the commercial umbrella, if any.

This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to RTC or any other Indemnitees under this Agreement.
CONSULTANT waives all rights against RTC and any other Indemnitees listed in section 2. INDEMNIFICATION of this Agreement for recovery of damages to the extent these damages are covered by the commercial general liability or commercial umbrella liability insurance maintained pursuant to this agreement. CONSULTANT's insurer shall endorse CGL policy to waive subrogation against RTC with respect to any loss paid under the policy.

11. COMMERCIAL AUTOMOBILE LIABILITY

CONSULTANT shall maintain automobile liability and, if necessary, commercial umbrella liability insurance with a limit of not less than **$1,000,000** each accident. Such insurance shall cover liability arising out of any auto (including owned, hired, and non-owned autos).

Coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 25, or a substitute form providing equivalent liability coverage for all owned, leased, hired (rented) and non-owned vehicles (as applicable). RTC may agree to accept auto liability for non-owned and hired (rented) vehicles under the CGL if CONSULTANT does not own or operate any owned or leased vehicles.

CONSULTANT waives all rights against RTC, its officers, employees and volunteers for recovery of damages to the extent these damages are covered by the automobile liability or commercial umbrella liability insurance obtained by CONSULTANT pursuant to this Agreement.

12. INDUSTRIAL (WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY) INSURANCE

It is understood and agreed that there shall be no Industrial (Worker's Compensation and Employer's Liability) Insurance coverage provided for CONSULTANT or any subconsultants by RTC. CONSULTANT, and any subconsultants, shall procure, pay for and maintain the required coverages.

CONSULTANT shall maintain workers' compensation and employer's liability insurance meeting the statutory requirements of the State of Nevada, including but not limited to NRS 616B.627 and NRS 617.210. The employer's liability limits shall not be less than **$1,000,000** each accident for bodily injury by accident or **$1,000,000** each employee for bodily injury by disease.

CONSULTANT shall provide a Final Certificate for itself and each subconsultant evidencing that CONSULTANT and each subconsultant maintained workers' compensation and employer's liability insurance throughout the entire course of the project.

If CONSULTANT, or any subconsultant is a sole proprietor, coverage for the sole proprietor must be purchased and evidence of coverage must appear on the Certificate of Insurance and Final Certificate.

CONSULTANT waives all rights against RTC, its elected officials, officers, employees and agents for recovery of damages to the extent these damages are covered by the workers compensation and employer's liability or commercial umbrella liability insurance obtained by Tenant pursuant to this agreement. CONSULTANT shall obtain an endorsement equivalent to WC 00 03 13 to affect this waiver.

13. PROFESSIONAL ERRORS AND OMISSIONS LIABILITY

CONSULTANT shall maintain professional liability insurance applying to liability for a professional error, omission, or negligent act arising out of the scope of CONSULTANT'S services provided under this Agreement with a limit of not less than **$1,000,000** each claim and annual aggregate. CONSULTANT shall maintain professional liability insurance during the term of this Agreement and, if coverage is provided on a "claims made" or "claims made and reported" basis, shall maintain coverage or purchase an extended reporting period for a period of at least three (3) years following the termination of this Agreement.

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 4.4.2**

To: Regional Transportation Commission

From: Jeff Wilbrecht, Engineering Manager

SUBJECT: Oakmont Properties-South Virginia, LLC RRIF Agreement

RECOMMENDED ACTION

Approve a Regional Road Impact Fee (RRIF) offset agreement between RTC, Oakmont Properties-South Virginia, LLC, and City of Reno for offset-eligible improvements and intersection signalization at Virginia Street and South Hills Drive for Elysium Apartments.

BACKGROUND AND DISCUSSION

Under the RRIF program, developers who construct or dedicate improvements contained in the RRIF Capital Improvement Program (CIP) will be credited for those contributions in RRIF waivers. To do this, the developer must enter into a RRIF Offset Agreement that will be approved by both the RTC and the local government. The RRIF Offset Agreement specifically identifies the proposed improvements, estimated RRIF waivers that will be earned, requirements for quality control/quality assurance, and the duties and responsibilities of each party.

The following improvements are eligible for RRIF waivers as part of this agreement:

- Installation of a traffic signal at the S. Virginia Street (US 395 A)/South Hills Drive intersection;
- Traffic signal interconnect system (wireless system);
- New ADA pedestrian ramps and crosswalks on the south and west legs of the intersection;
- Signing and striping revisions in the intersection for signalization; and
- Grind and overlay and other pavement expansion improvements in the intersection as required by NDOT standards and as required for truck maneuvering.

The proposed development, consisting of 270 multi-family residential units, is expected to generate $934,094 in impact fees in accordance with the 7th Edition, Year 3 Indexing of the RRIF General Administrative Manual and Capital Investment Plan. The RRIF Offset Agreement being authorized by this action will result in an estimated $934,094 in RRIF waivers being issued to Oakmont Properties-South Virginia, LLC; waivers will be limited to the total anticipated RRIF due for the project.

FISCAL IMPACT

No fiscal impact will result from this action. The amount of RRIF waivers to the developer will be based on offset-eligible costs equal to or less than impact fees owed for all or a portion of the land uses within the development of record.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

SOUTH VIRGINIA STREET AND SOUTH HILLS DRIVE
Traffic Signal

OFFSET AGREEMENT
Offset Agreement # 513013

BETWEEN

THE REGIONAL TRANSPORTATION COMMISION,
A special purpose unit of the Government

And

CITY OF RENO
a Municipal Corporation

And

OAKMONT PROPERTIES – SOUTH VIRGINIA, LLC

Developer of Record

For

ELYSIUM APARTMENTS

Development of Record

South Service Area

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SIGNATURE PAGE 7

EXHIBITS

EXHIBIT "A" **Section X of the Regional Road Impact General Administrative Manual, Current Edition**

EXHIBIT "B1" **Site Plan and Description of Development of Record**

EXHIBIT "B2" **Legal Description of the Development of Record**

EXHIBIT "C" **Offered Improvements Applications/Submittals**

EXHIBIT "D" **Letter of Approval**

EXHIBIT "E" **Developer of Record QA/QC Program RTC Special Technical Specifications for Regional Road Impact Fee Projects**

EXHIBIT "F" **Standard Specifications for Public Works Construction Section 100.17 "Material and Workmanship – Warranty of Corrections"**

EXHIBIT "G" **RRIF Rate Schedule as of the Date of the RRIF Offset Agreement**

EXHIBIT "H" **Interim RRIF Waiver Request Schedule**

OFFSET AGREEMENT

This Offset Agreement ("Offset Agreement") is entered by and between the REGIONAL TRANSPORTATION COMMISSION (hereinafter designated "RTC"), a special purpose unit of Government; CITY OF RENO, a municipal corporation (hereinafter designated "Local Government"); and Oakmont Properties – South Virginia, LLC (hereinafter designated "the Developer of Record").

1. **General**

1.1 **Ordinance, Manual and CIP**. The City of Sparks, the City of Reno, Washoe County, and RTC have entered into an Interlocal Cooperative Agreement for the purposes of implementing the Regional Road Impact Fee ("RRIF") Program. The Participating Local Government has passed a Regional Road Impact Fee Ordinance ("Ordinance") to implement the RRIF. RTC and the Participating Local Government have adopted the Regional Road Impact Fees General Administrative Manual, Current Edition ("Manual"), specifying the provisions and procedures for administration of the RRIF, as well as the Regional Road Impact Fee System Capital Improvement Plan ("CIP") Current Edition, identifying the regional streets and improvements which shall be constructed in whole or in part with funds generated from the RRIF. The terms and provisions of the Manual and the CIP are incorporated herein by reference as if fully set forth. All capitalized terms not otherwise defined herein shall have the definitions and meanings as used in the Ordinance, Manual and CIP. Amendments approved by the RTC and local governments are incorporated by reference to the same extent as if set forth in full herein.

1.2 **Basis for this Offset Agreement.** The parties intend this Offset Agreement to be an Offset Agreement as provided in Section X of the Manual, to provide for waivers of Regional Road Impact Fees ("RRIF Waiver") in exchange for contributions of Offered Improvements (which may include right-of-way ("ROW") dedication), which may then be used to offset Regional Road Impact Fees which would otherwise be chargeable to the Developer of Record's Development of Record. Section X of the Manual contains specific provisions pertaining to Waivers and is attached hereto and incorporated herein as Exhibit "A".

1.3 **Effective Date of Offset Agreement.** This Offset Agreement shall be binding and effective as of the last date of execution below.

1.4 **Eligibility of Offered Improvements.** The Offered Improvements have been identified by the Local RRIF Administrator as being included in the Exhibit "D" of the CIP, titled North Capital Improvement Plan.

2. **The Development of Record and Offered Improvements.**

2.1 **Description of the Development of Record.** The Development of Record for which the RRIF Waivers shall be issued is known as Elysium Apartments. The Developer of Record owns or is the agent for the record owners of the entire Development. A site plan and narrative description of the Development of Record, including the proposed land uses and units of development is attached hereto as Exhibit "B".

2.2 **Offered Improvements.**

2.2.1 **Description of Offered Improvements.** The Developer of Record has submitted an application shown herein as Exhibit "C" describing the specific Offered Improvements which the Developer of Record proposes to construct and/or dedicate. The Offered Improvements are generally described as traffic signal improvements at the intersection of South Virgina Street and South Hills Drive. The RTC RRIF Administrator and Local RRIF Administrator have approved the application, subject to the limitations set forth in the letter of approval incorporated herein as Exhibit "D".

2.2.2 **Completion and Acceptance of Offered Improvements.** Unless extended by written consent of the RTC RRIF Administrator, all Offered Improvements, shall be commenced within 6 months of the date of the date of the Offset Agreement, and completed in substantial conformance with approved plans within two (2) years of the date of the Offset Agreement. This Offset Agreement shall terminate and be of no further force or effect if the Offered Improvements are not commenced within one (1) year of the date of the Offset Agreement. The time for completion may be extended by written consent of the RTC RRIF Administrator and the Local RRIF Administrator one time for not more than one (1) year, upon a written request for extension submitted not less than ninety (90) days prior to expiration of the originally agreed time for completion. Additional extensions of the time for completion shall require an amendment to this Offset Agreement pursuant to Section 4.2. The Offered Improvements shall be accepted by the Local RRIF Administrator and the RTC RRIF Administrator upon correction by the Developer of Record of any identified deficiencies to the satisfaction of the Local RRIF Administrator and the RTC RRIF Administrator. Acceptance of the Offered Improvements by the Local RRIF Administrator and the RTC shall not be unreasonably withheld. Any real property the Developer of Record proposes to offer for dedication pursuant shall be valued pursuant to the provisions of Section X.F.2.c.(2) of the Manual.

2.2.3 **Design and Construction Standards.** All design and construction of the Offered Improvements shall be in accordance with the latest edition of the Standard Specifications as of the date of this agreement for Public Works Construction ("Standard Specifications"), including any addenda, as adopted by the Participating Local Government and modified by the Special Technical Specifications ("STS") as prepared by RTC and contained herein as part of Exhibit "E". Additionally, all design and construction of Offered Improvements shall be in accordance with all policies of the RTC, including the latest version as of the date of this agreement of the following: Policy for the Street and Highway Program, RRIF CIP, and Traffic Noise Mitigation Policy Report, all incorporated herein as if fully set forth. In the case of conflicting standards, the conflict shall be brought to the immediate attention of the RTC RRIF Administrator who shall, in conjunction with the Local RRIF Administrator, resolve the discrepancy within five (5) working days.

2.2.4 **Quality Assurance/Quality Control (QA/QC).** In making the Offered Improvements, the Developer of Record shall institute a QA/QC Program meeting the requirements of Exhibit "E". The Developer of Record may utilize an alternate QA/QC Program with the approval of the RTC RRIF Administrator and Local RRIF Administrator.

2.2.5 **Warranty.** The Developer of Record shall warrant all materials and workmanship of the Offered Improvements in accordance with the provisions of the latest edition of the Standard Specifications. The Developer of Record is directed in particular to Section 117.00 which is contained herein as Exhibit "F".

3. **RRIF Waivers.**

3.1 **The Developer of Record and Development of Record.** The Developer of Record is the party to whom all RRIF Waivers earned under this Offset Agreement shall be issued. RRIF Waivers earned under this Offset Agreement may not be applied outside of the Development of Record.

3.2 **RRIF Waivers are Personal Assets of The Developer of Record.** The parties agree that all RRIF Waivers received pursuant to this Offset Agreement shall be the personal assets of the Developer of Record.

3.3 **Calculation of RRIF Waiver**. RRIF Waivers will be expressed in dollars upon the final RRIF Waiver determination pursuant to Section 3.5. RRIF Waivers may be utilized to pay Regional Road Impact Fees which would otherwise be due for development within a Development of Record. To the extent RRIF Waivers are utilized for development of units of development and land uses in strict conformance with Exhibit "B," RRIF Waivers earned shall be applied as if a Building Permit (or Certificate of Occupancy, whichever applies) were granted for each such unit of development as of the date of this Offset Agreement, notwithstanding that actual construction of such unit of development occurs thereafter. For sake of clarity, it is the parties' intent that Regional Road Impact Fees for all future development within the Development of Record which is conducted in conformity with Exhibit "B" shall be "grandfathered in" at the RRIF rates existing as of the date of this Offset Agreement, up to the total amount identified in the Notice of RRIF Waiver. The rates existing as of the date of this Offset Agreement are attached hereto as Exhibit "G". To the extent units of development or land uses are changed from the uses described in Exhibit "C" and/or depicted in Exhibit "B," earned RRIF Waivers may be used within the Development of Record for such development, but the RRIF Waivers must be utilized at the then-current Regional Road Impact Fee rate as of the date of issuance of the Building Permit for each unit of development.

3.4 **RRIF Waiver Usage and Transferability.** The usage and transferability of RRIF Waivers earned under this Offset Agreement are as follows:

3.4.1 RRIF Waivers earned under this Offset Agreement may be used to pay for up to 100% of the Regional Road Impact Fees due as the result of development within the Development of Record.

3.4.2 RRIF Waivers earned under this Offset Agreement may be not be used to pay for Regional Road Impact Fees due as a result of development outside of the Development of Record.

3.4.3 RRIF Waivers earned under this Offset Agreement are transferable to a third party, provided that all RRIF Waivers earned under this Offset Agreement may only be used to pay for Regional Road Impact Fees due as a result of development within the Development of Record.

3.5 **Interim RRIF Waivers.** The Developer of Record shall be entitled to apply for and receive Interim RRIF Waivers for satisfactorily completed portions of the Offered Improvements (including Right of Way) according to the schedule at Exhibit "H". This provision shall in no way be construed as constituting acceptance in whole or part of any of the Offered Improvements. To the extent that Offered Improvements are ultimately not accepted, or if the Developer of Record is otherwise in material default under this Offset Agreement, the Developer of Record shall pay the actual Regional Road Impact Fees which would have otherwise been due had the Developer of Record not utilized Interim RRIF Waivers.

3.6 **Final RRIF Waiver Determination.** The final determination of RRIF Waivers shall be calculated by the RTC RRIF Administrator after consultation with the Local RRIF Administrator within thirty (30) calendar days of final acceptance of the Offered Improvements by the RTC RRIF Administrator and the Local RRIF Administrator and submission by the Developer of Record of all documentation required by the RTC RRIF Administrator to make said final determination. The RTC RRIF Administrator shall issue a written instrument identifying the amount of the RRIF Waivers to the Developer of Record within three (3) working days of the earlier to occur of the following:

3.6.1 the date the appeal period of the final determination expires pursuant to Article XII of the RRIF GAM;

3.6.2 the date the Developer of Record waives in writing the appeal period, or;

3.6.3 in the event of an appeal pursuant to Article XII of the RRIF GAM, the date of a final decision on all issues on appeal.

3.7 **Expiration of RRIF Waivers.** RRIF Waivers shall not expire and may be used in perpetuity to pay Regional Road Impact Fees which would otherwise be due as a result of development within the Development of Record.

4. **Miscellaneous** The parties further agree as follows:

4.1 **Governing Law: Venue.** This Offset Agreement is being executed and delivered in Washoe County, Nevada, and is intended to be performed in the State of Nevada, and the laws of Nevada shall govern the validity, construction, enforcement and interpretation of this Offset Agreement. Venue for any legal action arising out of this Offset Agreement shall be in Washoe County, Nevada.

4.2 **Entirety and Amendments.** This Offset Agreement embodies the entire Offset Agreement between the parties and supersedes all prior negotiations, agreements and understandings, if any, relating to the Property, and may be amended or supplemented only by an instrument in writing executed by the party against whom enforcement is sought, provided that nothing contained in Subsection 4.2 shall be interpreted to change, amend or modify the conditions of the Development of Record approval by the Participating Local Government. No oral statements or representations made before or after the execution of this Offset

Agreement regarding the subject matter of this Offset Agreement are binding on any party, nor may any such oral statements or representations be relied on by a party.

4.3 **Invalid Provisions.** If any provision of this Offset Agreement is held to be illegal, invalid, unenforceable under present or future laws, such provision shall be fully severable. The Offset Agreement shall be construed and enforced as if such illegal, invalid or unenforceable provision had never comprised a part of the Offset Agreement. The remaining provisions of the Offset Agreement shall remain in full force and effect and shall not be affected by the illegal, invalid or unenforceable provision or by its severance from this Offset Agreement.

4.4 **Parties Bound and Assignment.** The Offset Agreement shall be binding upon and inure to the benefit of the parties, and their respective heirs, personal representatives, successors and assigns. The Developer of Record may assign RRIF Waivers which have been calculated pursuant to Section 3.6 to a successor developer or developers, provided however, that such RRIF Waivers may only be utilized to offset Regional Road Impact Fees which would otherwise be due as a result of development within the Development of Record.

4.5 **Further Acts.** In addition to the acts recited in this Offset Agreement to be performed, the parties agree to perform, or cause to be performed, any and all further acts as may be reasonably necessary to consummate the obligations contemplated hereby.

4.6 **Headings.** Headings used in this Offset Agreement are used for reference purposes only and do not constitute substantive matter to be considered in construing the terms of this Offset Agreement.

4.7 **Notice.** All notices given pursuant to this Offset Agreement shall be in writing and shall be given by personal delivery, by facsimile transmission, by United States mail or by United States express mail or other established express delivery service (such as Federal Express), postage or delivery charge prepaid, addressed to the appropriate party at the address set forth below:

REGIONAL TRANSPORTATION COMMISSION,
Engineering Department
Attn: Jeff Wilbrecht, P.E.
1105 Terminal Way, Suite 108
Reno, Nevada 89502
Telephone: (775) 335 1872

THE CITY OF RENO
Community Development
Attn: Douglas Buck, P.E.
1 East First Street
Reno, Nevada 89501
Telephone: (775) 303-9234

Developer of Record
Attn: Mr. Ryan Ashley
Oakmont Properties-South Virginia, LLC
(Address)225 Highland Avenue
San Rafael, California 94901
Telephone: (916) 698-3114

The persons and address to whom notices are to be given may be changed anytime by any party upon written notice to the other party. All notices given pursuant to this Offset Agreement shall be deemed given upon receipt.

4.8 **Receipt Defined.** For the purposes of this Offset Agreement, the term "receipt" shall mean any of the following: (a) the date of delivery of the notice or other document as shown on the return receipt; (b) the date of actual receipt of the notice or other document; or (c) in the case of refusal to accept delivery or inability to deliver the notice or other document, the earlier of: (i) the date of the attempted delivery or refusal to accept delivery; (ii) the date of the postmark on the return receipt; or (iii) the date of receipt of notice of refusal or notice of non-delivery by the sending party.

4.9 **Due Authorization.** The parties agree that they have the legal authority to enter into this Offset Agreement and the undersigned officer, representative or employee represents that he or she has the authority to execute this agreement on the behalf of the party represented.

4.10 **Indemnification.** Developer of Record shall indemnify, defend and hold harmless the RTC and the Participating Local Government, their offices, officials, employees and volunteers, from any and all costs, liabilities, damages, claims, demands, suits, action, attorneys, fees, or expenses of any kind ("claims") that arise out of, or are in way related, in whole or in part to the negligence or misconduct, or acts or omissions, of the Developer of Record, its officers, agents, employees, members, volunteers, contractors and anyone else for whom it is legally liable, while performing or failing to perform Developer of Record's duties under this Offset Agreement. Said indemnification excludes any claims to the extent caused by the negligence or willful misconduct of the RTC and /or the Participating Local Government. The Developer of Record's obligations set forth in this Section shall expire and terminate as to any claims based on, related to, arising from or in connection with the Offered Improvements' failure to comply with the Standard Specifications on the date of expiration of the applicable warranty period provided in Section 2.2.5 above.

4.11 **Termination of Offset Agreement.** This Offset Agreement may be unilaterally terminated by the RTC RRIF Administrator if twelve (12) consecutive months elapse without reasonable progress being made on the Offered Improvements. In the event of any such termination, Interim RRIF Waivers must be immediately surrendered or repaid in accordance with Section 3.5.

4.12 **Future Development Approvals.** The Participating Local Government agrees that future development approvals for the Development of Record shall not be denied on the basis of the policy level of service being exceeded on the Offered Improvements.

In Witness Whereof, the parties have executed this Offset Agreement on the ____day of _____, 20____.

REGIONAL TRANSPORTATION COMMISSION
A Special Purpose Unit of Government

By:_____
Bill Thomas, AICP, Executive Director

STATE OF NEVADA

COUNTY OF WASHOE

The above-instrument was acknowledged before me this _____day of _____,
_____, by Bill Thomas, Executive Director of the Regional Transportation Commission.

_____
Notary Public

CITY OF RENO
A Municipal Corporation

APPROVED AS TO LEGAL FORM:

By:_____
Hillary Schieve, Mayor

By:_____
City Attorney

STATE OF NEVADA)
) ss
COUNTY OF WASHOE)

The above-instrument was acknowledged before me this _____day of _____, 20___ by

Hilliary Schieve, Mayor of the City of Reno, Nevada.

Attest by City Clerk:_____
City Clerk

DEVELOPER OF RECORD:

Oakmont Properties – South Virginia, LLC

By:_____ Date:_____

Ryan Ashley, CEO

STATE OF NEVADA

COUNTY OF WASHOE

On the _____ day of _____, 20__, _____ personally appeared before me, a Notary Public, and acknowledged to me that the party executed the above instrument for the purpose therein contained.

_____
Notary Public

My Commission Expires:_____

EXHIBIT "A"
(Section X of the Regional Road Impact
Fees General Administrative Manual, Current Edition)

X. RRIF WAIVERS REQUESTED AFTER THE 5th EDITION RRIF GAM/CIP (3/2/2015) UPDATE

A. General

1. RRIF Waivers.

   a. RRIF Waivers are credits against RRIF Fees for Offset-Eligible Costs in an amount equal to or less than the RRIF Fees owed for the land uses within a Development of Record.

   b. RRIF Waivers are approved in a Notice of RRIF Waiver issued pursuant to an Offset Agreement. When a Notice of RRIF Waiver is issued, RRIF Fees assessed by the Participating Local Government will be "waived" until the RRIF Fees waived within the Development of Record cumulatively equal the amount of Offset-Eligible Costs approved in the Notice of RRIF Waiver.

   c. In the event the land uses within the Development of Record are modified greater than 10% of the land uses as identified in the Offset Agreement, RRIF Waivers will be re-evaluated at the then-current RRIF Fee. The determination of a RRIF Waiver modification will be based on a comparison of the RRIF Fees owed for the modified land uses, including any completed portions of the development, and the RRIF Fees owed as identified in the Offset Agreement. The Local RRIF Administrator will notify the RTC RRIF Administrator of the modification for the Development of Record. The RTC RRIF Administrator will issue a new Notice of RRIF Waiver with the remaining value of RRIF Waivers expressed in dollars. All remaining RRIF Waivers shall be utilized at the then-current RRIF Fee as of the date of issuance of the building permit for each unit of development.

2. The RTC RRIF Administrator and legal counsel are the sole officials authorized to communicate, on behalf of the RTC, with a person submitting an application for RRIF Waivers. Representations and communications by other officials, unless expressly authorized by the RTC RRIF Administrator, may not be relied upon for purposes of RRIF Fee obligations, Offered Improvements, or the terms of a proposed Offset Agreement. The Offset Agreement shall supersede all prior written and oral communications, regardless of source.

3. Any offer to dedicate or construct Offset-Eligible Improvements, pursuant to this Section and the Offset Agreement, may be withdrawn at any time prior to the transfer of legal title.

B. Offset Agreement

1. With respect to improvements commenced on or before November 1, 2018, Offset Agreements must be approved prior to the start of work on any

Offset-Eligible Improvement and prior to the issuance of any building permit for which RRIF Waivers are requested. With respect to improvements commenced after November 1, 2018, Offset Agreements must be approved prior to the earliest to occur of: (i) twelve (12) months from commencement of construction of the Offset-Eligible Improvement, (ii) completion of work on any Offset-Eligible Improvement, and (iii) utilization of RRIF Waivers earned as a result of construction of any Offset-Eligible Improvement.

2. When the Offered Improvements are completed, the RTC RRIF Administrator will prepare a Notice of RRIF Waiver.

3. The Local RRIF Administrator will inspect and accept the Offset-Eligible Improvements.

4. The RTC RRIF Administrator will issue the Notice of RRIF Waiver, pursuant to the Offset Agreement, to approve the RRIF Waivers.

5. An interim Notice of RRIF Waiver may be issued during phases of construction or dedication of land that provide reasonable assurance that over-crediting shall not occur, if authorized in the Offset Agreement.

6. To the extent that Offered Improvements are ultimately not accepted, or if the Developer of Record is otherwise in material default under the Offset Agreement, the Developer of Record shall pay the actual RRIF Fees which would have otherwise been due.

C. Procedure for Offset Agreements

1. The Developer of Record shall submit an application for RRIF Waivers to the RTC RRIF Administrator on a form provided by the RTC for such purposes.

2. Upon receipt of a complete application for RRIF Waivers, the RTC RRIF Administrator will distribute the application materials to legal counsel, other appropriate RTC staff, and the Local RRIF Administrator for each Participating Local Government in which the Offered Improvements are located (the “affected Participating Local Government”).

3. The RTC RRIF Administrator will coordinate with the Local RRIF Administrator for each affected Participating Local Government to ensure all comments are received and given consideration prior to RTC Board approval of the Offset Agreement.

4. After review by legal counsel, other appropriate RTC staff, and the RRIF Administrator of each affected Participating Local Government, the RTC RRIF Administrator will prepare a staff report and Offset Agreement for consideration by the RTC Board and the governing bodies of the affected Participating Local Governments.

a. The RTC RRIF Administrator's staff report and Offset Agreement will establish which Offered Improvements qualify as Offset-Eligible Costs and the appropriate dollar amount and approved land use designations of any resulting RRIF Waivers, according to the provisions of this Manual.

b. The amount of RRIF Waivers for a Development of Record may not exceed the actual Offset-Eligible Costs, as described in Section X.

c. RRIF Waivers shall be expressed in dollars and by the amount of RRIF Fees to be waived in terms of land uses using the fee schedule in effect as of the date of approval of the Offset Agreement.

d. If the RTC RRIF Administrator determines that cost estimates submitted by the Developer of Record are either unreliable or inaccurate, the final determination of the amount of RRIF Waivers shall be made by the RTC RRIF Administrator based upon reasonable engineering criteria, construction cost estimates, property appraisals, or other professionally accepted means of determining the value of the Offered Improvements.

5. Based on the staff report of the RTC RRIF Administrator, the provisions of this Manual, the RRIF Capital Improvements Plan, available funds for RTC projects, and other relevant factors, the RTC Board and the governing bodies of the affected Participating Local Governments will make a final decision whether to accept, reject, or to propose amendments to the Offset Agreement.

6. Once a final decision has been made by the RTC Board and the governing bodies of the affected Participating Local Governments, the RTC RRIF Administrator will send by registered mail a copy or copies of the approved Offset Agreement for the final consent and signature of the Developer of Record. The Offset Agreement will be deemed to have been received by the Developer of Record three (3) days after mailing by the RTC RRIF Administrator.

7. The Developer of Record must sign, date, and return the approved Offset Agreement indicating their consent to the terms therein within thirty (30) days of receiving the approved Offset Agreement from the RTC RRIF Administrator. If the RTC RRIF Administrator does not receive the signed Offset Agreement within thirty (30) days, the application for RRIF Waivers will be deemed withdrawn.

8. Unless an executed Offset Agreement expressly provides otherwise, i.e. if interim RRIF Waivers are authorized in the Offset Agreement, RRIF Waivers will not be approved in a Notice of RRIF Waivers until all Offset-Eligible Improvements have been completed and, if applicable,

dedicated to the RTC or the affected Participating Local Governments as provided in the Offset Agreement.

9. Land dedications accepted as an Offset-Eligible Improvement must be accompanied by the following documentation prior to issuance of a Notice of RRIF Waiver, as provided below:

    a. The delivery to the appropriate governmental body of an irrevocable offer of dedication, with sufficient funds to pay all costs of transfer of title including recording.

    b. The escrow of taxes for the current year or the payment of said taxes for the year.

    c. The issuance of a title insurance policy subsequent to recording of the deed and escrow of taxes.

10. Unless expressly provided otherwise in an Offset Agreement, it is the responsibility of the Developer of Record to submit sufficient documentation to the RTC RRIF Administrator to establish that the terms of the Offset Agreement have been met.

11. Once the RTC RRIF Administrator has made a determination that the terms of the Offset Agreement have been met, the RTC RRIF Administrator will issue a Notice of RRIF Waiver to the Developer of Record.

D. Contents of Applications for RRIF Waivers

1. The application for RRIF Waivers must contain the information and documentation required by this Section and sufficiently identify and describe the Offered Improvements which otherwise would have been built by the RTC with collected RRIF Fees.

2. Each application for RRIF Waivers must contain the following:

    a. The name of the Developer of Record offering to make Offset-Eligible Improvements and requesting RRIF Waivers.

    b. The contribution, payment, construction, or land dedication which will constitute the Offered Improvements and the legal description or other adequate description of the project or development, referred to and the Development of Record, to which the Offered Improvements are related.

    c. The name, address, phone number, fax number, email address and contact person of the Developer of Record.

    d. The name, Local Government File Number, and three copies of the site plan of the Development of Record.

e. List of approved land uses and the estimated RRIF Fees for those uses within the Development of Record.

f. Name, address, phone number, fax number, email address and contact person of the Engineer of Record.

g. The proposed plans and specifications for the specific construction prepared and certified by a duly qualified engineer, registered and licensed in the State of Nevada.

h. When a Developer of Record offers to dedicate right-of-way, they shall present:

(1) Preliminary Title Report.

(2) Copy of Dedication Map containing proposed dedication.

(3) Documentation sufficient to establish the applicant's opinion of value of property to be offered for dedication, as provided in Section X.

i. Sufficient documentation to verify the costs of the Offered Improvements, in accordance with Section X.

E. Contents of Offset Agreements

1. No dedication or construction project may be accepted in exchange for RRIF Waivers except pursuant to an Offset Agreement, which must include the following:

a. The projected costs for the Offered Improvements, based on the valuation provisions of Section X, including provisions for verifying costs and facilitating changes in costs or plans.

b. The time by which the construction of the Offered Improvements shall be paid, completed, or dedicated and any provisions for extensions thereof.

c. The proposed amount in dollars and land uses of RRIF Waivers, based on the estimated costs of the Offered Improvements.

d. The terms and conditions that must be met before the RTC RRIF Administrator will issue a Notice of RRIF Waiver, in accordance with the provisions of this Manual.

e. RRIF Waivers shall be limited to use for the payment of RRIF Fees associated with the Development of Record listed in the Offset Agreement. RRIF Waivers shall not expire.

f. RRIF Waivers shall be assigned to offset the RRIF Fees within the Development of Record pursuant to the Offset Agreement.

g. If the designated land uses for the Development of Record identified in the Offset Agreement change, the remaining waivers shall be reassessed as outlined in the provisions in Section X.A.

h. A provision requiring that all Offset-Eligible Improvements accepted will be in accordance with RTC requirements and standards.

i. Any labor, work safety, prevailing wage, or other applicable laws or regulations with which the Developer of Record must comply.

j. Such other terms and conditions agreed to by the parties.

2. Any changes to an Offset Agreement approved by the RTC Board, other than those addressed in Section X.F, will require an amendment to the Offset Agreement using the same procedures as its original approval.

F. Calculation of RRIF Waivers.

1. Eligibility.

   a. RRIF Waivers may be approved only for Offset-Eligible Costs, which are limited to the costs the RTC otherwise would have incurred for RRIF Capital Improvements.

   b. RRIF Waivers may be provided only pursuant to a valid Offset Agreement, executed according to the provisions of this Manual.

   c. Offset-Eligible Costs are available for RRIF Waivers only if associated with Offset-Eligible Improvements that meet design standards approved by the RTC and the affected Participating Local Government, and only to the extent such costs do not exceed the scope of the project as planned by the RTC and reflected in the RRIF Capital Improvements Plan or as described in the applicable Offset Agreement.

2. Valuation.

   a. RRIF Waivers approved by the RTC pursuant to a Notice of RRIF Waivers will be based on, and may not exceed, the actual verified costs of the dedication or construction of the Offset-Eligible Improvements accepted by the affected Participating Local Government.

   b. The RTC will not approve RRIF Waivers in excess of the RRIF Fees owed for a Development of Record as of the date of the applicable Offset Agreement.

   c. The amount of RRIF Waivers shall be calculated as follows:

      (1) Construction of Facilities and Provision of Equipment. The RRIF Waivers may not exceed the actual cost of construction or equipment, as evidenced by receipts and other sufficient documentation provided by the developer of the public facility and verified by the RTC RRIF Administrator. Actual costs shall be based on local information for similar improvements; may include the cost of construction, planning feasibility, alignment studies, plan-line studies, preliminary engineering, relevant geotechnical, environmental and cultural resource studies, permitting, the cost of all lands, property, rights, easements, and franchises acquired, construction financing charges, plans and specifications, surveys, engineering and legal services, construction inspection and testing, and all other expenses necessary or incident to determining the feasibility or practicability of such construction.

(2) Dedication of Land.

(a) If the land in question is subject to a valid agreement, zoning approval or development approval, which established a valuation or prescribes a method of valuation, the agreement, zoning approval or development approval shall control.

(b) If the dedication is made pursuant to a condition of discretionary zoning or development approval, the value of the land shall be determined as of the date immediately preceding the discretionary development approval. The value shall be based upon the condition of the property and the regulatory zoning in place immediately prior to the discretionary approval.

(c) Valuation shall be based on the fair market value of the land upon execution of the Offset Agreement by the Developer of Record or final approval of the proposed Offset Agreement by the RTC Board or the governing bodies of the affected Participating Local Government, whichever is earlier.

d. All changes in the estimate of Offset-Eligible Costs or to the approved plans and specifications (prior to or after execution of an Offset Agreement), shall require approval of the RTC RRIF Administrator. The applicant shall provide the RTC RRIF Administrator copies of all contracts or agreements made for design services, construction, or engineering during construction within fifteen (15) days after their execution.

G. Usage of RRIF Waivers.

1. Participating Local Governments shall waive RRIF Fees otherwise owed either at the time of issuance of a building permit or issuance of the Certificate of Occupancy, as the case may be, if the RTC RRIF Administrator has issued a Notice of RRIF Waiver for the Development of Record.

2. RRIF Waivers may be used to pay up to 100% of the RRIF Fees due as the result of development within the Development of Record.

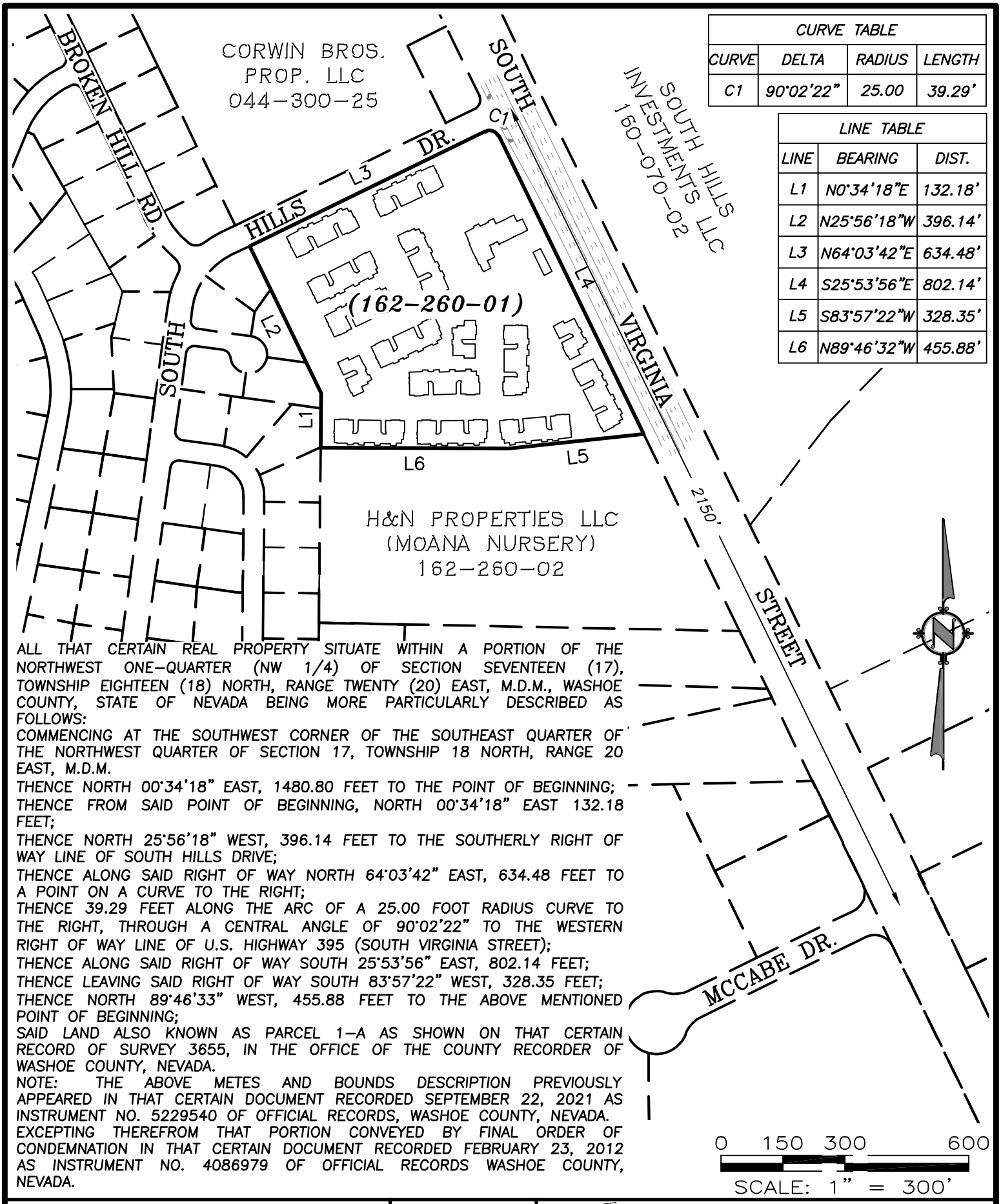
3. RRIF Waivers may not be used to pay for RRIF Fees due as a result of development outside of the Development of Record.

4. RRIF Waivers are transferable to a third party. To transfer RRIF Waivers, the current holder of RRIF Waivers will notify RTC through the RRIF Automation Program of the amount of RRIF Waivers to be transferred and the name and contact information of the third party. RRIF Waivers will be subtracted from the current holder's account and transferred to a new account in the name of the third party.

5. Upon transfer, RRIF Waivers may be used by the transferee to pay up to 100% of the RRIF Fees due as the result of development within the Development of Record.

EXHIBIT "B"
(Site Plan and Description of Development of Record)
(Must include proposed units of development and land use categories)

Exhibit B



CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	90°02'22"	25.00	39.29'

LINE TABLE		
LINE	BEARING	DIST.
L1	N0°34'18"E	132.18'
L2	N25°56'18"W	396.14'
L3	N64°03'42"E	634.48'
L4	S25°53'56"E	802.14'
L5	S83°57'22"W	328.35'
L6	N89°46'32"W	455.88'

ALL THAT CERTAIN REAL PROPERTY SITUATE WITHIN A PORTION OF THE NORTHWEST ONE-QUARTER (NW 1/4) OF SECTION SEVENTEEN (17), TOWNSHIP EIGHTEEN (18) NORTH, RANGE TWENTY (20) EAST, M.D.M., WASHOE COUNTY, STATE OF NEVADA BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 17, TOWNSHIP 18 NORTH, RANGE 20 EAST, M.D.M.

THENCE NORTH 00°34'18" EAST, 1480.80 FEET TO THE POINT OF BEGINNING;

THENCE FROM SAID POINT OF BEGINNING, NORTH 00°34'18" EAST 132.18 FEET;

THENCE NORTH 25°56'18" WEST, 396.14 FEET TO THE SOUTHERLY RIGHT OF WAY LINE OF SOUTH HILLS DRIVE;

THENCE ALONG SAID RIGHT OF WAY NORTH 64°03'42" EAST, 634.48 FEET TO A POINT ON A CURVE TO THE RIGHT;

THENCE 39.29 FEET ALONG THE ARC OF A 25.00 FOOT RADIUS CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 90°02'22" TO THE WESTERN RIGHT OF WAY LINE OF U.S. HIGHWAY 395 (SOUTH VIRGINIA STREET);

THENCE ALONG SAID RIGHT OF WAY SOUTH 25°53'56" EAST, 802.14 FEET;

THENCE LEAVING SAID RIGHT OF WAY SOUTH 83°57'22" WEST, 328.35 FEET;

THENCE NORTH 89°46'33" WEST, 455.88 FEET TO THE ABOVE MENTIONED POINT OF BEGINNING;

SAID LAND ALSO KNOWN AS PARCEL 1-A AS SHOWN ON THAT CERTAIN RECORD OF SURVEY 3655, IN THE OFFICE OF THE COUNTY RECORDER OF WASHOE COUNTY, NEVADA.

NOTE: THE ABOVE METES AND BOUNDS DESCRIPTION PREVIOUSLY APPEARED IN THAT CERTAIN DOCUMENT RECORDED SEPTEMBER 22, 2021 AS INSTRUMENT NO. 5229540 OF OFFICIAL RECORDS, WASHOE COUNTY, NEVADA.

EXCEPTING THEREFROM THAT PORTION CONVEYED BY FINAL ORDER OF CONDEMNATION IN THAT CERTAIN DOCUMENT RECORDED FEBRUARY 23, 2012 AS INSTRUMENT NO. 4086979 OF OFFICIAL RECORDS WASHOE COUNTY, NEVADA.

EXHIBIT

ELYSIUM APARTMENTS
11700 SOUTH HILLS DRIVE
APN: 162-260-01

DRAWN BY: TDM
CHECKED BY: JDB
DATE: MARCH 2025

Meridian Surveying & Mapping, Inc.
Land, Construction and Boundary Surveys
8725 Technology Way, Reno, NV 89521
(775) 690-4194

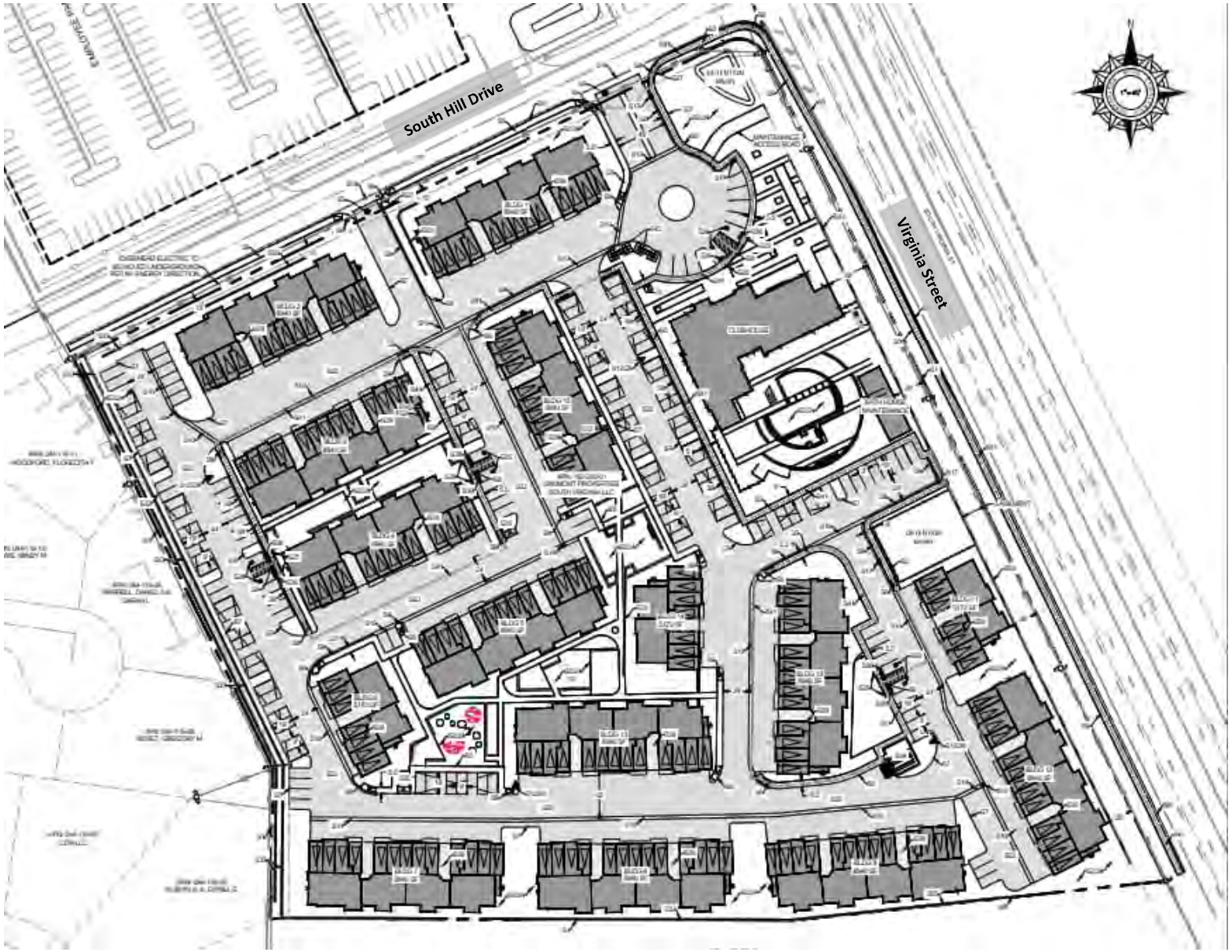


Figure 4: Site plan.

EXHIBIT "C"
(Offered Improvements Application/Submittals)

Exhibit C

April 17, 2025

Jeff Wilbrecht, PE
RRIF Administrator
Regional Transportation Commission of Washoe County
1105 Terminal Way, Suite 108
Reno, NV 89502

RRIF Offset Agreement Request: S. Virginia Street/South Hills Drive Intersection Improvements

Dear Mr. Wilbrecht,

Oakmont Properties – South Virginia, LLC (Developer of Record) hereby formally requests initiation of an RRIF Offset Agreement and RRIF Waivers process for the installation of a traffic signal system and intersection improvements at the S. Virginia Street/South Hills Drive intersection within the City of Reno.

The need for signalization of the S. Virginia Street/South Hills Drive intersection was identified in the *Elysium Apartments Traffic Impact Study*, AECOM, January 2023 (the subject project traffic study), included in *Attachment A*. The improvements are shown to provide acceptable operations for the 10-year horizon and beyond.

The signalization of the S. Viriginia Street/South Hills Drive intersection is included in the RTC's *2050 Regional Transportation Plan (RTP) 2025 Update* in the Unfunded Projects – Private Projects section of the Fiscally Constrained Project List (included in *Attachment B*). Additionally, NDOT has indicated via email that the *S. Virginia Street Safety Management Plan* will recommend a traffic signal at the S. Virginia Street/South Hills Drive intersection (email also included in *Attachment B*). The signalization improvements are a documented and programmed regional capacity improvement eligible for an RRIF Offset Agreement.

The **Capital Improvements** include:

- Installation of a traffic signal at the S. Virginia Street (US 395 A)/South Hills Drive intersection
- Traffic signal interconnect system (wireless system)
- New ADA pedestrian ramps and crosswalks on the south and west legs of the intersection
- Signing and striping revisions in the intersection for signalization
- Grind and overlay and other pavement expansion improvements in the intersection as required by NDOT standards and as required for truck maneuvering

The project **Construction Plans and Specifications** are in near final stages and have been submitted to NDOT and the City of Reno for permitting. The current intersection improvement and signalization plans (*Attachment C*) are provided for RRIF application review. Final drawings will be provided to the RTC upon permitting.

The **Developer of Record** is:

Oakmont Properties – South Virginia, LLC
100 Ebbtide Road
Corona Del Mar, CA 92625

The **Development of Record** is:

Elysium Apartments (Oakmont Properties – South Virginia, LLC)
APN 162-260-01
Local Government File Numbers: Site Building Permit # BDL22-08740E

The preliminary **Site Plan** for Elysium Apartments is included in *Attachment D*.

Approved Land Uses within Elysium Apartments and the **Associated Regional Road Impact Fees** based on the applicable impact fee schedule (7th Edition, Year 3 Indexing, included as *Attachment E*) are as follows:

Multi-Family Residential – 270 units @ $3,459.61/unit = $934,094.70
Elysium Apartments Total Impact Fee/Eligibility = **$934,094.70**

The **Engineer of Record** for this offset agreement is:

GCW, Inc.
5482 Longley Lane, Suite B
Reno, NV 89511
Phone: (775) 322-4300
Email: lchilson@gcwengineering.com
Contact: Loren Chilson, PE

Qualifications of Inspection and Testing Firm

Any public improvements requiring sampling, testing, or quality assurance activities will be provided by an ACI and/or NAQTC certified firm. We will notify the RTC when the testing firm has been selected.

Preliminary Engineering Cost Estimate

The preliminary project cost estimate is provided below, however, the actual construction bid result will supersede the Engineer's Estimate and all costs will be updated. Contractor quotes for the work are provided in *Attachment F*, along with a figure showing the limits of the RRIF eligible improvements.

S. Virginia Street/South Hills Drive Intersection Improvements - Preliminary Cost Estimate

Item	Description	Estimated Cost	Final Cost
1	Engineering Fees	$80,000	
2	Traffic Signal	$749,000	
3	Demolition - Traffic Control	$30,000	
4	ADA Ramps	$18,360	
5	Grind & Overlay	$71,712	
6	Signing & Striping	$19,200	
7	Inspection/Testing	$40,000	
	Total	**$1,008,272.00**	
	RRIF Waiver Amount Requested	**$934,094.70**	

Traffic Design Report & Project Eligibility

Justification for the capacity improvements, and verification that the improvements will provide operations within policy level of service for at least 10 years, is provided in the *Elysium Apartments Traffic Impact Study* (AECOM, January 2023), included in *Attachment A*.

Project Specifications

All work will be required to comply with the current edition of the Standard Specifications for Public Works Construction (Orange Book), consistent with RTC requirements for Public Works projects. The plans additionally require compliance with the City of Reno and NDOT standard details.

Additionally, NDOT will review the plans and specifications during the permitting process.

Construction Schedule

The signal and intersection improvements are anticipated to be constructed in the 2026 construction season and completed by approximately the end of the 2026 calendar year.

Request for Interim Waivers

The Developer of Record has bonded with the City of Reno for completion of the intersection improvements and traffic signal installation, which provides assurance to the RTC that the waivers will in fact be fully earned. Due to the challenging timeline of completing the signal with NDOT permit process and long lead equipment items, interim waivers are requested considering the buildings within the Development of Record will reach Certificate of Occupancy prior to final completion of the improvements.

The Developer of Record is requesting interim waivers upon completion of the signal underground work (conduits, pull boxes, and pole foundations), pedestrian/ADA ramps, paving, and signing and striping, upon substantial completion of this stage of construction

The remainder of the waivers will be earned at substantial completion of the signal system.

Please do not hesitate to contact us with any questions or requests for additional information. We recognize that full project plans, specifications, and updates to information contained in this application will be necessary prior to execution of the final RRIF Offset Agreement. Thank you in advance for your consideration and assistance.

Sincerely,
GCW, Inc.



Loren E. Chilson, PE
Principal

Attachments:
A – Traffic Impact Study
B – Regional Project Documentation
C – Intersection Improvement Plans
D –Site Plan for Development of Record
E – RTC RRIF Schedule – 7th Edition, Year 3 Indexing
F – RRIF Eligible Improvements & Cost Estimates

Exhibit C

ATTACHMENT A – TRAFFIC IMPACT STUDY

Exhibit C

Elysium Apartments

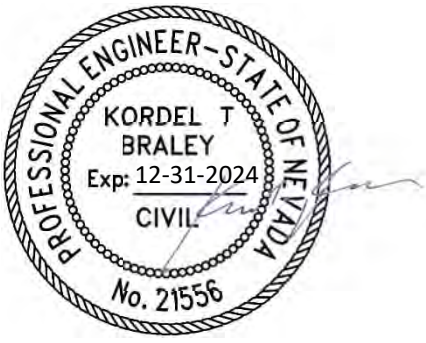
Traffic Impact Study

Prepared For:
Greenstreet Development
January 2023

Prepared By:

756 East Winchester Street, Suite 400
Salt Lake City, UT, 84107
(801) 904-4000

Project # 60634033



01-06-2023

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A – Traffic Counts
B – LOS & Queue Results
C – Crash History

1.0 INTRODUCTION AND EXECUTIVE SUMMARY

1.1 Introduction

On behalf of Greenstreet Development, AECOM has conducted this traffic impact study (TIS) for a proposed 270-unit apartment complex (Elysium Apartments) consisting of separate multi-unit mid-height structures. The development will be located west of South Virginia Street and south of South Hills Drive in Reno, Nevada. The purpose of this TIS is to evaluate the impacts of the development on the surrounding roadway system. The TIS evaluates impacts of traffic generated by the facility at the intersection of South Virginia Street and South Hills Drive. Per request from NDOT, this TIS includes trip generation and distribution for the proposed development as well as the pending Corwin Ford dealership directly to the north, also accessing South Hills Drive. A traffic impact study was performed for the Corwin Ford dealership with a 2040 horizon. A pre-application meeting with NDOT requested AECOM utilize the same horizon year to create a combined analysis of both projects.

1.2 Key Findings

We offer the following summary of key findings based on the analysis presented in this TIS:

- The proposed 270-unit apartment complex project is anticipated to generate 98 AM peak hour, 109 PM peak hour, and 1,289 daily trips.
- The intersection of South Virginia Street and South Hills Drive currently operates at LOS A/A (AM/PM) and is estimated to operate at LOS A in the 2040 horizon with no project traffic added.
- With traffic added from proposed apartment project and the proposed dealership, the intersection is anticipated to operate as LOS A overall during both AM and PM peak periods, however the South Hills Drive eastbound approach is anticipated to operate at LOS C (AM) and LOS F (PM).
- A signal warrant analysis shows the intersection of South Virginia Street and South Hills Drive meets the 4-hour and Peak Hour signal warrants with traffic added from both developments.
- A modified Intersection Control Evaluation (ICE) study shows that a signalized intersection is the preferred alternative for traffic mitigation.
- A signalized intersection mitigation scenario was tested for the Future (2040) with both project trips added. The results of the analysis show the intersection will operate at LOS A (both AM and PM) overall and the eastbound approach is mitigated to LOS B (AM) and LOS C (PM).
- Queuing from the two movements on South Hills Drive (inbound lefts and the eastbound to northbound lefts at South Virginia Street) are not expected to overlap in a center left-turn lane given the proposed distance between the project access and South Virginia Street.

2.0 PROPOSED DEVELOPMENT SITE AND SURROUNDINGS

2.1 Site Location

The proposed site is located west of South Virginia Street and south of South Hills Drive (see site location in Figure 1). Access to the site is proposed to/from South Hills Drive. The existing site was used to grow plants and trees for the Moana Nursery.

South Virginia Street (east of the development) is a north-south seven-lane roadway with three travel lanes in each direction and a center two way left turn lane (TWLTL). The NDOT functional classification of South Virginia Street (Alternate Route 395) is Other Principal Arterial. The posted speed limit is 55 MPH. Curb, gutter, and sidewalk exist along South Virginia Street at locations of newer development. South Hills Drive (north of the development) is a two-lane unstriped road with one travel lane in each direction, no median, and no curb, gutter, or sidewalk.

2.2 Existing Traffic Conditions

AECOM obtained turning movement counts at the intersection of South Virginia Street and South Hills Drive on June 28, 2022. The morning peak hour was determined to be between 8:00 and 9:00 AM and the PM peak hour was determined to be between 4:00 and 5:00 PM. Heavy vehicle proportion of traffic was 3.4% in the AM and 1.3% in the PM. Traffic count volumes for the existing AM and PM peak periods are shown in Figure 2 and Figure 3, respectively. Detailed count data are included in Appendix A. Traffic analysis is discussed in Section 3.

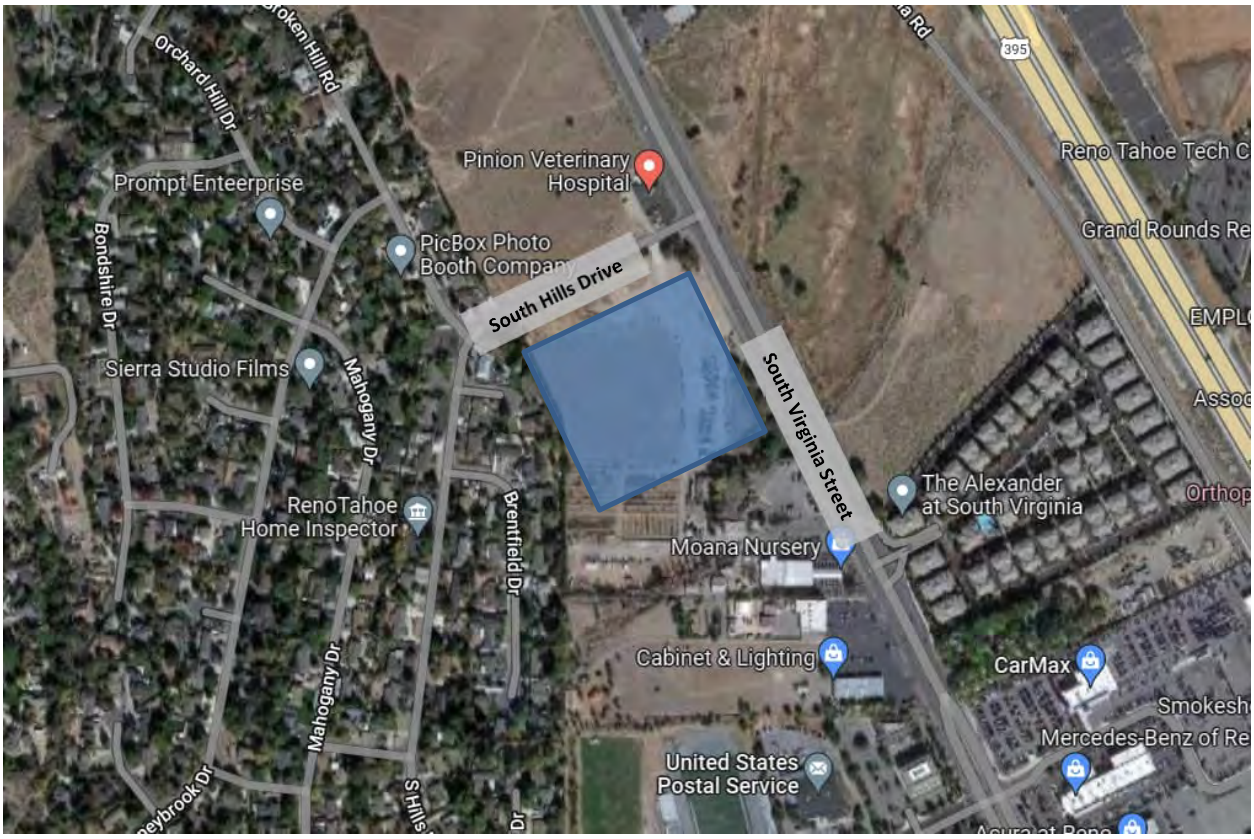


Figure 1: Project site location.



Figure 2: Existing AM background traffic conditions.



Figure 3: Existing PM background traffic conditions.

2.3 Site Plan

The proposed plan for the site includes 270 apartments constructed as 15 separate multi-unit mid-height structures in addition to a clubhouse. The proposed site plan is shown in Figure 4. Also partly shown is the parking lot for the Corwin Ford development with proposed access to South Hills Drive. The project proposes to construct individual left and right turns along South Hill Drive at the intersection of Virginia Street. Right-of-way and prescriptive easement will be preserved along South Virginia Street to accommodate the overhead electrical line.

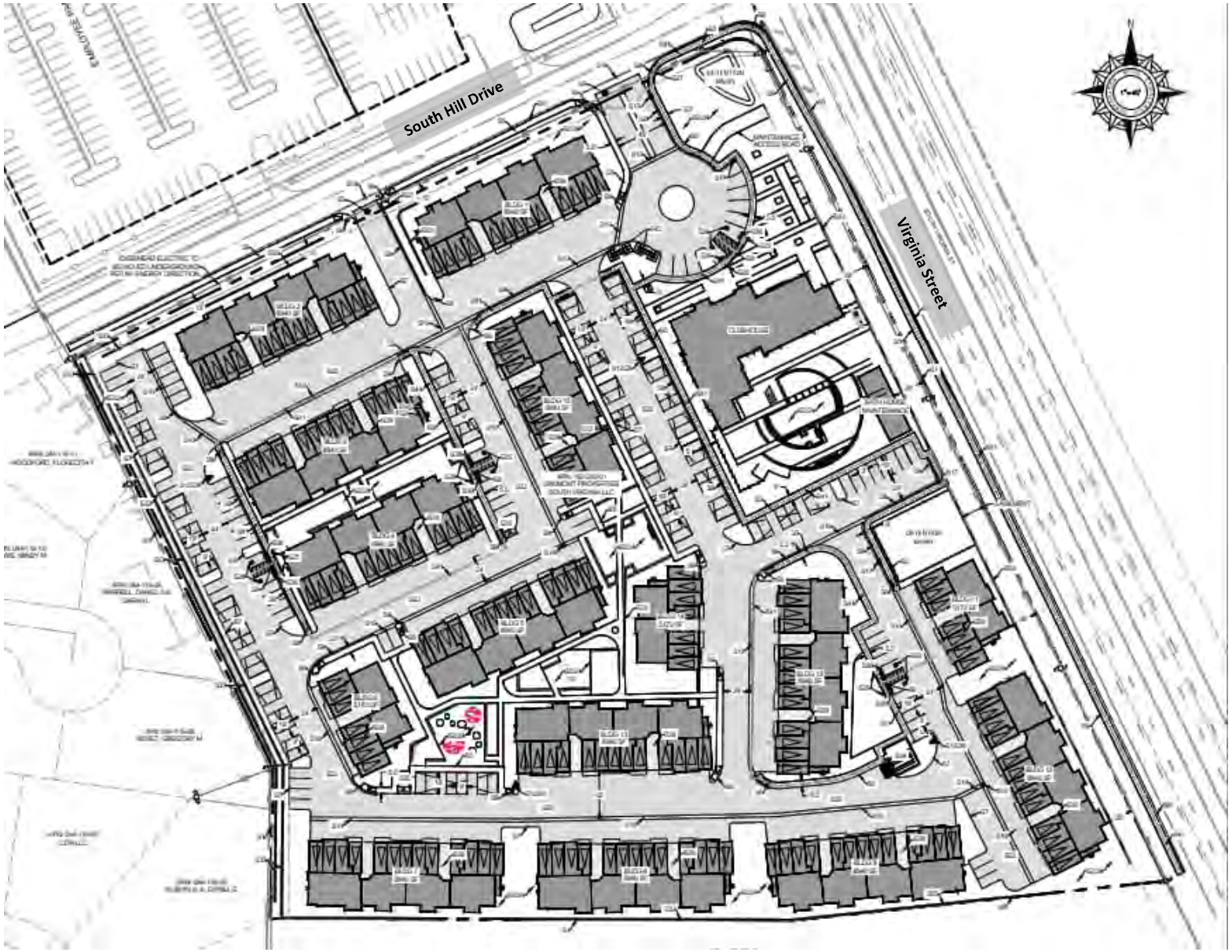


Figure 4: Site plan.

2.4 Site Trip Generation

Trip generation for the site was calculated based on rates found in the most recent edition of ITE Trip Generation (11th Edition, 2021). ITE Land Use Code 221 (Multifamily Housing [Mid-Rise]) was selected as it reflects the most similar land use to the proposed development. Trip generation is shown in Table 1.

Table 1: Trip Generation

Land Use	ITE Land Use	Qty	AM Peak Hour			PM Peak Hour			Daily Trips		
			Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting	Total
Apartments	221 - Multifamily Housing (Mid-Rise)	270	25	73	98	67	43	109	645	645	1289

2.5 Trip Distribution and Assignment

Trip distribution was estimated based on existing count data and likely trip origins and destinations in the area. Trip distribution assumptions made are as follows:

AM Peak period

- 46% Northbound (South Virginia Street)
- 51% Southbound (South Virginia Street)
- 3% Eastbound (South Hills Drive)

PM Peak period

- 39% Northbound (South Virginia Street)
- 59% Southbound (South Virginia Street)
- 2% Eastbound (South Hills Drive)

Total new trips (trip assignment) through the study area are shown in Figure 5 and Figure 6 for the AM and PM peak periods, respectively.



Figure 5: Trip assignment – AM.



Figure 6: Trip assignment – PM.

3.0 TRAFFIC OPERATIONS ANALYSIS

3.1 Traffic Forecasts

To estimate future 20-year forecast, AECOM calculated growth rates based on historical AADT traffic counts along South Virginia Street. Data was gathered from the NDOT Traffic Information Systems TINA website[1] at counting station 0311063 located just north of the study intersection, see Figure 7. The 2017 AADT was 23,500 vehicles and the 2021 AADT was reported as 21,400 vehicles. Traffic in 2020 and 2021 are reportedly low during the COVID-19 pandemic, so the growth rate was estimated between 2017 to 2019. The calculated growth rate is 1.09%. The Corwin Ford TIS utilized a 2% linear growth with a 2040 horizon. For traffic impact comparison and to remain conservative, this TIS utilized the same 2% growth rate and 2040 horizon year as the Corwin Ford TIS.

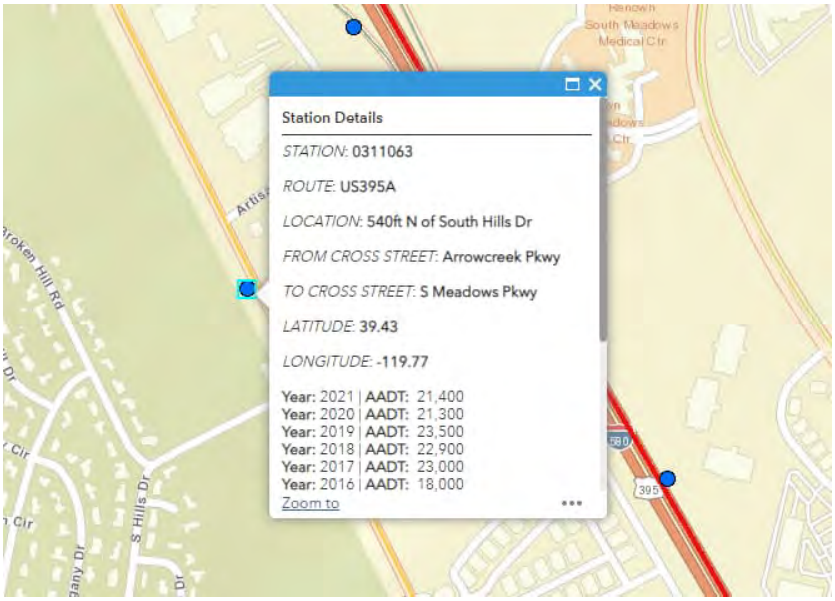


Figure 7: NDOT Traffic Information Systems traffic counter.

Traffic volumes for the Existing Plus Project conditions (Corwin Ford plus Elysium Apartments) for AM and PM peak hours are shown in Figure **8** and Figure **9**, respectively. Projected traffic volumes for future (2040) background for AM and PM peak hours are shown in Figure **10** and Figure **11**, respectively. The Virginia Street Corridor Report is programming the extension of the BRT line along Virginia Street, which will dedicate one through lane to bus traffic only and reduce the geometry to two through lanes in each direction. Projected traffic volumes for future (2040) background with the BRT project, plus the Corwin Ford and Elysium projects for AM and PM peak hours are shown in Figure **12** and Figure **13**, respectively.

[1] https://gis.dot.nv.gov/agsportal/apps/webappviewer/index.html?id=278339b4605e4dda8da9bddd2fd9f1e9



Figure 8: Existing 2022 AM traffic with both projects - Corwin Ford and Elysium Apartments.



Figure 9: Existing PM traffic with both projects - Corwin Ford and Elysium Apartments.



Figure 10: Future AM background traffic volumes.



Figure 11: Future PM background traffic volumes.



Figure 12: Future AM with both projects - Corwin Ford and Elysium Apartments – and reduced capacity (2 lanes each direction) for future BRT.



Figure 13: Future PM with both projects - Corwin Ford and Elysium Apartments – and reduced capacity (2 lanes each direction) for future BRT.

3.2 Level of Service

Level-of-service (LOS) is a qualitative measure describing the operating conditions as perceived by motorists driving in a traffic stream. LOS is calculated using the procedures outlined in the Highway Capacity Manual (HCM), 6th Edition[2]. In addition to traffic volumes, key inputs include the number of lanes at each intersection, traffic control type (signalized or unsignalized), and the traffic signal timing plans, if applicable. The HCM defines six qualitative grades to describe the level of service at an intersection. LOS for roundabouts is based on the average control delay per vehicle, while LOS for two-way stop-controlled (TWSC) intersections is based on the average delay per vehicle on the worst approach. Figure 14 and Figure 15 show the LOS grades and corresponding delay thresholds for unsignalized and signalized intersections, respectively. In urbanized areas, LOS D is typically considered an acceptable LOS. As a state facility, the threshold for South Virginia Street is LOS D.

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤ 1.0	*v/c* > 1.0
0–10	A	F
>10–15	B	F
>15–25	C	F
>25–35	D	F
>35–50	E	F
>50	F	F

Figure 14: Roundabout and two-way stop control LOS.

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio[a]	
	≤1.0	>1.0
≤10	A	F
>10–20	B	F
>20–35	C	F
>35–55	D	F
>55–80	E	F
>80	F	F

Note: [a] For approach-based and intersectionwide assessments, LOS is defined solely by control delay.

Figure 15: Signalized intersection LOS.

3.3 Level of Service Results

Synchro version 11 (Trafficware) was used to calculate HCM LOS results for each study intersection for existing conditions with and without the project. LOS results are shown in Table 2 for the background conditions and Table 3 for plus project conditions (see Appendix B for detailed LOS reports).

[2] Transportation Research Board, 2016.

South Virginia Street/South Hills Drive currently operates at LOS A in both AM and PM peak periods and will continue to operate at LOS A in the future with no project traffic added, see Table 2. Adding the Corwin Ford and the Elysium Apartments will not modify the intersection LOS, and it will remain at LOS A overall, even during the 2040 horizon year. However, the eastbound approach will reduce from LOS C in the PM peak to LOS D with the addition of the projects for the existing conditions and will reduce from LOS E existing to LOS F with the projects during the 2040 horizon year (including with the addition of BRT), shown in Table 3.

The results of the LOS analysis show a need to consider mitigation for the eastbound approach, and if the traffic volumes meet signal warrant criteria. Table 4 shows the LOS results for future 2040 traffic volumes and a signalized intersection. The eastbound approach is mitigated from LOS F to LOS D.

Table 2: Intersection LOS (Delay) Results – Existing and Future Conditions (Unsignalized)

South Virginia Street and South Hills Drive	Control	2022		2040	
		AM	PM	AM	PM
Existing/No Build	TWSC	A (0.6)	A (0.6)	A (0.7)	A (0.9)
With Projects	TWSC	A (1.6)	A (1.6)	A (1.7)	A (2.9)

Table 3: Eastbound LOS (Delay) Results – Existing and Future Conditions (Unsignalized)

South Virginia Street and South Hills Drive	Control	2022 - Eastbound		2040 - Eastbound	
		AM	PM	AM	PM
Existing/No Build	TWSC	C (16.2)	C (17.3)	C (17.8)	**E (44.7)**
With Projects	TWSC	D (29.1)	D (29.4)	E (40.6)	**F (235)**

Table 4: Mitigation LOS (Delay) Results – Signal Control

South Virginia Street and South Hills Drive	Control	2040						
		Intersection	NBL	NBT	SBT	SBR	EBL	EBR
AM	Signal	A (4.5)	A (5.6)	A (3.7)	A (3.6)	A (2.5)	B (16.1)	B (16.2)
PM	Signal	A (4.0)	A (9.8)	A (2.4)	A (3.2)	A (1.4)	D (35.1)	D (35.8)

3.4 Signal Warrant Analysis

The NDOT Traffic Signal Warrant process outlines that signal warrant studies shall conform to requirements of the current version of the Manual on Uniform Traffic Control Devices (MUTCD) and the approved methodology.[3]

The Four Hour (Warrant 2) and the Peak Hour (Warrant 3) warrants were investigated based on AM and PM peak hour traffic volumes, analyzing with two or more lanes on the major street, one lane on the minor street, and the 70 percent factor due to South Virginia Street having a 55-mph posted speed limit. Figure 16 shows the MUTCD Figure 4C-2 for the four-hour volume using the 70 percent traffic volume factor. Figure 17 shows the MUCTD Figure 4C-4 for the peak hour volume using the 70 percent traffic volume factor. Table 5 shows the two warrant criteria for opening day (2022), and Table 6 shows the 2040 horizon year, showing the background traffic volumes and traffic volumes when adding both projects. The second hour for the AM and PM peak hour volumes are estimated by assuming 80 percent of the peak hour volumes. Only 25% of the right turn volumes (AM and PM) were included in the signal warrant analysis for the side street volumes.

Adding both the Corwin Ford and the Elysium Apartments projects will meet the signal warrant criteria for both the Four Hour (Warrant 2) and the Peak Hour (Warrant 3) criteria. The signal warrant will be met when both the apartments and the car dealership are built (opening day) for the Peak Hour (Warrant 3) criteria and will also meet three of the four hours for the Four Hour (Warrant 2) criteria. The fourth hour will be met with only an additional 6 vehicles. It is recommended to install the signal in conjunction with the projects to minimize impacting traffic twice for construction.

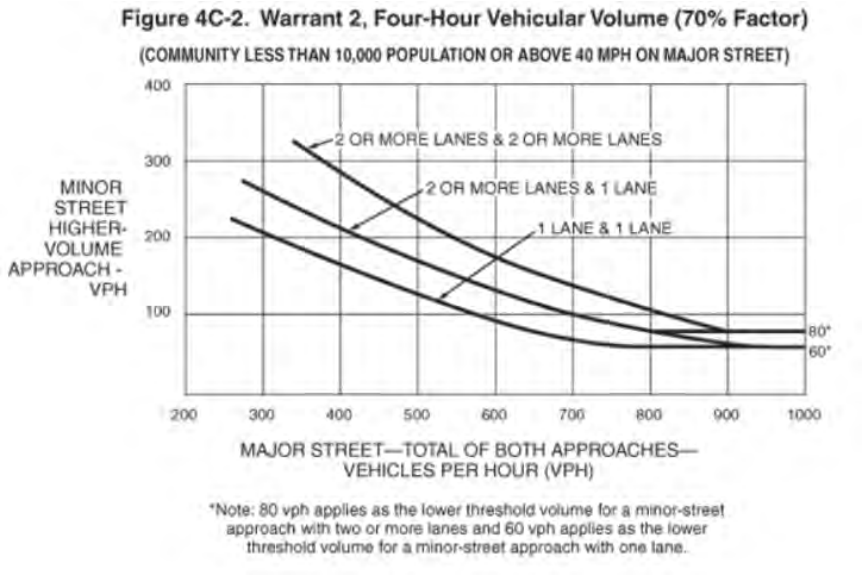


Figure 16: Warrant 2- Four hour warrant with 2040 background traffic volumes.

[3] https://www.dot.nv.gov/home/showpublisheddocument/7995/636299377360130000

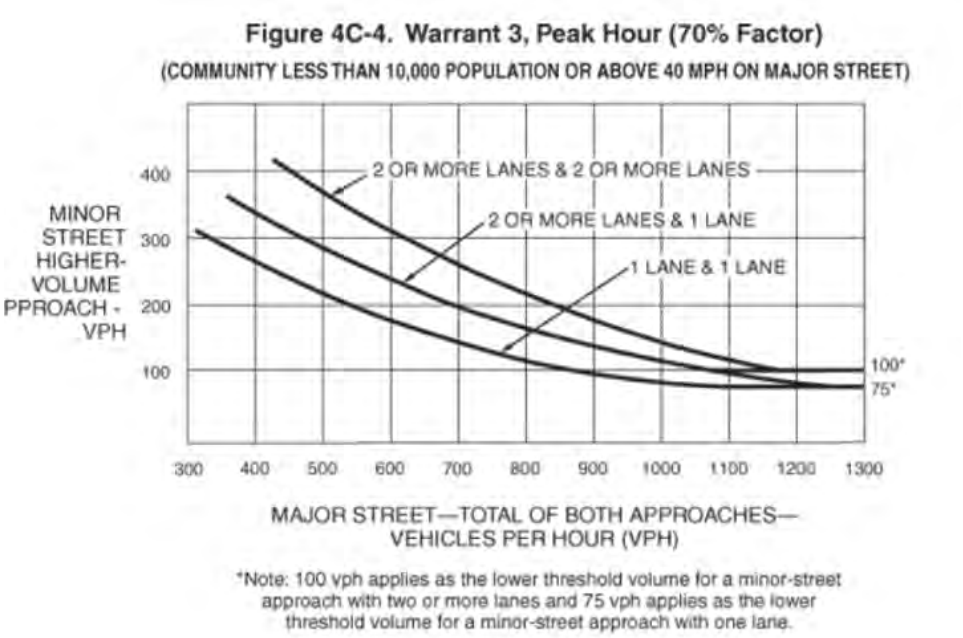


Figure 17: MUTCD Figure 4C-2 Warrant 3- Peak hour warrant.

Table 5: Signal Warrant Analysis – 2022 Existing Traffic and with Projects

Warrant	Hour	2022 - Background			2022 - Background with Elysium		
		Virginia Street (vph)	South Hills (vph)	Warrant Met?	Virginia Street (vph)	South Hills (vph)	Warrant Met?
Warrant 3 Peak Hour (70% Factor)	AM Peak	1320	34	No	1550	94	Yes
	PM Peak	1950	31	No	2390	67	No
Warrant 2 Four Hour (70% Factor)	AM Peak 1	1320	34	No	1550	94	Yes
	AM Peak 2	1055	27	No	1250	75	Yes
	PM Peak 1	1950	31	No	2390	67	Yes
	PM Peak 2	2520	25	No	1910	54	No
Overall				No			Yes

Table 6: Signal Warrant Analysis – 2040 Existing Traffic and with Projects

Warrant	Hour	2040 - Background			2040 - Background with Elysium		
		Virginia Street (vph)	South Hills (vph)	Warrant Met?	Virginia Street (vph)	South Hills (vph)	Warrant Met?
Warrant 3 Peak Hour (70% Factor)	AM Peak	2050	48	No	2050	98	Yes
	PM Peak	3150	35	No	3150	75	Yes
Warrant 2 Four Hour (70% Factor)	AM Peak 1	2050	48	Yes	2050	98	Yes
	AM Peak 2	1640	38	No	1640	106	Yes
	PM Peak 1	3150	35	No	3150	75	Yes
	PM Peak 2	2520	28	No	2520	60	Yes
Overall				No			Yes

3.5 Queueing Analysis

Synchro was used to obtain 95th percentile queue lengths for each movement in the background and plus project conditions. No significant queue lengths are estimated at the study intersections. No significant queuing is anticipated at the intersection, so minimal turn storage is required, see Table 7.

The main driveway for the Elysium apartments is 150 feet from the intersection, allowing for 90 feet for the vehicles to queue and make their turn. The maximum westbound left-turn queue storage into the site for both the AM and PM is only a single vehicle. Therefore, queuing from the two movements on South Hills Drive (inbound left and the eastbound to northbound left at South Virginia Street) are not expected to overlap in a center left-turn lane.

Table 7: 2040 South Hills Drive at South Virginia Street Eastbound 95th Percentile Queue Lengths

Movement	**Background No Signal**	**With Projects No Signal**	**With Projects Signalized & RT Lane**
	AM (PM) feet	AM (PM) feet	AM (PM) feet
Eastbound left	20 (41)	55 (112)	60 (50)
Eastbound right	20 (41)	55 (112)	41 (45)

4.0 INTERSECTION CONTROL EVALUATION ANALYSIS

Portions of an intersection control evaluation (ICE) study were performed to determine which mitigation should be recommended for the eastbound approach with LOS F in the future conditions. NDOT Traffic Signal Warrant process recommends consideration for access management, a roundabout, innovative intersection alternatives, channelization, and movement restrictions. Each consideration is outlined below.

4.1 Access Management Consideration

The project is not requesting additional access onto South Virginia Street, which is the NDOT facility. The project will be providing driveways along South Hills Drive, which has an existing intersection connection to South Virginia Street. Most trips generated from the project will access South Hills Drive at the intersection with South Virginia Street, which is the focus for traffic mitigation.

The NDOT Access Management Systems manual provides the signal spacing standards for Other Principal Arterials (South Virginia Street). The manual indicates (Table 4-1) that signal spacing for a 55 mph roadway should be 2,640 feet. The distance to the nearest signal to the south (McCabe Drive/Auto Center Drive) is 2,150 feet, and the nearest signal to the north (Foothill Road/Meadows Parkway) is 2,800 feet. While the spacing does not meet the required distance to the south, the manual indicates a variance can be requested and the Department shall specify the conditions of cycle length and progression speed during peak hours and other time periods. The difference in 490 feet for signal spacing can be mitigated by modifications to the signal timing offset, allowing for a signal at the existing South Hills Drive and South Virginia Street intersection.

The South Hills Drive intersection is roughly centered between the adjacent signalized intersections to the north and south. The spacing also facilitates future development on the east side of South Virginia Street which connection is centered in the open space, allowing for optimal use and access spacing for that parcel.

The NDOT Access Management System and Standards (November 2017) provides minimum lengths for right-turn acceleration lanes based on design speed of the adjacent roadway. Virginia Street has a 55 mph posted speed, corresponding to a 960-foot acceleration lane (Table 4-26) plus an additional 25:1 taper length (Table 4-24), which is 300 feet for a 12 foot lane, for a total of 1260 feet. The existing acceleration lane is approximately 100 feet plus a 175 foot taper. NDOT has requested the acceleration lane be extended with this project.

4.2 Roundabout Consideration

South Virginia Street is a seven-lane facility with three lanes in each direction and a center turn lane. Application of a roundabout in this location is not advisable due to most vehicles making only the north south movement and infrequent application of such a large roundabout.

4.3 RCUT or JCUT Consideration

A restricted crossing U-turn intersection (RCUT) and a J-Turn U-turn intersection (JCUT) are similar, in that the RCUT is signalized and the JCUT is unsignalized. The U-turn volumes are the same peak hour volumes that warrant a signal at South Hills Drive, but the criteria for the major street AADT volumes consider only one direction along South Virginia Street. The opposing direction is still above the 1,000 during each of the peak periods, so the same warrant criteria are met, and a signal is warranted for the U-turn movement. Therefore, the application would be an RCUT intersection. The signalized RCUT option needs to meet the Access Management Systems Manual Table 4-1 for limited access, which is 990 feet on the 55 mph roadway for Other Principal Arterial. The area to the north puts the turnaround location near the Artisan Means Way intersection, which would block that access as well as driveway access to the Shell gas station. The future driveway for the Corwin Development will also be located closer than 990 feet from the intersection, and the entire Corwin Development ends approximately 1,000 feet to the north. The turnaround and acceleration lane would be in the way of that driveway. To the south the turn around location would be just north of the exiting driveway for The Alexander apartments, which is too close for adjacent access and would cause safety concerns for those vehicle interactions. Additionally, it would block access for the Moana nursery to turn north out of their driveway. Both the north and south locations for the U-turn RCUT application do not meet access management criteria for Other Principal Arterial spacing.

4.4 High-T (Continuous Green) Signalized Intersection

A High-T/continuous green signalized intersection would fit geometrically for the South Hills and Virginia Street intersection. However, a parcel of land is primed for development that would create the fourth leg of the intersection on the east side. The High-T would require a raised median and would limit the development potential for that parcel of land, and thus a full access typical signalized intersection would be preferred. Because the LOS and delay with the full access intersection is LOS A with little delay for traffic along Virginia Street, there is little benefit in constructing a High-T intersection.

4.5 ICE Conclusions/Recommendations

The least intrusive alternative is to utilize a signal at the South Hills Drive intersection and offset the signal timing.

5.0 TRAFFIC CRASH DATA

Historical crash data were requested at the study intersection for the previous five years. The request analyzed 500 feet along each approach of the intersection. A total of ten crashes were recorded in the study area: one rear end collision, four angle collisions, and five run-off road single vehicle collisions. Each of the angle collisions were a result of failing to yield the right of way during a turning maneuver; three of the Angle crashes were a left turning maneuver and one was a right turning maneuver. One angle crash was an injury type A, incapacitating injury, another crash was injury type C, and the remaining two crashes were property damage only (PDO).

One of the single vehicle crashes was a fatality, where the driver ran off the road. That driver was traveling straight and not associated with a turning maneuver that would be mitigated with a signal.

The study area shows a small history of severe and angle crashes that would potentially be mitigated with a traffic signal, but it does not now meet the warrant criteria to install a signal based on crash history. The additional traffic from the two developments, however, will increase traffic and crash occurrence at this intersection.

6.0 RECOMMENDATIONS

Based on the traffic analysis performed, a signal at South Virginia Street and South Hills Drive would mitigate the future 2040 failing LOS for the eastbound approach. The delay for the eastbound left turn is not excessive but does not meet LOS recommendations for a minor street on an Other Principal Arterial roadway. Signalizing the intersection will mitigate and reduce delay for the eastbound approach while not changing the LOS for the north and south through movements.

NDOT may require a longer acceleration lane than is currently provided. Based on the 55-mph speed limit, the acceleration lane could need to be lengthened to 960 feet plus a 300-foot taper (at 25:1). However, the proposed development does not have enough frontage length to add this entire acceleration lane.

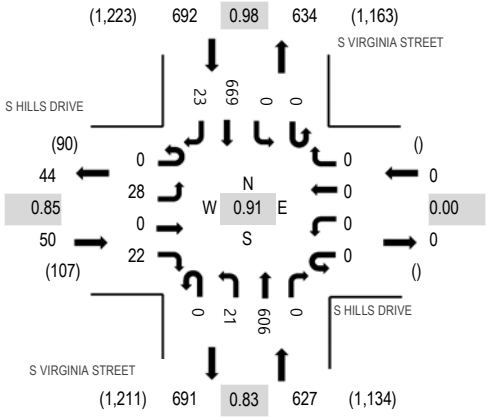
APPENDIX A: TRAFFIC COUNTS

Exhibit C

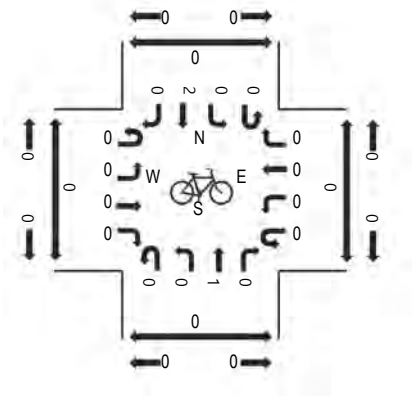
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 S VIRGINIA STREET & S HILLS DRIVE AM
Date: Tuesday, June 28, 2022
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

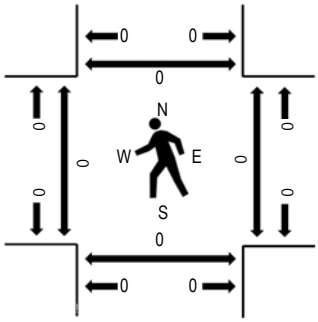
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

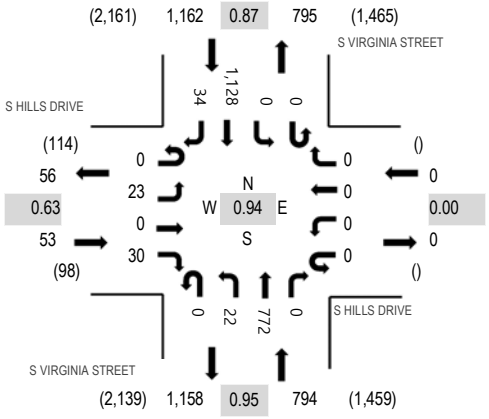
Interval Start Time	S HILLS DRIVE Eastbound				S HILLS DRIVE Westbound				S VIRGINIA STREET Northbound				S VIRGINIA STREET Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	9	0	1	0	0	0	0	0	5	76	0	0	0	85	5	181	1,095	0	0	0	0
7:15 AM	0	9	0	6	0	0	0	0	0	5	122	0	0	0	134	13	289	1,242	0	0	0	0
7:30 AM	0	12	0	2	0	0	0	0	0	2	132	0	0	0	137	5	290	1,278	0	0	0	0
7:45 AM	0	10	0	8	0	0	0	0	0	6	159	0	0	0	147	5	335	1,328	0	0	0	0
8:00 AM	0	9	0	5	0	0	0	0	0	3	138	0	0	0	161	12	328	1,369	0	0	0	0
8:15 AM	0	6	0	7	0	0	0	0	0	7	128	0	0	0	176	1	325		0	0	0	0
8:30 AM	0	6	0	6	0	0	0	0	0	5	158	0	0	0	158	7	340		0	0	0	0
8:45 AM	0	7	0	4	0	0	0	0	0	6	182	0	0	0	174	3	376		0	0	0	0
Count Total	0	68	0	39	0	0	0	0	0	39	1,095	0	0	0	1,172	51	2,464		0	0	0	0
Peak Hour	0	28	0	22	0	0	0	0	0	21	606	0	0	0	669	23	1,369		0	0	0	0

Exhibit C

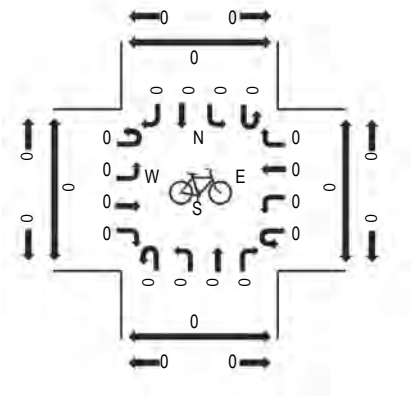
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 S VIRGINIA STREET & S HILLS DRIVE PM
Date: Tuesday, June 28, 2022
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

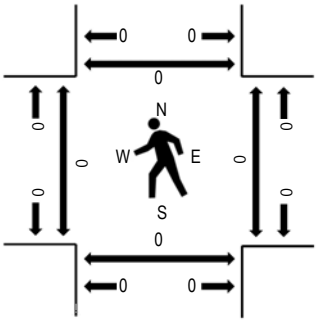
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

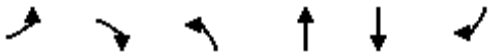
Traffic Counts - Motorized Vehicles

Interval Start Time	S HILLS DRIVE Eastbound				S HILLS DRIVE Westbound				S VIRGINIA STREET Northbound				S VIRGINIA STREET Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	9	0	12	0	0	0	0	0	5	203	0	0	0	273	9	511	2,009	0	0	0	0
4:15 PM	0	9	0	5	0	0	0	0	0	5	188	0	0	0	257	7	471	1,974	0	0	0	0
4:30 PM	0	2	0	8	0	0	0	0	0	4	179	0	0	0	330	10	533	1,965	0	0	0	0
4:45 PM	0	3	0	5	0	0	0	0	0	8	202	0	0	0	268	8	494	1,815	0	0	0	0
5:00 PM	0	5	0	6	0	0	0	0	0	5	167	0	0	0	285	8	476	1,709	0	0	0	0
5:15 PM	0	5	0	8	0	0	0	0	0	4	170	0	0	0	263	12	462		0	0	0	0
5:30 PM	0	5	0	4	0	0	0	0	0	1	157	0	0	0	206	10	383		0	0	0	0
5:45 PM	0	8	0	4	0	0	0	0	0	8	153	0	0	0	205	10	388		0	0	0	0
Count Total	0	46	0	52	0	0	0	0	0	40	1,419	0	0	0	2,087	74	3,718		0	0	0	0
Peak Hour	0	23	0	30	0	0	0	0	0	22	772	0	0	0	1,128	34	2,009		0	0	0	0

APPENDIX B: LOS RESULTS

HCM Unsignalized Intersection Capacity Analysis
2: Virginia Street & South Hills Drive

07/18/2022



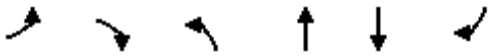
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	22	21	606	669	23
Future Volume (Veh/h)	28	22	21	606	669	23
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	30	24	23	659	727	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	993	242	752			
vC1, stage 1 conf vol	727					
vC2, stage 2 conf vol	266					
vCu, unblocked vol	993	242	752			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	97	97			
cM capacity (veh/h)	408	758	853			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	54	23	220	220	220	242	242	242	25
Volume Left	30	23	0	0	0	0	0	0	0
Volume Right	24	0	0	0	0	0	0	0	25
cSH	513	853	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.11	0.03	0.13	0.13	0.13	0.14	0.14	0.14	0.01
Queue Length 95th (ft)	9	2	0	0	0	0	0	0	0
Control Delay (s)	12.8	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A							
Approach Delay (s)	12.8	0.3				0.0			
Approach LOS	B								

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
2: Virginia Street & South Hills Drive

07/18/2022



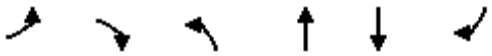
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	30	22	772	1128	34
Future Volume (Veh/h)	23	30	22	772	1128	34
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	33	24	839	1226	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1554	409	1263			
vC1, stage 1 conf vol	1226					
vC2, stage 2 conf vol	328					
vCu, unblocked vol	1554	409	1263			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	94	96			
cM capacity (veh/h)	228	592	546			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	58	24	280	280	280	409	409	409	37
Volume Left	25	24	0	0	0	0	0	0	0
Volume Right	33	0	0	0	0	0	0	0	37
cSH	351	546	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.17	0.04	0.16	0.16	0.16	0.24	0.24	0.24	0.02
Queue Length 95th (ft)	15	3	0	0	0	0	0	0	0
Control Delay (s)	17.3	11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C	B							
Approach Delay (s)	17.3	0.3				0.0			
Approach LOS	C								

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	31.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
2: South Virginia Street & South Hills Drive

08/11/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	77	65	39	731	732	50
Future Volume (Veh/h)	77	65	39	731	732	50
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	84	71	42	795	796	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1145	265	850			
vC1, stage 1 conf vol	796					
vC2, stage 2 conf vol	349					
vCu, unblocked vol	1145	265	850			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	77	90	95			
cM capacity (veh/h)	366	733	784			

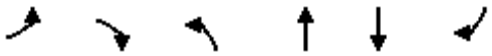
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	155	42	265	265	265	265	265	265	54
Volume Left	84	42	0	0	0	0	0	0	0
Volume Right	71	0	0	0	0	0	0	0	54
cSH	475	784	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.33	0.05	0.16	0.16	0.16	0.16	0.16	0.16	0.03
Queue Length 95th (ft)	35	4	0	0	0	0	0	0	0
Control Delay (s)	16.2	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C	A							
Approach Delay (s)	16.2	0.5				0.0			
Approach LOS	C								

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		

Exhibit C

HCM Unsignalized Intersection Capacity Analysis
2: Virginia Street & South Hills Drive

08/11/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	54	50	58	943	1305	83
Future Volume (Veh/h)	54	50	58	943	1305	83
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	59	54	63	1025	1418	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1886	473	1508			
vC1, stage 1 conf vol	1418					
vC2, stage 2 conf vol	468					
vCu, unblocked vol	1886	473	1508			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	67	90	86			
cM capacity (veh/h)	177	538	440			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	113	63	342	342	342	473	473	473	90
Volume Left	59	63	0	0	0	0	0	0	0
Volume Right	54	0	0	0	0	0	0	0	90
cSH	260	440	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.43	0.14	0.20	0.20	0.20	0.28	0.28	0.28	0.05
Queue Length 95th (ft)	52	12	0	0	0	0	0	0	0
Control Delay (s)	29.1	14.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	D	B							
Approach Delay (s)	29.1	0.8				0.0			
Approach LOS	D								

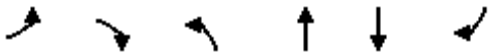
Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

2040 AM Background Traffic

Exhibit C

HCM Unsignalized Intersection Capacity Analysis
2: Virginia Street & South Hills Drive

07/18/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	30	20	1010	990	30
Future Volume (Veh/h)	40	30	20	1010	990	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	33	22	1098	1076	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1486	359	1109			
vC1, stage 1 conf vol	1076					
vC2, stage 2 conf vol	410					
vCu, unblocked vol	1486	359	1109			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	95	96			
cM capacity (veh/h)	267	638	625			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	76	22	366	366	366	359	359	359	33
Volume Left	43	22	0	0	0	0	0	0	0
Volume Right	33	0	0	0	0	0	0	0	33
cSH	357	625	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.21	0.04	0.22	0.22	0.22	0.21	0.21	0.21	0.02
Queue Length 95th (ft)	20	3	0	0	0	0	0	0	0
Control Delay (s)	17.8	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C	B							
Approach Delay (s)	17.8	0.2				0.0			
Approach LOS	C								

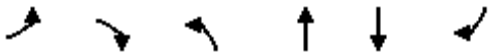
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		

2040 PM Background Traffic

Exhibit C

HCM Unsignalized Intersection Capacity Analysis
2: Virginia Street & South Hills Drive

07/18/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	20	30	1340	1740	40
Future Volume (Veh/h)	30	20	30	1340	1740	40
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	22	33	1457	1891	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2443	630	1934			
vC1, stage 1 conf vol	1891					
vC2, stage 2 conf vol	552					
vCu, unblocked vol	2443	630	1934			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	67	95	89			
cM capacity (veh/h)	100	424	300			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	55	33	486	486	486	630	630	630	43
Volume Left	33	33	0	0	0	0	0	0	0
Volume Right	22	0	0	0	0	0	0	0	43
cSH	144	300	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.38	0.11	0.29	0.29	0.29	0.37	0.37	0.37	0.03
Queue Length 95th (ft)	41	9	0	0	0	0	0	0	0
Control Delay (s)	44.7	18.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	E	C							
Approach Delay (s)	44.7	0.4				0.0			
Approach LOS	E								

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	43.6%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	80	71	41	1031	999	57
Future Vol, veh/h	80	71	41	1031	999	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	300	-	-	300
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	77	45	1121	1086	62

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1737	543	1148	0	-	0
Stage 1	1086	-	-	-	-	-
Stage 2	651	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 78	484	604	-	-	-
Stage 1	285	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 72	484	604	-	-	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	264	-	-	-	-	-
Stage 2	481	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28	0.4	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	604	-	185	484	-	-
HCM Lane V/C Ratio	0.074	-	0.47	0.159	-	-
HCM Control Delay (s)	11.4	-	40.6	13.8	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0.2	-	2.2	0.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th TWSC

2: South Virginia Street/Virginia Street & South Hills Drive

01/03/2023

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	59	53	62	1355	1760	89
Future Vol, veh/h	59	53	62	1355	1760	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	50	300	-	-	300
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	58	67	1473	1913	97

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2784	957	2010	0	-	0
Stage 1	1913	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 15	258	280	-	-	-
Stage 1	102	-	-	-	-	-
Stage 2	370	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 11	258	280	-	-	-
Mov Cap-2 Maneuver	~ 62	-	-	-	-	-
Stage 1	78	-	-	-	-	-
Stage 2	370	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	134.8	1	0
HCM LOS	F		

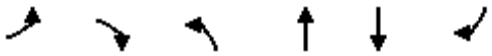
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	280	-	62	258	-	-
HCM Lane V/C Ratio	0.241	-	1.034	0.223	-	-
HCM Control Delay (s)	21.9	-	235.4	22.9	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %tile Q(veh)	0.9	-	5	0.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Exhibit C

HCM 6th Signalized Intersection Summary
2: South Virginia Street/Virginia Street & South Hills Drive

01/03/2023



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	80	71	41	1031	999	57
Future Volume (veh/h)	80	71	41	1031	999	57
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	77	45	1121	1086	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	202	179	434	2248	2248	1003
Arrive On Green	0.11	0.11	0.63	0.63	0.63	0.63
Sat Flow, veh/h	1781	1585	490	3647	3647	1585
Grp Volume(v), veh/h	87	77	45	1121	1086	62
Grp Sat Flow(s),veh/h/ln	1781	1585	490	1777	1777	1585
Q Serve(g_s), s	1.6	1.6	1.9	6.0	5.7	0.5
Cycle Q Clear(g_c), s	1.6	1.6	7.6	6.0	5.7	0.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	202	179	434	2248	2248	1003
V/C Ratio(X)	0.43	0.43	0.10	0.50	0.48	0.06
Avail Cap(c_a), veh/h	1384	1232	1280	8387	8387	3741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	14.6	5.5	3.5	3.4	2.5
Incr Delay (d2), s/veh	1.5	1.6	0.1	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.6	0.1	0.7	0.6	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.1	16.2	5.6	3.7	3.6	2.5
LnGrp LOS	B	B	A	A	A	A
Approach Vol, veh/h	164			1166	1148	
Approach Delay, s/veh	16.2			3.7	3.5	
Approach LOS	B			A	A	

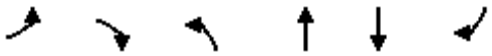
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		26.9		8.5		26.9
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		83.5		27.5		83.5
Max Q Clear Time (g_c+I1), s		9.6		3.6		7.7
Green Ext Time (p_c), s		12.8		0.5		11.3

Intersection Summary	
HCM 6th Ctrl Delay	4.5
HCM 6th LOS	A

Exhibit C

HCM 6th Signalized Intersection Summary
2: South Virginia Street/Virginia Street & South Hills Drive

01/03/2023



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	59	53	62	1355	1760	89
Future Volume (veh/h)	59	53	62	1355	1760	89
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	58	67	1473	1913	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	117	104	227	2856	2856	1274
Arrive On Green	0.07	0.07	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1781	1585	213	3647	3647	1585
Grp Volume(v), veh/h	64	58	67	1473	1913	97
Grp Sat Flow(s),veh/h/ln	1781	1585	213	1777	1777	1585
Q Serve(g_s), s	2.4	2.4	13.4	9.6	15.8	0.9
Cycle Q Clear(g_c), s	2.4	2.4	29.2	9.6	15.8	0.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	117	104	227	2856	2856	1274
V/C Ratio(X)	0.55	0.56	0.29	0.52	0.67	0.08
Avail Cap(c_a), veh/h	469	417	344	4799	4799	2140
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	31.2	9.1	2.3	2.9	1.4
Incr Delay (d2), s/veh	3.9	4.6	0.7	0.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.0	0.6	1.2	1.9	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.1	35.8	9.8	2.4	3.2	1.4
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	122			1540	2010	
Approach Delay, s/veh	35.4			2.7	3.1	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		59.8		9.0		59.8
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		92.9		18.1		92.9
Max Q Clear Time (g_c+I1), s		31.2		4.4		17.8
Green Ext Time (p_c), s		24.1		0.2		34.1

Intersection Summary	
HCM 6th Ctrl Delay	4.0
HCM 6th LOS	A

APPENDIX C: ACCIDENT DATA

Overview

INTERSECTION DETAIL
US395AN @ SOUTH HILLS DR
01 JAN 16 - 01 JAN 21
COUNTY: WASHOE

Crash Severity	Crash Date	Crash Year	Crash Time	Primary Street	Distance	Dir	Secondary Street	Weather	Fatalities	Injured	Property Damage Only	Injury Type	Crash Type	Total Vehicles
INJURY ACCIDENT	14-Sep-2020	2020	03:25 PM	US395AN	125	N	SOUTH HILLS DR	BLOWING SNOW		1		C	REAR-END	2
PROPERTY DAMAGE ONLY	11-Apr-2019	2019	07:16 PM	US395AN	200	S	SOUTH HILLS DR	CLEAR			PDO		ANGLE	2
PROPERTY DAMAGE ONLY	19-Apr-2018	2018	10:20 AM	US395AN	5	N	SOUTH HILLS DR	CLOUDY			PDO		NON-COLLISION	1
FATAL ACCIDENT	18-Sep-2017	2017	03:14 PM	US395AN	198	N	SOUTH HILLS DR	CLOUDY	1			K	NON-COLLISION	1
INJURY ACCIDENT	5-Jan-2017	2017	11:09 AM	US395AN	100	S	SOUTH HILLS DR	SNOW		1		C	ANGLE	2
PROPERTY DAMAGE ONLY	8-Oct-2016	2016	09:05 AM	US395AN		AT INT	SOUTH HILLS DR	CLEAR			PDO		NON-COLLISION	1
INJURY ACCIDENT	7-May-2016	2016	11:54 AM	SOUTH HILLS DR	20	W	US395AN	RAIN		1		B	NON-COLLISION	1
INJURY ACCIDENT	13-Apr-2016	2016	06:42 PM	US395AN		AT INT	SOUTH HILLS DR	CLEAR		1		A	ANGLE	2
INJURY ACCIDENT	28-Feb-2016	2016	07:16 AM	US395AN	50	N	SOUTH HILLS DR			1		C	NON-COLLISION	1
PROPERTY DAMAGE ONLY	25-Jan-2016	2016	12:03 PM	US395AN		AT INT	SOUTH HILLS DR	CLEAR			PDO		ANGLE	2
									Sum: 1	Sum: 5	Count: 4			
									Count: 1	Count: 5				
									Total:	10				

Vehicle 1 Data

INTERSECTION DETAIL
US395AN @ SOUTH HILLS DR
01 JAN 16 - 01 JAN 21
COUNTY: WASHOE

Crash Severity	Crash Date	V1 Type	V1 Dir	V1 Driver Age	V1 Lane Num	V1 Action	V1 Driver Factors	V1 Driver Distracted	V1 Vehicle Factors	V1 Most Harmful Event	V1 All Events
INJURY ACCIDENT	14-Sep-2020	PICKUP	S	72	3	GOING STRAIGHT	UNKNOWN		UNKNOWN	MOTOR VEHICLE IN TRANSPORT	
PROPERTY DAMAGE ONLY	11-Apr-2019	SEDAN, 4 DOOR	S	64	R1	TURNING RIGHT	APPARENTLY NORMAL		FAILED TO YIELD RIGHT OF WAY	MOTOR VEHICLE IN TRANSPORT	
PROPERTY DAMAGE ONLY	19-Apr-2018	PICKUP	N	56	1	TURNING LEFT	HAD BEEN DRINKING		FAILURE TO KEEP IN PROPER LANE OR RUNNING OFF ROAD	DITCH	DITCH
FATAL ACCIDENT	18-Sep-2017	SEDAN, 4 DOOR	S	75	1	GOING STRAIGHT			FAILURE TO KEEP IN PROPER LANE OR RUNNING OFF ROAD: RAN OFF ROAD: UNSAFE LANE CHANGE		RAN OFF ROAD LEFT: FENCE/WALL: OTHER POST, POLE OR SUPPORT
INJURY ACCIDENT	5-Jan-2017	CARRY-ALL	N	80	3	CHANGING LANES	APPARENTLY NORMAL		DRIVING TOO FAST FOR CONDITIONS		
PROPERTY DAMAGE ONLY	8-Oct-2016	MOTORCYCLE	N			NOT REPORTED					OTHER NON-COLLISION
INJURY ACCIDENT	7-May-2016	HARDTOP, 4 DOOR	W	19		TURNING LEFT	APPARENTLY NORMAL				RAN OFF ROAD RIGHT: DITCH: OTHER MOVABLE OBJECT
INJURY ACCIDENT	13-Apr-2016	UTILITY	E	56		TURNING LEFT	APPARENTLY NORMAL		FAILED TO YIELD RIGHT OF WAY		
INJURY ACCIDENT	28-Feb-2016	SEDAN, 2 DOOR	S	20	1	NOT REPORTED	FELL ASLEEP, FAINTED, FATIGUED, ETC.		FAILURE TO KEEP IN PROPER LANE OR RUNNING OFF ROAD: DROVE LEFT OF CENTER: RAN OFF ROAD: UNSAFE LANE CHANGE		CROSS MEDIAN/CENTERLINE: RAN OFF ROAD LEFT: OTHER POST, POLE OR SUPPORT: FENCE/WALL: OVERTURN/ROLLOVER
PROPERTY DAMAGE ONLY	25-Jan-2016	CONVERTIBLE	E	18		TURNING LEFT	APPARENTLY NORMAL		FAILED TO YIELD RIGHT OF WAY		

Vehicle 2 Data

INTERSECTION DETAIL
US395AN @ SOUTH HILLS DR
01 JAN 16 - 01 JAN 21
COUNTY: WASHOE

Crash Severity	Crash Date	V2 Type	V2 Di	V2 Driver Age	V2 Lane Num	V2 Action	V2 Driver Factors	V2 Driver Distracted	V2 Vehicle Factors	V2 Most Harmful Event	V2 All Events
INJURY ACCIDENT	14-Sep-2020	CARRY-ALL	S	18	3	GOING STRAIGHT	UNKNOWN		UNKNOWN	MOTOR VEHICLE IN TRANSPORT	
PROPERTY DAMAGE ONLY	11-Apr-2019	SEDAN, 4 DOOR	S	54	2	GOING STRAIGHT	APPARENTLY NORMAL			MOTOR VEHICLE IN TRANSPORT	
PROPERTY DAMAGE ONLY	19-Apr-2018										
FATAL ACCIDENT	18-Sep-2017										
INJURY ACCIDENT	5-Jan-2017	CARRY-ALL	N	51	3	GOING STRAIGHT	APPARENTLY NORMAL				
PROPERTY DAMAGE ONLY	8-Oct-2016										
INJURY ACCIDENT	7-May-2016										
INJURY ACCIDENT	13-Apr-2016	MOTORCYCLE	S	44		GOING STRAIGHT	APPARENTLY NORMAL		OBJECT AVOIDANCE		GUARDRAIL END
INJURY ACCIDENT	28-Feb-2016										
PROPERTY DAMAGE ONLY	25-Jan-2016	PICKUP	S	69		GOING STRAIGHT	APPARENTLY NORMAL				

Contributing Factors

INTERSECTION DETAIL
US395AN @ SOUTH HILLS DR
01 JAN 16 - 01 JAN 21
COUNTY: WASHOE

Crash Severity	Crash Date	First Harmful Event	Nonmotorist Factors	Factors Roadway	Lighting	HWY Factors	Agenc	Accident Rec Num
INJURY ACCIDENT	14-Sep-2020	MOTOR VEHICLE IN TRANSPORT		UNKNOWN	UNKNOWN	UNKNOWN	RPD	3132484
PROPERTY DAMAGE ONLY	11-Apr-2019	MOTOR VEHICLE IN TRANSPORT		DRY	DARK - SPOT LIGHTING	NONE	NHP	3124946
PROPERTY DAMAGE ONLY	19-Apr-2018	DITCH		DRY	DAYLIGHT	NONE	NHP	3078987
FATAL ACCIDENT	18-Sep-2017			DRY	DAYLIGHT	NONE	NHP	2413278
INJURY ACCIDENT	5-Jan-2017			DRY	DAYLIGHT	WET, ICY, SNOW, SLUSH	NHP	2357863
PROPERTY DAMAGE ONLY	8-Oct-2016						WASO	2344498
INJURY ACCIDENT	7-May-2016			DRY	DAYLIGHT	WET, ICY, SNOW, SLUSH	NHP	2237762
INJURY ACCIDENT	13-Apr-2016			DRY	DUSK	NONE	NHP	2236583
INJURY ACCIDENT	28-Feb-2016			DRY	DAYLIGHT	NONE	NHP	2227294
PROPERTY DAMAGE ONLY	25-Jan-2016			DRY	DAYLIGHT	NONE	NHP	2225507

Exhibit C

ATTACHMENT B – REGIONAL PROJECT DOCUMENTATION

Exhibit C

Private Projects

Project	Limits/Description
Parr Blvd. Interchange	Intersection Signalization
White Lake Pkwy. Capacity (North)	US 395 to Village Pkwy.
Vista Knoll Pkwy. Extension	Walmart Driveway To Lemmon Dr.
Rio Wrangler Pkwy. Extension South	Veterans Pkwy. to Damonte Ranch Pkwy.
Lazy 5 Pkwy. Extension	W. Sun Valley Arterial to Pyramid Hwy.
Meridian & Santerra Regional Road Network (Verdi)	Multiple Locations
Rio Wrangler Pkwy. Extension North	Bucephalus Pkwy. to South Meadows Pkwy.
S Virginia St./South Hills Dr.	Signalization Improvements
Ridgeview Dr. North Extension	Ridgeview Dr. to McCarran Blvd.
Robb Dr. Extension	W. 4th St. to I-80
White Lake Pkwy. Extension South	US 395 to Stonegate Entrance
Chase Canyon Segments 1 and 2	New 4 Lane Road from US 395 to 2nd Roundabout
US 395/Red Rock Rd. Interchange	Interim Phase Improvements
White Lake Pkwy. Interchange Upgrades	Interchange Improvement at US 395
Damonte Ranch Pkwy. Extension	Rio Wrangler Pkwy. to Veterans Pkwy
Talus Valley Regional Road Network (South Meadows)	Multiple Locations
Silver Knolls Blvd.	New Road from Red Rock Rd. to Silver Knolls Blvd.
Dolores Dr. Extension	West to Lazy 5 Park
South Meadows Pkwy. Extension	Mojave Sky Dr. to Rio Wrangler Pkwy.
Moya Blvd. Extension	Lemmon Dr. to Echo Ave.
Five Ridges Pkwy.	New Road from Highland Ranch Pkwy. to 2nd Roundabout

Exhibit C

Marissa Harned

From: Loren Chilson
Sent: Thursday, March 6, 2025 1:52 PM
To: Marissa Harned
Subject: FW: question on S. Virginia SMP



Loren Chilson, PE
Principal

D 775.834.0170 O 775.322.4300
W gcwengineering.com C 775.544.9432

5482 Longley Lane, Suite B
Reno, Nevada 89511



Sending us a large file? **Use the** GCW File Transfer Site

Note - Any files contained within are to be used for information ONLY. Accuracy or design information to be verified from approved original plans. Use of electronic media is at the sole risk of the user.

From: Goodwin, Kimberly <kgoodwin@dot.nv.gov>
Sent: Monday, December 2, 2024 9:54 AM
To: Loren Chilson <lchilson@headwaytransportation.com>
Cc: Louie, Devin C <Devin.Louie@atkinsrealis.com>
Subject: RE: question on S. Virginia SMP

Good morning-

Apologies for the delayed response. Perry Gross no longer works for NDOT, if you need anything, please feel free to contact me or Lacey Tisler.

I have cc'd Devin Louie on this email to help verify if I have missed anything.

The S. Virginia St. Safety Management Plan (SMP) will be recommending a traffic signal at the S. Hills Drive/S. Virginia St intersection. At this time, the SMP recommendations will go through our One Nevada, so there is no set time on when this project will go into the design and construction phase. The final SMP document is estimated to be completed by the beginning of the year.

Please let me know if you have any other questions or need anything else.

Thank you,

Exhibit C

Kimberly Goodwin, P.E.
Assistant Chief of Engineering
Traffic Safety Engineering Division
Nevada Department of Transportation
o 775.888.7264
e kgoodwin@dot.nv.gov | w dot.nv.gov

From: Loren Chilson <lchilson@headwaytransportation.com>
Sent: Thursday, November 21, 2024 11:45:13 AM
To: pgross@dot.nv.gov <pgross@dot.nv.gov>
Cc: Tisler, Lacey L. <ltisler@dot.nv.gov>
Subject: question on S. Virginia SMP

Hi Perry,
I'm working on a development project at S. Hills Drive/S. Virginia Street, and am curious if NDOT's S. Virginia Safety Management Plan will be recommending a traffic signal installation at that intersection?
What is the status of the SMP ?
Thanks

Loren Chilson, PE
Principal
Nevada, California, Louisiana
775.322.4300

CAUTION: This email originated outside of Headway Transportation. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Exhibit C

ATTACHMENT C – INTERSECTION IMPROVEMENT PLANS

Docusign Envelope ID: BCEB8689-040A-4981-A4D9-7325AC7D4E8B

NDOT ENCROACHMENT PERMIT

S. VIRGINIA STREET AND S. HILLS DRIVE INTERSECTION IMPROVEMENTS

RENO, WASHOE COUNTY, NEVADA

OWNER

OAKMONT PROPERTIES–SOUTH VIRGINIA LLC
PO BOX 50396
SPARKS, NV 89434

CONTRACTOR

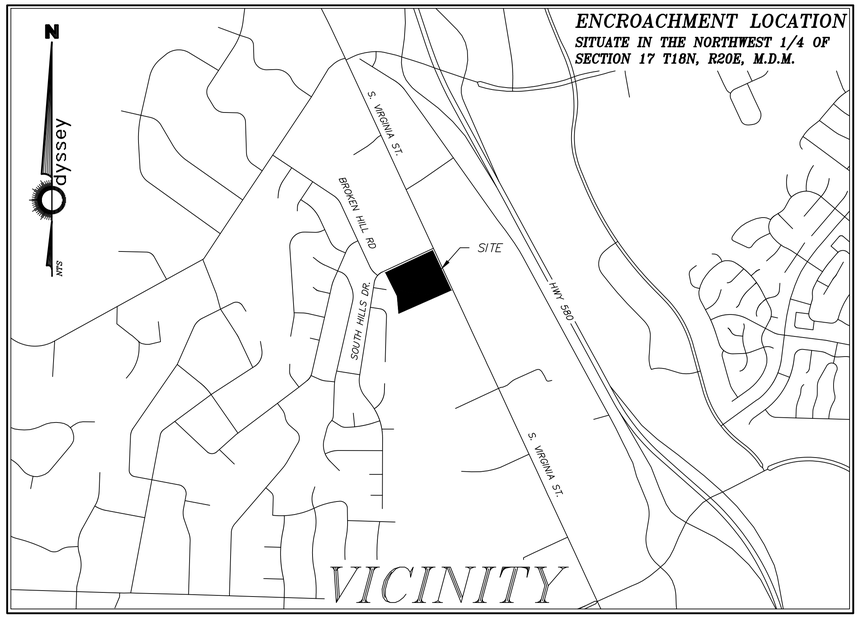
MOUNTAIN WEST BUILDERS
9590 PROTOTYPE CT, STE# 100
RENO, NV 89521

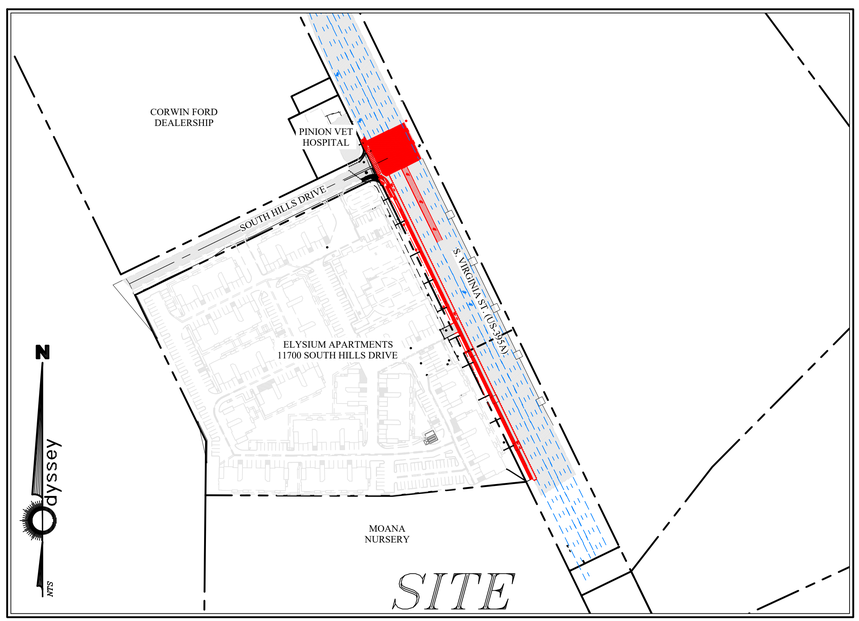
CONTACT:

KRAIG KNUDSEN: 775–250–2789

LIST OF ABBREVIATIONS

A.C.	ASPHALTIC CONCRETE
A.P.	ANGLE POINT
B.C.	BEGIN CURVE
B.F.C.	BACK FACE CURB
B.V.C.	BEGIN VERTICAL CURVE
B.S.	BACK OF SIDEWALK
C.B.	CATCH BASIN
℄	CENTERLINE
CH	CHORD
C.M.P.	CORRUGATED METAL PIPE
CONC.	CONCRETE
CONST.	CONSTRUCT
C.P.	CONCRETE PIPE
D.I.	DROP INLET
DET.	DETAILS
D.W.	DEWATERING OR DRIVEWAY (PER PLAN)
ELEV.	ELEVATION
E.C.	END OF CURVE
E.V.C.	END VERTICAL CURVE
EXIST.	EXISTING
E.G.	EXISTING GRADE
F.F.	FINISH FLOOR
F.F.C.	FRONT FACE CURB
F.G.	FINISH GRADE
F.H.	FIRE HYDRANT
℄	FLOW LINE
F.V.A.	FLUSH VALVE ASSEMBLY
G	GAS
G.B.	GRADE BREAK
G.V.	GATE VALVE
HORIZ.	HORIZONTAL
H.P.	HIGH POINT
INT.	INTERSECTION
I.E.	INVERT ELEVATION
L.T.	LEFT
L	LENGTH
L.F.	LINEAL FEET
L.P.	LOW POINT
L.S.	LIGHT STANDARD
M.H.	MANHOLE
P.	PAD ELEVATION
P.I.	POINT OF INTERSECTION
P.O.	PUSH ON
P.R.C.	POINT OF REVERSE CURVATURE
P.O.T.	POINT OF TANGENT
P.V.C.	POLYVINYL CHLORIDE PIPE
℄	PROPERTY LINE
(R)	RADIAL
R	RADIUS
R.E.	RECLAIMED EFFLUENT
REF.	REFERENCE
RET.	RETURN
R.C.P.	REINFORCED CONCRETE PIPE
RT.	RIGHT
R/W	RIGHT OF WAY
S.D.C.O.	STORM DRAIN CLEAN OUT
S.S.C.O.	SANITARY SEWER CLEAN OUT
S.S.	SANITARY SEWER
S.W.	SIDEWALK
SHT.	SHEET
STA.	STATION
S.D.	STORM DRAIN
T	TANGENT
T.C.	TOP OF CURB
T.P.	TOP OF PAVEMENT
TYP.	TYPICAL
VERT.	VERTICAL
V.C.	VERTICAL CURVE
V.P.I.	VERTICAL POINT OF INTERSECTION
W	WATER
W.C.	WASHOE COUNTY
W.S.E.	WATER SURFACE ELEVATION





CIVIL SHEET INDEX

T-1.....TITLE SHEET
OS-1.....OVERALL SITE PLAN
N-1.....ENCROACHMENT PLAN
N-2.....ENCROACHMENT PLAN
N-3.....UTILITY PLAN
N-4.....UTILITY PLAN
N-5.....GRADING PLAN
N-6.....GRADING PLAN
N-7.....GRADING PLAN
R-1.....RUNOFF CONTROL PLAN
D-1.....DETAIL SHEET
D-2.....DETAIL SHEET

SITE INFO

11700 SOUTH HILLS DRIVE
TOTAL EXISTING SITE AREA = 10.63 ACRES
ZONING = MIXED USE SUBURBAN
ASSESSOR'S PARCEL NUMBER: 162–260–01

NDOT CONTROL

US 395A (S. VIRGINIA STREET):
CENTERLINE STATIONING – "PN" LINE
"PN" 220+16 TO "PN" 210+82
MILE POST 18.00 TO 19.09

FLOOD ZONE NOTE:

FEMA FIRM MAP NO. 32031C3245G , DATED MARCH 16, 2009 DESIGNATE THIS SITE AS BEING ENTIRELY IN AN UNSHADED FLOOD ZONE X.

BASIS OF ELEVATION

BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AS TAKEN FROM CITY OF RENO BENCHMARK 2891, WITH A PUBLISHED ELEVATION OF 4518.48 FT. BENCHMARK 2891 IS DESCRIBED AS BEING A 1 1/2" DIAMETER STEEL CAP–TC @ S'LY ENTRANCE TO SHELL STATION (10850 S. VIRGINIA ST) 1' N'LY OF HANDICAP RAMP.

BASIS OF BEARINGS

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983/1994, HIGH ACCURACY REFERENCE NETWORK (NAD 83/94–HARN), AS DETERMINED USING REAL TIME KINEMATIC (RTK) GPS OBSERVATIONS WITH CORRECTIONS TRANSMITTED BY THE NEVADA GPS NETWORK. THE BEARING BETWEEN GPS REFERENCE STATION "NVMM" AND "WMRT" IS TAKEN AS NORTH 41°01'16" EAST. ALL DIMENSIONS SHOWN ARE GROUND DISTANCES. GRID TO GROUND COMBINED FACTOR = 1.000197939

SPECIFICATIONS

ALL CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS, AND THE LATEST STANDARD DETAILS, FOR PUBLIC WORKS CONSTRUCTION (2016 EDITION AND ANY APPURTENANT SUPPLEMENTS) SPONSORED AND DISTRIBUTED BY RENO, SPARKS, & WASHOE COUNTY, AND THE TERMS & CONDITIONS RELATING TO RIGHT–OF–WAY OCCUPANCY PERMITS (NDOT), AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (NDOT).

ENGINEER'S CERTIFICATE

THESE PLANS (SHEETS T–1 OF 10 THRU D–1 OF 10) HAVE BEEN PREPARED IN ACCORDANCE WITH ACCEPTED ENGINEERING PROCEDURES AND GUIDELINES, AND ARE IN SUBSTANTIAL COMPLIANCE WITH APPLICABLE STATUTES, COUNTY/CITY ORDINANCES, STANDARDS, AND COUNTY/CITY CODE. IN THE EVENT OF CONFLICT BETWEEN ANY PORTION OF THESE PLANS AND NDOT POLICIES, NDOT POLICIES SHALL PREVAIL.

JUSTIN C. WORTHLEY P.E. #34399

PROFESSIONAL ENGINEER–STATE OF NEVADA
JUSTIN C. WORTHLEY
Exp. 6-30-26
CIVIL
No. 34399
10–30–25

REV.	DATE	DESCRIPTION	BY	APP'D

DATE: AUGUST 2025
DRAWN BY: C3D 2023
DESIGNED BY: N.Z.V.
CHECKED BY: N.Z.V.

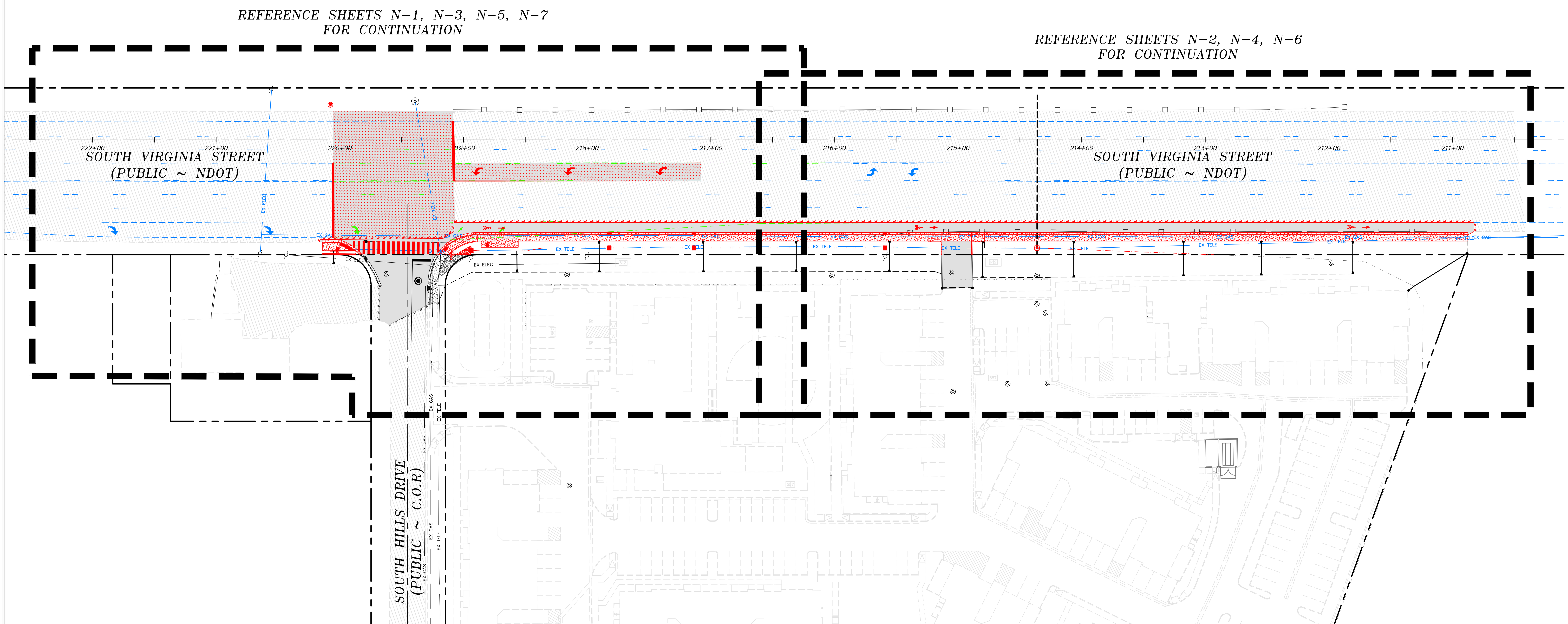
SOUTH HILLS/S. VIRGINIA SIGNAL
NDOT TITLE SHEET
WASHOE COUNTY, NEVADA
RENO,

Odyssey ENGINEERING INCORPORATED
895 ROBERT LANE, SUITE 104, SPARKS, NV 89431
(775) 359–3303 FAX (775) 359–3329

SCALE
HORIZ. ---
VERT. ---
JOB NO.

SHEET
T–1
OF
12

Docusign Envelope ID: BCEB8689-040A-4981-A4D9-7325AC7D4E8B



LEGEND:

	EXISTING ASPHALT PAVING
	NEW AC PAVING AREA CONTRACTOR TO MATCH EXISTING SECTION BASED ON LOCATION. MATCH EXISTING NDOT ROADWAY SECTION WITHIN NDOT RIGHT-OF-WAY AND MATCH EXISTING CITY OF RENO ROADWAY SECTION IN CITY OF RENO RIGHT-OF-WAY
	NEW CONC AREA
	MILL & OVERLAY 1" OPEN GRADE
SD 12"	STORM DRAIN MAIN (DASHED IF EXISTING)
SS 12"	SANITARY SEWER MAIN (DASHED IF EXISTING)
EX ELEC	EXIST. ELECTRIC LINE
5196	EXISTING CONTOUR
96	PROPOSED CONTOUR
	GRADE BREAK
(E)	EXISTING
2 %	SLOPE IN PERCENT
50.00 FG	ELEVATION @ FINISH GRADE
50.00 TC	ELEVATION @ TOP OF CURB
50.00 FG,GB	ELEVATION @ GRADE BREAK
50.00 FL	ELEVATION @ FLOW LINE
	CATCH POINT

COLOR LEGEND:

RED	FACILITIES TO BE INSTALLED
GREEN	FACILITIES TO BE REMOVED AND/OR ADJUSTED
BLUE	EXISTING FACILITIES TO REMAIN

FLOOD ZONE NOTE:

FEMA FIRM MAP NO. 32031C3245G DATED MARCH 16, 2009 DESIGNATE THIS SITE AS BEING ENTIRELY IN AN UNSHADED FLOOD ZONE X.

BASIS OF ELEVATION

BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AS TAKEN FROM CITY OF RENO BENCHMARK 2891, WITH A PUBLISHED ELEVATION OF 4518.48 FT. BENCHMARK 2891 IS DESCRIBED AS BEING A 1 1/2" DIAMETER STEEL CAP -AT S'LY ENTRANCE TO SHELL STATION (10850 S. VIRGINIA ST) -1' N'LY OF HANDICAP RAMP.

BASIS OF BEARINGS

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983/1994, HIGH ACCURACY REFERENCE NETWORK (NAD 83/94-HARN), AS DETERMINED USING REAL TIME KINEMATIC (RTK) GPS OBSERVATIONS WITH CORRECTIONS TRANSMITTED BY THE NEVADA GPS NETWORK. THE BEARING BETWEEN GPS REFERENCE STATION "NVMM" AND "WWRF" IS TAKEN AS NORTH 41°01'16" EAST. ALL DIMENSIONS SHOWN ARE GROUND DISTANCES. GRID TO GROUND COMBINED FACTOR = 1.000197939

DRAINAGE NOTE

DRAINAGE PATTERNS WILL NOT BE AFFECTED BY THE PROPOSED IMPROVEMENTS. EXISTING FLOWS TO AND FROM THE NDOT RIGHT OF WAY WILL CONTINUE TO DRAIN IN KEEPING WITH THE PREDEVELOPED CONDITION. THERE WILL BE CATCH BASINS INSTALLED TO IMPROVE DRAINAGE AS EXISTING CONDITIONS WOULD SEE POOLING WATER WITHIN NDOT RIGHT-OF-WAY.

STRIPING REMOVAL

ALL EXISTING STRIPING SHALL BE REMOVED BY GRINDING

NOTES

1. ALL CONSTRUCTION SHALL BE PER UNIFORM STANDARD SPECIFICATIONS AND DRAWINGS, RENO, SPARKS, WASHOE COUNTY, NEVADA AND THE TERMS & CONDITIONS RELATING TO RIGHT-OF-WAY OCCUPANCY PERMITS (NDOT), AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (NDOT).
2. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND FEES REQUIRED FOR CONSTRUCTION.
3. THE CONTRACTOR SHALL VERIFY IN FIELD, ALL ELEVATIONS, DIMENSIONS, FLOW LINES, EXISTING CONDITIONS, AND POINTS OF CONNECTION WITH ADJOINING PROPERTY (PUBLIC OR PRIVATE). ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL MAINTAIN AN ONGOING PROCESS OF REMOVAL OF ALL SPILLAGE OF EXCAVATION MATERIAL ON ALL PAVED STREETS.
5. LAND GRADING SHALL BE DONE IN A METHOD TO PREVENT DUST FROM TRAVERSING THE PROPERTY LINE.
6. THE CONTRACTOR SHALL NOTIFY ALL EFFECTED PUBLIC ENTITIES 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
7. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE SOILS ENGINEER, NDOT, NV ENERGY, AND AT&T 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CONTACT THE UTILITY COMPANIES FOR LOCATIONS OR POT-HOLING PRIOR TO CONSTRUCTION.
9. ANY CONFLICT WITH EXISTING UTILITIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
10. ADD 4500 FEET TO ALL SPOT ELEVATIONS.
11. VEHICULAR AND PEDESTRIAN TRAFFIC CONTROL SHALL BE PROVIDED BY THE CONTRACTOR DURING ALL PHASES OF CONSTRUCTION. ALL NECESSARY WARNING SIGNS, FENCES, ETC. SHALL BE PROVIDED TO PREVENT UNAUTHORIZED ACCESS TO THE CONSTRUCTION SITE.
12. EXISTING UTILITY LOCATIONS DETERMINED FROM FIELD SURVEYS, UTILITY COMPANY MAPS AND CONSTRUCTION DRAWINGS MADE AVAILABLE TO THE ENGINEER. THE CONTRACTOR SHOULD USE CAUTION WHILE EXCAVATING SINCE SOME UTILITIES MAY NOT BE IDENTIFIED ON THE PLANS OR MAY NOT BE IN THE EXACT LOCATIONS SHOWN HEREIN.

RIGHT OF WAY CURB NOTE:

CONTRACTOR SHALL VERIFY EXISTING ASPHALT ELEVATION AND COMPARE TO PROPOSED CURB ELEVATIONS. IF THERE IS A DISCREPANCY IN ELEVATION, EXISTING ASPHALT ELEVATIONS SHALL PREVAIL. CONTACT ENGINEER IF A DISCREPANCY EXISTS.

UTILITY NOTE:

DUE TO A LACK OF INFORMATION ON EXISITNG UTILITIES, ASSUMPTIONS HAD TO MADE IN REGARDS TO SLOPES AND ELEVATIONS. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY AND ALL DISCREPANCIES THAT MAY BE FOUND TO ENSURE SEPARATIONS ARE MET.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.



10-30-25

Know what's below. Call before you dig.

REV.	DATE	DESCRIPTION	BY	APP'D

DATE: AUGUST 2025
DRAWN BY: C3D 2023
DESIGNED BY: N.Z.V.
CHECKED BY: N.Z.V.

SOUTH HILLS/S. VIRGINIA SIGNAL NDOT OVERALL SITE PLAN "PS" 210+50 TO 220+50

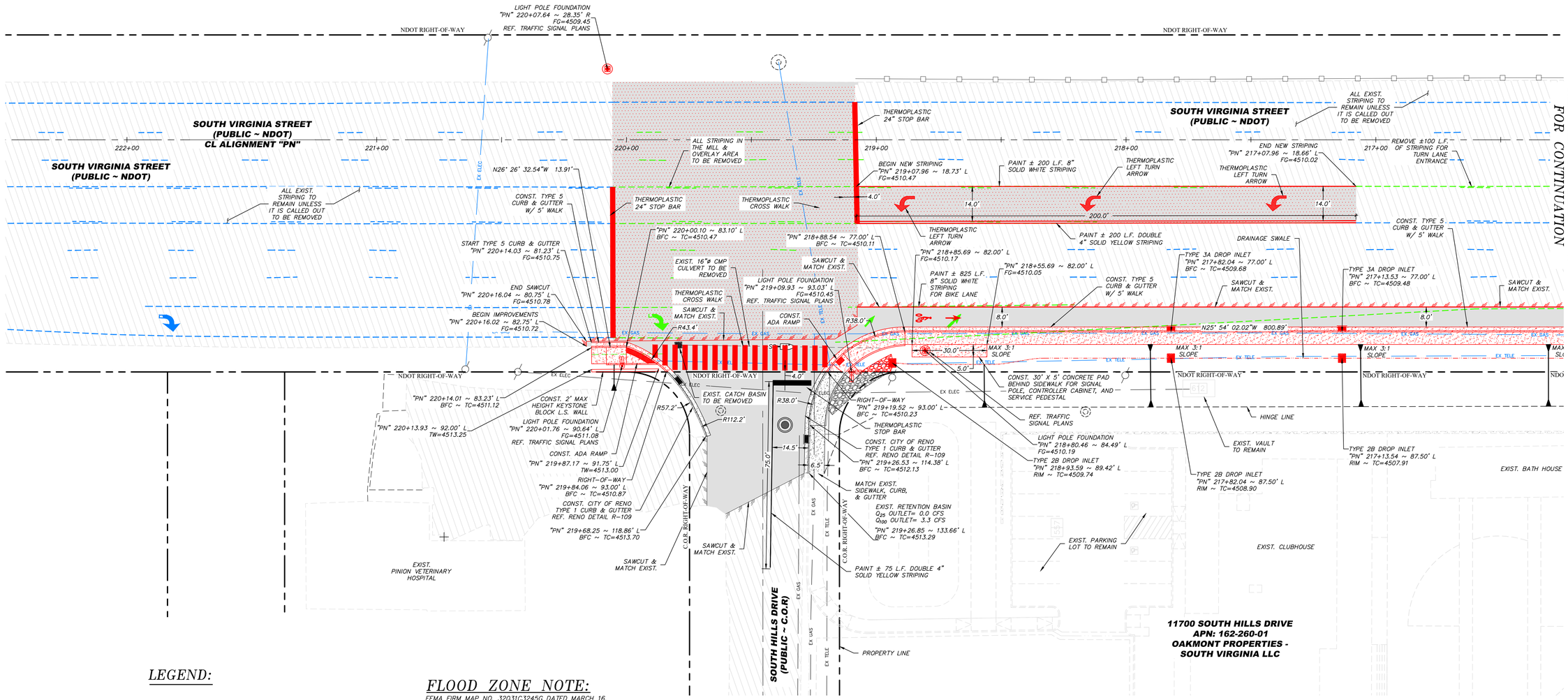
RENO, WASHOE COUNTY, NEVADA

Odyssey ENGINEERING INCORPORATED
895 ROBERTA LANE, SUITE 104, SPARKS, NV 89431
(775) 359-3303 FAX (775) 359-3329

SCALE
HORIZ. 1"=40'
VERT. ---
JOB NO.

SHEET OS-1 OF 12

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REFERENCE SHEET N-2
FOR CONTINUATION

LEGEND:

- EXISTING ASPHALT PAVING
- NEW AC PAVING AREA — CONTRACTOR TO MATCH EXISTING SECTION BASED ON LOCATION. MATCH EXISTING NDOT ROADWAY SECTION WITHIN NDOT RIGHT-OF-WAY AND MATCH EXISTING CITY OF RENO ROADWAY SECTION IN CITY OF RENO RIGHT-OF-WAY
- NEW CONC AREA
- MILL & OVERLAY 1" OPEN GRADE
- SD — storm drain main (dashed if existing)
- SS — sanitary sewer main (dashed if existing)
- EX ELEC — EXIST. ELECTRIC LINE
- 5196 — EXISTING CONTOUR
- 96 — PROPOSED CONTOUR
- GRADE BREAK
- (E) EXISTING
- 2 % SLOPE IN PERCENT
- 50.00 FG — ELEVATION @ FINISH GRADE
- 50.00 TC — ELEVATION @ TOP OF CURB
- 50.00 GB — ELEVATION @ GRADE BREAK
- 50.00 FL — ELEVATION @ FLOW LINE
- CATCH POINT

COLOR LEGEND:

- FACILITIES TO BE INSTALLED
- EXISTING FACILITIES TO REMAIN
- FACILITIES TO BE REMOVED AND/OR ADJUSTED

FLOOD ZONE NOTE:

FEMA FIRM MAP NO. 32031C3245G DATED MARCH 16, 2009 DESIGNATE THIS SITE AS BEING ENTIRELY IN AN UNSHADED FLOOD ZONE X.

BASIS OF ELEVATION

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BASIS OF BEARINGS

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983/1994, HIGH ACCURACY REFERENCE NETWORK (NAD 83/94–HARN), AS DETERMINED USING REAL TIME KINEMATIC (RTK) GPS OBSERVATIONS WITH CORRECTIONS TRANSMITTED BY THE NEVADA GPS NETWORK. THE BEARING BETWEEN GPS REFERENCE STATION "NVMM" AND "WWRF" IS TAKEN AS NORTH 41°01'16" EAST. ALL DIMENSIONS SHOWN ARE GROUND DISTANCES. GRID TO GROUND COMBINED FACTOR = 1.000197939

DRAINAGE NOTE

DRAINAGE PATTERNS WILL NOT BE AFFECTED BY THE PROPOSED IMPROVEMENTS. EXISTING FLOWS TO AND FROM THE NDOT RIGHT OF WAY WILL CONTINUE TO DRAIN IN KEEPING WITH THE PREDEVELOPED CONDITION. THERE WILL BE CATCH BASINS INSTALLED TO IMPROVE DRAINAGE AS EXISTING CONDITIONS WOULD SEE POOLING WATER WITHIN NDOT RIGHT–OF–WAY.

STRIPING REMOVAL

ALL EXISTING STRIPING SHALL BE REMOVED BY GRINDING

NOTES

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PROFESSIONAL ENGINEER – STATE OF NEVADA
JUSTIN C. WORTHLEY
Exp. 6-30-25
CIVIL
No. 34399
6-30-25

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

811 Know what's below. Call before you dig.

REV.	DATE	DESCRIPTION	BY	APP'D

DATE: AUGUST 2025
DRAWN BY: C3D 2023
DESIGNED BY: N.Z.V.
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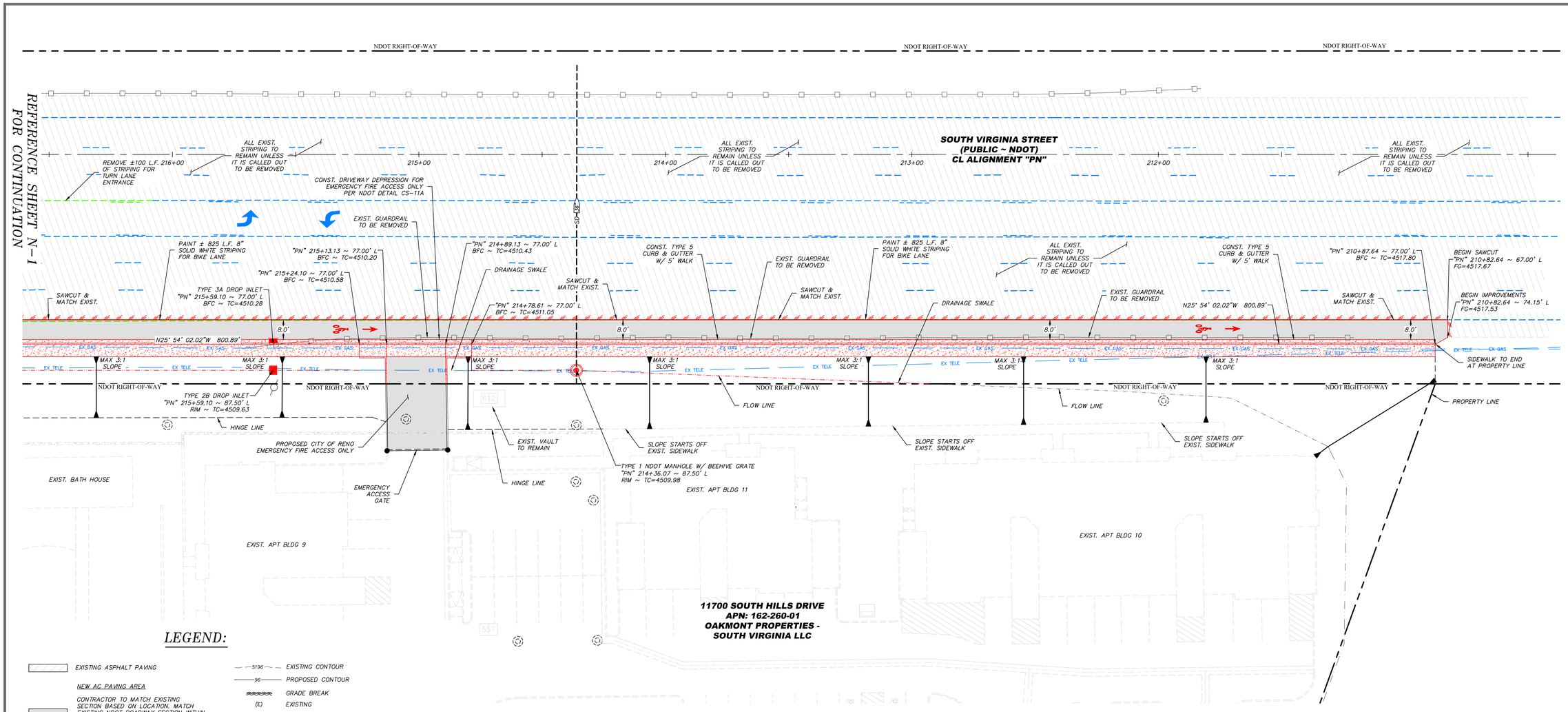
SOUTH HILLS/S. VIRGINIA SIGNAL
NDOT ENCROACHMENT PLAN
"PS" 216+50 TO 220+50
WASHOE COUNTY, NEVADA
RENO,

odyssey ENGINEERING INCORPORATED
895 ROBERTA LANE, SUITE 104, SPARKS, NV 89431
(775) 359-3303 FAX (775) 359-3329

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SHEET
N-1
OF
12

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11700 SOUTH HILLS DRIVE
APN: 162-260-01
OAKMONT PROPERTIES - SOUTH VIRGINIA LLC

LEGEND:

- EXISTING ASPHALT PAVING
- NEW AC PAVING AREA — CONTRACTOR TO MATCH EXISTING SECTION BASED ON LOCATION. MATCH EXISTING NDOT ROADWAY SECTION WITHIN NDOT RIGHT-OF-WAY AND MATCH EXISTING CITY OF RENO ROADWAY SECTION IN CITY OF RENO RIGHT-OF-WAY
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FLOOD ZONE NOTE:

FEMA FIRM MAP NO. 32031C3245G DATED MARCH 16, 2009 DESIGNATE THIS SITE AS BEING ENTIRELY IN AN UNSHADED FLOOD ZONE X.

BASIS OF ELEVATION

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DRAINAGE NOTE

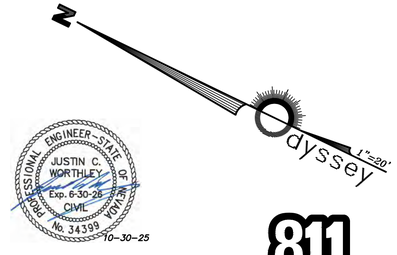
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PROFESSIONAL ENGINEER – STATE OF NEVADA
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CIVIL
No. 34399
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GRAPHIC SCALE
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SOUTH HILLS/S. VIRGINIA SIGNAL
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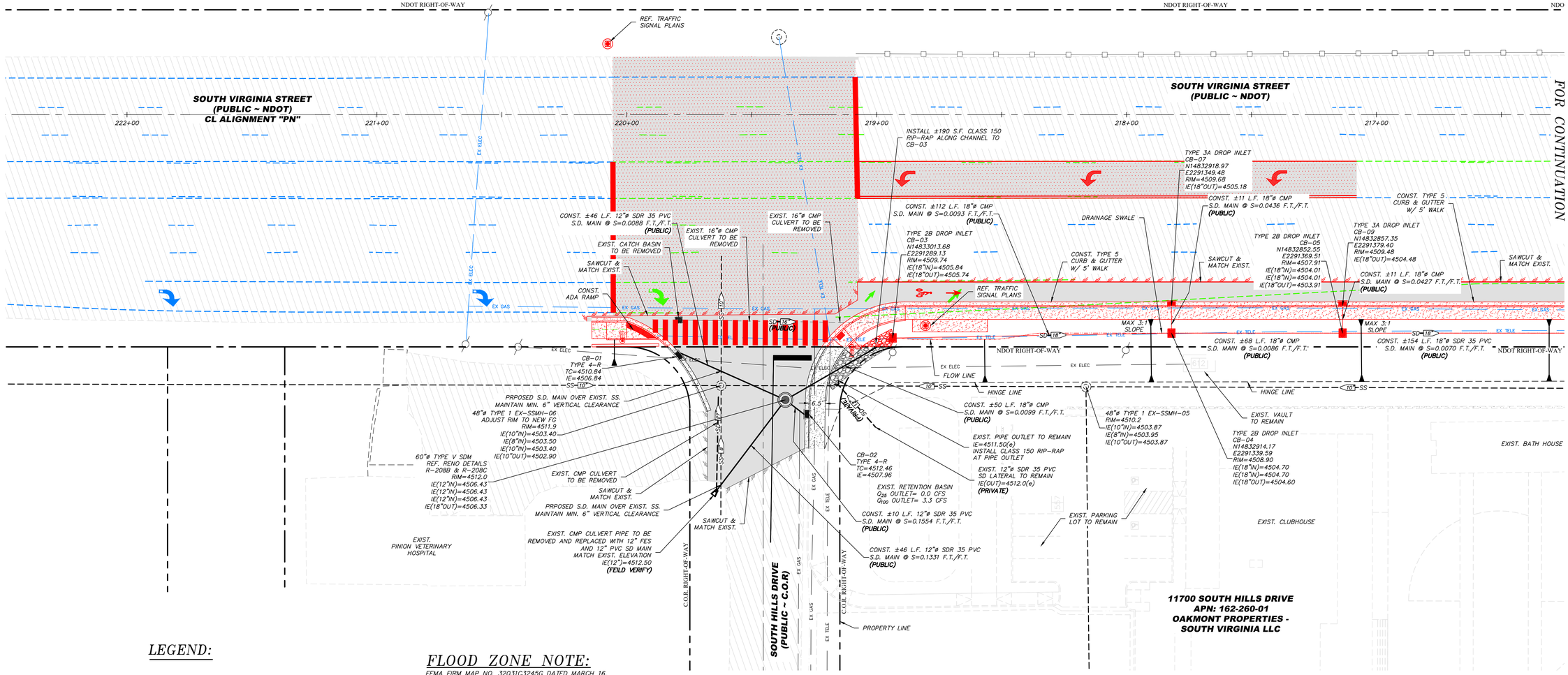
WASHOE COUNTY, RENO, NEVADA

895 ROBERTA LANE, SUITE 104, SPARKS, NV 89431
(775) 359-1300 FAX: (775) 359-3329
odyssey ENGINEERING INCORPORATED

SCALE
HORIZ. 1"=20'
VERT. ---
JOB NO.

SHEET
N–2
OF
12

Docusign Envelope ID: BCEB8689-040A-4981-A4D9-7325AC7D4E8B



LEGEND:

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PROFESSIONAL ENGINEER STATE OF NEVADA — JUSTIN C. WORTHLEY — Exp. 6-30-25 — CIVIL — No. 34399 — 10-30-25

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

N
1"=20'
odyssey

811 Know what's below. Call before you dig.

REFERENCE SHEET N-4 FOR CONTINUATION

REV.	DATE	DESCRIPTION	BY	APP'D

DATE: AUGUST 2025
DRAWN BY: C3D 2023
DESIGNED BY: N.Z.V.
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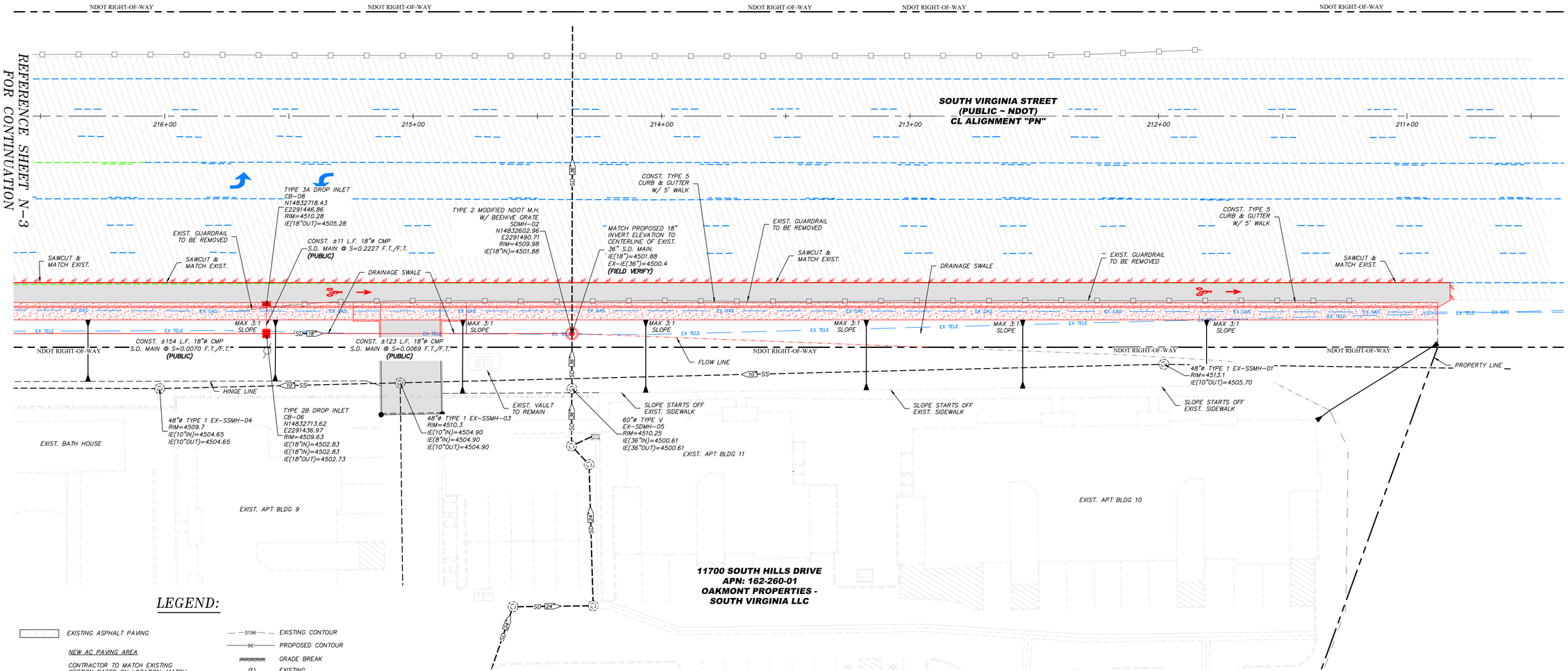
SOUTH HILLS/S. VIRGINIA SIGNAL
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SCALE
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SHEET N-3 OF 12

Docusign Envelope ID: BCEB8689-040A-4981-A4D9-7325AC7D4E8B



LEGEND:

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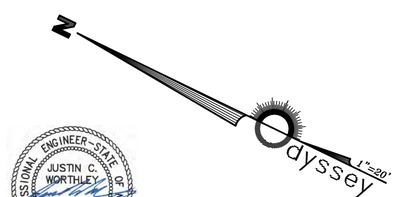
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811 Know what's below. Call before you dig.

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DATE: AUGUST 2025
DRAWN BY: C3D 2023
DESIGNED BY: N.Z.V.
CHECKED BY: N.Z.V.

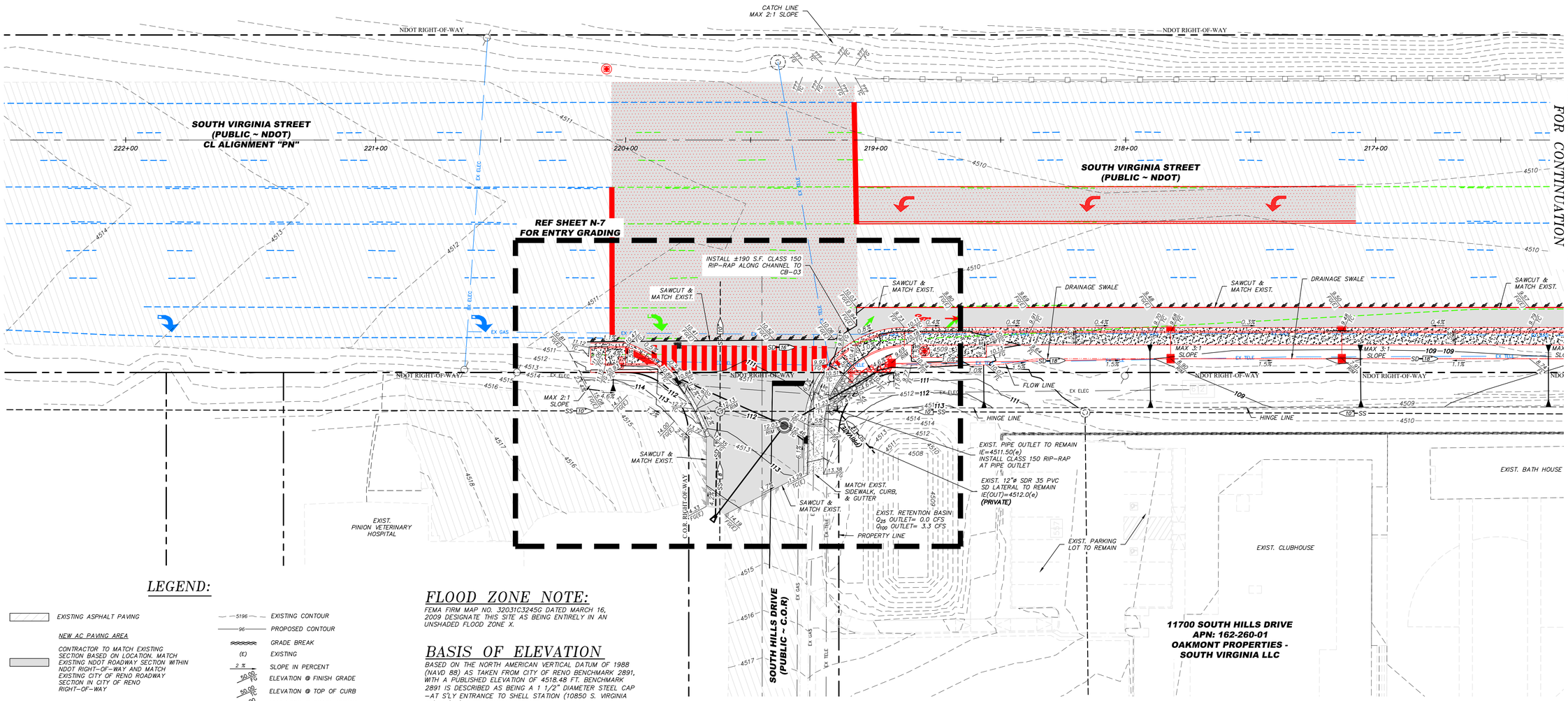
SOUTH HILLS/S. VIRGINIA SIGNAL
NDOT UTILITY PLAN
"PS" 210+50 TO 216+50
RENO, WASHOE COUNTY, NEVADA

odyssey ENGINEERING INCORPORATED
895 ROBERTA LANE, SUITE 104, SPARKS, NV 89431
(775) 359-3303 FAX (775) 359-3329

SCALE
HORIZ. 1"=20'
VERT. ---
JOB NO.

SHEET
N-4
OF
12

Docusign Envelope ID: BCEB8689-040A-4981-A4D9-7325AC7D4E8B



LEGEND:

- EXISTING ASPHALT PAVING
- NEW AC PAVING AREA — CONTRACTOR TO MATCH EXISTING SECTION BASED ON LOCATION. MATCH EXISTING NDOT ROADWAY SECTION WITHIN NDOT RIGHT-OF-WAY AND MATCH EXISTING CITY OF RENO ROADWAY SECTION IN CITY OF RENO RIGHT-OF-WAY
- NEW CONC AREA
- MILL & OVERLAY 1" OPEN GRADE
- SD-12 — STORM DRAIN MAIN (DASHED IF EXISTING)
- SS-12 — SANITARY SEWER MAIN (DASHED IF EXISTING)
- EX ELEC — EXIST. ELECTRIC LINE
- 5196 — EXISTING CONTOUR
- 96 — PROPOSED CONTOUR
- GRADE BREAK
- (E) EXISTING
- 2 % SLOPE IN PERCENT
- 50.00 TC — ELEVATION @ FINISH GRADE
- 50.00 TOC — ELEVATION @ TOP OF CURB
- 50.00 FG/GB — ELEVATION @ GRADE BREAK
- 50.00 FL — ELEVATION @ FLOW LINE
- CATCH POINT

COLOR LEGEND:

- FACILITIES TO BE INSTALLED
- EXISTING FACILITIES TO REMAIN
- FACILITIES TO BE REMOVED AND/OR ADJUSTED

FLOOD ZONE NOTE:

FEMA FIRM MAP NO. 32031C3245G DATED MARCH 16, 2009 DESIGNATE THIS SITE AS BEING ENTIRELY IN AN UNSHADED FLOOD ZONE X.

BASIS OF ELEVATION

BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AS TAKEN FROM CITY OF RENO BENCHMARK 2891, WITH A PUBLISHED ELEVATION OF 4518.48 FT. BENCHMARK 2891 IS DESCRIBED AS BEING A 1 1/2" DIAMETER STEEL CAP –AT S'LY ENTRANCE TO SHELL STATION (10850 S. VIRGINIA ST) –1' N'LY OF HANDICAP RAMP.

BASIS OF BEARINGS

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983/1994, HIGH ACCURACY REFERENCE NETWORK (NAD 83/94-HARN), AS DETERMINED USING REAL TIME KINEMATIC (RTK) GPS OBSERVATIONS WITH CORRECTIONS TRANSMITTED BY THE NEVADA GPS NETWORK. THE BEARING BETWEEN GPS REFERENCE STATION "NVMM" AND "WWRF" IS TAKEN AS NORTH 41°01'16" EAST. ALL DIMENSIONS SHOWN ARE GROUND DISTANCES. GRID TO GROUND COMBINED FACTOR = 1.000197939

DRAINAGE NOTE

DRAINAGE PATTERNS WILL NOT BE AFFECTED BY THE PROPOSED IMPROVEMENTS. EXISTING FLOWS TO AND FROM THE NDOT RIGHT OF WAY WILL CONTINUE TO DRAIN IN KEEPING WITH THE PREDEVELOPED CONDITION. THERE WILL BE CATCH BASINS INSTALLED TO IMPROVE DRAINAGE AS EXISTING CONDITIONS WOULD SEE POOLING WATER WITHIN NDOT RIGHT-OF-WAY.

STRIPING REMOVAL

ALL EXISTING STRIPING SHALL BE REMOVED BY GRINDING

NOTES

1. ALL CONSTRUCTION SHALL BE PER UNIFORM STANDARD SPECIFICATIONS AND DRAWINGS, RENO, SPARKS, WASHOE COUNTY, NEVADA AND THE TERMS & CONDITIONS RELATING TO RIGHT-OF-WAY OCCUPANCY PERMITS (NDOT), AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (NDOT).
2. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND FEES REQUIRED FOR CONSTRUCTION.
3. THE CONTRACTOR SHALL VERIFY IN FIELD, ALL ELEVATIONS, DIMENSIONS, FLOW LINES, EXISTING CONDITIONS, AND POINTS OF CONNECTION WITH ADJOINING PROPERTY (PUBLIC OR PRIVATE). ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL MAINTAIN AN ONGOING PROCESS OF REMOVAL OF ALL SPILLAGE OF EXCAVATION MATERIAL ON ALL PAVED STREETS.
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GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

PROFESSIONAL ENGINEER - STATE OF NEVADA
JUSTIN C. WORTHLEY
Exp. 6-30-25
CIVIL
No. 34399
10-30-25

1"=20'

Know what's below. Call before you dig.

REFERENCE SHEET N-6
FOR CONTINUATION

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DRAWN BY: C3D 2023
DESIGNED BY: N.Z.V.
CHECKED BY: N.Z.V.

SOUTH HILLS/S. VIRGINIA SIGNAL
NDOT GRADING PLAN
"PS" 216+50 TO 220+50
WASHOE COUNTY, NEVADA
RENO,

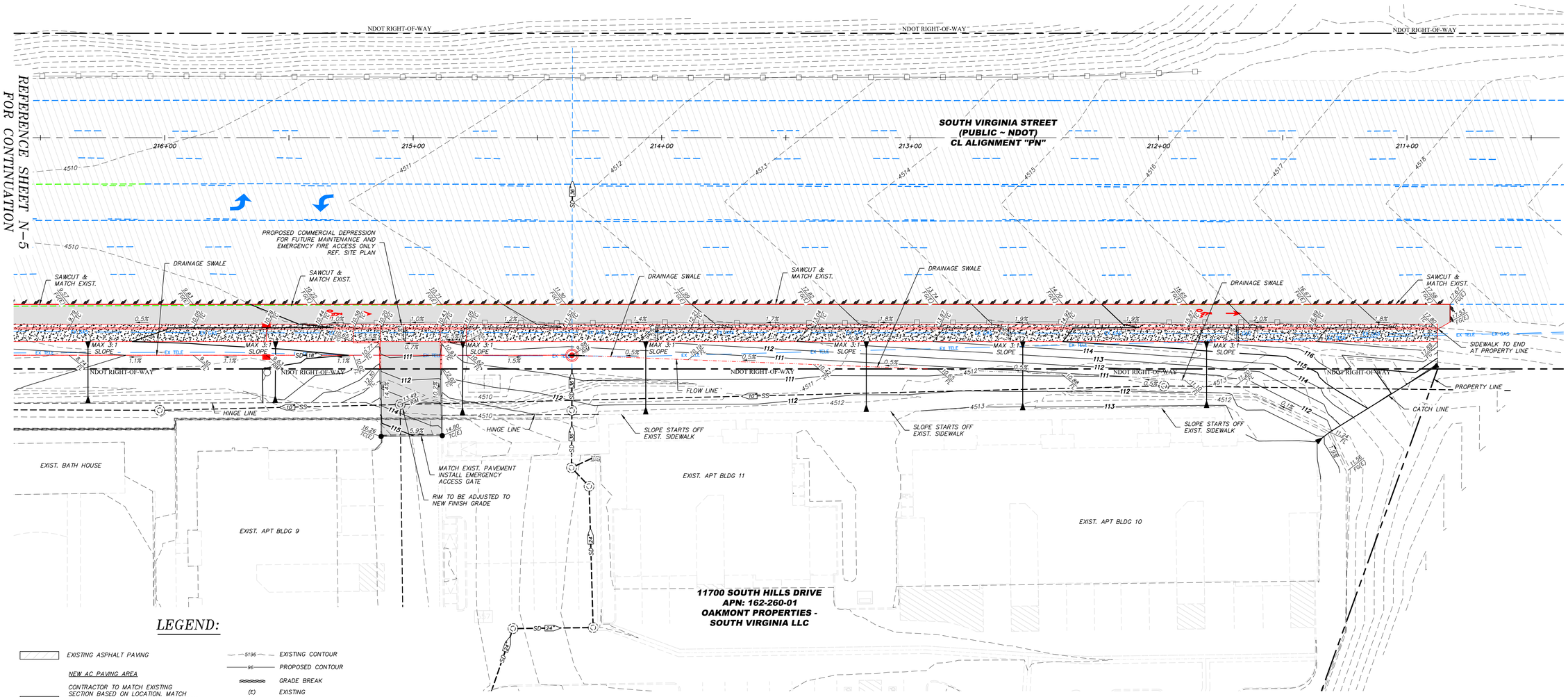
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FOR CONTINUATION



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PROFESSIONAL ENGINEER – STATE OF NEVADA
JUSTIN C. WORTHLEY
Exp. 6-30-26
CIVIL
No. 34399
10-30-25

N
1"=20'
odyssey

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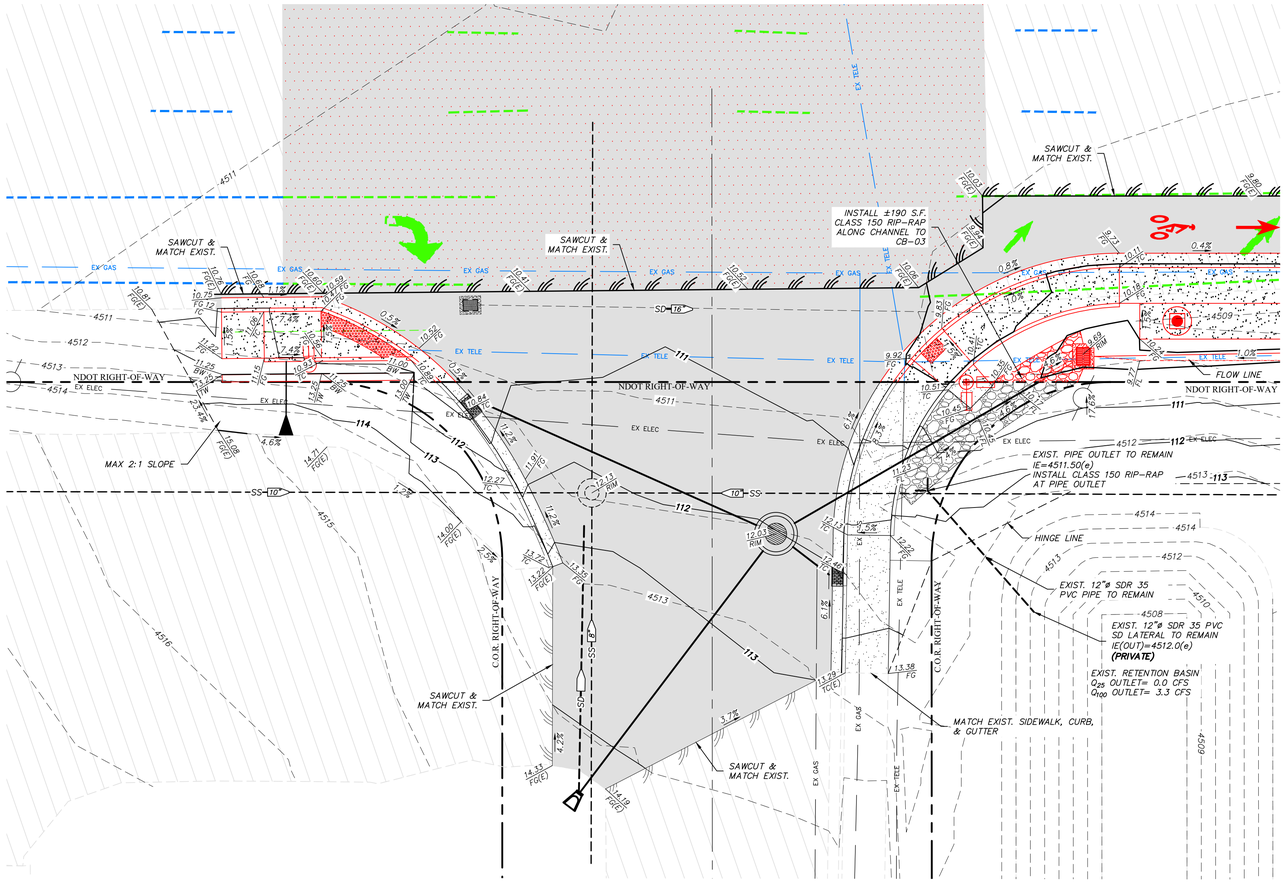
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Docusign Envelope ID: BCEB8689-040A-4981-A4D9-7325AC7D4E8B

STRIPING NOTE:

SOME PROPOSED STRIPING HAS BEEN REMOVED ON THIS SHEET, SHEET G-3, SO THAT THE SAWCUT LINES AND GRADING FLAGS CAN BE SEEN MORE CLEARLY. REFERENCE THE SITE PLANS FOR ALL STRIPING.



LEGEND:

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PROFESSIONAL ENGINEER – STATE OF NEVADA — JUSTIN C. WORTHLEY — Exp. 6-30-25 — CIVIL — No. 34399 — 10-30-25

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

N — 1"=20' — odyssey

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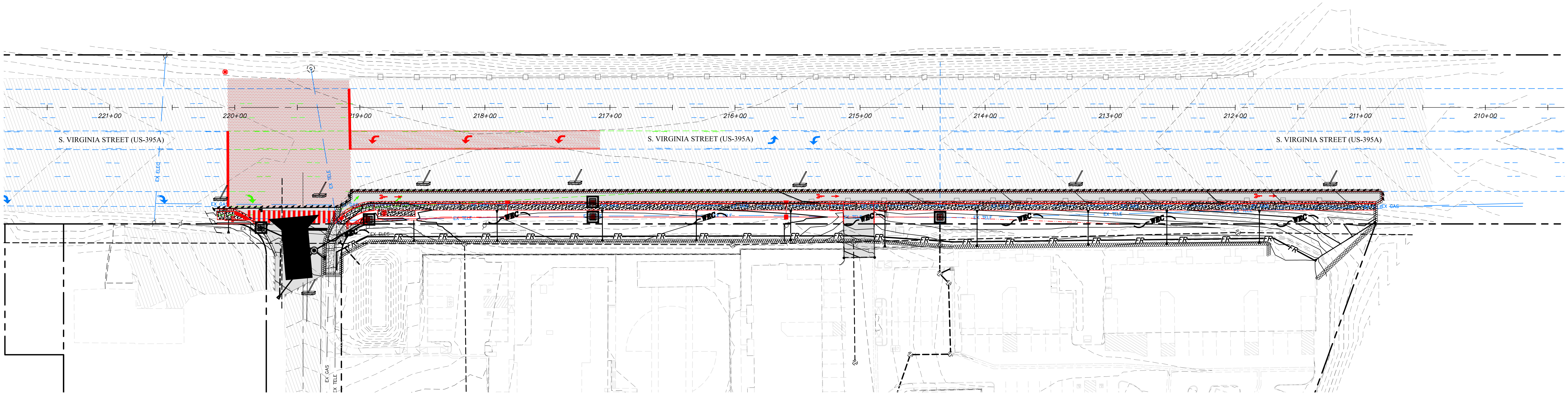
SOUTH HILLS/S. VIRGINIA SIGNAL
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SHEET N-7 OF 12

Docusign Envelope ID: BCEB8689-040A-4981-A4D9-7325AC7D4E8B



BMP LEGEND:

BMP NAME	BMP NUMBER	MAP SYMBOL
CHECK DAMS	RC–3	
WIND EROSION AND DUST CONTROL	EC–5	WEC
RIP–RAP	EC–7	
REVEGETATION	EC–8	RVG
FIBER ROLLS (GENERAL LOCATION OF FIBERS ROLLS SHOWN, REFER TO SWPPP BMP MANUAL FOR ACTUAL INSTALLATION)	SC–1	FR
SILT FENCE	SC–5	
CONSTRUCTION SITE ENTRANCES AND EXITS	SC–8	
STORM DRAIN INLET PROTECTION	DP–3	
STOCKPILE MANAGEMENT	GM–2	SM
STREET SWEEPING	GM–5	
SPILL PREVENTION AND CONTROL	GM–6	
VEHICLE AND EQUIPMENT CLEANING	GM–7	VEC
VEHICLE AND EQUIPMENT MAINTENANCE AND FUELING	GM–8	VEF
HANDLING AND DISPOSAL OF CONCRETE AND CEMENT	GM–9	CWM
MATERIAL DELIVERY, HANDLING, STORAGE, AND USE	GM–10	MS
SANITARY/SEPTIC WASTE MANAGEMENT	GM–14	SS

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

TRUCKEE MEADOWS STORMWATER QUALITY NOTES:

1. THE OWNER, SITE DEVELOPER, CONTRACTOR AND OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAYS OF THE CITY OF RENO AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN THE CITY OF RENO AND THE TRUCKEE MEADOWS CONSTRUCTION SITE BEST MANAGEMENT PRACTICES HANDBOOK.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO STORMWATER GENERAL PERMIT NVR100000, SECTION 1.B.A.b. (2).
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIST LOCATIONS AND ALL BMPs WEEKLY, PRIOR TO A FORECASTED RAIN EVENT AND WITHIN 24 HOURS AFTER ANY ACTUAL RAIN EVENT. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY, SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS FROZEN GROUND CONDITIONS OR SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO STORMWATER GENERAL PERMIT NVR100000, SECTION 1.B.A.g.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BE REDUCED BY 50 PERCENT OR MORE.

SITE INFO

TOTAL EXISTING SITE AREA = 10 ACRES
ZONING = MIX USE SUBURBAN
ASSESSOR'S PARCEL NUMBERS: 162–260–01

CONTACT INFO

KRAIG KNUDSEN
MOUNTAIN WEST BUILDERS
PHONE: (775) 250–2789

DESCRIPTION OF WORK

CONSTRUCTION AND INSTALLATION CURB, GUTTER, SIDEWALK, STORM DRAIN INFRASTRUCTURE, AND NEW SIGNALS FOR A PROPOSED SIGNALIZED INTERSECTION.

NOTE: ALL BMPS TO BE INSTALLED PER SWPPP MANUAL

THE OWNER IS RESPONSIBLE FOR COMPLIANCE WITH THE CONDITIONS OF THEIR STORM WATER DISCHARGE PERMIT. THIS INCLUDES THE PLANNING, IMPLEMENTATION AND MAINTENANCE OF ANY AND ALL SEDIMENTATION AND EROSION CONTROL MEASURES AND BEST MANAGEMENT PRACTICES (BMP's) IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED BY OTHERS AT THE DIRECTION OF THE OWNER. THESE IMPROVEMENT PLANS MAY OR MAY NOT REFLECT THESE EROSION CONTROL MEASURES AND BMP's. THE OWNER SHALL BE CONTACTED REGARDING THE STORM WATER DISCHARGE PERMIT AND ASSOCIATED SWPPP.

N
1"=40'
Odyssey

EXCAVATION & ENCROACHMENT PERMIT NOTE:

AN EXCAVATION & ENCROACHMENT PERMIT SHALL BE OBTAINED FROM THE NDOT AND THE CITY OF RENO PRIOR TO ANY WORK WITHIN EACH RESPECTIVE RIGHT–OF–WAY. THE CONTRACTOR SHALL PROVIDE A SEWER BYPASS PLAN AS PART OF OBTAINING THE EXCAVATION & ENCROACHMENT PERMIT

PROFESSIONAL ENGINEER – STATE OF NEVADA
JUSTIN C. WORTHLEY
Exp. 6-30-26
CIVIL
No. 34399
10–30–25

REV.	DATE	DESCRIPTION	BY	APP'D

DATE: AUGUST 2025
DRAWN BY: C3D 2023
DESIGNED BY: N.Z.V.
CHECKED BY: N.Z.V.

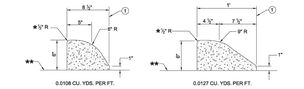
SOUTH HILLS/S. VIRGINIA SIGNAL
RUNOFF CONTROL PLAN
"PS" 210+50 TO 220+50
RENO, WASHOE COUNTY, NEVADA

Odyssey ENGINEERING INCORPORATED
895 ROBERTA LANE, SUITE 104, SPARKS, NV 89431
(775) 359–3303 FAX (775) 359–3329

SCALE
HORIZ. 1"=40'
VERT. ---
JOB NO.

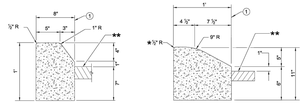
SHEET
R–1
OF
12

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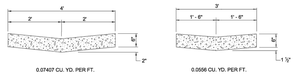
EPOXY CEMENT MAY BE OMITTED WHEN INSTALLATION IS TEMPORARY
★OMIT ROUNDING WHEN CURBS ARE BACK TO BACK, EPOXY CURB TO PLANTMIX SURFACE
★★P.C.C. OR DENSE GRADED

GLUE DOWN CURBS

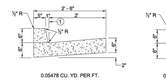


★OMIT ROUNDING WHEN CURBS ARE BACK TO BACK.
★★ P.C.C. OR DENSE GRADED

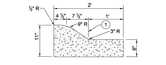
CURB



VALLEY GUTTER







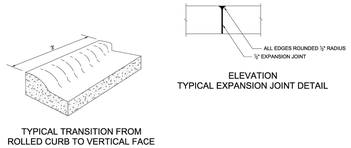
CURB AND GUTTER

NOTES:

1. When distance between back of curb on islands is 4-feet or less, use 4-inches of class A or AA concrete island paving and 2-inches of aggregate base.
2. Concrete shall be class A or AA.
3. Concrete unit volume for information only.

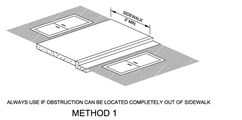
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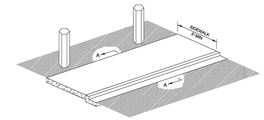
(1) - THIS LINE SHOULD BE USED TO DIMENSION OFFSETS



ELEVATION
TYPICAL EXPANSION JOINT DETAIL

TYPICAL TRANSITION FROM
ROLLED CURB TO VERTICAL FACE



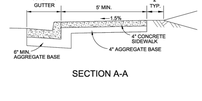


NOTES:

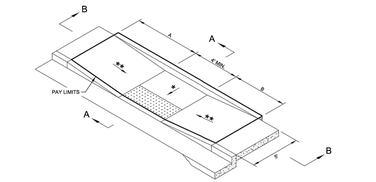
1. Locate flat obstructions to maintain a 4-foot minimum pedestrian access route. If a 4-foot pedestrian access route can not be maintained, use skid resistant covers.
2. Locate upright obstructions to maintain a 4-foot minimum pedestrian access route.
3. If locating flat obstructions per Method 3 and the sidewalk has a buffer zone, then locate the obstructions in the buffer zone.
4. Upright obstructions are not allowed in new sidewalks.
5. If flat obstructions are located within a crosswalk, use slip resistant covers.
6. Dowel two No. 4 tie bars into existing concrete centered vertically, and spaced 1-foot in from each edge at interface between new and existing sidewalk.

LEGEND:

- FLAT OBSTRUCTION SLIP RESISTANT COVER OPTIONAL
- FLAT OBSTRUCTION SLIP RESISTANT COVER REQUIRED
- UPRIGHT OBSTRUCTIONS I.E. UTILITY POLES, SIGN SUPPORTS, FIRE HYDRANT, SIGNAL CABINETS, BUS STOPS, LIGHT POLES, ETC.
- PEDESTRIAN ACCESS ROUTE



SECTION A-A



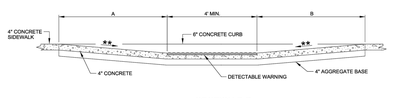
NOTES:

1. For additional notes see detail CS-3A.

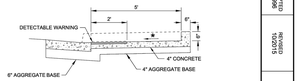
LEGEND:

★ - 1.5% OR FLATTER RECOMMENDED FOR DESIGN / FORMWORK (2% MAX.)

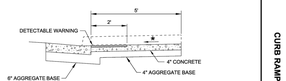
★★ - 7.5% OR FLATTER RECOMMENDED FOR DESIGN / FORMWORK (8.3% MAX.)



SECTION B-B

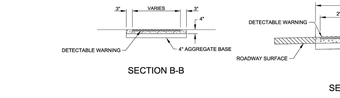


SECTION A-A
WITH BACK CURB



SECTION A-A
WITHOUT BACK CURB





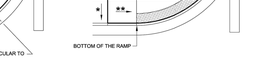
NOTES:

1. For additional notes see detail CS-3A.

LEGEND:

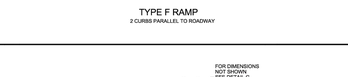
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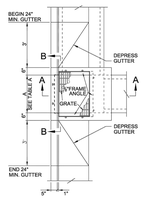
★★ - 7.5% OR FLATTER RECOMMENDED FOR DESIGN / FORMWORK (8.3% MAX.)

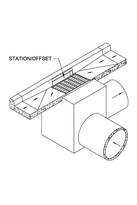


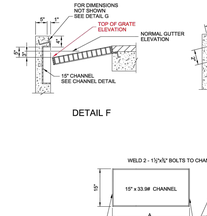




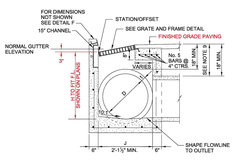


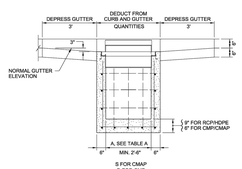


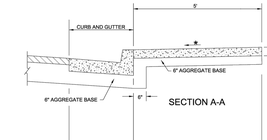












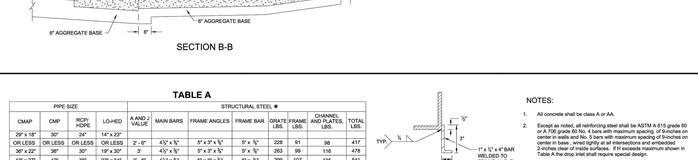
NOTES:

1. All ramps shall be 12:1 or flatter.
2. Concrete driveway can be poured monolithically with curb and gutter.
3. All slope rates are relative to level.
4. Length varies according to curb and gutter profile.
5. Retaining curbs and acquisition of construction easement may be necessary.
6. If there are R/W restrictions, sidewalk width can be reduced to 4-feet with prior approval from Assistant Chief Roadway Design Engineer. A 5-foot by 5-foot passing zone is required every 200-feet.

LEGEND:

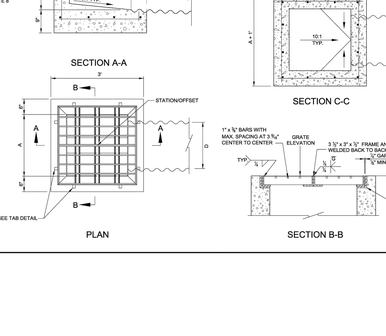
★ - 1.5% OR FLATTER RECOMMENDED FOR DESIGN / FORMWORK (2% MAX.)

★★ - 7.5% OR FLATTER RECOMMENDED FOR DESIGN / FORMWORK (8.3% MAX.)



PIPE SIZE	A	H MIN. FT.	CONCRETE CU. YD.		REINFORCING LB.		STRUCTURAL STEEL LB.
			BASE QUAN. H MIN.	ADD RATE CU. YD./FT.	BASE QUAN. H MIN.	ADD RATE LB./FT.	
15"	2'	2.50	0.76	0.19	72	20	358
18"	2' - 6"	3.00	0.96	0.21	88	22	404
24"	3'	3.50	1.16	0.23	106	23	450
30"	3' - 6"	4.00	1.37	0.25	134	26	496
36"	4'	4.50	1.59	0.26	151	28	542
42"	4' - 6"	5.00	1.83	0.28	177	29	587
48"	5'	5.50	2.08	0.30	209	31	633

THE CONCRETE AND REINFORCING QUANTITIES ARE BASED ON THE H MIN. SHOWN. INCREASE THE CONCRETE AND REINFORCING BASE QUANTITY BY THE CORRESPONDING ADD RATE, PER FOOT OF INCREASED H. IF THE H SPECIFIED IS LARGER THAN H MIN.



NOTES:

1. All concrete shall be class A or AA.
2. Reinforcing steel shall be ASTM A 615 grade 60 or A 706 grade 60 No. 4 bars with maximum spacing of 9-inches on center in walls and No. 5 bars with maximum spacing of 12-inches on center in base, wired tightly at all intersections and embedded 2-inches clear of inside surfaces.
3. Exposed edges of concrete shall be chamfered 1-inch.
4. Structural steel weight includes the main bars, frame angles, frame bars, rod spacer bars, tabs, Z bars and protective face plate.
5. Where pipe intersects drop inlet on a 12" or larger skew at ∠, increase ∠ to: ∠ / cos skew ∠ redesign for skews at A.
6. For drop inlets, configurations with 2 pipes-inflow pipe invert elevation shall be ≥ 0.1-feet above outflow pipe invert elevation.
7. Extreme low cover situations to be reviewed by the hydraulics engineer.
8. See detail DS-27 for details if connecting to HDPE pipe.
9. Slope catch basin floors 10:1 from all directions toward outlet pipe. If basin is used as a junction, shape flow line(s) to outlet pipe, and provide a 10:1 slope to flow line(s).
10. Station/offset distance listed in plans is measured to the face of curb at the gutter flow line.
11. Weld tabs 8-inches from edge of frame. Six tabs per grate, two on each side, excluding the lower side.
12. Grate is to fit in the frame and be easily removed. If the gap between the grate and frame is greater than a 1¾-inch on each side of the grate, the grate and frame shall be removed and reconstructed to the tolerances specified, or with the approval of the Engineer, a filler strip up to a 1¾-inch in thickness may be welded flush to the top of the frame to reduce the gap to a maximum of a 1¾-inch.
13. Pipe penetrations may be placed in any wall. Pipe penetrations are to be to the center of the structure wall unless specified otherwise.
14. Grate and inlet are designed for 16 kip HL-93 wheel load per "AASHTO LRFD Bridge Design Specifications 2012". Live load impact and multiple presence factors are not applied.
15. Contractor to verify "H" values as approved by the Engineer.

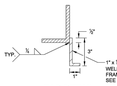
TABLE A

PIPE SIZE				STRUCTURAL STEEL ★						
CMAP	CMP	RCP/ HDPE	LO-HED	A AND J VALUE	MAIN BARS	FRAME ANGLES	FRAME BAR	GRATE LBS.	FRAME LBS.	CHANNEL AND PLATES, LBS.	TOTAL LBS.
29" x 18"	30"	24"	14" x 23"	2' - 0"	4½" x ⅝"	5" x 3" x ½"	5" x ⅝"	228	91	98	417
36" x 22"	36"	30"	19" x 30"	3'	4½" x ⅝"	5" x 3" x ½"	5" x ⅝"	263	99	116	478
43" x 27"	42"	36"	22" x 34"	3' - 6"	4½" x ⅝"	5" x 3" x ½"	5" x ⅝"	299	107	135	541
	48"	42"	27" x 34"	4'	5½" x ⅝"	6" x 3½" x ⅝"	6" x ⅝"	407	138	153	698
	54"		29" x 45"	4' - 6"	5½" x ⅝"	6" x 3½" x ⅝"	6" x ⅝"	451	147	171	769

★ VARIES WITH "A" DIMENSION ONLY.

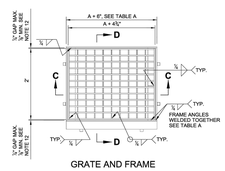
TABLE B

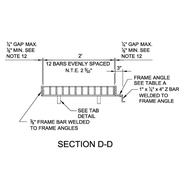
	MAXIMUM H	
CMAP	J OR A	H
29" x 18" OR LESS	30" OR LESS	21'
36" x 22"	36"	16'
43" x 27"	42"	12'
	48"	9'
	54"	7'
	60"	7'
		(WITH No. 4 BARS @ 9" CENTERS)

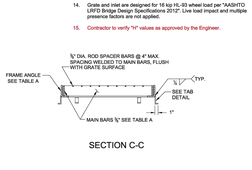


NOTES:

1. All concrete shall be class A or AA.
2. Except as noted, all reinforcing steel shall be ASTM A 615 grade 60 or A 706 grade 60 No. 4 bars with maximum spacing of 9-inches on center in walls and No. 5 bars with maximum spacing of 9-inches on center in base , wired tightly at all intersections and embedded 2-inches clear of inside surfaces. If H exceeds maximum shown in Table A the drop inlet shall require special design.
3. Exposed edges of concrete shall be chamfered 1-inch.
4. Structural steel weight includes the main bars, frame angles, frame bars, rod spacer bars, tabs, Z bars and protective face plate.
5. Where pipe intersects drop inlet on a 12" or larger skew at ∠, increase ∠ to: ∠ / cos skew ∠ redesign for skews at A.
6. For drop inlets, configurations with 2 pipes-inflow pipe invert elevation shall be ≥ 0.1-feet above outflow pipe invert elevation.
7. Extreme low cover situations to be reviewed by the hydraulics engineer.
8. See detail DS-27 for details if connecting to HDPE pipe.
9. Slope catch basin floors 10:1 from all directions toward outlet pipe. If basin is used as a junction, shape flow line(s) to outlet pipe, and provide a 10:1 slope to flow line(s).
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12. Grate is to fit in the frame and be easily removed. If the gap between the grate and frame is greater than a 1¾-inch on each side of the grate, the grate and frame shall be removed and reconstructed to the tolerances specified, or with the approval of the Engineer, a filler strip up to a 1¾-inch in thickness may be welded flush to the top of the frame to reduce the gap to a maximum of a 1¾-inch.
13. Pipe penetrations may be placed in any wall. Pipe penetrations are to be to the center of the structure wall unless specified otherwise.
14. Grate and inlet are designed for 16 kip HL-93 wheel load per "AASHTO LRFD Bridge Design Specifications 2012". Live load impact and multiple presence factors are not applied.
15. Contractor to verify "H" values as approved by the Engineer.







REV.	DATE	DESCRIPTION	BY	APP'D

DATE: AUGUST 2025
DRAWN BY: C3D 2023
DESIGNED BY: N.Z.V.
CHECKED BY: N.Z.V.

SOUTH HILLS/S. VIRGINIA SIGNAL DETAIL SHEET

RENO, WASHOE COUNTY, NEVADA

odyssey ENGINEERING INCORPORATED
895 ROBERTA LANE, SUITE 104, SPARKS, NV 89431
(775) 359-3303 FAX (775) 359-3329

SCALE
HORIZ. ----
VERT. ----
JOB NO.

SHEET
D-1
OF
12

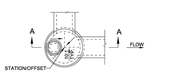
PROFESSIONAL ENGINEER - STATE OF NEVADA
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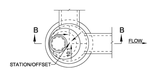
TYPE 1 ECCENTRIC	
MATERIAL	PIPE SIZE
ROUND RCP	24" MAX.
CONCRETE ARCH PIPE	11" x 18" (15" EQV.), 13 ½" x 22" (18" EQV.) MAX.
CONCRETE ELLIPTICAL	14" x 23" (18" EQV.) MAX.
HDPE	24" MAX.
CMP	24" MAX.

TYPE 2 ECCENTRIC	
MATERIAL	PIPE SIZE
ROUND RCP	36" MAX.
CONCRETE ARCH PIPE	18" x 28 ½" (24" EQV.), 22 ½" x 36 ½" (30" EQV.) MAX.
CONCRETE ELLIPTICAL	19" x 30" (24" EQV.) MAX.
HDPE	36" MAX.
CMP	36" MAX.

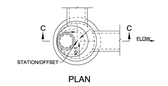
TYPE 3 ECCENTRIC	
MATERIAL	PIPE SIZE
ROUND RCP	48" MAX.
CONCRETE ARCH PIPE	28 ½" x 43 ½" (36" EQV.) MAX.
CONCRETE ELLIPTICAL	24" x 38" (30" EQV.), 27" x 42" (33" EQV.), 29" x 45" (36" EQV.), 32" x 49" (39" EQV.) MAX.
HDPE	48" MAX.
CMP	48" MAX.



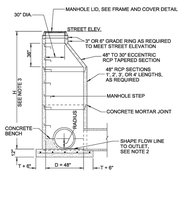
PLAN



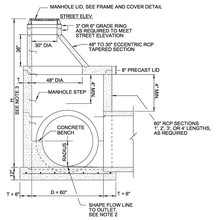
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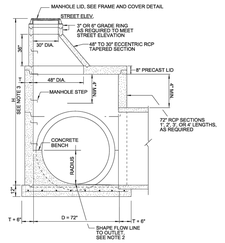
PLAN



SECTION A-A
TYPE 1
ECCENTRIC



SECTION B-B
TYPE 2
ECCENTRIC



SECTION C-C
TYPE 3
ECCENTRIC

NEVADA DEPARTMENT OF TRANSPORTATION

CHIEF HYDRAULICS ENGR. SIGNED ORIGINAL ON FILE

ADOPTED 10/1985

REVISED 10/2015

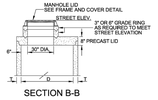
89

MANHOLES TYPE 1, 2 AND 3 TYPE 1, 2 AND 3 MODIFIED

SPEC. # 609

DETAIL NUMBER DS-47A

PLAN



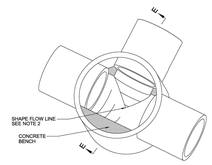
SECTION B-B

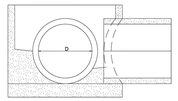
FOR USE IN MINIMUM COVER SITUATIONS WHERE TAPERED SECTIONS WILL NOT FIT

TYPE 1, 2 AND 3
MODIFIED

NOTES:

1. For cast in place concrete base, all reinforcing steel to be No. 4 bars at 18-inches on center, tightly wound at all intersections, and embedded in concrete at least 2-inches. Bar ends must clear concrete surfaces by 1 ½-inches. Precast concrete base may be used in lieu of cast-in place base.
2. Inflow pipe invert elevations shall be ≥ 0.1-foot above outflow pipe elevation.
3. For values of "H" see plans. "H" is the difference in elevation between the outflow pipe invert elevation and the top of manhole elevation at finished grade, unless otherwise specified.
4. Do not place pipes in tapered section.
5. Manhole cover shall bear entity identification and system function, if applicable.
6. Precast concrete pipe sections, tapered sections, lids, grade rings, bases, and steps shall conform to AASHTO M 199, ASTM C-478.
7. Shape flow line in manhole to outlet pipe, and provide a 10:1 minimum slope from all directions toward flow line.
8. T = manhole pipe wall thickness.
9. Rotate precast lid or eccentric RCP tapered section to locate ladder away from pipe openings and to keep manhole cover out of the wheel path or other undesirable locations as directed by the engineer.
10. See detail DS-49 for use in minimum cover situation where tapered section will not fit.
11. Manholes with H > 20' will require a special detail.





SECTION E-E

NEVADA DEPARTMENT OF TRANSPORTATION

CHIEF HYDRAULICS ENGR. SIGNED ORIGINAL ON FILE

ADOPTED 10/1985

REVISED 7/2024

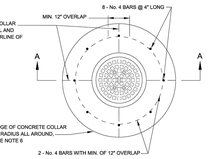
91

MANHOLES TYPE 1, 2 AND 3 TYPE 1, 2 AND 3 MODIFIED

SPEC. # 609

DETAIL NUMBER DS-47B

4 LINES ON TOP OF CONCRETE COLLAR SCORED ½" DEEP, TWO PARALLEL AND TWO PERPENDICULAR TO CENTERLINE OF ROADWAY

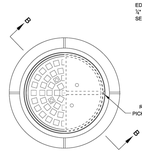


SEE NOTE 7

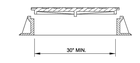
CONCRETE COLLAR PLAN

NOTES:

1. The weight of frame shall be 250 lb. minimum and the weight of cover shall be 300 lb. minimum. Equivalent manhole frames and covers other than shown may be used upon approval by the Engineer.
2. The frame seat and cover edge shall be machined to a true bearing surface all around. The frame and cover shall be compatible to the manufacturers specifications.
3. The surface shown is for illustration only. Any surface design, other than smooth, may be used upon approval.
4. A cast-in-place concrete collar shall be placed around a manhole frame unless otherwise directed.
5. Manhole cover shall bear name of entity and system function, if applicable.
6. Concrete collars may be poured round, or any other appropriate shape when approved by the engineer.
7. Manhole cover and frame shown. Other shapes may apply to utility and valve covers and frames.

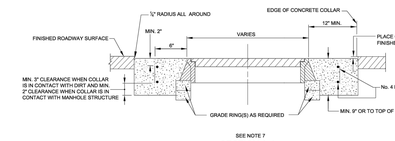


PLAN



SECTION B-B

TRAFFIC-STRENGTH
MANHOLE FRAME AND COVER



SEE NOTE 7

SECTION A-A

NEVADA DEPARTMENT OF TRANSPORTATION

CHIEF HYDRAULICS ENGR. SIGNED ORIGINAL ON FILE

ADOPTED 8/1969

REVISED 10/2015

MANHOLE COVER, FRAME AND CONCRETE COLLAR

SPEC. # 609

DETAIL NUMBER DS-49

REV.	DATE	DESCRIPTION	BY	APP'D

DATE: AUGUST 2025
DRAWN BY: C3D 2023
DESIGNED BY: N.Z.V.
CHECKED BY: N.Z.V.

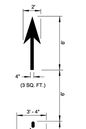
SOUTH HILLS/S. VIRGINIA SIGNAL
NDOT DETAIL SHEET
WASHOE COUNTY, NEVADA
RENO,

odyssey ENGINEERING INCORPORATED
895 ROBERTA LANE, SUITE 104, SPARKS, NV 89431
(775) 359-3503 FAX (775) 359-3329

SCALE
HORIZ.---
VERT. ---
JOB NO.

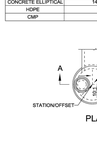
SHEET
D-2
OF
12

XING
ONLY



THESE LEGENDS AS SHOWN ARE FOR BIKE LANE USE

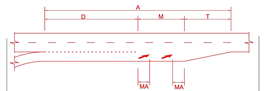
BICYCLE



THIS LEGENDS AS SHOWN IS FOR ROAD LANE USE

SHARED LANE

PLACEMENT OF MERGE ARROWS

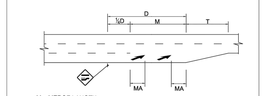


A = ACCELERATION LANE LENGTH
D = DOTTED WHITE LINE LENGTH
M = MERGE LENGTH
MA = MERGE ARROW PLACEMENT
T = TAPER LENGTH

D = ⅓ A
M = A - D - T
MA = M/4

FOR FURTHER DETAILS ON "PARALLEL ACCELERATION LANE" SEE PART III OF THE MUTCD

TYPICAL
PARALLEL ACCELERATION LANE



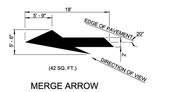
M = MERGE LENGTH
MA = MERGE ARROW PLACEMENT
D = ADVANCE WARNING DISTANCE (SEE M.U.T.C.D. SECTION 2C.05)
T = TAPER LENGTH

S = POSTED SPEED
W = OFFSET IN FEET
44 MPH OR LESS, T= WS²/60
45 MPH OR GREATER, T= WS

M = ⅔ D
MA = D/4

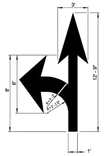
FOR FURTHER DETAILS ON "LANE REDUCTION" SEE PART III OF THE MUTCD

TYPICAL LANE REDUCTION

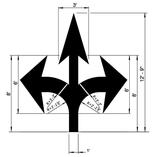


(42 SQ. FT.)

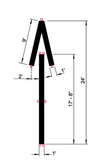
MERGE ARROW



LEFT/STRAIGHT ARROW

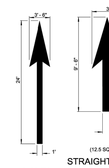


LEFT/STRAIGHT/RIGHT ARROW

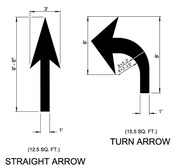


WRONG WAY ARROW

○REFLECTIVE TYPE E RPM
DISTRICT 1 ONLY



EXIT ARROW



STRAIGHT ARROW

TURN ARROW

NEVADA DEPARTMENT OF TRANSPORTATION

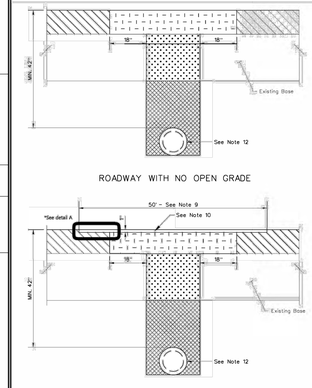
CHIEF ENGINEER SIGNED ORIGINAL ON FILE

7/2024

PERMANENT PAVEMENT MARKINGS: BICYCLE / ARROWS

SPEC. # 634

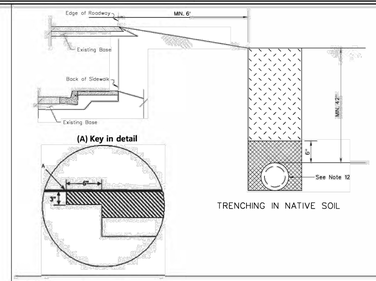
DETAIL NUMBER ST-4



ROADWAY WITH NO OPEN GRADE

ROADWAY WITH OPEN GRADE

TRENCHING IN PAVEMENT



TRENCHING IN NATIVE SOIL

NOTES:

1. REMOVE EXISTING PAVEMENT AND REPLACE WITH NEW APPROVED MATERIAL OF SAME TYPE. MATCH EXISTING PAVEMENT DEPTH BUT NOT LESS THAN 6".
2. RECOMPACT EXISTING BASE MATERIAL AROUND TRENCH TO MEET COMPACTION REQUIREMENTS FOR THAT MATERIAL TYPE AND LOCATION.
3. THE INSPECTOR MAY FOR GOOD CAUSE, REQUIRE A WIDER TRENCH AND PATCH SECTIONS OR OTHERWISE ALTER THE REQUIREMENTS.
4. IF SAW CUT IS WITHIN 3' OF AN EXISTING PAVEMENT EDGE, EXISTING PAVEMENT PATCH, OR EDGE OF LIP OF GUTTER, REMOVE EXISTING PAVEMENT TO THAT EDGE AND REPLACE ENTIRE SECTION.
5. THE EDGES OF THE PAVEMENT PATCH SHALL BE STRAIGHT AND UNIFORM (EDGES SHALL BE SAW-CUT) ALL EXCESS EXCAVATED MATERIAL SHALL BE HAULED AWAY AND DISPOSED OFF THE HIGHWAY RIGHT-OF-WAY UNLESS OTHERWISE PERMITTED.
6. IF THE PATCH EXTENDS INTO THE EXISTING ADJOINING STIPE OR AC JOINT OF ANY LANE, THE ENTIRE WIDTH OF THAT LANE MUST BE MILLED AND PAVED.
7. GRANULAR BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 207 AND COMPACTED TO NOT LESS THAN 90% OF THE MAXIMUM DENSITY. DRAIN ROCK MAY NOT BE USED AS GRANULAR BACKFILL.
8. AGGREGATE BASE SHALL BE IN ACCORDANCE WITH SECTION 302 AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DENSITY. AGGREGATE BASE SHALL MATCH EXISTING DEPTH BUT NOT LESS THAT 12".
9. 50' IS THE MINIMUM LENGTH OF THE OPEN GRADE PATCH. EXACT LENGTH OF PATCH WILL BE DETERMINED IN THE FIELD BY THE INSPECTOR.
10. COLDMILL 1" DEEP AND REPLACE WITH OPEN-GRADED PLANTMIX.
11. AGGREGATE BASE SHALL MATCH EXISTING DEPTH, BUT NOT LESS THAN 12".
12. PIPES PLACED WITHIN THE ROADWAY PRISM CARRYING FLUID OR GASEOUS SUBSTANCES SHALL BE ENCASED PER NAC 408.453.

LEGEND:

- Existing Pavement
- Aggregate (See Note 8)
- Open Grade Pavement
- Granular Backfill(See Note 7)
- Limits of Removal & Repair of Pavement (See Note 1)
- Backfill

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

DISTRICT II
TRENCH AND PAVEMENT
PATCH DETAIL

Revised 3/2024

PROFESSIONAL ENGINEER - STATE OF NEVADA
JUSTIN C. WORTHLEY
Exp. 6-30-25
CIVIL
No. 34399
10-30-25

Docusign Envelope ID: BCEB8689-040A-4981-A4D9-7325AC7D4E8B

GENERAL NOTES:

1. TRAFFIC SIGNAL MODIFICATION SHEETS (TS–1 THRU TS–10) ARE FOR TRAFFIC SIGNAL/ INTERCONNECT WORK ONLY.

2. THE PLANS/SPECIFICATIONS STRUCTURE SHALL BE AS FOLLOWS, IN ORDER OF HIERARCHY:

   THE PROJECT PLANS, SPECIFICATIONS, AND DETAILS
   NDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2014
   NDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, 2024
   CITY OF RENO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (CURRENT CONDITION)
   CITY OF RENO "TRAFFIC SIGNAL CONTROLLER CABINET SPECIFICATIONS" (CURRENT EDITION)

3. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (ORANGE BOOK) 2012, REVISION 8 EDITION, THE NDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (SILVER BOOK), 2014 EDITION, THE NDOT STANDARD PLANS FOR ROAD ROAD AND BRIDGE CONSTRUCTION, 2020 EDITION, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) CURRENT EDITION, THE NATIONAL ELECTRIC CODE (NEC), AND THE NATIONAL ELECTRIC SAFETY CODE (NESC).

4. THE PRECISE LOCATIONS OF UNDERGROUND UTILITIES ARE UNKNOWN, CALL FOR UTILITY LOCATES AT LEAST 48 HOURS PRIOR TO DIGGING AND PROCEED WITH CAUTION.

5. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR AND/OR REPLACE ALL FACILITIES AND FEATURES DAMAGED BY THE CONTRACTOR'S ACTIVITIES, INCLUDING LANDSCAPING AND IRRIGATION SYSTEMS, TO THEIR PRE–CONSTRUCTION CONDITION AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DOCUMENT AND NOTIFY THE ENGINEER OF DAMAGED EQUIPMENT AND/OR FACILITIES PRIOR TO BEGINNING WORK.

6. CONCRETE FLATWORK SHALL BE REMOVED AND REPLACED, IN KIND, TO EXISTING JOINT LINES. TRENCHING THROUGH, AND PATCHING OF, SIDEWALK PANEL(S) OR CURB & GUTTER WILL NOT BE PERMITTED.

7. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL INCIDENTAL ITEMS AND PERFORM ALL WORK AS NECESSARY TO COMPLETE FULLY FUNCTIONAL TRAFFIC SIGNAL AND INTERCONNECT SYSTEMS. PAYMENT FOR INCIDENTAL ITEMS SHALL BE INCLUDED WITHIN THE BID ITEMS OUTLINED IN THE OFFICIAL BID SCHEDULE.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROCESSING AND OBTAINING ALL "CHANGE OF LOOP" AND SERVICE APPLICATIONS. COORDINATE ALL CONNECTIONS AND DISCONNECTIONS WITH NV ENERGY.

9. AN NDOT PERMIT WILL BE REQUIRED. CONTRACTOR SHALL PROVIDE TEMPORARY TRAFFIC CONTROL PLANS FOR THE PERMIT RELEASE AND COMPLY WITH ALL CONDITIONS OF THE PERMITS, INCLUDING NIGHT WORK REQUIREMENTS AS APPLICABLE.

10. A CITY OF RENO EXCAVATION AND ENCROACHMENT PERMIT (EE PERMIT) IS REQUIRED FOR THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL FEES WHICH INCLUDE SIGNAL INSPECTION FEES. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS OF THE PERMIT.

SIGNAL EQUIPMENT SPECIFICATIONS:

THESE NOTES SUPERCEDE CITY OF RENO STANDARD DETAILS R–413F, R–413G, AND R–413H

1. THE CONTRACT WORK SHALL INCLUDE ALL CABINET AND EQUIPMENT WIRING RECONFIGURATIONS AS NECESSARY TO COMPLETE FULLY FUNCTIONAL SYSTEMS. INTERIM CONFIGURATIONS MAY BE NECESSARY TO COMPLETE THE WORK AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

2. ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH CITY OF RENO "TRAFFIC SIGNAL CONTROLLER CABINET SPECIFICATIONS" AND CITY OF RENO "TRAFFIC SIGNAL FIBER OPTIC INTERCONNECT SPECIFICATIONS" EXCEPT AS SPECIFICALLY MODIFIED IN THESE PLANS.

3. NOTIFY THE CITY OF RENO, KURT DIETRICH (775) 334–3334 AT LEAST 72 HOURS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEMS AND PRIOR TO SIGNAL TURN–ONS. NO MORE THAN TWO (2) SIGNAL TURN–ONS WILL BE ALLOWED FOR THE PROJECT.

4. SIGNAL TURN–ONS SHALL BE SCHEDULED MONDAY THROUGH THURSDAY BETWEEN 5:00 AM AND 4:00 PM. COORDINATE WITH CITY OF RENO SIGNAL TECHNICIANS.

5. ALL SIGNAL EQUIPMENT, HARDWARE, UNBROKEN PULL BOX LIDS, AND SIGNS REMOVED THROUGH THE COURSE OF WORK SHALL BE DELIVERED TO THE CITY OF RENO'S CORPORATE YARD.

6. METERED UNDERGROUND ELECTRICAL SERVICE SHALL BE TESCO CONTROLS MODEL 27–22BBS WITH UPS BATTERY BACKUP SYSTEM OR APPROVED EQUAL. CONSTRUCT SERVICE CABINET FOUNDATION PER DETAIL ON SHEET TS–5 AND MANUFACTURER'S BOLT PATTERN TEMPLATE. CABINET SHALL BE UL 508 RATED. METERED SERVICES SHALL HAVE OWNING AGENCY LABELS INDICATING CITY OWNERSHIP AND ADDRESS. SYSTEM SHALL HAVE AN EVENT COUNTER AND TIMER. UPS SYSTEM SHALL BE 24 VOLT PROVIDING A MINIMUM OF 2 HOURS OF FLASHING ALL RED. SEE INDIVIDUAL METERED SERVICE EQUIPMENT SCHEDULES FOR FURTHER DETAIL.

7. SERVICE CONDUCTORS FROM METER TO CONTROLLER CABINET SHALL BE (3) #6 AWG THWN–2 OR LARGER. SEE CONDUIT & CONDUCTOR SCHEDULES FOR EACH LOCATION.

8. ALL SIGNAL POLES SHALL CONFORM TO NDOT STANDARD SPECIFICATIONS, INCLUDING BOLT CIRCLE DIMENSIONS, ANCHOR BOLTS, AND FOUNDATION DIMENSIONS.

9. SIGNAL HEAD BRACKETS SHALL HAVE ADEQUATE EXTENSIONS TO ALLOW SIGNAL HEAD ADJUSTMENT/ROTATION FOR DIRECT ALIGNMENT TO THE STOP BAR AT THE VIEWING LANE.

10. THE LOCATION OF NEW SIGNAL HEADS SHALL BE APPROVED BY THE ENGINEER AND OWNING AGENCY. SIGNAL HEAD TENONS SHALL BE FIELD WELDED, BY A CERTIFIED WELDER, AND LOCATED IN THE CENTER OF THE VIEWING LANE, UNLESS APPROVED OTHERWISE.

11. SIGNAL CONDUITS SHALL BE THE SIZE INDICATED ON THE PLANS. SCHEDULE 40 PVC IS REQUIRED FOR ALL UNDERGROUND RUNS. INSTALL #12 AWG COPPER TRACER WIRE WITH 30–MIL POLYETHYLENE JACKET OR APPROVED EQUAL AND PULL ROPE IN ALL SPARE/EMPTY CONDUITS.

12. SIGNAL CABLE SHALL CONFORM TO IMSA SPEC 19–1 OR 20–1 AND BE COLOR CODED PER SILVER BOOK SECTION 623.02.19. CABLES SHALL BE RUN FROM CONTROLLER TO POLE TERMINAL BLOCK WITHOUT SPLICING. IN–POLE CONDUCTORS PAST THE TERMINAL BLOCK SHALL BE INDIVIDUAL #14 AWG THHN/THWN–2 OR APPROVED EQUAL.

13. ALL CABLES AND WIRING SHALL BE NEATLY LABELED USING A CONSISTENT METHOD AND NAMING CONVENTION TO BE APPROVED BY THE CITY OF RENO.

14. ALL NEW PULL BOXES SHALL BE TRAFFIC RATED WITH LABELED METAL LIDS AND LIDS SHALL BE GROUNDED. SEE DETAIL ON SHEET TS–4.

15. PULL BOXES SHALL NOT BE INSTALLED IN PEDESTRIAN RAMPS WITHOUT THE ENGINEER'S APPROVAL.

16. THE FINAL LOCATION OF ALL POLES, PULL BOXES, CABINETS, AND CONDUIT RUNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. CONDUIT RUNS SHOWN IN THE PLANS ARE SCHEMATIC FOR THE PURPOSE OF PLAN LEGIBILITY.

17. A FACTORY REPRESENTATIVE FROM THE MANUFACTURER OF THE SIGNAL CABINET, CONTROLLER, AND MMU MUST BE PRESENT FOR ALL SIGNAL TURN–ONS.

18. RETROREFLECTIVE MATERIALS FOR ALL SIGNAL POLE MOUNTED SIGNS SHALL BE 3M DIAMOND GRADE (DG3) WITH 3M CLEAR TRANSPARENT OVERLAY #1170 OR APPROVED EQUAL.

19. ALL HARDWARE SHALL HAVE A BLACK FACTORY FINISH.

20. ¼"–20 BOLTS WITH LOCK WASHERS AND FLAT WASHERS ARE REQUIRED FOR ALL HAND HOLE AND BASE PLATE COVERS.

21. VEHICULAR SIGNAL HEADS SHALL BE 12" DIAMETER LED MODULES WITH TINTED LENSES IN ACCORDANCE WITH ITE VTCSH–LED GUIDELINES. INDICATIONS SHALL INCLUDE "ALLnGAP" TECHNOLOGY. UTILIZE "DIALITE" 433 SERIES, OR APPROVED EQUAL.

22. ALL VEHICULAR HEADS SHALL HAVE "TUNNEL" VISORS WITH 4 INCH SLOT AT BOTTOM WITH LOUVERED BACK PLATES. HARDWARE SHALL BE ALUMINUM AND HAVE A BLACK FACTORY FINISH. INSTALL RETROREFLECTIVE STRIPS ON BACKPLATES PRIOR TO INSTALLATION.

23. ALL NEW PEDESTRIAN PUSH BUTTONS SHALL BE 2" DIAMETER. UTILIZE POLARA iNAVIGATOR 2 WIRE AUDIBLE PUSH BUTTON STATION (INS 2 PBS) SYSTEM OR APPROVED EQUAL. NEW PUSH BUTTON STATIONS SHALL HAVE 9"X15" SIZE "COUNTDOWN" (R10–3E) SIGNS AND MUST HAVE CORRESPONDING STREET NAME IN BRAILLE OR RAISED PRINT. THE ARROW SHALL POINT IN THE SAME DIRECTION AS THE CROSSING AND THE SIGN SHALL BE ALIGNED WITH THE CROSSWALK.

24. PEDESTRIAN SIGNAL INDICATIONS SHALL BE 16"X18" DIALIGHT OR GELCORE LED OR APPROVED EQUAL WITH COUNTDOWN DISPLAYS.

25. LUMINAIRES SHALL BE THE MOST RECENT VERSION OF THE CREE STR–LWY3MHT08EULSV700 OR APPROVED EQUAL. PHOTOCELL SHALL BE MOUNTED IN THE METERED SERVICE CABINET.

26. DETECTION CAMERA SHALL BE GRIDSMART GS 3 FISHEYE CAMERA VIDEO DETECTION SYSTEM WITH PERFORMANCE PLUS MODULE INCLUDING BICYCLE DETECTION AND SHALL INCLUDE ALL EQUIPMENT AND MATERIALS NECESSARY FOR A COMPLETELY FUNCTIONAL SYSTEM.

27. DETECTION ZONES, INCLUDING ADVANCE DETECTION (NOT SHOWN ON THE PLANS) SHALL BE SET BY THE CITY OF RENO.

28. PRE–EMPTION EQUIPMENT SHALL BE GLOBAL TRAFFIC TECHNOLOGIES (GTT) OPTICOM MODEL 721 DETECTORS AND OPTICOM 138 DETECTOR CABLE, OR APPROVED EQUAL.

29. PROGRAMMING OF CONTROLLERS AND MMU'S WILL BE PERFORMED BY CITY OF RENO STAFF ONLY. DELIVER NEW CONTROLLERS AND MMU'S TO CITY OF RENO TRAFFIC ENGINEERING OPERATIONS AT 1640 EAST COMMERCIAL ROW, RENO, NV AT LEAST TWENTY ONE (21) DAYS PRIOR TO SIGNAL TURN ON. CONTACT TIM HENDRICKS AT (775) 657–4568 AT LEAST SEVEN DAYS PRIOR TO DESIRED PICK–UP FOR INSTALLATION.

30. FOR ALL SIGNAL POLES, EXCEPT FOR TYPE 1 POLES, ATTACH A RECTANGULAR CORROSION–RESISTANT METAL IDENTIFICATION TAG, USING STAINLESS STEEL RIVETS. THE TAG SHALL BE PLACED ABOVE THE HANDHOLE NEAR THE BASE OF THE POLE. THE LETTERING OF THE TAG SHALL BE EITHER DEPRESSED OR RAISED, ¼" TALL, LEGIBLE, AND READABLE AFTER THE POLE IS COATED AND INSTALLED. THE FOLLOWING INFORMATION SHALL BE ON THE TAG: POLE TYPE AND "2024 NDOT STDS".

CITY OR RENO WIRELESS RADIO NOTES & SPECIFICATIONS:

1. WIRELESS RADIO SYSTEM SHALL BE ETHERWAN EASYLINK SYSTEM, OR APPROVED EQUAL. RADIO SYSTEM SHALL INCLUDE ANTENNAS, ETHERNET SWITCHES, CABLES, FITTINGS, AND POWER ADAPTERS FOR A FULLY FUNCTIONAL WIRELESS RADIO SYSTEM COMPATIBLE WITH EXISTING CITY OF RENO COMMUNICATION SYSTEMS. CONTRACTOR TO OBTAIN CITY APPROVAL PRIOR TO ORDERING.

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SOUTH VIRGINIA ST/SOUTH HILLS DR
TRAFFIC SIGNAL NOTES
RENO NEVADA
WASHOE

GCI ENGINEERS \ SURVEYORS

M. SCOTT HENRY
Exp. 6/30/27
CIVIL
No. 12539
STATE OF NEVADA
PROFESSIONAL ENGINEER
8/20/25

SCALE
HORIZ. N/A
VERT. ____
JOB NO. 23–125

SHEET
TS–1
OF
10

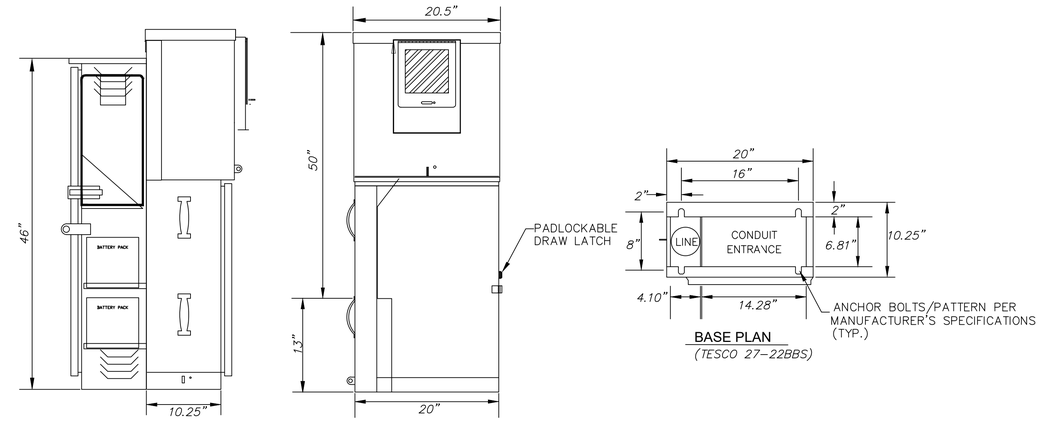
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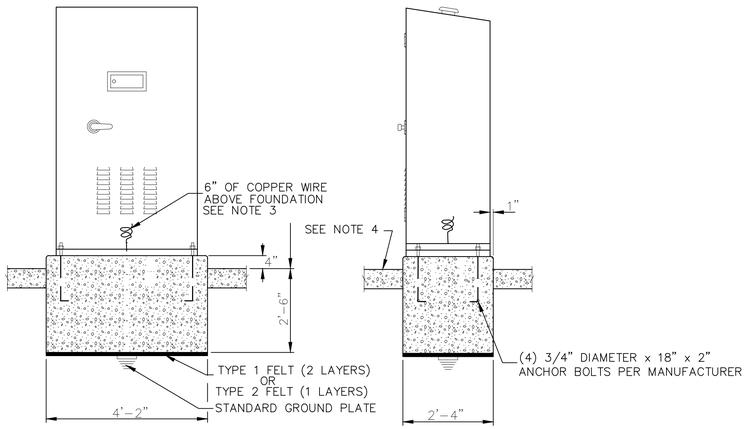
NEW	EXISTING	
■	▨	PULL BOX (EXCEPT NO. 9)
■	▨	NO. 9 PULL BOX
▨	▨	TRAFFIC SIGNAL CONTROLLER CABINET
2a	2a	VEHICLE DETECTOR LOOP 2 = PHASE # a = CHANNEL
●	○	TRAFFIC SIGNAL OR STREET LIGHT POLE
— — —	— — —	CONDUIT
⋈	⋈	METERED SERVICE
◉	◎	POWER SOURCE
◀	◁	VEHICLE SIGNAL HEAD

ABBREVIATIONS:

ABB.	MEANING
AWG	AMERICAN WIRE GAUGE
BW	BACK OF WALK
DLC	DETECTOR LEAD IN CABLE
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
EX.	EXISTING
FFC	FRONT FACE OF CURB
FOC	FIBER OPTIC CABLE
FL	FLOW LINE
FYA	FLASHING YELLOW ARROW
FYG	FLUORESCENT YELLOW GREEN
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN
IMSA	INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION
LED	LIGHT EMITTING DIODE
MA	MAST ARM
MAX	MAXIMUM
MIN	MINIMUM
MMU	MALFUNCTION MANAGEMENT UNIT
OHP	OVERHEAD POWER
PB	PULLBOX
PCC	PORTLAND CEMENT CONCRETE
POE	POWER OVER ETHERNET
PPB	PEDESTRIAN PUSH BUTTON
R/W	RIGHT OF WAY
SPEC	SPECIFICATION
SW	SIDEWALK
TBD	TO BE DETERMINED
TC	TOP OF CURB
TDC	TOP OF DEPRESSED CURB
TYP	TYPICAL



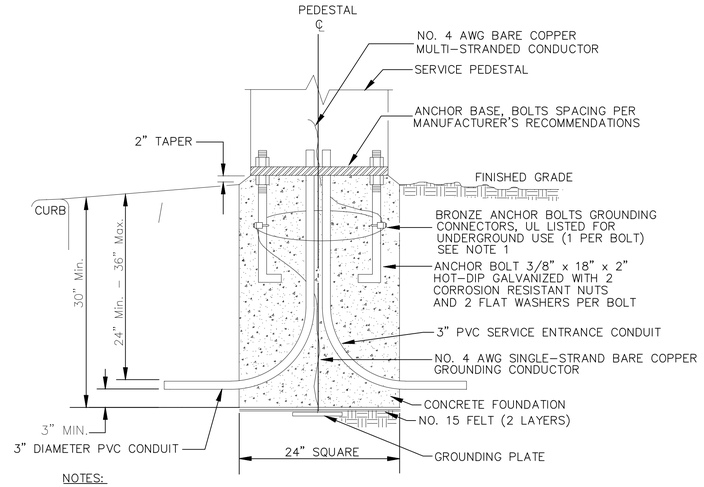
TESCO 27-22BBS - METERED SERVICE PEDESTAL WITH BATTERY BACKUP (TYPE III - AF) DETAIL



NOTES:

1. ALL CONDUITS SHALL EXTEND ABOVE FOUNDATION A MINIMUM OF 2" AND HAVE BELL ENDS INSTALLED PRIOR TO POURING FOUNDATION. CONDUITS SHALL BE A MINIMUM OF 2" APART.
2. ALL CABINETS SHALL BE PAINTED WHITE ON THE INSIDE AND OUTSIDE (FACTORY FINISHED).
3. 1/2" x 96" GROUND ROD MAY BE SUBSTITUTED IN LIEU OF COPPER WIRE.
4. WHEN NOT PLACED AT BACK OF SIDEWALK, A 4'-2" x 3' x 4" FRONT SLAB SHALL BE CONSTRUCTED IN FRONT OF THE CABINET DOOR. THE FRONT SLAB SHALL BE PLACED ON 3" OF TYPE 2, CLASS B CRUSHED AGGREGATE BASE. THE AGGREGATE BASE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION. THE TOP OF FRONT SLAB SHALL BE 4" BELOW THE TOP OF THE CABINET FOUNDATION AND NOT HAVE A SLOPE GREATER THAN 2.00% IN ANY DIRECTION.

TYPE R-44 CABINET FOUNDATION DETAIL



NOTES:

1. BARE COPPER GROUNDING SHALL BE LOOPED AROUND ANCHOR BOLTS ONE TIME AND CONNECTED TO EACH ANCHOR BOLT BEFORE CONTINUING DOWN TO THE GROUNDING PLATE.
2. CABINET COVERS SHALL BE PARALLEL WITH CURB.
3. IN AREAS WHERE ROW PERMITS, THE CONCRETE BASE SHALL BE PLACED AT THE BACK EDGE OF SIDEWALK.
4. CABINET COVERS SHALL OPEN TOWARD THE STREET WHEN CABINET IS LOCATED AT BACK OF WALK. CABINET COVER SHALL OPEN PARALLEL TO THE SIDEWALK FACING THE DIRECTION OF TRAFFIC WHEN LOCATED WITHIN THE SIDEWALK.
5. GROUND PLATE SHALL BE MADE OF NONFERROUS MATERIALS (TYPICALLY BRASS OR COPPER).

SERVICE PEDESTAL FOUNDATION DETAIL

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WASHOE
NEVADA
RENO

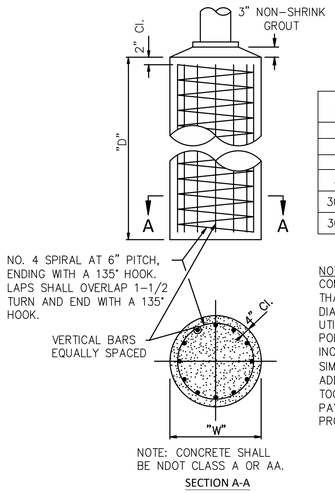
GCA ENGINEERS \ SURVEYORS

M. SCOTT HENRY
Exp. 6/30/27
CIVIL
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STATE OF NEVADA
REGISTERED PROFESSIONAL ENGINEER
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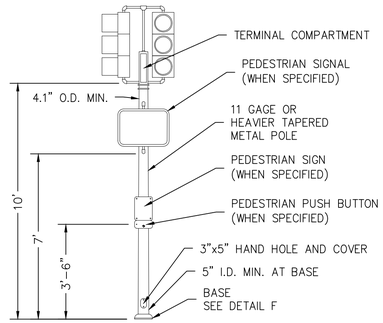
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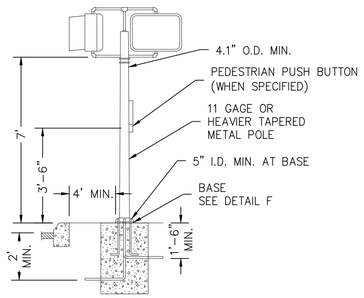


POLE TYPE	MAST ARM LENGTH	"D"	"W"	VERTICAL REINFORCEMENT
PPB POST	N/A	1'-6"	1'-6"	N/A
1A & 1B	N/A	3'	2'	8-NO. 8
7	ALL	5'	2'-6"	12-NO. 9
30 AND 35	≤ 45'	20'	4'	12-NO. 7
30A AND 35A	≤ 60'	20'	4'	20-NO. 10
30B AND 35B	≤ 85'	20'	5'	24-NO. 10

NOTE: EXCAVATIONS FOR POLE FOUNDATIONS MUST HAVE FIRM, COMPACT, STABLE WALLS AND SHALL NOT HAVE A DIAMETER MORE THAN TWO (2) FEET LARGER THAN THE PLAN SPECIFIED FOUNDATION DIAMETER FOR THE FULL FOUNDATION DEPTH. CONTRACTOR SHALL UTILIZE A DRILLING PROCESS AND EQUIPMENT THAT CONTAINS THE POLE FOUNDATION TO THE SPECIFIED SIZE. DRILLING OPTIONS MAY INCLUDE THE USE OF NDOT FLOWABLE FILL (ONE SACK SLURRY OR SIMILAR) FOLLOWED BY REDRILLING THE FLOWABLE FILL, DRILLING WITH ADDITIVES THAT STABILIZE THE WALLS OR OTHER DRILLING TOOLS/TECHNIQUES AS APPROVED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR SPECIAL DRILLING TECHNIQUES OR PROCESSES.

POLE FOUNDATION DETAIL

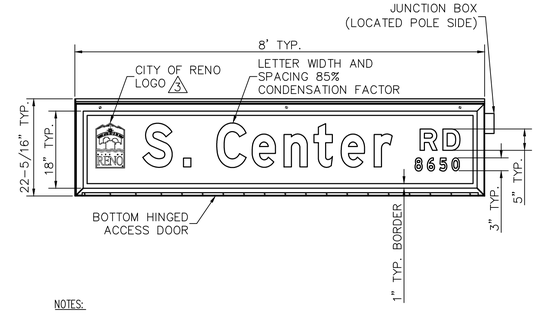




NOTES:

1. FOR FOUNDATION DETAILS, SEE POLE FOUNDATION DETAIL ON THIS SHEET.
2. MOUNTING HEIGHTS OF SIGNAL AND PEDESTRIAN HEADS AND PEDESTRIAN PUSH BUTTONS SHALL BE APPLICABLE TO INSTALLATIONS ON POLE TYPES 7 AND 35.

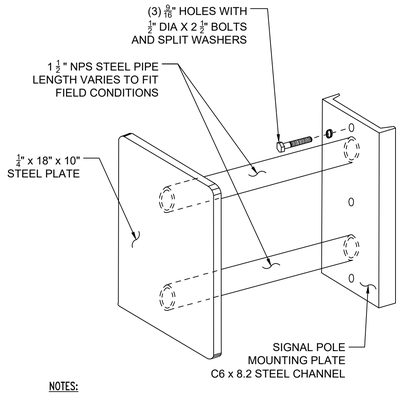
TYPE1-A/1-B SIGNAL POLE



NOTES:

1. OWNING AGENCY'S LOGO AND BLOCK NUMBERS SHALL BE PRESENT ON ALL SIGN FACES. SEE IISNS SCHEDULES FOR LEGENDS. STREET NAME SIGNS SHALL BE 8 FOOT SINGLE FACED WITH CASE SENSITIVE LETTERING. CITY LOGO SHALL BE LOCATED AT THE LEFT SIDE OF THE SIGN.
2. SIGNS SHALL BE WIRED USING 16/3 SOOW OR SJOOW CABLE.
3. LOGO HEIGHT SHALL NOT EXCEED HEIGHT OF UPPERCASE LETTERING. LOGO APPLIQUES ARE NOT ALLOWED.
4. LOGO SHALL NOT BE PRESENT ON SIGNS MOUNTED TO POLE INSIDE NDOT RIGHT OF WAY.
5. SIGN SHALL BE MOUNTED TO MAST ARM. MOUNTING HARDWARE SHALL BE STAINLESS STEEL, RIGID AND ALLOW FOR HORIZONTAL LEVELING ADJUSTMENTS.

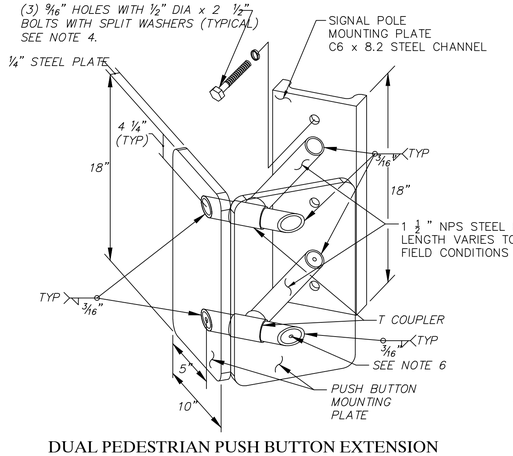
INTERNALLY ILLUMINATED STREET NAME SIGN DETAIL



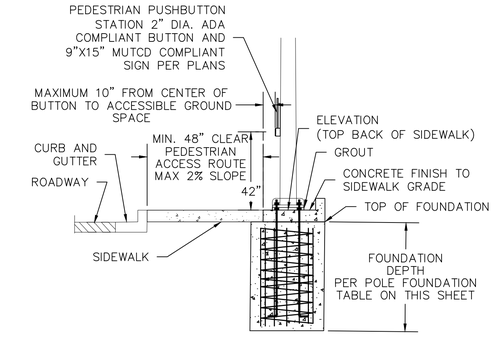
NOTES:

1. 1/2 INCH RADIUS ON ALL CORNERS. SMOOTH AND NEATLY ROUND EXPOSED EDGES TO A 1/8" RADIUS.
2. ALL MATERIAL SHALL CONFORM TO THE NDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
3. 1 1/2 INCH NPS STEEL PIPE USE SCHEDULE 80. 2 INCH NPS PIPE SHOULD ONLY BE USED WITH AN ADJUSTABLE EXTENDER.
4. DRILL AND TAP HOLES 20TPI INTO SIGNAL POLE.
5. ATTACH PUSH BUTTON TO MOUNTING PLATE PER MANUFACTURER'S RECOMMENDATIONS.
6. DRILL 1/2 INCH HOLES IN MOUNTING PLATES AT LOWER EXTENSION PIPE FOR CONDUCTORS. SMOOTH EDGES TO PREVENT DAMAGE TO CONDUCTOR INSULATION.
7. GALVANIZED FINISH ON STANDARD POLES OR FLAT BLACK POWDER COAT WHEN LOCATED ON BLACK OR DECORATIVE POLES.

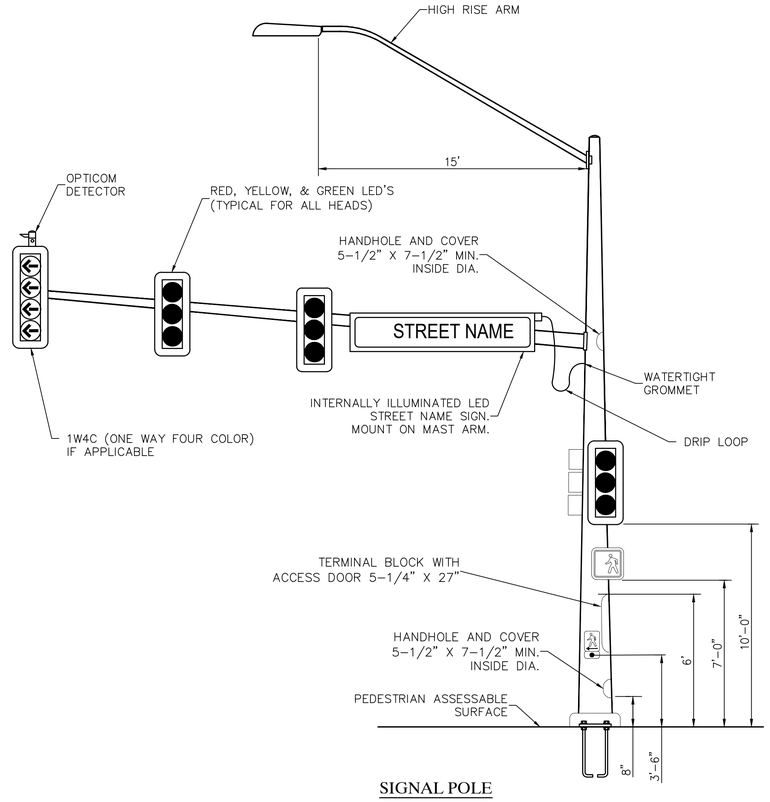
SINGLE PEDESTRIAN PUSH BUTTON EXTENSION



DUAL PEDESTRIAN PUSH BUTTON EXTENSION



POLE BASE AT SIDEWALK



SIGNAL POLE

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TRAFFIC SIGNAL DETAILS
RENO NEVADA
WASHOE

GCW ENGINEERS \ SURVEYORS

PROFESSIONAL ENGINEER M. SCOTT HENRY Exp. 6/30/27 CIVIL No. 12539 STATE OF NEVADA
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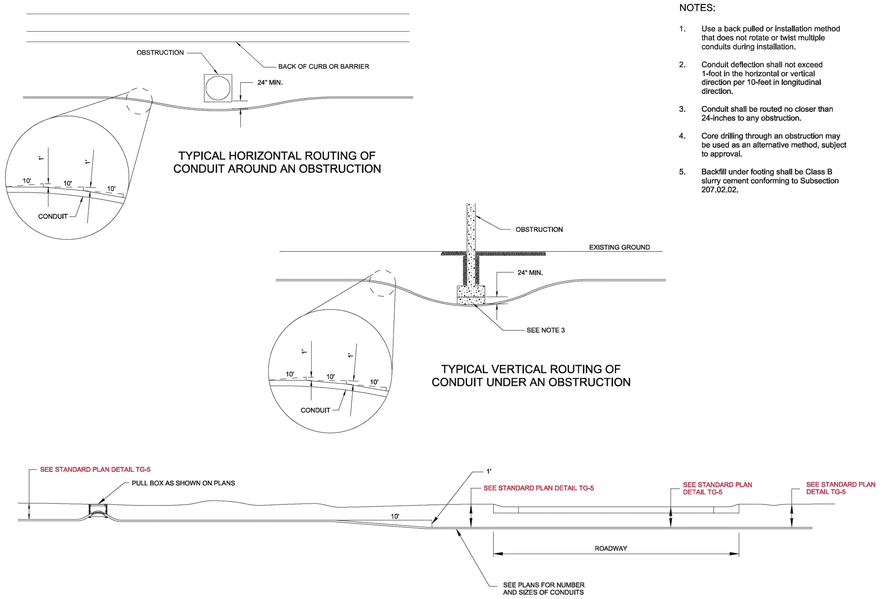
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214



NOTES:

1. Use a back pulled or installation method that does not rotate or twist multiple conduits during installation.
2. Conduit deflection shall not exceed 1-foot in the horizontal or vertical direction per 10-feet in longitudinal direction.
3. Conduit shall be routed no closer than 24-inches to any obstruction.
4. Core drilling through an obstruction may be used as an alternative method, subject to approval.
5. Backfill under footing shall be Class B slurry cement conforming to Subsection 207.02.02.

NEVADA DEPARTMENT OF TRANSPORTATION

CHIEF TRAFFIC ENGINEER SIGNED ORIGINAL ON FILE

ADOPTED 10/2015

REVISED 5/2022

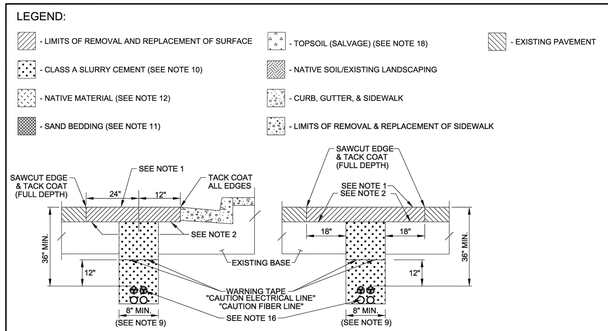
DIRECTIONAL DRILLING DETAILS

SPEC. # 623

DETAIL NUMBER TG-7

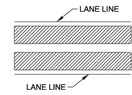
DIRECTIONAL DRILLING DETAIL

222



NOTES

1. Remove existing surface material and replace with materials as shown in the summary of base and surface quantities. Construction below the excavated surface shall be included in the linear conduit bid items.
2. Recompact existing subbase material around trench to meet compaction requirements for that material type and location.
3. See plan sheets for key-in detail (if needed).
4. Longitudinal trenching in shoulder: if shoulder is 4-feet wide or less, remove all surface material from the edge of oil to shoulder, stripe and replace or as directed by the Engineer (see note 1).
5. If pavement saw cut is within 2-feet of an existing pavement edge or existing pavement patch, remove existing pavement to that edge and replace entire section or as directed by the Engineer (see note 1).
6. Saw cut edges for trench shall not fall within wheel path (see detail "A") or as directed by the Engineer.
7. Engineer may require wider patch sections or otherwise alter the requirements.
8. Contractor shall be responsible for replacement of loop detectors, adjustments of utilities and survey monuments to grade, and installation of temporary pavement markings.
9. Trench width varies based on number of conduits, configuration and compaction requirements.
10. Slurry cement backfill shall conform to the requirements in subsection 207.02.02 slurry cement backfill of the NDOT Standard Specifications.
11. Sand bedding or approved material shall conform to gradation requirements in subsection 623.02.14 of the contract special provisions.
12. Native material shall not contain rocks larger than 3-inches.
13. Conduit couplings shall be staggered with no coupling touching another coupling.
14. Use conduit spacers or other approved method to prevent conduit braiding. spacers are not required if contractor can ensure there is no conduit braiding prior to or during backfill.
15. Return disturbed area to match existing grade.
16. Conduits and conduit configuration shown in this detail are for graphical purposes only. See plans, schedules and specifications for conduit quantities, sizes, materials, and types.
17. If installing underground electrical facilities or supplies, refer to Nevada administrative code (NAC) 408.447 and 408.453.
18. Salvage existing topsoil if trench width exceeds 11-inches and if topsoil salvage is required as part of the project. see contract documents for details.
19. If plowing, all the applicable requirements for trenching still apply.



NEVADA DEPARTMENT OF TRANSPORTATION

CHIEF ROAD DESIGN ENGR SIGNED ORIGINAL ON FILE

ADOPTED 2/19/21

REVISED 7/2024

SIGNALS, LIGHTING, & ITS CONDUIT TRENCH DETAIL

SPEC. # 623

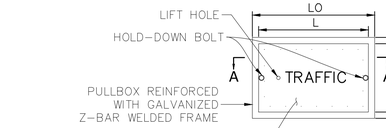
DETAIL NUMBER TG-5

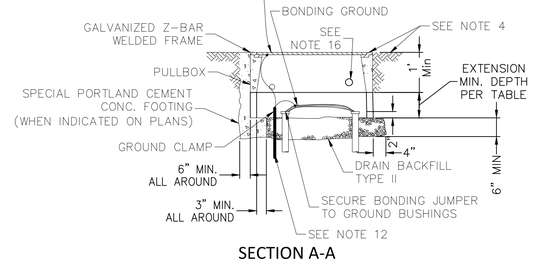
CONDUIT TRENCH DETAIL

NOTES FOR PULL BOXES:

1. ALL PULL BOXES SHALL BE TRAFFIC RATED UNLESS SPECIFICALLY STATED OTHERWISE IN PLANS. ALL TRAFFIC RATED PULL BOXES SHALL BE HS–20 LOADING RATING PER AASHTO STANDARDS.
2. ALL PULL BOXES SHALL HAVE SLIP RESISTANT COVERS. STEEL COVERS SHALL HAVE EMBOSSED NON–SKID PATTERN AND BE SLIP–RESISTANT.
3. STEEL REINFORCING SHALL BE PER MANUFACTURERS REQUIREMENTS.
4. TOP OF PULL BOXES SHALL BE FLUSH WITH SURROUNDING GRADE OR TOP OF ADJACENT CURB, EXCEPT THAT IN UNPAVED AREAS WHERE PULL BOX IS NOT IMMEDIATELY ADJACENT TO AND PROTECTED BY A CONCRETE FOUNDATION, POLE OR OTHER CONSTRUCTION, THE BOX SHALL BE PLACE WITH ITS TOP 1–INCH ABOVE SURROUNDING GRADE. WHERE PRACTICABLE, PULL BOXES SHOWN IN THE VICINITY OF CURBS SHALL BE PLACED ADJACENT TO THE BACK OF CURB, AND PULL BOXES SHOWN ADJACENT TO STANDARDS SHALL BE PLACED ON SIDE OF FOUNDATION FACING AWAY FROM TRAFFIC, UNLESS OTHERWISE NOTED. WHEN PULL BOX IS INSTALLED IN SIDEWALK AREA, THE DEPTH OF THE PULL BOX SHALL BE ADJUSTED SO THAT THE TOP OF THE PULL BOX IS FLUSH WITH THE TOP OF THE SIDEWALK.
5. THE NOMINAL DIMENSIONS OF THE OPENING IN WHICH THE COVER SETS SHALL BE THE SAME AS THE COVER DIMENSIONS EXCEPT THE LENGTH AND WIDTH DIMENSIONS SHALL BE ⅛–INCH GREATER.
6. ALL COVERS AND BOXES SHALL BE INTERCHANGEABLE WITH NEVADA STANDARD MALE AND FEMALE GAGES. WHEN INTERCHANGED WITH A STANDARD MALE OR FEMALE GAGE, THE TOP SURFACES SHALL BE FLUSH WITHIN ⅛–INCH. TOP OUTSIDE EDGE OF ALL CONCRETE COVERS AND PULL BOXES SHALL HAVE A ¼–INCH MINIMUM RADIUS.
7. PULL BOX SHALL NOT BE INSTALLED WITHIN THE BOUNDARIES OF NEW OR EXISTING CURB RAMPS.
8. PULL BOXES FOR ELECTROLIERS AND SIGNAL STANDARDS SHALL BE LOCATED AT THE SAME STATION (+ 5–FOOT) AS THE ADJACENT ELECTROLIER OR SIGNAL STANDARD. PULL BOXES SHALL BE PLACED ADJACENT TO BACK OF CURB OR EDGE OF SHOULDER EXCEPT WHERE THIS IS IMPRACTICAL, A BOX MAY BE PLACED IN ANOTHER SUITABLE PROTECTED AND ACCESSIBLE LOCATION.
9. IN AREAS WHERE THE POSSIBILITY OF MATERIAL ERODING FROM AROUND THE PULL BOX EXISTS, THE PULL BOX SHALL BE PLACED IN DRAIN BACKFILL TYPE II – (2–FOOT DEPTH ON EACH SIDE AND 1–FOOT DEPTH), AS DIRECTED BY THE ENGINEER.
10. USE MODIFIED PULL BOXES ONLY WHEN INDICATED ON THE PLANS.
11. INSTALL CONDUIT PLUG ON EACH UNUSED CONDUIT OR INNERDUCT.
12. GROUND ROD – ALL METAL PULL BOX LIDS SHALL BE GROUNDED. INSTALL A STRANDED NO. 4 (GREEN, 7–STRAND) THW WIRE, 7–FEET IN LENGTH, FROM THE LID TO THE BONDING GROUND. FASTEN THE NO. 4 CONDUCTOR TO THE LID BY CAD WELDING. ALL PULL BOXES SHALL RECEIVE A GROUND ROD.
13. ALL CONDUITS SHALL HAVE A MINIMUM OF 6–INCH CLEARANCE FROM THE TOP OF THE CONDUIT TO THE COVER. SEAL ALL CONDUIT ENDS WITH A DUCT SEALING COMPOUND.
14. MODIFIED PULL BOX NO. 3 ½, NO. 5, NO. 7, AND NO. 9 INCLUDE PULL BOX PLUS AT LEAST ONE EXTENSION.
15. GROUNDING RESISTANCE SHALL NOT EXCEED NEC. ADD ADDITIONAL GROUNDING AS NEEDED. SUPPLY FINAL GROUNDING TEST RESULTS TO THE ENGINEER.
16. THE CONTRACTOR SHALL INSTALL ELECTRONIC MARKER SYSTEM IN ALL BURIED PULL BOXES. INSTALL A RED (POWER INDUSTRY) MARKER FOR POWER PULL BOXES AND BLACK/ORANGE (CABLE TV AND COMMUNICATIONS) FOR ITS PULL BOXES.

PULL BOX DETAIL





SECTION A-A
PULLBOX
No. 3 1/2, No. 5, No. 7 & No. 9

PULLBOX MINIMUM DIMENSION TABLE

PULLBOX	CONCRETE BOX			STEEL COVER			EXTENSION
	LO	WO	Height	L	W	Edge Taper	Height
No. 3 ½	19"±	12"±	12"±	14 1/2"±	8 1/4"±	None	12"
No. 5	25"±	15"±	12"±	20 1/2"±	10 1/2"±	None	12"
No. 7	35"±	22"±	12"±	30"±	17"±	None	12"
No. 9	52"±	35"±	24"±	47 3/4"±	30"±	None	12"

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227–2600
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REV.	DATE	DESCRIPTION	BY	APP'D

DATE: AUG 2025
DRAWN BY: MSH
DESIGNED BY: MSH
CHECKED BY: LEC

SOUTH VIRGINIA ST/SOUTH HILLS DR
TRAFFIC SIGNAL DETAILS
RENO NEVADA
WASHOE

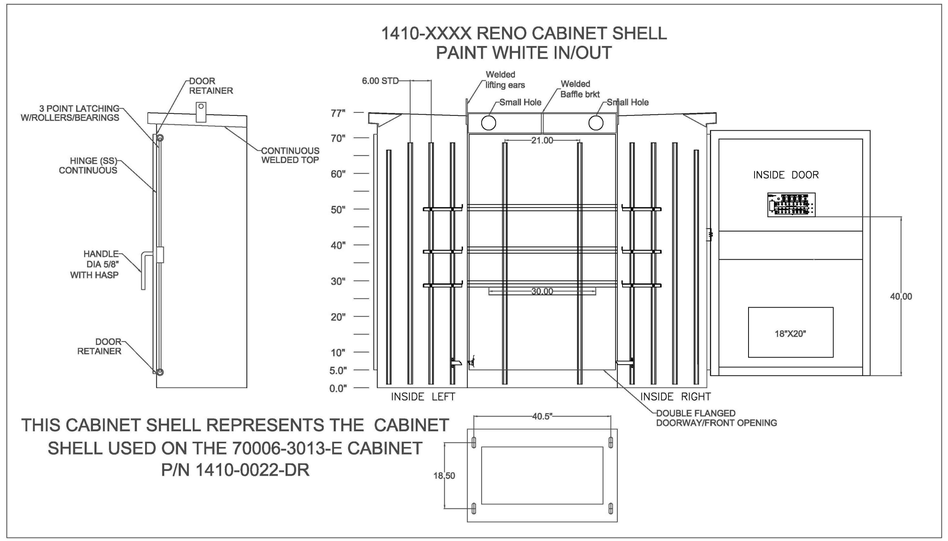
GCA ENGINEERS \ SURVEYORS

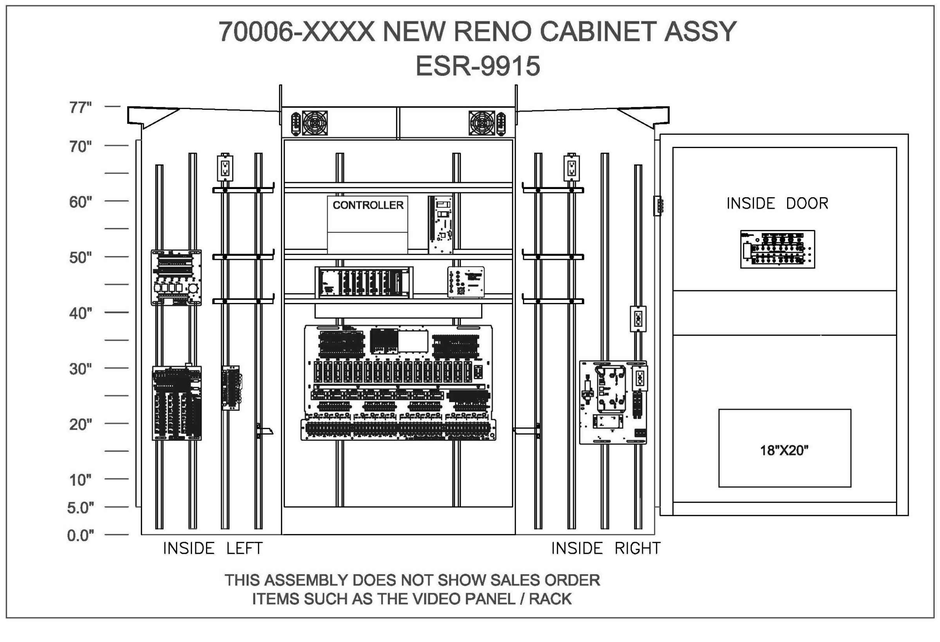
M. SCOTT HENRY
Exp. 6/30/27 CIVIL
No. 12539
8/20/25

SCALE
HORIZ. N/A
VERT.
JOB NO. 23–125

SHEET TS–4
OF 10

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CONTROLLER CABINET SPECIFICATIONS:

FURNISH AND INSTALL CITY OF RENO STANDARD CABINET WITH THE FOLLOWING DIFFERENCES FOR TS2 TYPE 1 FORMAT:

1. TS2 TYPE 1 – 16 LOAD SWITCH BACKPANEL

2. ONE DETECTOR RACK WHICH WOULD INCLUDE:
   - 2.A. 1 BIU
   - 2.B. 16 CHANNELS OF DETECTION
   - 2.C. WIRED FOR 2 CHANNEL DETECTOR CARDS ONLY (NOT 4 CHANNEL)
   - 2.D. PREEMPTION CARD SLOTS WIRED FOR EITHER 2 – 2 CHANNEL PREEMPTION OR 1 – 4 CHANNEL PREEMPTION CARD

3. ALL EXISTING SWITCHES ON POLICE PANELS STAY THE SAME

4. ALL EXISTING SWITCHES ON THE INSIDE DOOR AUX PANEL STAY THE SAME EXCEPT FOR DETECTION TEST SWITCHES

5. LOOP INTERFACE PANEL HAVE TEST SWITCHES
   - 5.A. 16 VEHICLE DETECTOR TEST SWITCHES
   - 5.B. 4 PEDESTRIAN TEST SWITCHES
   - 5.C. 4 PREEMPTION TEST SWITCHES

6. ADD LED LIGHTING INSTEAD OF THE FLUORESCENT LIGHT UNDER THE DOCUMENT DRAWER

7. REMOVE THE INCANDESCENT LIGHT FIXTURE AT THE TOP AND REPLACE IT WITH LED LIGHTING AT THE TOP OF THE CABINET

8. REMOVE THE PUNCH DOWN TERMINAL BLOCK

9. TS2 TYPE 2 CONTROLLERS SHALL BE FURNISHED AND INSTALLED SO THE TYPE 1 CABINET NEEDS THE A/C POWER ADAPTER TO CONVERT IT FROM TYPE 1 TO TYPE 2

10. CABINET LAYOUT:
    - 10.A. KEEP THE POWER PANEL THE SAME
    - 10.B. KEEP THE SHELF PLACEMENT THE SAME
    - 10.C. KEEP THE HEIGHT OF THE PANEL MOUNTING THE SAME FROM THE FLOOR OF THE CABINET
    - 10.D. KEEP THE SAME FILTER OPENING SIZE
    - 10.E. SAME WHITE INSIDE AND OUT
    - 10.F. SAME HINGE
    - 10.G. SAME CABINET

11. OTHER MODIFICATIONS AS REQUIRED BY THE CITY OF RENO. CONTACT JOHN BAKER, CITY OF RENO, AT (775) 334-1270 TO CONFIRM REQUIREMENTS PRIOR *TO ORDERING*.

REV.	DATE	DESCRIPTION	BY	APP'D

DATE: AUG 2025
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CHECKED BY: LEC

SOUTH VIRGINIA ST/SOUTH HILLS DR
TRAFFIC SIGNAL DETAILS
WASHOE
RENO
NEVADA

GCA ENGINEERS \ SURVEYORS

M. SCOTT HENRY
Exp. 6/30/27
CIVIL
No. 12539
PROFESSIONAL ENGINEER
STATE OF NEVADA
8/20/25

SCALE
HORIZ. N/A
VERT.
JOB NO. 23-125

SHEET
TS-5
OF
10

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CITY OF RENO GENERAL TRAFFIC SIGNAL NOTES

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING SUBSTRUCTURES, WHETHER SHOWN OR NOT, AND TO NOTIFY ALL UTILITY COMPANIES TO VERIFY IN THE FIELD THE LOCATION OF THEIR INSTALLATIONS AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROTECT ALL SUBSTRUCTURES FROM DAMAGE, AS WELL AS ANY OTHER PUBLIC INFRASTRUCTURE. THE EXPENSE TO REPAIR OR FOR REPLACEMENT SHALL BE BORNE BY THE CONTRACTOR.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION) AND THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION), AND SUPPLEMENTED BY THE STATE OF NEVADA STANDARD PLANS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION).
3. THE LOCATION OF CONTROLLER, PULL BOXES WITH GROUND RODS, AND CONDUIT RUNS SHALL BE WITHIN THE EXISTING RIGHT-OF-WAY OR ANY EASEMENT GRANTED OUTSIDE THE RIGHT-OF-WAY.
4. DESIGN ENGINEER SHALL BE RESPONSIBLE **FOR** THE LOCATION OF ALL ELECTRICAL, SIGNAL POLE, CONTROLLER, CONDUIT, LOOP DETECTOR, AND PULL BOXES. **FINAL LOCATIONS ARE TO BE DETERMINED IN THE FIELD AND APPROVED BY THE DESIGN ENGINEER AND CITY TRAFFIC ENGINEER.**
5. CONTROLLERS AND CABINETS SHALL MEET THE REQUIREMENTS OF THE NEMA STANDARD PUBLICATION (LATEST EDITION) AND THE CITY OF RENO SPECIFICATIONS FOR TRAFFIC SIGNAL CONTROLLERS AND CABINETS.
6. ~~CONTACT THE PUBLIC WORKS TRAFFIC ENGINEERING DIVISION FOR TRAFFIC ACTUATED CONTROLLER UNIT SPECIFICATIONS.~~
7. ~~UNLESS SHOWN OTHERWISE, THE CONTROLLER CABINET SHALL BE WIRED FOR EIGHT (8) PHASE OPERATION WITH TWO (2) OVERLAPS AND SHALL BE FURNISHED WITH ALL NECESSARY MODULES, LOAD SWITCHES, AND EQUIPMENT REQUIRED FOR FULL EIGHT (8) PHASE OPERATION WITH TWO (2) OVERLAPS.~~
8. ALL NEW SIGNAL POLES WILL HAVE TWO (2) HANDHOLES AND AN ACCESS DOOR FOR THE TERMINAL BLOCK. SEE TRAFFIC SIGNAL POLE DETAIL DRAWING R-413A FOR TRAFFIC SIGNAL EQUIPMENT DIMENSIONS. FOR POLE DETAILS, SEE THE NEVADA DEPARTMENT OF TRANSPORTATION'S "STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION" (NDOT-SPRBC), 2020 EDITION.
9. UNLESS SHOWN OTHERWISE, No. 7 PULL BOX SHALL BE USED AT LOCATIONS WHERE CONDUIT RUNS CONTAIN TRAFFIC SIGNAL CABLE OR CARRY POWER. No. 3-1/2 SHALL ONLY BE USED AS APPROVED BY CITY OF RENO TRAFFIC ENGINEER. ~~TRAFFIC RATED BOX SHALL BE USED IN VEHICULAR AREAS ONLY, INCLUDING, BUT NOT LIMITED TO TRAVEL WAY, DRIVEWAY APPROACHES AND WITHIN PEDESTRIAN RAMPS AT INTERSECTION CURB RETURNS.~~ ALL PULL BOXES WITH METAL LIDS SHALL BE GROUNDED PER TRAFFIC RATED PULL BOX DETAIL.
10. ALL EXPOSED CONDUIT SHALL BE OF A RIGID PVC SCHEDULE 80 AND SHALL EXTEND TO A MINIMUM DEPTH OF 18 INCHES. **ALL OTHER CONDUIT SHALL BE PVC SCHEDULE 40 MINIMUM.**
11. ~~ALL CONDUIT RUNS FOR SIGNAL CABLE SHALL CONSIST OF TWO 3" CONDUITS BETWEEN PULL BOXES AND BETWEEN THE PULL BOXES AND POLES. THERE SHALL BE THREE 3" CONDUITS FROM THE CONTROLLER CABINET TO THE PULL BOXES.~~
12. ALL CONDUIT RUNS TERMINATING IN A PULL BOX SHALL HAVE A MINIMUM OF SIX INCHES OF CLEARANCE FROM THE BOTTOM OF THE LID, AND SHALL RISE A MINIMUM OF THREE INCHES ABOVE THE TOP OF THE DRAIN ROCK.
13. ALL NEW CONDUIT RUNS SHALL HAVE A PULL TAPE.
14. ALL CONDUIT TERMINATIONS SHALL HAVE A "BELL END" INSTALLATION AND BE SEALED WITH CONDUIT SEALER AFTER WIRE INSTALLATION. CONDUIT ENDS SHALL NOT TERMINATE WITHIN A SWEEP SECTION. ALL CONDUCTORS AND THEIR TERMINATION SHALL BE CLEARLY MARKED ON THE CABINET SCHEMATIC WIRING DIAGRAM.

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	DRAWING No.
NOTES - TRAFFIC SIGNALS & POLES	R-413F
	APPROVED BY: JF / DATE: 1/2013

LINED OUT NOTES ARE NOT APPLICABLE TO THIS PROJECT — MODIFIED BY HEADWAY

15. THE RED, YELLOW AND GREEN INDICATION FOR ALL NEW VEHICULAR SIGNAL HEADS SHALL BE 12 INCH LIGHT EMITTING DIODE (LED) AND INCLUDE "AlInGap" TECHNOLOGY. UTILIZE "~~GELCORE" RX11;~~ "DIALITE" 433 SERIES OR APPROVED EQUAL. ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE COUNTDOWN "LED" WITH HAND SYMBOL (PORTLAND ORANGE) AND WALKING MAN SYMBOL (LUNAR WHITE).
16. ALL VEHICULAR HEADS SHALL HAVE "TUNNEL" VISORS WITH 4 INCH SLOT AT BOTTOM WITH LOUVERED BACK PLATES. ALL SIGNAL HEADS TO BE MANUFACTURED BY "ECONOLITE", "EAGLE" OR APPROVED EQUAL. ~~IF DIRECTED BY THE ENGINEER, EXTRA BACK PLATES TO BE PROVIDED FOR STOCK.~~ **HARDWARE SHALL BE ALUMINUM AND HAVE A BLACK FACTORY FINISH. INSTALL RETROREFLECTIVE STRIPS ON BACKPLATES PRIOR TO INSTALLATION.**
17. ~~ALL NEW PEDESTRIAN PUSH BUTTONS SHALL BE THE 2 INCH DIAMETER WITH INTERNATIONAL WALKING MAN SYMBOL SIGN. FOR MOUNTING HEIGHT AND ADDITIONAL DETAILS, SEE STANDARD PLAN SHEET NO. T-30.1.3.1 OF NDOT-SPRBC. UTILIZE "Polara" BULLDOG W/MOMENTARY "LED" AND YELLOW COLLAR, OR APPROVED EQUAL. USE 5" X 7-3/4" STATION FOR 1A POLES AND SMALLER.~~
18. ~~ALL INTERSECTIONS SHALL HAVE A BATTERY BACK-UP SYSTEM. THE SYSTEM SHALL BE MOUNTED TO THE METERED SERVICE CABINET OF THE SYSTEM AND WILL BE A 24 VOLT OR 48 VOLT SYSTEM. THE CABINET SHALL BEAR A 508 UL LABEL. THE SYSTEM SHALL SUPPLY A MINIMUM UNINTERRUPTED CONTINUOUS POWER SUPPLY (UPS) SERVICE FOR UP TO 2 HOURS. THE SYSTEM SHALL FEATURE AN EVENT COUNTER AND TIMER. THE SYSTEM SHALL HAVE A TWO (2) YEAR PARTS AND LABOR TRANSFERABLE WARRANTY TO THE CITY OF RENO. THE UPS UNIT AND THE METERED PEDESTAL SHALL BE DESIGNED AS ONE COMPLETE UNIT. THE UPS SYSTEM SHALL BE A PIGGYBACK DESIGN SYSTEM AND HANG ON THE METERED SERVICE PEDESTAL.~~
19. WHEN CONTROLLER CABINETS ARE NOT LOCATED IN A SIDEWALK, THEY SHALL HAVE A CONCRETE SERVICE PAD INSTALLED IN FRONT OF THE CABINET, THE SAME WIDTH AS CABINET AND AT LEAST 3 FEET LONG. NO IMPROVEMENTS SHALL BE PERMITTED TO BLOCK CABINET DOOR IN COMPLIANCE WITH NEC. SPRINKLER SYSTEMS SHALL BE DIRECTED AWAY FROM AND NOT ALLOWED TO SPRAY CABINET OR PULL BOXES DIRECTLY.
20. ~~ALL NEW TRAFFIC SIGNALS SHALL BE CONNECTED INTO THE CITY OF RENO'S TRAFFIC SIGNAL CENTRAL COMPUTER SYSTEM VIA THE NEAREST RECEIVER SITE BY FIBER-OPTIC OR AN APPROVED OTHER.~~
21. ~~FOR FIBER OPTIC AND EQUIPMENT CONTACT CITY OF RENO TRAFFIC ENGINEERING FOR LATEST SPECIFICATIONS.~~
22. THE LUMINAIRE FIXTURES SHALL BE **CREE STR-LWY3MHT08EULSV700 OR APPROVED EQUAL**. PHOTO CELL TO BE LOCATED IN METERED SERVICE PEDESTAL.
23. ~~PREEMPTION OF SIGNALS BY EMERGENCY VEHICLES SHALL BE PROVIDED BY INSTALLING **OPTICOM** MODEL 762 PHASE SECTOR DETECTORS WITH THE MODEL 752N PHASE SELECTOR, OR AN APPROVED EQUAL. **PROVIDE CABLE AND ALL INCIDENTALS FOR A FULLY FUNCTIONAL SYSTEM.**~~
24. ~~LOOP DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF RENO STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION **(R-406A & R-406B)**.~~
25. THE CONTRACTOR SHALL PROVIDE AN UNDERGROUND SERVICE PEDESTAL. THE MAIN BREAKER SHALL BE 100 AMP MINIMUM (120/240 VAC, 60 HZ, SINGLE PHASE, 3 WIRE) IN ACCORDANCE WITH NDOT STANDARD PLAN T-30.1.6. INDIVIDUAL CIRCUIT BREAKERS SHALL INCLUDE 120 VOLT: 30 AMP 1-POLE CIRCUIT BREAKER FOR SIGNAL; 30 AMP 2-POLE CIRCUIT BREAKER FOR LIGHTING CONTACTOR; 20 AMP 1-POLE CIRCUIT BREAKER FOR STREET LIGHTS; 20 AMP 1-POLE CIRCUIT BREAKER FOR SIGNS; 15 AMP 1-POLE CIRCUIT BREAKER FOR CONTROL; AND A 15 AMP 1-POLE CIRCUIT BREAKER FOR GFI RECEPTACLE. THE CONDUCTOR TO THE CABINET FROM THE BREAKER SHALL BE A MINIMUM OF 10 GAUGE WIRE. **SEE METERED SERVICE SCHEDULE ON SHEET 32.**
26. **¼"-20 BOLTS WITH LOCK WASHERS AND FLAT WASHERS ARE REQUIRED FOR ALL HAND HOLE AND BASE PLATE COVERS.**

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	DRAWING No.
NOTES - TRAFFIC SIGNALS & POLES	R-413G
	APPROVED BY: JF / DATE: 1/2013

LINED OUT NOTES ARE NOT APPLICABLE TO THIS PROJECT — MODIFIED BY HEADWAY

26. THE CONTRACTOR SHALL COORDINATE WITH NV ENERGY IN PROVIDING SERVICE FOR THE SIGNAL WITHIN NV ENERGY STANDARDS.
27. POWER PANEL SURGE PROTECTION SHALL BE PROVIDED AND APPROVED THROUGH THE SUBMITTAL PROCESS TO THE PUBLIC WORKS TRAFFIC ENGINEERING DIVISION.
28. ~~EXISTING VEHICLE DETECTOR LOOPS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AND MADE FULLY FUNCTIONAL WITHIN TWO WORKING DAYS. IF NOT MADE FUNCTIONAL WITHIN THE TWO DAYS FOLLOWING DAMAGE, THE CITY MAY PERFORM THE REPAIR AND BACK-CHARGE THE CONTRACTOR AT THE EXPENSE OF $1000 PER LOOP. SPLICING WILL NOT BE CONSIDERED AS AN ADEQUATE REPAIR.~~
29. THE CONTRACTOR SHALL COORDINATE TRAFFIC SIGNAL INSTALLATIONS OR MODIFICATIONS WITH THE CITY OF RENO TRAFFIC ENGINEER AT 334-3334.
30. NO SPLICES SHALL BE PERMITTED BETWEEN THE CONTROLLER CABINET AND THE TRAFFIC SIGNAL POLE. ALL CONNECTIONS SHALL BE MADE AT THE JUNCTION BOX, ~~OR IN THE CASE OF LOOPS, AT THE LOOP STUB~~. ANY DEVIATION TO THIS REQUIREMENT SHALL BE APPROVED BY THE CITY TRAFFIC ENGINEER PRIOR TO THE WORK.
31. ~~VEHICLE DETECTOR LOOPS DAMAGED DURING CONSTRUCTION WHICH ARE PERMITTED BY THE CITY TRAFFIC ENGINEER TO BE TEMPORARILY SPLICED, MUST BE REPLACED PRIOR TO FINAL ACCEPTANCE.~~
32. ~~IF ANY PAVEMENTS MARKINGS ARE TO BE RELOCATED, VEHICLE DETECTOR LOOPS SHALL BE RELOCATED ACCORDINGLY TO REMAIN CONSISTENT WITH CITY OF RENO STANDARD DETAIL NO. R-406A AND NO. R-406B.~~
33. ~~AS A PART OF ANY STREET WIDENING PROJECT OR THE ADDITION OF ANY STREET TRAVEL LANES TO EXISTING LANES, SUCH AS TURN LANES, ACCELERATION OR DECELERATION LANES, ETC., THE CONTRACTOR MUST EXTEND ANY TRAFFIC CONTROL CONDUITS AND/OR WIRING AND REPLACE ALL AFFECTED VEHICLE LOOP DETECTOR WIRING (SPLICING SHALL NOT BE ALLOWED).~~
34. SIGNAL EQUIPMENT SHALL BE PROVIDED AND APPROVED THROUGH THE SUBMITTAL PROCESS TO THE PUBLIC WORKS TRAFFIC ENGINEERING DIVISION.
35. FOR POLE DETAILS NOT SHOWN, SEE POLE MANUFACTURER'S DETAILED DRAWINGS.
36. ALL SIGNAL POLES SHALL CONFORM TO NDOT ~~TYPE 35 AND 35A~~ SPECIFICATIONS, INCLUDING BOLT CIRCLE DIMENSIONS, ANCHOR BOLTS, AND FOOTING DIMENSIONS.
37. FINAL POLE APPROVAL AND SUBMITTALS TO BE APPROVED BY THE CITY OF RENO.
38. ~~CLAM SHELL FOR TYPE 7D POLE TO BE USED ONLY WHEN POLE IS INCLUDED AS A SIGNAL POLE. DO NOT USE CLAM SHELL WHEN TYPE 7D POLE IS USED IN SERIES LIGHTING.~~
39. ~~POLE MAY BE MANUFACTURED AS EITHER A DOUBLE OF SINGLE CANDYCANE CONFIGURATION.~~
40. VIDEO DETECTION **SHALL** BE USED.

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	DRAWING No.
NOTES - TRAFFIC SIGNALS & POLES	R-413H
	APPROVED BY: JF / DATE: 1/2013

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DRAWN BY: MSH
DESIGNED BY: MSH
CHECKED BY: LEC

SOUTH VIRGINIA ST/SOUTH HILLS DR
TRAFFIC SIGNAL DETAILS
RENO WASHOE NEVADA

GCA ENGINEERS \ SURVEYORS

PROFESSIONAL ENGINEER — STATE OF NEVADA — M. SCOTT HENRY — Exp. 6/30/27 CIVIL — No. 12539 — 8/20/25

SCALE
HORIZ. N/A
VERT.
JOB NO. 23-125

SHEET TS-6 OF 10

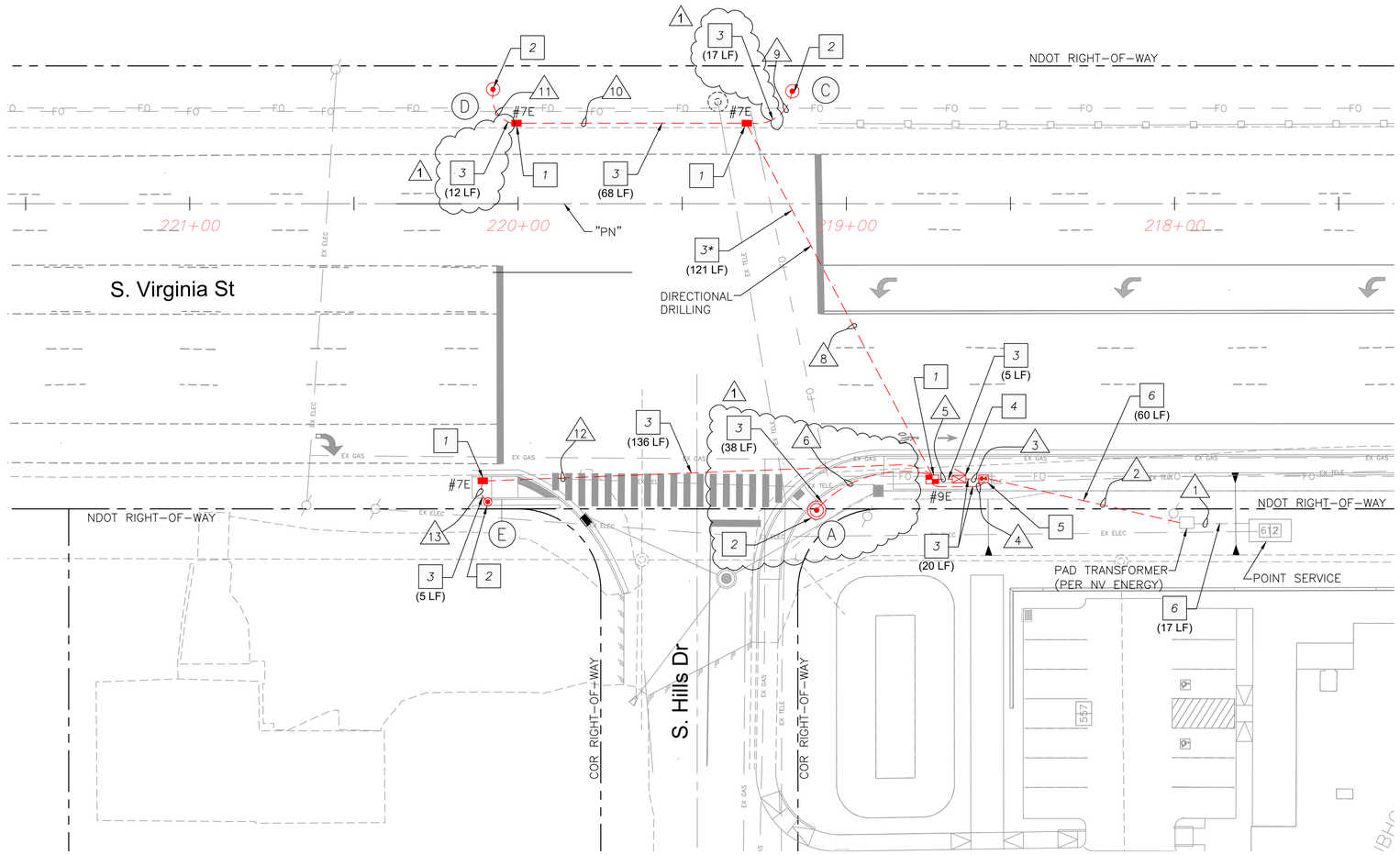
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CONSTRUCTION NOTES (THIS SHEET ONLY):

1. FURNISH AND INSTALL TRAFFIC RATED PULL BOX PER DETAIL ON SHEET TS-4.
2. FURNISH AND INSTALL NEW SIGNAL POLE FOUNDATION PER DETAILS ON SHEETS TS-3.
3. FURNISH AND INSTALL SCHEDULE 80 PVC CONDUIT PER DETAIL ON SHEET TS-4 AND SCHEDULE ON SHEET TS-9. DISTANCE SHOWN ON PLAN REFLECTS TRENCH LENGTH, NOT ACTUAL CONDUIT LENGTH.
4. CONSTRUCT TYPE R-44 FOUNDATION PER DETAIL ON SHEET TS-2.
5. CONSTRUCT METERED SERVICE FOUNDATION PER DETAIL ON SHEET TS-2.
6. FURNISH AND INSTALL SCHEDULE 40 PVC CONDUIT PER NV ENERGY TYPICAL TRENCH DETAIL TE0003U.
*. CONDUIT TO BE INSTALLED BY DIRECTIONAL DRILLING METHOD PER DETAIL ON SHEET TS-4.

20 0 20 40
1" = 20' GRAPHIC SCALE

NOTE: GREEN = REMOVE/RELOCATE (NDOT R/W)
RED = NEW (NDOT R/W)
BLUE = EXISTING (NDOT R/W)
SHADED = NV ENERGY (OUTSIDE NDOT R/W)



REV.	DATE	DESCRIPTION	BY	APP'D
1	3-18-26	NDOT PERMIT AMENDMENT #1	RP	RP

DATE: AUG 2025
DRAWN BY: MSH
DESIGNED BY: MSH
CHECKED BY: LEC

SOUTH VIRGINIA ST/SOUTH HILLS DR
TRAFFIC SIGNAL CONDUIT PLAN
RENO WASHOE NEVADA

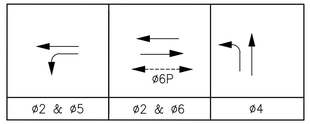
GCW ENGINEERS \ SURVEYORS

PROFESSIONAL ENGINEER STATE OF NEVADA
RICHARD PETTINARI
Exp. 12/31/27
CIVIL
No. 21911
06/12/26
DATE

SCALE
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VERT.
JOB NO. 23-125

SHEET TS-7
OF 10

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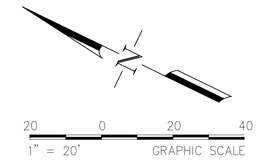


PROPOSED PHASE DIAGRAM

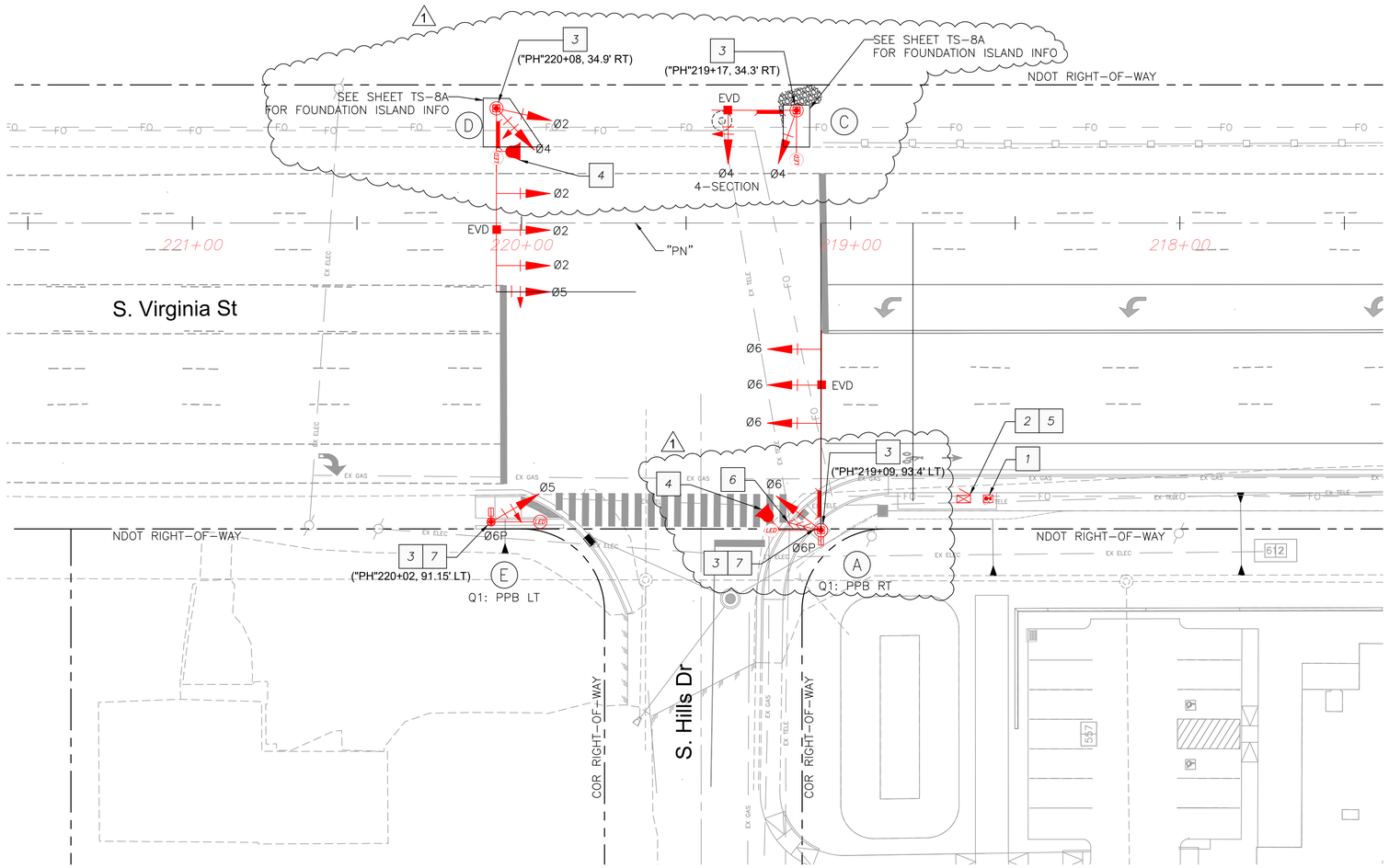
FLASHING OPERATION: ALL RED

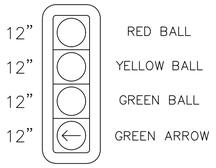
CONSTRUCTION NOTES (THIS SHEET ONLY) :

1. FURNISH AND INSTALL 100A METERED SERVICE WITH BATTERY BACKUP PER DETAIL ON SHEET TS-2.
2. FURNISH AND INSTALL NEW CONTROLLER AND CABINET ASSEMBLY. MAKE ALL CONNECTIONS.
3. FURNISH AND INSTALL NEW SIGNAL POLE PER DETAILS ON SHEET TS-3 AND POLE SCHEDULE ON SHEET TS-9.
4. FURNISH AND INSTALL DETECTION CAMERA ON LUMINAIRE ARM AND CABLE TO CONTROLLER. MAKE ALL CONNECTIONS.
5. FURNISH AND INSTALL PROCESSOR FOR DETECTION CAMERA SYSTEM IN CABINET PER MANUFACTURER SPECIFICATIONS. MAKE ALL CONNECTIONS.
6. INSTALL NEW RADIO COMMUNICATION SYSTEM INCLUDING ALL ANTENNAS, COMMUNICATION EQUIPMENT, WIRING, AND MAKING ALL CONNECTIONS FOR A FULLY OPERATIONAL WIRELESS COMMUNICATION SYSTEM TO S. VIRGINIA/SOUTH MEADOWS. RECEIVING ANTENNA TO BE INSTALLED ON NORTHEAST SIGNAL POLE AT THE S. VIRGINIA/SOUTH MEADOWS INTERSECTION. COORDINATE WITH CITY OF RENO SIGNAL CREWS PRIOR TO ORDERING.
7. FURNISH AND INSTALL SINGLE PEDESTRIAN PUSH BUTTON EXTENSION PER DETAIL ON SHEET TS-3 AND POLE SCHEDULE ON SHEET TS-9.

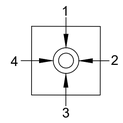


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BLUE = EXISTING (NDOT R/W)





4-SECTION HEAD



QUADRANT

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REV.	DATE	DESCRIPTION	BY	APP'D
1	3-18-26	NDOT PERMIT AMENDMENT #1	RP	RP

DATE: AUG 2025
DRAWN BY: MSH
DESIGNED BY: MSH
CHECKED BY: LEC

SOUTH VIRGINIA ST/SOUTH HILLS DR
TRAFFIC SIGNAL EQUIPMENT PLAN
RENO WASHOE NEVADA

GCW ENGINEERS \ SURVEYORS

PROFESSIONAL ENGINEER STATE OF NEVADA
RICHARD PETTINARI
Exp. 12/31/27
CIVIL
No. 20191
06/12/26
DATE

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SHEET
TS-8
OF
10

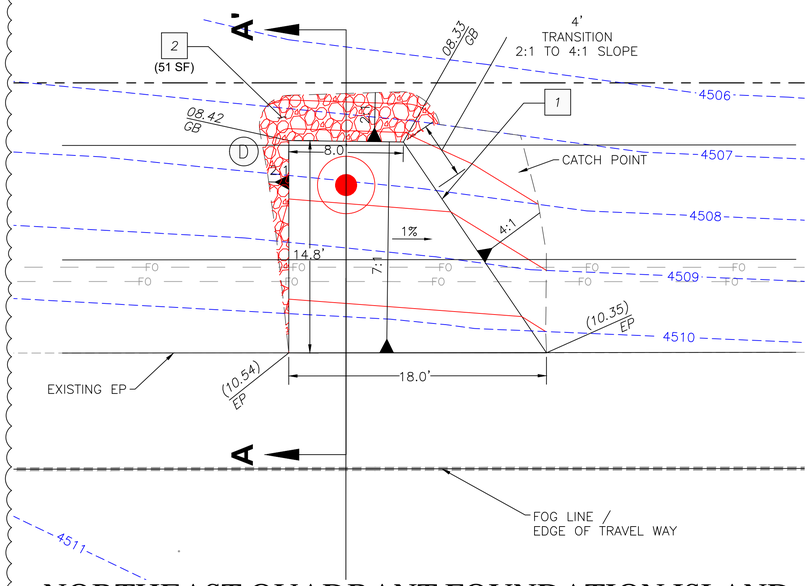
CONSTRUCTION NOTES (THIS SHEET ONLY) :

1. CONSTRUCT FOUNDATION ISLAND WITH TYPE 1, CLASS A AGGREGATE BASE COMPACTED TO 95% MAXIMUM DRY DENSITY AS DETERMINED BY TEST METHOD NO. NVE. T108. FILL SLOPE TO BE KEYED INTO EXISTING SLOPE EVERY 1' VERTICALLY.

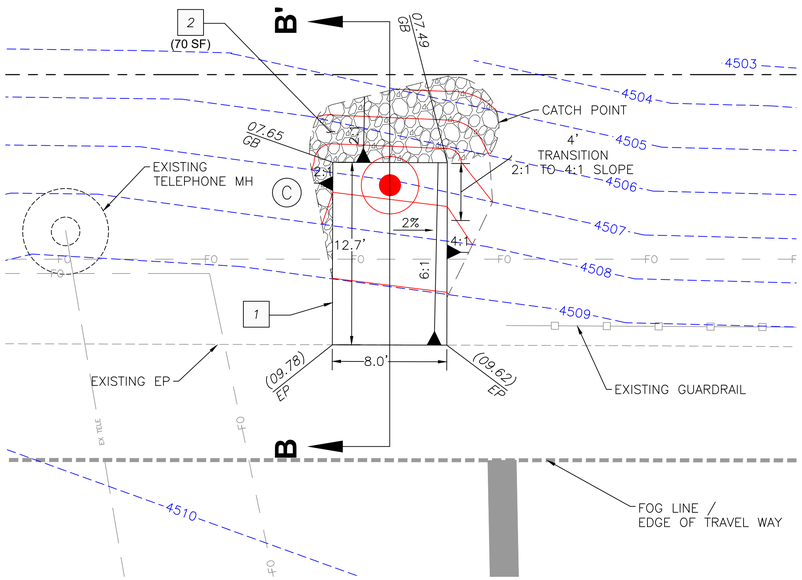
2. INSTALL CLASS 150 RIP-RAP ON 2:1 SLOPE.

20 0 20 40
1" = 20' GRAPHIC SCALE

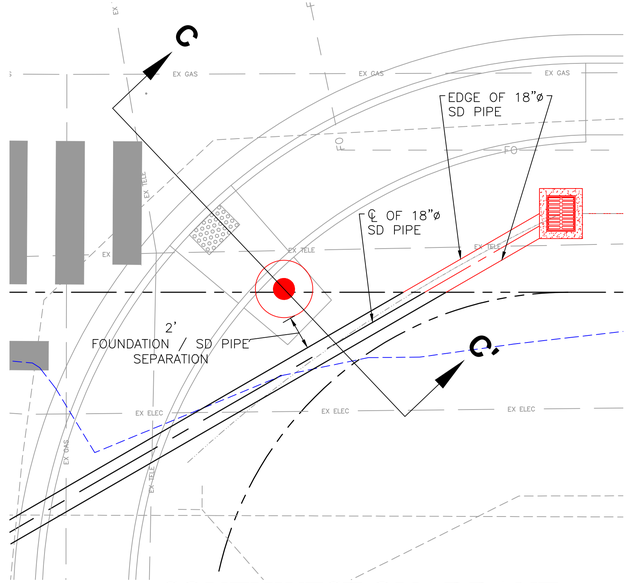
NOTE: GREEN = REMOVE/RELOCATE (NDOT R/W)
RED = NEW (NDOT R/W)
BLUE = EXISTING (NDOT R/W)



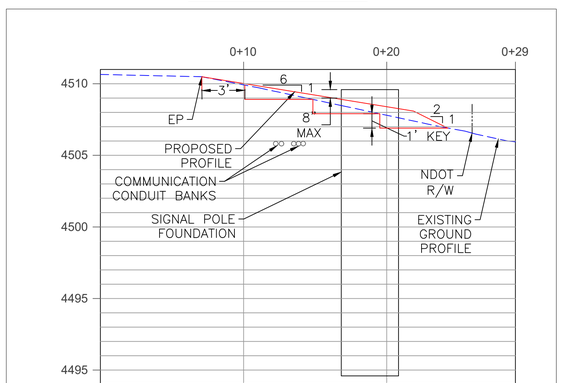
NORTHEAST QUADRANT FOUNDATION ISLAND PLAN VIEW



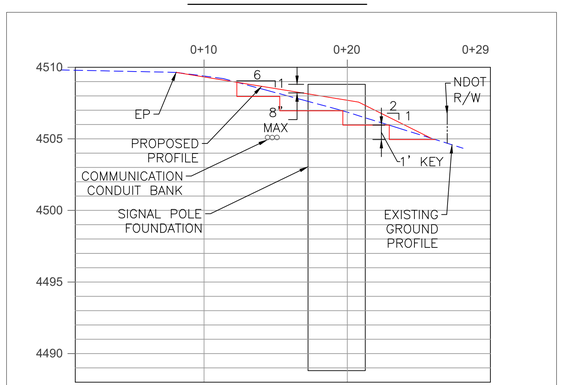
SOUTHEAST QUADRANT FOUNDATION ISLAND PLAN VIEW



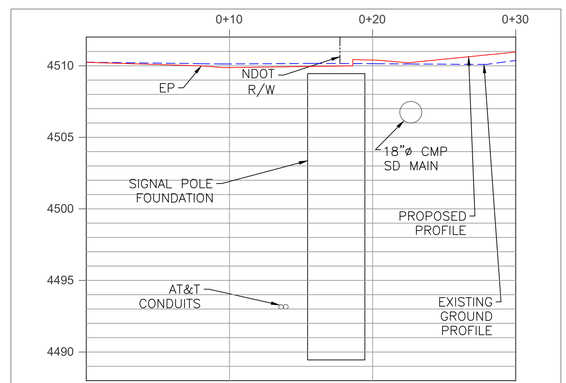
SOUTHWEST QUADRANT PLAN VIEW



SECTION A-A' PROFILE



SECTION B-B' PROFILE



SECTION C-C' PROFILE

Underground Service Alert
Call TOLL FREE
811/800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

REV.	DATE	DESCRIPTION	BY	APP'D
1	6-12-26	NDOT PERMIT AMENDMENT #1	RP	RP

DATE: AUG 2025
DRAWN BY: MSH
DESIGNED BY: MSH
CHECKED BY: LEC

SOUTH VIRGINIA ST/SOUTH HILLS DR
FOUNDATION ISLANDS PLAN
RENO WASHOE NEVADA

GCW ENGINEERS \ SURVEYORS

PROFESSIONAL ENGINEER STATE OF NEVADA
RICHARD PETTINARI
Exp. 12/31/27
CIVIL
No. 20191
06/12/26
DATE

SCALE
HORIZ. 1=20'
VERT.
JOB NO. 23-125
SHEET TS-8A
OF 10
1

CONDUIT AND CONDUCTOR SCHEDULE

RUN NO. (#)	FROM	TO	CONDUIT SIZE	GROUND	SIGNAL CABLE		INTER-CONNECT	LUMINAIRE & IISNS	SERVICE	EVP CABLE	DETECTION CAMERA CABLE	COMMENTS
				8 AWG	25+1 COND 14 AWG	10+1 CON 14 AWG	RADIO CABLE	10 AWG	6 AWG			
1	SERVICE POINT	PAD TRANSFORMER	3"	CONDUCTORS PROVIDED BY NV ENERGY								
2	PAD TRANSFORMER	METERED SERVICE	3"	CONDUCTORS PROVIDED BY NV ENERGY								
3	METERED SERVICE	CONTROLLER CABINET	3"						3			
4	METERED SERVICE	#9E HOMERUN PB	3"	1				4				
5	CONTROLLER CABINET	#9E HOMERUN PB	(4) 3"	1	3	1	1			3	2	
6	#9E HOMERUN PB	POLE A	(2) 3"	1	1		1	2		1	1	
7	#9E HOMERUN PB	POLE B	3"	1		1						
8	#9E HOMERUN PB	#7E PB FOR POLE C	(2) 3"	1	2			2		2	1	INSTALL BY DIRECTIONAL DRILLING
9	#7E PB FOR POLE C	POLE C	(2) 3"	1	1			2		1		
10	#7E PB FOR POLE C	#7E PB FOR POLE D	(2) 3"	1	1			2		1	1	
11	#7E PB FOR POLE D	POLE D	(2) 3"	1	1			2		1	1	
12	#9E HOMERUN PB	#7E PB FOR POLE E	(2) 3"	1		1		2				
13	#7E PB FOR POLE E	POLE E	3"	1		1		2				

1

METERED SERVICE EQUIPMENT SCHEDULE

SERVICE LOCATION	S. VIRGINIA/ S. HILLS
OWNERSHIP	CITY OF RENO
VOLTAGE	120V
MAIN BREAKER	100A, 240V, 2P
PHASE	SINGLE
SIGNAL BREAKER	30A, 120V, 1P
LIGHTING BREAKER	20A, 120V, 1P
IISNS BREAKER	20A, 120V, 1P
GFI RECEPTACLE	15A, 120V, 1P
CONTROL	15A, 1P, SWITCH
LIGHTING CONTACTOR	35A-2PNO, MERC

IISNS SCHEDULE

POLE	STREET NAME
A	South Hills Dr
C	S Virginia St
D	South Hills Dr

ALL IISNS TO BE SINGLE SIDED.

POLE SCHEDULE

POLE NO.	POLE TYPE	SIGNAL ARM QUAD	SIGNAL ARM LENGTH	LUM. ARM QUAD	LUM. ARM LENGTH	SIGNALS - VEHICLE TYPE	SIGNALS - VEHICLE MOUNT	SIGNALS - VEHICLE QUAD	SIGNALS - PED. MOUNT	SIGNALS - PED. QUAD	PED BUTTON QUAD	PED BUTTON ARROW	COMMENTS
A	35A	1	60'	4	15'	1W3C	M-2	MA	WS-1	3	1	RT	INSTALL EVD ON TOP OF SIGNAL HEAD
						1W3C	M-2	MA					INSTALL IISNS ON MAST ARM
						1W3C	M-2	MA					INSTALL DETECTION CAMERA ON LUMINAIRE ARM
						1W3C	B-1	3					INSTALL RADIO ANTENNA AT TOP OF POLE
B	1B	-	-	-	-	-	-		WT-2	TOP	1	RIGHT	INSTALL PUSH BUTTON EXTENSION (QUAD 4.5)
													INSTALL SINGLE PUSH BUTTON EXTENSION ON QUAD 1
C	35	4	25'	3	15'	1W4C	M-2	MA	-	-	-	-	INSTALL EVD ON TOP OF SIGNAL HEAD
						1W3C	B-1	2					INSTALL IISNS ON MAST ARM
D	35A	3	55'	3	15'	1W3C (1)	M-2*	MA	-	-	-	-	INSTALL EVD ON TOP OF SIGNAL HEAD
						1W3C	M-2*	MA					INSTALL IISNS ON MAST ARM
						1W3C	M-2*	MA					INSTALL DETECTION CAMERA ON LUMINAIRE ARM
						1W3C	M-2*	MA					
						2W3C	B-2a	1					
E	7	-	-	2	15'	1W3C	B-1	4	WS-1	4	1	LEFT	INSTALL SINGLE PUSH BUTTON EXTENSION ON QUAD 1

* INSTALL PLUMBIZER BETWEEN YELLOW AND GREEN INDICATIONS (1)

1

PULL BOX LOCATIONS

PULL BOX	STATION	OFFSET
#9E HOMERUN PB	"PN" 218+74.00	84.00 LT
#7E PB FOR POLE C	"PN" 219+31.00	26.00 RT
#7E PB FOR POLE D	"PN" 220+00.00	26.00 RT
#7E PB FOR POLE E	"PN" 220+11.00	85.00 LT

EQUIPMENT LOCATIONS

EQUIPMENT	STATION	OFFSET
METERED SERVICE	"PN" 218+58.00	84.00 LT
CONTROLLER CABINET	"PN" 218+66.00	84.00 LT
POLE A	"PN" 219+09	93.4 LT
POLE B	"PN" 218+10.00	93.00 LT
POLE C	"PN" 219+17.00	34.30 RT
POLE D	"PN" 220+08.00	34.90 RT
POLE E	"PN" 220+02.00	91.15 LT

1

NOTE: GREEN = REMOVE/RELOCATE (NDOT R/W)
RED = NEW (NDOT R/W)
BLUE = EXISTING (NDOT R/W)
SHADED = NV ENERGY (OUTSIDE NDOT R/W)

REV.	DATE	DESCRIPTION	BY	APP'D
1	3-18-26	NDOT PERMIT AMENDMENT #1	RP	RP

DATE: AUG 2025
DRAWN BY: MSH
DESIGNED BY: MSH
CHECKED BY: LEC

SOUTH VIRGINIA ST/SOUTH HILLS DR
TRAFFIC SIGNAL SCHEDULES
RENO WASHOE NEVADA

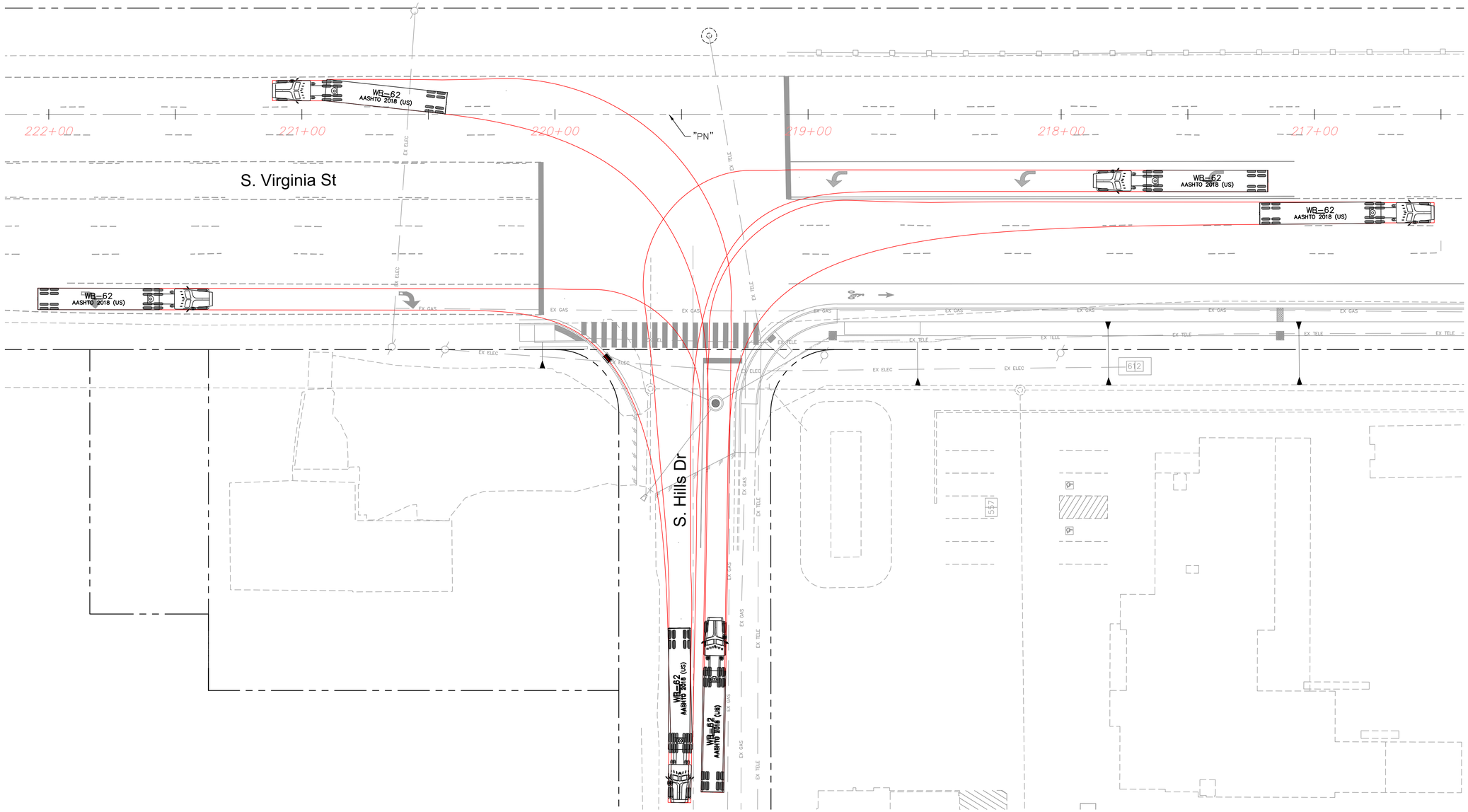
GCW ENGINEERS SURVEYORS

PROFESSIONAL ENGINEER — RICHARD PETTINARI — STATE OF NEVADA — Exp. 12/31/27 — CIVIL — No. 21019
06/12/26 DATE

SCALE
HORIZ. N/A
VERT.
JOB NO. 23-125

SHEET TS-9 OF 10

Docusign Envelope ID: BCEB8689-040A-4981-A4D9-7325AC7D4E8B



REV.	DATE	DESCRIPTION	BY	APP'D

DATE: AUG. 2025
DRAWN BY: MSH
DESIGNED BY: MSH
CHECKED BY: LEC

SOUTH VIRGINIA ST/SOUTH HILLS DR
TRUCK TURNING PATHS

RENO — WASHOE — NEVADA

GCW ENGINEERS \ SURVEYORS

PROFESSIONAL ENGINEER — NEVADA
M. SCOTT HENRY
Exp. 6/30/27
CIVIL
No. 12539
8/20/25

SCALE
HORIZ. 1=20'
VERT. ____
JOB NO. 23-125

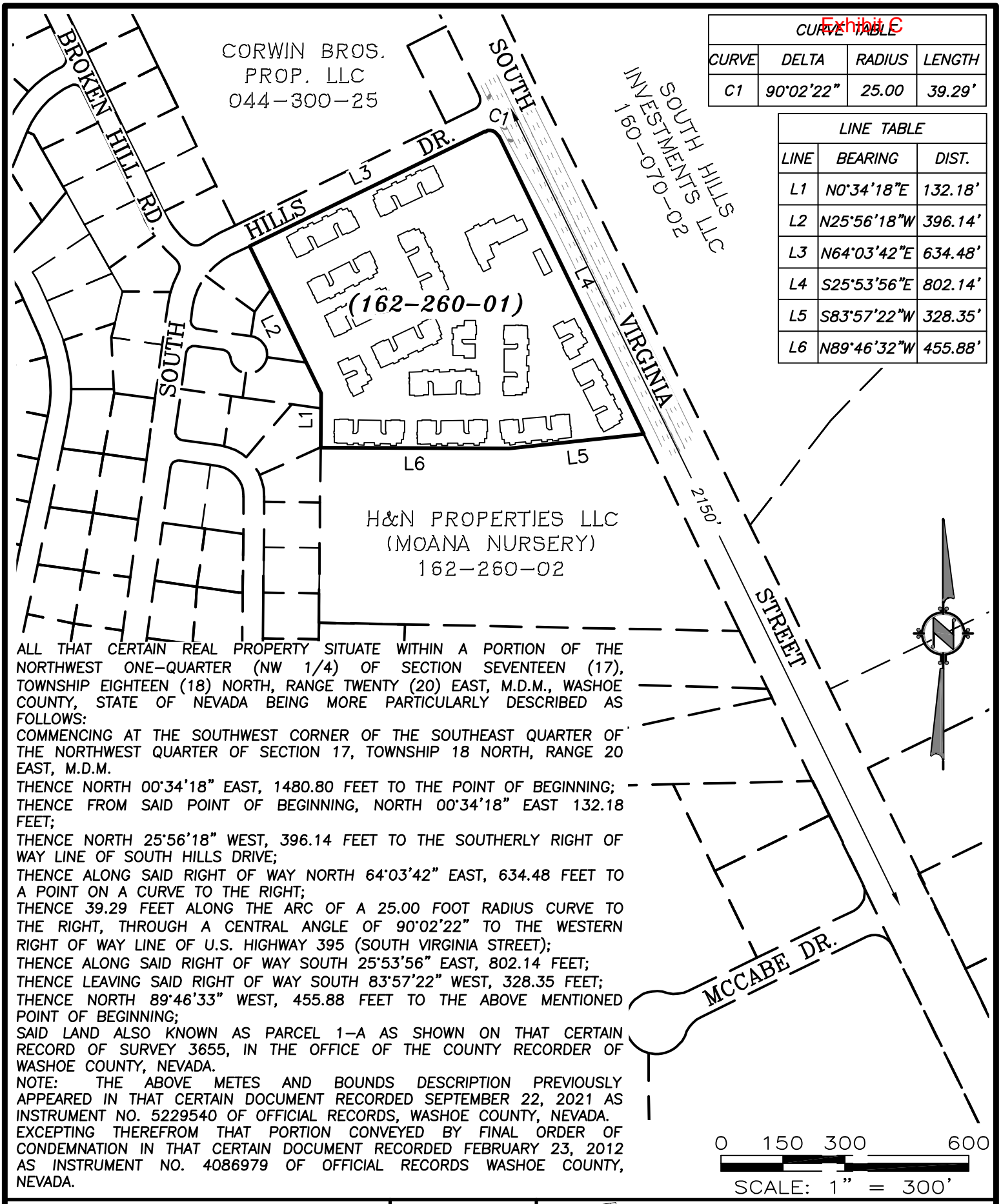
SHEET
TS-10
OF
10

Underground Service Alert
Call: TOLL FREE
811/800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

Exhibit C

ATTACHMENT D – SITE PLAN FOR DEVELOPMENT OF RECORD

Exhibit C



CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	90°02'22"	25.00	39.29'

LINE TABLE		
LINE	BEARING	DIST.
L1	N0°34'18"E	132.18'
L2	N25°56'18"W	396.14'
L3	N64°03'42"E	634.48'
L4	S25°53'56"E	802.14'
L5	S83°57'22"W	328.35'
L6	N89°46'32"W	455.88'

ALL THAT CERTAIN REAL PROPERTY SITUATE WITHIN A PORTION OF THE NORTHWEST ONE-QUARTER (NW 1/4) OF SECTION SEVENTEEN (17), TOWNSHIP EIGHTEEN (18) NORTH, RANGE TWENTY (20) EAST, M.D.M., WASHOE COUNTY, STATE OF NEVADA BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 17, TOWNSHIP 18 NORTH, RANGE 20 EAST, M.D.M.

THENCE NORTH 00°34'18" EAST, 1480.80 FEET TO THE POINT OF BEGINNING;

THENCE FROM SAID POINT OF BEGINNING, NORTH 00°34'18" EAST 132.18 FEET;

THENCE NORTH 25°56'18" WEST, 396.14 FEET TO THE SOUTHERLY RIGHT OF WAY LINE OF SOUTH HILLS DRIVE;

THENCE ALONG SAID RIGHT OF WAY NORTH 64°03'42" EAST, 634.48 FEET TO A POINT ON A CURVE TO THE RIGHT;

THENCE 39.29 FEET ALONG THE ARC OF A 25.00 FOOT RADIUS CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 90°02'22" TO THE WESTERN RIGHT OF WAY LINE OF U.S. HIGHWAY 395 (SOUTH VIRGINIA STREET);

THENCE ALONG SAID RIGHT OF WAY SOUTH 25°53'56" EAST, 802.14 FEET;

THENCE LEAVING SAID RIGHT OF WAY SOUTH 83°57'22" WEST, 328.35 FEET;

THENCE NORTH 89°46'33" WEST, 455.88 FEET TO THE ABOVE MENTIONED POINT OF BEGINNING;

SAID LAND ALSO KNOWN AS PARCEL 1-A AS SHOWN ON THAT CERTAIN RECORD OF SURVEY 3655, IN THE OFFICE OF THE COUNTY RECORDER OF WASHOE COUNTY, NEVADA.

NOTE: THE ABOVE METES AND BOUNDS DESCRIPTION PREVIOUSLY APPEARED IN THAT CERTAIN DOCUMENT RECORDED SEPTEMBER 22, 2021 AS INSTRUMENT NO. 5229540 OF OFFICIAL RECORDS, WASHOE COUNTY, NEVADA.

EXCEPTING THEREFROM THAT PORTION CONVEYED BY FINAL ORDER OF CONDEMNATION IN THAT CERTAIN DOCUMENT RECORDED FEBRUARY 23, 2012 AS INSTRUMENT NO. 4086979 OF OFFICIAL RECORDS WASHOE COUNTY, NEVADA.

EXHIBIT

ELYSIUM APARTMENTS
11700 SOUTH HILLS DRIVE
APN: 162-260-01

DRAWN BY: TDM
CHECKED BY: JDB
DATE: MARCH 2025

Meridian Surveying & Mapping, Inc.
Land, Construction and Boundary Surveys
8725 Technology Way, Reno, NV 89521
(775) 690-4194

Exhibit C

ATTACHMENT E – RTC RRIF SCHEDULE – 7TH EDITION, YEAR 3 INDEXING

Attachment E

REGIONAL ROAD IMPACT FEE SCHEDULE

Exhibit C

Land Use		North Service Area		South Service Area	
Residential	**Unit**	**VMT**	**Dollars ($291.21/VMT)**	**VMT**	**Dollars ($284.04/VMT)**
Single-Family	Dwelling	20.36	$5,929.04	19.11	$5,428.00
Multi-Family	Dwelling	12.97	$3,776.99	12.18	$3,459.61
Industrial					
General Light Industrial	1,000 GFA	6.48	$1,887.04	6.08	$1,726.96
Manufacturing	1,000 GFA	5.14	$1,496.82	4.82	$1,369.07
Warehouse	1,000 GFA	2.27	$661.05	2.13	$605.01
Mini-Warehouse	1,000 GFA	1.97	$573.68	1.85	$525.47
Commercial/Retail					
Commercial/Retail	1,000 GFA	29.43	$8,570.31	27.63	$7,848.03
Eating/Drinking Places	1,000 GFA	29.43	$8,570.31	27.63	$7,848.03
Casino/Gaming	1,000 GFA	60.17	$17,522.11	56.48	$16,042.58
Office and Other Services					
Schools	1,000 GFA	16.83	$4,901.06	15.80	$4,487.83
Day Care	1,000 GFA	16.83	$4,901.06	15.80	$4,487.83
Lodging	Room	4.38	$1,275.50	4.11	$1,167.40
Hospital	1,000 GFA	14.01	$4,079.85	13.15	$3,735.13
Nursing Home	1,000 GFA	8.68	$2,527.70	8.14	$2,312.09
Medical Office	1,000 GFA	45.47	$13,241.32	42.68	$12,122.83
Office and Other Services	1,000 GFA	12.73	$3,707.10	11.95	$3,394.28
Regional Recreational Facility	Acre	1.02	$297.03	0.96	$272.68

Regional Road Impact Fee (RRIF)

7th Edition Year 3 Indexing

Effective 1/31/2025

An informational brochure brought to you by the

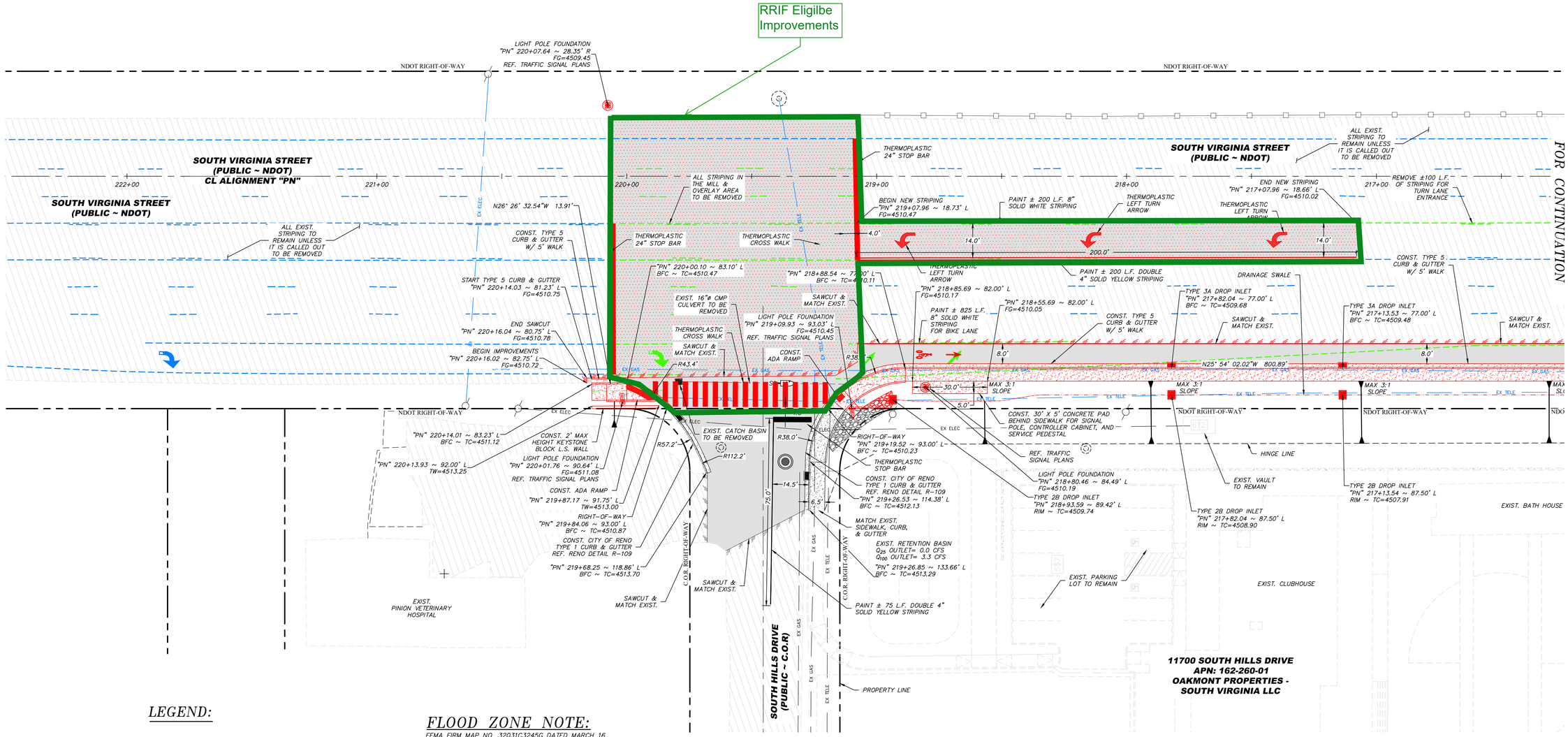
RTC

www.rtcwashoe.com

Exhibit C

ATTACHMENT F – RRIF ELIGIBLE IMPROVEMENTS & COST ESTIMATES

Docusign Envelope ID: BCEB8689-040A-4981-A4D9-7325AC7D4E8B



LEGEND:

- EXISTING ASPHALT PAVING
- NEW AC PAVING AREA — CONTRACTOR TO MATCH EXISTING SECTION BASED ON LOCATION. MATCH EXISTING NDOT ROADWAY SECTION WITHIN NDOT RIGHT-OF-WAY AND MATCH EXISTING CITY OF RENO ROADWAY SECTION IN CITY OF RENO RIGHT-OF-WAY
- NEW CONC AREA
- MILL & OVERLAY 1" OPEN GRADE
- SD — STORM DRAIN MAIN (DASHED IF EXISTING)
- SS — SANITARY SEWER MAIN (DASHED IF EXISTING)
- EX ELEC — EXIST. ELECTRIC LINE
- 5196 — EXISTING CONTOUR
- 96 — PROPOSED CONTOUR
- GRADE BREAK
- (E) EXISTING
- 2 % SLOPE IN PERCENT
- 50.00 FG — ELEVATION @ FINISH GRADE
- 50.00 TC — ELEVATION @ TOP OF CURB
- 50.00 GB — ELEVATION @ GRADE BREAK
- 50.00 FL — ELEVATION @ FLOW LINE
- CATCH POINT

COLOR LEGEND:

- FACILITIES TO BE INSTALLED
- EXISTING FACILITIES TO REMAIN
- FACILITIES TO BE REMOVED AND/OR ADJUSTED

FLOOD ZONE NOTE:

FEMA FIRM MAP NO. 32031C3245G DATED MARCH 16, 2009 DESIGNATE THIS SITE AS BEING ENTIRELY IN AN UNSHADED FLOOD ZONE X.

BASIS OF ELEVATION

BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AS TAKEN FROM CITY OF RENO BENCHMARK 2891, WITH A PUBLISHED ELEVATION OF 4518.48 FT. BENCHMARK 2891 IS DESCRIBED AS BEING A 1 1/2" DIAMETER STEEL CAP –AT S'LY ENTRANCE TO SHELL STATION (10850 S. VIRGINIA ST) –1' N'LY OF HANDICAP RAMP.

BASIS OF BEARINGS

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983/1994, HIGH ACCURACY REFERENCE NETWORK (NAD 83/94–HARN), AS DETERMINED USING REAL TIME KINEMATIC (RTK) GPS OBSERVATIONS WITH CORRECTIONS TRANSMITTED BY THE NEVADA GPS NETWORK. THE BEARING BETWEEN GPS REFERENCE STATION "NVMM" AND "WWRF" IS TAKEN AS NORTH 41°01'16" EAST. ALL DIMENSIONS SHOWN ARE GROUND DISTANCES. GRID TO GROUND COMBINED FACTOR = 1.000179939

DRAINAGE NOTE

DRAINAGE PATTERNS WILL NOT BE AFFECTED BY THE PROPOSED IMPROVEMENTS. EXISTING FLOWS TO AND FROM THE NDOT RIGHT OF WAY WILL CONTINUE TO DRAIN IN KEEPING WITH THE PREDEVELOPED CONDITION. THERE WILL BE CATCH BASINS INSTALLED TO IMPROVE DRAINAGE AS EXISTING CONDITIONS WOULD SEE POOLING WATER WITHIN NDOT RIGHT–OF–WAY.

STRIPING REMOVAL

ALL EXISTING STRIPING SHALL BE REMOVED BY GRINDING

NOTES

1. ALL CONSTRUCTION SHALL BE PER UNIFORM STANDARD SPECIFICATIONS AND DRAWINGS, RENO, SPARKS, WASHOE COUNTY, NEVADA AND THE TERMS & CONDITIONS RELATING TO RIGHT–OF–WAY OCCUPANCY PERMITS (NDOT), AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (NDOT).
2. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND FEES REQUIRED FOR CONSTRUCTION.
3. THE CONTRACTOR SHALL VERIFY IN FIELD, ALL ELEVATIONS, DIMENSIONS, FLOW LINES, EXISTING CONDITIONS, AND POINTS OF CONNECTION WITH ADJOINING PROPERTY (PUBLIC OR PRIVATE). ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL MAINTAIN AN ONGOING PROCESS OF REMOVAL OF ALL SPILLAGE OF EXCAVATION MATERIAL ON ALL PAVED STREETS.
5. LAND GRADING SHALL BE DONE IN A METHOD TO PREVENT DUST FROM TRAVERSING THE PROPERTY LINE.
6. THE CONTRACTOR SHALL NOTIFY ALL EFFECTED PUBLIC ENTITIES 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
7. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE SOILS ENGINEER, NDOT, NV ENERGY, AND AT&T 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CONTACT THE UTILITY COMPANIES FOR LOCATIONS OR POT–HOLING PRIOR TO CONSTRUCTION.
9. ANY CONFLICT WITH EXISTING UTILITIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
10. ADD 4500 FEET TO ALL SPOT ELEVATIONS.
11. VEHICULAR AND PEDESTRIAN TRAFFIC CONTROL SHALL BE PROVIDED BY THE CONTRACTOR DURING ALL PHASES OF CONSTRUCTION. ALL NECESSARY WARNING SIGNS, FENCES, ETC. SHALL BE PROVIDED TO PREVENT UNAUTHORIZED ACCESS TO THE CONSTRUCTION SITE.
12. EXISTING UTILITY LOCATIONS DETERMINED FROM FIELD SURVEYS, UTILITY COMPANY MAPS AND CONSTRUCTION DRAWINGS MADE AVAILABLE TO THE ENGINEER. THE CONTRACTOR SHOULD USE CAUTION WHILE EXCAVATING SINCE SOME UTILITIES MAY NOT BE IDENTIFIED ON THE PLANS OR MAY NOT BE IN THE EXACT LOCATIONS SHOWN HEREIN.

RIGHT OF WAY CURB NOTE:

CONTRACTOR SHALL VERIFY EXISTING ASPHALT ELEVATION AND COMPARE TO PROPOSED CURB ELEVATIONS. IF THERE IS A DISCREPANCY IN ELEVATION, EXISTING ASPHALT ELEVATIONS SHALL PREVAIL. CONTACT ENGINEER IF A DISCREPANCY EXISTS.

UTILITY NOTE:

DUE TO A LACK OF INFORMATION ON EXISITNG UTILITIES, ASSUMPTIONS HAD TO MADE IN REGARDS TO SLOPES AND ELEVATIONS. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY AND ALL DISCREPANCIES THAT MAY BE FOUND TO ENSURE SEPARATIONS ARE MET.

PROFESSIONAL ENGINEER – STATE OF NEVADA — JUSTIN C. WORTHLEY — Exp. 6-30-25 — CIVIL — No. 34399 — 10-30-25

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

Know what's below. Call before you dig.

REFERENCE SHEET N–2 FOR CONTINUATION

REV.	DATE	DESCRIPTION	BY	APP'D

DATE: AUGUST 2025
DRAWN BY: C3D 2023
DESIGNED BY: N.Z.V.
CHECKED BY: N.Z.V.

SOUTH HILLS/S. VIRGINIA SIGNAL
NDOT ENCROACHMENT PLAN
"PS" 216+50 TO 220+50
RENO, WASHOE COUNTY, NEVADA

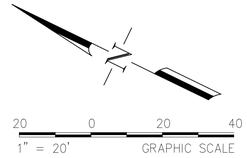
odyssey ENGINEERING INCORPORATED
895 ROBERTA LANE, SUITE 104, SPARKS, NV 89431
(775) 359–3303 FAX (775) 359–3329

SCALE
HORIZ. 1"=20'
VERT. ---
JOB NO.

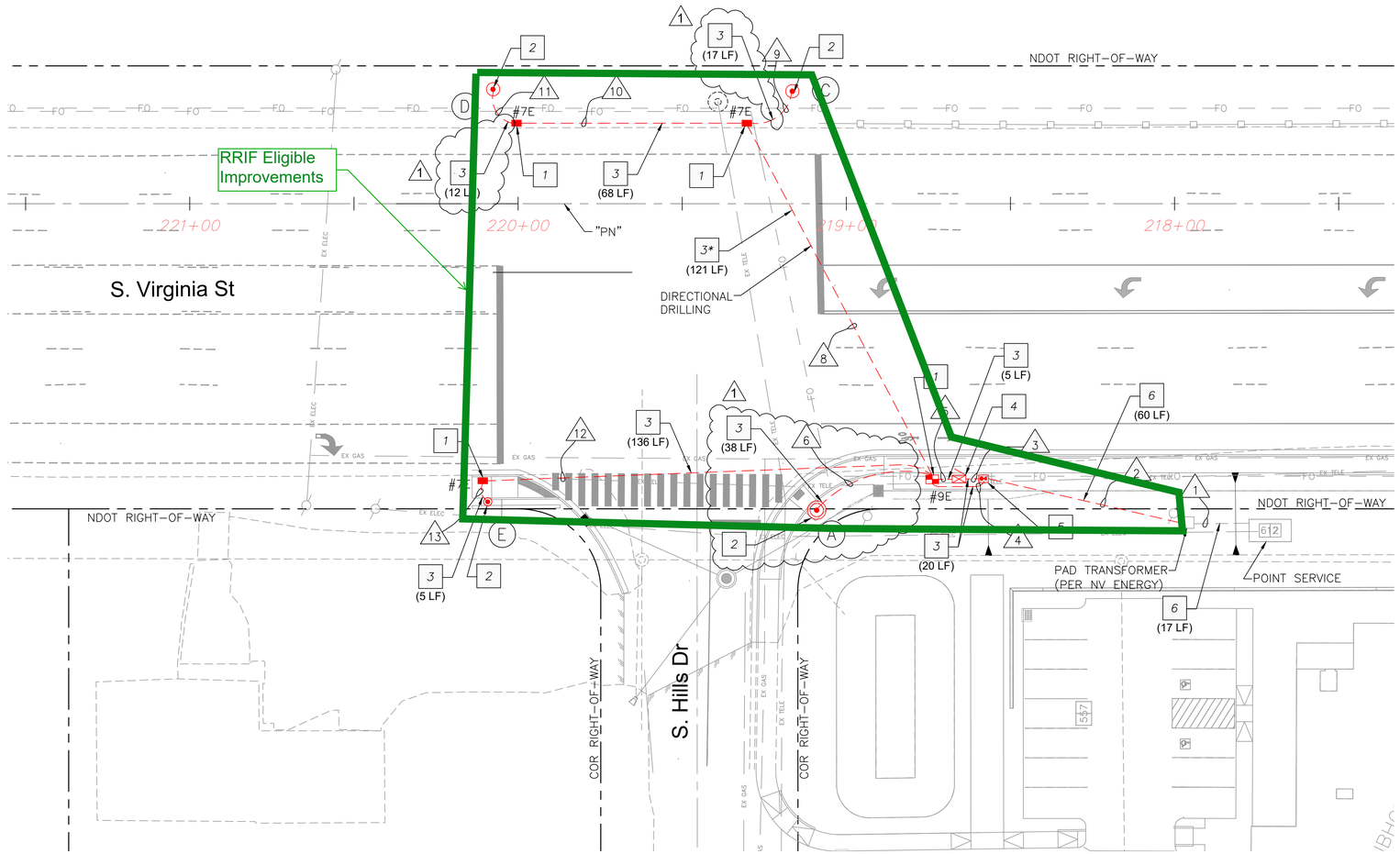
SHEET N–1 OF 12

CONSTRUCTION NOTES (THIS SHEET ONLY):

1. FURNISH AND INSTALL TRAFFIC RATED PULL BOX PER DETAIL ON SHEET TS-4.
2. FURNISH AND INSTALL NEW SIGNAL POLE FOUNDATION PER DETAILS ON SHEETS TS-3.
3. FURNISH AND INSTALL SCHEDULE 80 PVC CONDUIT PER DETAIL ON SHEET TS-4 AND SCHEDULE ON SHEET TS-9. DISTANCE SHOWN ON PLAN REFLECTS TRENCH LENGTH, NOT ACTUAL CONDUIT LENGTH.
4. CONSTRUCT TYPE R-44 FOUNDATION PER DETAIL ON SHEET TS-2.
5. CONSTRUCT METERED SERVICE FOUNDATION PER DETAIL ON SHEET TS-2.
6. FURNISH AND INSTALL SCHEDULE 40 PVC CONDUIT PER NV ENERGY TYPICAL TRENCH DETAIL TE0003U.
*. CONDUIT TO BE INSTALLED BY DIRECTIONAL DRILLING METHOD PER DETAIL ON SHEET TS-4.



NOTE: GREEN = REMOVE/RELOCATE (NDOT R/W)
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BLUE = EXISTING (NDOT R/W)
SHADED = NV ENERGY (OUTSIDE NDOT R/W)



REV.	DATE	DESCRIPTION	BY	APP'D
1	3-18-26	NDOT PERMIT AMENDMENT #1	RP	RP

DATE: AUG 2025
DRAWN BY: MSH
DESIGNED BY: MSH
CHECKED BY: LEC

SOUTH VIRGINIA ST/SOUTH HILLS DR
TRAFFIC SIGNAL CONDUIT PLAN
RENO WASHOE NEVADA

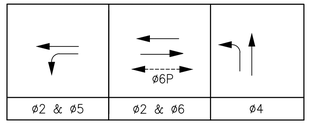
GCW ENGINEERS \ SURVEYORS

PROFESSIONAL ENGINEER STATE OF NEVADA
RICHARD PETTINARI
Exp. 12/31/27
CIVIL
No. 21911
06/12/26
DATE

SCALE
HORIZ. 1=20'
VERT.
JOB NO. 23-125

SHEET TS-7
OF 10

Underground Service Alert
Call TOLL FREE 811/800 227-2600
TWO WORKING DAYS BEFORE YOU DIG

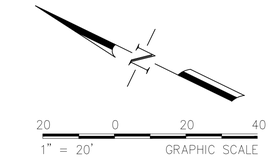


PROPOSED PHASE DIAGRAM

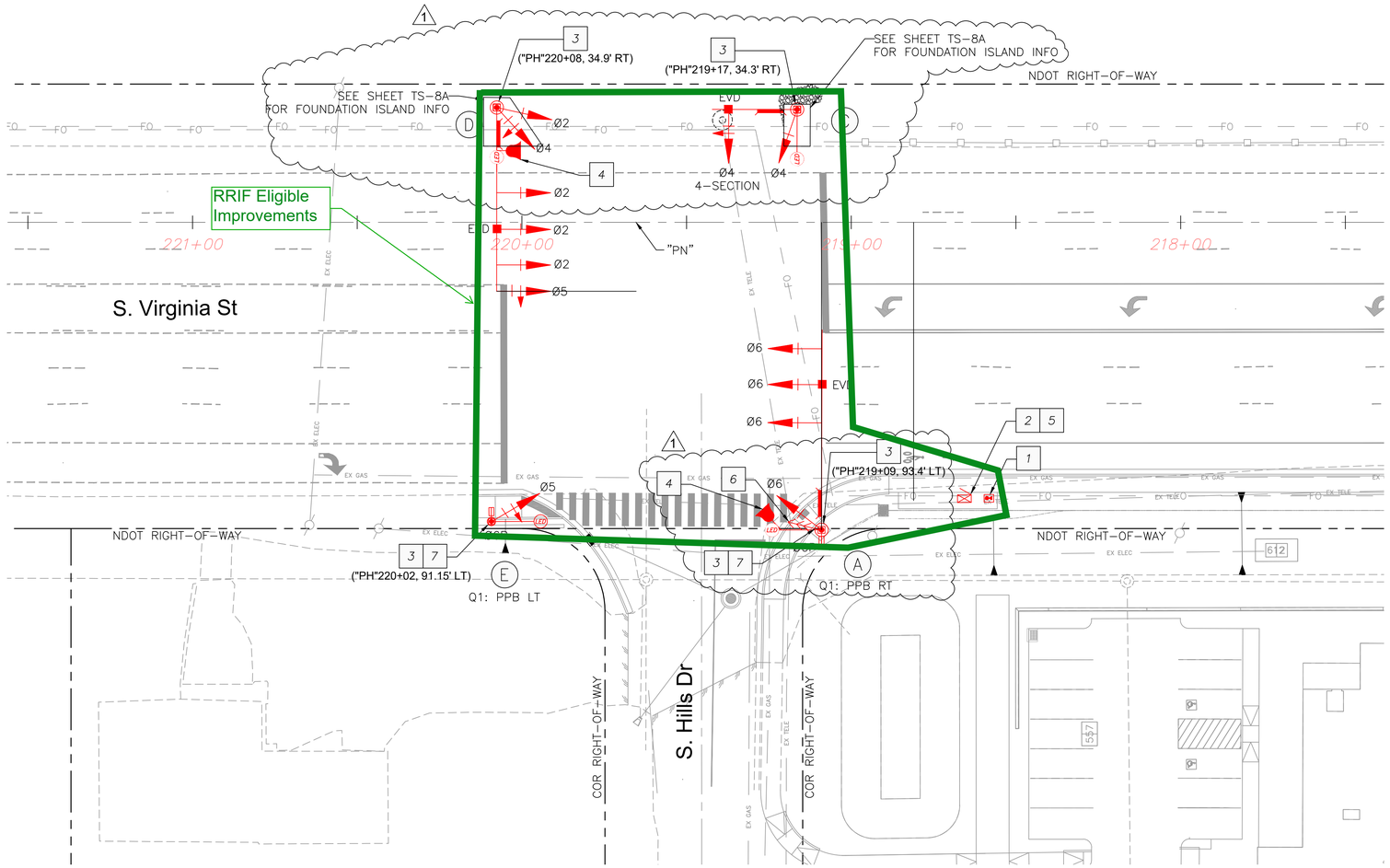
FLASHING OPERATION: ALL RED

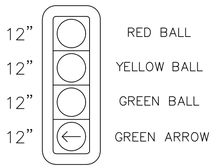
CONSTRUCTION NOTES (THIS SHEET ONLY) :

1. FURNISH AND INSTALL 100A METERED SERVICE WITH BATTERY BACKUP PER DETAIL ON SHEET TS-2.
2. FURNISH AND INSTALL NEW CONTROLLER AND CABINET ASSEMBLY. MAKE ALL CONNECTIONS.
3. FURNISH AND INSTALL NEW SIGNAL POLE PER DETAILS ON SHEET TS-3 AND POLE SCHEDULE ON SHEET TS-9.
4. FURNISH AND INSTALL DETECTION CAMERA ON LUMINAIRE ARM AND CABLE TO CONTROLLER. MAKE ALL CONNECTIONS.
5. FURNISH AND INSTALL PROCESSOR FOR DETECTION CAMERA SYSTEM IN CABINET PER MANUFACTURER SPECIFICATIONS. MAKE ALL CONNECTIONS.
6. INSTALL NEW RADIO COMMUNICATION SYSTEM INCLUDING ALL ANTENNAS, COMMUNICATION EQUIPMENT, WIRING, AND MAKING ALL CONNECTIONS FOR A FULLY OPERATIONAL WIRELESS COMMUNICATION SYSTEM TO S. VIRGINIA/SOUTH MEADOWS. RECEIVING ANTENNA TO BE INSTALLED ON NORTHEAST SIGNAL POLE AT THE S. VIRGINIA/SOUTH MEADOWS INTERSECTION. COORDINATE WITH CITY OF RENO SIGNAL CREWS PRIOR TO ORDERING.
7. FURNISH AND INSTALL SINGLE PEDESTRIAN PUSH BUTTON EXTENSION PER DETAIL ON SHEET TS-3 AND POLE SCHEDULE ON SHEET TS-9.

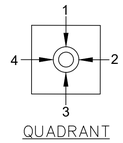


NOTE: GREEN = REMOVE/RELOCATE (NDOT R/W)
RED = NEW (NDOT R/W)
BLUE = EXISTING (NDOT R/W)





4-SECTION HEAD



QUADRANT

Underground Service Alert
Call TOLL FREE
811/800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

REV.	DATE	DESCRIPTION	BY	APP'D
1	3-18-26	NDOT PERMIT AMENDMENT #1	RP	RP

DATE: AUG 2025
DRAWN BY: MSH
DESIGNED BY: MSH
CHECKED BY: LEC

SOUTH VIRGINIA ST/SOUTH HILLS DR
TRAFFIC SIGNAL EQUIPMENT PLAN
RENO WASHOE NEVADA

GCW ENGINEERS \ SURVEYORS

PROFESSIONAL ENGINEER
RICHARD PETTINARI
Exp. 12/31/27
CIVIL
No 20191
STATE OF NEVADA
06/12/26
DATE

SCALE
HORIZ. 1=20'
VERT.
JOB NO. 23-125

SHEET TS-8
OF 10

TITAN ELECTRICAL CONTRACTING

South Hills / S Virginia Street Traffic Signal

Washoe County, Nevada

Bid Prepared for

Contractor: Mountain West Builders
Address: 9590 Prototype Ct. Ste. 100
Reno, NV 89521
Phone No: (775) 205-0678
Fax No: -

Contact: Kraig Knudsen

Date: 3/21/2025
Time: 2:00pm

Project Scope

Provide and Install the Material Necessary to Complete the Electrical Scope of the Work.

Exclusions

1 Permits, Fees and Bonds
2 Concrete or AC cutting or Patching
3 Any striping or permanent signage not on signal pole
4 Material Testing, Surveying or Traffic Control
5 Any Civil work including Sidewalk

Bid Pricing

Bid Item #	Pay Item Number	Bid Item Description	Bid Quantity	Unit	Unit Price	Bid Amount
-	-	Traffic Signal	1	LS	$ 749,000.00	$ 749,000.00
		Total				**$ 749,000.00**

Please do not hesitate to call me at 775-750-8914 with any questions.

Respectfully Submitted
Titan Electrical Contracting

Chad Carvin
Project Manager

Exhibit C

Schedule of Values – Onsite Scope of Work

Elysium Apartments – NDOT Scope Proposal

Item No.	Description	Quantity	Unit	Unit Price	Totals
MOBILIZATION					
10	MOBILIZATION	1	LS	$10,200.00	$10,200.00
				MOBILIZATION SUBTOTAL:	**$10,200.00**
EROSION CONTROL					
20	FIBER ROLLS	960	LF	$5.00	$4,800.00
30	DI PROTECTION	4	EA	$250.00	$1,000.00
40	STREET SWEEPING	1	LS	$14,400.00	$14,400.00
				EROSION CONTROL SUBTOTAL:	**$20,200.00**
DEMOLITION					
50	TRAFFIC CONTROL	1	LS	$42,000.00	$42,000.00
60	SAWCUT AND REMOVE AC	11,740	SF	$8.00	$93,920.00
70	DEMO EXISTING GUARD RAIL	495	LF	$20.00	$9,900.00
80	DEMO EXISTING CMP	42	LF	$134.50	$5,649.00
				DEMOLITION SUBTOTAL:	**$151,469.00**
EARTHWORK					
90	OVER EX SOUTH HILLS DRIVE	120	CY	$45.65	$5,478.00
100	EXPORT EXCESS MATERIAL SOUTH HILLS DRIVE	120	CY	$41.40	$4,968.00

270	ADA RAMPS	4	EA	$4,590.00	$18,360.00
280	SIDEWALK CROSSDRAIN	1	EA	$2,615.00	$2,615.00
				SITE CONCRETE SUBTOTAL:	**$156,030.50**
AGGREGATE BASE AND PAVING					
290	12" AGG BASE UNDER PAVING NDOT	8,025	SF	$7.90	$63,397.50
300	6" AC PAVE NDOT	8,025	SF	$10.35	$83,058.75
310	8" AGG BASE UNDER PAVING SOUTH HILLS DR.	3,198	SF	$4.05	$12,951.90
320	5" AC PAVE SOUTH HILLS DRIVE	3,198	SF	$8.40	$26,863.20
330	LOWER / RAISE EXISTING SSMH	1	EA	$2,500.00	$2,500.00
340	1" GRIND AND OVERLAY	13,280	SF	$5.40	$71,712.00
350	STRIPING AND SIGNAGE	1	LS	$19,200.00	$19,200.00
360	CONSTRUCT FINE GRADE	12,780	SF	$0.95	$12,141.00
				AGGREGATE BASE AND PAVING SUBTOTAL:	**$291,824.35**
				Bid Total:	**$943,990.85**

139,272

Proposal Clarifications

Elysium Apartments – NDOT Scope Proposal

1. Permits, fees, engineering, and/or bonds have not been included.
2. Final payment will be based on actual quantities supplied, loaded and installed as based on a final survey/measurement.
3. Bid based on one (1) mobilization for our work.
4. Prevailing wages have not been included.
5. Pricing has been based on plans by Odyssey Engineering labeled NDOT Encroachment Permit S. Virginia Street and South Hills Drive Intersection Improvements dated March 2025.
6. Pricing for surveying has not been included, to be provided by owner at a mutually agreed upon schedule.
7. Pricing does not include soil testing and inspection. Testing and inspection to be provided by others.
8. Traffic control has been figured with standard traffic cones for lane closure on S. Virginia. No concrete barriers have been included. Traffic control for S. Hills Drive has been figure as full road closure.
9. Street sweeping has been included for Joy Engineering scope only.
10. Erosion control items have been included and figured to be installed once. Maintenance will only be provided while Joy Engineering is actively working onsite. Damage to BMP's caused by other trades has not been included.
11. Joy Engineering will not be responsible for delays in production caused by inclement weather.
12. Freeze protection costs have not been included for base rock, concrete, or subgrade soils.
13. Proposal excludes all dewatering costs.
14. Proposal excludes all rock hammering and rock excavation. Rock excavation will be anything that limits a 70,000 lb. excavator to 100 CY per hour.
15. Proposal assumes onsite native material will meet Class E backfill requirements for all trenches.
16. Proposal excludes NDOT granular backfill for underground utilities. If required additional costs will apply.
17. Final grades will be constructed to $\pm$ 1/10 of a foot.
18. No dust palliative, hydro-seed, or re-vegetation work has been included.
19. Construction water to be provided from onsite source at no cost to Joy Engineering.
20. Dust control will be supplied only on days and areas worked by Joy Engineering. If after hours dust control is required, water truck time will be tracked and billed accordingly.

21. Proposal excludes all landscaping work, mow strip curbing, and any associated site amenity work.
22. Proposal excludes Xeri-pave inserts.
23. Proposal excludes stamped and colored concrete.
24. Asphalt Paving for NDOT ROW has been based figured as 2-3" course of NDOT Type 2 PG64-28 50 W/ Lime Marination. NDOT Open grade mill and fill has been figured with 1" NDOT Open Grade. Paving for S. Hills Drive has been figured 2-2.5" lifts of PG64-22.
25. Due to volatility in liquid asphalt market, AC pricing is valid for 60 days.
26. Proposal excludes all AC fog seal and slurry seal if required.
27. All striping work has been figured with standard traffic paint.
28. Proposal excludes all night work if required.
29. If off road (red) diesel exceeds $5.50 per gallon there will be a surcharge for all fuel used on this project consisting of the excess over $5.50 per gallon plus 12% overhead and 8% profit.
30. If on road (clear) diesel exceeds $5.75 per gallon there will be a surcharge for all fuel used on this project consisting of the excess over $5.75 per gallon plus 12% overhead and 8% profit.
31. Proposal is valid for thirty (30) days from date on proposal.

EXHIBIT "D"
(Letter of Approval)

Docusign Envelope ID: EE65A9F2-FD4F-4450-B4E8-3A3B9020BA46

REGIONAL TRANSPORTATION COMMISSION
Metropolitan Planning • Public Transportation & Operations • Engineering & Construction
Metropolitan Planning Organization of Washoe County, Nevada

June 9, 2025

Mr. Ryan Ashley
Oakmont Properties-South Virginia, LLC
225 Highland Ave
San Rafael, CA 94901

Subject: Letter of Approval for Regional Road Impact Fee Waivers

Development of Record: Elysium Apartments

Dear Mr. Ashley,

The Regional Road Impact Fee (RRIF) Administrators for the RTC and the City of Reno have reviewed and conditionally approve your application, dated April 16, 2025, to receive RRIF waivers for the installation of the traffic signal system at the intersection of South Virginia Street and South Hill Drive. The conditional approval is subject to the adoption of the 8th Edition of the RRIF General Administrative Manual (GAM) and Capital Improvement Plan (CIP) that include these improvements. The amount of RRIF waiver issued within the City of Reno is estimated to be around $934,094. A RRIF Offset Agreement for this work is being prepared and will be forwarded to the RTC Board and the Reno City Council with a recommendation for approval following adoption of the 8th Edition of the RRIF GAM and CIP. Upon approval and execution of the Offset Agreement by these bodies, the agreement will be forwarded to the Developer of Record for signature.

Please feel free to contact Jeff Wilbrecht, Engineering Manager for the RTC, at (775) 335-1872 should you have any questions regarding this subject.

Sincerely,

REGIONAL TRANSPORTATION COMMISSION
RRIF ADMINISTRATOR

DocuSigned by:
34A1800C54C142F...
Dale Keller, P.E.
RTC RRIF Administrator

CITY OF RENO
RRIF ADMINISTRATOR

Signed by:
Michael Mischel
03A53ADC51CD415...
Mike Mischel, P.E.
City of Reno RRIF Administrator

DK/JW

Cc: Angela Fuss, AICP, Assistant Director of City of Reno Development Services

File: RRIF Offset Agreement # 513013

EXHIBIT "E"
(The Developer of Record QA/QC Program
And
RTC Special Technical Specifications
For
Regional Road Impact Fee Projects)

EXHIBIT E

INSPECTION, TESTING AND VERIFICATION AND QUALITY ASSURANCE PROGRAM

SECTION 1 - GENERAL

It is the intent of this program to set forth the requirements and responsibilities of those parties involved in the inspection, testing, verification, and acceptance of improvements offered as capital contributions under the Regional Road Impact Fee (RRIF) system so that consistent and satisfactory quality is achieved in the constructed products.

All new construction shall have an Engineer of Record (EOR), when required by the Regional Transportation Commission (RTC), retained by the owner and reporting to the RTC Administrator. The contractor shall not retain the EOR, unless he is also the owner. The EOR shall not be the contractor. The EOR shall be responsible for all inspection, testing and verification of the constructed improvements as to compliance with this chapter, the improvement plans of record and with local development codes. The EOR is not responsible for means, methods, techniques, sequences or procedures of construction nor safety of the construction site. Quality control shall be the responsibility of the Contractor.

In addition, all new construction requiring an EOR shall have a Testing Firm responsible to the EOR and reporting to the EOR.

SECTION 2 - RESPONSIBILITIES

1. DEVELOPER OF RECORD (DOR)

   a) Shall retain the services of an EOR. Shall provide a copy of this program to the EOR.

   b) Shall retain the services of a Testing Firm which shall be responsible to the EOR and report to the EOR. Shall provide a copy of this program to the Testing Firm.

   c) Shall make every reasonable effort to retain, as the EOR, the services of the firms or persons responsible for the preparation of the approved soils report and the improvement plans of record.

   d) Shall retain the services of a contractor and notify said contractor of the requirements of this Chapter. Shall provide a copy of this program to the Contractor.

   e) Shall be responsible to the RTC for the adequacy of completed work covered under this chapter. Any defective material, equipment, or workmanship, or

any unsatisfactory work which may be discovered before final acceptance, or within 1 year thereafter, shall be corrected immediately on the requirement of the EOR or RTC Administrator, without extra charge, notwithstanding that it may have been overlooked in previous inspections. Failure to ensure adequate inspection of the work shall not relieve the owner from any obligation to perform sound and reliable work.

f) Shall designate a representative with authority to act on behalf of the owner for all work performed.

g) The owner acknowledges the need for continuing involvement of the firms or persons responsible for the preparation of the approved project soils report and the improvement plans of record during construction. In the event the EOR is different from the above-mentioned firms or persons, the owner agrees to be financially responsible for services provided by the said firms or persons as requested by the EOR.

2. ENGINEER OF RECORD (EOR)

a) Shall initiate a pre-construction conference for construction of improvements at least one week in advance of initial construction. Representatives of the owner, contractor, Local Government, RTC Administrator, EOR and testing firm shall attend.

b) Shall provide a written summary of the pre-construction conference to the owner, contractor, Local Government and the RTC Administrator, and will also notify the participants of any significant changes in writing at least 2 working days in advance of implementing the changes.

c) Shall notify the RTC Administrator and the Local Government of the date and hour that work on any of the following items is expected to begin. Notification shall be given not less than 24 hours in advance; and, if thereafter conditions develop to delay the start of work, the EOR shall notify the RTC Administrator and the Local Government of the delay, not less than 2 hours before the work was to begin:

1. Grading, excavation, and fill operations within public right-of-way.

2. Laying of sewer lines, drainage lines or appurtenances.
3. Backfilling of sewer lines, drainage lines or appurtenances.

4. Placing of reinforcing steel, forms and falsework for concrete structures.

5. Placing the concrete for curbs, gutters, sidewalks, alleys, valley gutters, headwalls, or structures.

6. Placing of any type of base course or courses.

7. Tacking bituminous or concrete surfaces.

8. Placing asphalt concrete or Portland cement concrete pavement.

9. Sealing asphalt concrete or Portland cement concrete pavement.

d) Shall submit for review prior to initiation of the preconstruction conference, the qualifications of the testing firm and the field inspection and testing technician personnel for the project. Said qualifications shall meet the minimum specified in this chapter.

e) Shall make an inspection of workmanship and materials in accordance with this chapter. No work nor materials will be accepted without such an inspection. Shall also review catalog cuts and data sheets for material submittals. The EOR will make every reasonable effort to perform inspection and testing services in a manner which will accommodate the construction schedule.

f) Shall provide to the RTC Administrator and Local Government, on a bi-weekly basis, copies of the daily inspection/testing reports for the previous 2 weeks.

g) Shall immediately notify the RTC Administrator and Local Government of any proposed changes from the improvement drawings of record. Should the RTC Administrator determine that the proposed change is major in nature, such change shall require prior approval by the RTC Administrator. The Local Government will not be liable for any delays caused by the review and approval of such changes.

h) Shall arrange as part of his contract with the owner to confer and coordinate with the firms or persons responsible for the preparation of the approved project soils report and the improvement plans of record throughout the construction of the project to evaluate compliance with the requirements of this chapter. In the event that the firms or persons responsible for the preparation of the approved project soils report or improvement plans of record are not available for consultation, the EOR shall notify the RTC Administrator and Local Government of such prior to commencement of construction. In this event, the EOR and the RTC Administrator and Local Government shall agree to an alternative arrangement for providing the

necessary soils report and improvement plans of record interpretations prior to commencement of construction.

i) Shall notify in writing the DOR, Contractor, Local Government, and the RTC Administrator, if, during the course of construction, the EOR finds that defective materials or workmanship not meeting requirements have been constructed and not satisfactorily corrected by the contractor within one week of verbal notification to the contractor. The written notification shall be supported by field reports and/or test results.

j) Shall, upon completion of construction of improvements, provide the RTC with a letter of verification on the format provided by the RTC, verifying the adequacy of the improvements and providing verification of all final quantities and unit prices; and, that construction, inspection, and testing were performed in compliance with this chapter, improvement plans of record and RTC standards; and, provide sepia-mylars of any changes from the approved improvement plans of record or a statement that no changes were made; and, provide copies of inspection and test reports, if not already provided. The final completion and acceptance of all such improvements, including recommendations of release and return of any security, shall be subject to the approval of the RTC Administrator.

k) Shall sign and wet-stamp, or cause to be signed and wet-stamped by a Nevada registered Civil Engineer, all drawings, reports and test data, and forward such to the RTC, Local Government, DOR, and Contractor.

3. RTC Administrator

a) Shall assign a primary contact to the EOR who shall serve as the RTC's representative during construction of bonded improvements. This primary contact shall be known as the RTC Quality Assurance Inspector (QAI). The qualifications of the QAI, as a minimum, will meet the qualifications of a Public Works Construction Inspector.

b) Shall attend the preconstruction conference initiated by the EOR.

c) Shall check and evaluate that adequate inspection personnel are on-site during the construction of bonded improvements. Should the QAI determine that adequate personnel are not available on-site for inspection, the QAI shall immediately advise the EOR of the situation and so record the incident in his daily report.

d) Shall keep a daily report of construction activities he observes, including pertinent conversations with the EOR.

e) Shall, on a bi-weekly basis, review the daily inspection/testing reports submitted by the EOR. Any unsatisfactory test results shall be called to the attention of the EOR.

f) Shall review the qualifications of the EOR to determine if they meet the minimum requirements of this chapter. If it is determined that the EOR does not meet said minimum requirements, the owner shall review the improvement agreement (Exhibit C) and retain an EOR meeting the qualifications of this chapter as determined by the RTC Administrator.

g) Shall review the qualifications of the EOR's field inspection personnel to determine if the qualifications meet the minimum requirements of this chapter. If it is determined that the EOR's field inspection personnel do not meet said requirements, substitute field personnel will be required.

h) Shall evaluate the performance of the EOR's field inspection personnel. The RTC Administrator shall have the authority to reject the selection of the testing firm, testing technicians or field inspection personnel for the project. The RTC Administrator shall also have the authority to reject the field inspection personnel or testing technician and direct substitute personnel in the event of unsatisfactory performance by said personnel in the opinion of the RTC Administrator.

4. CONTRACTOR

a) Shall be responsible for construction of improvements and quality control. This responsibility shall include the means, methods, techniques, sequence, and procedures of construction and safety of the construction site. All such construction shall conform to the requirements of both the most recently adopted version of the Standard Specifications for Public Works Construction (SSPWC), Standard Details for Public Works Construction (SDPWC), the Special Technical Specifications for RRIF Offset Agreements (STS for RRIF Offset Agreements), the approved plans, and the requirements of this chapter.

b) Shall attend the pre-construction conference initiated by the EOR. The contractor shall present a proposed construction schedule including construction milestones and designate a representative who has the authority to resolve issues during construction.

c) Shall provide accessibility and exposure of all construction work subject to inspection until inspected by the EOR. Neither the RTC nor the EOR shall be liable for expenses entailed in the removal or replacement of any material

required to allow inspection.

d) Shall notify the EOR two (2) working days in advance of initiating construction or resuming construction after any unscheduled interruptions.

SECTION 3 - INSPECTION REQUIREMENTS

1. GENERAL

For the purpose of implementing the requirements of this chapter, full-time inspection shall mean the EOR or his field inspector shall be present at all times to observe the operations of the contractor during the designated construction activity.

2. GRADING, EXCAVATION, AND FILLS

Full-time inspection of all materials, native or imported, to evaluate their compliance with the SSPWC and this chapter; that the subgrade is prepared according to the SSPWC; that all subgrade materials encountered are as expected according to the approved soils report, or if not, are appropriately addressed by over-excavation and stabilization with suitable material or as otherwise recommended in the approved soils report or by redesign of the pavement section.

3. STREET

Inspection to determine that alignment and grade of the street conforms to the improvement plans of record.

4. UNDERGROUND UTILITIES

a) Inspection of pipe materials and bedding prior to the placing of any pipe to evaluate conformance with the SSPWC. Collection of applicable manufacturer's certifications.

b) Inspection of installation of pipe laid to grade, mortar jointed or gasketed pipe prior to placing any material around or above pipe to evaluate conformance with the SSPWC.

c) Full-time inspection of each lift of backfill to evaluate conformance with the SSPWC.

d) Inspection for pipe installation, not including backfill, by utility company shall be the responsibility of the appropriate utility.

e) Inspection of construction and/or installation of manholes, catch basins, and drop inlets to evaluate compliance with the SSPWC.

f) Inspection of alignment and elevations to evaluate compliance with the improvement plans of record and specifications.

5. AGGREGATE BASE COURSES FOR STREETS, CURBS, GUTTERS, SIDEWALKS, AND ALLEYS

Inspection of all material brought to the site to evaluate uniformity with tested and approved samples; inspection of placement and compaction of aggregate base to evaluate compliance with the SSPWC and this chapter and to confirm that grades conform to those specified in the improvement plans of record.

6. REINFORCING STEEL, FORMS AND FALSEWORK

Inspection of reinforcing steel, forms, and falsework prior to placement of concrete to evaluate compliance with the improvement plans of record, specifications, shop drawings and the SSPWC.

7. PORTLAND CEMENT CONCRETE

Full-time inspection of all concrete pours including curb, gutter, sidewalks, driveway apron, alleys, valley gutters, structures, headwalls, slope paving and roadway pavement to evaluate compliance with the improvement plans of record, specifications, details, the SSPWC and this chapter.

8. ASPHALT CONCRETE

a) Full-time inspection to evaluate compliance with the improvement plans of record, details, specifications, the SSPWC, and this chapter.

b) Inspection at the plant may be required by the RTC Administrator or the EOR to monitor oil content, aggregate grading, mineral filler content and temperature.

9. PRIME COAT, TACK COAT, SEAL COAT AND SURFACE TREATMENT

Sufficient inspection to evaluate compliance with the SSPWC.

10. SEWER AND PRESSURE LINES

In addition to inspection required in Paragraph 4b above:

a) Sewer Lines: Ball and flushing operations shall be done in the presence of the EOR or his field inspector and the local governmental inspector.

b) Pressure Tests: To be accomplished in presence of the EOR or his field inspector to evaluate conformance with the SSPWC and this chapter.

11. LANDSCAPING WITHIN THE RTC RIGHT-OF-WAY OR WITHIN A PUBLIC IMPROVEMENT EASEMENT, COMMON AREA AMENITIES

Sufficient inspections to evaluate compliance with SSPWC, the improvement plans of record, and specifications.

SECTION 4 - TESTING REQUIREMENTS

Shall comply to the requirements set forth in the latest revision of the SSPWC and the STS for CCFEAs.

SECTION 5 - PERSONNEL QUALIFICATIONS

1. ENGINEER OF RECORD (EOR)

An Engineer of Record who is retained as a consultant by the owner is required to be legally authorized to practice civil engineering in the State of Nevada in accordance with Nevada Revised Statutes (NRS) Chapter 625.

A firm, a co-partnership, a corporation or joint-stock association may engage in the practice of Engineer of Record for the RTC, if the member or members of the firm, co-partnership, corporation or joint-stock association immediately responsible for engineering work performed in the RTC are Nevada registered professional civil or geological engineers in accordance with NRS Chapter 625.

Every office or place of business of any firm, co-partnership, corporation or joint-stock association engaged as an Engineer of Record under these requirements shall have a registered professional civil engineer in residence and in direct responsible supervision of the work needed to satisfy the requirements of this chapter conducted in such office or place of business.

EXHIBIT E

An Engineer of Record shall be familiar with the SSPWC, SDPWC, RTC and local government design standards, and all associated testing procedures.

2. FIELD INSPECTOR

a) General: The field inspector's qualifications shall include sufficient education and experience to assure understanding of the quality control principles and the ability to implement the procedures related to their assigned duties.

The education and experience requirements specified below shall not be treated as absolute when other factors provide reasonable assurance that a person can competently perform a particular task. One factor may be "demonstrated capability" in a given job through previous performance.

b) Education and Experience: To be considered qualified as a RTC approved field inspector, a candidate must meet the general requirements as mentioned above and satisfy at least one of the following requirements:

1. High school graduate plus at least three years of construction quality control experience in equivalent testing, or inspection activities, or

2. Completion of college level work leading to an associates degree in a related discipline plus at least six months of construction control experience in equivalent testing, examination or inspection activities.

The field inspector shall be familiar with the SSPWC and this chapter, as well as all associated testing procedures.

3. TESTING TECHNICIAN

To be considered qualified as a RTC approved testing technician, a candidate must meet the general requirements mentioned in 2a) above and satisfy at least one of the following requirements:

a) One year of construction quality control experience in equivalent testing or inspection activities, or

b) High school graduate plus at least six months of construction quality control experience in equivalent testing or inspection activities, or

c) Completion of college level work leading to an associates degree in a related construction quality control discipline plus at least three months of experience in equivalent testing or inspection activities.

d) Completion of at least two years of college level work towards a four-year degree in a related discipline plus at least three months of construction quality control experience in equivalent testing or inspection activities.

The testing technician shall be familiar with the testing procedures outlined in the SSPWC and this chapter.

4. TESTING FIRM

a) General: The testing services of the testing firm shall be under the direction of a registered civil or geological engineer in the State of Nevada who is a full-time employee of the firm and has at least 5 years engineering experience in the inspection and testing of soil, concrete, and asphalt.

b) Laboratory: The testing firm is responsible for laboratory testing of soil, concrete and asphalt and shall have suitable test equipment and laboratory facilities for storing, preparing and testing samples. The firm shall have the capability of performing all laboratory testing associated with its intended functions according to governing procedures and shall have the facilities and equipment required for all laboratory testing performed. If at any one-time equipment or expertise in the performance of a specialized test is not available in-house, the services of a subconsultant or his equipment may be utilized.

As evidence of its competence to perform the required tests or inspections, the agency shall have its laboratory procedures and equipment inspected at intervals of not more than 3 years by a qualified authority in accordance with a recognized plan.

c) Quality of Testing Systems: The firm shall make available information (as applicable) describing its procedural systems (procedures which directly affect the quality of services offered). In addition, the firm shall maintain documentation which provides evidence of compliance with the requirements of its procedural systems. The agency's procedural systems shall include the following:

1. Equipment calibration programs.

2. Standardization of methods of test, measurement, and determination.

3. Data recording, processing, and reporting.

4. A current quality assurance manual.

SPECIAL TECHNICAL SPECIFICATIONS

1.01 INSPECTION AND TESTING
1.01A ASPHALT CEMENT
1.01B BITUMINOUS PLANTMIX
1. 02 REMOVAL OF EXISTING IMPROVEMENTS
1. 03 TREE ROOT MITIGATION - Deleted
1. 04 SUBGRADE PREPARATION- Deleted
1. 05 OVEREXCAVATION AND STABILIZATION - Deleted
1. 06 GEOSYNTHETICS - Deleted
1.06A SEPARATION
1.06B STABILIZATION
1.06C REINFORCEMENT
1. 07 TRENCH EXCAVATION
1. 08 PIPE - Deleted
1. 09 ROADBED MODIFICATION - Deleted
1. 10 AGGREGATE BASE - Deleted
1. 11 CEMENT TREATED BASE - Deleted
1.11A COMPOSITION OF MIXTURES
1.11B MIXING
1.11C SPREADING
1.11D PROTECTION AND CURING
1. 12 PORTLAND CEMENT CONCRETE
1.12A COMPOSITION OF MIXTURES
1.12B SIDEWALK, CURB AND GUTTER
1.12C THRUST BLOCKS
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1.12E PAVING
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1. 13 DETECTABLE SURFACE WARNING TILES
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I SPREADING AND FINISHING
II ACCEPTANCE
III MITIGATION
IV SPECIAL PAVING CONSIDERATIONS
V TACK COAT
VI LONGITUDINAL JOINTS
1. 14C PERMANENT PATCHING
1. 15 BRIDGE DECKS - Deleted
1. 16 SLURRY SEAL
1. 17 MICRO-SURFACE - Deleted
1.17A GENERAL
1.17B CONTRACTOR PERSONNEL
1.17C MATERIAL
1.17D MIX DESIGN
1.17E PROPORTIONING
1.17F MIXING AND SPREADING EQUIPMENT
1.17G PLACEMENT
1. 18 PAVEMENT MARKINGS
1.18A TRAFFIC PAINT
1.18B THERMOPLASTIC
1.18C RAISED MARKERS
1. 19 FLEXIBLE MEDIAN ISLAND OBJECT MARKERS
1. 20 CHANNELIZERS
1. 21 IMPACT ATTENTUATOR - Deleted
1. 22 TRAFFIC SIGNS
1. 23 TRAFFIC SIGNALS
1.23A LOOP DETECTORS
1.23B TEMPORARY MODIFICATIONS DURING CONSTRUCTION
1.23C CAMERAS
1. 24 UTILITY ADJUSTMENTS
1. 24A VERIFICATION OF DEPTH
1. 24B UTILITY MANHOLE AND VAULT ADJUSTMENTS
1. 24C MANHOLE PROTECTION PLAN
1. 25 SURVEY MONUMENTS
1. 26 CERTIFICATES OF COMPLIANCE

1.01 INSPECTION AND TESTING

Quality Assurance testing and inspection will be provided by the Agency. Quality Control shall be the Contractor's responsibility. All samples shall be furnished by the Contractor without cost to the Regional Transportation Commission of Washoe County (hereinafter designated "RTC" and/or "Agency"). The Agency may waive sampling and testing if adequate information, properly certified, is available to indicate that materials comply with the terms of specifications. Any retests due to faulty workmanship or materials shall be paid for by the Contractor.

All materials furnished and work performed, shall be done in accordance with the "Standard Specifications for Public Works Construction" (hereinafter designated "Standard Specifications") sponsored and distributed by RTC, Churchill County, Carson City, the Cities of Reno and Sparks, the City of Yerington, and Washoe County, including addenda through February 29,2012, except as modified within the "Special Technical Specifications" for XYZ (hereinafter designated "STS"); and in accordance with the "Standard Details for Public Works Construction" (hereinafter designated "Standard Details"), including updates through December 29, 2011, except as modified by the drawings for XYZ.

1.01A ASPHALT CEMENT

1. Sampling - During hot mix operations for all paving days, the Design Engineer's designated representative shall obtain samples of all asphalt cement binders used to produce the bituminous mixture(s). During the pre-construction meeting the contractor shall provide the contact information for the certified plant representative that will be responsible for taking the asphalt cement samples. The Design Engineer's designated representative shall contact the plant representative in advance of each paving day and coordinate the sampling in accordance with the plantmix production schedule. Asphalt cement samples shall be taken at the injection point for each "lot" (500 ton) of plantmix bituminous pavement. Plant personnel sampling bituminous material are required to be qualified in the WAQTC Asphalt Module or NAQTC Specialized Test AASHTO T40 (Sampling Bituminous Material). All sampling shall be witnessed by the Design Engineer's representative. The plant representative shall properly label each sample which shall then be signed by both representatives.

2. Testing – Unless otherwise directed by the RTC Project Manager, the Design Engineer shall procure the testing of one of the samples from each paving day for compliance with Section 201 – "Bituminous Material" of the Standard Specifications at a laboratory certified to perform all required testing components.

3. **The sample to be tested shall be properly handled and sent to the State of Nevada Department of Transportation Materials Testing Laboratory, 1263 South Stewart Street in Carson City, Nevada.** The test result shall represent the binder material contained in all plantmix bituminous paving lots for the corresponding paving day. The remaining daily samples shall be stored at the Design Engineer's designated laboratory throughout the duration of the Contractor's warranty period.

4. Acceptance – Asphalt binder not conforming to Table 201.02-IV (PG64-28NV) of the Standard Specifications, Section 201 – "Bituminous Material" shall be assessed demerits in accordance with the following table:

TEST	LIMIT WITH TOLERANCE	REJECTION LIMIT	DEMERITS
Tests on Original Asphalt Cement			
Rotational viscosity (Pa.s)	3.21 Max.	3.50 Max.	21
Flash point, (°C)	222 Min.	163 Min.	21
Ductility (cm)	50 Min.	29 Min.	21
Toughness (Inch-lbs)	110 Min.	57 Min.	21
Tenacity (Inch-lbs)	75 Min.	22 Min.	21
Sieve Test (%)	1	10	21
Dynamic Shear (kPA)	0.90 Min.	0.75 Min.	21

Tests on Residue from Rolling Thin Film Oven			
Ductility (cm)	25 Min.	4 Min.	21
Dynamic Shear (kPA)	1.98 Min.	1.65 Min.	21
Average Mass Change (%)	1.00 Max.	1.01 Max.	31
Tests on Residue from Pressure Aging Vessel			
Dynamic Shear (kPA)	5500 Max.	6250 Max.	21
Stiffness Modulus (MPA)	330 Max.	375 Max.	21
Slope, m-value	0.290 Min.	0.245 Min.	21

Notes:
1. Demerits, up to the amount shown, shall be assessed for each test result that exceeds the "Limit with Tolerance."
2. The number of demerits assessed for each test result shall be calculated based on prorating the total demerits over the range from "Limit with Tolerance" to the "Rejection Limit."
3. The demerit/increment shall be multiplied by the difference between the noncompliant test result and the "Limit with Tolerance."
4. Demerit values for each test result will be rounded down to the nearest whole number.

The parties of the contract agree that damage will be sustained by the Agency in the event that the asphalt binder does not conform to the requirements of the specifications. In addition it is agreed that it is extremely difficult to quantify the actual damage the agency will sustain. Demerits will be used to determine mitigation that may include any necessary measures up to, and including, the assessment of liquidated damages or removal and replacement of the deficient material. The assessment of liquidated damages and the corresponding deduct from monies owed the contractor shall be in accordance with the schedule and corresponding notes below.

Total Number of Demerits	**Liquidated Damage Dollar per Ton[1, 2]**
1 – 2	10
3 – 5	20
6 – 9	30
10 – 14	50
15 – 20	100
21 - 30[3]	75% of the cost of the asphalt binder
31 - 40[3]	100% of the cost of the asphalt binder
41 or more[3,4]	100% + additional damages to be determined

Notes:
1. Liquidated damages will be assessed against the quantity (Tonnage) of asphalt binder used in the plantmix bituminous pavement represented by the sample tested.
2. The tons of asphalt binder shall be determined by multiplying the average of asphalt contents (by dry weight of aggregate) from all affected lots by the total tons of bituminous mixture placed.
3. Remove and replace material shown to have 21 or more demerits. Material removed shall not be paid for and all costs associated with removal shall be at the contractor's expense. Testing and inspection of replaced materials shall be as directed by the RTC Project Manager and all associated costs shall be at the contractor's expense. At the RTC Project Manager's option, materials having 21 or more demerits may be left in place and liquidated damages assessed at the percentage of asphalt binder cost shown. The cost of the asphalt binder used for assessing

liquidated damages shall be $675 per ton.

4. Liquidated damages as determined by the RTC Project Manager may be in excess of the cost of the asphalt binder.

Additional samples may be tested at the Contractor's request and expense and following approval of the RTC Project Manager. Liquidated damages assessed due to deficient asphalt binder material may be in addition to any mitigation measures or penalties that may be determined by other sections of the specifications.

1.01B BITUMINOUS PLANTMIX

Subsection 336.03.04 - "Bituminous Mixtures" of the Standard Specifications, is herewith amended as follows:

1. On page 336.00-6, add the following to the fourth paragraph at the bottom half of the page regarding cores and cut samples:

   Measure single core or cut sample in accordance with ASTM D3549, latest version, to the nearest 0.05" and report to the nearest 0.05" per the following examples:

Individual Measurements		
Using Apparatus Capable of 2 Decimal Places	Using Apparatus Capable of 1/16 Inch	Reported Thickness After Rounding
2.23" to 2.27"	2-4/16" = 2.250"	2.25"
2.28: to 2.32"	2-5/16" = 2.313"	2.30"
2.33" to 2.37"	---	2.35"
2.38" to 2.42"	2-6/16" = 2.375"	2.40"
2.43" to 2.47"	2-7/16" = 2.438"	2.45"
2.48" to 2.52"	2-8/16" = 2.500"	2.50"

   For purpose of acceptance and mitigation, the average of the rounded thickness measurements of the 3 cores or cut samples for each lot shall be reported to the nearest 0.1". A number ending in 0.05" shall be rounded up. For example, both 2.35" and 2.40" are rounded to 2.4".

2. On page 336.00-7, delete the fourth paragraph and replace as follows:

   One fresh, hot sample of the bituminous mixture (HMA) for each "lot" shall be tested for conformance with the mix design test properties as required by STS 1.14A BITUMINOUS PLANTMIX, and in accordance with ASTM D2041, as qualified in the Standard Specifications.

   Fresh, hot samples are defined as the samples obtained during construction, transported to the laboratory, molded and compacted on the same day. Reheating is allowed only for restoring heat lost, if any, during transport to the laboratory

and sample preparation. Refer to Note under item 4 below (STS 1.01B BITUMINOUS PLANTMIX - Item 4, "Preparing Field Sample") regarding limitations on test results from reheated archived samples.

3. On page 336.00-7 under Subsection 336.03.04.01 - "Sampling" of the Standard Specifications, add the following sentence to the first paragraph:

   When samples are obtained by two testing laboratories, the samples shall be split from a single sample or taken at the same time and at locations immediately adjacent to each other.

4. On page 336.00-7 under Subsection 336.03.04.02 - "Preparing Field Sample", of the Standard Specifications, delete the second and third paragraphs and replace as follows:

   If the temperature of the HMA is below the approved mix design's compaction temperature, the temperature of the HMA shall be recorded and the sample shall be reheated to the approved mix design's compaction temperature. Heating samples should be done by placing the sample in a covered container in an oven for a maximum of one hour or placing the sample in a mixing bowl on top of a hot plate or propane stove, for a maximum of 10 minutes, and continuously mixed until compaction temperature has been reached. Samples shall be discarded if burned during reheating.

   Note: Samples well below the compaction temperature may require additional heating time. Reheating of samples beyond the maximums specified is not desirable. In such instances, new samples should be taken in the field, if possible. If this is not possible and samples must be reheated beyond the specified maximums, the test results from reheated archived samples shall not be used for direct comparison with results from tests on hot, fresh samples but only for relative comparisons.

1.02 REMOVAL OF EXISTING IMPROVEMENTS

This section covers the construction methods involved in removing existing improvements.

Existing Portland cement concrete (PCC) improvements shall be removed to neatly sawed edges with sawcuts made to a minimum depth of 1½ inches. No section to be replaced shall be smaller than 30 inches in length. Curb and gutter shall be sawed to depth of 1½ inches on a neat line at right angles to the curb face.

Removal of the curb and gutter shall include all existing composite material from back of curb to 12-inches in front of the lip of the gutter. The contractor shall be required to achieve a vertical, neat line in a location appropriate for the method of curb and gutter placement chosen. The Contractor shall match the existing top of curb and maintain the uniform flow line of the gutter. If a uniform flow line does not exist, the Contractor shall establish a uniform flow line as directed by the Design Engineer.

Bituminous pavement shall be removed to clean straight lines by sawcutting where the removal of existing improvements does not include the total amount of paving encountered. Where bituminous pavement adjoins a trench, the edges adjacent to the trench shall be trimmed to neat straight lines at least

9 inches wider than the trench on each side before resurfacing to insure that all areas to be resurfaced are accessible to the rollers used to compact the subgrade or paving materials. Where new pavement is to adjoin existing bituminous or concrete pavements, the existing pavement shall be sawcut or bladecut straight.

It shall be the Contractor's responsibility to protect the integrity of the edge of pavement adjacent to the removal section.

The Contractor shall remove all existing improvements to the required depth by a method that does not damage the subgrade. Pneumatic wheel construction equipment, including, but not limited to, trucks, loaders, excavators and scrapers, will not be allowed on the exposed subgrade within the roadway section. Should the Contractor fail to utilize necessary caution to protect the subgrade or allow pneumatic wheel construction equipment on the subgrade within the roadway section after the existing surface has been removed; all overexcavation and deep stabilization shall be at the Contractor's expense.

The Contractor shall take all necessary precautions to protect existing landscaping, which may be disturbed during the execution of the work. All restoration work shall be in accordance with the applicable provisions of Section 333 – "Landscaping" of the Standard Specifications, or as specified herein.

Where lawn or landscape with topsoil has been disturbed, contaminated, or removed, the Contractor shall replace the topsoil with an imported, high quality garden topsoil to a minimum depth of 3 inches; with minimal compaction. Areas of concern may include, but are not limited to, landscaping adjacent to sidewalks, curbs and gutters, driveways, and alleys. The topsoil shall conform to Section 200.08 – "Topsoil" of the Standard Specifications.

Existing improvements; adjacent property; utilities and other facilities; and trees and plants that are not to be removed shall be protected from injury or damage resulting from the Contractor's operations.

The Contractor shall notify the U.S. Postal Service to coordinate all mailbox relocation.

Any existing improvements, including, but not limited to, retaining walls, adjacent property, utilities, sprinkler systems, signs, other facilities or appurtenances, trees and plants, which are damaged or displaced as a result of the Contractor's operation shall be replaced or restored to the original position and condition prevailing prior to start of operations at the Contractor's own expense unless otherwise directed by the RTC Project Manager or Design Engineer. In addition, removal of existing improvements shall be done in accordance with the provisions of Section 300.04 - "Protection of Utilities and Underground Facilities" of the Standard Specifications.

1.07 TRENCH EXCAVATION

Subsection 305.02 - "Maximum Length of Open Trench" of the Standard Specifications, is herewith amended as follows:

1. Add the following paragraph:

   Unless otherwise directed by the Design Engineer and approved by the Agency, there shall be no unprotected open trench remaining at the end of the working day. At the end of the working day, any open trench shall be protected by plating or other means approved by the Design Engineer and the Agency.

1.12 PORTLAND CEMENT CONCRETE

1.12A COMPOSITION OF MIXTURES

The Contractor shall submit in writing for approval a mix design conforming to the requirements of Subsection 337.01 - "General" of Section 337 – "Composition of Mixtures" of the Standard Specifications. All Portland Cement Concrete, unless otherwise indicated, shall have a coarse aggregate gradation conforming to Size No. 67 in Subsection 200.05.03 - "Coarse Aggregates" of the Standard Specifications. Cement shall be Type II.

If the Contractor submits a written request to use Size No. 57 in lieu of Size No. 67, and if the Agency approves this request, then air entrainment shall be adjusted to conform to ACI requirements for severe conditions.

1.12B SIDEWALK, CURB AND GUTTER

Concrete used for curbs, gutters, sidewalks, pedestrian ramps, and driveway aprons shall conform to the requirements of Subsection 337.10.01.01 – "Portland Cement Concrete Exposed to Freeze-Thaw Cycles" of the Standard Specifications and shall be reinforced with collated, fibrillated polypropylene fibers conforming to the requirements of Subsection 202.02.02.04 – "Polypropylene Fibers" of the Standard Specifications, at 1.5 pounds per cubic yard of concrete.

Subsection 312.10.02 - "Sidewalk Surface" of the Standard Specifications is herewith amended as follows:

1. Add the following paragraphs:

   a) When a 10-foot straightedge is placed on the sidewalk, curb, or gutter, the surface shall not vary more than ¼ inch from the edge of the straightedge, except at grade changes.

   b) Curbs at pedestrian ramps shall **not** be placed monolithically with pedestrian ramps.

1.12C THRUST BLOCKS

Portland Cement Concrete used for thrust blocks shall have a minimum compressive strength of 3000 psi when tested at 28 days and have a 1 to 4 inch slump.

Thrust blocks shall be installed such that they bear against the pipe fitting on one side and against the undisturbed earth on the other side. The Contractor shall provide anchor blocks and support blocks on vertical bends.

Thrust block concrete shall not obstruct the removal of bolts from fittings. Concrete shall be prevented from adhering to the fittings. Either a liquid bond breaker shall be applied to the fitting, or an impervious membrane shall be used.

1.12D RETAINING WALLS

Concrete used for retaining walls shall conform to the requirements of Subsection 337.10.01.01 – "Portland Cement Concrete Exposed to Freeze-Thaw Cycles" of the Standard Specifications.

1.12E PAVING

1.12F UTILITY ADJUSTMENTS

Concrete used for utility adjustments shall conform to the requirements of Subsection 337.10.01.01 – "Portland Cement Concrete Exposed to Freeze-Thaw Cycles" of the Standard Specifications and shall be reinforced with collated, fibrillated polypropylene fibers conforming to the requirements of Subsection 202.02.02.04 – "Polypropylene Fibers" of the Standard Specifications, at 1.5 pounds per cubic yard of concrete.

The concrete used for utility adjustments shall be protected until a minimum compressive strength of 3,000 psi is attained. The RTC Project Manager shall approve the method of protection

1.13 DETECTABLE SURFACE WARNING TILES

1. The detectable surface warning tiles shall consist of precast tiles with a minimum size of 2' x 2', color dark red. Approved products include: CASTinTACT, TEKWAY DOME-TILES, ARMOR CAST WET SET TILES, and ARCIS WET SET TILES. Detectable surface warning tiles shall be constructed per manufacturer's installation guidelines and conform to ADAAG standards.

2. Proposed Substitution products are to be submitted for approval in accordance with provision 22 of the Instruction To Bidders, page ITB-4, within these documents. In order to be considered, submittal packages for alternate truncated concrete dome materials must be prepared and submitted in accordance with the requirements of STS 1.13 DETECTABLE SURFACE WARNING TILES.

3. The Contractor shall check the prefabricated panels upon delivery to verify that the proper material has been received. The panels shall be inspected by the Contractor to be free of flaws or damage occurring during manufacturing, shipping, or handling.

4. The prefabricated panels shall be installed in accordance with the Reno Standard Details and the manufacturer's recommendations.

6. Submittals shall include the following:

   a) The product data sheet and certification from the Manufacturer that the prefabricated detectable surface warning tile panels supplied meets the requirements of STS 1.13 DETECTABLE SURFACE WARNING TILES; and

   b) The manufacturer's installation instructions and general recommendations.

1.14 BITUMINOUS PLANTMIX

Bituminous Plantmix shall conform to the requirements of Section 320 - "Plantmix Bituminous Pavement" of the Standard Specifications, except as modified herein.

The Contractor shall submit in writing for approval a job mix formula conforming to Subsection 320.02 – "Composition of Mixtures" of the Standard Specifications. Type 2 aggregate conforming to Subsection 200.02.03 – "Plantmix and Roadmix Aggregate" shall be used unless otherwise specified. Preparation of the aggregates shall be in accordance with the Marination Method described in Subsection 401.03.08 – "Preparation of Aggregates", of the Nevada Department of Transportation Standard Specifications for Road and Bridge Construction.

Unless otherwise approved by the Agency, Asphalt Cement shall be PG64-28NV for the full depth for all paving on this project. Asphalt binders shall conform to the requirements of Section 201 - "Bituminous Material" of the Standard Specifications.

1.14A COMPOSITION OF MIXTURES

Subsection 320.02.01 - "Job Control Grading Band" of the Standard Specifications, is herewith amended as follows:

1. Amend the gradation and asphalt cement content table as follows:

	Maximum Tolerance
Aggregate passing No. 4 and larger sieves	±7 percent
Aggregate passing No. 8 to 100 sieves	±4 percent
Aggregate passing No. 200 sieve	±2 percent
Asphalt content	-0.2% to +0.7% of total weight of mix

2. Delete the third paragraph of Subsection 337.04.01 – "Composition of Mixtures" of the Standard Specifications and replace as follows:

   The optimum asphalt cement content shall be determined to 0.1 percent, by total weight of mix and dry weight of aggregate, in accordance with the Asphalt Institute's Manual Series No. 2 (MS-2) with a target value of 3% Air Voids for light traffic conditions (design Equivalent Single Axle Load (ESAL) < 10^4) and 4% Air Voids for medium and heavy traffic conditions (design ESAL > 10^4). The Contractor shall use a 75-blow Marshall mix design for all streets on this project, except a 50-blow Marshall mix design for *medium/light traffic conditions shall be used on the following streets: *. The mix design and project control samples shall conform to MS-2 Table 5.2 - Marshall Mix Design Criteria as modified in STS Table 1.14A-1.

STS Table 1.14A-1: Modified MS-2 Table 5.2 - Marshall Mix Design Criteria

	Light Traffic[2] Surface & Base		**Medium Traffic[2] Surface & Base**		**Heavy Traffic[2] Surface & Base**	
Marshall Method Mix Criteria[1]						
Compaction, Number of Blows, Each End of Specimen	50*		50		75	
Stability (pounds)	1,200 Min.*		1,200 Min.		1,800 Min.	
Flow (0.01 inches)	8 Min.	16 Max.*	8 Min.	16 Max.(8)	8 Min.	14 Max.(8)
Air Voids (percent)	2 Min.*	4 Max.*	3 Min.	5 Max.	3 Min.	5 Max.
Voids in Mineral Aggregate (percent)	See STS Table 1.14A-2 : MS-2 Table 5.3					
Voids Filled With Asphalt (percent)	70	80	65	78	65	75

Notes:

1. All criteria, not just stability value alone, must be considered in designing an asphalt paving mix. Hot mix asphalt bases that do not meet these criteria when tested at 140 °F are satisfactory if they meet the criteria when tested at 100 °F and are placed 4 inches or more below the surface.
2. Traffic classifications
   Light Traffic conditions resulting in a Design ESAL < 10^4
   Medium Traffic conditions resulting in a Design ESAL between 10^4 and 10^6
   Heavy Traffic conditions resulting in a Design ESAL > 10^6
3. Laboratory compaction efforts should closely approach the maximum density obtained in the pavement under traffic.
4. The Flow value refers to the point where the load begins to decrease.
5. The portion of asphalt cement lost by absorption into the aggregate particles must be allowed for when calculating percent air voids.
6. Percent air voids are calculated at the target value.
7. Percent voids in the mineral aggregate are to be calculated on the basis of the ASTM bulk specific gravity for the aggregate.
8. Upon approval of Agency, flow may exceed the maximum value when polymer modified binders are used.

* Indicates modified value from MS-2 Table 5.2.

STS Table 1.14A-2: MS-2 Table 5.3 - Minimum Percent Voids in Mineral Aggregate (VMA)

	Voids Filled in Mineral Aggregate (percent), Min.		
Nominal Maximum Particle Size (inches)[1, 2]	Design Air Voids (percent)[3]		
	3.0	4.0	5.0
No. 16	21.5	22.5	23.5
No. 8	19.0	20.0	21.0
No. 4	16.0	17.0	18.0
3/8	14.0	15.0	16.0
1/2	13.0	14.0	15.0
3/4	12.0	13.0	14.0
1	11.0	12.0	13.0
1-1/2	10.0	11.0	12.0
2	9.5	10.5	11.5
2-1/2	9.0	10.0	11.0

Notes:

1. Standard Specifications for Wire Cloth Sieves for Testing Purposes.
2. The nominal maximum particle size is one size larger than the first sieve to retain more than 10 percent.
3. Interpolate minimum voids in the mineral aggregate (VMA) for design air void values between those listed.

1.14B PAVING

I SPREADING AND FINISHING

Subsections 320.03 - "Construction" and 320.05 - "Spreading and Finishing" of the Standard Specifications, are herewith amended as follows:

1. Add the following subsection:

320.03.03.01 Automatic Controls. Pavers placing the final lift of the plantmix bituminous pavement for any uniform roadway section shall be equipped with an automatic control system capable of operating in conjunction with either a ski type device of not less than 30 feet in length or a taut wire set to grade. Automatic controllers are required on each side of the paver for the final lift of the plantmix bituminous pavement.

Where a paver is matching longitudinal joints, a joint matcher ski running on automatic controls is required.

The Contractor shall furnish all equipment required and shall install all stakes and wire required for the wire system.

2. Add to the introductory paragraph of Subsection 320.05 - "Spreading and Finishing" of the Standard Specifications as follows:

   Refer to STS 1.14Bi SPREADING AND FINISHING - Item 1, designated as Subsection 320.03.03.01 - "Automatic Controls" of the Standard Specifications, for automatic controls requirement for bituminous pavers.

3. Add to the fourth paragraph of Subsection 320.05 - "Spreading and Finishing" of the Standard Specifications as follows:

   In other areas where mechanical spreading and finishing equipment is used, loose plantmix material shall not be broadcast across the mat to repair surface irregularities. Instead, the irregular surface material shall be removed and replaced with mix, which shall be placed gently on the surface and large aggregate raked off the surface and removed before rolling. At joints, bituminous material at the edges of pavement shall be pushed back off the adjoining pavement, and the edge "pinch" rolled to provide a tight, flush joint. Loose aggregate at the edges of the pavement mat shall not be pushed across the mat with the rake and rolled into the mat, but instead will be raked off the mat and removed before rolling.

4. Add the following paragraphs after the second paragraph in Subsection 320.05.02 - "Joints":

   *The Contractor shall minimize the number of transverse joints in the final lift of pavement in any particular roadway segment.

   "Hot" joints are joints where adjacent paving lifts are placed during the same work shift, when previously placed pavement is relatively "hot". Joints constructed otherwise are considered "Cold" joints.

   All TOP LIFT longitudinal joints shall be "Hot" joints unless otherwise approved or directed by the Agency or Design Engineer.

   All "Cold" longitudinal joints directly below the TOP LIFT (final course of bituminous dense-grade pavement) shall be sawcut back a minimum of six (6) inches horizontally and to full depth of the lift, but not to exceed the depth of the lift.

   For all sawcut joints, TOP LIFT or otherwise, a tack coat of asphaltic emulsion shall be applied to the contact surface prior to placement of the abutting lift.

   The RTC reserves the right to sample cores directly at pavement joints to determine if workmanship (good in-place densities and absence of excessive voids and segregation) is acceptable within the joints.

II ACCEPTANCE

Subsection 320.06 - "Acceptance" of the Standard Specifications, is herewith amended as follows:

1. Delete the introductory paragraph and replace as follows:

   Plantmix bituminous pavement shall be accepted on the basis of surface tolerance, density, thickness, surface texture, conformance with the tolerances of the job mix formula, and the Marshall properties required in this subsection and in accordance with the testing requirements of Section 336 - "Inspection and Testing" of the Standard Specifications and as modified in STS 1.01 INSPECTION AND TESTING.

2. Delete the second paragraph of Subsection 320.06.01 - "Surface Tolerances" of the Standard Specifications and replace as follows:

   Surface tolerances shall be evaluated, as specified in the Bid Item, by either method as described in STS 1.14BII ACCEPTANCE - Items 3 or 4, designated as Subsection 320.06.01.01 - "Profilograph Method" and Subsection 320.06.01.02 - "12-foot Straight Edge Method," respectively.

3.

4. Add the following subsection:

320.06.01.02 12-foot Straight Edge Method.

a) A 12 feet long straight edge shall be used. When measured longitudinally (profile), the straight edge shall be laid on the finished surface and parallel with the centerline of the roadway. For transverse (cross section) measurements, the straight edge shall be laid in a direction transverse to the centerline and extending from edge to edge of a 12 foot traffic lane.

   The RTC may use a profilograph to locate pavement surfaces which display unacceptable surface tolerance. Profilograph measurement shall be in accordance with STS 1.14BII ACCEPTANCE - Item 3 (a), designated as a portion of Subsection 320.06.01.01 - "Profilograph Method." Once identified, the conformance criterion will remain as specified below in Item 4 (b), designated as a portion of Subsection 320.06.01.02 - "12-foot Straight Edge Method," that is, not subject to the conformance criterion listed for the profilograph method.

b) The longitudinally (profile) surface shall not vary more than 1/8 inch from the lower edge of the straightedge. The transverse (cross section) slope of the finished surface shall be uniform to a degree such that no depressions greater than 1/4 inch are present. The finished grade of the asphalt surface shall vary no more than 5/8 inch from design finished grade in both profile and cross section.

Grinding shall be done in accordance with STS 1.14BIII MITIGATION - Item 3, designated as Subsection 320.07.01.01 - "Grinding for Conformance of Surface Tolerances."

5. Delete Subsection 320.06.03 - "Thickness" of the Standard Specifications and replace as follows:

320.06.03 Thickness. Cut samples taken in accordance with Section 336.03.04 - "Asphalt Concrete" of the Standard Specifications and as modified in STS 1.01 INSPECTION AND TESTING shall be used to determine conformance with thickness specifications. The average thickness of cores shall be at least equal to the specified minimum thickness of the asphalt concrete pavement with no single core less than ½ inch thinner than the specified minimum thickness. Both average and single core thickness shall be compared to the specified thickness to the nearest 0.1 inch.

6. Add the following subsection:

320.06.04 Surface Texture. The finished texture of wearing course paving constructed using dense graded bituminous plantmix shall be dense and uniform in appearance, displaying a homogeneous distribution of fine and coarse aggregate with no apparent surface voids.

7. Add the following subsection:

320.06.05 Job Mix Formula and Marshall Properties. Bituminous plantmix will be tested for compliance with the job mix formula and Marshall properties on a "lot" basis. A lot is as defined in Subsection 320.06.02 - "Density"of the Standard Specifications. Each lot will be tested for job mix formula and Marshall properties compliance.

Each lot of compacted pavement will be accepted, with respect to job mix formula and Marshall properties, when test results on fresh, hot samples conform to the requirements set forth in Subsection 320.02 - "Composition of Materials" and as modified in STS 1.14 BITUMINOUS PLANTMIX, including but not limited to, Marshall air voids, stability, flow, asphalt content, and aggregate gradation. Testing shall be in accordance with Subsection 336.03.04 - "Asphalt Concrete" of the Standard Specifications and as modified in STS 1.01 INSPECTION AND TESTING.

III MITIGATION

Subsections 320.07 - "Mitigation of Unacceptable Asphalt Concrete Pavement" and 320.09 - "Basis of Payment" of the Standard Specifications, are herewith amended as follows:

1. Add an introductory paragraph and a second paragraph for Subsection 320.07 - "Mitigation of Unacceptable Asphalt Concrete Pavement" of the Standard Specifications as follows:

320.07 MITIGATION OF UNACCEPTABLE ASPHALT CONCRETE PAVEMENT. The objective of mitigation is to assure the final pavement will meet the design service life of the roadway. Those portions of the constructed work which do not comply with contract specifications, as determined in accordance with Subsection 320.06 - "Acceptance" of the Standard Specifications and as modified in STS 1.14BIII ACCEPTANCE, shall be mitigated in such a manner that the performance, service life, and maintainability expectations of the originally specified project will be achieved. Payment penalties in lieu of mitigation shall be considered as a last resort and utilized only in those cases where mitigation to achieve the expected performance, service life, and maintainability is deemed by the Agency to be not possible or practical. Most paving projects affected will exhibit a variety in the type and magnitude of deficiencies that will result in a variety of mitigation approaches which may include combinations of various physical mitigation measures and payment penalties. The Agency, at its option, will decide the appropriate mitigation measures with input from the Design Engineer, testing laboratory, and Contractor.

In the event pavement mitigation is necessary to correct deficiencies, the RTC may direct the Contractor to perform some or all pavement mitigation after normal business hours, at night, and/or on weekends, to minimize impacts sustained by the public, at the Contractor's own expense.

2. Amend Subsection 320.07.01 - "Unacceptable Surface Tolerance" of the Standard Specifications as follows:

320.07.01 Unacceptable Surface Tolerances. Unacceptable surface tolerance shall be corrected by either overlaying or grinding as directed by the Agency or Engineer. Grinding shall be done in accordance with STS 1.14BIII MITIGATION - Item 3, designated as Subsection 320.07.01.01 - "Grinding for Conformance of Surface Tolerances."

Apply fog or slurry seal to ground areas after the surface tolerance specifications have been met. The Agency shall determine the type of sealant to be used.

In areas to be corrected with an overlay, grinding, followed by tack coat, may be necessary to provide a minimum 1½ inch overlay and butt joints where matching existing pavements.

3. Add the following subsection:

320.07.01.01 Grinding for Conformance of Surface Tolerances. The grinding machine for correcting pavement surface tolerances shall be power driven, self-propelled and specifically designed to remove, profile, smooth, and texture hot mix asphalt. The Contractor shall use a grinding machine with a wheel base of not less than 12 feet, equipped with a rotating powered mandrel drum studded with diamond blades with a cutting head not less than 3 feet wide. The grinding machine shall be equipped with an effective means for controlling dust and other particulate matter.

Do not cause strain or damage to the underlying surface of the pavement with the

grinding machine. Do not use grinding and texturing equipment that causes ravels, aggregate fractures, spalls, or disturbance of joints.

The Contractor shall perform grinding in a longitudinal direction. A satisfactorily grind will produce a uniform textured surface over the surface areas designated for grinding.

The surface of the ground pavement shall have parallel corduroy-type texture consisting of grooves between 1/12- inch and 1/8-inch wide. The peaks of the ridges shall be approximately 1/16-inch higher than the bottom of the grooves with approximately 52 to 58 evenly spaced grooves per foot.

The Contractor shall perform additional grinding as necessary to extend the ground area laterally to the nearest lane line or edge of pavement and longitudinally to lines normal to the pavement centerline.

The Contractor shall correct areas that cannot not be brought into specified surface tolerances by abrasive grinding by both removal and replacement, or by placing an overlay of hot mix asphalt. The Contractor shall obtain approval of the exact method of correction.

Fog or slurry seal shall be applied to ground areas after the surface tolerance specifications have been met. The Agency shall determine the type of sealant to be used.

4. Delete Subsections 320.07.02 - “Unacceptable Density” and Table 1 in Subsection 320.09 - “Basis of Payment” of the Standard Specifications and replace as follows:

320.07.02 Guideline for In-place Density/Air Voids. The RTC and the Design Engineer will consider STS Table 1.14BIII-1 or 1.14BIII-2 "Asphalt Deficiency Mitigation Matrix for In-place Density/Air Voids", as applicable for the design traffic conditions, input from the Contractor, and sound engineering analysis and judgment before requiring mitigation (i.e. removal and replacement, increased thickness, or surface treatment) and/or payment deduction (if mitigation is not practical or possible) for plantmix bituminous pavement which deviates from specification requirements. Since the matrix does not include all factors and site conditions which may affect the overall performance of the pavement, the RTC may, upon consideration of the specific circumstances, increase, reduce or waive mitigation and/or payment reduction, or combine portions of mitigation and payment reduction.

If the RTC makes a preliminary determination that mitigation, and/or payment deduction is necessary on the basis of In-place Density/Air Voids, the Contractor may submit a written request to RTC for retests. The retests shall be in accordance with Section 336 - “Inspection and Testing” of the Standard Specifications and as modified in STS 1.01 INSPECTION AND TESTING. The retests may be performed by the Agency's quality assurance laboratory or by any other approved, independent testing laboratory (the Contractor shall request the laboratory in writing for RTC approval).

Retests shall be undertaken at the Contractor's own expense. If the results of any retests are significantly different from initial testing, a "referee" test will be performed by an independent testing lab, which is mutually acceptable to the RTC and the Contractor. The RTC may waive the "referee" test if after consulting with the Design Engineer it is determined that the "referee" test is unnecessary. Fifty percent of the cost of "referee" tests shall be paid by the RTC and 50 percent shall be paid by the Contractor. The RTC may elect to make full payment and deduct the Contractor's 50 percent from progress or final payment to Contractor. The RTC will make a final determination regarding mitigation and/or payment reduction based upon the preponderance of test results and other factors.

5. Delete subsection 320.07.03 Unacceptable Thickness and replace as follows:

320.07.03 Unacceptable Thickness. Insufficient thickness not meeting the requirements of subsection 320.06.03 – "Acceptance – Thickness" – shall be mitigated as follows:

Thickness	Mitigation
4" - 3.76"	20% pay deduct for top lift paving
3.75" – 3.51"	50% pay deduct for top lift paving
≤ 3.5"	Remove top lift & replace or add a 1.5" Type 3 overlay

For mitigation purposes in this subsection, the thickness will be the average of all cores taken, and the cost of the top lift paving is $0.60 per square foot per one inch of thickness.

The overlay mitigation option is allowable only at where there is no curb and gutter. Grinding may be necessary to eliminate the problems associated with raising of finish grade as determined by the governing Agency or Engineer, but in all cases, the perimeter of the corrective overlay shall be placed as a flush butt-joint formed by grinding of existing pavement abutting the overlay.

6. Add the following subsection:

320.07.04 Unacceptable Surface Texture. Unacceptable surface texture shall be mitigated as directed by the Agency. Required mitigation may include any necessary measures up to, and including, removal and replacement of the deficient material. If correction of surface texture results in a visually non-uniform pavement surface, the Contractor may be required to restore the pavement surface to a uniform visual appearance as directed by the Agency. Such measures shall be done at the Contractor's own expense.

7. Add the following subsection:

320.07.05 Guideline for Job Mix Formula and Marshall Properties. If the compacted pavement is not in compliance with the job mix formula and all Marshall properties, mitigation shall be as directed by the Agency. Due to the complexity of the deficiency matrix, it is impossible to have a mitigation table

which covers all possible combinations of the deficiencies and all factors and site conditions which may affect the overall performance of the pavement; therefore, the RTC shall evaluate the deficiency on a case by case basis and may require any necessary measures ranging from payment deductions to removal and replacement of the deficient materials, or any combination of the mitigation measures.

The RTC may consider test results from the Contractor's quality control laboratory if submitted, provided that the sampling and testing are performed, using split samples with the Agency's quality assurance laboratory, in accordance with Section 336 - "Inspection and Testing" of the Standard Specifications and as modified in STS 1.01 INSPECTION AND TESTING.

STS Table 1.14BIII-1
Asphalt Deficiency Mitigation Matrix for In-place Density/Air Voids
Light Traffic Conditions *(see Note 4)*

The objective of the mitigations listed on the table below is to assure the final pavement will meet the design service life of the roadway. Reductions in payment do not achieve that goal and should be considered only if mitigation is not possible or practical. The mitigation table is an attempt to provide uniformity and fairness to the evaluation process of substandard pavements. Most paving projects affected will exhibit a variety in the type and magnitude of deficiencies that will result in a variety of mitigation approaches. The appropriate mitigation requires sound engineering analysis and judgment. The Agency will, at its option, decide the appropriate mitigation measures with input from the Design Engineer, testing laboratory, and the Contractor.

	Marshall Compaction % (Note 5)	In Place Air Voids % (Rice) (Note 6)	Increase Thickness (Notes 7&8)		Surface Seal (Note 8)			Remove Replace	Payment (Note 8)		
			1"	1-1/2"	Sand Seal	Slurry Seal	Sand Blotter		100%	90%	50%
WEARING	≥ 96	<2					X (A)			X(A)	X
		≥2 & ≤ 7							X		
		>7 & ≤ 10			X	X				X	
		> 10		X	X(A)	X(B)		X			X(A, B)
	< 96 & ≥ 93	≥ 4 & ≤ 7								X	
		>7 & ≤ 10		X							X
		> 10		X(A)				X			X(A)
	< 93							X			
NON-WEARING	≥ 96	<2								X	X
		≥2 &≤ 7							X		
		>7 & ≤ 10								X	
		> 10	X								X
	<96 & ≥ 93	≥4 & ≤ 7								X	
		>7 & 10	X								X
		> 10		X				X			X(A)
	< 93							X			

Notes:

1. Each 'X' represents a recommended mitigation remedy. Several X's for a single deficiency indicate alternate methods of remediation unless noted otherwise. Individual judgment must be exercised by the RTC Project Manager on each specific project.
2. Each 'X' labeled either (A) or (B) represents a combination of mitigation remedies listed as group (A) or group (B).
3. See STS 1.14BIII MITIGATION - Item 6, designated as Subsection 320.07.05 - "Guideline for Job Mix Formula and Marshall Properties," for mitigation required when the compacted pavement is not in compliance with the job mix design and/or Marshall properties.
4. Traffic classifications:
   Light Traffic conditions resulting in a Design ESAL $<10^4$
   Medium Traffic conditions resulting in a Design ESAL between 10^4 and 10^6
   Heavy Traffic conditions resulting in a Design ESAL $>10^6$
   For light traffic conditions, see Asphalt Deficiency Mitigation Matrix for Light Traffic Conditions.
5. The average Marshall Compaction for the lot shall be rounded to the nearest 1 percent in accordance with the procedure described in Section 336 - "Inspection and Testing," of the Standard Specifications, Subsection 336.03.04 - "Asphalt Concrete".
6. Three significant figures shall be used throughout the calculations for in-place air voids. Individual results shall be reported to the nearest 0.1 percent. All rounding shall be in accordance with the procedure described in Section 336 - "Inspection and Testing" of the Standard Specifications, Subsection 336.03.04 - "Asphalt Concrete"
7. Increase total pavement thickness by the indicated amount using approved mix.
8. Mitigation may not be limited to the matrix shown on this table if the pavement is also deficient in other areas.

STS Table 1.14BIII-2
Asphalt Deficiency Mitigation Matrix for In-place Density/Air Voids
Medium & Heavy Traffic Conditions *(see Note 4)*

The objective of the mitigations listed on the table below is to assure the final pavement will meet the design service life of the roadway. Reductions in payment do not achieve that goal and should be considered only if mitigation is not possible or practical. The mitigation table is an attempt to provide uniformity and fairness to the evaluation process of substandard pavements. Most paving projects affected will exhibit a variety in the type and magnitude of deficiencies that will result in a variety of mitigation approaches. The appropriate mitigation requires sound engineering analysis and judgment. The Agency will, at its option, decide the appropriate mitigation measures with input from the Design Engineer, testing laboratory and the Contractor.

	Marshall Compaction % (Note 5)	In Place Air Voids % (Rice) (Note 6)	Increase Thickness (Notes 7&8)	Surface Seal (Note 8)			Remove Replace	Payment (Note 8)		
			+1½"	Sand Seal	Slurry Seal	Chip Seal		100%	90%	50%
WEARING	≥ 96	<3					X		X	X
		≥3 & ≤8						X		
		>8 & ≤11		X	X	X			X	
		> 11	X				X			
	< 96 & ≥ 93	≥ 4 & ≤8	X				X		X	
		>8 & ≤11	X(A)			X(B)	X		X(A)	X(B)
		> 11	X(A)				X			X(A)
	< 93						X			
NON-WEARING	≥ 96	<3					X		X	X
		≥3 & ≤8						X		
		>8 & ≤11							X	
		> 11	X				X			X
	<96 & ≥ 93	≥4 & ≤8							X	
		>8 & ≤11	X							X
		> 11	X(A)				X			X(A)
	< 93						X			

Notes:

1. Each 'X' represents a recommended mitigation remedy. Several X's for a single deficiency indicate alternate methods of remediation unless noted otherwise. Individual judgment must be exercised by the Engineer on each specific project.
2. Each 'X' labeled either (A) or (B) represents a combination of mitigation remedies listed as group (A) or group (B).
3. See STS 1.14BIII MITIGATION - Item 6, designated as Subsection 320.07.05 - "Guideline for Job Mix Formula and Marshall Properties," for mitigation required when the compacted pavement is not in compliance with the job mix design and/or Marshall properties.
5. Traffic classifications:
   - Light — Traffic conditions resulting in a Design ESAL $<10^4$
   - Medium — Traffic conditions resulting in a Design ESAL between 10^4 and 10^6
   - Heavy — Traffic conditions resulting in a Design ESAL $>10^6$

   For light traffic conditions, see Asphalt Deficiency Mitigation Matrix for Light Traffic Conditions.
5. The average Marshall Compaction for the lot shall be rounded to the nearest 1 percent in accordance with the procedure described in Section 336 - "Inspection and Testing," of the Standard Specifications, Subsection 336.03.04 - "Asphalt Concrete".
6. Three significant figures shall be used throughout the calculations for in-place air voids. Individual results shall be reported to the nearest 0.1 percent. All rounding shall be in accordance with the procedure described in Section 336 - "Inspection and Testing" of the Standard Specifications, Subsection 336.03.04 - "Asphalt Concrete".
7. Increase total pavement thickness by the indicated amount using approved mix.
8. Mitigation may not be limited to the matrix shown on this table if the pavement is also deficient in other areas.

IV SPECIAL PAVING CONSIDERATIONS

The Contractor shall submit, at the time of traffic control submittal, a paving plan superimposed onto the striping plan to illustrate locations of paving joints in relation to striping. The paving joints in the final lift shall be located within 6" from lane stripes, unless otherwise authorized in writing by the Engineer.

Where directed by the Engineer, the Contractor shall spread blotter sand on the surface of final-lift pavement to reduce the driveway or intersection closure time and protect the pavement surface at high traffic or critical locations.

V TACK COAT

Subsection 316.03.04 - "Application of Bituminous Materials" of the Standard Specifications, is herewith amended as follows:

Unless otherwise directed by the Design Engineer, cleaning and the application of a tack coat shall be provided between all paving courses that are not constructed in the same shift. Tack coat shall consist of asphalt emulsion, Type SS-1h, conforming to the requirements of Section 201 – "Bituminous Materials" of the Standard Specifications to the cleaned, cured surface, unless otherwise directed by the Design Engineer. The tack coat shall be applied in sufficient quantity to provide a continuous membrane over the cement modified material. No more tack shall be applied than can be covered in the same shift. Place the covering course over tack that is clean, free of tracking and adequately set.

VI LONGITUDINAL JOINTS

This specification is developed in an effort to obtain longer pavement life by adding emphasis on longitudinal joint quality. This portion of the STS will apply for the sole purpose of assessing the bonus/penalty of this specification. The longitudinal joint result will not tie to the acceptance of the pavement. This portion of the STS, however, does not eliminate any requirement as listed in all other sections of the STS.

Bonus or Penalty for longitudinal joint applies only when the mat for the associated paving "lots" are acceptable according to STS 1.14BII Acceptance.

1. Testing and reporting will be performed by the quality assurance laboratory (i.e. RTC's consultant). Testing will be done on the TOP LIFT[1] only for both HOT & COLD longitudinal joints for each joint segment. Longitudinal joint segment is defined as every 1,000 feet of longitudinal joint and any remainder that is 800 feet or longer. Testing for the longitudinal joints include Thin Lift Nuclear Test and Core Test as described in the following paragraphs.

2. Thin Lift Nuclear Test (Nuclear Gauge Test) shall be performed as follows:

    a) Frequency & Location – Nuclear gauge readings shall be taken every 200 feet on BOTH sides of a longitudinal joint segment directly across from each other, beginning at a random location within the first 200 feet as determined by the Design Engineer.

[1] TOP LIFT is defined as the final course of bituminous dense-grade pavement.

b) Timing – To avoid additional traffic control needed for the testing operation, nuclear gauge readings shall be taken shortly following the completion of the longitudinal joint construction.

c) Equipment – Testing shall be performed using a gauge specifically designed for asphalt testing such as a Troxler 4640B or Troxler 3450, or approved equivalent. It is not necessary that the nuclear gauge be calibrated to the mix. However, the same nuclear gauge should be used for the same longitudinal joint segment.

d) Testing – One 1-minute test is to be performed at each test location. The nuclear density testing shall be performed with the long axis of the nuclear density gauge parallel to the joint and with the nearest edge of the nuclear gauge no closer than 3 inches from the joint and no further than 4.5 inches from the joint. The footprint of the gauge shall be marked with keel or other product that clearly defines the test locations. All testing shall be performed in the same direction (i.e. up or down station).

e) Re-Test – When the test result, t_n, differs more than 4 pounds per cubic foot (pcf) from the previous test, t_{n-1}, a re-test at the previous test location is required to assure that the previous test is not in error. Both test results shall be recorded. If the re-test is within 4 pcf of the original previous test result, use the original previous test result. Otherwise, keep record of the results t_n and t_{n-1} but do not use them for any further calculations. Instead, recalibrate the thin lift nuclear gauge, resume testing beginning at the t_{n-1} location, and use the new test results.

3. Core Test will be performed as follows:

a) Frequency & Location – In addition to the coring required for the mat, one core test shall be performed for every longitudinal joint segment, location of which shall be determined as below:

i. Mean Joint Density (MJD) is the average of the readings of the Nuclear Gauge Test on each side of a longitudinal joint segment. The core is to be taken on the side with the lower MJD. If the MJD on both sides are equal, core on the side which was paved first.

ii. The core shall also be at a location where a Nuclear Gauge Test was performed and reasonably close to a core location for the mat. The core shall be centered inside of the previously marked footprint of the Nuclear Gauge Test. In no case shall the near edge of the core be closer than 3 inches from the joint.

iii. If coring is to occur at a location with pavement markings made of 3M tape or thermoplastic tape, adjust the core location up or down station as appropriate up to a distance of 20 feet maximum. Otherwise, remove necessary portions of the pavement markings before coring.

b) Timing – Coring at the joint shall be at the same time of coring at the mat.

c) Equipment – Same equipment as the standard core test for the mat.

d) Testing – Test procedures will be the same as the standard core test (in-place density/air voids) for the mat in accordance with STS 1.01 INSPECTION AND TESTING. Use the hot sample properties from the corresponding lot, based on the core location (i.e. stationing and which side of the joint), for calculating core test results.

e) Re-Test – Re-testing will only be allowed at the sole discretion of the RTC. If allowed, re-testing shall be at the sole cost of the Contractor and performed by a qualified third party laboratory that meets RTC's criteria for testing. The location of the additional core(s) shall be in within 5 feet up or down station from the original core and the sampling shall be witness by the Design Engineer.

4. When applicable, the bonus and penalty is calculated as follows:

$$\text{Bonus/Penalty} = \frac{\sum F_i}{N} \times A \times T \times U$$

Where

F = Factor for individual longitudinal joint segment based on joint core results per STS Table 1.14BVI-1 or 1.14BVI-2 as applicable.
N = Total number of longitudinal joint segments.
A = Total pavement area of all longitudinal joint segments (SF).
T = Thickness of the TOP LIFT (inch).
U = Unit cost of the TOP LIFT ($/inch-SF).

For the purpose of determining Bonus/Penalty for this project, U shall be $*/in-SF.

STS Table 1.14BVI-1
Longitudinal Joint Segment Bonus/Penalty Factor
Light Traffic Conditions (see Note 1)

Joint Core Results In-Place Air Voids % (Rice) (see Note 2)	Factor F_i
< 2	0%
≥ 2 & ≤ 7	+5%
> 7 & ≤ 10	0%
> 10 & ≤ 14	-5%
> 14	-50%

STS Table 1.14BVI-2
Longitudinal Joint Segment Bonus/Penalty Factor
Medium & Heavy Traffic Conditions (see Note 1)

Joint Core Results In-Place Air Voids % (Rice) (see Note 2)	Factor F_i
< 3	0%
≥ 3 & ≤ 8	+5%
> 8 & ≤ 11	0%
> 11 & ≤ 14	-5%
> 14	-50%

Notes:
1. Traffic classifications
   Light Traffic conditions resulting in a Design ESAL < 10^4
   Medium Traffic conditions resulting in a design ESAL between 10^4 & 10^6

Heavy Traffic conditions resulting in a Design ESAL > 10^6

2. Three significant figures shall be used throughout the calculations for in-place air voids. Individual results shall be reported to the nearest 0.1 percent. All rounding shall be in accordance with the procedure described in Section 336 – "Inspection and Test" (Subsection 336.03.04 – "Asphalt Concrete").

5. Reporting – Field data associated with longitudinal joint testing shall be submitted to the RTC within a week of the testing. The report for the longitudinal joint testing shall be submitted to the RTC within two weeks upon completion of paving for the completed section tested. If top lift paving for the entire project are to be completed within two weeks, submit the report to the RTC within two weeks upon completion of paving for the entire project. The report shall include a Paving Plan and a Longitudinal Joint Summary Sheet as described below.

a) The Paving Plan shall be overlaid on the Striping Plans with stationing shown. It should include, for the top lift only, the longitudinal joint locations with identification number (ID), limits of each paving path, direction of paving, and the paving lot number at the core location. The paving plan can be of as small a scale as practical.

b) The template for the Longitudinal Joint Summary Sheet is available from the RTC website (www.rtcwashoe.com) under Streets & Highways, St & Hwy Resources. It shall be filled in with the following details:

i. The Longitudinal Joint Segment ID, joint type (hot lap, cold sawcut, etc.), station, side of joint (left/right in the up-station direction or north/south/west/east), individual density values measured, MJD (5 values for 1,000-foot joint segments and 4 for 800-foot joint segments) on each side of each joint segment, joint core test location, paving lot number at the core location, core Marshall Density, Rice Maximum Density, In-Place Air Voids, and the individual Longitudinal Joint Segment Bonus/Penalty Factors, F_i.

ii. The calculation for Longitudinal Joint Bonus/Penalty for the project shall be shown at the end of the sheet.

iii. For reference purpose, any re-test shall be noted to clearly identify the re-test, the unused test results, and the test result that was used in calculating the MJD.

1.14C PERMANENT PATCHING

Permanent patching material shall be Type 3 PG64-22 bituminous plantmix, utilizing a 50 blow per side Marshall mix design with target air voids of 3%, and shall conform to the Standard Specifications. Permanent bituminous plantmix patches shall be a minimum depth of 4 inches on 6 inches of aggregate base or match existing section with bituminous plantmix depth up to 12 inches.

If, at any time, during a period of 1 year dating from the date of final acceptance of the project, there is any settlement of the permanent patches requiring repairs to be made, the Owner may notify the Contractor to immediately make such repairs as may be deemed necessary at the Contractor's own expense.

1.16 SLURRY SEAL

Slurry seal shall conform to the requirements of Section 318 - "Slurry Seal" of the Standard Specifications, except as modified herein.

The Contractor shall submit in writing for approval a job mix formula conforming to the requirements of Subsection 318.02 – "Composition of Mixtures" of the Standard Specifications. Type * aggregate conforming to the requirements of Subsection 200.02.06 – "Slurry Seal and Micro Surfacing Aggregate" shall be used unless otherwise specified. Asphalt emulsions shall conform to the requirements of Section 201 - "Bituminous Material" of the Standard Specifications.

Subsection 318.02 – "Materials" of the Standard Specifications, is herewith amended as follows:

1. Add the following to Subsection 318.06.01 – "Limitations":

   a) The slurry seal shall not be applied when precipitation is imminent or occurring.

2. Delete Subsection 318.07.02 – "Tack Coat" in its entirety.

3. Add the following to Subsection 318.08.01 – "General":

   a) All workers shall have sufficient experience to perform properly the work assigned to them. The Contractor shall have an experienced crew on each spreader and any other equipment.

   b) At least 48 hours shall elapse between top lift paving and application of a bituminous seal coat.

   c) Immediately before commencing the slurry seal operations, all metal utility covers (including survey monuments) shall be protected by thoroughly covering the surface with an appropriate adhesive and oiled or plastic paper. No adhesive material shall be permitted to cover, seal or fill the joint between the frame and cover of the structure. Covers are to be uncovered and cleaned of slurry material by the end of the same day.

   d) Hand tools shall be available in order to remove spillage. Ridges or bumps in the finished surface shall not be permitted. The mixture shall be uniform and homogeneous after spreading on the surface and shall not show separation of the emulsion and aggregate after setting.

   e) Adequate means shall be provided to protect the slurry seal from damage from traffic until such time that the mixture has cured sufficiently so that the slurry seal will not adhere to, or be picked up by the tires of vehicles.

1.18 PAVEMENT MARKINGS

1.18A PAINTED PAVEMENT MARKINGS

Permanent painted (traffic paint or epoxy paint) pavement markings shall be in accordance with Section 632 of the latest edition of "Standard Specifications for Road and Bridge Construction" published by NDOT.

1.18A TRAFFIC PAINT

All application methods and products shall conform to Sections 632 – "Permanent Painted Pavement Markings" and 730 – "Traffic Beads", and Subsections 729.02.01 – "General", 729.02.02 – "Packaging", and 729.03.05 – "Rapid Dry Waterborne Paint Material" of the NDOT Standard Specifications for Road and Bridge Construction for Type II traffic paint, with the following exception:

1. Add the following:

   At least 48 hours shall elapse between application of a bituminous seal coat and permanent pavement marking.

   All traffic paint shall have a minimum of 2 coats (full width of stripe) per application of the designated material placed unless otherwise directed by the RTC Project Manager or the Design Engineer's representative.

1.18B PAVEMENT MARKING FILM

Permanent pavement marking film (pavement marking tape or thermoplastic) shall be in accordance with Section 634 – "Pavement Marking Film", of the NDOT Standard Specifications for Road and Bridge Construction.

1.18C RAISED MARKERS

1. Hydrant markers.

   A reflective, blue street marker shall be provided to identify all fire hydrant locations. The marker shall be omnidirectional type. The marker shall be visible on approach to the fire hydrant. The marker shall be placed in accordance with Reno Fire Department Policy Appendix UFC-AP904.3.1, page AP-6.

   Adhesives for raised markers shall conform to Subsection 633.02.04 - "Adhesives for Pavement Markers" of the NDOT Standard Specifications for Road and Bridge Construction.

   Installation of raised markers shall conform to Subsection 633.03.01 - "Pavement Marker Installation" of the NDOT Standard Specifications for Road and Bridge Construction.

1.22 TRAFFIC SIGNS

1.22A MATERIALS

Traffic signs shall be 3M Diamond Grade (DG) 3 or 3M high intensity sheeting with a clear transparent overlay 3M 1170 or approved equal.

Street name signs shall be 3M DG3, Series 4000 or approved equal with green transparent Scotchlite Electrocut Film #1177C or approved equal. White letter and border sheeting shall be retro reflective ASTM IX 3M Diamond Grade or approved equal.

1.23 TRAFFIC SIGNALS

1.23A LOOP DETECTORS

* The * requires the Contractor to lay-out traffic signal loop detectors in accordance with * standards and details. After the loop lay-out is marking in the field, the Contractor shall call * at * for loop lay-out inspection and approval.

* The Contractor shall call * at * for traffic signal loop lay-out.
All traffic signal loop detectors shall be installed prior to the placement of the final "top" lift[2] of the plantmix bituminous pavement material. Placement of slurry seal or micro-surface does not negate this requirement.

1.23B TEMPORARY TRAFFIC SIGNAL MODIFICATIONS DURING CONSTRUCTION

The Contractor shall coordinate with and secure approval from * (*) of * for any use of or changes to operation of existing traffic signal equipment during construction. The Contractor shall comply with * requirements without additional cost to the RTC.

1.24 UTILITY ADJUSTMENT

1.24A VERIFICATION OF DEPTH

Location of underground facilities shown on the plans are approximate and were not determined by field investigation. It shall be the responsibility of the Contractor to locate all existing utility structures, whether shown or not, and to notify all utility companies to verify in the field the location of their installations prior to construction. The Contractor shall protect all utility structures from damage. The expense of repair or replacement shall be borne by the Contractor (however, this in no way precludes the Contractor from recovering, from the utility company, costs to repair existing utilities which do not conform with standard specifications or details). The Contractor shall request field marking of existing utilities at least 48 hours in advance of beginning construction by calling Underground Service Alert at (800) 227-2600.

At existing underground traffic signal conduit crossings and at locations where new underground facilities cross existing facilities, the Contractor shall expose the existing facility and verify that sufficient horizontal and vertical clearance exists for the street improvements to be constructed in substantial compliance with the plans. At existing underground traffic signal conduit crossings, the Contractor shall field verify the depth of existing facilities before commencing any construction. At locations where new underground facilities are to be connected to existing facilities, the Contractor shall expose the existing facility and verify that the connection can be made as shown on the plans before commencing any construction. Any conflicts shall be brought to the Engineer's attention as soon as they are discovered.

Utility depth verification requirements will be considered incidental to *, bid item *.

[2] TOP LIFT is defined as the final course of bituminous dense-grade pavement.

1.24B UTILITY MANHOLE AND VAULT ADJUSTMENT

Add to Subsection 323.05 - "Utility Manholes and Vaults" of the Standard Specifications as follows:

1. "Before lowering manholes and vaults, the Contractor shall take inventory of the utilities to be adjusted. The Contractor shall record the exact location and type of utility by labeling the assembly with numbers at locations visible for verification. The labeling shall include utility site, collar, and lid to ensure proper match of hardware when utility adjustment is completed at the conclusion of the project."

   The Contractor shall submit the utility inventory list to the Engineer and utility companies upon completion of utility lowering activity. The Contractor shall also keep a copy of the utility location inventory list on the project work site at all times for emergency shutoff purposes. The Contractor may post the list on the backside of the RTC Project Information sign.

1.24C MANHOLE PROTECTION PLAN

The Contractor shall be responsible for the protection of all manholes and valves during all phases of construction, including but not limited to, lowering and raising covers, and grouting of them. The Contractor shall verify all manholes and valves are clear of debris at the beginning of the project and notify the utility companies if otherwise.

A "Manhole Protection Plan" shall be submitted and approved by the Engineer prior to any manhole adjustments. The plan shall clearly identify how the contractor will protect ANY debris from entering the system and a detail of how the Contractor is prepared for emergency overflows. To the minimum, the plan shall include the name, phone number, and contact of the company the contractor will use in case of an emergency. Prior to performing any adjustments or grouting, the Engineer shall observe and verify the Contractor is in compliance with the "Manhole Protection Plan".

1.25 SURVEY MONUMENTS

Survey monuments shall be removed prior to construction. Survey monuments shall be located and punched by a Nevada registered professional land surveyor and replaced after completion of improvements.

1.26 CERTIFICATES OF COMPLIANCE

The Certificate of Compliance shall be signed by the manufacturer of the material or the manufacturer of assembled materials and shall state that the materials involved conform in all respects with the requirements of the specifications for this project. A Certificate of Compliance shall be furnished with each lot of material delivered to the work and the lot so certified shall be clearly identified in the certificate.

Materials Requiring Certificate of Compliance

1. Asphalt Cement
4. Cement
5. Concrete Curing Compound
6. Signs
7. Pavement Markings
8. Personnel certification for installation of retroreflective preformed pavement markings

EXHIBIT "F"
(Standard Specifications for Public Works Construction
Section 117.00
"Material and Workmanship – Warranty of Corrections")

EXHIBIT F

MATERIAL AND WORKMANSHIP - WARRANTY OF CORRECTIONS

Corrections ordered in accordance with General Provision 117.00, "Material and Workmanship" for items discovered in the year following final acceptance of the project shall be warranted for a one (1) year period following acceptance by the RTC of the correction. Should the correction itself prove defective, the Contractor shall be obliged to make further correction. The warranty period on the correction shall continue to be extended for one (1) year following acceptance by the RTC of the initial or any subsequent corrective actions.

EXHIBIT "G"
(RRIF RATES AS OF DATE OF
OFFSET AGREEMENT)

Attachment G

REGIONAL ROAD IMPACT FEE SCHEDULE

Land Use		North Service Area		South Service Area	
Residential	**Unit**	**VMT**	**Dollars ($291.21/VMT)**	**VMT**	**Dollars ($284.04/VMT)**
Single-Family	Dwelling	20.36	$5,929.04	19.11	$5,428.00
Multi-Family	Dwelling	12.97	$3,776.99	12.18	$3,459.61
Industrial					
General Light Industrial	1,000 GFA	6.48	$1,887.04	6.08	$1,726.96
Manufacturing	1,000 GFA	5.14	$1,496.82	4.82	$1,369.07
Warehouse	1,000 GFA	2.27	$661.05	2.13	$605.01
Mini-Warehouse	1,000 GFA	1.97	$573.68	1.85	$525.47
Commercial/Retail					
Commercial/Retail	1,000 GFA	29.43	$8,570.31	27.63	$7,848.03
Eating/Drinking Places	1,000 GFA	29.43	$8,570.31	27.63	$7,848.03
Casino/Gaming	1,000 GFA	60.17	$17,522.11	56.48	$16,042.58
Office and Other Services					
Schools	1,000 GFA	16.83	$4,901.06	15.80	$4,487.83
Day Care	1,000 GFA	16.83	$4,901.06	15.80	$4,487.83
Lodging	Room	4.38	$1,275.50	4.11	$1,167.40
Hospital	1,000 GFA	14.01	$4,079.85	13.15	$3,735.13
Nursing Home	1,000 GFA	8.68	$2,527.70	8.14	$2,312.09
Medical Office	1,000 GFA	45.47	$13,241.32	42.68	$12,122.83
Office and Other Services	1,000 GFA	12.73	$3,707.10	11.95	$3,394.28
Regional Recreational Facility	Acre	1.02	$297.03	0.96	$272.68

Regional Road Impact Fee (RRIF)

7th Edition Year 3 Indexing

Effective 1/31/2025

An informational brochure brought to you by the

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EXHIBIT "H"
Interim RRIF Waiver Request Schedule

Exhibit H

Interim RRIF Waiver Request Schedule

RTC Project Number: 0513013

Development of Record: Elysium Apartments

Developer of Record: Oakmont Properties – South Virginia, LLC

Interim Waivers Request Schedule:

A single interim release of waivers may be requested upon the documented completion for underground signal improvements, including, but not limited to, conduits, pull boxes, and pole foundations. Additional items of work that have been successfully completed as of the date of such interim request may also be submitted and considered for interim waivers at that time. A final waiver release will be completed for all remaining improvements eligible for waivers following successful completion of the work and formal acceptance by both the Regional Transportation Commission (RTC) and the City of Reno.

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 4.5.1**

To: Regional Transportation Commission

From: Christian Schonlau, Director of Finance, CFO

SUBJECT: Asset Donation for the Second and Third Quarter CY2026

RECOMMENDED ACTION

Acknowledge receipt of the Asset Donation Log for the second and third quarters of calendar year 2026.

BACKGROUND AND DISCUSSION

The log lists items such as computers and office equipment that were donated, as outlined in RTC Management Policy P-58, effective April 1, 2026 through June 30, 2026. The Board requested that it be notified of any asset donations. The attached document details the last two quarters' donations made to charity or other government agencies. Staff feel the donations are appropriate and that there is a benefit to the community. This quarter's donations were made to Reno Host Lions Club. Reno Host Lions Club is a non-profit and a 100% volunteer organization. Its mission is to give children a chance to be part of the 21st Century by giving them computers in their homes through their Computers for Kids program. The Reno Host Lions Club accepts donations of used computers and gives them away preloaded with Linux to underprivileged children in Northern Nevada.

FISCAL IMPACT

There is no fiscal impact related to this action. Assets are fully depreciated and at the end of their useful life.

PREVIOUS BOARD ACTION

6/25/2026 - Approved Q4 CY2025 and Q1 CY2026 Asset Donations. Amended RTC Management Policy P-58 in October, 2018 to allow for donation of unusable or obsolete assets. The Commission directed staff to present a quarterly list of all donations.

ATTACHMNET A

ASSET DONATION LOG - June 1 2026 - Sept 30 2026

Qty	Item Description	Donated To	Reason for Disposal	Year Purchased
	LAPTOP			
2	Dell Latitude 7400	Reno Lion Club	OBSOLETE	(1)
1	Dell Latitude 7490	Reno Lion Club	OBSOLETE	(1)
1	Dell Latitude 5491	Reno Lion Club	OBSOLETE	(1)
1	Dell XPS 13	Reno Lion Club	OBSOLETE	(1)
1	Dell XPS 15	Reno Lion Club	OBSOLETE	(1)
	PRINTERS			
1	HP OfficeJet 8702	Reno Lion Club	OBSOLETE	(1)
1	HP LaserJet	Reno Lion Club	OBSOLETE	(1)
	OTHER			
3	Avigilon	Reno Lion Club	OBSOLETE	(1)
1	Mondo INF8022	Reno Lion Club	OBSOLETE	(1)

(1) Expensed when purchased; date of purchase not tracked
IT supplies equipment replacement; schedule is 5 years
Printers are not replaced until broken or not cost effective

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 4.5.2**

To: Regional Transportation Commission

From: Bill Thomas, Executive Director

SUBJECT: Executive Director Employment Contract

RECOMMENDED ACTION

Approve the Executive Director employment contract between RTC and Dale Keller.

BACKGROUND AND DISCUSSION

On September 18, 2026, following a competitive recruitment and hiring process, the Board interviewed three candidates for the Executive Director position and unanimously selected Dale Keller as the RTC's next Executive Director pending negotiation and execution of an employment contract.

Following that meeting, the Chair and Mr. Keller agreed upon terms and finalized the attached employment contract. The Executive Director's initial starting salary will be $240,000. The Executive Director will receive the same benefits as other RTC management employees. The term of the contract will continue unless and until terminated by RTC or the Executive Director pursuant to the terms of the contract.

If approved by the Board, the Chair and Mr. Keller will execute the contract. Mr. Keller will begin work as the Executive Director on November 1.

FISCAL IMPACT

Appropriations for the Executive Director position are included in the FY 2027 budget.

PREVIOUS BOARD ACTION

09/18/2026 - Considered and interviewed three candidates for the Executive Director position, and unanimously selected Dale Keller as the RTC's next Executive Director pending negotiation and execution of an employment contract.

06/25/2026 - Approved the Executive Director job description, compensation range, statement of benefits, and employment contract template, for use in the Executive Director recruitment and hiring process.

05/15/2026 - Authorized the Executive Director to initiate a recruitment and hiring process to fill the Executive Director Position.

EMPLOYMENT AGREEMENT

This agreement is made and entered into this October 16, 2026 (this "Agreement"), by and between the Regional Transportation Commission of Washoe County, State of Nevada (the "RTC") and Dale Keller ("Employee").

WITNESSETH:

WHEREAS, the RTC by and through its Board of Commissioners ("Board") desires to employ Employee as Executive Director of the RTC in accordance with Board adopted RTC Bylaws and policy related to the position; and

WHEREAS, the Employee desires to accept the position of Executive Director upon the terms and conditions of employment specified herein; and

WHEREAS, the parties, by this Agreement, intend to set out the terms and conditions of the employment relationship.

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration, the parties do agree as follows:

1. TERM

Employee's employment as Executive Director of the RTC, pursuant to the terms and conditions herein stated, shall commence on November 1, 2026 and shall continue until terminated pursuant to Section 8. The employment relationship is "at will," meaning it can be terminated by either party, at any time, with or without cause, subject to the terms of this Agreement.

2. COMPENSATION

Employee shall receive an initial starting annual salary of $240,000. Employee shall receive the benefits and leave specified in Exhibit A. Except as specified in Exhibit A, Employee shall not be entitled to any other compensation, benefits or leave that other employees may be entitled to receive under RTC policies and procedures, unless required by state or federal law.

3. DUTIES

A. The RTC agrees to employ Employee as Executive Director of the RTC for the purpose of carrying out the legally permissible and proper duties of the position as described in the job description attached as Exhibit B. The parties acknowledge that this job description is intended to establish an overview of the position and not as a limitation on Employee's duties as directed by the Board.

B. Employee will be responsible and have full authority for the management of the affairs of the RTC and the supervision and management of its employees subject to Board adopted policies and procedures, as amended from time to time, and as directed by the Board.

C. Employee shall devote all Employee's services, full energies, best efforts, interests, abilities and productive time (excluding vacation and personal time) to the performance of their duties under this Agreement, to further the RTC's interests and to perform diligently and in good faith such duties as are or may be, from time to time, required by the RTC in connection with employment hereunder.

D. Employee was hired with the understanding that he expects to have continued outside employment as a seasonal football referee. Employee will provide his schedule to the RTC Chair five weeks in advance of the work dates and work with the RTC Chair to discuss any potential issues or scheduling conflicts.

E. Other than the outside employment identified in Subsection D above, Employee shall not, without the Board's prior written consent, directly or indirectly, render to any other person or organization services of any kind for compensation or engage in any other personal, professional or business activity that would interfere or detract from the performance of Employee's duties under this Agreement.

F. The Board has adopted personnel and management policies and procedures that establish other terms and conditions of employment with the RTC. The RTC and Employee agree that those terms and conditions of employment apply to Employee, except as otherwise provided herein. In the event of any contradiction or ambiguity between this Agreement and those policies and procedures, the terms of this Agreement shall control.

G. The Board, in consultation with Employee, may fix other terms and conditions of employment from time to time relating to the performance of Employee, provided said terms and conditions are reasonably consistent and not in conflict with the provisions and intent of this Agreement.

4. GOALS AND PERFORMANCE STANDARDS

A. Employee and the Board will prepare and agree upon annual goals for the position and the organization at or prior to the start of each fiscal year. The goals shall be approved by the Board.

B. Employee will be held to the other performance standards reflected in Exhibit C, and such other performance standards as the Board may reasonably expect. During the annual performance evaluation process described in this Agreement, the Board may

consider and approve revisions to the performance standards, in accordance with RTC policy.

5. ANNUAL PERFORMANCE EVALUATION

A. The Board will conduct an annual evaluation of Employee's performance at or near the end of the RTC's fiscal year. There will be no annual performance evaluation at or near the end of the first fiscal year in which Employee is hired.

B. Employee's performance shall be evaluated against the duties of the position, the annual goals approved by the Board, and the other performance standards reflected in Exhibit C. Employee shall prepare and present a self-evaluation to the Board as part of the annual performance evaluation. The Board shall have the sole right to determine performance subject to a standard of reasonableness.

C. If the Board determines that Employee's overall performance meets or exceeds expectations for the year, Employee shall be eligible for an annual salary increase in an amount determined by the Board, and/or a performance bonus. Bonuses given shall not be considered part of Employee's base salary.

D. This Section is not intended to limit the Board's discretion and authority to review and evaluate Employee's performance at other times.

6. ALLOWANCES AND EXPENSES

A. **Cell Phone.** The RTC will provide Employee with a cell phone to be used for all official business of the RTC, and only official business of the RTC.

B. **Car Allowance.** The RTC will pay Employee $400 per month as a basic transportation/car allowance. The RTC will provide mileage reimbursement for trips outside of the metropolitan/urbanized area, in accordance with RTC policy.

C. **Business Expenses.** The RTC will provide reimbursement for reasonable business expenses necessary for Employee to perform the duties of the position, such as the cost of business meals with public officials and colleagues, and employee appreciation meals. The RTC will also provide reimbursement for reasonable business expenses and for participation in professional associations related to the position, in accordance with RTC policy.

7. INDEMNIFICATION

A. Except as otherwise provided in subparagraph B of this Section, the RTC shall defend, hold harmless and indemnify Employee against any claim, lawsuit or other legal action, whether groundless or otherwise, arising out of the alleged negligent acts or

omissions of Employee where said acts or omissions were made in good faith by Employee and in furtherance of Employee's duties as Executive Director. The RTC's obligation includes, but is not limited to, the payment of any judgement, settlement and any cost and/or attorney's fees incurred.

B. The RTC shall not be obligated pursuant to the provisions of this Section for any liability arising from Employee's willful and/or intentional wrongful acts or for any acts of any kind which occur in a private capacity or which are unrelated to the performance of their duties as Executive Director.

8. <u>TERMINATION</u>

A. **Termination for Cause.** The RTC, by majority vote of the Board, may terminate Employee for cause after providing written notice to Employee and providing Employee an opportunity to respond in writing or in person to the Board. The term "cause," for purposes of this Agreement, includes but is not limited to reasons such as:

1. fraud, misappropriation or embezzlement;
2. intentional breach of the provisions of this Agreement or RTC policies and procedures;
3. neglect of duties or willful misconduct which has resulted, or in all probability is likely to result, in material economic damage or reputational harm to RTC;
4. a breach of duty; or
5. repeated failure to perform the duties of the Executive Director position under this Agreement.

B. **Termination Without Cause and Severance Pay.** The RTC, by majority vote of the Board, may terminate this Agreement without cause. If Employee is terminated without cause, RTC shall pay Employee an amount equal to Employee's pro-rated salary for a six (6) month period ("Severance Payment"). To be eligible for the Severance Payment, Employee must timely enter into and not revoke a Severance Agreement and Release of All Claims with the RTC. The RTC and Employee shall mutually agree upon any communications to be made publicly or internally with RTC staff regarding any termination pursuant to this subparagraph.

C. **Termination by Employee.** Employee may terminate this Agreement at any time, and upon reasonable notice to the Board, provided such termination does not cause a breach of duty as Executive Director. The RTC and Employee shall mutually agree upon any communications to be made publicly or internally to RTC staff regarding any termination pursuant to this subparagraph.

D. **Mutual Agreement to Terminate**. The RTC and Employee may mutually agree to terminate the Agreement upon terms and conditions agreed upon by Employee and the Board. The RTC and Employee shall mutually agree upon any communications to be made

publicly or internally with RTC staff regarding any termination pursuant to this subparagraph. Such mutual agreement shall not constitute "Termination Without Cause" under Paragraph 8(B).

E. **Automatic Termination upon Death or Disability.**

1. This Agreement shall automatically terminate upon the death of Employee. The RTC shall pay to Employee's beneficiaries Employee's salary earned through the date of death, plus any earned or accrued benefits or leave payouts to which Employee would have been entitled to upon separation.
2. This Agreement will terminate if, due to a physical or mental impairment, Employee becomes unable to perform the essential job functions of an Executive Director, with or without a reasonable accommodation. Upon total or permanent disability, within the meaning of RTC's disability insurance for employees, if any, Employee is required to first use all unused accrued sick leave and, if applicable, vacation leave and other paid leave prior to receiving total or permanent disability benefits. (For the sake of clarity, the RTC is not required to pay Employee's salary during periods when Employee is on leave and not providing services to the RTC.)

9. <u>MISCELLANEOUS</u>

A. **Assignment.** Except as otherwise provided herein, Employee may not and shall not assign any rights or delegate any duties under this Agreement.

B. **Notices.** All notices, demands, requests, and other communications required or permitted to be served on or given to either party by the other shall be in writing and shall be delivered personally or by United States mail, first class postage prepaid, certified or registered mail, return receipt requested. Service shall be completed upon personal delivery or three (3) days following the time the notice is deposited by registered or certified mail.

C. **Governing Law; Jurisdiction.** The provisions of this Agreement shall be governed and construed in accordance with the laws of the State of Nevada and the parties hereto submit to the exclusive jurisdiction of the Second Judicial District Court of the State of Nevada.

D. **Severability.** To the extent that any term or provision of this Agreement or the application thereof to any circumstance shall be deemed to be invalid or unenforceable, such term or provision shall be ineffective to the extent of such invalidity or unenforceability without invalidating or rendering unenforceable the remaining terms and provision of this Agreement. The parties agree that a suitable and equitable term or provision shall be

substituted thereof to carry out, insofar as may be valid and enforceable, the intent and purpose of the invalid or unenforceable term or provision.

E. **Entire Agreement.** There are no verbal agreements, representations, or understandings affecting this Agreement, and all negotiations, representations, and understandings are set forth herein with the understanding that this Agreement constitutes the entire understanding by and between the parties.

F. **Amendments.** No alteration, amendment, or modification of this Agreement is effective unless it is in writing and signed by both parties.

G. **Waiver.** The failure of the RTC or Employee to insist upon the performance of any of the terms or conditions of this Agreement, or the waiver of any breach of any of the terms or conditions of this Agreement, shall not be construed as thereafter waiving any such terms and conditions. The same shall continue and remain in full force and effect as if no such forbearance or waive had occurred.

H. **Captions.** The captions contained in this Agreement are for convenience only and are not intended to limit or define the scope or effect of any provision of this Agreement.

I. **Counterparts.** This Agreement may be executed in any number of counterparts and each such counterpart shall be deemed an original, but all of which, when taken together, shall constitute an Agreement.

J. **Presumption.** This Agreement or any section thereof shall not be construed against any party because said Agreement, or any section thereof was drafted by said party.

K. **Separate Counsel.** Each party has received or has had the opportunity to receive the independent advice of its attorney prior to the execution of this Agreement. It is understood and agreed that the undersigned have not been influenced to any extent whatsoever in making this Agreement by any representative, agent or employee of an adverse party, or by any attorney, person or persons representing or employed by the undersigned, and that this Agreement is entered into freely, voluntarily and knowingly.

/ / /

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IN WITNESS WHEREOF, the parties have executed this Agreement effective as of October 16, 2026.

EMPLOYEE

_____

Dale Keller

REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY

_____

Alexis Hill, Chair

APPROVED AS TO LEGALITY AND FORM:

_____

Adam Spear, RTC General Counsel

Exhibit A

Benefits and Leave

The RTC and Employee agree that the benefits below are subject to policy changes which increase or decrease benefits of similarly situated employees who receive the same benefits.

I. RETIREMENT BENEFITS

- **Public Employee Retirement System**

  RTC and its employees participate in the Public Employees Retirement System (PERS). RTC will pay 100% of the amount required by PERS for contribution to the retirement account of Employee.

- **IRC 457(b) Deferred Compensation Plan**

  Employee may defer a portion of their taxable income (within IRS limits) by participating in an IRC 457(b) deferred compensation plan. The RTC will contribute, as an employer match, up to two percent (2%) of Employee's annual base salary.

- **IRC 401(a) Defined Contribution Plan**

  Employee may defer up to 25% of their taxable income (and within IRS rules in effect to limit the total annual contributions) by participating in an IRC 401(a) defined contribution plan. Initial enrollment must be made, and may only be made, within 60 days of Employee's first day of work (i.e., the date of hire). The RTC will not contribute to Employee's IRC 401(a) defined contribution plan.

II. HEALTH AND INSURANCE BENEFITS

- **Group Health Insurance**

  RTC participates in Washoe County's benefits program to offer medical, dental, and vision coverage to eligible employees. Employee will receive the same coverage as other RTC employees under RTC's group health insurance plan then in effect. Initial enrollment must be made within 15 calendar days of Employee's first day of work (i.e., the date of hire) and the plan will go into effect on the first (1st) of the month following thirty (30) days of employment.

- **Long-Term Disability**

  RTC participates in Washoe County's benefits program to provide long-term disability insurance to eligible employees. Employee will be automatically enrolled in the long-term disability plan on the first (1st) of the month following thirty (30) days of employment. This plan pays up to two-third (2/3) of an employee's salary after ninety (90) days of disability.

- **Life Insurance**

  RTC participates in Washoe County's benefits program to provide life insurance coverage to eligible employees. Employee will receive a life insurance policy of $25,0000 paid by RTC when hired as part of the group health insurance plan.

- **Flexible Benefits Plan**

  RTC participates in Washoe County's benefits program to offer an IRS 125 Flexible Benefit Plan to employees. Employee will be eligible to join the plan on the first (1st) of the month following thirty (30) days of employment.

- **Supplemental Insurance**

  The Employee shall be eligible to participate in supplemental insurance programs offered through authorized providers, including any available voluntary benefits plans, at the Employee's expense and subject to the terms, conditions, and eligibility requirements of the applicable plans.

III. LEAVE

- **Holidays (fixed and floating)**

  Employee shall receive 6 paid fixed holidays (New Year's Day; Memorial Day, 4th of July; Thanksgiving; Family Day; Christmas) to be observed on the official date of the holiday, and 6 paid "floating" holidays to be used on dates selected by Employee. Upon separation, Employee will not be paid for unused "floating" holidays.

- **Vacation Leave**

  Employee will initially accrue 191.1 hours of vacation leave each year for use in accordance with RTC policy. Thereafter, Employee's vacation leave shall accrue in accordance with RTC policy. Upon separation, Employee will be paid for all accrued vacation leave at Employee's last hourly rate of pay.

- **Sick Leave**

  Employee will accrue sick leave at the rate of ten (10) hours per month in accordance with RTC policy. Thereafter, Employee's sick leave shall accrue in accordance with RTC policy. Except as required by law, upon separation, Employee will not be paid for unused sick leave accrued during the term of this Agreement.

  Employee was employed by RTC prior to entering into this Agreement. Upon separation, Employee may be eligible for a one-time payout of a portion of unused sick leave accrued prior to November 1, 2026, at Employee's last regular hourly rate of pay prior to November 1, 2026, on the same terms as other similarly situated employees and in accordance with RTC policy. For purposes of determining eligibility based on minimum years of service, Employee's years of service prior to and after November 1, 2026, will be counted.

- **Temporary Leave**

  In addition to situations where Employee may be granted leave as a reasonable accommodation, Employee may be granted short-term, temporary paid or unpaid leave in exceptional situations when approved by the RTC Chair.

- **Other Leave**

  Employee shall be granted any other leave required by state or federal law and approved by the RTC Chair.

Exhibit B

Job Description

REGIONAL TRANSPORTATION COMMISSION
Metropolitan Planning • Public Transportation & Operations • Engineering & Construction
Metropolitan Planning Organization of Washoe County, Nevada

Title		Class Code	Grade
Executive Director		6001	N/A
FLSA Status:	Exempt	**Established:** January 2005	**Revised:** April 2025

Summary: Under the general direction of the Regional Transportation Commission (RTC) Board of Commissioners, leads, controls, monitors and directs the activities and staff of RTC in providing county-wide streets and highway transportation systems, fixed route transit and paratransit service, and regional planning and leadership on transportation issues.

DISTINGUISHING CHARACTERISTICS: This position is the executive officer of the Regional Transportation Commission.

ESSENTIAL FUNCTIONS: ***(Performance of these functions is the reason the job exists. Assigned job tasks/duties are not limited to the essential functions).***

- Leads and directs RTC staff, through the management team, to develop RTC goals, policies, objectives, performance measures and projects for annual budget, short-range and long-range planning documents for approval by the RTC Board of Commissioners.
- Establishes all short-range and long-range strategies, resource requirements and utilization, and agency goals and reviews with senior management; organizes management strategies to ensure proper execution of agency operations and programs.
- Directs and establishes agency priorities; ensuring the RTC operations are carried out according to agency policy; obtains RTC Board approval to clarify policies as necessary.
- Interprets RTC policies and procedures for senior management, advising them of effective strategies for complex issues in regional transportation.
- Manages overall performance and productivity of agency and staff; directs the continuous improvement of work outcomes; and ensures the satisfaction of internal and external customers. Supervises senior management by counseling, advising, and conducting performance evaluations.
- Acts on final appeals of HR issues such as performance evaluations, discipline or termination.
- Ensures effective communication of issues and strategies internally within agency departments and externally between intergovernmental agencies, the public, community leaders and elected officials.
- Serves as a liaison between RTC, its Board of Commissioners, regional governments, federal, state, and local government, community groups, developing consensus and ensuring effective communications.
- Makes professional presentations to executive management, elected officials, the public, and other stakeholders, including testimony at City Councils and County Commission, State Transportation Board, legislative hearings, and Congressional hearings.
- Approves procurements and hiring over threshold limits.
- Trains, supervises, schedules, and evaluates the performance of a team, and other supervisory duties as appropriate for managing people.

QUALIFICATIONS FOR EMPLOYMENT:

Knowledge, Skills, and Abilities: (KSAs are the attributes required to perform a job)

Knowledge of:

- Governmental agencies and their operations related to transportation.
- Management techniques and strategic planning.
- Regional transportation requirements, regulations, and operations.
- Human resource policies, practices, and employment law.
- Fiscal planning and management for transportation.
- Urban land usage, roadway engineering, maintenance, and construction practices.

Skill in:

- Consensus-building and effective communication.
- Public speaking.
- Developing presentations for diverse audiences.
- Leading diverse groups toward common goals.
- Interpreting complex policies and providing clear explanations.
- Executing contracts successfully.

Ability to:

- Train, supervise, schedule, evaluate the performance of a team, and other supervisory duties as appropriate for managing people.
- Interact professionally, communicate effectively, and exchange information accurately with all internal and external customers.
- Maintain regular and consistent punctuality and attendance.

Experience, Education and/or Training:

Ten (10) years of applicable experience including seven (7) years of supervisory experience; bachelor's or above degree; OR an equivalent combination of education and experience. Graduate degree in related field preferred. Valid driver's license required.

Working Conditions and Physical Effort:

Moves within an office setting. Occasional exposure to inclement weather, traffic, and other environmental conditions. Uses a keyboard and video display terminal for prolonged periods. Positions self in a variety of ways to accomplish the tasks of the job and remains stationary for long periods of time. Maneuvers files and single pieces of paper; occasional moving of files, stacks of paper or reports, references, and other materials. Some retrieval of items above and below desk level. Some positioning of self to access files and records is necessary. Ability to operate a personal computer using word processing and databases. Moving items (up to 25 pounds) is occasionally required.

Employee's Acknowledgment: I acknowledge that I have read the above job description and have received a copy for my records.

_____ _____

Employee's Signature Date Signed

Printed Employee Name _____

In compliance with applicable disability laws, reasonable accommodations may be provided for qualified individuals with a disability who require and request such accommodations. Applicants and incumbents are encouraged to discuss potential accommodations with the RTC.

Exhibit C

Performance Standards

1. **Completion of Board Approved Goals:**

   Has satisfactorily completed Executive Department goals set out by RTC Board for the previous year, with full communication on the status of any goals not completed. Has communicated changes in agency circumstances necessitating any changes to goals. Presents matters in a factual, analytical way. Coordinates implementation of Board policy decisions with staff, departments, other organizations and the community.

2. **Management of the Organization:**

   Effectively oversees the operations of the organization. Creates a collaborative, team-building environment for staff. Facilitates open two-way communication and encourages mutual honesty and respect with the Board of Commissioners, external stakeholders, and staff. Recognizes the accomplishments of staff and other agencies working on behalf of the RTC. Supports professional growth and opportunity within the organization. Accepts full accountability for decisions of staff and the outcomes of agency projects or decisions. Identifies organization problems and takes remedial action.

3. **Financial Management:**

   Properly prepares and manages the budget. Demonstrates strategic approaches to budgetary matters, including long-range revenues and expenditures for the organization, and keeps the Board aware of the financial state of the organization.

4. **Board Relations:**

   Meets expectations for updating all Board members, keeping them informed about current and critical issues. Makes themselves accessible to Board members. Handles issues that are brought by the Board in a consistent and timely manner. Ensures that the staff provide the Board and community with clear and accurate written reports, correspondence, and presentations. Responds to correspondence,

requests, and complaints quickly and appropriately. Maintains an honest, truthful, and professional relationship with each Board member.

5. **Community Relations:**

   Builds strong community relations. Understands general community issues and concerns. Remains involved and active in the community. Represents the RTC in a professional and positive manner. Works proactively with the media and press. Works effectively with other agencies at the federal, state, and local level. Educates the community on RTC goals, services, and accomplishments.

6. **Leadership:**

   Provides the Board and the organization with real solutions and creative alternatives to issues and problems. Anticipates and responds to issues. Ensures that Board decisions are thought out, objective, consistent with agency policy, and are legal and ethical. Makes use of sound administrative practices. Leads the organization through effective management of people and resources in achieving Board directed outcomes.

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 5.1.**

To: Regional Transportation Commission

From: Graham Dollarhide, Transportation Planning Manager

SUBJECT: FFY 2025-2029 RTIP Amendment No. 4

RECOMMENDED ACTION

Conduct a public hearing regarding approval of Amendment No. 4 to the FFY 2025-2029 Regional Transportation Improvement Program (RTIP); adopt a resolution approving Amendment No. 4 to the FFY 2025-2029 Regional Transportation Improvement Program (RTIP).

BACKGROUND AND DISCUSSION

Amendment No. 4 is required to add and update projects in the RTIP. Both projects included in the amendment are led by the Nevada Department of Transportation (NDOT).

A separate air quality analysis for the proposed amendment was not required as the added and amended projects are either exempt from transportation conformity requirements (pursuant to 40 CFR 93.126) or have already complied with this requirement and the associated amendment does not involve a change to the project scope. A corresponding amendment to the Regional Transportation Plan (RTP) is not required according to the criteria established in RTC's Public Participation Plan (PPP).

A complete list of the projects meeting the amendment threshold and thus requiring formal action, as well as a brief description of the changes to each project, are as follows:

- I-80 Verdi Commercial Vehicle Inspection Station Upgrades – amendment to increase total project funding
- I-80, WA, Mill & Fill McCarran to Vista – new project to conduct pavement preservation on a segment of Interstate 80

A public comment period preceded this public hearing (September 23 – October 13, 2026). The draft documents were posted on the agency website, and notices were published in the Reno Gazette-Journal and El Sol de Nevada per the RTC Public Participation Plan. No comments have been received as of the drafting of this staff report.

FISCAL IMPACT

Funding for the project cost estimates in the proposed amendment have been budgeted based on anticipated federal, state and local revenue sources.

PREVIOUS BOARD ACTION

05/15/2026 - Approved Amendment No. 3 to the FFY 2025-2029 RTIP
02/20/2026 - Approved Amendment No. 2 to the FFY 2025-2029 RTIP
11/21/2025 - Approved Amendment No. 1 to the FFY 2025-2029 RTIP
08/15/2025 - Approved the FFY 2025-2029 RTIP

RESOLUTION 26-17

RESOLUTION AUTHORIZING THE ADOPTION OF AMENDMENT NO. 4 TO THE FEDERAL FISCAL YEARS (FFY) 2025-2029 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (RTIP) FOR THE RENO-SPARKS URBANIZED AREA.

WHEREAS, Title 23 Code of Federal Regulations, Part 450, and Title 49 Code of Federal Regulations, Part 613, require the preparation of a Regional Transportation Improvement Program (RTIP) by the Metropolitan Planning Organization (MPO) at least every four years; and

WHEREAS, the Regional Transportation Commission of Washoe County (RTC) has been designated by the Governor of the State of Nevada as the Metropolitan Planning Organization (MPO) for Washoe County; and

WHEREAS, the RTC, through the conduct of a continuing, comprehensive and coordinated transportation planning process carried out in conjunction with the RTC member entities and the Nevada Department of Transportation and in conformance with all applicable federal requirements, prepared the FFY 2025-2029 RTIP which includes all federal and non-federal regionally significant transportation projects; and

WHEREAS, the RTC finds Amendment No. 4 to the FFY 2025-2029 RTIP in conformance with the 2050 Regional Transportation Plan (RTP) 2025 Update; and

WHEREAS, the RTC finds that pursuant to Title 40 of the Code of Federal Regulations, Part 93, this RTIP amendment conforms with the intent of the State Air Quality Implementation Plan; and,

WHEREAS, the RTC finds that current fiscal resources are adequate to develop, operate and maintain the transportation system, and finds that the FFY 2025-2029 RTIP is limited to projects for which funds are available or committed; and

WHEREAS, the FFY 2025-2029 RTIP has been prepared through a process of community and agency coordination and participation in accordance with the RTC's adopted Public Participation Plan and all applicable federal requirements;

NOW, THEREFORE, BE IT RESOLVED that the Regional Transportation Commission does hereby adopt and endorse Amendment No. 4 to the FFY 2025-2029 Regional Transportation Improvement Program.

CERTIFICATE

The undersigned, duly qualified Chairperson of the Regional Transportation Commission, certifies that the foregoing is a true and correct copy of a resolution adopted at a legally convened meeting held on October 16, 2026.

_____

Alexis Hill, Chair
Regional Transportation Commission

Transportation Improvement Program Fiscal Year 2025 - 2029

2 Projects Listed

WA20250039 Plan Revision: 26-10 STATUS Project Changed Federal

Name: I-80 VERDI COMMERCIAL VEHICLE INSPECTION STATION UPGRADES

Scope: Upgrade inspection facility with cameras, data readers, commercial static scale, violation vehicle parking, relocate WIM station for better NHP enforcement

Project Type: Freight

NDOT District: District 2

County: Washoe

Limits: From 0.5M W OF CA/NV STATE LINE to INSPECTION STATION. Milepost begins at 0.5 end at 4.4. Distance (mile): 3.9

Fiscal Year	Revenue Source	PE	ROW	CON	Other	Total
2026	STATE HIGHWAY FUND	$105,000	$0	$0	$0	$105,000
2026	NHPP	$0	$14,250	$0	$0	$14,250
2026	STATE MATCH - NV	$0	$750	$0	$0	$750
2027	NATIONAL HIGHWAY FREIGHT	$0	$0	$7,362,500	$0	$7,362,500
2027	STATE MATCH - NV	$0	$0	$387,500	$0	$387,500
2028	NATIONAL HIGHWAY FREIGHT	$0	$0	$237,500	$0	$237,500
2028	STATE MATCH - NV	$0	$0	$12,500	$0	$12,500
<2025	Prior	$0	$0	$0	$0	$0
>2029	Future	$0	$0	$0	$0	$0
	2025 - 2029 TOTAL	$105,000	$15,000	$8,000,000	$0	$8,120,000
	All Years Total	$105,000	$15,000	$8,000,000	$0	$8,120,000

MPO: RTC Washoe

Lead Agency: Nevada DOT

Transportation Improvement Program Fiscal Year 2025 - 2029 2 Projects Listed

Previously Approved Version

WA20250039 Plan Revision: 26-07

Name: I-80 VERDI COMMERCIAL VEHICLE INSPECTION STATION UPGRADES

Scope: Upgrade inspection facility with cameras, data readers, commercial static scale, violation vehicle parking, relocate WIM station for better NHP enforcement

Project Type: Freight

NDOT District: District 2

County: Washoe

Limits: From 0.5M W OF CA/NV STATE LINE to INSPECTION STATION. Milepost begins at 0.5 end at 4.4. Distance (mile): 3.9

Fiscal Year	Revenue Source	PE	ROW	CON	Other	Total
2026	NATIONAL HIGHWAY FREIGHT	$0	$0	$5,054,000	$0	$5,054,000
2026	STATE MATCH - NV	$0	$0	$266,000	$0	$266,000
2026	NHPP	$0	$14,250	$0	$0	$14,250
2026	STATE MATCH - NV	$0	$750	$0	$0	$750
2026	STATE HIGHWAY FUND	$105,000	$0	$0	$0	$105,000
2028	NATIONAL HIGHWAY FREIGHT	$0	$0	$237,500	$0	$237,500
2028	STATE MATCH - NV	$0	$0	$12,500	$0	$12,500
<2025	Prior	$0	$0	$0	$0	$0
>2029	Future	$0	$0	$0	$0	$0
	2025 - 2029 TOTAL	$105,000	$15,000	$5,570,000	$0	$5,690,000
	All Years Total	$105,000	$15,000	$5,570,000	$0	$5,690,000

MPO: RTC Washoe

Lead Agency: Nevada DOT

Transportation Improvement Program Fiscal Year 2025 - 2029

2 Projects Listed

WA20260044 Plan Revision: 26-10 STATUS New Project Federal

Name: I-80, WA, MILL & FILL MCCARRAN to VISTA

Scope: I-80, WA, MILL & FILL MCCARRAN to VISTA

Project Type: Preservation

County: Washoe

NDOT District: District 2

Limits: From MCCARRAN to VISTA. Milepost begins at 17.36 end at 19.92. Distance (mile): 2.56

Fiscal Year	Revenue Source	PE	ROW	CON	Other	Total
2027	NHPP	$0	$0	$9,025,000	$0	$9,025,000
2027	STATE MATCH - NV	$0	$0	$475,000	$0	$475,000
2027	STBG FLEX	$0	$0	$475,000	$0	$475,000
2027	STATE MATCH - NV	$0	$0	$25,000	$0	$25,000
<2025	Prior	$0	$0	$0	$0	$0
>2029	Future	$0	$0	$0	$0	$0
	2025 - 2029 TOTAL	$0	$0	$10,000,000	$0	$10,000,000
	All Years Total	$0	$0	$10,000,000	$0	$10,000,000

MPO: RTC Washoe

Lead Agency: Nevada DOT

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 6.1.**

To: Regional Transportation Commission

From: Shay League, Senior Transportation Planner

SUBJECT: Draft Rock Boulevard Corridor Study

RECOMMENDED ACTION

Receive a presentation on the draft Rock Boulevard Corridor Study.

BACKGROUND AND DISCUSSION

The purpose of the Rock Boulevard Corridor Study is to identify safety and mobility improvements for people who walk, bike, take transit, drive, and move freight along the corridor between North McCarran Boulevard and the Truckee River. The recommended improvements address traffic flow and truck movement, safety, and the accessibility of transit and active transportation.

The study launched in September 2025, when RTC's Board of Commissioners approved a contract with consultant GCW. The City of Sparks prioritized this study by nominating it for the Unified Planning Work Program (UPWP). The UPWP is a two-year program for planning activities, currently covering Fiscal Years (FY) 2026 and 2027.

The Rock Boulevard Corridor Study recommends 15 improvements along the corridor. Key improvements include:

- Safety and accessibility spot improvements at multiple locations, including speed management adjacent to Maxwell Elementary School;
- Sidewalk widening north of Oddie Boulevard;
- Minor I-80 interchange modifications to address congestion ahead of major upcoming NDOT improvements; and,
- A multi-use path connecting Victorian Avenue to the Truckee River Path.

The current estimate for all recommended improvements is approximately $46.8 million. This estimate includes $3.5 million for spot improvements, $15 million for sidewalk widening, $5.3 million for I-80 interchange modifications, and $23 million for a multi-use path. Funding has not yet been identified for these improvements. Improvements will be prioritized through the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) process.

The Rock Boulevard Corridor Study is available for public review and comment at rtcwashoe.com/rock-boulevard-corridor-study/ from October 7, 2026, through October 27, 2026. Final study approval will be requested at the November 20, 2026, RTC Board meeting.

This item supports Strategic Roadmap Goal #2, "Promote neighborhood mobility" and FY2027 RTC Goal, "Complete: Rock Boulevard Corridor Study".

FISCAL IMPACT

Funding for this item has been budgeted in the FY2026-FY2027 Unified Planning Work Program (UPWP) and is included in the FY 2027 RTC budget.

PREVIOUS BOARD ACTION

6/25/2026 - Received a presentation on the status of the Rock Boulevard Corridor Study.

ROCK
BOULEVARD
CORRIDOR STUDY

RTC



ROCK BOULEVARD
CORRIDOR STUDY

October 2026 (Draft)

GCW
ENGINEERS \ SURVEYORS

Parametrix

EXECUTIVE SUMMARY

The Rock Boulevard Corridor Study was conducted to identify transportation improvements that enhance safety, mobility, accessibility, and connectivity for all users of the corridor. Rock Boulevard is a critical north-south arterial in the City of Sparks that connects residential neighborhoods, schools, commercial districts, and industrial employment centers. The corridor serves a broad range of users including motorists, freight operators, pedestrians, bicyclists, transit riders, and students. The study identified the following critical priorities:

- Operational improvements at the I-80 Interchange
- Multimodal connection between the Truckee River and Victorian Avenue
- Pedestrian crossing safety throughout the corridor

The *Recommended Improvements* section is the centerpiece of this corridor study, translating the findings and analyses into a comprehensive set of recommended transportation improvements. The study recommends a combination of alternatives that provide meaningful corridor benefits to all users while balancing the diverse needs of the community. The identified improvements will be forwarded for consideration during the next Regional Transportation Plan (RTP) update process, where they will be prioritized and programmed based on regional needs, priorities, and available funding. The RTC would need to program approximately $46,800,000 (current 2026 dollars) to fund the recommended improvements.

Recommended Improvements

Recommended Improvement	Implementation Strategy	Cost Estimate
I-80 Interchange Modifications Level 1	Minor spot improvements on Rock Boulevard. Package improvements together as one capacity and multimodal spot improvement package.	$80,000
Wayfinding Signage		$50,000
Remove Right Turn Slip Lane at C Street		$400,000
Crossing Treatments (F through I Street)		$400,000
Shared Roadway (B-5)		$50,000
Widen Sidewalk (15th to Oddie) (B-3)		$700,000
Speed Management (Tyler Way to Plymouth Way)		$300,000
Crossing Treatments (Gault, Maxwell ES, Vance, Tyler)		$700,000
Dual Northbound Right Turn Lanes at McCarran		$70,000
Transit Improvements		$750,000
	Spot Improvement Package Subtotal	***$3,500,000***
Multi-Use Path (A-1, A-2, A-4)	Mid-term multimodal improvement project. Slip lane modifications would be constructed concurrently with the Multi-Use Path. Elements of the I-80 Level 2 or Level 3 could be constructed within the A-4 segment of this project.	$22,000,000
Slip Lane Modifications		$1,000,000
	Multi-Use Path Package Subtotal	***$23,000,000***
I-80 Interchange Modifications Level 2	Potential interim improvements prior to the long-term NDOT I-80/Rock Blvd interchange project. Elements of the Multi-Use Path (A-4) could potentially be constructed with Level 2 or Level 3.	$300,000
I-80 Interchange Modifications Level 3		$5,000,000
	I-80 Interchange Package Subtotal	***$5,300,000***
Widen Sidewalk on Both Sides (B-4)	Multimodal improvement project.	$15,000,000
	Widen Sidewalk Package Subtotal	***$15,000,000***
Total Planning Level Cost Estimate		**$46,800,000**

ACKNOWLEDGEMENTS

The Rock Boulevard Corridor Study was funded and administered by the Regional Transportation Commission of Washoe County (RTC), in partnership with the City of Sparks, to improve mobility, safety, and accessibility for all who travel along the corridor, whether walking, bicycling, using transit, or driving. The corridor's diverse travel demands create a complex set of transportation challenges and opportunities. The project team sincerely thanks the residents, students, businesses, stakeholders, technical advisors, and agency partners who generously shared their time, experience, and local knowledge throughout the study. Their input was instrumental in developing balanced recommendations that reflect community priorities and will guide future improvements on Rock Boulevard.

Technical Advisory Committee

Name	Agency/Organization
Vanessa Lacer	RTC Washoe
Graham Dollarhide	RTC Washoe
Shay League	RTC Washoe
Marquis Williams	RTC Washoe
Jeff Wilbrecht	RTC Washoe
Sara Going	RTC Washoe
Josh MacEachern	RTC Washoe
Scott Carey	City of Sparks
Amber Sosa	City of Sparks
Andrew Jayankura	City of Sparks
Jeff Bickett	City of Sparks
Julie Duewel	City of Sparks
Nick Johnson	NDOT
Christine Chia	NDOT

Consulting Team

Loren Chilson	GCW
Dylan Axtell	GCW
Dan Doenges	Parametrix
Amy Cummings	Parametrix

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Figure 1 – Study Area

Figure 2 – Crash Severity Map

Figure 3 – Crash Heat Map

Figure 4 – Pedestrian Experience Index (PEI)

Figure 5 – Bicycle Level of Traffic Stress (BLTS)

Figure 6 – Transit Routes

Figure 7 – Study Intersections and Roadway Segments

Figure 8 – 2050 Operations Summary

Figure 9 – Recommended Alternatives (South of Victorian Ave)

Figure 10 – Recommended Alternatives (North of Victorian Ave)

Figure 11 – Crosswalk Master Plan

Figure 12 – Widen Sidewalk (15th to Oddie)

Appendices

Appendix A – Public Engagement Documentation

Appendix B – Existing Conditions

Appendix C – Crash Data

Appendix D – Speed Data

Appendix E – Transit Stop Evaluations

Appendix F – Traffic Operations Analysis

Appendix G – Alternatives Analysis

Appendix H – Scoring Criteria Matrix

Appendix I – Concepts of Recommended Potential Improvements

Appendix J – Cost Estimate Details

PURPOSE AND NEED

Purpose

The purpose of the Rock Boulevard Corridor Study is to identify capacity, safety, and mobility improvement options on Rock Boulevard for all corridor users between North McCarran Boulevard and the Truckee River. The study area is shown in **Figure 1**. This includes traffic operations and freight movement enhancements, safety improvements, and upgrading infrastructure for accessible walking, bicycling, and transit.

Need

Rock Boulevard is an important corridor that provides north-south connectivity across the Truckee River, Union Pacific Railroad (UPRR), and I-80. It serves a wide variety of land uses, including residential neighborhoods, industrial centers, retail and entertainment destinations, public schools, places of worship, and community parks.

Rock Boulevard serves over 20,000 vehicles per day and experiences regular traffic congestion and travel delay at critical locations, such as the I-80 interchange (**Exhibit 1**).

Between 2019 and 2023, 456 crashes occurred in the corridor, including four fatalities and nine serious injuries. Thirteen crashes involved a pedestrian and seven involved bicyclists, including one fatality for each group. Active transportation options are limited, with the only bicycle lanes adjacent to Rock Park in the southern portion of the corridor. As identified in the RTC Active Transportation Plan, the corridor scores poorly when evaluated using the Pedestrian Experience Index and Bicycle Level of Traffic Stress index.



Exhibit 1. Queuing and Congestion at I-80 Interchange



ROCK BOULEVARD CORRIDOR STUDY

Figure 1

Rock Boulevard Corridor Study

Study Area

PUBLIC AND STAKEHOLDER ENGAGEMENT

The Rock Boulevard Corridor Study has incorporated input from the public and agency partners regarding both corridor challenges and proposed solutions. An Engagement Plan was created to outline the outreach approach, strategies, and tools and is aligned with the strategies defined in the RTC Public Participation Plan (PPP). The Engagement Plan is provided in **Appendix A**.

Public Engagement Strategies

The project team used a multi-channel outreach strategy (digital content, surveys, events) to maximize participation and accessibility. English and Spanish outreach materials were developed to encourage participation from all residents and the traveling public within the corridor study limits. Diverse outreach methods used included the following:

- RTC press releases and digital and social media.
- Outreach materials, including informational flyers, posters, and printed materials displaying maps, data, and other information for public outreach events and general distribution.
- Online public survey and a targeted printed survey for 5th grade elementary school students attending Maxwell Elementary School, which is located on Rock Boulevard.
- Presentation and information sharing at organized events, pop-up events, and at select locations within the study area.

Specific outreach events included:

- An information gathering meeting with Maxwell Elementary School staff and subsequent attendance at an "Art Night" event hosted at the school to share information with parents and students (**Exhibit 2**).
- An information gathering meeting with Sparks High School staff and subsequent presentation to the Sparks High School Student Voice, the school-specific Student Advisory Council.
- A pop-up meeting at RTC Centennial Plaza to engage transit riders near the corridor as well as those on routes along the corridor.
- Distribution of project flyers to local businesses and organizations within the study area.
- Meeting with Washoe County School District regarding Safe Routes to School.

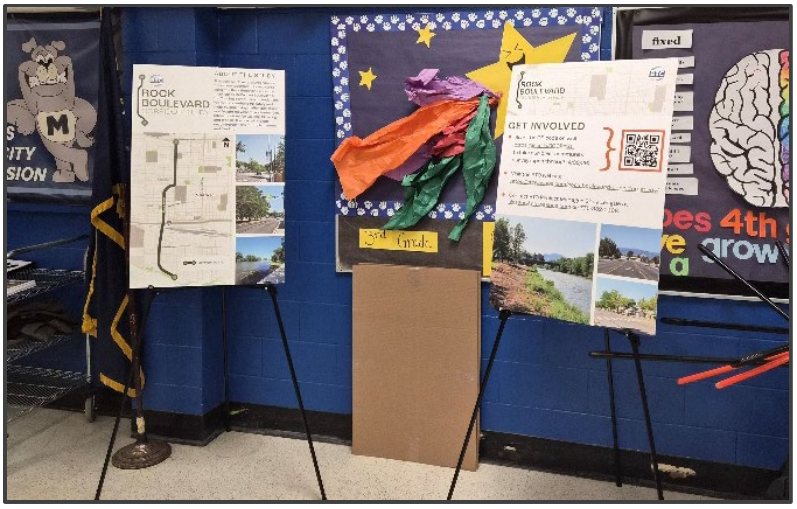


Exhibit 2. Project Information Meeting at Maxwell Elementary

Partner Agency and Stakeholder Engagement

The project team met regularly with partner agency staff from RTC Departments (Planning, Engineering, Public Transportation), City of Sparks, Nevada Department of Transportation (NDOT), and the Washoe County School District throughout development of the Rock Boulevard Corridor Study. In addition to regularly scheduled project Technical Advisory Committee (TAC) meetings, the project team held individual meetings with agency staff to discuss unique issues, concerns, and proposed improvements as they relate to each agency's policies, plans, and operations. These individual meetings were conducted through a combination of site visits and in-person or virtual meeting formats.

RTC staff also provided updates to their advisory committee members (RTC Technical Advisory Committee and Citizens Multimodal Advisory Committee) as well as the RTC Board to reach a broader base of agency staff, public interest representatives, and elected officials. Feedback and direction from these groups was incorporated into the final plan.

Key Themes

Safety and traffic congestion on Rock Boulevard were consistently identified as the top concerns among community members (**Exhibit 3**). The following are key findings and general themes from corridor users:

- Traffic congestion and signal timing problems, notably at the I-80/Rock Boulevard Interchange
- Speed and aggressive driving issues
- Pedestrian safety concerns especially around schools, major intersections, and near I-80
- Desire for safer bicycle infrastructure

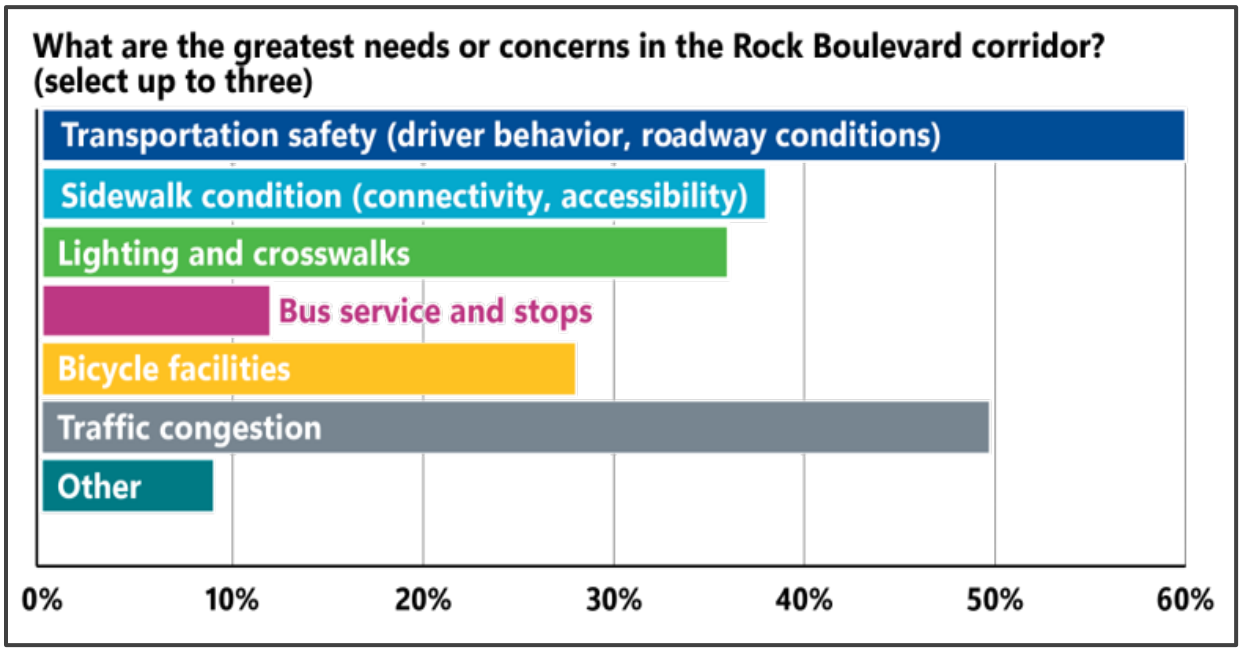


Exhibit 3. Online Survey Results

EXISTING CONDITIONS

The project team collected, organized, and evaluated relevant existing data and background information to develop a clear understanding of existing conditions and identify key transportation issues in the study area. Additional existing conditions documentation is provided in **Appendix B.**

Plan Review

The team reviewed key planning documents to inform the corridor analysis and concept development, including the Sparks Comprehensive Plan, the Central Sparks Neighborhood Network Plan (NNP), and the 2050 RTP (**Exhibit 4**). This review helped identify corridor priorities, multimodal recommendations, and opportunities to strengthen connectivity, while also providing a policy and planning framework for evaluating existing conditions and shaping potential improvement concepts. The findings from these documents were used to better understand how the Rock Boulevard corridor fits within broader local and regional planning efforts and to support the development of practical, context-sensitive multimodal concepts. The *Ignite Sparks Comprehensive Plan* does not show Rock Boulevard as a "Complete Street", which would prioritize pedestrian and bicycle facilities on that roadway. Therefore, it is inferred that vehicle travel and capacity are of high priority on this arterial roadway.

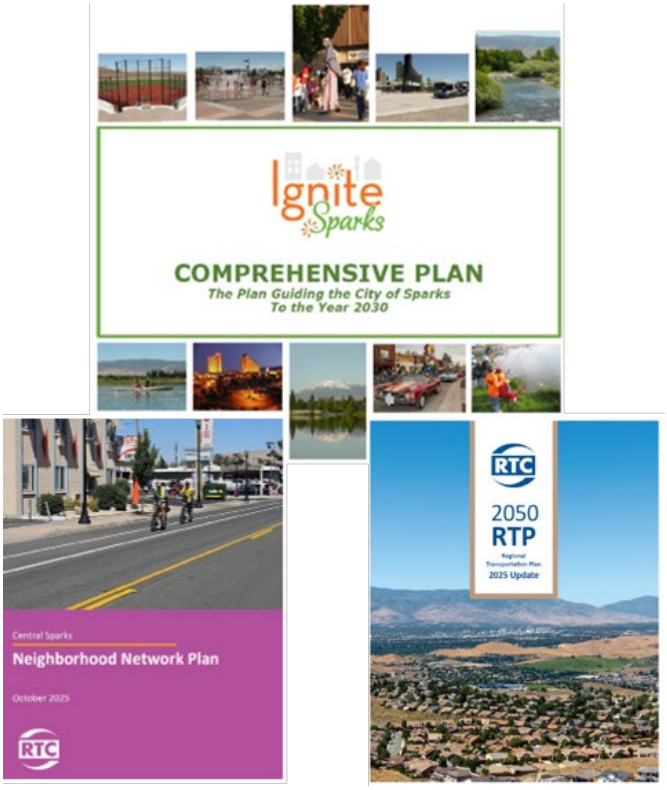


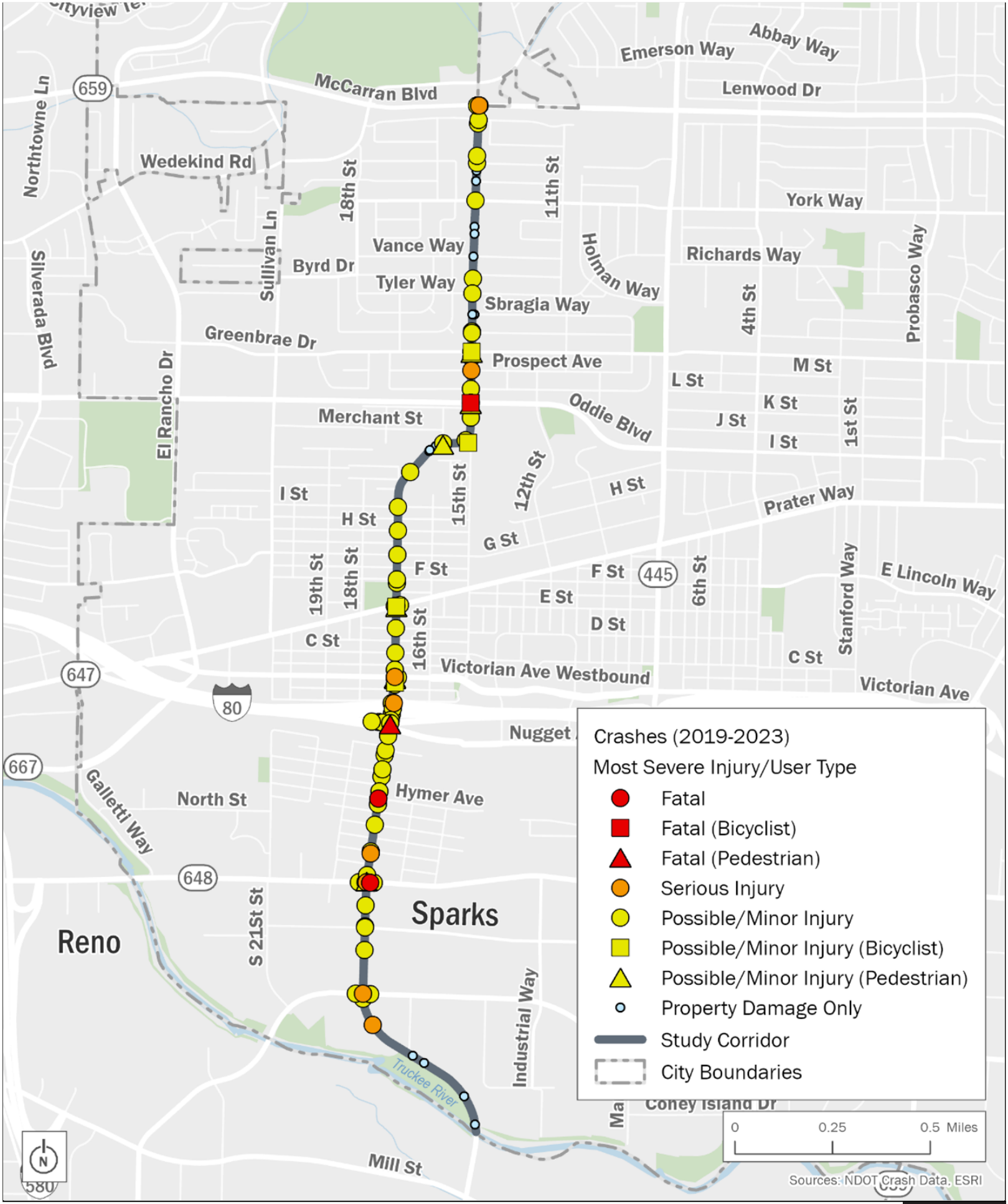
Exhibit 4. Key Planning Documents

Crash Data

Crash data for the study area was obtained from NDOT for the 2019-2023 period and supplemental data was received from the City of Sparks Police Department for the 2024 -2025 period. During this time, there were 456 total crashes reported. Of those, there were four fatalities and nine serious injuries as shown in **Figure 2**. Crashes involving vulnerable road users (VRUs), generally considered those using active transportation modes such as walking and bicycling, primarily occur at intersections or at the I-80 interchange as shown in **Figure 3**. Complete crash data is provided in **Appendix C**.

Speed Data

Vehicular speed data on Rock Boulevard was obtained from the RTC for two locations, between York Way and Oddie Boulevard, and between Greg Street and the Truckee River. Between York Way and Oddie Boulevard (30 mph posted speed limit), the average speed was 33.3 mph and the 85th percentile speed was 37.3 mph. Between Greg Street and the Truckee River (30/45 mph posted speed limit), the average speed was 42 mph and the 85th percentile speed was 48.5 mph. Both surveyed locations indicate elevated vehicle speeds (greater than 7 mph over the posted speed limit) within the study corridor. Complete speed data is provided in **Appendix D**.

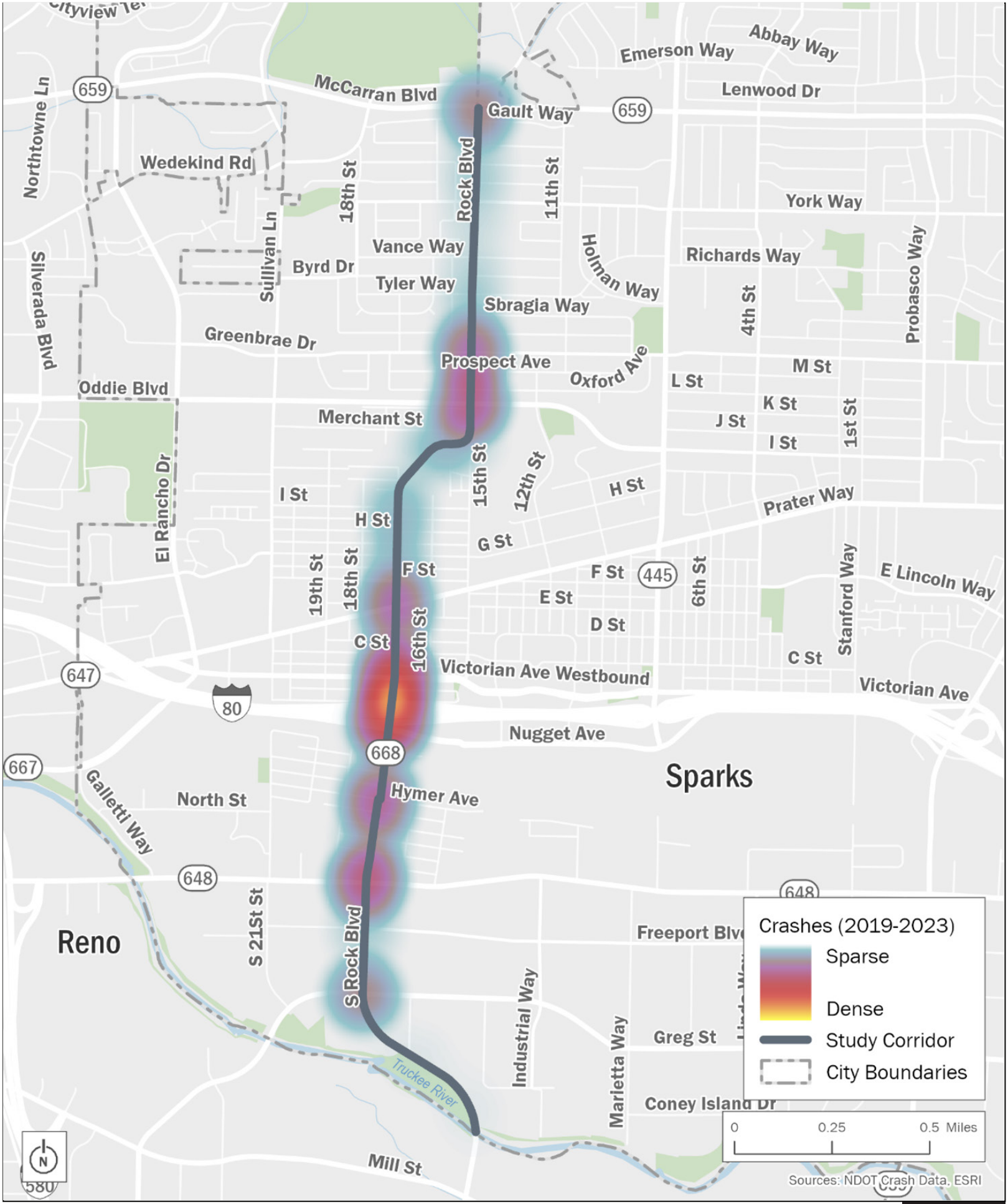


ROCK BOULEVARD CORRIDOR STUDY

Figure 2

Rock Boulevard Corridor Study

Crash Severity Map



ROCK BOULEVARD CORRIDOR STUDY

Figure 3
Rock Boulevard Corridor Study
Crash Heat Map

Existing Active Transportation Facilities

Pedestrian Conditions

Figure 4 shows the Pedestrian Experience Index (PEI) and indicates that much of the corridor is generally uncomfortable for walking, particularly south of Greg Street and near the I-80 interchange. Sidewalk gaps are also present in several locations, including south of Greg Street, between Freeport Boulevard and Glendale Avenue, and between Hymer Avenue and Victorian Avenue, where the east side lacks a continuous sidewalk and the west side has limited connectivity.

There are several school zones in proximity to the Rock Boulevard corridor; however, Maxwell Elementary School is the only school located directly adjacent to the roadway. Other nearby schools include Risley, Mitchell, and Kate Smith Elementary Schools; Sparks Middle School; and Sparks High School. There is high student walking potential in the northern portion of the study corridor (generally north of Victorian Avenue) since the schools are located in residential areas.

Bicycle Conditions

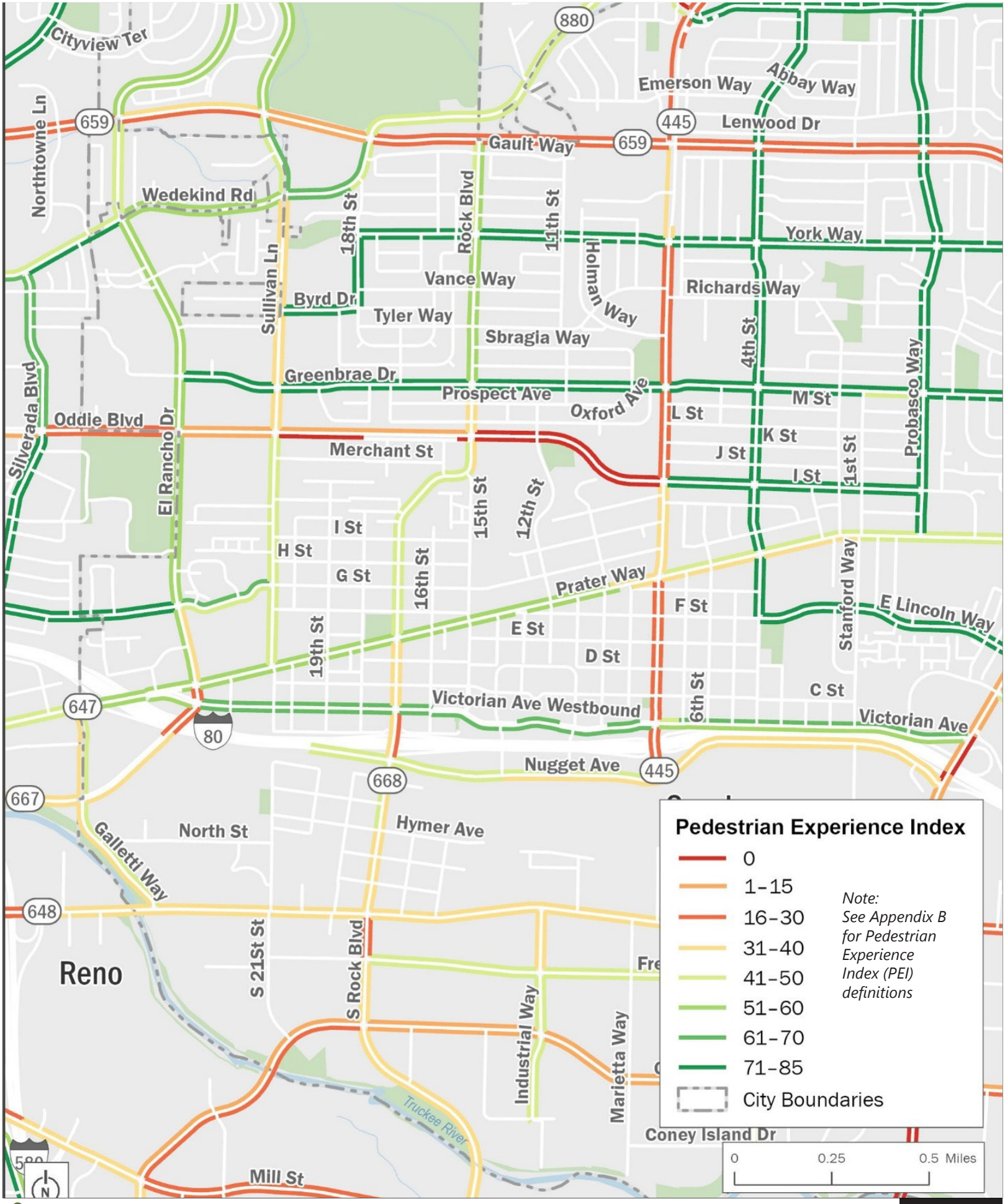
Bicycle facilities are limited along most of Rock Boulevard, with existing bike lanes only provided south of Greg Street near Rock Park. **Figure 5** shows the Bicycle Level of Traffic Stress (BLTS) for the study corridor and surrounding roadways. Most corridor segments on Rock Boulevard are rated Bicycle Level of Traffic Stress (BLTS) 4, indicating high-stress conditions due to high speeds, traffic volumes, and the absence of bikeways. The northern and southern segments are somewhat less stressful at BLTS 3, but still uncomfortable for most riders.

Transit Service

Rock Boulevard functions as an important transit corridor, with multiple RTC routes intersecting or traveling through the study area. The existing transit routes are summarized below and shown in **Figure 6**:

- Five RTC routes intersect or run along the corridor: Routes 2, 9, 11, 18, and 54.
- There are 13 bus stops on Rock Boulevard; none include shelters, and more than half have no amenities.
- The corridor serves both high- and lower-ridership routes, including Route 11, which has the second-highest ridership in the system, and Route 2, which ranks fifth in the system.

RTC is developing the Move More initiative to improve public transit services. While no route changes are proposed on Rock Boulevard, Route 2 would be modified to extend service to the Sparks Senior Center on Richards Way. Route 54 would be extended to serve the Northern Nevada Sierra Medical Center in the southern portion of the route and modified east of the airport to better serve high ridership areas. Detailed findings and recommendations are provided within the Transit Stop Evaluation provided in **Appendix E**.

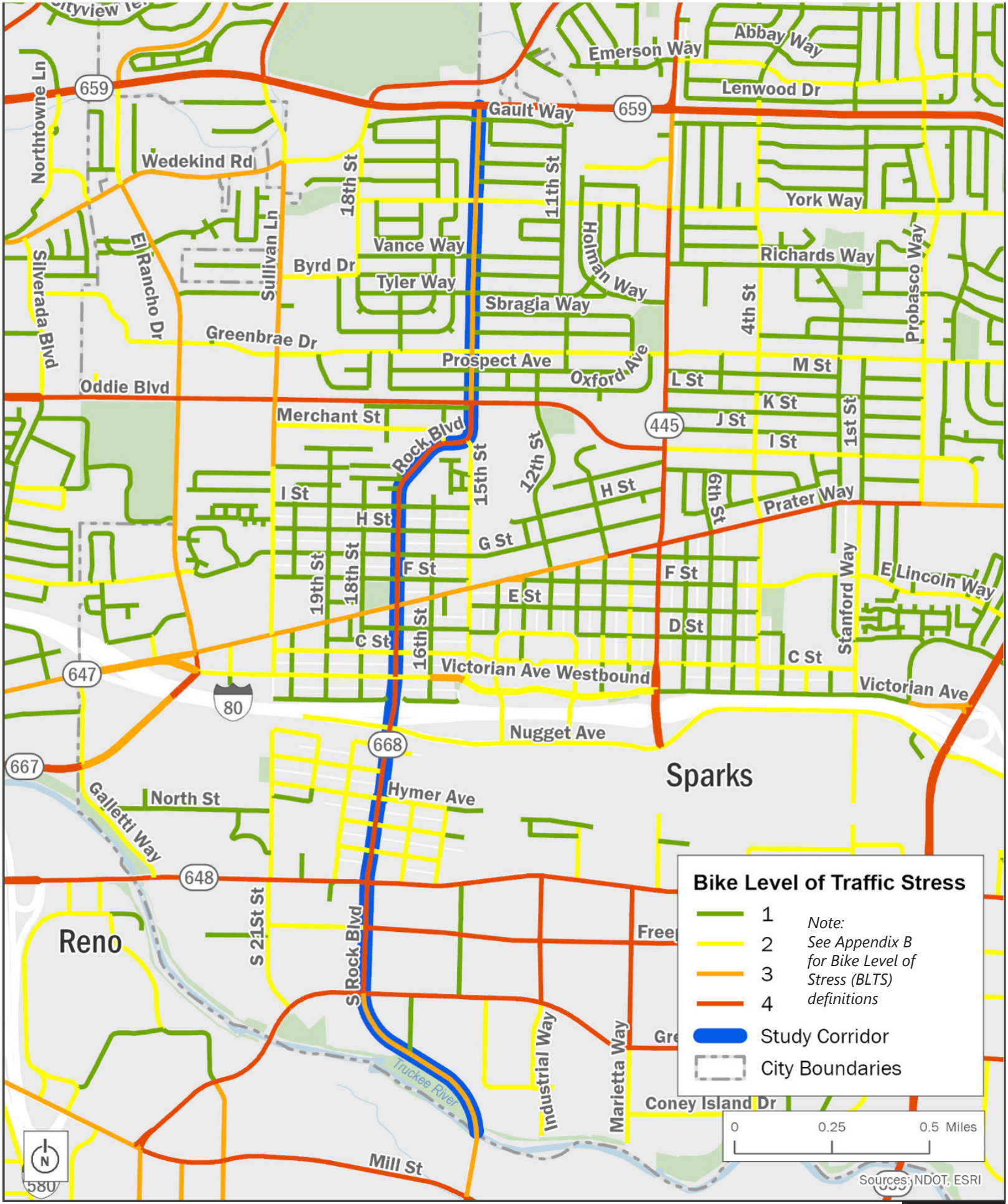


ROCK BOULEVARD CORRIDOR STUDY

Figure 4

Rock Boulevard Corridor Study

Pedestrian Experience Index (PEI)

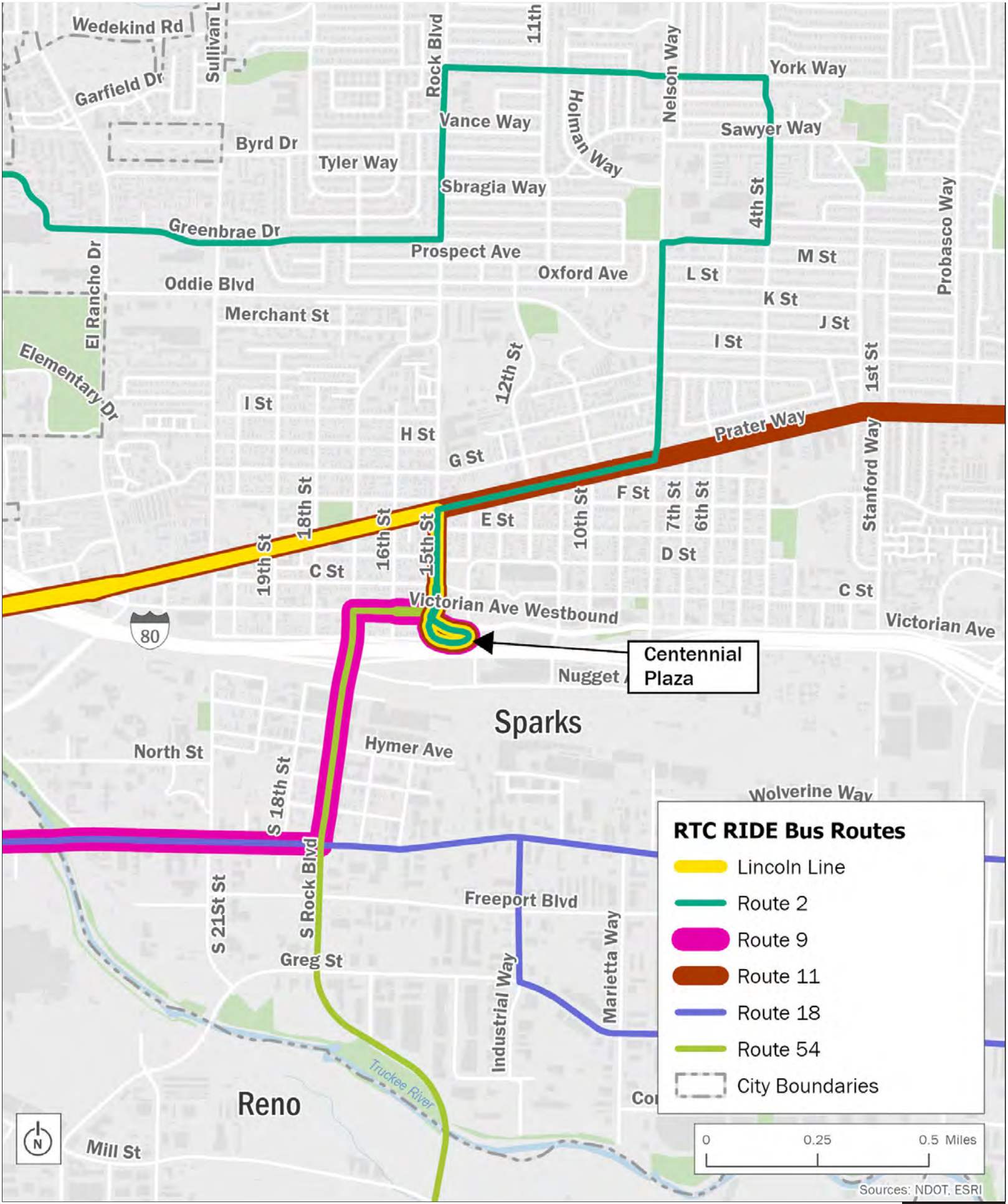


ROCK BOULEVARD CORRIDOR STUDY

Figure 5

Rock Boulevard Corridor Study

Bicycle Level of Traffic Stress (BLTS)



ROCK BOULEVARD CORRIDOR STUDY

Figure 6
Rock Boulevard Corridor Study
Transit Routes

TRAFFIC OPERATIONS ANALYSIS

A traffic operations analysis was conducted to evaluate how the Rock Boulevard corridor currently functions and how it is expected to perform in the future. The analysis focused on intersection and roadway segment operations, identifying localized congestion, queuing, and operational constraints. Detailed assumptions, turning movement volumes, and level of service analysis are provided in **Appendix F**.

Critical Intersections and Roadway Segments

The purpose of the Rock Boulevard Corridor Study is to identify the most significant issues and long-term needs in the corridor for all modes of travel for programming purposes. Note that N. McCarran Boulevard was studied as part of the RTC's recent McCarran Boulevard Corridor Study. Additionally, the Rock Boulevard / Greenbrae Drive intersection has been recently evaluated by the City of Sparks/GCW for crosswalk safety. Oddie Boulevard was recently improved through the RTC's Oddie/Wells Project. Prater Way was improved through the RTC's 4th Street/Prater Way BRT project. Additionally, NDOT is currently underway with planning efforts for the *Reno Spaghetti Bowl Project* which will reconfigure the I-80 and Rock Boulevard interchange in the future. Therefore, the focus of this study was placed on other locations with the highest volumes and activity. The study area roadway segments and intersections are shown in **Figure 7**.

Study Intersections

The following six (6) intersections were identified as the critical intersections within the corridor and those that were analyzed in this study:

1. Rock Boulevard / 15th Street
2. Rock Boulevard / C Street
3. Rock Boulevard / Victorian Avenue
4. Rock Boulevard / Hymer Avenue
5. Rock Boulevard / Glendale Avenue
6. Rock Boulevard / Greg Street

Study Roadway Segments

The Rock Boulevard corridor was studied in segments based on the differing characteristics and logical breakpoints in traffic volumes. The study segments and general character (as noted in **Figure 7**) are:

- N. McCarran Boulevard to Oddie Boulevard (Residential)
- Oddie Boulevard to Victorian Avenue (Residential / Commercial)
- Victorian Avenue to Hymer Avenue (I-80 Interchange)
- Hymer Avenue to Greg Street (Industrial)
- Greg Street to Truckee River (River)



ROCK BOULEVARD CORRIDOR STUDY

Figure 7

Rock Boulevard Corridor Study

Study Intersections and Roadway Segments

Existing Conditions Level of Service Analysis

The study intersections and roadway segments currently operate within overall level of service policy (which is LOS "F" near the interchange from Glendale Ave to Victorian Ave and "LOS D" along the remainder of the corridor). Intersections may operate at acceptable levels of service overall but have movements that operate poorly, causing queuing and congestion on Rock Boulevard during peak hours. Notably, congestion occurs in the northbound direction, south of I-80, during the PM Peak Hour. Additionally, the closely spaced traffic signals near the I-80 interchange create coordination challenges and limited vehicle storage between intersections.

The single northbound left-turn lane at the I-80 westbound on-ramp is the primary operational constraint in the corridor. NDOT's preferred alternative at the interchange proposes dual northbound left-turn lanes at this location in the future. However, interim improvements are recommended due to the likelihood that NDOT improvements will not be implemented within the next 10-plus years.

Traffic Volume Forecasting

NDOT is planning improvements along I-80 including the Rock Boulevard interchange (**Exhibit 5**) which will cause significant changes to traffic volumes. NDOT's *Reno Spaghetti Bowl Project - Traffic Analysis Report* includes turning movement counts and projected 2040 volumes for NDOT's Preferred Alternative (Alternative 2). Future turning movement volumes were forecasted using the RTC Travel Demand Model and then balanced with the NDOT traffic analysis report for overall consistency.

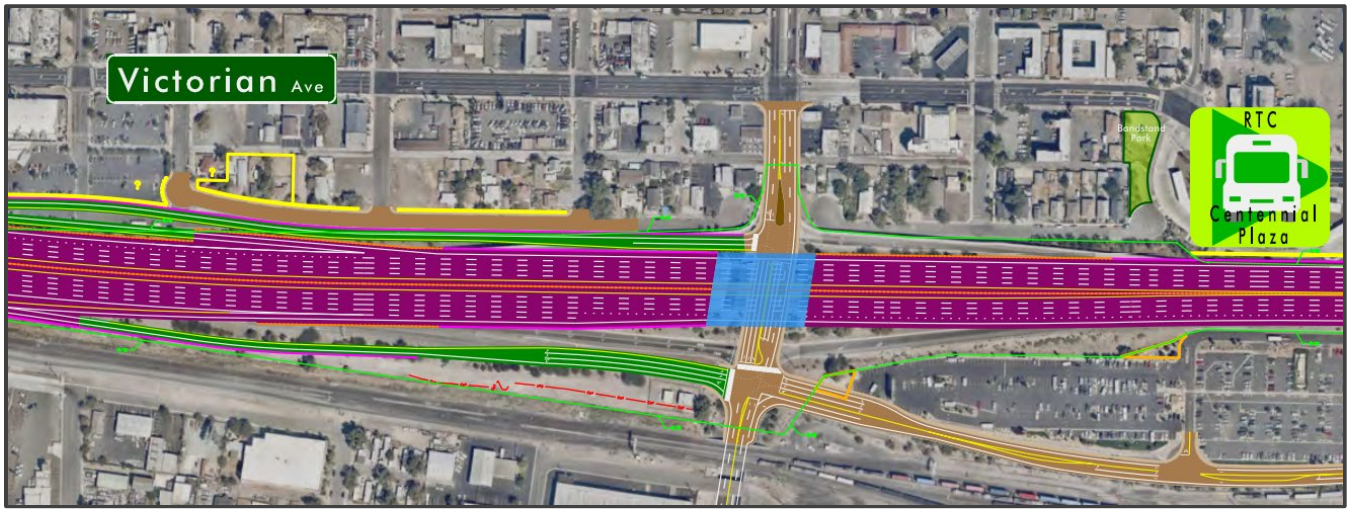
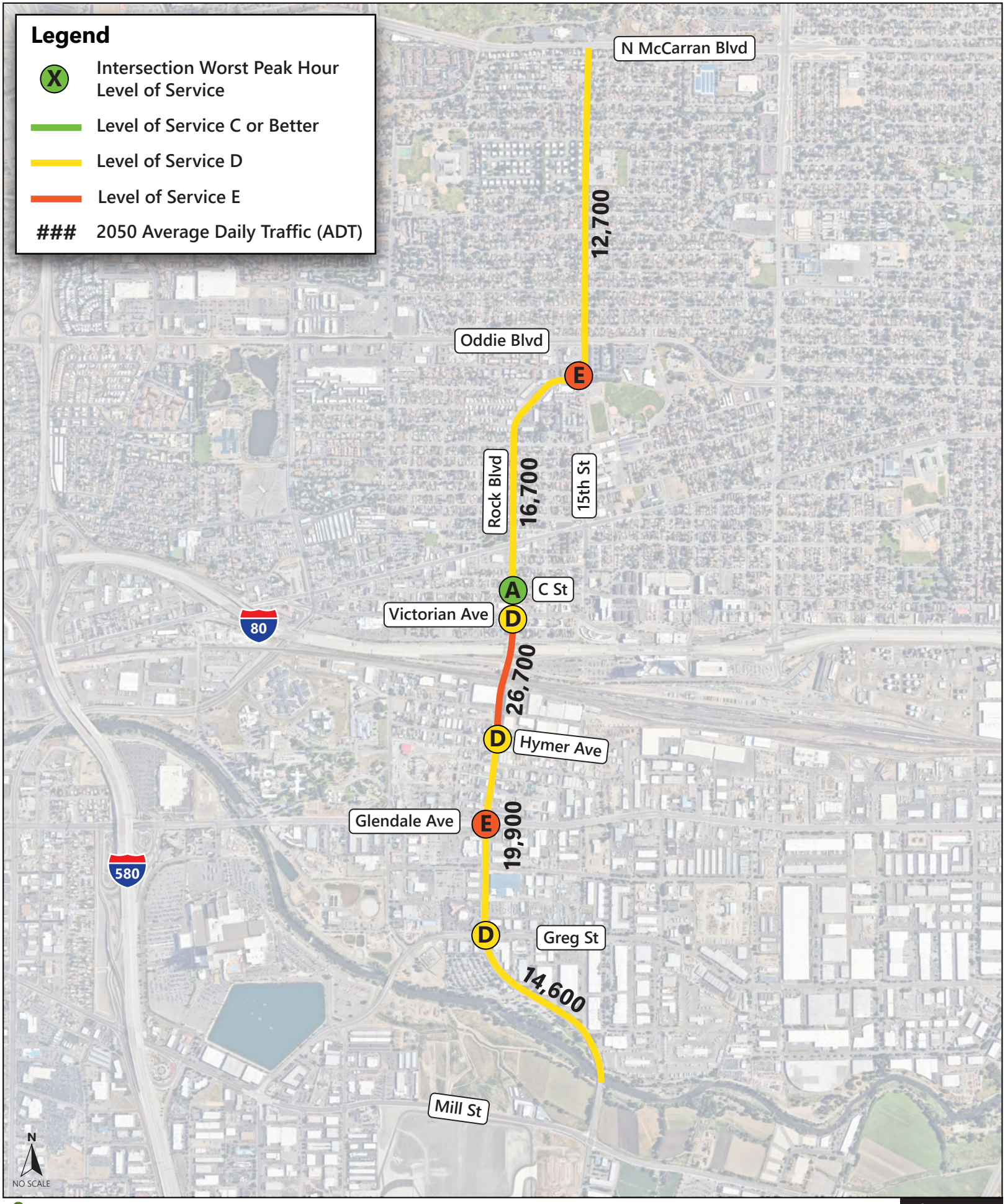


Exhibit 5. NDOT I-80 Preferred Alternative at Rock Blvd

Future Conditions Level of Service Analysis

Under future conditions, the study intersections and roadway segments are anticipated to technically operate within overall level of service policy. However, heavier traffic volumes and movements (peak hour conditions) within the interchange area are still expected to experience significant congestion in the future. Improvements at the I-80 interchange to reduce queuing and congestion are a high priority for the Rock Boulevard corridor. The Future Year Conditions (2050) operation summary is shown in **Figure 8**.



Note: Study intersections and roadways operate within level of service policy; however, peak-hour congestion and queuing occur at heavier movements near the I-80 interchange.

ROCK BOULEVARD CORRIDOR STUDY

Figure 8
Rock Boulevard Corridor Study
2050 Operations Summary

ALTERNATIVES ANALYSIS

A variety of potential traffic, pedestrian, and bicycle improvement options that address safety, vehicular capacity, and active transportation mobility were explored in this corridor study. The corridor was evaluated as a connected system and a range of improvement concepts were considered, based on input received through community engagement activities and TAC meetings. The alternatives analysis background, calculations, and considered but dismissed alternatives are provided in **Appendix G**.

Projects Already Identified

Following is a list of projects that are already identified within the study area:

- Rock Boulevard/Hymer Avenue Traffic Signal Modifications
- Rock Boulevard/Commerce Street Rectangular Rapid Flashing Beacon (RRFB)
- Rock Boulevard/Greenbrae Drive Rectangular Rapid Flashing Beacon (RRFB)
- Sullivan Lane Multimodal Improvements (Under separate study, for reference only)
- Improvements to the I-80/Rock Boulevard Interchange by NDOT (long-term timeframe)

Scoring Criteria

Each improvement alternative was screened and scored using a comprehensive scoring matrix. The scoring matrix is comprised of nine categories (100 total points) generally covering bicycle and pedestrian safety, traffic operations and freight movement, land use compatibility, and cost effectiveness and feasibility. Potential alternatives scoring less than 50 points were dismissed and alternatives scoring more than 50 points were carried forward as recommendations. The scoring criteria matrix is provided in **Appendix H.** Although some concepts did not advance to the final recommendations, they helped inform corridor needs, constraints, and opportunities.

Railroad Undercrossing Constraint

Significant capacity improvements, including roadway widening, were deemed impractical due to right-of-way constraints (**Exhibit 6**) within the interchange area (I-80 overcrossing and Union Pacific railroad bridge). It is estimated that the cost for railroad bridge widening would be in the tens of millions of dollars ($30M to $50M) and would involve an extensive approval process with Union Pacific Railroad (UPRR). Roadway widening within this segment of Rock Boulevard would provide capacity benefits in this congested portion of the corridor, however, was not specifically analyzed in this study due to scope and feasibility. Roadway widening within the interchange area (I-80 overcrossing and Union Pacific railroad bridge) could be reconsidered in the future in coordination with NDOT's improvements.



Exhibit 6. UPRR Undercrossing Constraint

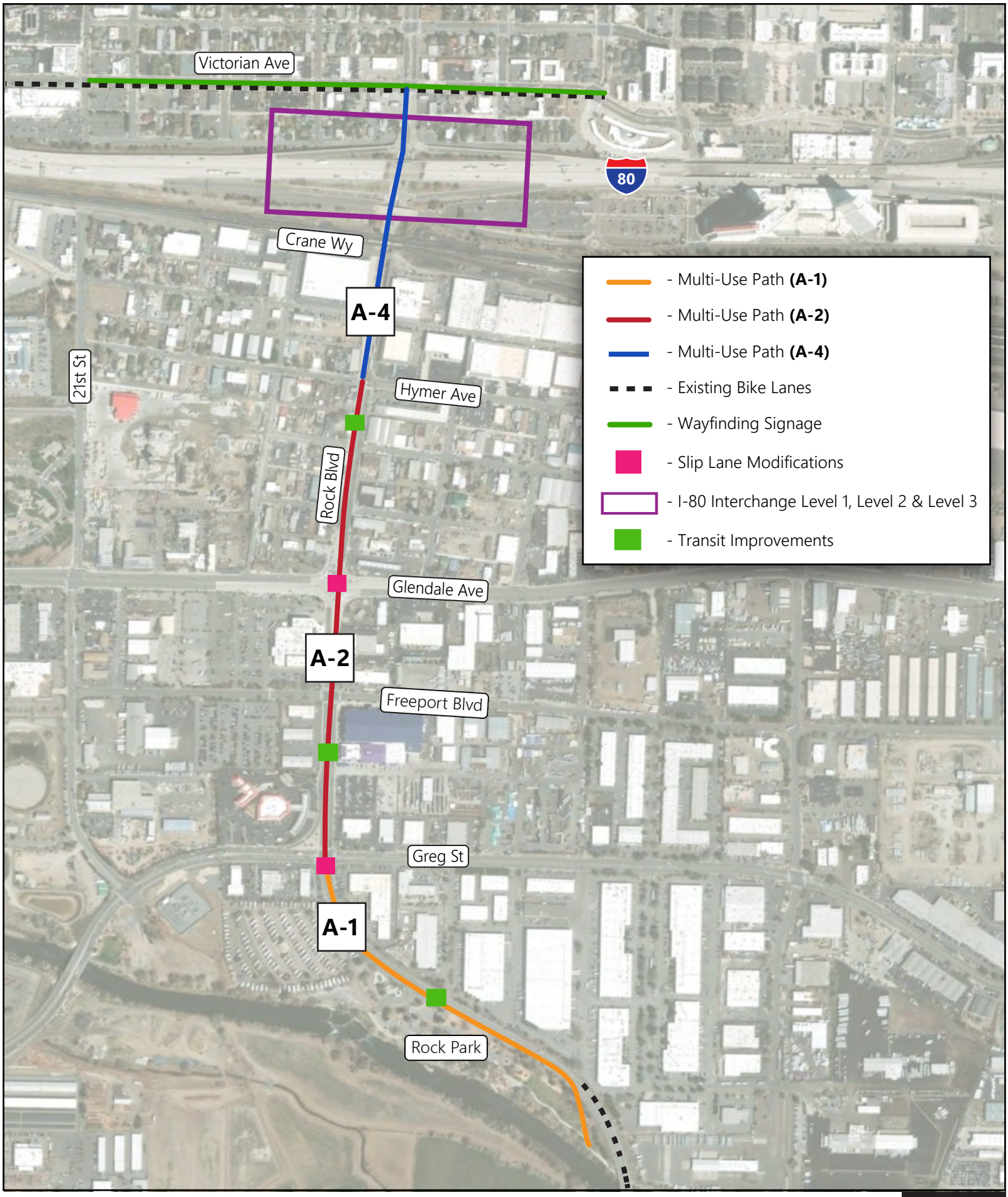
RECOMMENDED IMPROVEMENTS

Figure 9 and **Figure 10** summarize the improvement concepts that were advanced and carried forward for prioritization and implementation planning through a future Regional Transportation Plan (RTP) update. The identified potential improvements will be prioritized and programmed during the RTP process based on regional needs, priorities, and available funding. Each potential improvement is briefly discussed and outlined within this section with detailed corridor concepts for major roadway improvements provided in **Appendix I**.

Highest Priorities

Following are the critical priorities identified in this corridor study:

- *Operational Improvements at I-80 Interchange:* Rock Boulevard currently experiences significant congestion issues at the I-80 interchange, notably in the northbound direction during the PM peak hour. The congestion issues cause significant queuing and back-ups along Rock Boulevard from I-80 to Greg Street. Coordination and planning improvements with NDOT is critical to improve traffic operations within this corridor.
- *Multimodal Connection between the Truckee River and Victorian Avenue:* Analysis conducted for the RTC Active Transportation Plan and field tours of the corridor indicate that the corridor is generally not comfortable for walking or cycling. This is particularly pronounced on the southern end of the corridor where traffic volumes are high, and sidewalks are not always present. Accommodation of multimodal improvements within this segment is vital to improve pedestrian and bicyclist safety and connectivity to the Truckee River Path and the recreational amenities available at Rock Park.
- *Pedestrian Crossing Safety*: Rock Boulevard currently carries relatively high traffic volumes throughout the corridor. Providing safe and enhanced crossings will improve pedestrian safety and connectivity throughout the corridor. The guiding engineering principle is that marked crosswalks on four-lane roadways should have protected crossings or enhancements for increased driver awareness such as overhead Rectangular Rapid Flashing Beacons (RRFB), pedestrian refuge islands or other treatments. However, RRFBs should not be installed at numerous adjacent intersections, or they will lose their "high visibility" value, and too many warning devices can be confusing for drivers. A Rock Boulevard crosswalk master plan is provided in **Figure 11**.



ROCK BOULEVARD CORRIDOR STUDY

N

NO SCALE

Figure 9

Rock Boulevard Corridor Study

Recommended Alternatives (South of Victorian Ave)

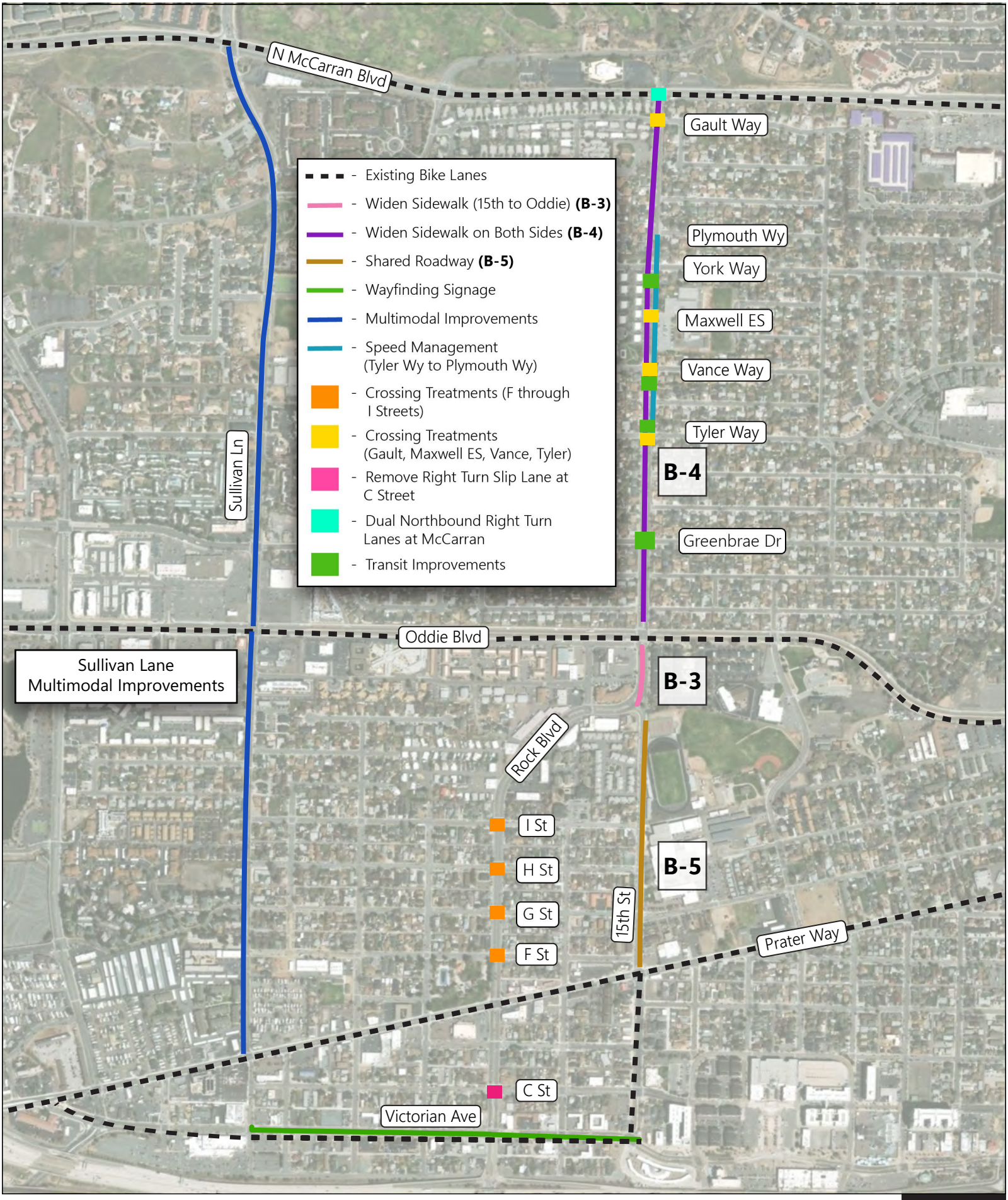


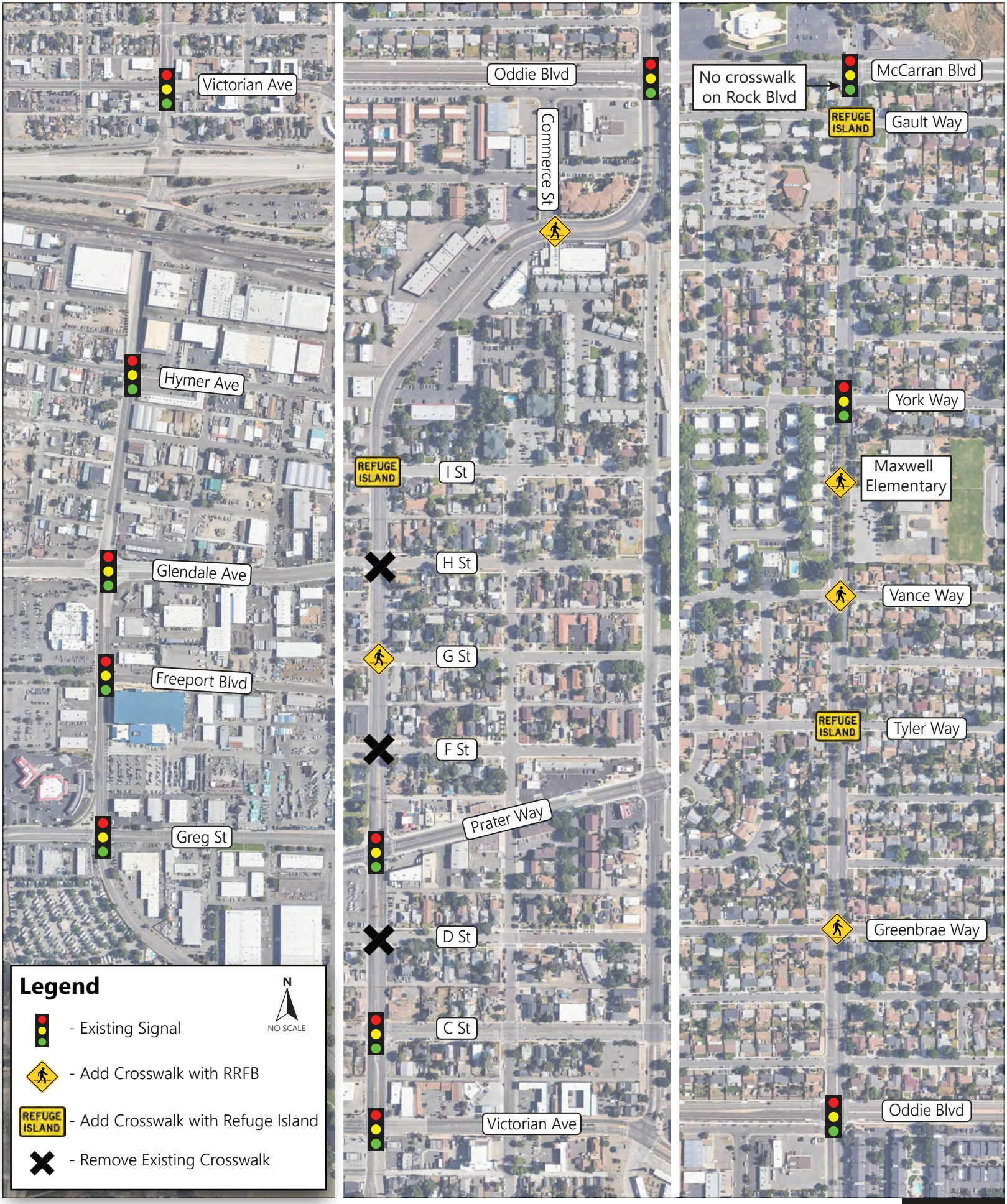
Figure 10

ROCK BOULEVARD CORRIDOR STUDY

N

NO SCALE

Rock Boulevard
Corridor Study
Recommended Alternatives (North of Victorian Ave)



ROCK BOULEVARD CORRIDOR STUDY

Figure 11

Rock Boulevard Corridor Study

Crosswalk Master Plan

Truckee River to Victorian Avenue

Multi-Use Path (Cross-sections A-1, A-2 & A-4)

The Multi-Use Path A-1 and A-2 option (**Exhibit 7**) illustrates acquiring an estimated 8 to 12 feet of right-of-way and widening Rock Boulevard in order to construct a multi-use path on the west side of the roadway between Rock Park and Hymer Avenue. No other feasible options have been identified for this segment due to the constrained conditions. On-street bicycle lanes are not recommended in this high-volume road segment. Existing infrastructure on the east side of Rock Boulevard was maintained for both Multi-Use Path A-1 and A-2 options.

Cross-section A-4 (**Exhibit 7**) is specially for the roadway segment between Hymer Avenue and Victorian Avenue and shows reconfiguring the roadway (narrowing of existing wide lanes) beneath Crane Way and the UPRR underpass to move the curb and gutter inward and widen the sidewalk on the west side of the road. Reconfiguration of the bridge abutment beneath I-80 will be necessary to fit a similarly wide sidewalk between the UPRR underpass and Victorian Avenue and is included in the cost estimates. The reconfiguration beneath the UPRR and Crane Way bridges would address the most severe pedestrian discomfort and safety issue.



Exhibit 7. Multi-Use Path, Cross-sections A-1, A-2, A-4

Slip Lane Modifications

The right turn slip lane configurations at Greg Street and Glendale Avenue allow drivers to make right turns with limited need to stop or yield, reducing driver attention to pedestrians, and result in higher vehicle speeds at crosswalks. The conflicts with pedestrians and cyclists are anticipated to increase with a multi-use path and associated higher bicycle and pedestrian volumes. It is recommended that the current right turn lane configurations be modified to remove free flow right turns and be constructed with tighter turning radii.

I-80 Interchange Modifications Level 1, Level 2 & Level 3

NDOT is planning long-term improvements along I-80 and revisions to the Rock Boulevard interchange which will cause notable changes to traffic volumes on Rock Boulevard. The schedule of the Rock Boulevard interchange improvements is unknown currently, but the major modifications are expected to be beyond 2035. Therefore, interim improvements were explored at the interchange to determine what near-term improvements could be implemented prior to the NDOT project and have a reasonable service life. The recommendations were developed assuming that neither the I-80 nor railroad undercrossing would be widened in interim conditions to add travel lanes. The following are three recommendations (**Exhibit 8**) that could be constructed as interim improvements at the I-80 Interchange:

- Level 1: Restripe the eastbound & westbound off-ramps to add dual turning lanes
- Level 2: Remove the southbound left turn movement to the eastbound on-ramp
- Level 3: Remove the southbound left turn movement and construct dual northbound left turn lanes

Level 3 would have the highest associated cost, but it would provide the greatest operational benefit by constructing the needed northbound dual left turn lanes (550+ PM peak hour left turns).

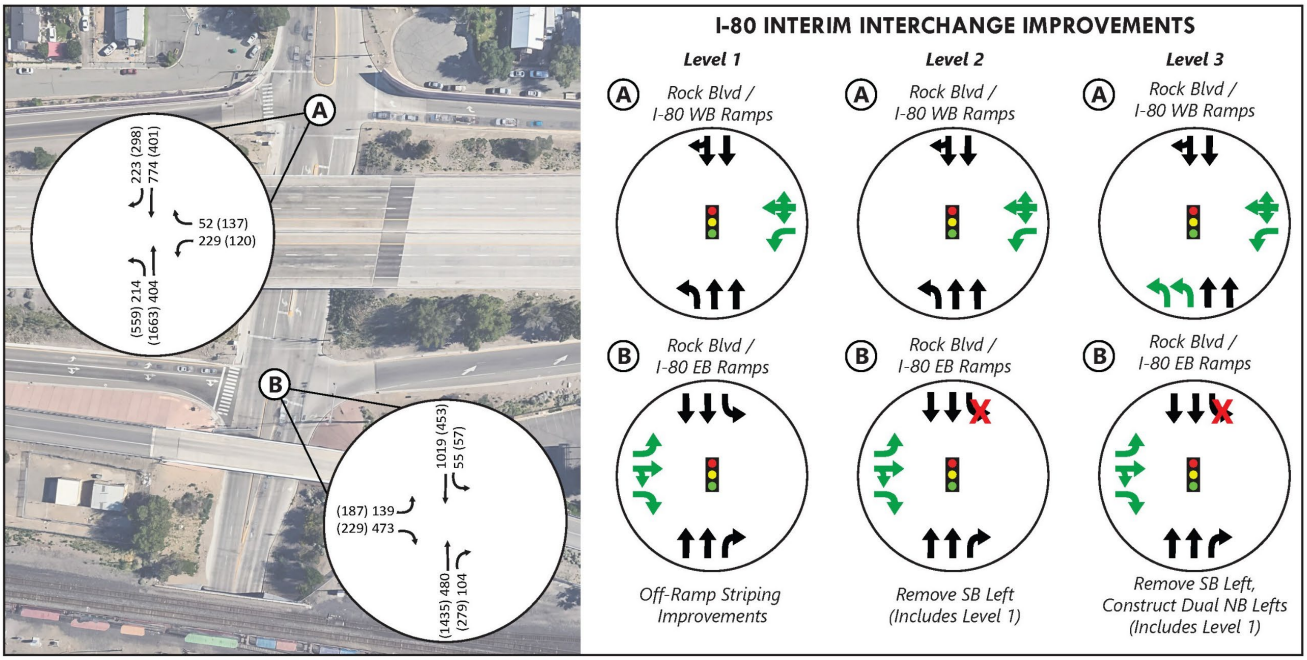


Exhibit 8. Interim I-80 Interchange Improvements

Transit Improvements

The transit stop evaluation (Appendix E) found that most stops lack fully compliant boarding pads and other passenger amenities. The evaluation provides a prioritized framework for improving transit accessibility and service quality along the corridor. Recommendations include ADA upgrades, benches, shelters, improved pedestrian connections, crossing enhancements, lighting, and potential stop relocations where safety or operational concerns exist. A transit improvement project is included as a recommended improvement to address these items as one package.

Victorian Avenue to Oddie Boulevard

Wayfinding Signage

If the project for Sullivan Lane detailed in the *Central Sparks Neighborhood Network Plan* (RTC, 2025) and the project for 15th Street detailed herein are constructed, it is recommended that wayfinding signage be installed to guide cyclists to Sullivan Lane and/or 15th Street, which are the parallel lower stress routes north of I-80. Wayfinding signage would be installed directing northbound cyclists on Rock Boulevard at Victorian Avenue to travel east to 15th Street and/or west to Sullivan Lane to continue north. Wayfinding signage would also be provided for southbound cyclists on Sullivan Lane and/or 15th Street at Victorian Avenue to use Rock Boulevard to continue south.

Remove Right Turn Slip Lane at C Street

Similar to the right turn slip lane modifications in the southern end of the corridor at Greg Street and Glendale Avenue, it is recommended that the slip lane at C Street be modified to reduce vehicular and pedestrian conflicts. The northbound right turn lane could be completely removed to shorten pedestrian crosswalks at the C Street intersection.

Crossing Treatments (F through I Streets)

Pedestrian crossing safety improvements between F and I Streets are recommended due to pedestrian activity near Deer Park and student walking activity near Sparks High School. I Street is suggested as a key crossing location since it connects to the front door of Sparks High School. G Street is also suggested for crossing treatments since it is a contemplated east-west bike connection in the *Central Sparks Neighborhood Network Plan*. A marked crosswalk with refuge island is recommended at I Street and an overhead RRFB is recommended at G Street. Removing the marked crosswalks at F Street and H Street is also recommended to focus crossings at the enhanced crosswalks.

Shared Roadway (Cross-section B-5)

A shared roadway (sharrow markings) on 15th Street between Prater Way and Rock Boulevard is recommended as 15th Street is determined to be a preferred multimodal corridor instead of placing dedicated cycling facilities on Rock Boulevard between Victorian Avenue and Oddie Boulevard. Cyclists would share the travel lane with vehicles (**Exhibit 9**) on this low volume, low speed roadway where most adults would feel comfortable riding.



Exhibit 9. Shared Roadway (Cross-section B-5)

Widen Sidewalk (15th to Oddie) (Cross-section B-3)

This sidewalk segment on the east side of Rock Boulevard between 15th Street and Oddie Boulevard is highly utilized by students walking between the neighborhoods north of Oddie Boulevard and Sparks High School located south on 15th Street. **Exhibit 10** illustrates a concept for the segment between 15th Street and Oddie Boulevard focusing on widening the sidewalk on the east side of Rock Boulevard to improve pedestrian safety and comfort. Narrowing the median and travel lanes on Rock Boulevard would be necessary to create additional sidewalk width. A barrier rail should be provided between the roadway and sidewalk, as exists today, for pedestrian safety and to keep errant vehicles away from the adjacent apartment complex buildings. The left turn movement from 15th Street is located within a horizontal curve on Rock Boulevard and has poor sight lines and safety implications. Very low left turn volumes (less than 10 during the peak hours) were observed during the data collection period. Therefore, consideration should be given to prohibiting the left turn movement from 15th Street to Rock Boulevard. A detailed concept is shown in **Figure 12**.

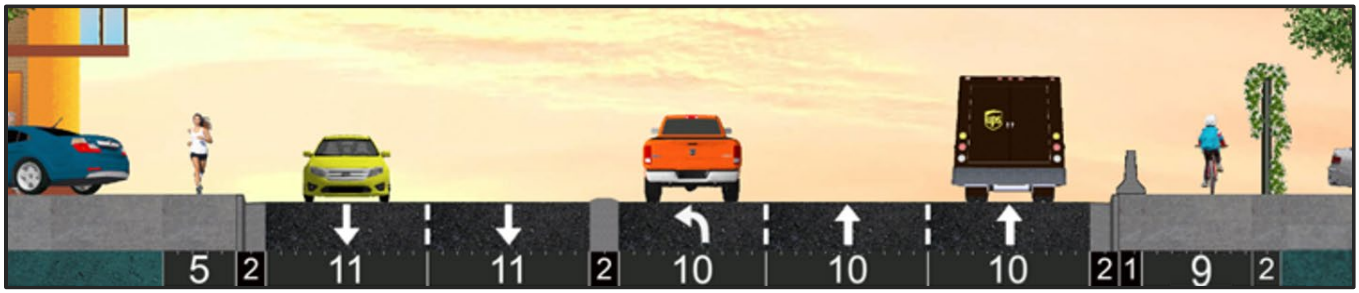


Exhibit 10. Widen Sidewalk (15th to Oddie) (Cross-section B-3)

Oddie Boulevard to N. McCarran Boulevard

Widen Sidewalk Both Sides (Cross-section B-4)

This concept (**Exhibit 11**) is specific to the segment between Oddie Boulevard and N. McCarran Boulevard, which currently has narrow sidewalks and a wide landscaped median with mature trees. This option proposes reducing the width of the raised median (which could impact the trees) and/or travel lanes to create additional space for sidewalk widening on both sides of the street. The intent is to construct sidewalks that comply with ADA width requirements by moving the curb and gutter inward and reconstructing the sidewalks, matching the existing back of walk locations to avoid right-of-way acquisition. Narrower travel lanes would provide a slight traffic calming effect beneficial to speed management. It is acknowledged that this improvement is aimed more toward pedestrians than cyclists.

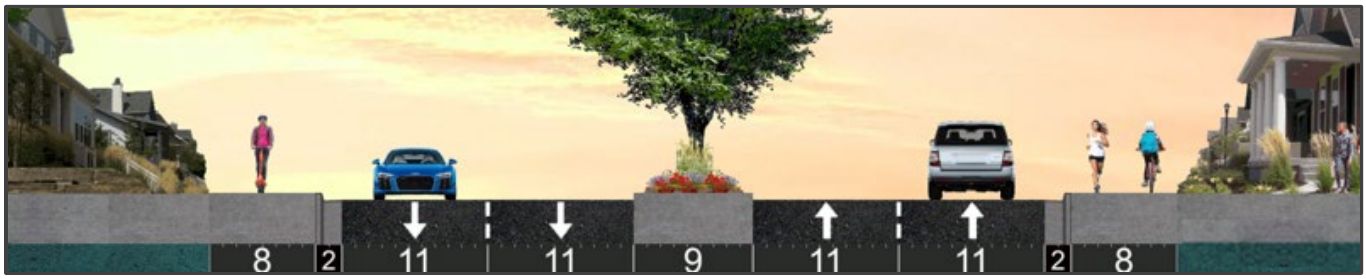


Exhibit 11. Widen Sidewalk Both Sides (Cross-section B-4)



ROCK BOULEVARD CORRIDOR STUDY

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NO SCALE

Figure 12

Rock Boulevard Corridor Study

Widen Sidewalk (15th to Oddie)

Crossing Treatments (Gault, Maxwell ES, Vance, Tyler)

The proposed crosswalk enhancement and safety improvements at Gault Way, Maxwell Elementary School, Tyler Way, and Vance Way are intended to enhance pedestrian visibility, reduce crossing distances, and improve access to nearby neighborhoods, schools, parks, and transit stops. Recommended treatments include high-visibility crosswalk markings, rectangular rapid flashing beacons (RRFBs) at Vance Way and Maxwell Elementary School, and median refuge islands at Tyler Way and Gault Way.

Speed Management (Tyler Way to Plymouth Way)

Observed operating speeds and driver behavior between Tyler Way and Plymouth Way indicate a need for additional speed management measures to improve safety for all corridor users. The Speed Management (Tyler Way to Plymouth Way) improvement is intended to encourage lower operating speeds through a combination of narrowing lanes via striping, pavement markings, and speed feedback signs. The speed management recommendations are intended as low cost interim measures prior to implementation of the Widen Sidewalk Both Sides (Cross-section B-4) improvement.

Dual Northbound Right Turn Lanes at McCarran

Field observations indicate that the northbound right turn movement at the Rock Boulevard/N. McCarran Boulevard intersection experiences significant queuing and congestion. The prior *McCarran Boulevard Corridor Study* (RTC/NDOT, 2023) confirms that this movement carries a high right turn demand. To improve operations, it is recommended that the existing northbound approach be restriped with a shared left-through-right lane and a dedicated right turn lane, allowing for dual right turn operations (**Exhibit 12**). This option is expected to improve intersection level of service. Pedestrian/crosswalk and signal phasing revisions will need to be considered during the design phase.

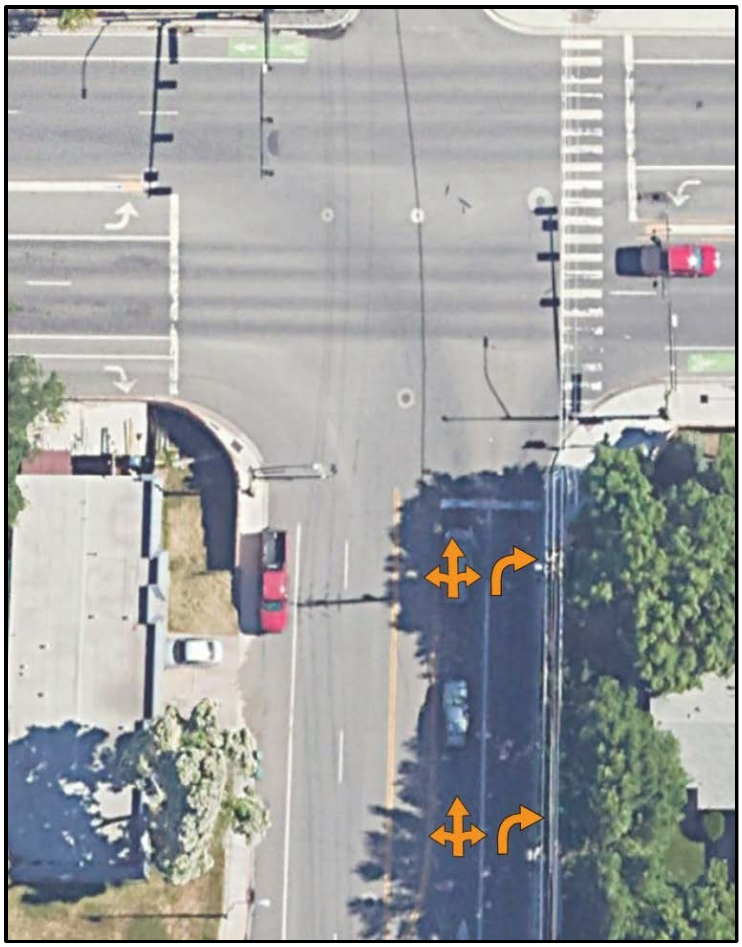


Exhibit 12. Dual Northbound Right Turn Lanes at McCarran

IMPLEMENTATION STRATEGY

The recommended improvements are organized into packages based on general proximity and efficient project delivery. Packages may be implemented individually or combined in future RTP updates. The improvement list and implementation strategies are presented in **Table 1**. The projects are generally listed south to north within each package rather than in order of priority. Project prioritization and implementation timing will be evaluated during future RTP updates based on regional needs and funding considerations.

As previously discussed, reducing congestion at the I-80 interchange during the PM peak hour is critical for Rock Boulevard. Long-term improvements are complex due to the current constraints under the I-80 bridge overcrossing and the Union Pacific railroad bridge. Interim improvements are important and should be programmed as outlined in this study.

Table 1. Improvement List and Implementation Strategy

Recommended Improvement	Implementation Strategy
Spot Improvement Package	
I-80 Interchange Modifications Level 1	Minor spot improvements on Rock Boulevard. Package improvements together as one capacity and multimodal spot improvement package.
Wayfinding Signage	
Remove Right Turn Slip Lane at C Street	
Crossing Treatments (F through I Street)	
Shared Roadway (B-5)	
Widen Sidewalk (15th to Oddie) (B-3)	
Speed Management (Tyler Way to Plymouth Way)	
Crossing Treatments (Gault, Maxwell ES, Vance, Tyler)	
Dual Northbound Right Turn Lanes at McCarran	
Transit Improvements	
Multi-Use Path Package	
Multi-Use Path (A-1, A-2, A-4)	Multimodal improvement package between the Truckee River and Victorian Avenue. Slip lane modifications would be constructed concurrently with the Multi-Use Path. Elements of the I-80 Level 2 or Level 3 could be constructed within the A-4 segment of this package.
Slip Lane Modifications	
I-80 Interchange Package	
I-80 Interchange Modifications Level 2 and Level 3	Potential interim improvements prior to the long-term NDOT I-80/Rock Blvd interchange project. Elements of the Multi-Use Path (A-4) could potentially be constructed with Level 2 or Level 3.
Widen Sidewalk Package	
Widen Sidewalk on Both Sides (B-4)	Multimodal improvements between Oddie Boulevard and N. McCarran Boulevard.

PLANNING LEVEL COST ESTIMATES

This section presents preliminary planning level cost estimates for the broad range of recommended improvements. The quantities and costs have been generalized based on planning level conceptual designs. It is not feasible at this time to address all the specific items that would be included in construction ready documents. Soft costs (engineering, specialty consultant services, construction administration, etc.) and contingency were included to present complete project budgets. Should these prices be extended into future years, it would be advisable to include a 3% to 5% per-year increase to allow for inflation and other pricing fluctuations. **Table 2** presents planning level cost estimates for the various recommended improvements. Cost estimate assumptions and details are provided in **Appendix J**.

Table 2. Planning Level Cost Estimates

Recommended Improvement	Planning Level Estimate
I-80 Interchange Modifications Level 1	$80,000
Wayfinding Signage	$50,000
Remove Right Turn Slip Lane at C Street	$400,000
Crossing Treatments (F through I Street)	$400,000
Shared Roadway (B-5)	$50,000
Widen Sidewalk (15th to Oddie) (B-3)	$700,000
Speed Management (Tyler Way to Plymouth Way)	$300,000
Crossing Treatments (Gault, Maxwell ES, Vance, Tyler)	$700,000
Dual Northbound Right Turn Lanes at McCarran	$70,000
Transit Improvements	$750,000
Spot Improvement Subtotal	***$3,500,000***
Multi-Use Path (A-1, A-2, A-4)	$22,000,000
Slip Lane Modifications	$1,000,000
Multi-Use Path Subtotal	***$23,000,000***
I-80 Interchange Modifications Level 2	$300,000
I-80 Interchange Modifications Level 3	$5,000,000
I-80 Interchange Subtotal	***$5,300,000***
Widen Sidewalk on Both Sides (B-4)	$15,000,000
Widen Sidewalk Subtotal	***$15,000,000***
Total Planning Level Cost Estimate	**$46,800,000**

As shown in the table, the RTC would need to program approximately $46,800,000 (current 2026 dollars) to fund the identified improvements. The recommended improvements will enhance mobility, safety, and accessibility throughout the Rock Boulevard corridor while preserving its important role as a regional transportation route. Together, these investments provide long-term benefits by improving connectivity, supporting economic activity, and creating a safer and more efficient transportation experience for all corridor users.

APPENDIX A

Public Engagement Documentation

ROCK BOULEVARD
CORRIDOR STUDY



Rock Boulevard Corridor Study
Engagement Documentation

Prepared by:
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GCW ENGINEERS \ SURVEYORS

May 2026

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1. Public Engagement Strategies

The project team incorporated the following strategies and tools to provide information on the Rock Boulevard Corridor Study and solicit input and feedback from the public on challenges and potential solutions for incorporation into the plan document. Outreach materials were developed in both English- and Spanish-language text.

1.1. Project Messaging

Consistent messaging was provided throughout the project across engagement materials and media channels to project partners and the public. Content included key messaging such as project information and background, solicitation for public input, and project schedule and milestones. Earned media coverage generated eight broadcast events across local television outlets, reaching 32,823 local viewers.

1.2. Digital Outreach

The project team worked with RTC to develop concise and impactful digital public outreach content, including content for the RTC website and social media. The RTC paid social media campaign reached 22,539 unique viewers. The team also developed a project flyer (see Attachment A), which provided an overview of key project objectives, elements, and events. Online materials were designed to meet ADA accessibility standards. All handouts and surveys were provided in English and Spanish.

1.3. Graphics and Visualizations

The project team developed effective graphics and other tools to help communicate complex information in an easy-to-understand format. These graphics and visualizations were prepared for use at public meetings and the project website to represent key concepts.

1.4. Surveys

The project team developed an online survey (see Attachment B) to help gauge resident and stakeholder needs, wants, and concerns related to transportation along the study corridor. Survey information was promoted through social media, schools, corridor businesses and institutions, and through public engagement events. In addition, a special student survey was prepared for 5th grade students at Maxwell Elementary School (see Attachment C).

1.5. Community Engagement

The project team collected feedback about corridor needs and key plan features through discussions with school leaders, students, and residents living and traveling through the corridor. Flyers containing project information and survey links were distributed throughout the corridor to local businesses and institutions.

2. Outreach Events

2.1. Maxwell Elementary School

On February 20, 2026, the project team met with the principal of Maxwell Elementary School, which is located directly on Rock Boulevard between York Way and Vance Way within the study limits. Topics discussed were generally focused on transportation safety and operations on Rock Boulevard related to school access, primarily during pre-bell and school release times.

Some key takeaways from the discussion include the following:

- Excessive speeding is a concern during school drop off/pick up times and driver behavior with school zone compliance is inconsistent.
- Signage has recently been installed at the intersection with Vance Way, which has improved prohibited U-turn compliance; however, there has been an increase of illegal U-turns at York Way which currently lacks signage.
- Most parents/caregivers drop off/pick up children on school property and very few park on Rock Boulevard during these times.
- Based on conversations with school officials, it is estimated that about 1/3 of students (of approximately 380 enrolled) walk to school either alone or with a parent/caregiver. Almost no students ride a bike to school and very few ride a scooter.
- There are two volunteer staff that serve as crossing guards for Rock Boulevard in front of the school entrance during pick up/drop off times, but they are not trained professionals and occasionally must deal with hostile drivers.
- There is a northbound RTC RIDE bus stop on Rock Boulevard in front of school property and there have been concerns with kindergarteners interacting with bus riders waiting at the stop. The school has installed a partial privacy fence to mitigate these issues but concerns remain.
- There are plans for capital improvements to the school within the existing footprint, but specific dates have yet to be determined. Additionally, there will be a potential re-zoning of the school enrollment area which could increase or decrease enrollment. There is currently one traditional bus and two special education buses that provide transportation to the school.
- Permission was granted to distribute two surveys, one for parents/caregivers of children attending the school, and one for 5th grade students.

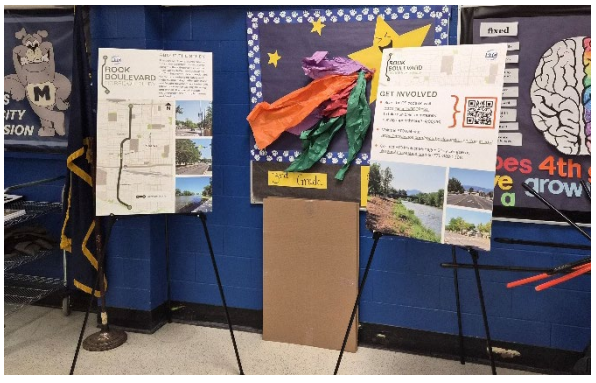


Figure 1. Maxwell ES Art Night

Following the initial school visit, the project team was invited to attend the Art Night event at the school on April 8, 2026, to staff a table, provide information on the project, and promote the online survey. Information boards were developed which highlighted project details and instructions on how to participate and provide feedback on the project (see Attachment D). Approximately 20 adults (including school staff) and several students attended the event. In addition, Maxwell Elementary School provided information through the school communication system to parents and caregivers with access to the survey.

2.2. Sparks High School

On March 6, 2026, the project team met with the principal of Sparks High School, which is located on 15th Street, a parallel roadway to Rock Boulevard which directly intersects Rock Boulevard on the north terminus. Topics discussed were generally focused on transportation safety and operations within the Rock Boulevard corridor related to school access, primarily during pre-bell and school release times.

Some key takeaways from the discussion include the following:

- Most students (over half) walk, many from as far as the Sparks Marina (along Prater Way), McCarran Boulevard, and Sullivan Lane.
- Many students walk to Kate Smith Elementary School (on F Street) to pick up younger siblings after school.
- From a driver's perspective, it's difficult to make a left turn onto Rock Boulevard from cross streets (a concern is that many student drivers don't have patience/experience). This is especially true when making a left turn from northbound 15th Street to southbound Rock Boulevard.
- A suggestion was made to implement bike and pedestrian facilities on Rock Boulevard north of Oddie Boulevard. Speeding on this section of Rock Boulevard was noted as a concern as well as low compliance in the school zone at Maxwell Elementary School, which aligns with comments received during the visit with that school.
- There is generally good compliance within the school zone on 15th Street in front of Sparks High School; however, there are frequently illegal U-turns observed. Enforcement of traffic laws occurs when school police are present.
- Sparks High School has an open campus and approximately half of students leave during the lunch period. Most visit the restaurants on Prater Way, while some go to the Subway on Rock Boulevard, and a few go north to cross at Commerce Street to get to Rainbow Market (convenience store).
- Many students cross Rock Boulevard to get to/from school, and indicated that H and I Streets are the most utilized.

The project team met with the Sparks High School Student Voice on April 17, 2026. The Student Voice is a Washoe County School District program which encourages student viewpoints for school improvement through the Student Advisory Council.

The team presented information on the Rock Boulevard Corridor Study and encouraged students to identify challenges and concerns along the corridor from their perspective. Some high-level comments received include the following:

- Vehicles (including those driven by other high school students) don't stop for pedestrians at crosswalks, and students sometimes must wait for several cars to pass before a driver yields.
- A similar concern was voiced about vehicles making turning movements (e.g., trying to turn quickly to avoid having to wait for someone at the crosswalk).
- Vehicles ignore pedestrians at the overhead beacons by Commerce Street (students report going the "long way" to get to Rainbow Market).
- There is perceived speeding on Rock Boulevard and adjacent streets.
- The intersection with Greenbrae Drive was identified as an unsafe intersection due to sight distance issues. Participants cited several crashes at this intersection.
- There were suggestions for more/expanded sidewalks, rectangular rapid flashing beacons (RRFBs), and other improvements to make drivers more aware of pedestrians.
- Much of the existing sidewalk on Rock Boulevard is not in good condition. The sidewalk panels are lifted or otherwise obstructed, and it would be difficult for someone in a wheelchair to navigate.
- There was support for better connections to Rock Park.

Students were also encouraged to participate in the online survey and to promote the survey among their peers. There were approximately 25 students in attendance. In addition, Sparks High School provided links to the survey on their social media accounts.

2.3. Centennial Plaza

On April 29, 2026, the project team set up an engagement table at the RTC Centennial Plaza Transit Center to provide information about the project as well as to promote participation in the online survey. This location was chosen due to its relative proximity to the corridor, as well as serving as a transfer point for several RTC RIDE routes that run on segments of Rock Boulevard or intersect the corridor with bus stops nearby. The project team discussed the corridor study with several individuals passing through the transit center. A total of 37 flyers containing project information and a QR code linked to the online survey were distributed during rider interactions.

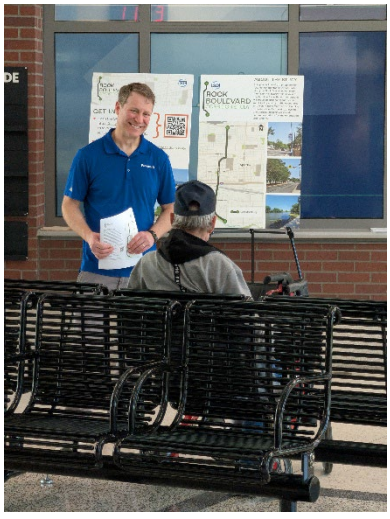


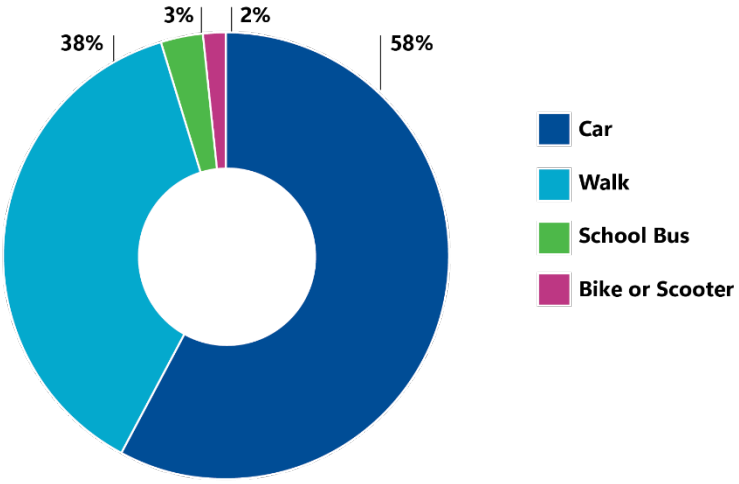
Figure 2. Outreach at RTC Centennial Plaza

3. Surveys

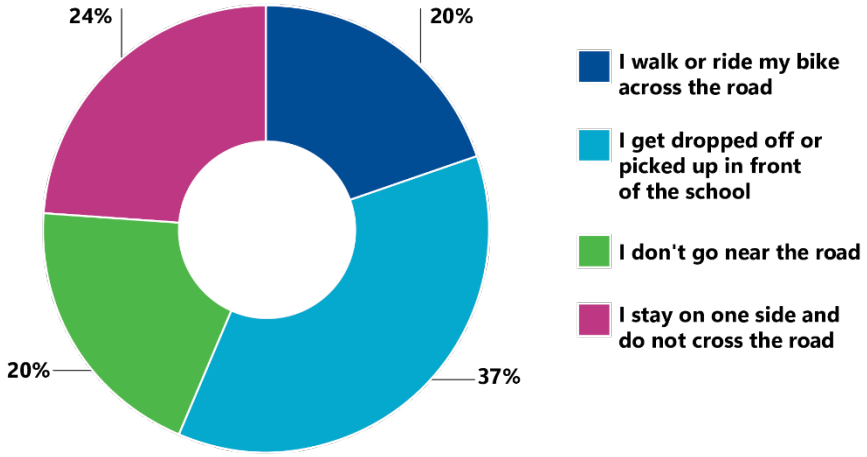
3.1. Maxwell Elementary School Student Survey

The project team developed a special survey that was administered to the 5th grade students at Maxwell Elementary School to get their unique perspective on interactions with Rock Boulevard in front of the school. A copy of the survey is included in Attachment C. The figures below represent the results for the 51 surveys received.

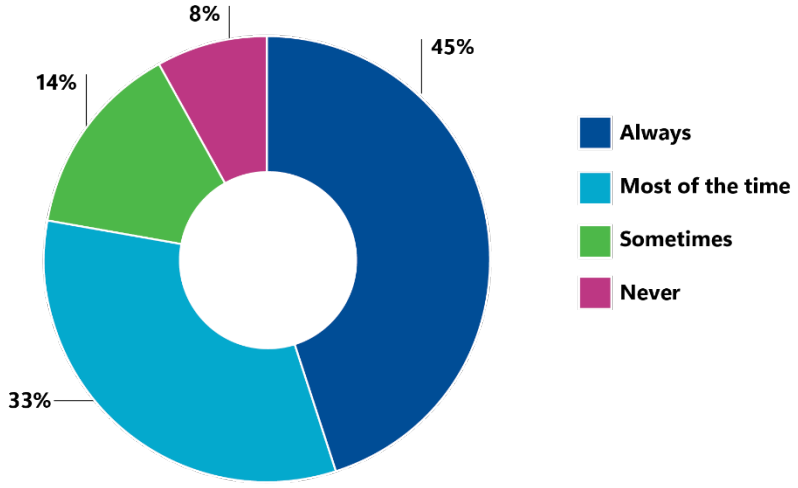
How do you usually get to school?



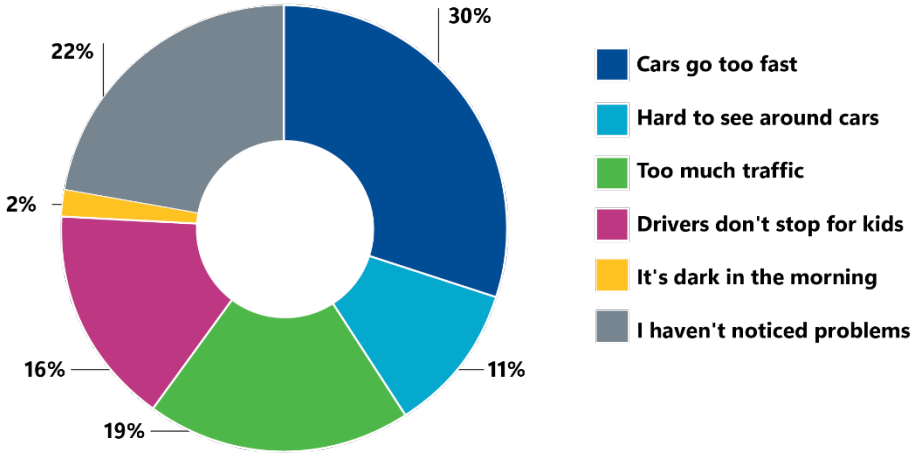
When you arrive at school, how do you cross or use the road (Rock Blvd) in front of the school?



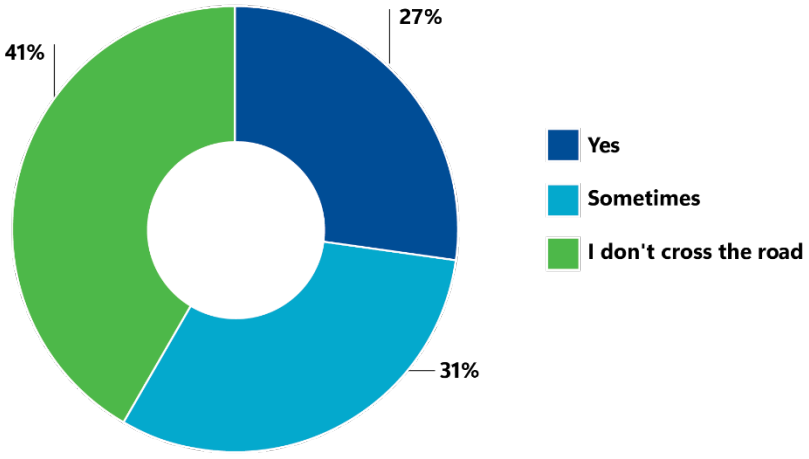
Do you feel safe near the road in front of the school?

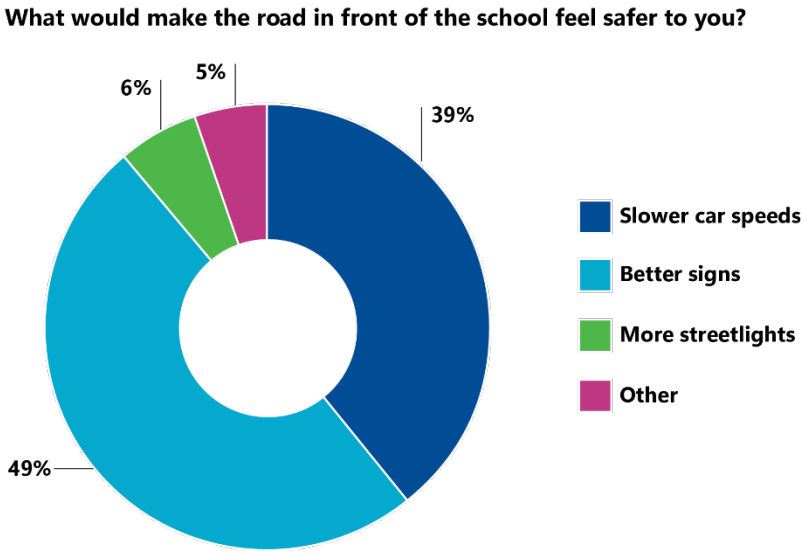


What problems have you noticed on Rock Blvd?



Is it easo cross the road in front of the school?





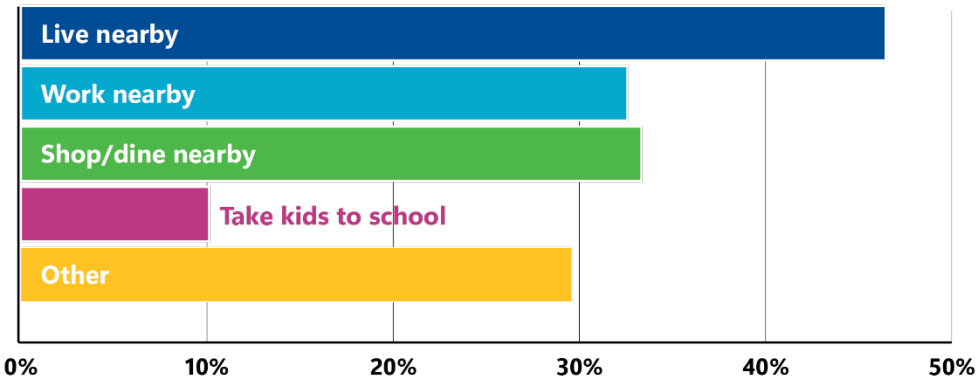
3.2. Online Survey

An online survey was also developed for people living, working, and travelling through the corridor. This survey was made available in both English and Spanish versions, shown in Attachment B, and was open from March 16, 2026, through April 30, 2026.

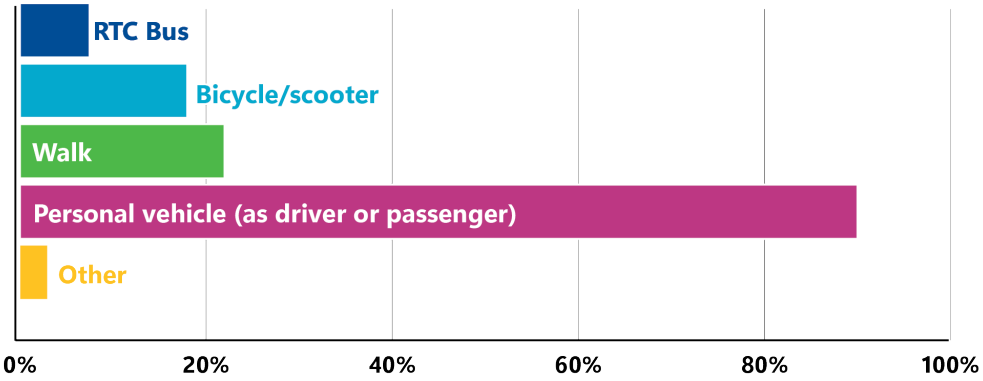
Promotion of the surveys occurred at the Maxwell Elementary School Art Night event, Sparks High School Student Voice meeting, and Centennial Plaza information event, as well as through the distribution of digital and hard copy informational flyers in English and Spanish shown in Attachment A. The flyers included a QR code to provide direct access to the online survey. The flyers were posted on the RTC project website (along with the survey itself) and through social media outlets and distribution lists. Additionally, RTC staff distributed paper versions of the flyers to local businesses and institutions along the project corridor. Locations were chosen that experience high levels of foot traffic and frequent visitation, providing a greater likelihood of reaching people living and working along the corridor.

The project team received 267 survey responses, which are summarized below.

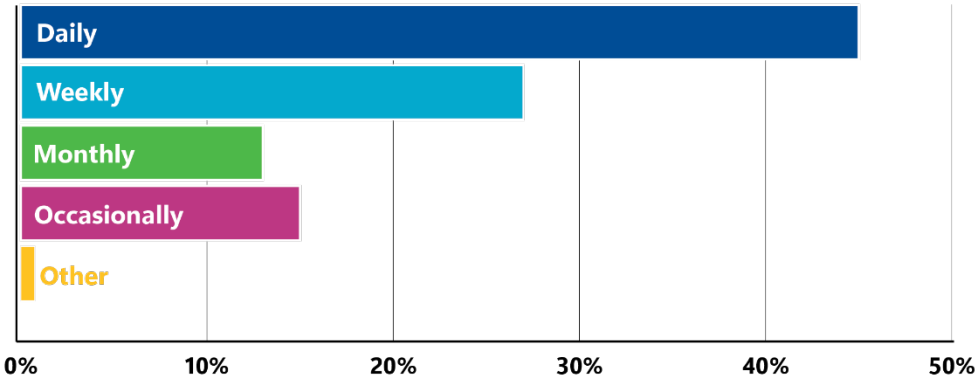
Why do you use Rock Boulevard? (check all that apply)



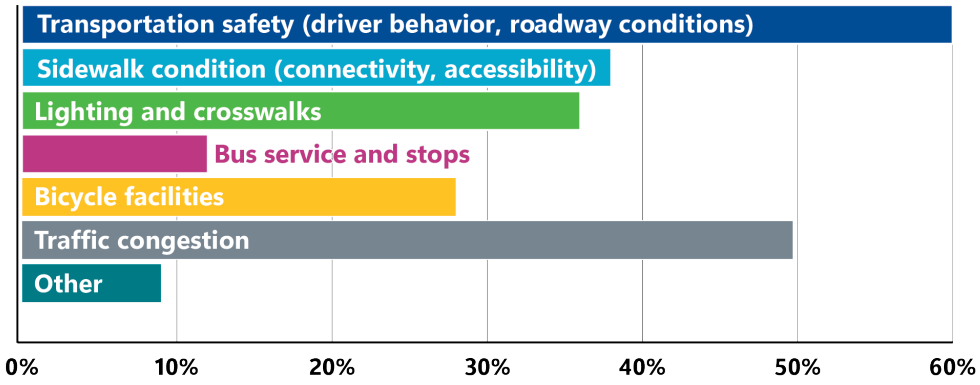
How do you travel along Rock Boulevard? (check the two methods you use most)



How often do you travel along Rock Boulevard? (select one)

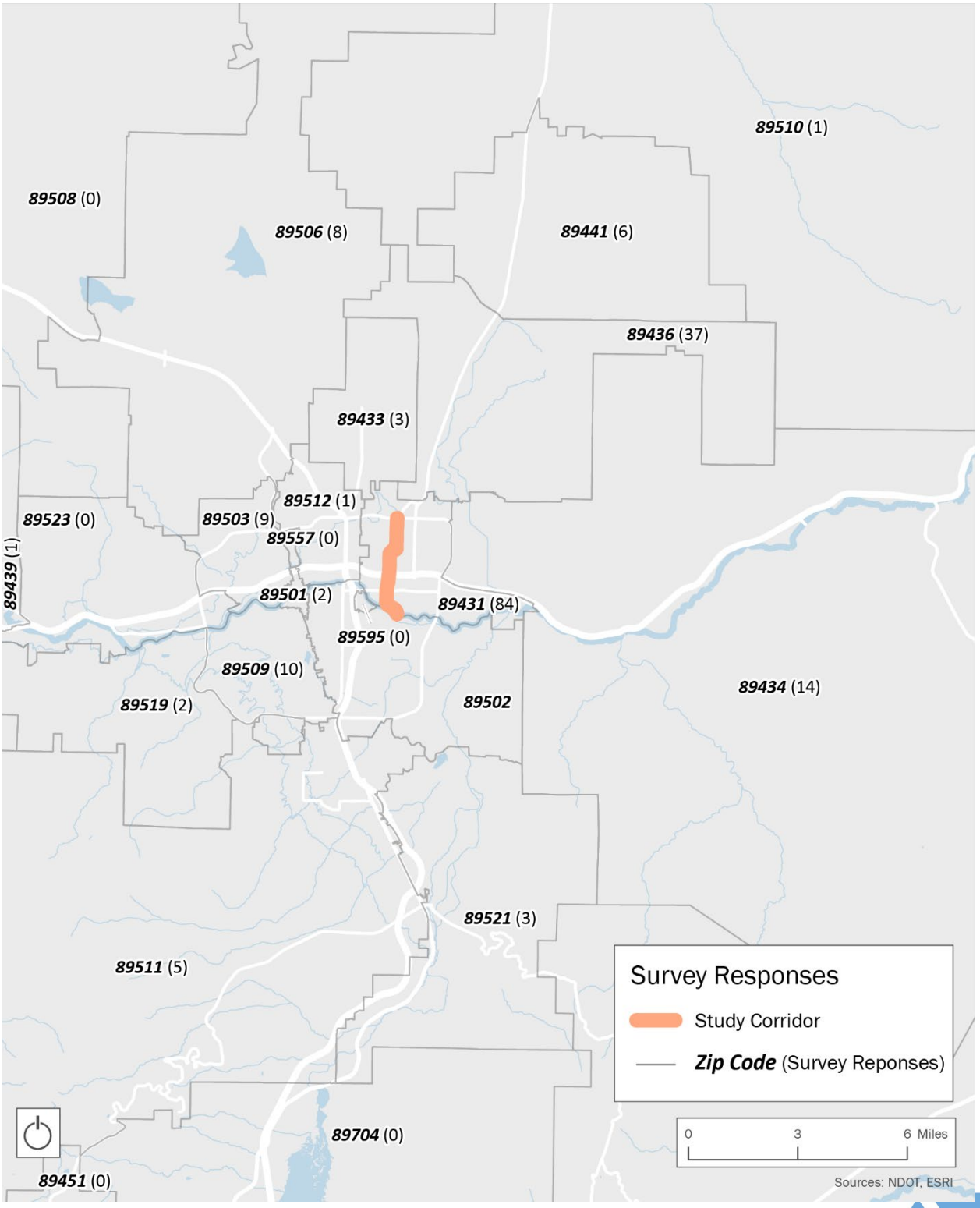


What are the greatest needs or concerns in the Rock Boulevard corridor? (select up to three)



In what zip code do you live? (optional)

The map below shows survey respondents by zip code in the vicinity of the project area for those who chose to provide this information. There were three additional respondents from zip codes further away.



May 2026

To receive news about this study, please enter your email address. (optional)

Approximately 36% of survey participants provided an email address to remain informed of the Rock Boulevard Study.

General Themes from Question #7 "Please write any additional comments below"

1. Pedestrian Safety Is a Major Concern - The most common theme was concern for pedestrian safety, especially around schools, intersections, and freeway areas.
    - Key concerns included:
        - Dangerous crosswalks
        - Failure of drivers to stop for pedestrians
        - Lack of flashing pedestrian signals
        - Poor lighting and visibility
        - Unsafe conditions for children traveling to school
    - Frequently mentioned locations:
        - Greenbrae Drive and Rock Boulevard – top concern, request for improved intersection controls
        - I Street crosswalk
        - Area near Alice Maxwell Elementary School
        - I-80 interchange/underpass – active transportation safety/security, traffic congestion, and flooding concerns
2. Desire for Safer Bicycle Infrastructure
    - Stated need for protected or continuous bike lanes
    - Better access to parks, schools, and transit
3. Traffic Congestion and Signal Timing Problems
    - Congestion was one of the strongest recurring operational concerns. Key issues included:
        - Heavy congestion near I-80 ramps
        - Backups at left-turn lanes
        - Poor signal coordination/synchronization
        - Bottlenecks near schools and major intersections
    - Frequently mentioned locations:
        - I-80 interchange

- Prater Way to Greg Street
- Victorian Avenue area
- Rock Boulevard and Hymer Avenue
- Rock Boulevard and McCarran Boulevard

4. Speeding and Aggressive Driving.
    - Issues included:
        - Speeding through school zones
        - Aggressive driving
        - Illegal U-turns
        - Drivers blocking intersections
        - Failure to yield
5. Mixed Opinions on Vehicle Capacity (approximately 31% of statements) vs. Multimodal Improvements (approximately 68% of statements)
    - Capacity Priorities:
        - Widening roads
        - Maintaining or increasing lane capacity
        - Faster traffic flow
        - Opposition to lane reductions or bike lanes
        - Signal timing improvements focused on throughput
    - Multimodal Priorities:
        - Protected bike lanes
        - Better sidewalks and crossings
        - Traffic calming
        - Transit improvements and amenities
        - Pedestrian-first design
        - Reduced speeds and safer school access

4. Agency and Stakeholder Engagement

Stakeholders include individuals or organizations that may be directly or indirectly impacted by the project. The term also includes those who represent or have an interest in the project area, including elected officials who represent constituents within the project areas, residents living in the project areas, commuters, partner and regulatory agencies, and businesses.

The project team worked closely with RTC staff, including representatives from Planning, Engineering, and Communication departments, as well as representatives of the City of Sparks, Nevada Department of Transportation, and Washoe County School District.

4.1 Technical Advisory Committee

A Technical Advisory Committee (TAC) was formed to provide input about key project concepts and deliverables throughout the study development process. A kick-off meeting was held in October 2025 and subsequent meetings were held in January, April, and June of 2026 to report out and receive feedback on critical project updates and overall progress. A list of the project TAC members is provided in **Table 1**.

Table 1. Technical Advisory Committee Members

Name	Agency/Organization
Vanessa Lacer	RTC Washoe – Planning Director
Graham Dollarhide	RTC Washoe – Planning Manager
Shay League	RTC Washoe – Senior Transportation Planner
Marquis Williams	RTC Washoe – Senior Transportation Planner
Jeff Wilbrecht	RTC Washoe – Engineering Manager
Sara Going	RTC Washoe – Engineering Project Manager
Josh MacEachern	RTC Washoe – Public Information Officer
Scott Carey	City of Sparks – Development Services Manager
Amber Sosa	City of Sparks – City Engineer
Andrew Jayankura	City of Sparks – Transportation Manager
Jeff Bickett	City of Sparks – Traffic Engineer
Julie Duewel	City of Sparks – Communications Manager
Nick Johnson	NDOT – Project Management Chief
Christine Chia	NDOT – Senior Project Manager

4.2 City of Sparks Field Review

The project team met with the City of Sparks Development Services Manager on February 13, 2026, and conducted a driving review / tour of the corridor and study area to obtain site-specific feedback on thoughts, concerns, and insights into the corridor. City staff's primary concerns and feedback were:

- Interest in safer multimodal travel from the Truckee River to areas north of I-80
- Congestion between Greg Street and Victorian Avenue
- Crosswalks/safety in the area north of Prater Way
- Pedestrian safety for traveling to Sparks High School

4.3 Washoe County School District Staff Meeting

The project team met with Washoe County School District (WCSD) staff, including the School Property Planning Manager and a Safe Routes to School Coordinator, on May 4, 2026, to discuss project background and preliminary findings as well as to receive input on the study. Several schools within the corridor area are being considered for repurposing or reconstruction, but final decisions have not been made about any of the schools at the time of the coordination meeting. WCSD staff shared concerns about specific locations on Rock Boulevard near Maxwell Elementary School and Sparks High School, including driver behavior (speeding and not yielding to pedestrians) and sight distance issues. Items mentioned include:

- Safety concerns about the crosswalk on 15th Street.
- The Safe Routes to School team prefers installation of RRFBs on Rock Boulevard at both G and I Streets.
- Students at Maxwell Elementary primarily use the crosswalk in front of the school.

APPENDIX B

Existing Conditions

ROCK BOULEVARD
CORRIDOR STUDY

TRAFFIC COUNT DATA SOURCES

Existing traffic data sources were reviewed from the Nevada Department of Transportation (NDOT) Traffic Records Information Access (TRINA), RTC Open Data, and other previous studies including turning movement counts (TMC's) from the NDOT Reno Spaghetti Bowl traffic study. The data is summarized below and the existing count data locations are shown on **Exhibit B-1.**

NDOT TRINA

There are six TRINA count stations within the study corridor, each with Annual Average Daily Traffic volumes (AADTs) spanning at least 2014-2024, and hourly volume reports, as shown in **Table B-1** and **Exhibit B-1**.

Table B-1: NDOT TRINA Stations

Station	Street	Hourly Reports
310619	Rock Blvd – Oddie to McCarran	Jun-24
310617	Rock Blvd – Prater to Oddie	Jun-24
310586	Rock Blvd – Victorian to Prater	Jun-24
310298	Rock Blvd – Glendale to I80	May-24
310585	Rock Blvd – Greg to Glendale	May-24
310584	Rock Blvd – Mill to Greg	May-24



Exhibit B-1. Count Data Sources

These count stations indicate that little to no, or negative traffic volume growth (traffic decrease), has occurred in the corridor over the past 10 years, as shown in **Table B-2**. Traffic volumes have increased slightly over the last five years between Greg Street and Glendale Avenue.

Table B-2: AADT Volume Changes based on TRINA Stations

Station →	310619		310617		310586		310298		310585		310584	
Segment →	Oddie to McCarran		Prater to Oddie		Victorian to Prater		Glendale to I-80		Greg to Glendale		Mill to Greg	
Year												
2014	6,700		11,000		12,500		20,000		14,500		8,600	
2015	7,100	6%	11,500	5%	13,000	4%	22,000	10%	15,500	7%	8,700	1%
2016	6,300	-11%	10,000	-13%	13,000	0%	22,000	0%	15,500	0%	9,400	8%
2017	5,800	-8%	9,800	-2%	10,000	-23%	23,100	5%	16,100	4%	5,700	-39%
2018	6,900	19%	12,000	22%	14,200	42%	18,800	-19%	12,100	-25%	8,200	44%
2019	7,300	6%	11,500	-4%	13,400	-6%	19,300	3%	12,400	2%	8,500	4%
2020	6,600	-10%	10,500	-9%	12,700	-5%	18,200	-6%	13,200	6%	7,250	-15%
2021	6,100	-8%	9,450	-10%	11,400	-10%	21,800	20%	16,100	22%	8,750	21%
2022	5,650	-7%	9,300	-2%	11,300	-1%	17,800	-18%	15,800	-2%	8,600	-2%
2023	6,900	22%	10,400	12%	11,300	0%	17,000	-4%	12,300	-22%	6,500	-24%
2024	6,550	-5%	9,550	-8%	11,600	3%	18,400	8%	12,900	5%	7,250	12%
5 Year Growth (2019-2024)	-2.14%		-3.65%		-2.84%		-0.95%		0.79%		-3.13%	
10 Year Growth (2014-2024)	-0.23%		-1.40%		-0.74%		-0.83%		-1.16%		-1.69%	

The hourly count reports indicate that the AM peak hour has remained consistent, ranging from a start time of 7:00 AM to 7:30 AM, and most frequently occurring from 7:15 AM - 8:15 AM. The PM peak hours vary slightly by location, all starting between 3:00 PM and 5:00 PM, with the peak hour typically occurring from 4:00 PM – 5:00 PM.

The NDOT count station data is deemed comprehensive enough to evaluate the various road segments at a planning level.

RTC Counts

The RTC Open Data Traffic Count map did not include any data on the study corridor.

NDOT I-80 Spaghetti Bowl Study[1]

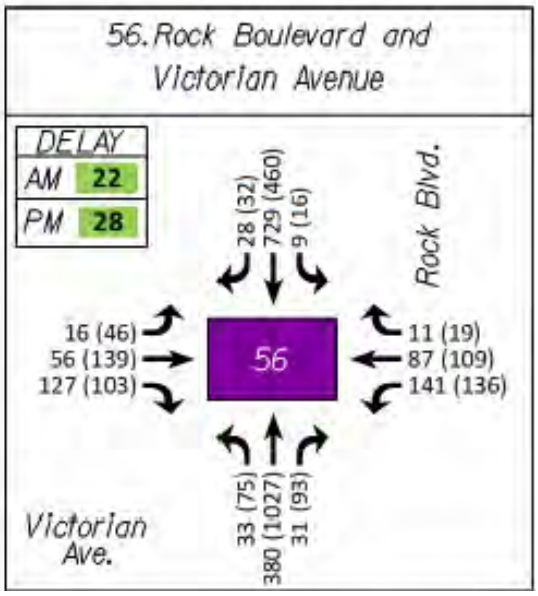
The *Reno Spaghetti Bowl Project - Traffic Analysis Report* includes turning movement counts (TMCs) from 2019, and projected 2040 volumes for the NDOT Preferred Alternative (Alternative 2) for the following intersections in the study corridor:

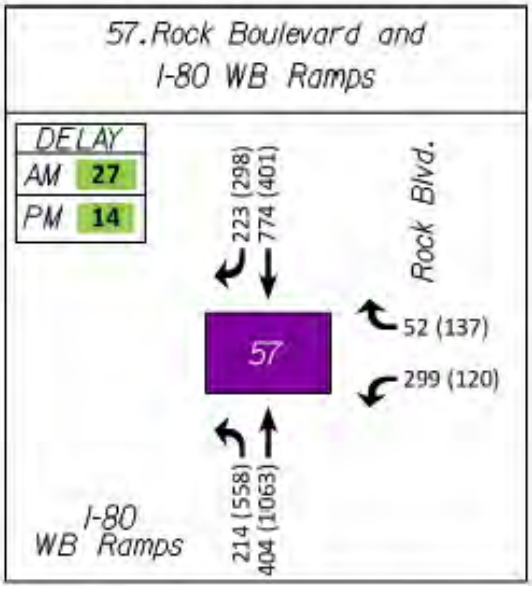
- Rock Boulevard / Victorian Avenue
- Rock Boulevard / I-80 WB Ramps
- Rock Boulevard / I-80 EB Ramps
- Rock Boulevard / Hymer Avenue

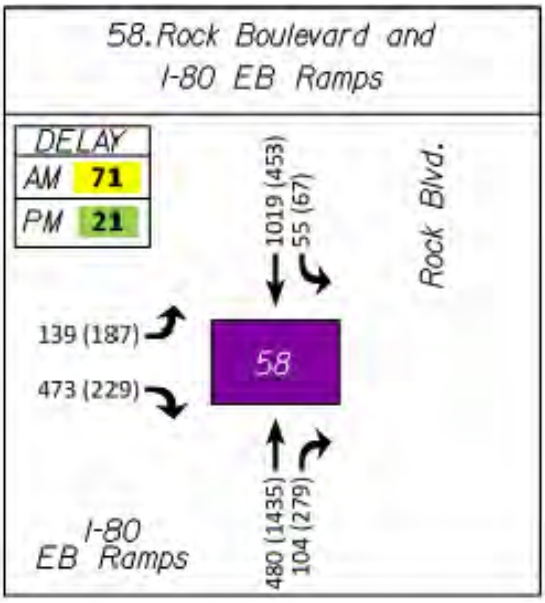
The 2019 and projected 2040 volumes are shown in **Exhibits B-2 and B-3** respectively. The 2019 counts are deemed too old for this study.

It should be noted that NDOT is performing a NEPA Reevaluation for the Spaghetti Bowl Phase 2 project and that the traffic analysis will be updated for 2026 to 2050 volumes; however, that work was not complete in time for use in this study. This study did not evaluate the I-80 ramp intersections and will rely on the future NDOT NEPA re-evaluation work for the interchange ramps.

[1] https://www.dot.nv.gov/home/showpublisheddocument/21461/638140388867200000







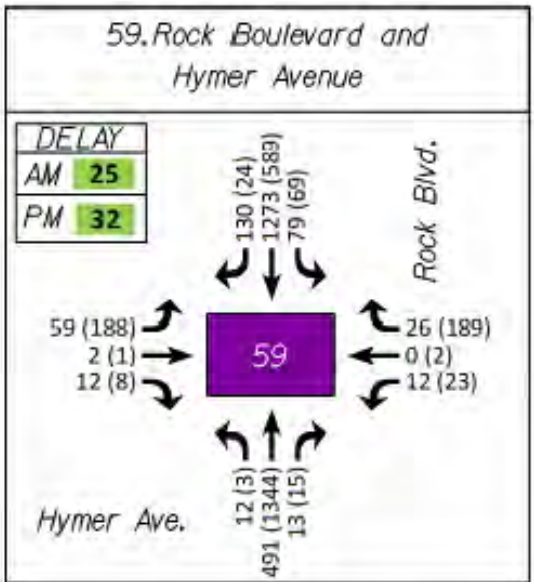
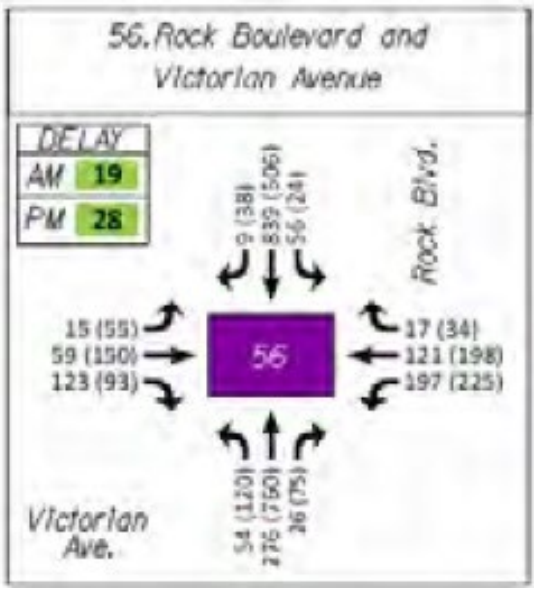
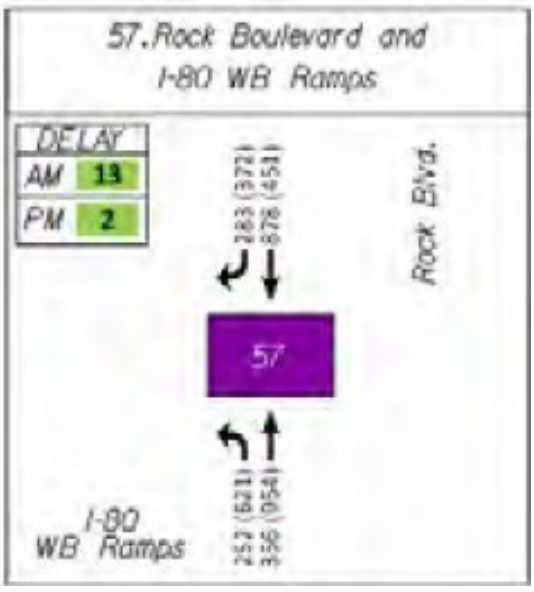
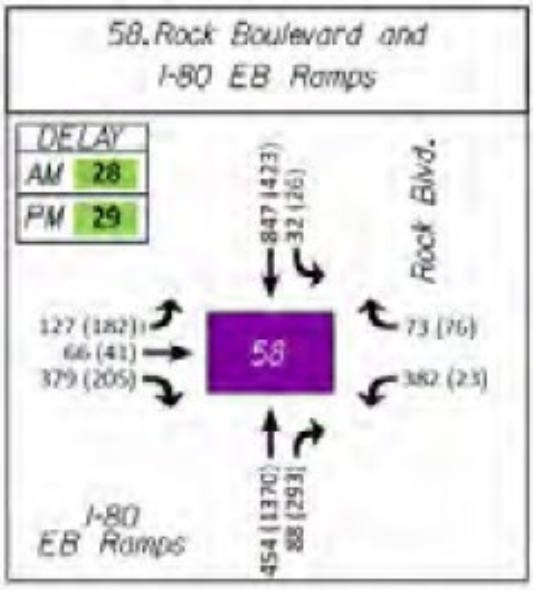


Exhibit B-2: 2019 Counts
(Source: Reno Spaghetti Bowl Project – Traffic Analysis Report)







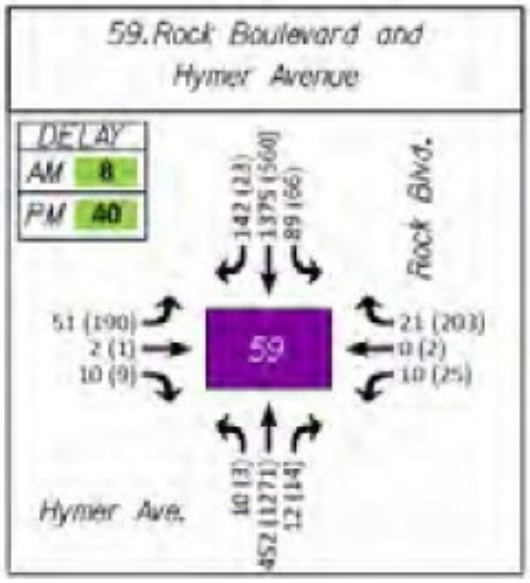


Exhibit B-3: 2040 Traffic Volumes – Preferred Alternative (Alternative 2)
(Source: Reno Spaghetti Bowl Project – Traffic Analysis Report)

EXISTING INFRASTRUCTURE INVENTORY

Roadway Facilities

Rock Boulevard within the study corridor is a north-south arterial that runs from N. McCarran Boulevard to the Truckee River and beyond. In general, the corridor is a four-lane roadway with two lanes in each direction and turn lanes at major intersections. The 2050 RTP classifies Rock Boulevard as a Low Access Control (LAC) Arterial between N. McCarran Boulevard and Prater Way and as a Moderate Access Control (MAC) Arterial between Prater Way and the Truckee River.

Speed Limits

The posted speed limit on Rock Boulevard is 25 mph between N. McCarran Boulevard and Oddie Boulevard. A 15 mph school zone also exists on Rock Boulevard within this segment between N. McCarran Boulevard and Oddie Boulevard. The posted speed limit on Rock Boulevard is 30 mph for the remainder of the study corridor between Oddie Boulevard and the Truckee River.

Pavement Conditions

Existing pavement conditions on Rock Boulevard were obtained from the City of Sparks online GIS database. Per the data available, the pavement conditions on Rock Boulevard are generally adequate (only preventive maintenance as needed is programmed) and the roadway has a Pavement Condition Index (PCI) between 65 and 100.

Corridor Lighting

Corridor lighting is generally provided on both sides of Rock Boulevard within the study corridor. Where provided on both sides of the roadway, lighting is generally consistently spaced with consistent lighting levels. Three segments on Rock Boulevard currently have gaps in corridor lighting 1) east side between N. McCarran Boulevard and Oddie Boulevard 2) at the I-80 interchange 3) west side immediately south of Greg Street. Existing overhead power lines and available right-of-way may be constraints with any proposed street lighting improvements.

EXISTING MULTIMODAL NETWORK

Pedestrian Facilities

The pedestrian experience index (PEI) measures the level of comfort for pedestrians on a given street segment, taking into account factors such as the presence and width of sidewalks, traffic volumes and speeds, and the separation between sidewalks and the street. RTC's Active Transportation Plan defines PEI as:

- PEI 21 – 40: Sidewalks when present are between 4 – 6 feet and may be intermittent, buffers between vehicles and pedestrians are not typical, and roadways high multiple vehicle lanes of high speed traffic
- PEI 41 – 60: Sidewalks are typically 5-6 feet wide and present on one or both sides, buffers between vehicles and pedestrians may be intermittent or speeds and number of lanes may be higher
- PEI 60 – 85: Sidewalks are typically 5-6 feet wide and present on both sides with buffers (landscaping or on-street parking) between people walking and high-speed vehicles or a low posted speed

A PEI analysis conducted for the RTC Active Transportation Plan and field tour of the corridor indicate that the corridor is generally not comfortable for walking. This is particularly pronounced on the southern end of the corridor where sidewalks are not always present, especially south of Greg Street. Likewise, the street segment between Freeport Boulevard and Glendale Avenue scores the lowest on the PEI due to a lack of sidewalks and relatively high traffic volumes. The I-80 interchange area is also poor for pedestrians due to a lack of sidewalks on the east side of the street, higher traffic volumes, and many vehicle turning movements. Further north along the corridor, walking conditions generally improve with more consistent sidewalk coverage, lower traffic volumes, and slower speeds. This is especially true north of Oddie Boulevard, where the speed limit decreases to 25 MPH and where the school zone for Maxwell Elementary School is located, as shown in **Exhibit B-4**.

Notable gaps in the sidewalk network include the following:

- South of Greg Street
- Freeport Boulevard to Glendale Avenue
- Hymer Avenue to Victorian Avenue (no continuous sidewalk on east side, west side provides connectivity but is not sufficient)

There are several school zones in proximity to the Rock Boulevard corridor; however, Maxwell Elementary School is the only school located directly adjacent to the roadway. Other nearby schools include Risley, Mitchell, and Kate Smith Elementary Schools; Sparks Middle School; and Sparks High School. The zoning boundaries for each of these schools either intersect, run adjacent to, or fully contain the Rock Boulevard study area north of I-80. There is high student walking potential for these schools since many are located in residential neighborhoods.

A field tour and map analysis of the corridor identified potential challenges for pedestrians. The intersection with 15th Street at the north end of Sparks High School lacks accessible sidewalks and marked crossings. There is a crosswalk on Rock Boulevard at Commerce Street with overhead pedestrian flashers which serves as the main crossing for pedestrians wishing to access 15th Street.

Other intersections which may lack signage and markings include Tyler Way (no crosswalk on Rock Boulevard) and I, H, and F Streets (no crosswalk on side streets). These intersections provide access to RTC bus stops or key destinations such as Sparks High School and Deer Park.

The intersection with Greg Street does not have a curb ramp at the southeast corner. While the sidewalk does not continue in either direction from this location, the existing crosswalks should have a curb ramp at either end. Additionally, there is a free right turn lane at the northwest corner of the intersection which poses potential sight line issues and high speeds for pedestrians to navigate. A similar situation exists at all legs of the intersection with Glendale Avenue, though the crosswalks are better marked.

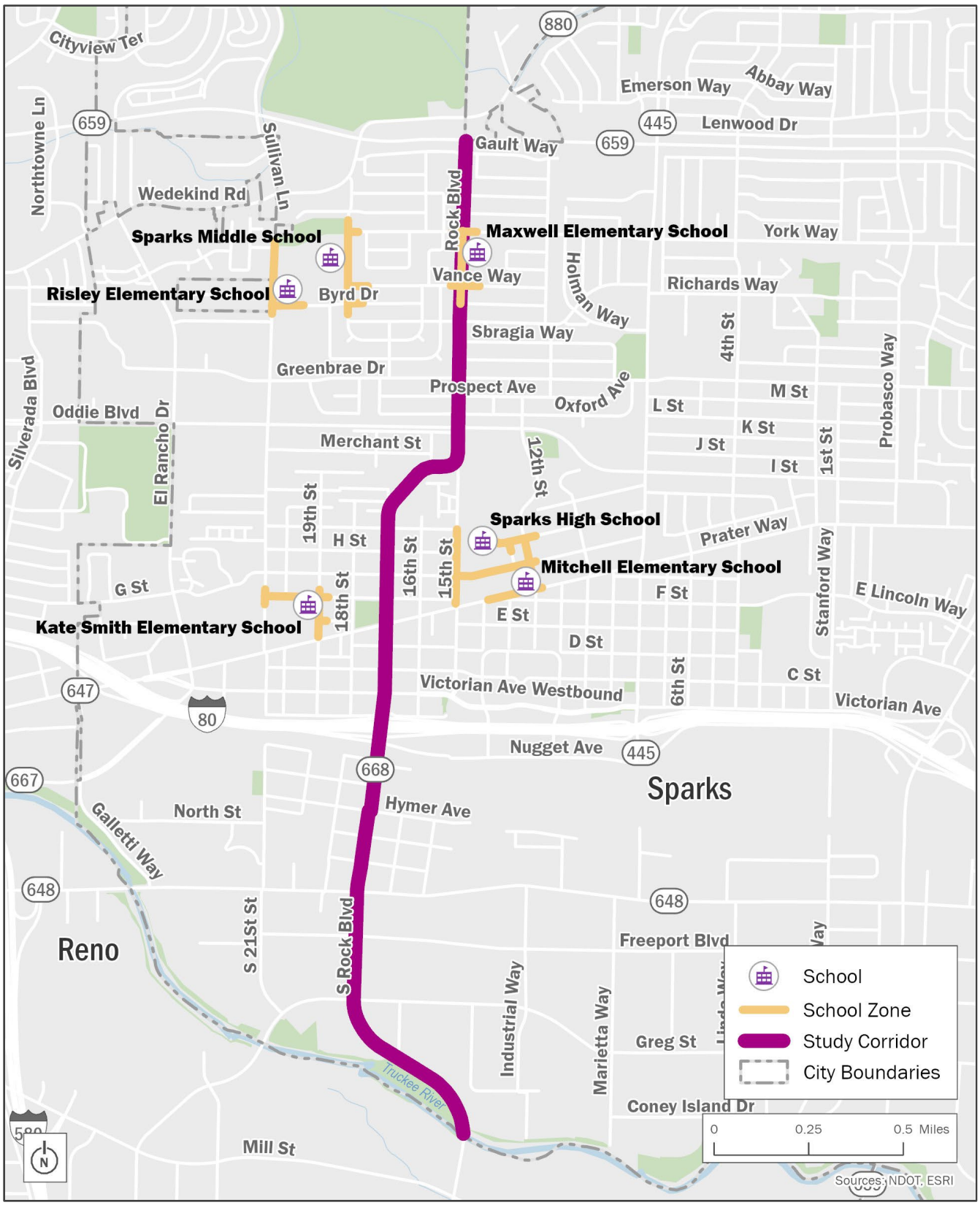


Exhibit B-4. School Zones

Bicycle Facilities

There are no existing bicycle facilities (**Exhibit B-5**) on much of Rock Boulevard within the corridor study area except for the section between the Truckee River and Rock Park. There are no dedicated bike facilities for bicyclists wishing to access Rock Park from the north, which presents a significant barrier to use of the Tahoe-Pyramid Trail. As shown in **Exhibit B-6**, there are bike lanes on some intersecting streets such Prater Way and McCarran Boulevard, as well as the Tahoe-Pyramid Trail, an off-street multi-use path along the river at the southern end of the corridor. RTC's Active Transportation Plan defines BLTS as:

- BLTS 1: Roadways where bicyclists of all ages and abilities would feel comfortable riding; separated shared-use paths and separated bike lanes for bicycles also fall into this category.
- BLTS 2: Slightly less comfortable roadways, where most adults would feel comfortable riding.
- BLTS 3: Moderately uncomfortable roadways, where most experienced bicyclists would feel comfortable riding.
- BLTS 4: High-stress roadways where only strong and fearless bicyclists would feel comfortable riding. These roadways are generally characterized by high volumes, high speeds, several travel lanes, and complex transitions approaching and crossing intersections.

The lack of bike facilities on Rock Boulevard and high traffic volumes contribute to its high Bicycle Level of Traffic Stress (BLTS) score, which measures the level of comfort for riding a bike on a particular street (higher scores indicate higher stress environments for riding a bike). As identified in the RTC Active Transportation Plan, most of the corridor has a BLTS score of 4, which indicates that it is the most stressful environment to ride a bike. This reflects the lack of bicycle facilities, relatively higher traffic volumes, and high traffic speeds. The northern (north of Oddie Boulevard) and southern (south of Greg Street) segments of the corridor have a slightly lower BLTS score of 3, due to lower traffic volumes, but overall, these sections still present a challenging bike riding environment for most users.



Exhibit B-5. Northbound Rock Boulevard at Prater Way

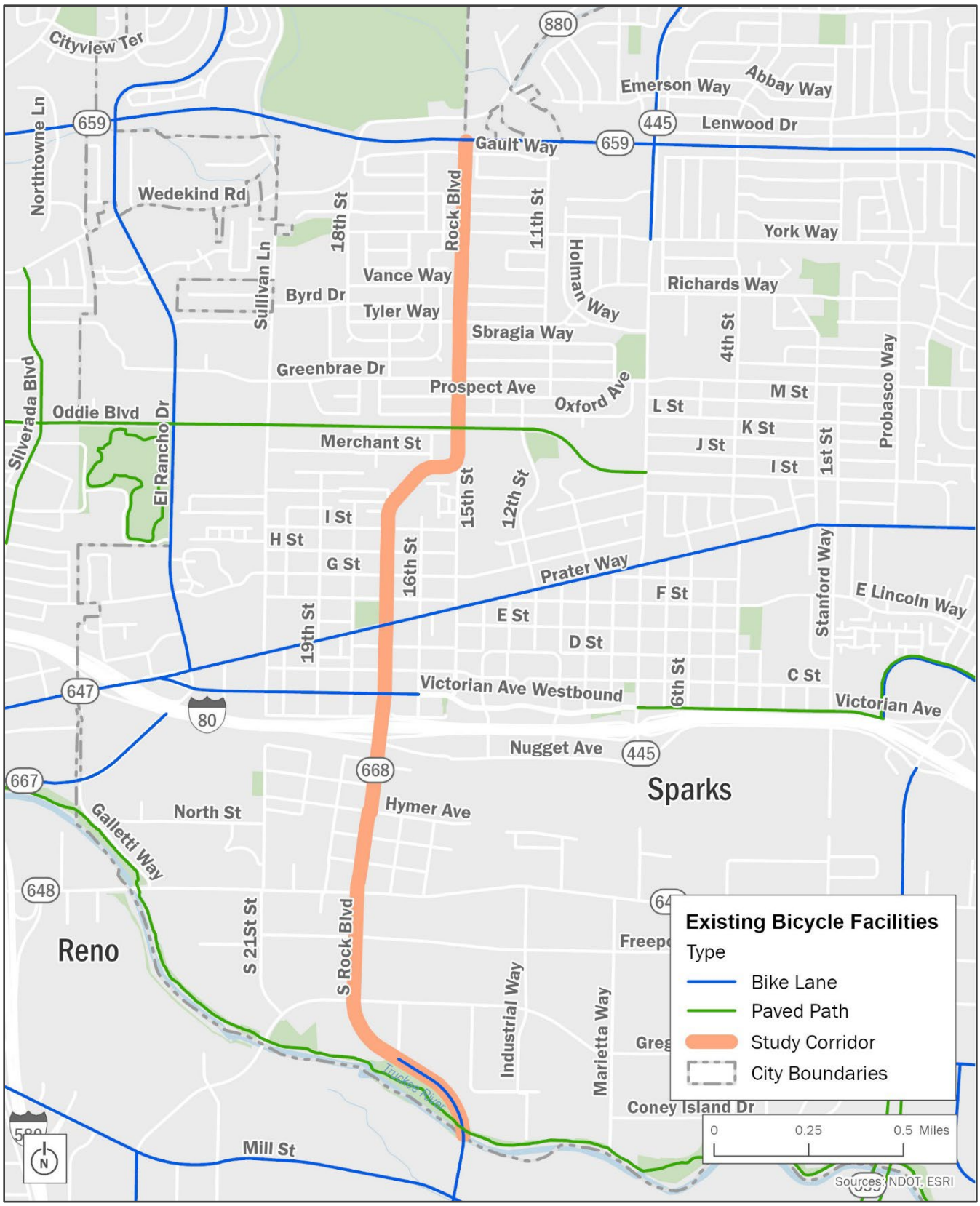


Exhibit B-6. Existing Bicycle Facilities

APPENDIX C

Crash Data

ROCK BOULEVARD CORRIDOR STUDY

CRASH ANALYSIS

Crash data for the section of Rock Boulevard between North McCarran Boulevard and the Truckee River was obtained from the Nevada Department of Transportation (NDOT) for the 2019-2023 period. During this time, there were 456 total crashes reported. Of those, there were four fatalities and nine serious injuries.

Regarding crash type, angle crashes were the most common, representing 45% of total crashes. Rear end crashes were the second most common, representing 29% of total crashes. **Table C-1** provides a summary of all crash types.

Table C-1: Crashes by Type

Crash Type	Number of Crashes	Percentage of Crashes
Angle	206	45%
Backing	7	2%
Head On	6	1%
Non-Collision	46	10%
Rear End	133	29%
Sideswipe – Meeting	27	6%
Sideswipe – Overtaking	20	4%
Unknown	10	2%
Total	456	100%

When looking at road user types, crashes involving vulnerable road users (VRUs), generally considered those using active transportation modes such as walking and bicycling, primarily occurred at intersections or at the I-80 interchange. VRUs represent half of the four fatalities, one involving a pedestrian, and one involving a bicyclist, and all nine serious injury crashes involved VRUs.

Similarly, most vehicle crashes occurred at intersections (89%). The three intersections along Rock Boulevard with the most crashes are Oddie Boulevard (36), Victorian Avenue (35), and Greenbrae Drive (27), representing 21% of all crashes.

When looking at potential contributing factors, 16 crashes reported distracted driving and 30 crashes reported impaired driving, with alcohol as the most common reason for impairment. **Exhibit C-1** provides a breakdown of driver and environmental conditions for all crashes.

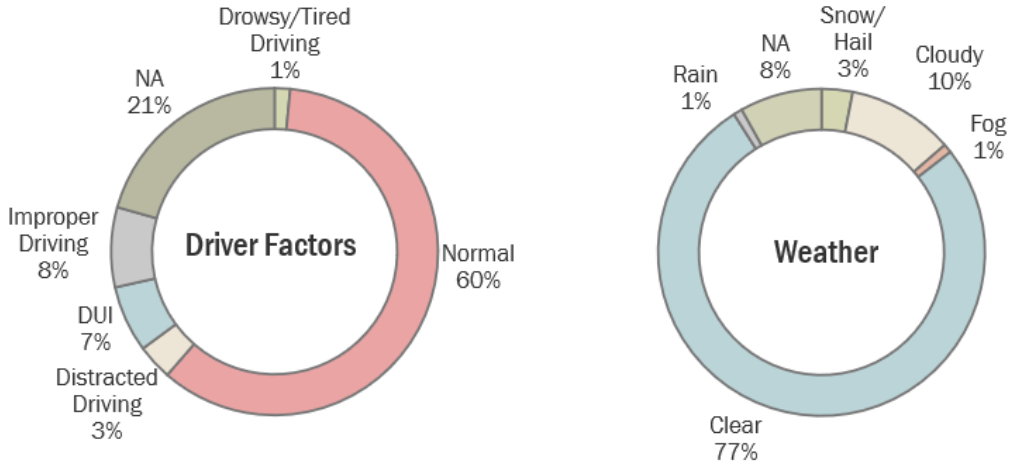


Exhibit C-1: Driver and Environmental Factors

When looking at the time of day that crashes occurred during the 2019-2023 period, the highest number of crashes (26%) occurred between the hours of 4 p.m. and 6 p.m., coinciding with afternoon/evening peak commute period. **Exhibit C-2** shows the average number of crashes by hour over a 24-hour period.

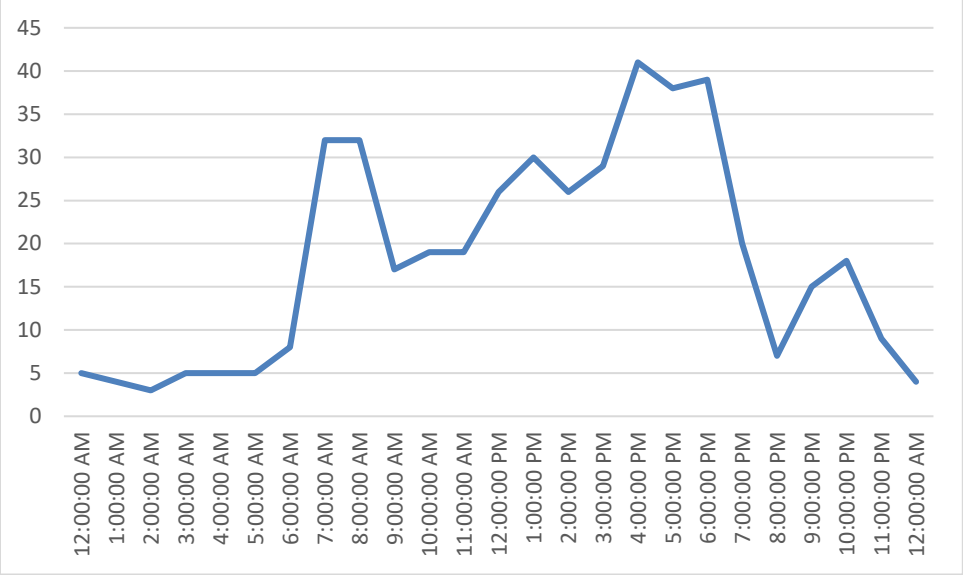


Exhibit C-2: Average Number of Crashes by Time of Day

SUPPLEMENTAL CRASH DATA

More recent crash data was received from the City of Sparks Police Department. The data analyzed was from crashes that occurred in 2024 and 2025. The attribute data reported varies from that collected by NDOT, so direct comparisons were not made. City of Sparks reported crashes are generally distributed evenly throughout the corridor study area. One item to note is that approximately 33% of the crashes reported were classified as hit and run crashes.

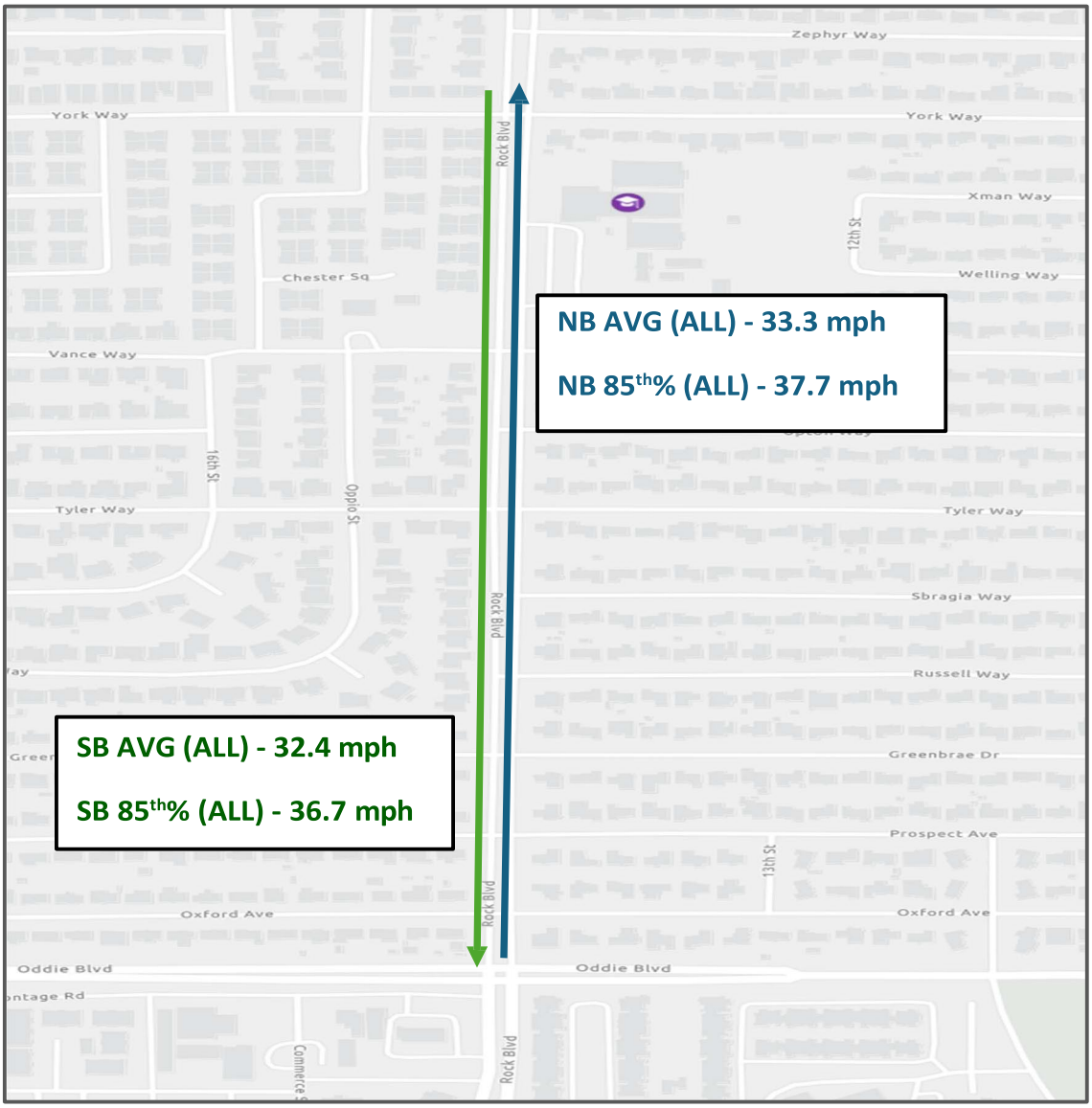
APPENDIX D

Speed Data

ROCK BOULEVARD
CORRIDOR STUDY

Rock Blvd Speed Survey

Location 1: (York Way to Oddie Blvd)

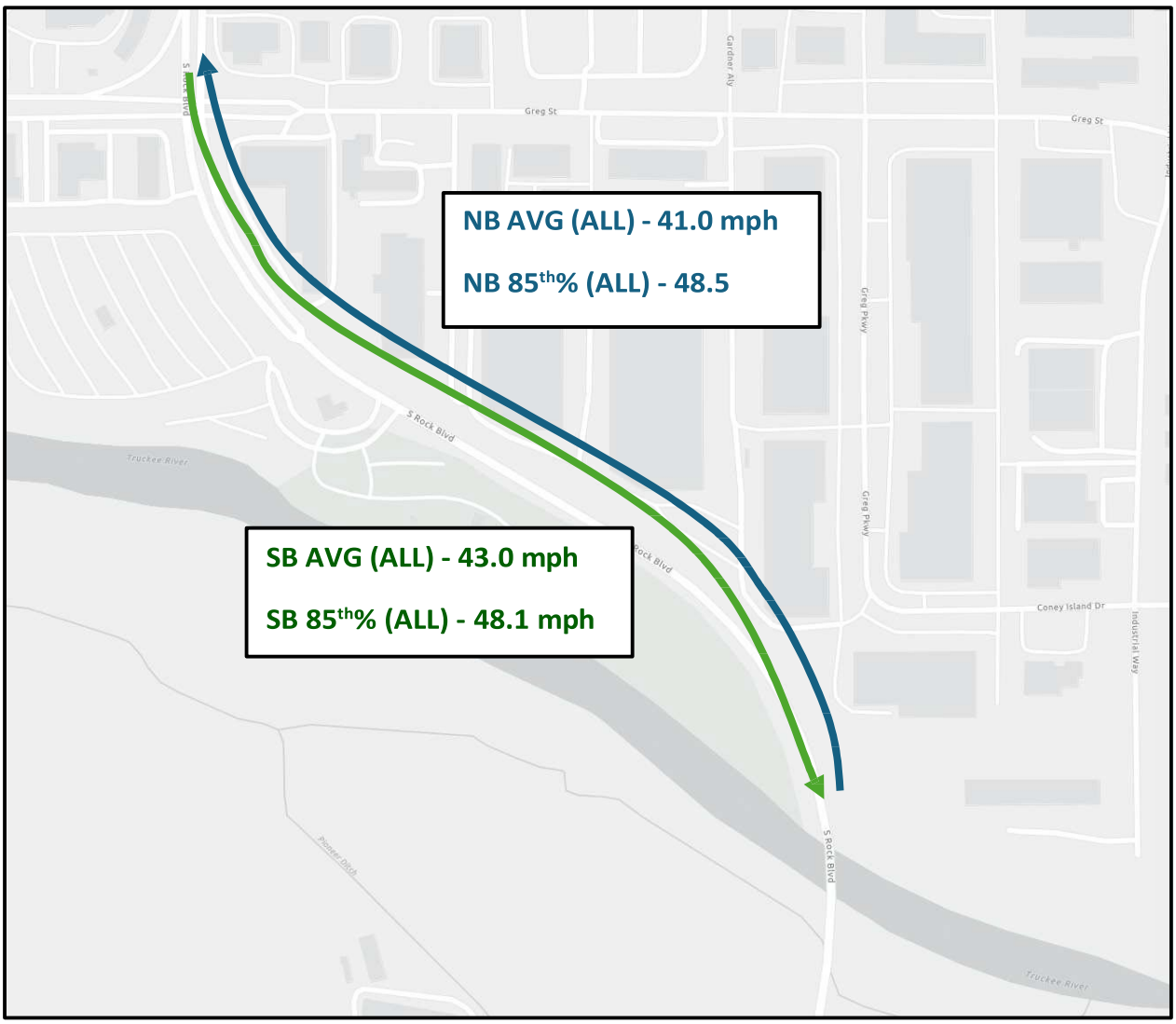


Direction	Posted Speed Limit (mph)	Average Speed (mph)	85th Percentile Speed (mph)	Total Volume
Rock Blvd, Northbound	30	33.3	37.7	495
Rock Blvd, Southbound	30	32.4	36.7	640
Rock Blvd Total	**30**	**33.3**	**37.2**	**1,135**

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Rock Blvd Speed Survey

Location 2: (Greg St to Truckee River)



Direction	Posted Speed Limit (mph)	Average Speed (mph)	85th Percentile Speed (mph)	Total Volume
Rock Blvd, Northbound	45	41.0	48.5	1,241
Rock Blvd, Southbound	30	43.0	48.1	1,227
Rock Blvd Total	**45**	**42.0**	**48.5**	**2,468**

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Rock Blvd Speed Survey

Location 1 Data Tables

FEATURE NAME	VEHICLE TYPE	TOTAL VOLUME	AVG SPEED (MPH)	MEDIAN SPEED (MPH)	85TH PERCENTILE SPEED (MPH)	15TH PERCENTILE SPEED (MPH)	STD. DEV. SPEED (MPH)
Rock NB – York to Oddie	CAR	495	33.266	33.554	37.686	29.204	5.359
Rock NB – York to Oddie	ALL	495	33.266	33.554	37.686	29.204	5.359
Rock SB – York to Oddie	CAR	638	32.421	32.187	36.661	28.813	4.582
Rock SB – York to Oddie	HCV	2	17.756	15.13	20.381	15.13	3.713
Rock SB – York to Oddie	ALL	640	32.374	32.187	36.661	28.769	4.653

Rock Blvd Speed Survey

Location 1 Data Tables

FEATURE NAME	VEHICLE TYPE	AVG. QUEUE LENGTH (FT)	MEDIAN QUEUE LENGTH (FT)	85TH PERCENTILE QUEUE LENGTH (FT)	15TH PERCENTILE QUEUE LENGTH (FT)	STD. DEV. QUEUE LENGTH (FT)	TRAVEL TIME 50
Rock NB – York to Oddie	CAR	265.862	33.116	166.849	13.857	640.698	60.6825
Rock NB – York to Oddie	ALL	265.862	33.116	166.849	13.857	640.698	60.6825
Rock SB – York to Oddie	CAR	203.106	37.141	329.744	9.291	451.49	57.05816
Rock SB – York to Oddie	HCV	325.22	325.22	325.22	325.22	undefined	129.5
Rock SB – York to Oddie	ALL	204.875	37.442	329.744	9.291	448.399	57.32897

Rock Blvd Speed Survey

Location 2 Data Tables

FEATURE NAME	VEHICLE TYPE	TOTAL VOLUME	AVG SPEED (MPH)	MEDIAN SPEED (MPH)	85TH PERCENTILE SPEED (MPH)	15TH PERCENTILE SPEED (MPH)	STD. DEV. SPEED (MPH)
Rock NB - River to Greg	CAR	1220	41.129	43.322	48.629	36.599	10.656
Rock NB - River to Greg	HCV	21	33.13	36.474	40.016	31.752	11.446
Rock NB - River to Greg	ALL	1241	40.988	43.198	48.529	36.22	10.717
Rock SB - Greg to River	CAR	1128	43.526	44.117	48.38	38.649	5.538
Rock SB - Greg to River	HCV	99	35.518	37.655	42.378	32.125	9.799
Rock SB - Greg to River	ALL	1227	42.999	43.856	48.069	37.668	6.231

Rock Blvd Speed Survey

Location 2 Data Tables

FEATURE NAME	VEHICLE TYPE	AVG. QUEUE LENGTH (FT)	MEDIAN QUEUE LENGTH (FT)	85TH PERCENTILE QUEUE LENGTH (FT)	15TH PERCENTILE QUEUE LENGTH (FT)	STD. DEV. QUEUE LENGTH (FT)	TRAVEL TIME 50
Rock NB - River to Greg	CAR	124.046	75.091	227.464	16.526	142.525	65.87512
Rock NB - River to Greg	HCV	undefined	undefined	undefined	undefined	undefined	35.64706
Rock NB - River to Greg	ALL	124.046	75.091	227.464	16.526	142.525	65.38196
Rock SB - Greg to River	CAR	undefined	undefined	undefined	undefined	undefined	34.79769
Rock SB - Greg to River	HCV	undefined	undefined	undefined	undefined	undefined	27.24138
Rock Blvd SB - Greg to River	ALL	undefined	undefined	undefined	undefined	undefined	34.55257

APPENDIX E

Transit Stop Evaluations

ROCK BOULEVARD
CORRIDOR STUDY



Rock Boulevard Corridor Study
Transit Stop Analysis

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1. Introduction

The project team conducted a review of the existing bus stops along the Rock Boulevard corridor, which are served by several RTC RIDE bus routes. The following sections provide a summary of existing conditions for each of the bus stops as well as planning-level recommendations for potential stop improvements. RTC generally considers providing benches at stops with five or more average daily boardings and bus shelters at stops with 20 or more average daily boardings.

RTC is developing the Move More with RTC initiative to improve public transit services. This plan is improving the convenience and ease of using the transit system through the following types of changes:

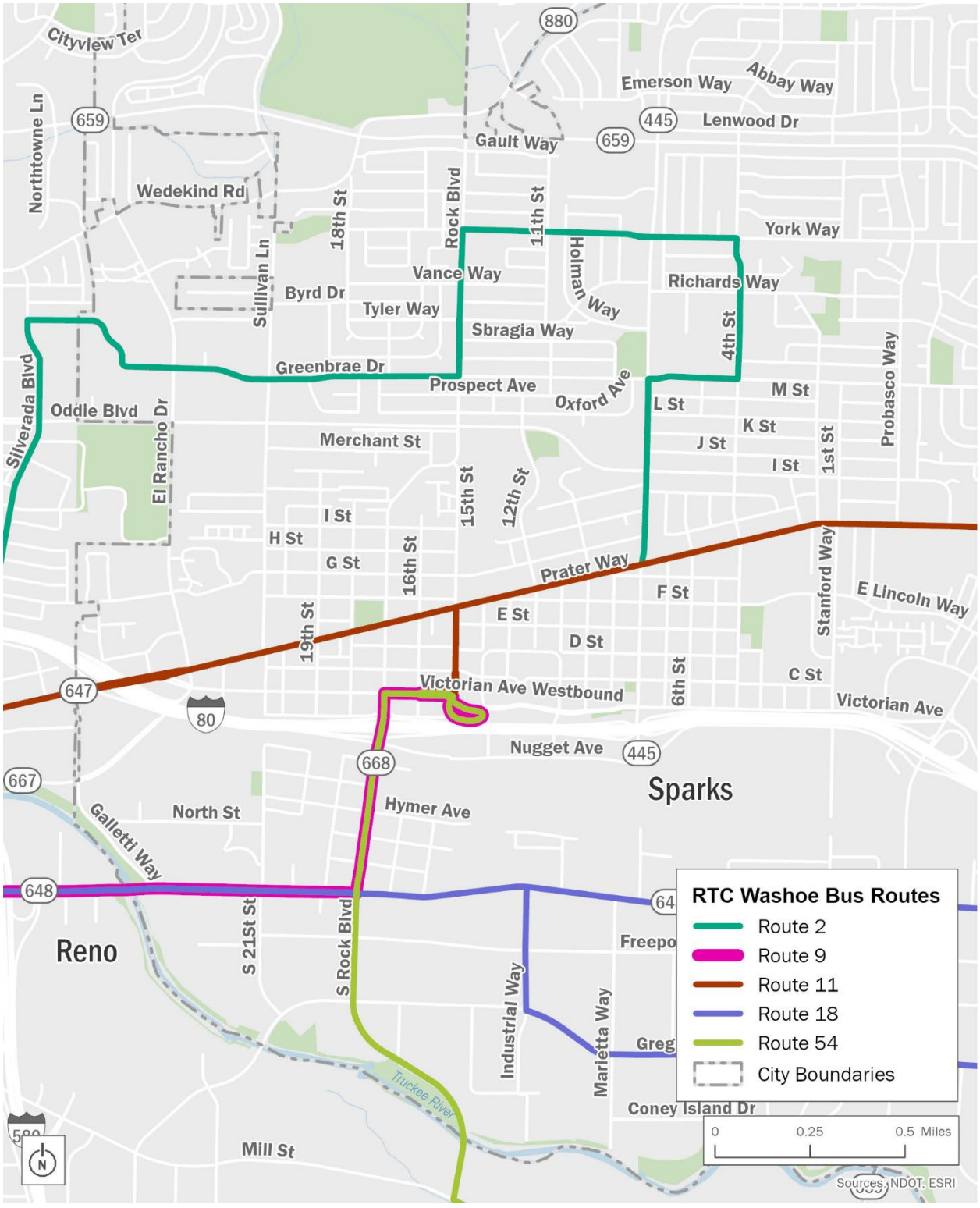
- Later and more frequent service on weekdays and weekends
- Changing routes to improve ridership
- Add onboard fare payment by credit/debit card

While no route changes are proposed on Rock Boulevard, Route 2 would be modified to extend service to the Sparks Senior Center of Richards Way. Route 54 would be extended to serve the Northern Nevada Sierra Medical Center in the southern portion of the route and modified east of the airport to better serve high ridership areas. Routes 2, 9, and 11 would offer 30-minute service frequencies for much of the day, with Route 54 offering 60-minute service frequency. The Lincoln Line provides 10-minute service headways on weekdays.

1.1. Corridor Overview

There are two bus routes that intersect the corridor (Routes 11 and 18) and three that run along some sections of the corridor (Routes 2, 9, and 54), as shown in **Figure 1**. Routes 11 and 18 cross the corridor at Prater Way and Glendale Avenue, respectively. Routes 9 and 54 run along the southern end of the corridor, beginning at Victorian Avenue. Route 9 runs west on Glendale Avenue, while Route 54 continues south past the southern boundary of the study area. In the northern part of the corridor, Route 2 operates between Greenbrae Drive and York Way. A total of 13 bus stops are located directly on Rock Boulevard and generally lack amenities such as benches or shelters.

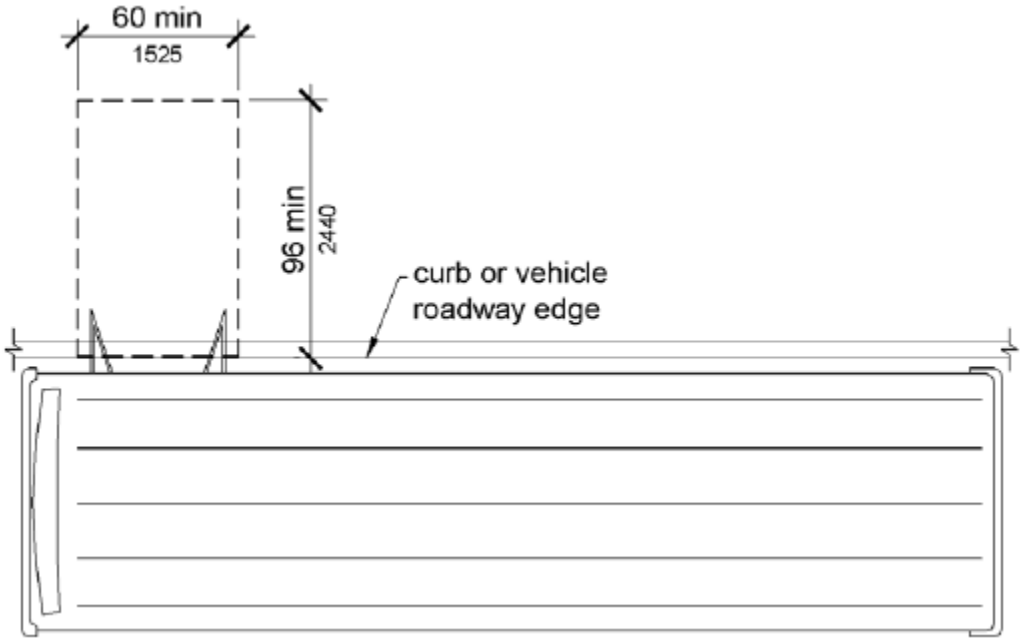
Figure 1. Existing Transit Facilities and Services



2. Individual Sites

The following section provides further details for each of the bus stops on Rock Boulevard. As bus stops are typically located in bi-directional pairs, information is provided for the northbound (NB) and southbound (SB) stops at each location. The review identified the presence or absence of such features as a paved boarding and alighting area, bus stop amenities (benches, shelters, etc.), crosswalks, and general connectivity to surrounding land uses. For context, Americans with Disabilities Act (ADA)-compliant boarding and alighting areas must provide a firm, stable surface with minimum dimensions of 96 inches by 60 inches (8′ x 5′), connected to accessible routes (see **Figure 2**). While this study identified the presence of landing areas, it did not include a detailed evaluation for ADA compliance. Proposed recommendations for future improvements are provided for consideration.

Figure 2. ADA-Compliant Boarding and Alighting Area



Source: https://www.ada-compliance.com/ada-compliance/810-transportation-facilities

In general, when prioritizing improvements for bus stops, the following criteria should be considered:

- Accessibility and ADA-compliance
- Rider safety (visibility, lighting, traffic exposure, roadway crossings)
- Ridership and utilization
- Connectivity to nearby destinations such as social services and employment

High-priority consideration should be given to individual bus stops which demonstrate a need for more than one of these criteria. Additionally, RTC may choose to weigh certain criteria more heavily than others in developing a prioritization framework for bus stop improvements.

2.1. Rock Park

These stops are located at the south end of the project study limits and primarily serve as access to Rock Park (**Figure 3**). Neither stop is accessible by sidewalk. In particular, the northbound stop is isolated from any connections to pedestrian infrastructure. No crosswalk is provided in the vicinity of the transit stops.

Attributes/Description	Northbound	Southbound
Paved 8'x5' Boarding/ Alighting Area	No	Yes
Average Daily Boardings	1	0
Amenities	None	Bench
Connectivity	No sidewalk on east side of Rock Blvd.	Accessible path to park, no sidewalk on west side of Rock Blvd.
Recommendations	Install ADA-compliant pad, and other amenities as reasonable. Consider mid-block pedestrian crossing on Rock Blvd appropriate for the level of traffic, speed, and sight distance.	Provide sidewalk or multiuse path to existing sidewalk to the north which would eliminate gap to Greg Street.

Figure 3. Rock Park Bus Stops (Route 54)



2.2. Greg Street

The northbound and southbound stops between Greg Street and Freeport Blvd are slightly offset (**Figure 4**). Immediately adjacent land uses include a mix of industrial, retail, and service oriented businesses (gas station, auto shop, etc.). There is limited right-of-way (ROW) available for ADA-compliant boarding/alighting areas at the northbound stop. The nearest crosswalks are located at the signalized intersections of Freeport Boulevard and Greg Street.

Attributes/Description	Northbound	Southbound
Paved 8'x5' Boarding/ Alighting Area	No	Yes
Average Daily Boardings	3	3
Amenities	Bench	Bench
Connectivity	Existing sidewalk.	Existing sidewalk.
Recommendations	Install ADA-compliant pad – would require ROW in the landscaped area.	Consider installation of lighting.

Figure 4. Greg Street Bus Stops (Route 54)

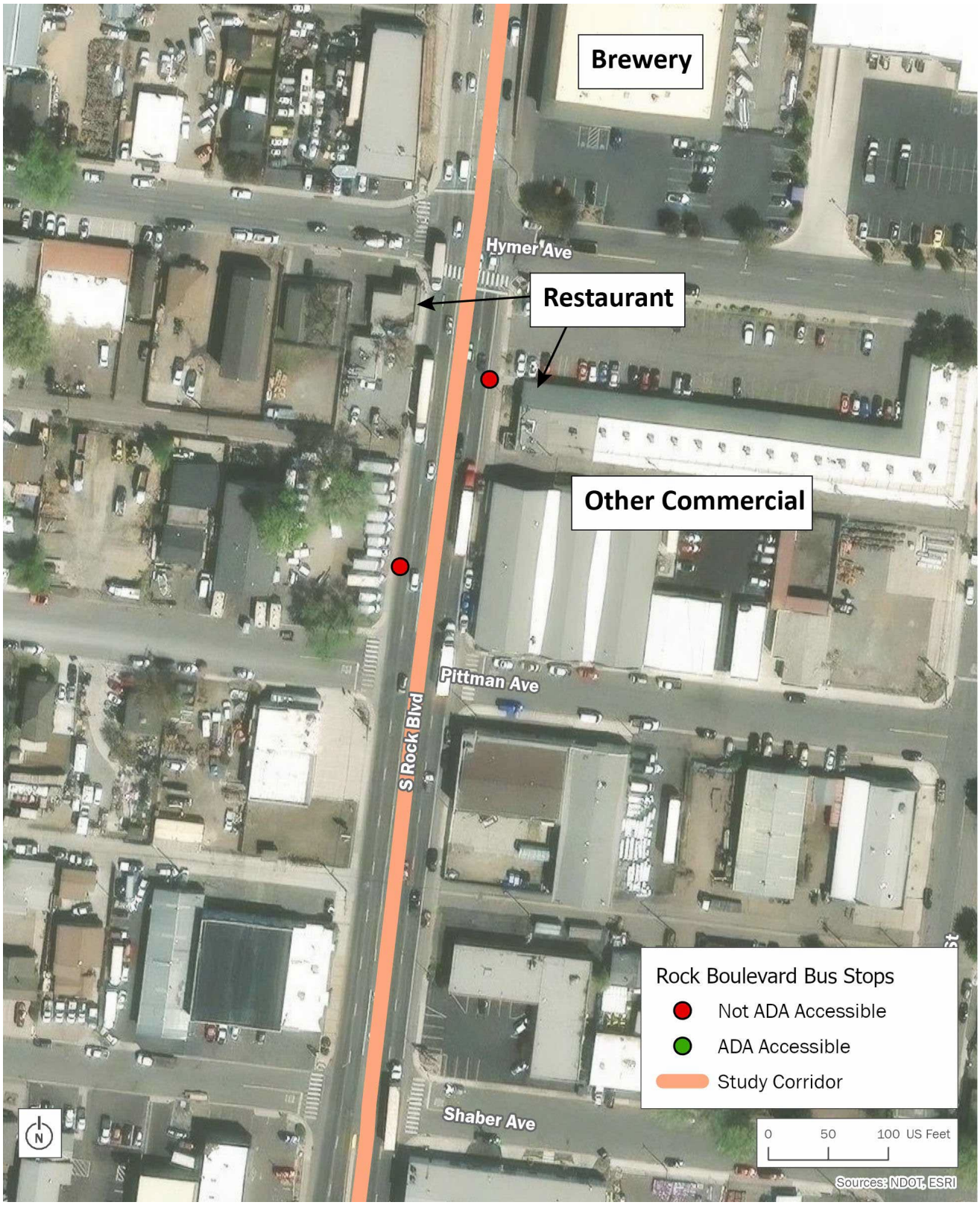


2.3. Pittman Avenue

The northbound and southbound stops between Pittman Avenue and Hymer are slightly offset (**Figure 5**). Immediately adjacent land uses include a mix of industrial and commercial. There is limited ROW available for ADA-compliant boarding/alighting areas at either stop. The closest crosswalk is provided at the Hymer Avenue signalized intersection.

Attributes/Description	Northbound	Southbound
Paved 8'x5' Boarding/ Alighting Area	No.	No
Average Daily Boardings	8	1
Amenities	None	None
Connectivity	Existing sidewalk.	Existing sidewalk is partially covered by dirt and gravel from adjacent lot.
Recommendations	Install an ADA-compliant pad and bench.	Install ADA-compliant pad.

Figure 5. Pittman Avenue Bus Stops (Routes 54 & 9)



2.4. Greenbrae Drive

These stops are located in a residential area just north of Greenbrae Drive (**Figure 6**). There are potential safety concerns with sight issues in proximity to the Rock Boulevard crosswalk for buses stopping in the southbound direction. There is limited space available for ADA-compliant boarding/alighting areas at either stop. A crosswalk is located at Greenbrae Drive.

Attributes/Description	Northbound	Southbound
Paved 8'x5' Boarding/ Alighting Area	No	No
Average Daily Boardings	4	7
Amenities	Bench	Bench
Connectivity	Existing sidewalk.	Existing sidewalk.
Recommendations	If possible, adjust bench/sign location to accommodate ADA-compliant pad in setback area of the fence next to utility cabinet.	Consider relocating stop onto Greenbrae as a "far side" stop to improve safety conditions at the intersection (i.e. pedestrians crossing eastbound on Rock Blvd).

Figure 6. Greenbrae Drive Bus Stops (Route 2)

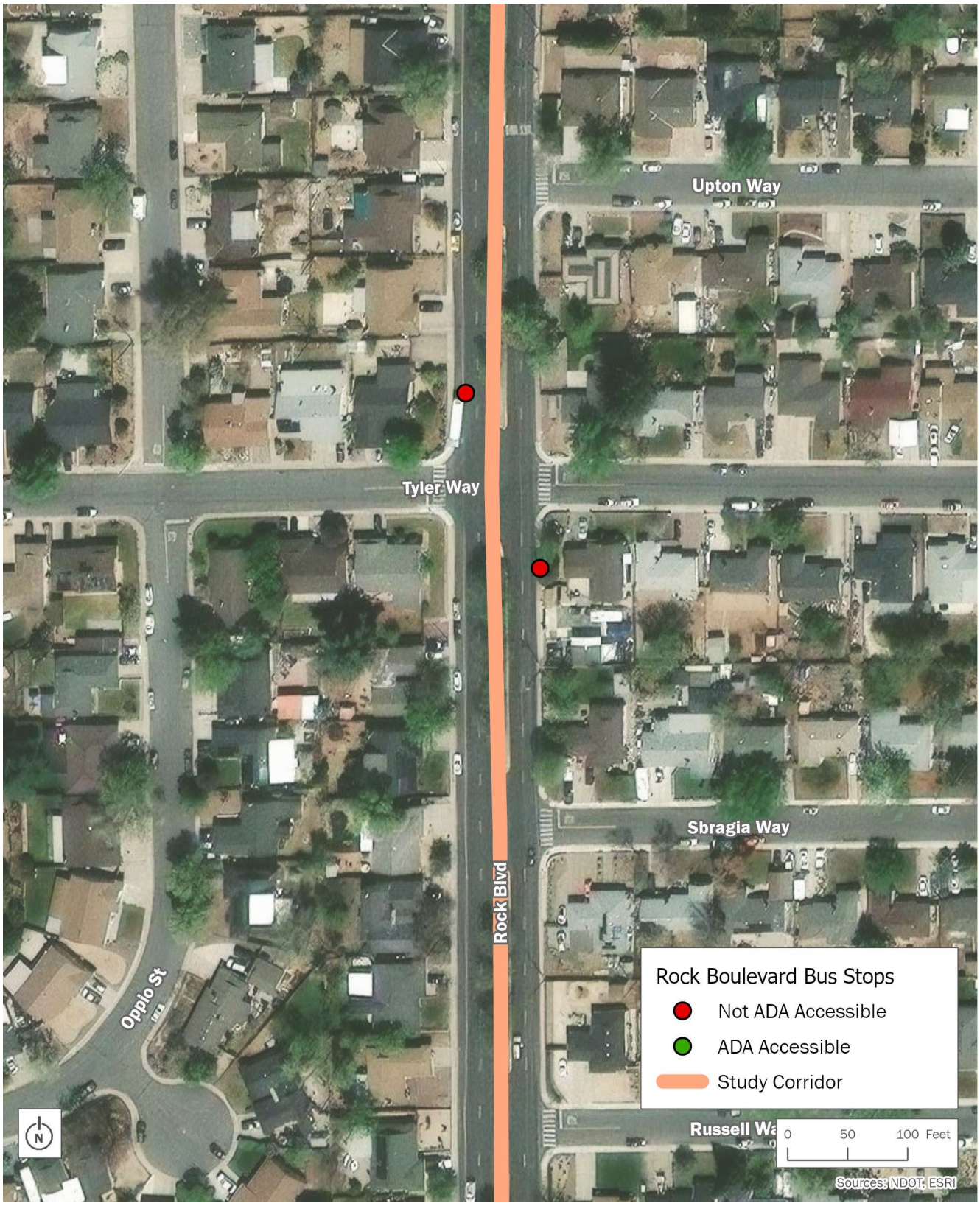


2.5. Tyler Way

These stops are located in a residential area on either side of the intersection with Tyler Way (**Figure 7**). There is limited ROW available for ADA-compliant boarding/alighting areas at either stop. No crosswalks are provided in the vicinity of the bus stops.

Attributes/Description	Northbound	Southbound
Paved 8'x5' Boarding/ Alighting Area	No	No
Average Daily Boardings	1	3
Amenities	Bench	None
Connectivity	Existing sidewalk.	Existing sidewalk.
Recommendations	Install ADA-compliant landing pad.	Install ADA-compliant landing pad.

Figure 7. Tyler Way Bus Stops (Route 2)



2.6. Vance Way

These stops are located in a residential area on either side of the intersection with Vance Way (**Figure 8**). There is limited space available for ADA-compliant boarding/alighting areas at the northbound stop. A crosswalk is provided at Vance Way.

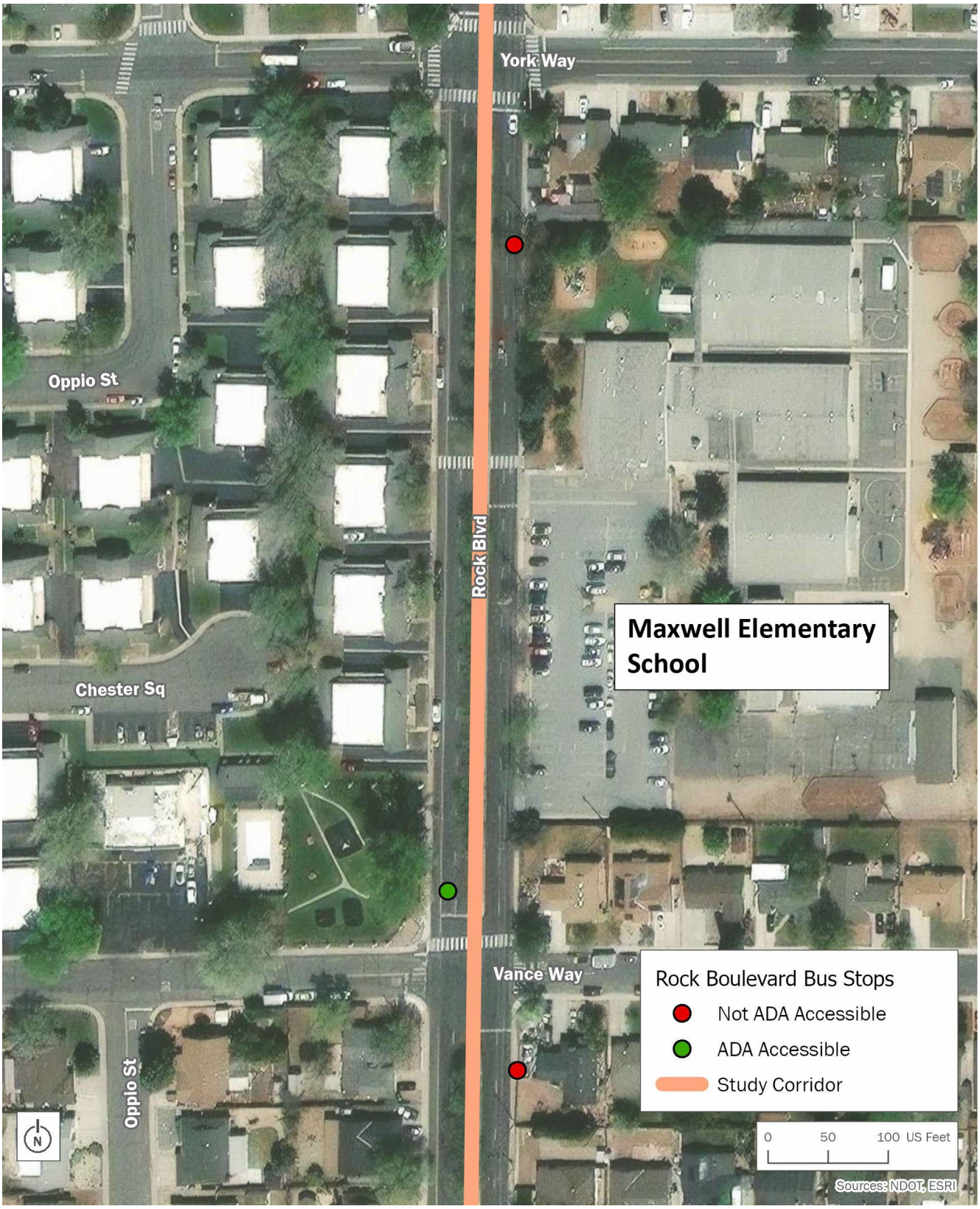
Attributes/Description	Northbound	Southbound
Paved 8'x5' Boarding/ Alighting Area	No	Yes
Average Daily Boardings	16	24
Amenities	None	Bench
Connectivity	Existing sidewalk.	Existing Sidewalk.
Recommendations	Install ADA-compliant pad and bench.	Install shelter.

2.7 York Way

The northbound stop is located on Rock Boulevard, just south of York Way in front of Maxwell Elementary School (**Figure 8**). School officials have voiced concerns over the location of the stop as it is directly in front of the kindergarten playground area. A privacy fence was installed to discourage interaction between bus riders and students; however, there are remaining concerns. The stop for the westbound/southbound direction is located on York Way east of Rock Boulevard and has not been evaluated in the table below. A crosswalk is provided at York Way.

Attributes/Description	Northbound
Paved 8'x5' Boarding/ Alighting Area	No
Average Daily Boardings	11
Amenities	None
Connectivity	Existing sidewalk.
Recommendations	Consider relocation or consolidation of this stop. If relocated, ROW would be required to make the stop fully ADA-compliant. There is some uncertainty as to whether Maxwell Elementary School will continue to operate in the next few years. There may be an opportunity to work with the Washoe County School District/future landowner to construct a more robust and compliant stop at the existing location.

Figure 8. Vance Way and York Way Bus Stops (Route 2)



APPENDIX F

Traffic Operations Analysis

ROCK BOULEVARD
CORRIDOR STUDY

ANALYSIS METHODOLOGY

Level of service (LOS) is a term commonly used by transportation practitioners to measure and describe the operational characteristics of intersections, roadway segments, and other facilities. This term equates seconds of delay per vehicle at intersections to letter grades "A" through "F", with "A" representing optimum conditions and "F" representing breakdown or over capacity flows.

Intersections

The complete methodology for intersection level of service analysis is established in the *Highway Capacity Manual (HCM), 7th Edition* published by the Transportation Research Board (TRB). **Table F-1** presents the delay thresholds for each level of service grade at signalized and unsignalized intersections.

Table F-1: Level of Service Definition for Intersections

Level of Service	Brief Description	Average Delay (seconds per vehicle)	
		Signalized Intersections	Unsignalized Intersections
A	Free flow conditions.	< 10	< 10
B	Stable conditions with some affect from other vehicles.	10 to 20	10 to 15
C	Stable conditions with significant affect from other vehicles.	20 to 35	15 to 25
D	High density traffic conditions still with stable flow.	35 to 55	25 to 35
E	At or near capacity flows.	55 to 80	35 to 50
F	Over capacity conditions.	> 80	> 50

Source: *Highway Capacity Manual, 7th Edition*

Level of service calculations for the study intersections were performed using the Synchro 12 software package with results reported in accordance with the current HCM 7th Edition methodology.

Roadway Segments

Roadway segments were analyzed using the Generalized Daily Service Volumes for Urban Street Facilities (Exhibit 16-16) of the *Highway Capacity Manual, 7th Edition*. Using this methodology, planning level segment level of service is determined by comparing average daily traffic volumes to the LOS threshold values shown in **Table F-2**. The level of service/capacity is based on number of lanes and roadway speed rather than roadway classification.

The values listed under "Posted Speed = 30 mi/hr" are most appropriate for Rock Boulevard as the posted speed and access spacing assumptions (20 access points per mile) better represent the roadway within the study area than the "Posted Speed = 45 mi/hr" values. K and D factors were determined based on NDOT count data.

Table F-2. Level of Service Thresholds for Roadway Segments

Facility Type	Maximum Service Flow Rate (Daily for Given Service Level)				
# of Lanes	LOS A	LOS B	LOS C	LOS D	LOS E
Posted Speed = 30 mi/hr					
2	N/A	N/A	1,700	11,800	17,800
4	N/A	N/A	2,200	24,700	35,800
6	N/A	N/A	2,600	38,700	54,000
Posted Speed = 45 mi/hr					
2	N/A	N/A	7,700	15,900	18,300
4	N/A	N/A	16,500	33,600	36,800
6	N/A	N/A	25,400	51,700	55,300

General assumptions: K-Factor – 0.9, D-Factor – 0.55, Peak Hour Factor – 0.92, Base Saturation Flow Rate – 1,900 pc/h/ln

Level of Service Policy

The 2050 Regional Transportation Plan (RTP) establishes level of service criteria for regional roadway facilities in the City of Reno, City of Sparks, and Washoe County. The current level of service policy is:

- "All regional roadway facilities projected to carry less than 27,000 ADT at the latest RTP horizon – LOS D or better."
- "All regional roadway facilities projected to carry 27,000 or more ADT at the latest RTP horizon – LOS E or better."
- "All intersections shall be designed to provide a level of service consistent with maintaining the policy level of service of the intersecting corridors".
- Rock Boulevard – Glendale Avenue to Victorian Avenue has a Regional Level of Service Standard of "F"

In general, Rock Boulevard carries or is projected to carry in the future horizon, less than 27,000 ADT except at the I-80 interchange. Therefore, LOS "D" was used as an operational threshold for the corridor outside the segment between Glendale Avenue and Victorian Avenue.

The level of service policies are not specific to minor side street approaches but rather focus on maintaining quality operations on the mainline corridor. LOS "E" or "F" on a side street approach does not necessarily constitute an exceedance of the level of service policy. However, minor street approach LOS will be considered when planning for future improvements.

EXISTING CONDITIONS

Intersection Level of Service Analysis

Peak period (6:30 AM to 8:30 AM and 3:30 PM to 5:30 PM) turning movement counts of vehicles, bicycles, and pedestrians were collected at the six study intersections between January 7th and January 9th, 2026, with Washoe County School District schools in regular session. This data was used to identify the highest morning and evening traffic conditions. The AM peak hour is generally from 7:15 AM to 8:15 AM and the PM peak hour is generally from 4:30 PM to 5:30 PM on the north side of I-80 and 3:30 PM to 4:30 PM on the south side of I-80. Full turning movement data is provided in **Attachment F-A**.

The collected turning movement counts were compared to historical NDOT data to determine if any adjustments were needed. The collected AM peak hour traffic volumes were approximately 10% lower than

the historical NDOT data, while the PM peak hour volumes were generally consistent with or higher than the historical NDOT data. Therefore, the AM peak hour turning movements were factored 10% higher.

Existing AM and PM peak hour intersection level of service analysis was performed for the study intersections based on the existing lane configurations and traffic volumes shown in **Exhibit F-1** and **Exhibit F-2**, respectively.

Signal timing for the study intersections were obtained from the RTC. Note that the AM timing plans at the Victorian Avenue and C Street intersections include a reservice parameter (phases can be served more than once per cycle). Therefore, the signal timing in Synchro at the Victorian Avenue and C Street intersections were slightly modified to allocate appropriate green time on all phases.

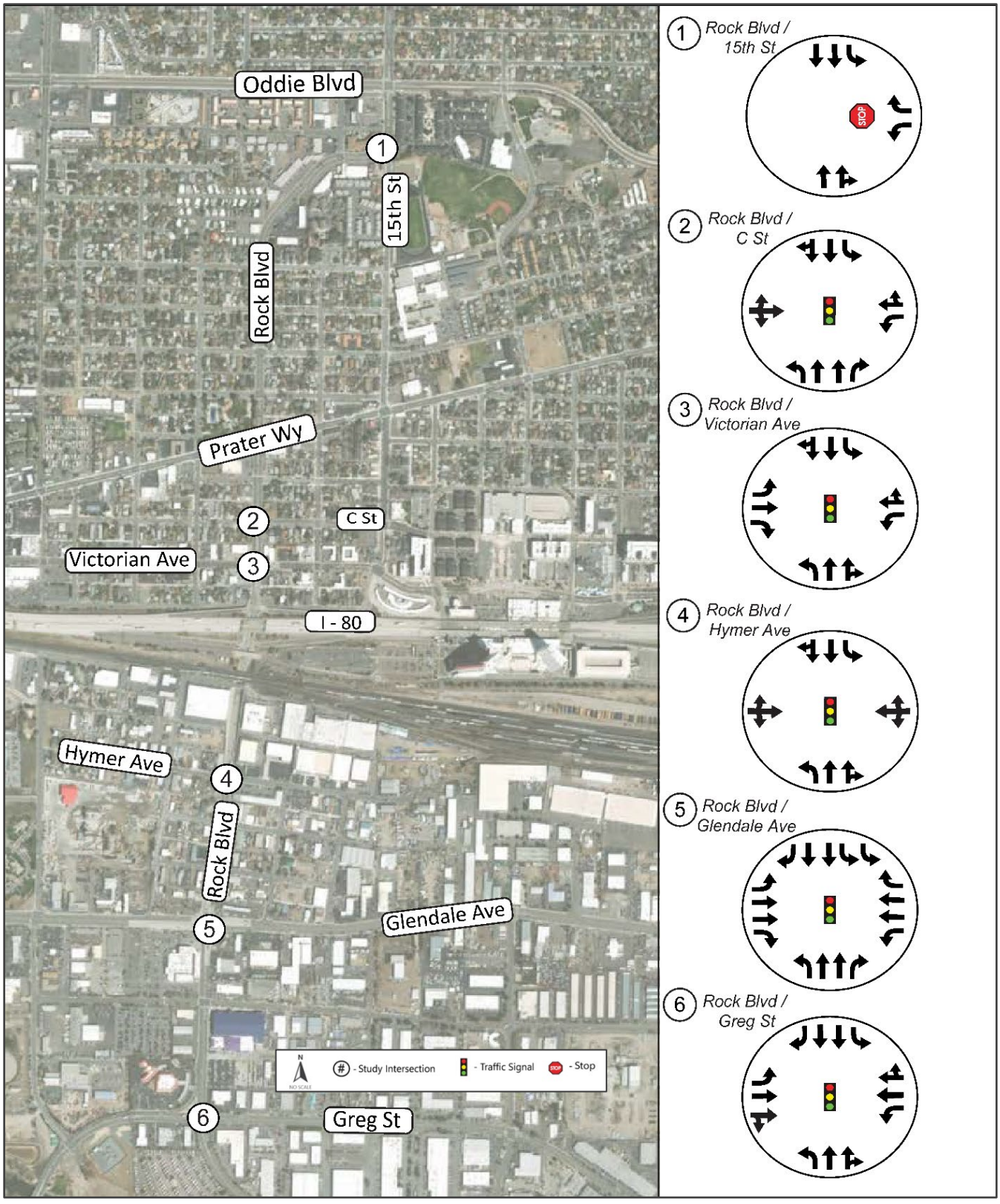


Exhibit F-1. Existing Intersection Lane Configurations and Controls

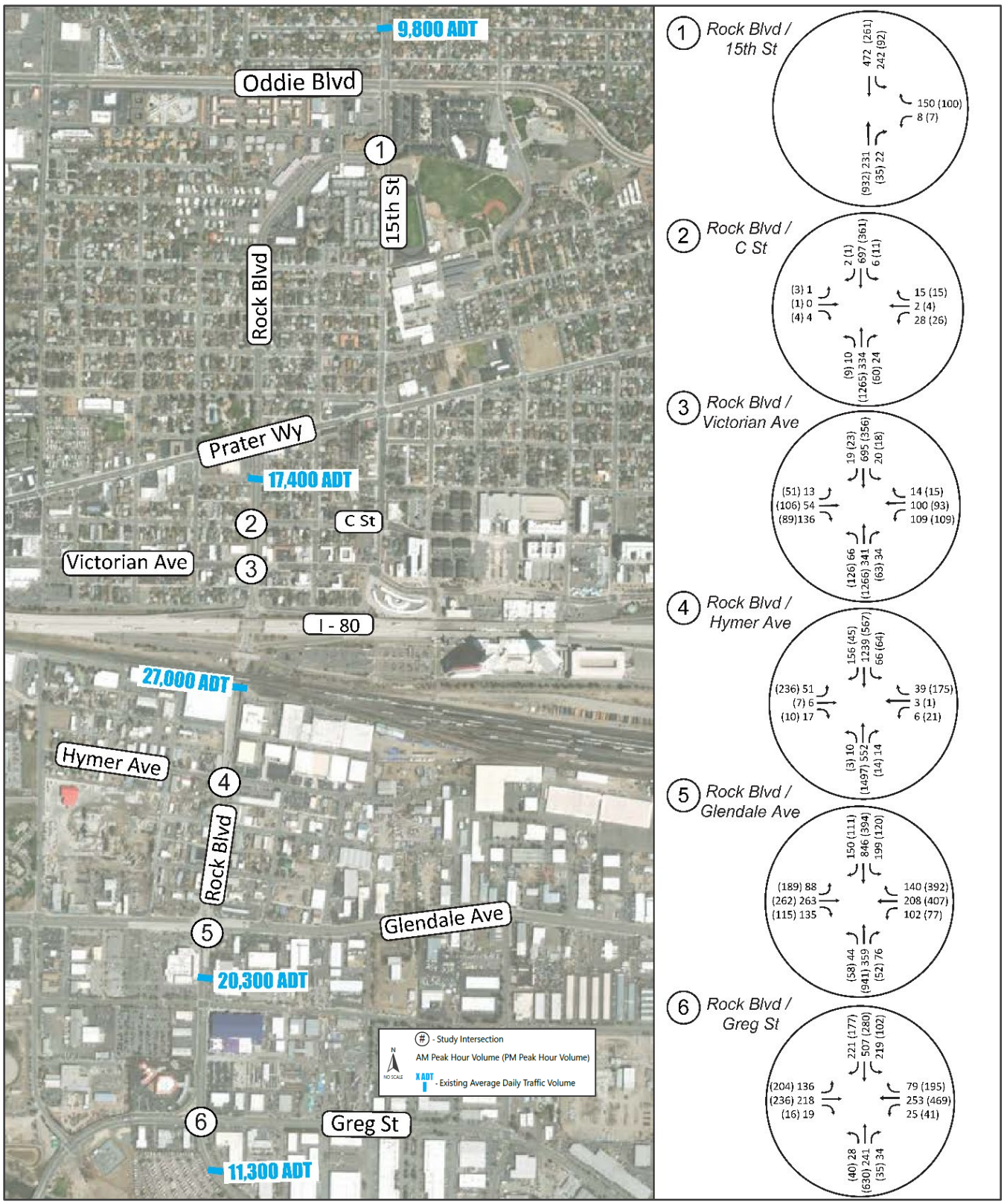


Exhibit F-2. Existing Traffic Volumes

Table F-3 shows the Existing Condition level of service results and the technical calculations are provided in **Attachment F-B**.

Table F-3: Existing Intersection Level of Service

ID	Intersection Name	Intersection Control	AM Peak		PM Peak	
			LOS	Delay[1]	LOS	Delay[1]
1	Rock Blvd / 15th St	Side-Street Stop				
	Southbound Left		A	8.7	B	11.1
	Westbound Left		D	29.9	D	33.9
	Westbound Right		B	10.2	B	13.8
2	Rock Blvd / C St	Signal				
	Overall		B	16.2	A	5.0
3	Rock Blvd / Victorian Ave	Signal				
	Overall		B	19.7	D	39.3
4	Rock Blvd / Hymer Ave	Signal				
	Overall		B	19.0	D	46.9
5	Rock Blvd / Glendale Ave	Signal				
	Overall		D	47.0	*E*	*56.5*
6	Rock Blvd / Greg St	Signal				
	Overall		C	32.6	D	51.1

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections and for the worst approach/movement for side street stop controlled intersections.
Source: GCW, 2026

The study intersections currently technically operate within overall level of service policy. Intersections may operate at acceptable levels of service overall but have movements that operate poorly, causing queuing and congestion on Rock Boulevard during peak hours. Notably in the northbound direction, south of I-80, during the PM Peak Hour. Additionally, the closely spaced traffic signals near the I-80 interchange create coordination challenges and limited vehicle storage between intersections.

The single northbound left-turn lane at the I-80 westbound on-ramp appears to be a primary constraint in the corridor. NDOT's preferred alternative at the interchange proposes dual northbound left-turn lanes at this location in the future.

Roadway Segment Level of Service Analysis

NDOT's Traffic Records Information Access (TRINA) has six count stations within the study corridor. Existing daily roadway segment volumes were derived from available traffic data obtained from TRINA.

Table F-4 presents the level of service assessment for Rock Boulevard based on the Existing Condition Daily roadway segment volume.

Table F-4: Existing Roadway Segment Level of Service

Study Roadway	Roadway Limits	# of Lanes	ADT	LOS
Rock Blvd	McCarran Boulevard to Oddie Boulevard (Northern Neighborhood)	4	9,800	D
	Oddie Boulevard to Victorian Avenue (Residential / Commercial)	4	17,400	D
	Victorian Avenue to Hymer Avenue (I-80 Interchange)	4	27,000	*E*
	Hymer Avenue to Greg Street (Industrial)	4	20,300	D
	Greg Street to Truckee River (River)	4	11,300	D

Source: GCW, 2026

As shown in the table, the study roadway segments technically operate within overall level of service policy under Existing Conditions. Note that heavier traffic volumes and movements (peak hour basis) within the interchange area experience significant congestion.

FUTURE CONDITIONS

Forecasting

NDOT is planning improvements along I-80 including the Rock Boulevard interchange which will have

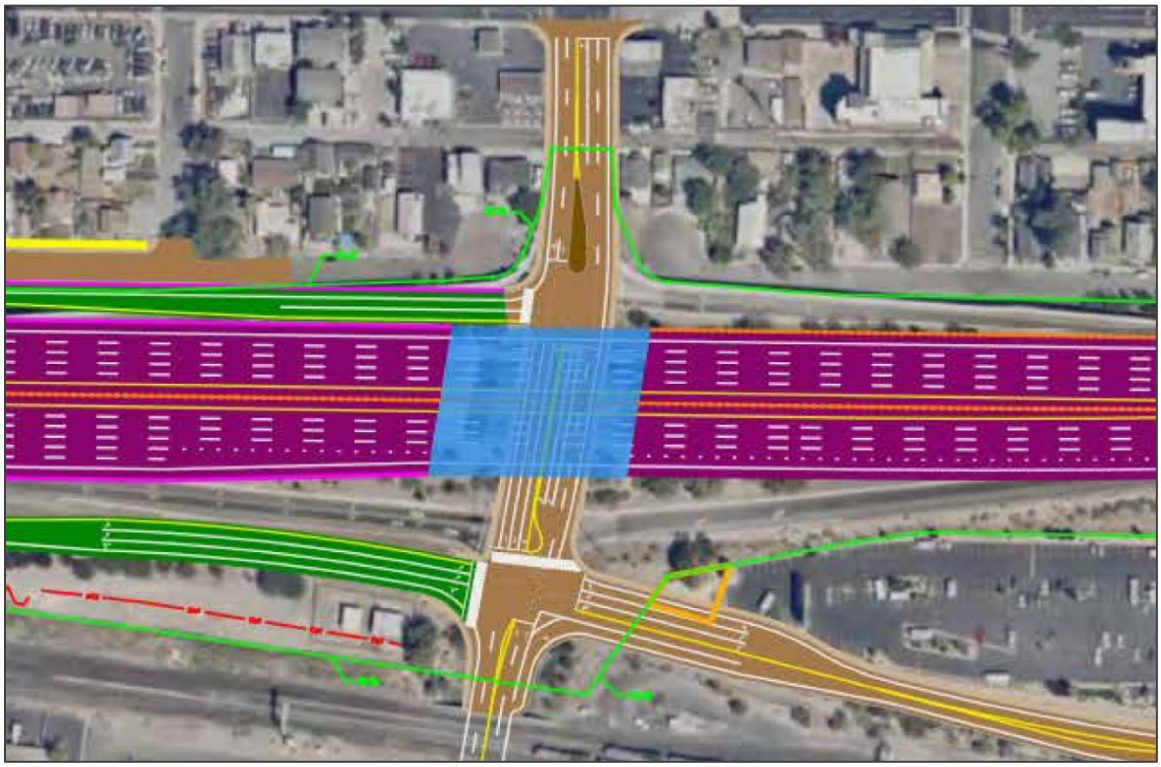


Exhibit F-3. I-80 Preferred Alternative at Rock Boulevard

The *Reno Spaghetti Bowl Project - Traffic Analysis Report* includes turning movement counts and projected

- Rock Boulevard / Victorian Avenue
- Rock Boulevard / I-80 WB Ramps
- Rock Boulevard / I-80 EB Ramps
- Rock Boulevard / Hymer Avenue

the NDOT study to develop 2050 horizon traffic volumes. Future (2050) traffic volume projections at the other

Intersection Level of Service Analysis

Future AM and PM peak hour intersection level of service analysis was performed for the study intersections based on the future traffic volumes and future NDOT planned "baseline" lane configurations shown in **Exhibit F-4** and **Exhibit F-5**. **Table F-5** shows the Future Condition level of service results and the technical calculations are provided in **Attachment F-D**.

Table F-5: Future Intersection Level of Service

ID	Intersection Name	Intersection Control	AM Peak		PM Peak	
			LOS	Delay[1]	LOS	Delay[1]
1	Rock Blvd / 15th St	Side-Street Stop				
	Southbound Left		A	8.8	B	11.0
	Westbound Left		E	37.6	E	43.2
	Westbound Right		B	10.4	B	13.8
2	Rock Blvd / C St	Signal				
	Overall		B	19.2	A	6.1
3	Rock Blvd / Victorian Ave	Signal				
	Overall		C	21.1	D	38.5
4	Rock Blvd / Hymer Ave	Signal				
	Overall		B	12.1	D	51.4
5	Rock Blvd / Glendale Ave	Signal				
	Overall		D	52.2	*E*	*57.3*
6	Rock Blvd / Greg St	Signal				
	Overall		C	29.1	D	54.8

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections and for the worst approach/movement for side street stop controlled intersections.
Source: GCW, 2026

The study intersections are anticipated to technically operate within overall level of service policy. However, congestion and queuing are still anticipated on heavier movements to/from the I-80 interchange during the peak hours.

Roadway Segment Level of Service Analysis

Table F-6 presents the level of service assessment for Rock Boulevard based on the future condition daily roadway segment volumes.

Table F-6: Future Roadway Segment Level of Service

Study Roadway	Roadway Limits	# of Lanes	ADT	LOS
Rock Blvd	McCarran Boulevard to Oddie Boulevard (Northern Neighborhood)	4	12,700	D
	Oddie Boulevard to Victorian Avenue (Residential / Commercial)	4	16,700	D
	Victorian Avenue to Hymer Avenue (I-80 Interchange)	4	26,700	*E*
	Hymer Avenue to Greg Street (Industrial)	4	19,900	D
	Greg Street to Truckee River (River)	4	14,600	D

Source: GCW, 2026

As shown in the table, the study roadway segments are anticipated to operate within policy level of service thresholds under Future Conditions.

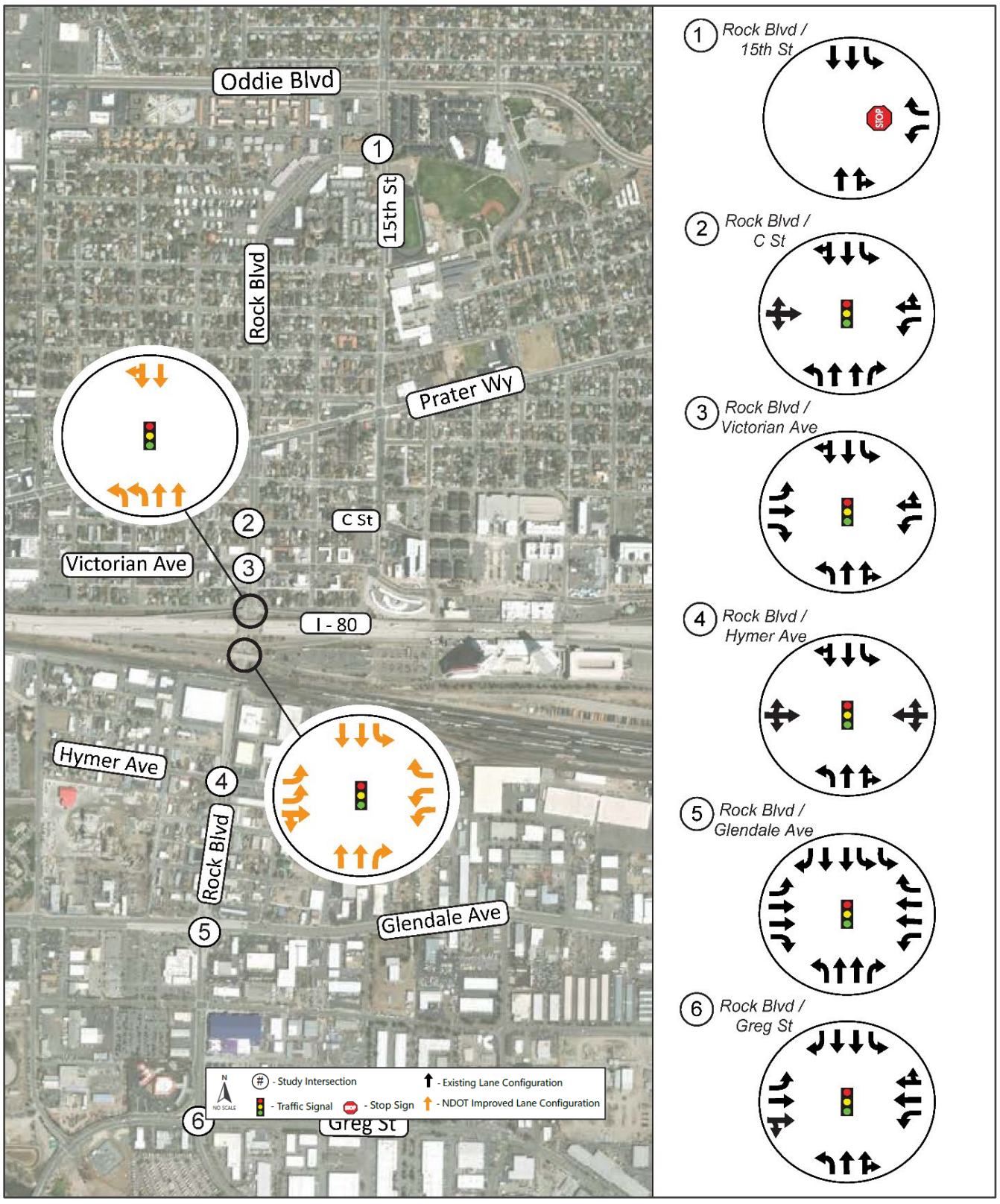


Exhibit F-4. Future Year Baseline Lane Configurations and Controls

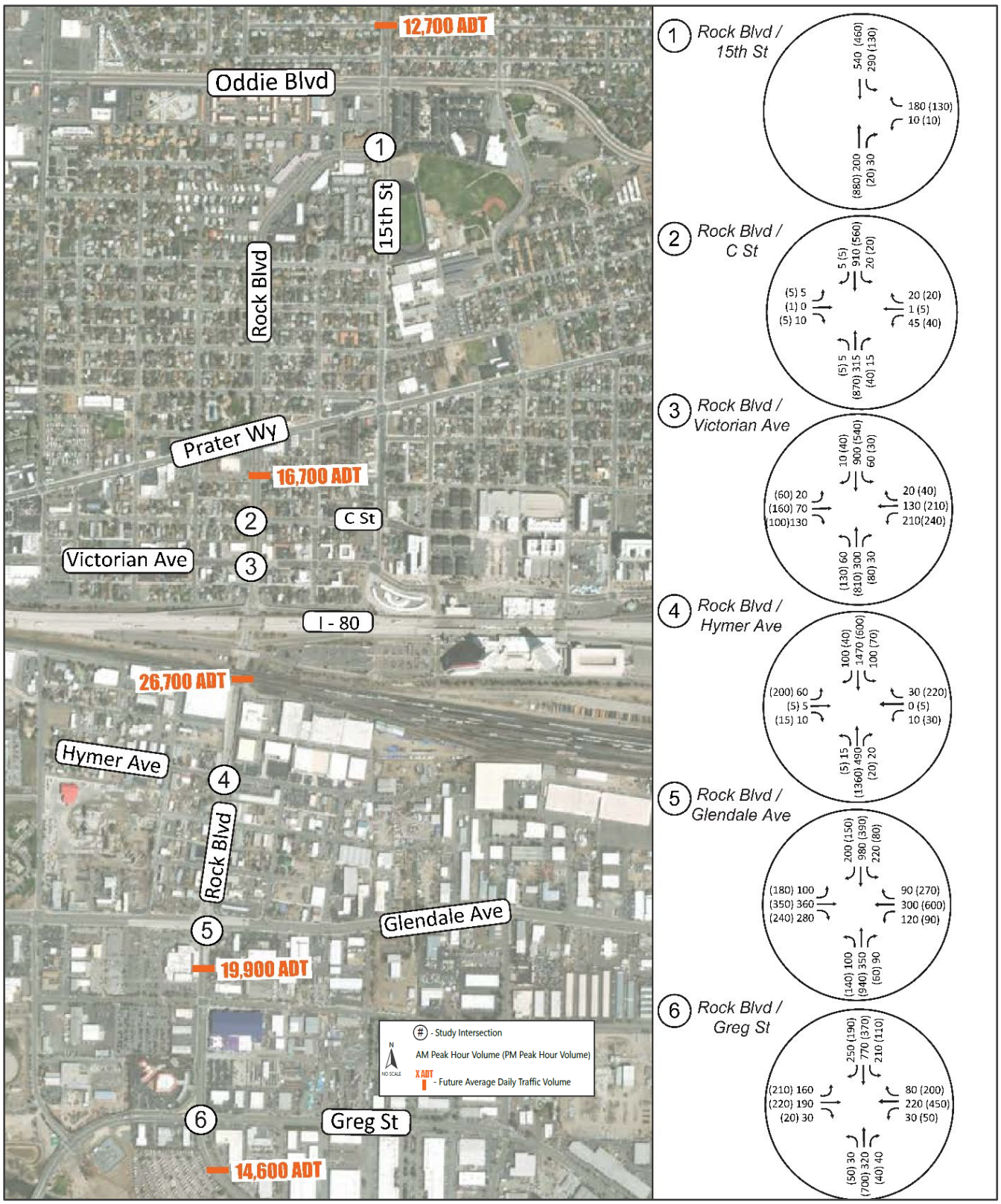


Exhibit F-5. Future Year (2050) Traffic Volumes

APPENDIX G

Alternatives Analysis

ROCK BOULEVARD
CORRIDOR STUDY

CONTEXT FOR IMPROVEMENT OPTIONS DEVELOPMENT

Guiding Documents

The Complete Street Plan within the *Ignite Sparks Comprehensive Plan* (**Exhibit G-2**) is the overarching planning document for the City of Sparks and Rock Boulevard corridor. The *Central Sparks Neighborhood Network Plan* (NNP) (**Exhibit G-1**) and *2050 Regional Transportation Plan, 2025 Update* (RTP) present goals, objectives, and general guidance for transportation improvements in the study area.

Since neither the NNP nor RTP established specific recommendations for the Rock Boulevard corridor, this corridor study will develop and evaluate improvement options and provide formal recommendations for later consideration and prioritization in the next RTP update.

Key figures of the planned multimodal network from the *Ignite Sparks Comprehensive Plan* and NNP are provided below for overall context. The *Ignite Sparks Comprehensive Plan* does not show Rock Boulevard as a "Complete Street", which would prioritize pedestrian and bicycle facilities on that roadway. Therefore, it is inferred that vehicle travel and capacity are of high priority on this arterial roadway.

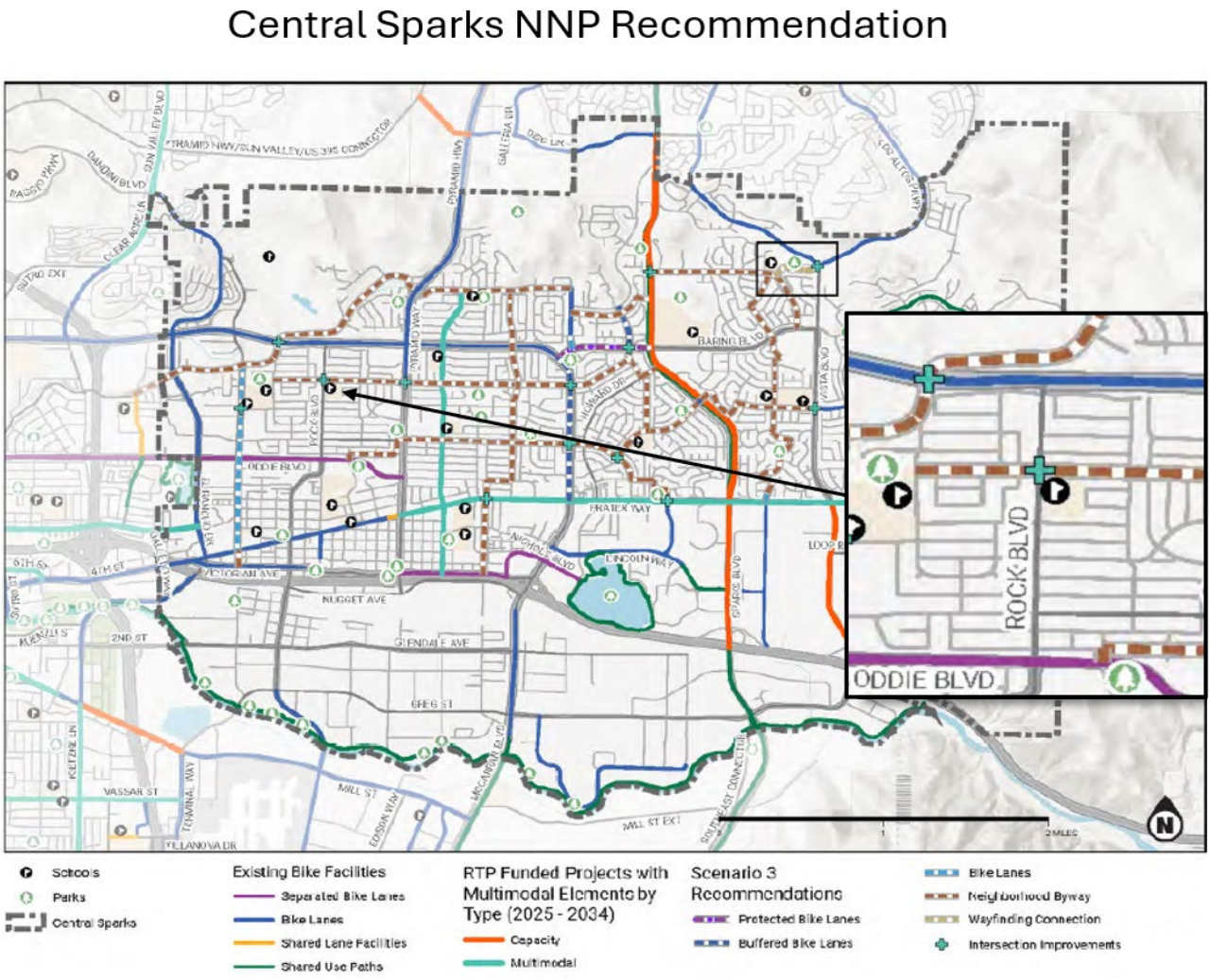


Exhibit G-1. Central Sparks Neighborhood Network Plan (NNP)

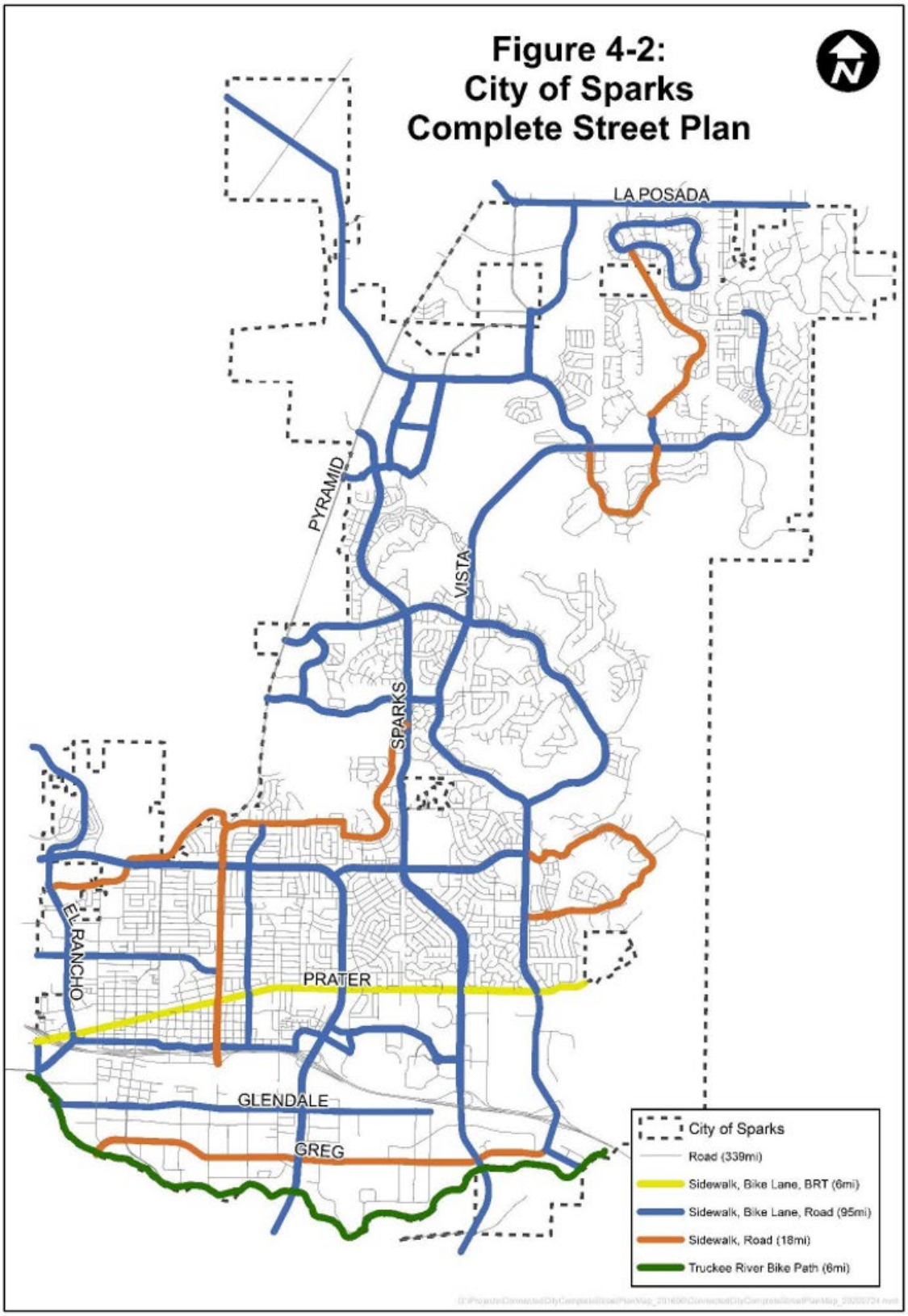


Exhibit G-2. Ignite Sparks Comprehensive Plan

Priorities by Road Segment

Review of applicable planning documents and discussion with Technical Advisory Committee (TAC) members for this study indicate the following general priorities for the corridor:

Truckee River to Victorian Ave

Character:

- Predominantly an industrial arterial corridor with freight movement and commercial uses
- Higher presence of trucks and commercial vehicles
- High vehicular volumes and significant congestion near the I-80 interchange
- Limited pedestrian activity, but pedestrian facilities are important for workforce access

Priorities:

- Maintain freight mobility, turning movements, and curb radii
- Increase vehicle capacity and reduce existing queuing
- Connect the Truckee River Path to Victorian Avenue to the extent feasible

Victorian Ave to N. McCarran Blvd

Character:

- Mixed use with commercial services between Victorian Ave and Oddie Blvd
- Residential, churches, and schools north of Oddie Blvd
- Mix of housing, retail, services, and community destinations
- Pedestrian, bicycle, and transit activity, particularly associated with Sparks High School

Priorities:

- Address vehicle speed management and pedestrian crossing safety needs near homes, schools, and businesses
- Improve sidewalks to ADA minimum policy widths and clearances (at least 48” clear)
- Pedestrian facilities deemed of higher importance than cycling facilities
- Maintain Level of Service for vehicle travel

The improvement options presented in this study are intentionally aimed at addressing the priorities outlined above.

INTERSECTION OPERATIONS FOR ADVANCED ALTERNATIVES

Various intersection modification options were considered to increase vehicular capacity, improve traffic operations, and/or increase safety in the corridor. This section provides traffic operations at key intersections where improvements were considered and advanced through this study. Intersection level of service calculations are provided in **Attachment G-A**.

Remove Southbound Right Turn Lane at Glendale Avenue

Removing the southbound right turn lane at the Rock Boulevard/Glendale Avenue intersection was considered to create space for multimodal facilities. A minor increase to the overall intersection delay is anticipated with this option. It is anticipated that the Rock Boulevard/Glendale Avenue intersection would still operate at LOS "E" with the southbound right turn lane removed, as shown in **Table G-1**, within policy level of service thresholds (LOS "F"). Queuing on the southbound approach is anticipated to increase by approximately 150 feet and 200 feet under Existing and Future Year Conditions, respectively. Note that the existing southbound right turn lane is short (100 feet) and operations may not be significantly different than what exists currently. It is recommended that the channelized right turn configuration be maintained. Practically, this modification is essentially a shortening of the right turn pocket.

Table G-1. Rock/Glendale Intersection Level of Service w/ Southbound Right Turn Pocket Removed

ID	Intersection Name	Intersection Control	Existing				Future (2050)			
			AM Peak		PM Peak		AM Peak		PM Peak	
			LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]
5	Rock Blvd / Glendale Ave	Signal								
	Overall		D	50.5	E	56.7	E	60.8	E	57.8

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections
Source: GCW, 2026

Interim Improvements At I-80 Interchange

NDOT is planning long-term improvements along I-80 and revisions to the Rock Boulevard interchange which will cause notable changes to traffic volumes on Rock Boulevard. The schedule of the Rock Boulevard interchange improvements is not known at this time, but the major modifications are expected to be beyond 2035. Therefore, interim improvements were explored at the interchange to determine if near-term improvements could be implemented prior to the NDOT project and have a reasonable service life. Note that significant capacity improvements, like roadway widening, were deemed impractical due to right-of-way constraints within the interchange area (I-80 overcrossing and Union Pacific railroad bridge).

Level 1: Restripe Eastbound & Westbound Off-Ramps for Dual Left Turns

Restriping the I-80 off-ramp approaches to implement dual left-turn lanes was evaluated to potentially increase capacity on the off-ramps, reallocate green time to Rock Boulevard, and thereby increase throughput on Rock Boulevard. Vehicle turning templates were applied to assess the feasibility of accommodating design vehicles at the ramp terminal intersections, without geometric changes, and are shown in **Exhibit G-3**. As shown, dual left-turn movements are generally feasible from both off-ramp approaches with simple striping modifications.

Based on existing traffic volumes, implementation of dual left-turn lanes is recommended at the I-80 westbound off-ramp, where left-turn demand is highest during the AM peak hour. Dual left turns were also evaluated at the I-80 eastbound off-ramp; however, consideration should be given to the very high right-turn

volume on this approach (473 AM peak-hour right turns), which may limit operational benefits. Dual left turn striping is not advised on the eastbound off-ramp and dual right turns should be considered.

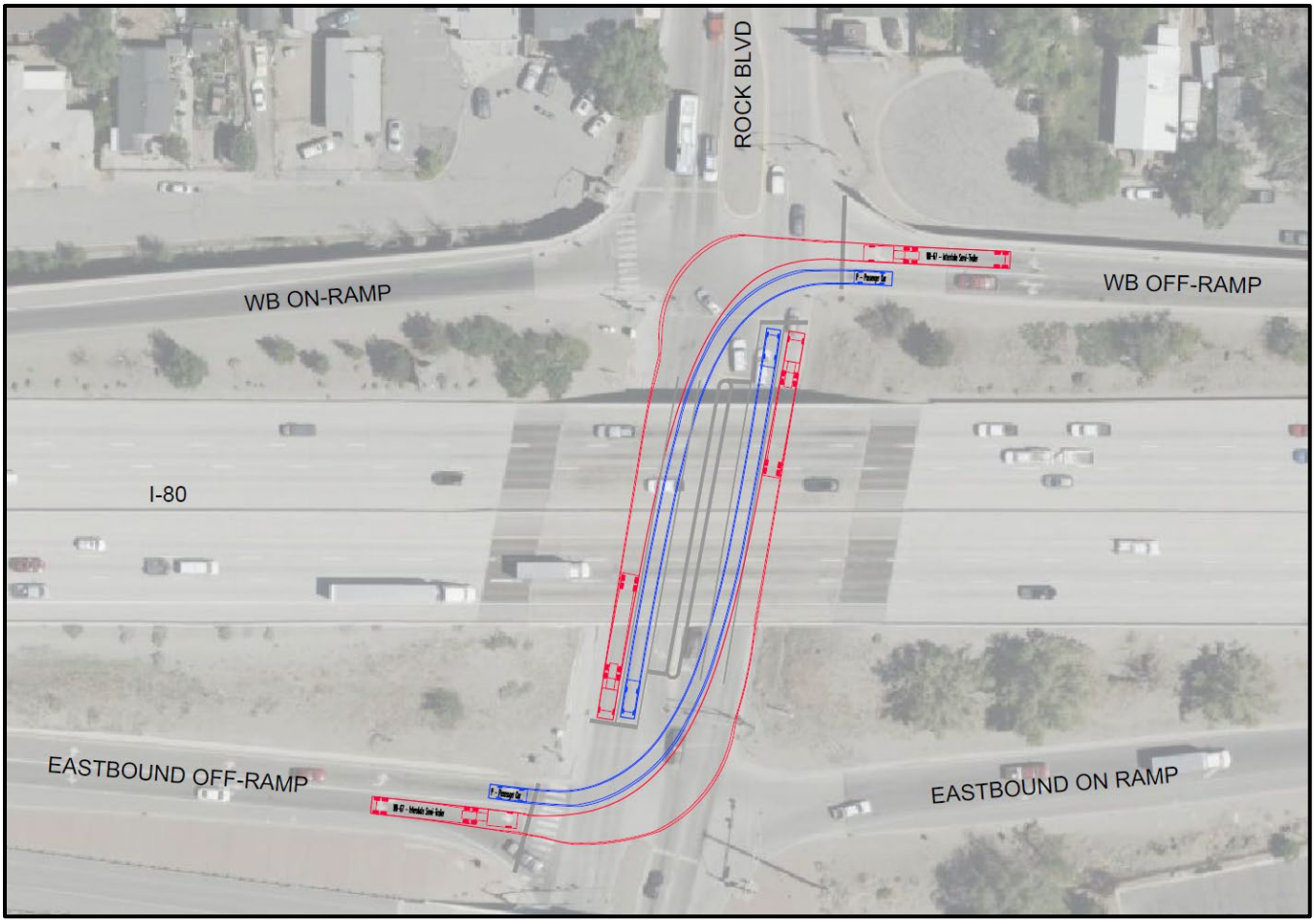


Exhibit G-3: Restriping for Dual Left Turn Lanes

Level 2: Remove Southbound Left Turn Movement

Available traffic count data from NDOT indicates that the southbound left turn movement to the I-80 eastbound on-ramp is the lowest volume movement within the interchange with fewer than 100 peak hour left turns. This finding was confirmed through field observations, which recorded fewer than 50 southbound left turns during the peak 30-minute period. Given the low demand, consideration could be given to removing the southbound left turn movement in order to maximize green time for the northbound through movement, which carries the highest peak hour volumes.

Level 3: Dual Northbound Left Turn Lanes

The Level 3 improvements consist of constructing dual northbound left turn lanes using the space created by removing the southbound left turn lane. Comparing levels 1, 2, and 3, this option provides the greatest operational benefit without widening Rock Boulevard. Level 3 would increase capacity for the northbound left turn movement to the I-80 westbound off-ramp, which currently experiences notable queuing and congestion

during the PM peak hour (558 peak hour left turns). It should be noted that this alternative would require significant construction to create two receiving lanes on the westbound on-ramp.

Intersection level of service results for Levels 1 through 3, based on existing traffic volumes, are summarized in **Table G-2**. Note that the calculations are for each level only, not for cumulative conditions of all levels.

Table G-2. I-80 Interchange Improvements Intersection Level of Service (Existing Volumes)

Intersection Name	Intersection Control	AM Peak		PM Peak	
		LOS	Delay[1]	LOS	Delay[1]
Existing Conditions					
Rock Blvd / I-80 WB Ramps	Signal				
Overall		C	22.8	B	15.1
Rock Blvd / I-80 EB Ramps	Signal				
Overall		B	18.1	C	28.9
Level 1 (Dual Westbound Left Turns)					
Rock Blvd / I-80 WB Ramps	Signal				
Overall		B	13.2	B	15.2
Rock Blvd / I-80 EB Ramps	Signal				
Overall		B	18.1	C	28.9
Level 2 (No Southbound Left Turn)					
Rock Blvd / I-80 WB Ramps	Signal				
Overall		C	22.7	B	15.2
Rock Blvd / I-80 EB Ramps	Signal				
Overall		B	18.4	B	15.0
Level 3 (Dual Northbound Left Turn Lanes)					
Rock Blvd / I-80 WB Ramps	Signal				
Overall		C	29.8	C	23.4
Rock Blvd / I-80 EB Ramps	Signal				
Overall		B	18.4	B	15.0

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections
Source: GCW, 2026

DISMISSED ALTERNATIVES

Intersection Spot Improvements

Rock / Hymer Signal Phasing Modification

Existing conditions at the Rock Boulevard/Hymer Boulevard intersection result in queuing on both the eastbound and westbound side street approaches. Alternative side street phasing options, including east-west protected/permissive left turn operations, were evaluated as shown in **Table G-3**. Although the analysis indicates minor operational improvements, substantial queuing would still be expected on the westbound left turn movement due to conflicts with high eastbound right turn volumes. As a result, revised east/west phasing is not recommended, as it would provide only marginal benefits while introducing additional conflict points.

Table G-3. Rock/Hymer Intersection Level of Service with Protected/Permissive Lefts

ID	Intersection Name	Intersection Control	Existing				Future (2050)			
			AM Peak		PM Peak		AM Peak		PM Peak	
			LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]
4	Rock Blvd / Hymer Ave	Signal								
	Overall		B	10.7	D	42.2	B	11.2	D	42.6

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections
Source: GCW, 2026

It should be noted that the Rock / Hymer traffic signal system will be improved in 2027 under a separate project.

Remove C Street Traffic Signal

Traffic volumes on the side street approaches at C Street are very low and do not meet established traffic signal warrant criteria as shown in **Exhibit G-4**. Additionally, the close spacing of signalized intersections along the corridor contributes to progression and coordination challenges. The minor side-street movements can easily reroute to other intersections (Victorian Avenue and Prater Way) during busy time periods. While the westbound left turn movement from C Street is expected to experience increased delays during peak times, as shown in **Table G-4**, queuing is anticipated to be manageable. Removal of the traffic signal at Rock Boulevard/C Street was considered but the concept was not supported by the City of Sparks due to special event activity at Victorian Square.

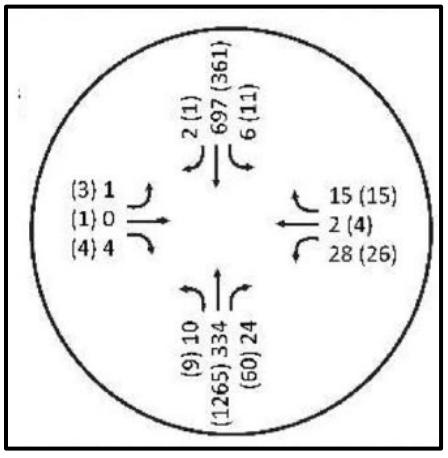


Exhibit G-4. C Street Peak Hour Traffic Volumes

Table G-4. Rock/C Street Intersection Level of Service

ID	Intersection Name	Intersection Control	Existing				Future (2050)			
			AM Peak		PM Peak		AM Peak		PM Peak	
			LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]
2	Rock Blvd / C St	Side-Street STOP								
	Northbound Left		A	9.3	A	8.1	B	10.3	A	8.7
	Southbound Left		A	8.1	B	12.3	A	8.1	A	9.9
	Eastbound Approach		B	13.3	C	22.2	C	19.5	C	21.8
	Westbound Left		C	19.1	F	74.3	C	24.5	E	46.2

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections
Source: GCW, 2026

Roundabouts at Vance Way and York Way

The Maxwell Elementary School Principal expressed significant issues regarding speeding on Rock Boulevard. The consultant team has personally observed and experienced similar issues and aggressive driving within the school zone. Roundabouts were evaluated at the Vance Way and York Way intersections to serve as traffic calming measures adjacent to Maxwell Elementary School. The contemplated roundabouts would introduce geometric deflection forcing slower vehicle speeds, reduce conflict points (beneficial to safety), and change the character of the intersections for increased driver awareness.

The existing four-lane roadway would require dual lane roundabouts with an approximate inscribed circle diameter of 165 to 180 feet. Implementation would significantly impact all adjacent quadrants at both intersections, as illustrated in **Exhibit G-5**. This concept was dismissed due to impacts on adjacent properties.



Exhibit G-5: Roundabout Concepts at Vance Way and York Way

Pedestrian Safety Spot Improvements

Road Diet Feasibility

The Rock Boulevard right-of-way is constrained by many commercial and residential buildings in close proximity to the roadway. Adding bicycle specific facilities would therefore require either 1) acquiring significant amounts of private property or 2) reducing the number of vehicle travel lanes and repurposing the space for bicycle features.

The following analysis was performed to determine if and in what segments road diets could be plausible.

Truckee River to Victorian Avenue

A road diet is deemed not feasible south of Victorian Ave due to existing and future high traffic volumes (approaching 27,000 ADT as shown in **Table G-5**), current congestion, and severe queuing, in a segment of road where vehicle capacity and freight movement is a high priority.

Table G-5: Future Roadway Segment Level of Service

Study Roadway	Roadway Limits	# of Lanes	ADT	LOS
Rock Blvd	McCarran Boulevard to Oddie Boulevard (Northern Neighborhood)	4	12,700	D
	Oddie Boulevard to Victorian Avenue (Residential / Commercial)	4	16,700	D
	Victorian Avenue to Hymer Avenue (I-80 Interchange)	4	26,700	*E*
	Hymer Avenue to Greg Street (Industrial)	4	19,900	D
	Greg Street to Truckee River (River)	4	14,600	D

Source: GCW, 2026

Victorian Avenue to Oddie Boulevard

This segment carries 17,400 ADT today and is expected to carry similar daily volumes in the future. Two road diet scenarios were considered and are presented below for consideration.

Option 1: Remove Northbound and Southbound Travel Lane

This scenario considers removing one travel lane in each direction with the thought that buffered bike lanes could potentially be constructed in the former travel lanes. **Table G-6** and **Table G-7** show the resulting road diet level of service results and the technical calculations are provided in **Attachment G-B**.

Table G-6. Option 1 Road Diet Roadway Segment Level of Service

Study Roadway	Roadway Limits	# of Lanes	Existing		Future (2050)	
			ADT	LOS	ADT	LOS
Rock Blvd	Oddie Boulevard to Victorian Avenue (Mixed Use Area)	2	***17,400***	***E***	***16,700***	***E***

Source: GCW, 2026

Table G-7. Option 1 Road Diet Intersection Level of Service

ID	Intersection Name	Intersection Control	Existing				Future (2050)			
			AM Peak		PM Peak		AM Peak		PM Peak	
			LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]
1	Rock Blvd / 15th St	Side-Street Stop								
	Southbound Left		A	8.7	B	11.0	A	8.8	B	11.0
	Westbound Left		E	37.5	D	34.9	F	50.2	F	50.9
	Westbound Right		B	11.3	C	22.8	B	11.3	C	23.2
2	Rock Blvd / C St	Signal								
	Overall		C	27.4	A	7.7	D	44.7	A	7.7
3	Rock Blvd / Victorian Ave	Signal								
	Overall		C	27.1	***F***	***166.0***	D	47.7	D	50.0

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections and for the worst approach/movement for side street stop controlled intersections.
Source: GCW, 2026

As shown in the tables, the Rock Boulevard/Victorian Avenue intersection and the roadway segment are anticipated to operate beyond level of service policy if a lane was removed in both directions. It is anticipated that queuing in the northbound direction at Victorian Avenue would extend into the I-80 ramps under Existing and Future Conditions. Operations at Prater Way (not studied) and potentially Oddie Boulevard (not studied) would also be problematic. Minor street approaches would be significantly impacted (increased delay). Therefore, a road diet consisting of removing a travel lane in both directions between Victorian Avenue and Oddie Boulevard is not recommended.

Option 2: Remove Southbound Travel Lane

This scenario considers removing one southbound travel lane in order to potentially use that space for a multi-use path. **Table G-8** and **Table G-9** show the road diet level of service results and the technical calculations are provided in **Attachment G-C**.

Table G-8. Option 2 Remove Southbound Travel Lane Roadway Segment Level of Service

Study Roadway	Roadway Limits	# of Lanes	Existing		Future (2050)	
			ADT	LOS	ADT	LOS
Rock Blvd	Oddie Boulevard to Victorian Avenue (Residential / Commercial)	3	17,400	D	16,700	D

Source: GCW, 2026

Table G-9. Option 2 Remove Southbound Travel Lane Intersection Level of Service

ID	Intersection Name	Intersection Control	Existing				Future (2050)			
			AM Peak		PM Peak		AM Peak		PM Peak	
			LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]
1	Rock Blvd / 15th St	Side-Street Stop								
	Southbound Left		A	8.7	B	11.0	A	8.8	B	11.0
	Westbound Left		E	40.6	E	37.7	F	55.3	F	56.3
	Westbound Right		B	10.2	B	13.7	B	10.4	B	13.8
2	Rock Blvd / C St	Signal								
	Overall		C	23.5	A	5.1	D	44.5	A	6.5
3	Rock Blvd / Victorian Ave	Signal								
	Overall		C	23.7	D	40.2	D	50.1	D	41.5

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections and for the worst approach/movement for side street stop controlled intersections.
Source: GCW, 2026

As shown in the tables, all studied intersections and study roadway segments are anticipated to operate within level of service policy under this option. Queuing would increase in the southbound direction, notably in the AM peak hour, throughout the corridor. At Victorian Avenue, queuing on the southbound approach is anticipated to extend to approximately 175 feet and 575 feet during the AM peak hour under Existing and Future Year Conditions, respectively. Note that queuing from the I-80 ramp intersections into Victorian Avenue, as happens today, would increase those stated queues. Based on the analysis, removing a southbound travel lane might be manageable under Existing Conditions; however, there would be little capacity remaining to carry future traffic volume growth should that occur. Minor street approaches would be significantly impacted (increased delay).

A road diet (Option 1 or 2) should only be seriously considered in the segment of Victorian Avenue to Oddie Boulevard if no other options are available to serve cyclists on roadways adjacent to Rock Boulevard north of Victorian Avenue.

<u>Oddie Boulevard to N. McCarran Boulevard</u>

Option 3: Remove Northbound and Southbound Travel Lane

This scenario considers removing one travel lane in each direction in the segment of Oddie Boulevard to N. McCarran Boulevard to repurpose the space of the former lanes. Traffic volumes are and will continue to be lower in this segment than the rest of the corridor and the residential character is more suited to a lower capacity roadway. **Table G-10** demonstrates that typical daily volumes in this segment are not anticipated to exceed 13,000 vehicles per day. This option may be possible but would have notable impacts on the minor street approaches to Rock Boulevard (movements from Greenbrae, Vance, York, and all other side-streets would be impacted). Further analysis should be undertaken before advancing this concept.

Table G-10. Option 3 Road Diet Roadway Segment Level of Service

Study Roadway	Roadway Limits	# of Lanes	Existing		Future (2050)	
			ADT	LOS	ADT	LOS
Rock Blvd	McCarran Boulevard to Oddie Boulevard (Northern Neighborhood)	2	9,800	D	***12,700***	***E***

Source: GCW, 2026

Option 4: Remove Southbound Travel Lane

This scenario considers removing one southbound travel lane in the segment of Oddie Boulevard to N. McCarran Boulevard to create additional space for bicycle / pedestrian facilities. **Table G-11** shows the road diet level of service results.

Table G-11. Option 4 Remove Southbound Travel Lane Roadway Segment Level of Service

Study Roadway	Roadway Limits	# of Lanes	Existing		Future (2050)	
			ADT	LOS	ADT	LOS
Rock Blvd	McCarran Boulevard to Oddie Boulevard (Northern Neighborhood)	3	9,800	D	12,700	D

Source: GCW, 2026

This option is likely possible from strictly a traffic volume perspective. However, notable impacts would occur at the minor street approaches to Rock Boulevard. Movements from Greenbrae, Vance, York, and all other side-streets would be impacted with increased delays and difficulty entering/crossing Rock Boulevard.

Following review of this analysis, the City of Sparks did not wish to pursue any lane reductions on Rock Boulevard.

Bicycle Network Improvements

Network Planning

Good bicycle facilities planning begins with evaluating the overall study area bicycle facilities network by documenting existing facilities, considering regional connections, identifying bicycle trip generators or high activity areas (such as dense residential and commercial land use), and identifying the highest value linkages in the study area. Corridor studies should focus on accomplishing specific goals in context rather than simply applying a one-size-fits-all approach.

Specifically related to bicycle facilities, the primary goals for this study are:

- Connect the Truckee River Path to Victorian Ave (where quality east-west facilities exist)
- Improve bike/ped facilities in the I-80 interchange area (Hymer to Victorian) as this segment has only narrow sidewalk on one side and high levels of user stress

With regard to the bicycle network, the *Central Sparks Neighborhood Network Plan* (NNP) emphasizes, and has planned, buffered bike lanes and a road diet on Sullivan Lane. Sullivan Lane is ideal as a north-south connection since it connects to El Rancho Drive in the north and passes through higher intensity commercial land uses and higher density residential developments than Rock Boulevard. Initial conversations with the TAC indicated the City of Sparks would be hesitant to support road diets on both Sullivan Lane and Rock Boulevard. Widening Rock Boulevard for bike facilities would impact numerous properties and would likely be cost prohibitive, therefore consideration is given in this study to utilizing alternate parallel routes that could be better suited for bicycle travel.

This study considers:

- Multi-use paths with roadway widening
- Multi-use paths with road diet
- A multi-use bridge over the UPRR railroad and I-80
- Widening sidewalks
- Shared roadway (cyclists share the lane with vehicles on lower volume streets)
- Bike lanes with road diet
- Routing cyclists to alternate roadways with wayfinding signage

Exhibit G-6 provides an overview of the Rock Boulevard corridor within the Central Sparks street system and illustrates the linkage options (distinct segments shown by various colors) considered in building a bicycle network.

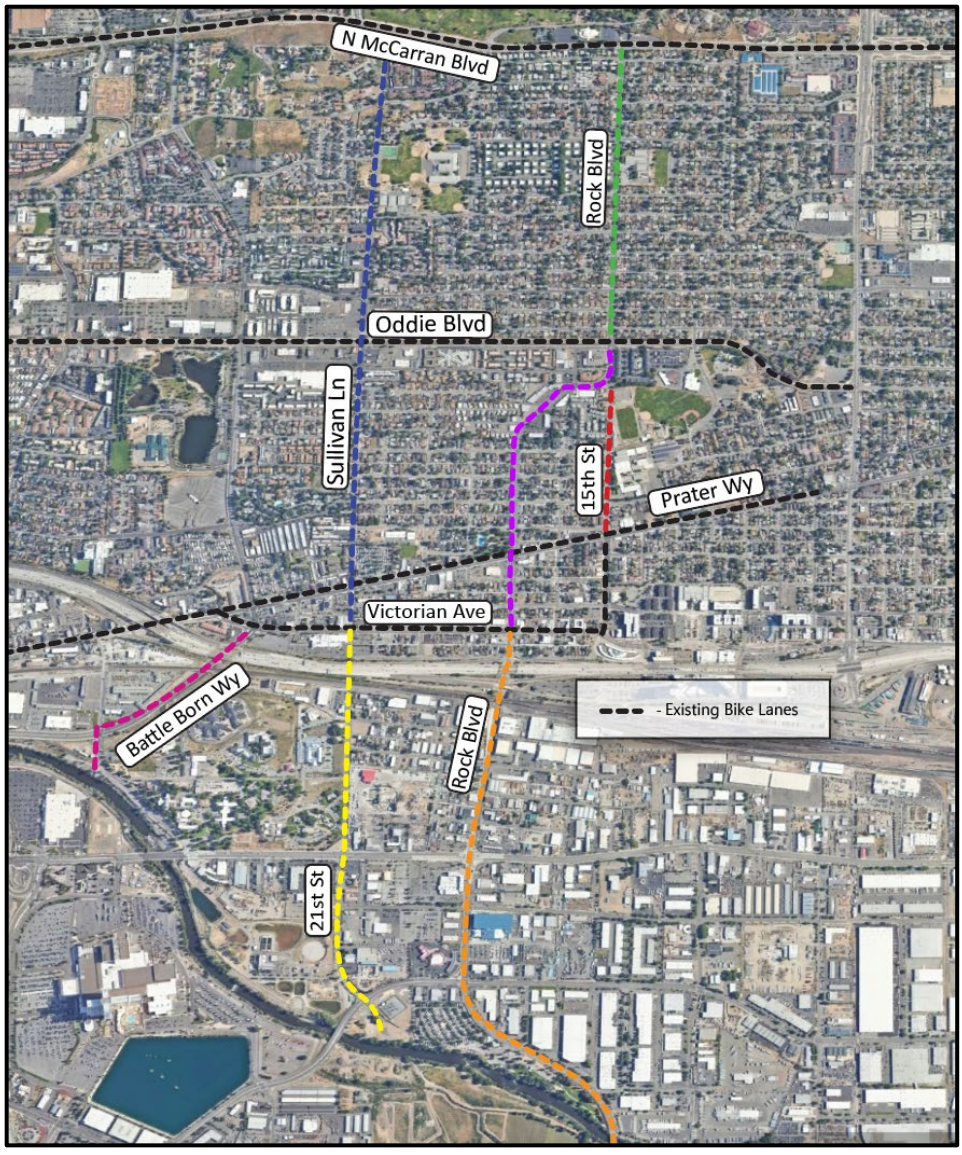


Exhibit G-6. Study Area Connection Options

Rock Boulevard is the primary north–south connection between the Truckee River and Victorian Avenue, having the only north-south roadway Truckee River crossing. Key, and recently improved, east–west connections exist on Victorian Avenue, Prater Way, Oddie Boulevard, and McCarran Boulevard.

North of Victorian Avenue, Sullivan Lane is an ideal north-south route and a potential alternative to Rock Boulevard. Similarly, 15th Street is parallel to Rock Boulevard and could serve as an alternative to Rock Boulevard between Victorian Avenue and Oddie Boulevard.

Options for Truckee River to Victorian Avenue

Either Option A-3 (multi-use bridge, concept shown below in **Exhibit G-7**) or A-4 (modification of the existing roadway to widen sidewalk at the underpass) could be implemented between Hymer Avenue and Victorian Avenue to improve pedestrian and bicycle travel in this currently uncomfortable portion of the corridor.

It should be noted that permitting and constructing a long, multi-span, multi-use bridge over the UPRR railroad and I-80 would be complex, expensive, a lengthy process, and could have a poor return on investment. Further, landing the bridge on the north end from a height well above the freeway could prove very challenging and require notable property acquisition. This alternative was dismissed by the TAC.



Exhibit G-7. Multi-Use Bridge Concept

Options for Victorian Avenue to N. McCarran Boulevard

Multimodal improvement alternatives were evaluated for the segment between Victorian Avenue and N. McCarran Boulevard. The evaluations present a range of roadway and sidewalk treatments including multi-use paths, bicycle lanes paired with road diets, sidewalk widening on one or both sides of the street, and designating a shared roadway on 15th Street between Prater Way and Rock Boulevard. An overarching consideration is that obtaining right-of-way is not deemed reasonable in this corridor due to the number of properties affected, magnitude of impacts, and high costs associated with that action.

B-1: Multi-Use Path with Road Diet

This concept (**Exhibit G-8**) contemplated a shared-use path located in the space created by removing a southbound travel lane. By repurposing a travel lane, no substantial right-of-way acquisition would be needed.

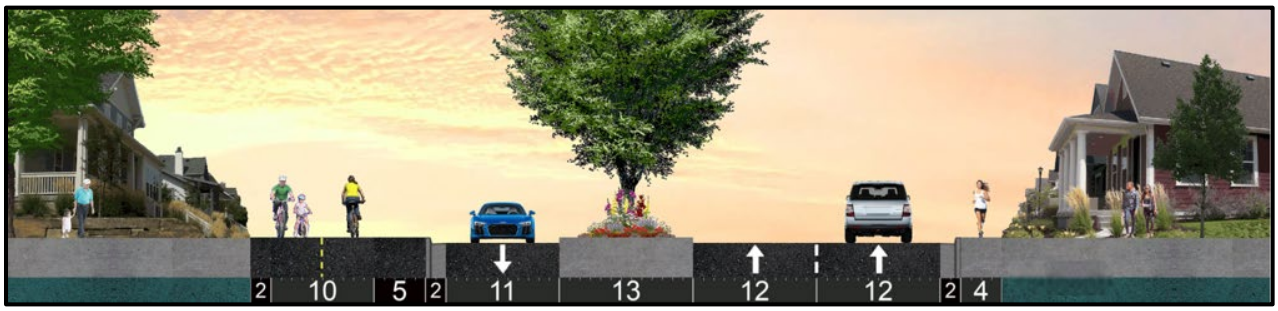


Exhibit G-8: B-1 Multi-Use Path with Road Diet

B-2: Buffered Bike Lanes with Road Diet

This concept (**Exhibit G-9**) contemplates removal of northbound and southbound travel lanes and repurposing those spaces as buffered bike lanes. By repurposing existing travel lanes, no substantial right-of-way acquisition would be needed.

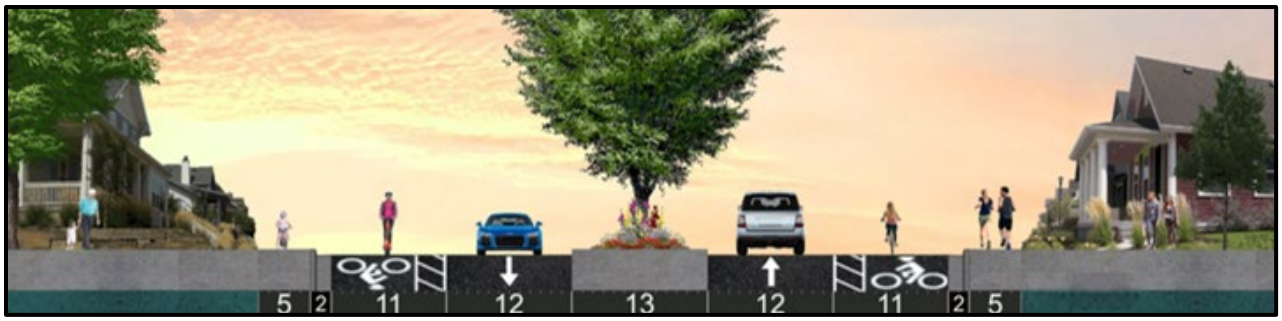


Exhibit G-9: B-2 Bike Lanes with Road Diet

Options B-1 or B-2, which create bike facilities on Rock Boulevard, were ultimately dismissed by the TAC and not advanced as preferred alternatives.

APPENDIX H

Scoring Criteria Matrix

ROCK BOULEVARD CORRIDOR STUDY

Rock Boulevard - Project Scoring Criteria

	Goal	Objective	Metric	Max Score	Truckee River to Victorian Avenue (River/Industrial/I-80 Interchange)									Victorian Avenue to Oddie Boulevard (Residential/Commercial)						Oddie Boulevard to North McCarran Boulevard (Northern Neighborhood)							
					Multi-Use Path A-1	Multi-Use Path A-2	Multi-Use Bridge at I-80 A-3	Multi-Use Path at I-80 A-4	Slip Lane Modifications	I-80 Level 1 Restripe Off-Ramps	I-80 Level 2 Remove SBL	I-80 Level 3 Remove SBL & Add Dual NBL	Wayfinding Signage	Multi-Use Path, Remove SB Lane B-1	Shared Roadway B-5	Remove C-Street Traffic Signal	Remove Right Turn Slip Lane at C Street	Crossing Treatments (F through I St)	Widen Sidewalk (15th to Oddie) B-3	Multi-Use Path, Remove SB Lane B-1	Bike Lanes, Remove NB & SB Travel Lanes B-2	Widen Sidewalk Both Sides B-4	Roundabouts at Vance and York	Speed Management (Tyler Wy to Plymouth Wy)	Crossing Treatments (Gault, Maxwell ES, Vance, Tyler)	Dual Northbound Right Turn at McCarran	Transit Improvements
1	Safety	Reduce Traffic Fatalities and Serious Injuries	Number of crashes per year at project location (High=5, Medium=3, Low=1)	5	1	5	5	5	5	5	5	5	5	3	1	5	5	3	3	3	3	3	3	3	5	3
			Bike/ped crashes per year at project location (High=5, Medium=3, Low=1)	5	1	1	5	5	3	5	5	5	5	5	1	5	5	5	5	3	3	3	3	3	1	3
2	Congestion Reduction	Manage Vehicle Travel Demand and Reduce Congestion	Volume to Capacity ratio before project (>1.0=7,1.0-0.75=5, <0.5=0)	7	0	5	7	7	0	7	7	7	5	5	0	5	0	5	5	0	0	0	0	0	0	7	0
			Average Daily Traffic (>14,000=5, 14,000-5,000=2, <5,000=0)	5	2	5	5	5	0	5	5	5	2	5	0	5	0	5	5	2	2	2	2	2	2	2	2
3	System Reliability and Resiliency	Integrate All Travel Modes and Increase Travel Options	Is the project a bike/ped project? (Yes=3, No=0)	3	3	3	3	3	3	0	0	0	3	3	3	0	3	3	3	3	3	3	3	0	3	0	0
			Does the project fill gaps in the existing network? (Yes=4, No=0)	4	4	4	4	4	4	0	0	0	4	4	4	0	0	0	0	4	4	0	0	0	4	0	4
4	Efficient Freight Movement and Economic Vitality	Improve the Movement of Freight and Goods	Does the project improve operations in a freight corridor? (Yes=5, No=0)	5	0	0	0	0	0	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Provides access to employment center (Large=5, Medium=3, Small=1)	5	1	1	3	1	1	5	5	5	1	1	1	1	1	1	1	1	1	1	1	1	5	1
5	Land Use Compatibility	Infrastructure Supports Land Use	Project is compatible with the Ignite Sparks 2030 Comprehensive Plan and Sparks Municipal Code? (Highly=8, Reasonably=4, No=0)	8	8	8	0	8	8	8	4	4	8	0	8	0	8	8	8	0	0	8	0	8	8	8	8
			Project is context sensitive to local land uses (Yes=3, No=0)	3	3	3	3	3	0	3	3	3	0	0	3	0	0	3	3	3	3	3	3	3	3	3	3
			Project enhances safety adjacent to school, park, activity center (Yes=3, No=0)	3	3	3	3	3	3	0	0	0	0	3	3	0	0	3	3	3	3	3	3	3	3	0	3
6	Accessibility and Mobility	Provide a Regional Transit System and Other Transportation Services	Does the project location have a transit stop? (Yes=4, No=0)	4	4	4	0	0	4	0	0	0	4	4	0	0	0	0	0	4	4	4	4	4	4	0	4
			Distance from fixed route transit service (<0.25 mi=3, 0.25-0.5mi=2, >0.5mi=0) and/or distance from BRT service (</= 0.5 mi=3, >0.5 mi=0)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
			Does the project promote transit? (Yes=2, No=0)	2	2	2	0	0	0	0	0	0	2	0	2	0	0	0	0	2	2	2	0	2	2	0	2
7	Integrate Land-Use and Economic Development	Improve Inter-Regional Connectivity	Project is within which of the five TMRPA tiers? (1=7, 2=6, 3=4, 4=2, 5=1)	7	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	6	6	6	6	6	6	6	6
			Does project improve connectivity for tourism? (Yes=3, No=0)	3	3	3	0	0	0	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Fiscal Management	Prioritize Cost Effectiveness	Benefit to Cost Ratio (High=9, Medium =4, Low=0)	9	4	4	0	9	9	9	4	4	9	4	9	9	4	9	9	4	4	4	4	9	9	9	9
			Project can be combined with other projects for efficiency (Yes=2, No=0)	2	0	0	0	2	2	2	0	0	2	0	2	2	2	2	2	0	0	2	2	2	2	0	2
9	Ease of Implementation	Advance Projects that are Feasible	Right-of-Way acquisition (Low=7, Moderate=3, High Impact=0)	7	3	3	0	7	7	7	7	7	7	0	7	3	7	7	7	3	3	7	0	7	7	7	3
			Project Feasibility (High=10, Medium=5, Low=0)	10	5	5	0	10	10	10	5	5	10	0	10	0	10	10	10	0	0	10	0	10	10	10	10
Total Score				**100**	**56**	**68**	**47**	**81**	**68**	**83**	**67**	**67**	**77**	**47**	**64**	**45**	**55**	**74**	**74**	**44**	**44**	**64**	**37**	**66**	**73**	**66**	**66**

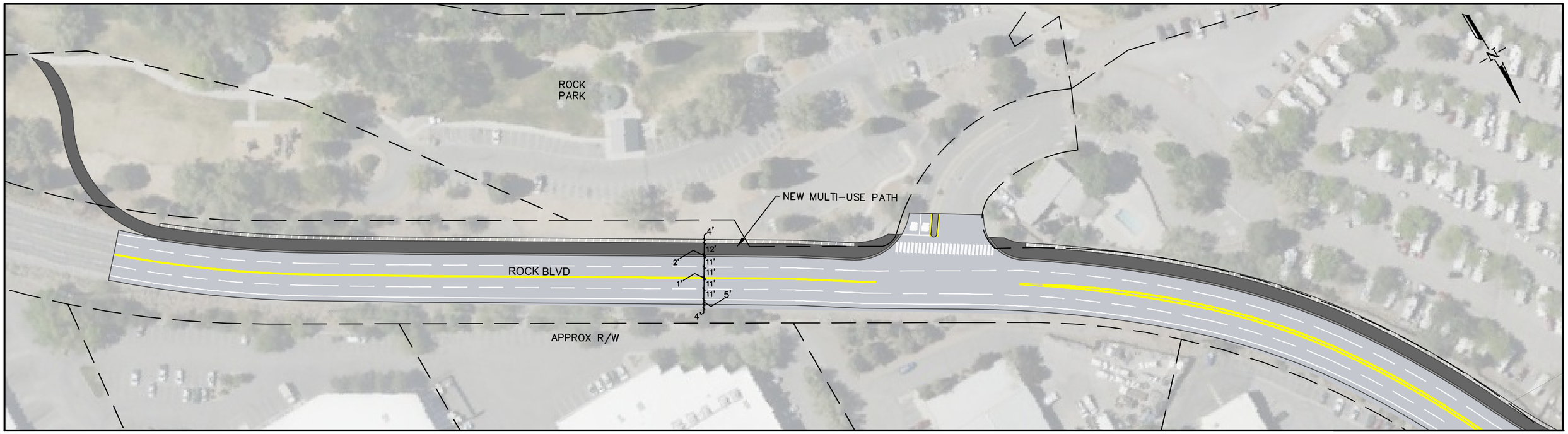
Notes:
- Potential Alternative (score greater than 50)
- Dismissed Alternative (score less than 50)

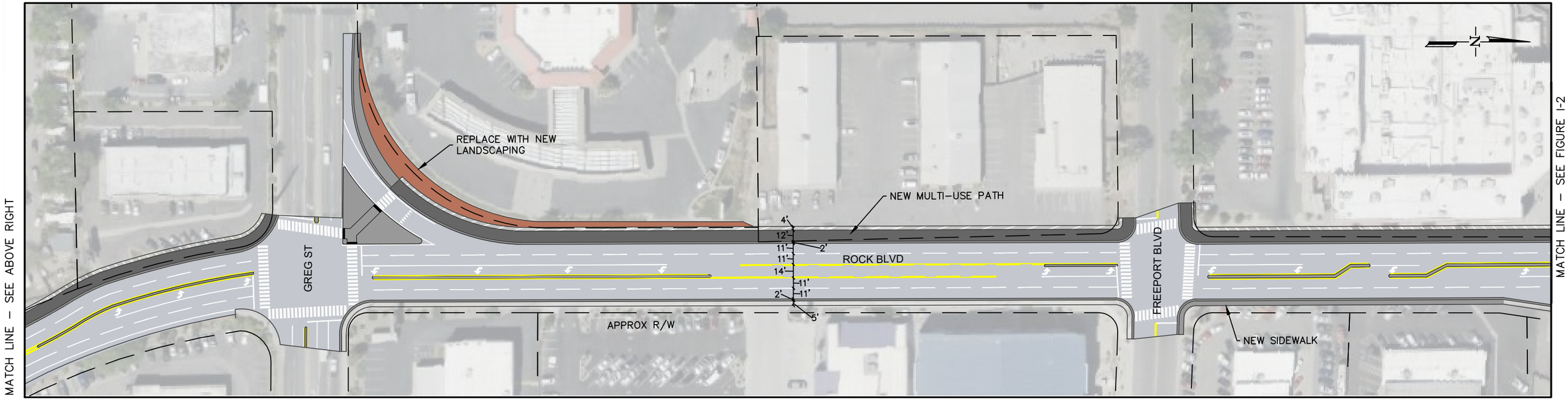
GCW ENGINEERS \ SURVEYORS

APPENDIX I

Concepts of Recommended Potential Improvements

ROCK BOULEVARD CORRIDOR STUDY





ROCK BOULEVARD CORRIDOR STUDY

1" = 100'

Figure I-1
Rock Boulevard
Corridor Study
Multi-Use Path (A-1 & A-2)

MATCH LINE – SEE FIGURE I-1

GLENDALE AVE

NEW MULTI–USE PATH

SHABER AVE

ROCK BLVD

PITTMAN AVE

HYMER AVE

MATCH LINE – SEE BELOW LEFT

MATCH LINE – SEE ABOVE RIGHT

NEW MULTI–USE PATH

ROCK BLVD

NUGGET AVE

I-80 EB OFF-RAMP

I-8

I-80 WB ON-RAMP

INTERIM INTERCHANGE ALTERNATIVE

I-80 EB ON-RAMP

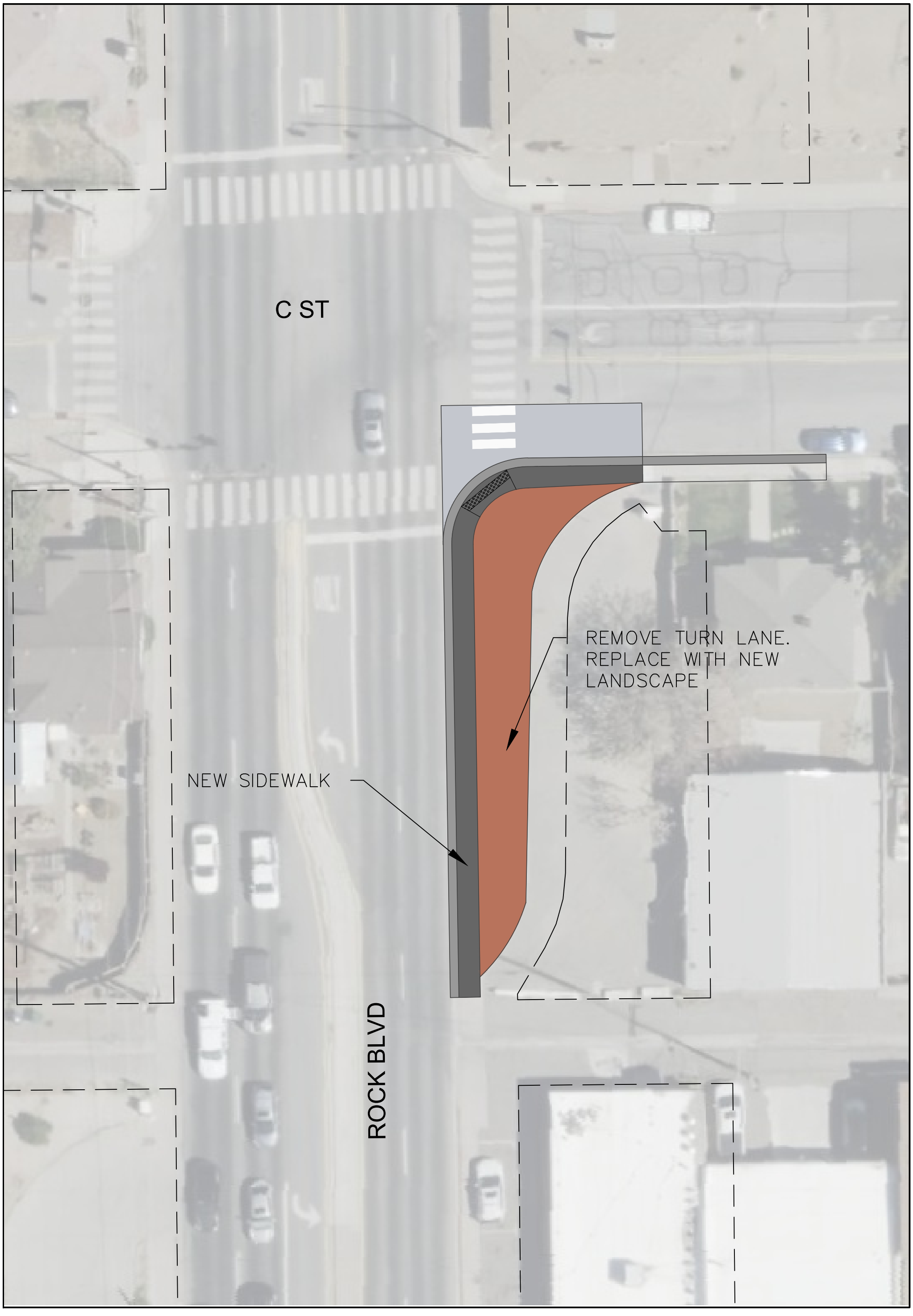
I-80 WB OFF-RAMP

VICTORIAN AVE

ROCK BOULEVARD CORRIDOR STUDY

1" = 100'

Figure I-2
Rock Boulevard
Corridor Study
Multi-Use Path (A-2 & A-4)



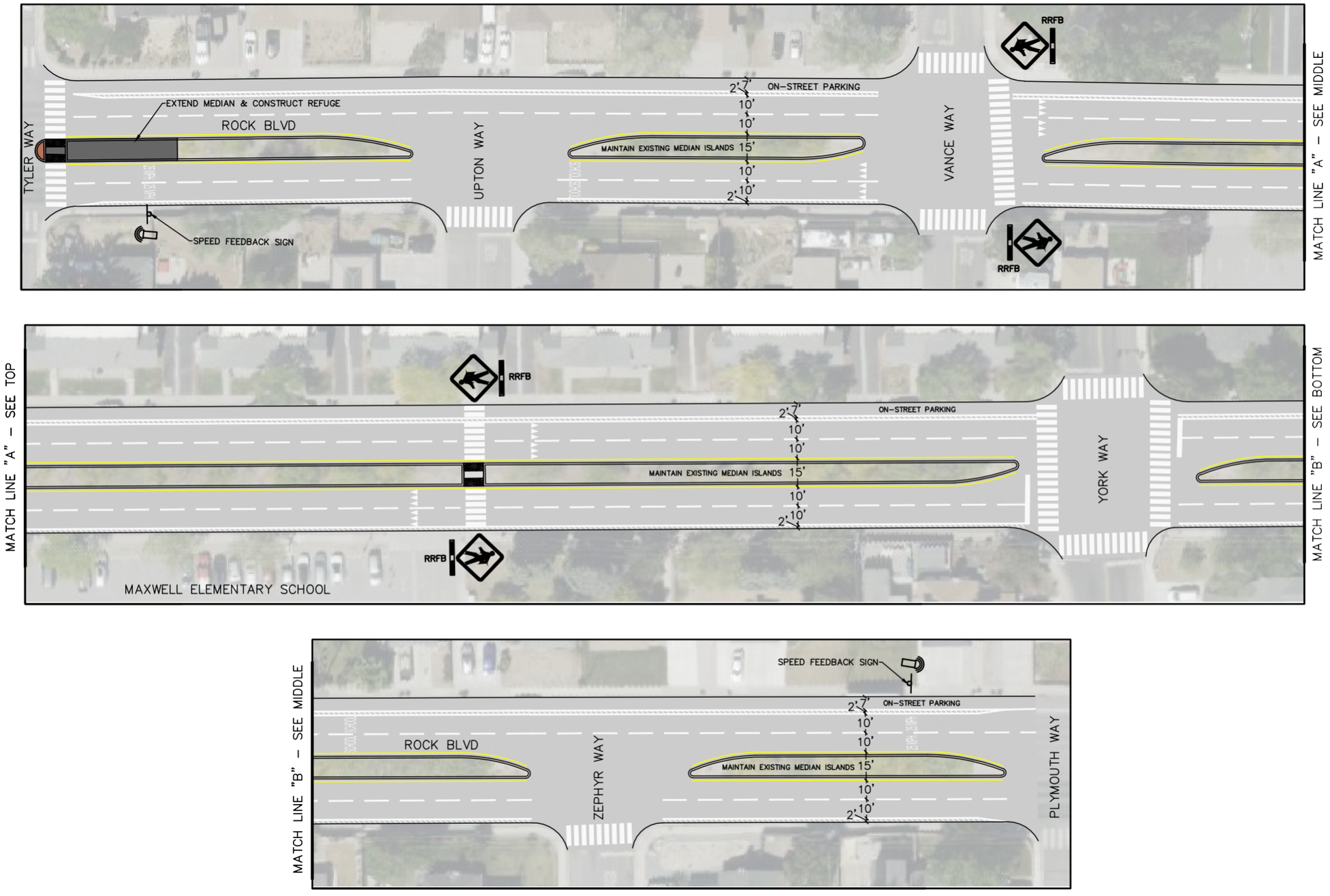
ROCK BOULEVARD CORRIDOR STUDY

1" = 50'

Figure I-3

Rock Boulevard
Corridor Study

Remove C-Street Slip Lane



ROCK BOULEVARD CORRIDOR STUDY

1" = 50'

Figure I-4
Rock Boulevard
Corridor Study
Speed Management (Tyler Wy to Plymouth Wy)

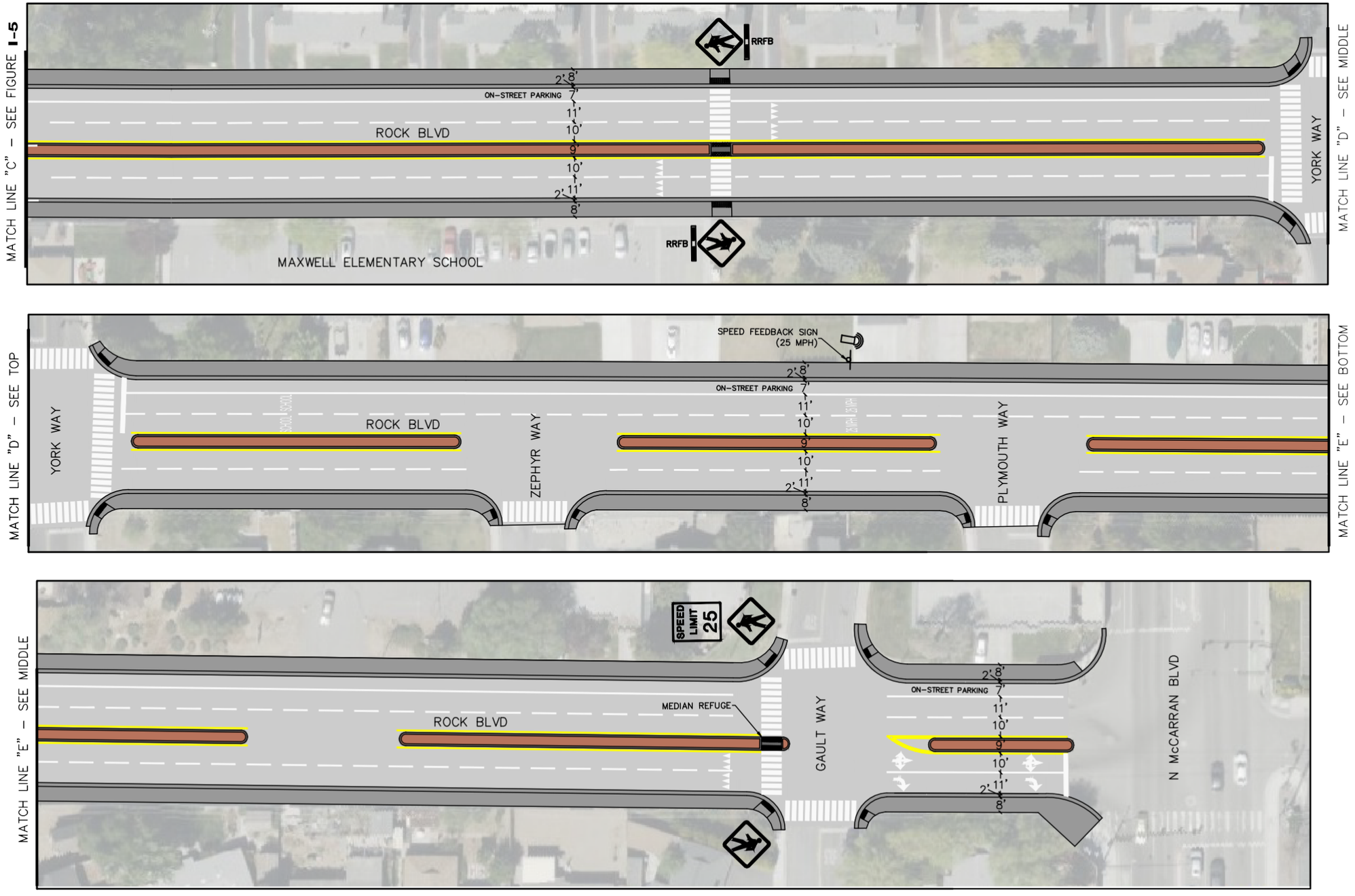


ROCK BOULEVARD CORRIDOR STUDY

N

1" = 50'

Figure I-5
Rock Boulevard
Corridor Study
Widen Sidewalk on Both Sides (B-4)



ROCK BOULEVARD CORRIDOR STUDY

1" = 50'

Figure I-6
Rock Boulevard
Corridor Study
Widen Sidewalk on Both Sides (B-4)

APPENDIX J

Cost Estimate Details

ROCK BOULEVARD CORRIDOR STUDY

I-80 Interchange Modifications Level 1		
Removal/Demolition/Modification (roadway striping, signing)	$	12,000
Construct Improvements (roadway striping, signing)	$	35,000
Design Services (survey, engineering)	$	10,000
Construction Services (staking, testing, inspection, construction management)	$	10,000
10% Contingency	$	7,000
	$	**80,000**
Wayfinding Signage		
Removal/Demolition/Modification	$	0
Construct Improvements (route/wayfinding signs)	$	20,000
Design Services (survey, engineering)	$	15,000
Construction Services (staking, testing, inspection, construction management)	$	10,000
10% Contingency	$	5,000
	$	**50,000**
Remove Right Turn Slip Lane at C Street		
Removal/Demolition/Modification (curb and gutter, sidewalk, landscaping)	$	54,000
Construct Improvements (roadway reconstruct, curb and gutter, sidewalk, signage and striping)	$	150,000
Traffic Signal Modifications	$	80,000
Design Services (survey, engineering)	$	40,000
Construction Services (staking, testing, inspection, construction management)	$	40,000
10% Contingency	$	36,000
	$	**400,000**
Crossing Treatments (F through I Street)		
Removal/Demolition/Modification (roadway, curb and gutter, sidewalk)	$	64,000
Construct Improvements (roadway reconstruct, median, RRFB, signage and striping)	$	220,000
Design Services (survey, engineering)	$	40,000
Construction Services (staking, testing, inspection, construction management)	$	40,000
10% Contingency	$	36,000
	$	**400,000**
Shared Roadway (B-5)		
Removal/Demolition/Modification	$	0
Construct Improvements (signage and striping)	$	25,000
Design Services (survey, engineering)	$	10,000
Construction Services (staking, testing, inspection, construction management)	$	10,000
10% Contingency	$	5,000
	$	**50,000**
Widen Sidewalk (15th to Oddie) (B-3)		
Removal/Demolition/Modification (curb and gutter, sidewalk, utilities, landscaping, etc.)	$	100,000
Construct Improvements (multi-use path, roadway reconstruct,barrier rail, median, signage and striping)	$	376,000
Design Services (survey, engineering)	$	80,000
Construction Services (staking, testing, inspection, construction management)	$	80,000
10% Contingency	$	64,000
	$	**700,000**
Speed Management (Tyler to Plymouth)		
Removal/Demolition/Modification (roadway striping)	$	43,000
Construct Improvements (signage and roadway striping)	$	150,000
Design Services (survey, engineering)	$	40,000
Construction Services (staking, testing, inspection, construction management)	$	40,000
10% Contingency	$	27,000
	$	**300,000**

Crossing Treatments (Gault, Maxwell ES, Vance, Tyler)

Removal/Demolition/Modification (roadway, curb and gutter, sidewalk)	$	126,000
Construct Improvements (roadway reconstruct, median, RRFB, signage and striping)	$	350,000
Design Services (survey, engineering)	$	80,000
Construction Services (staking, testing, inspection, construction management)	$	80,000
10% Contingency	$	64,000
	$	**700,000**

Dual Northbound Right Turn at McCarran

Removal/Demolition/Modification (roadway striping)	$	10,000
Construct Improvements (roadway striping, signage, and signal mods)	$	33,000
Design Services (survey, engineering)	$	10,000
Construction Services (staking, testing, inspection, construction management)	$	10,000
10% Contingency	$	7,000
	$	**70,000**

Transit Improvements

Removal/Demolition/Modification (roadway striping)	$	32,000
Construct Improvements (roadway striping, signage, and signal mods)	$	100,000
ROW Acquisition (highly variable)	$	500,000
Design Services (survey, engineering)	$	25,000
Construction Services (staking, testing, inspection, construction management)	$	25,000
10% Contingency	$	68,000
	$	**750,000**

Multi-Use Path (A-1, A-2, A-4)

Removal/Demolition/Modification (curb and gutter, sidewalk, utilities, landscaping)	$	2,000,000
Construct Improvements (multi-use path, roadway reconstruct, curb, utilities, median, signage and striping)	$	9,500,000
Traffic Signal Modifications	$	1,500,000
ROW Acquisition (highly variable)	$	3,000,000
Design Services (survey, engineering)	$	2,000,000
Construction Services (staking, testing, inspection, construction management)	$	2,000,000
10% Contingency	$	2,000,000
	$	**22,000,000**

Slip Lane Modifications

Removal/Demolition/Modification (curb and gutter, sidewalk, landscaping)	$	200,000
Construct Improvements (roadway reconstruct, curb and gutter, sidewalk, signage and striping)	$	500,000
Design Services (survey, engineering)	$	110,000
Construction Services (staking, testing, inspection, construction management)	$	100,000
10% Contingency	$	90,000
	$	**1,000,000**

I-80 Interchange Modifications Level 2

Removal/Demolition/Modification (median, roadway)	$	50,000
Construct Improvements (median, roadway, signage and striping)	$	100,000
Traffic Signal Modifications	$	40,000
Design Services (survey, engineering)	$	40,000
Construction Services (staking, testing, inspection, construction management)	$	40,000
10% Contingency	$	30,000
	$	**300,000**

I-80 Interchange Modifications Level 3

Removal/Demolition/Modification (curb and gutter, sidewalk, utilities, landscaping)	$ 750,000
Construct Improvements (off-ramp widening and reconstruct, curb, utilities, median, signage and striping)	$ 2,500,000
Traffic Signal Modifications	$ 300,000
Design Services (survey, engineering)	$ 500,000
Construction Services (staking, testing, inspection, construction management)	$ 500,000
10% Contingency	$ 450,000
	$ 5,000,000

Widen Sidewalk on Both Sides (B-4)

Removal/Demolition/Modification (curb and gutter, sidewalk, roadway, utilities, landscaping)	$ 2,000,000
Construct Improvements (curb and gutter, sidewalk, utilties, median, signage and striping)	$ 8,500,000
Traffic Signal Modifications	$ 140,000
Design Services (survey, engineering)	$ 1,500,000
Construction Services (staking, testing, inspection, construction management)	$ 1,500,000
10% Contingency	$ 1,360,000
	$ 15,000,000

APPENDIX C DATA

Crash Data

NDOT Crash Data
City of Sparks Crash Data

ROCK BOULEVARD
CORRIDOR STUDY

NDOT Crash Data

PMX_AT_Crashes	PMX_InjuryType	PMX_UI	WebmapSymbology	KTWL_Study_Corridors_CrashLocati	PMX_NormalizeTim	PMX_TimeFrames	PMX_DayTime	UserType	PMX_Intersection Location
Vehicles Only	Unknown	PMX_116	Property Damage Only	PDO	3:05:00 AM	3:00:00 AM	1/6/2019 3:05	0 Vehicle Only	HYMER AVE & S ROCK BLVD
Vehicles Only	Possible Injury	PMX_308	Possible/Minor Injury	<Null>	2:04:00 PM	2:00:00 PM	1/11/2019 14:04	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_446	Property Damage Only	PDO	7:06:00 AM	7:00:00 AM	1/24/2019 7:06	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Possible Injury	PMX_463	Possible/Minor Injury	<Null>	5:27:00 AM	5:00:00 AM	1/25/2019 5:27	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Unknown	PMX_584	Property Damage Only	PDO	5:43:00 PM	6:00:00 PM	1/28/2019 17:43	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_506	Property Damage Only	PDO	6:26:00 PM	6:00:00 PM	2/1/2019 18:26	0 Vehicle Only	IR80W TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_522	Property Damage Only	PDO	2:47:00 PM	3:00:00 PM	2/1/2019 14:47	0 Vehicle Only	SR668 & SR668 TO IR80E INT17
Vehicles Only	Minor Injury	PMX_684	Possible/Minor Injury	<Null>	6:30:00 AM	7:00:00 AM	2/7/2019 6:30	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_681	Property Damage Only	PDO	8:19:00 AM	8:00:00 AM	2/9/2019 8:19	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_936	Property Damage Only	PDO	6:50:00 AM	7:00:00 AM	2/11/2019 6:50	0 Vehicle Only	G ST & ROCK BLVD
Vehicles Only	Minor Injury	PMX_947	Possible/Minor Injury	<Null>	6:16:00 PM	6:00:00 PM	2/13/2019 18:16	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Unknown	PMX_19411	Property Damage Only	PDO	6:38:00 AM	7:00:00 AM	2/17/2019 6:38	0 Vehicle Only	GLENDALE AV & S ROCK BL
Vehicles Only	Unknown	PMX_1214	Property Damage Only	PDO	8:02:00 AM	8:00:00 AM	2/18/2019 8:02	0 Vehicle Only	FREEPORT BLVD & S ROCK BLVD
Vehicles Only	Possible Injury	PMX_1133	Possible/Minor Injury	<Null>	1:17:00 PM	1:00:00 PM	2/18/2019 13:17	0 Vehicle Only	SR668 & SR668 TO IR80E INT17
Vehicles Only	Possible Injury	PMX_1033	Possible/Minor Injury	<Null>	4:41:00 AM	5:00:00 AM	2/22/2019 4:41	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Possible Injury	PMX_1273	Possible/Minor Injury	<Null>	7:12:00 PM	7:00:00 PM	3/1/2019 19:12	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Possible Injury	PMX_1479	Possible/Minor Injury	<Null>	1:46:00 PM	2:00:00 PM	3/6/2019 13:46	0 Vehicle Only	F ST & ROCK BLVD
Vehicles Only	Unknown	PMX_1482	Property Damage Only	PDO	4:03:00 PM	4:00:00 PM	3/7/2019 16:03	0 Vehicle Only	ROCK BLVD & SR659
Involved Bicyclist or Ped	Minor Injury	PMX_1406	Possible/Minor Injury (Pedestrian)	<Null>	10:38:00 AM	11:00:00 AM	3/8/2019 10:38	0 Pedestrian	IR80E TO SR668 INT17 & SR668
Vehicles Only	No Injury	PMX_19811	Property Damage Only	PDO	6:14:00 AM	6:00:00 AM	3/9/2019 6:14	0 Vehicle Only	GREENBRAE DR & ROCK BL
Involved Bicyclist or Ped	Minor Injury	PMX_1593	Possible/Minor Injury (Pedestrian)	<Null>	6:32:00 PM	7:00:00 PM	3/12/2019 18:32	0 Pedestrian	ODDIE BLVD & ROCK BLVD
Vehicles Only	Possible Injury	PMX_1533	Possible/Minor Injury	<Null>	7:31:00 AM	8:00:00 AM	3/15/2019 7:31	0 Vehicle Only	SR668 & SR668 TO IR80W INT17
Vehicles Only	Unknown	PMX_1687	Property Damage Only	PDO	3:55:00 PM	4:00:00 PM	3/20/2019 15:55	0 Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	Unknown	PMX_1723	Property Damage Only	PDO	7:45:00 AM	8:00:00 AM	3/21/2019 7:45	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Unknown	PMX_1693	Property Damage Only	PDO	10:30:00 AM	11:00:00 AM	3/21/2019 10:30	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Unknown	PMX_1847	Property Damage Only	PDO	5:05:00 PM	5:00:00 PM	4/1/2019 17:05	0 Vehicle Only	OXFORD AVE & ROCK BLVD
Vehicles Only	Unknown	PMX_1913	Property Damage Only	PDO	7:03:00 PM	7:00:00 PM	4/2/2019 19:03	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Unknown	PMX_1979	Property Damage Only	PDO	4:07:00 PM	4:00:00 PM	4/5/2019 16:07	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Unknown	PMX_1934	Property Damage Only	PDO	2:24:00 AM	2:00:00 AM	4/6/2019 2:24	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Possible Injury	PMX_1927	Possible/Minor Injury	<Null>	4:00:00 PM	4:00:00 PM	4/8/2019 16:00	0 Vehicle Only	F ST & ROCK BLVD
Vehicles Only	Unknown	PMX_2044	Property Damage Only	PDO	12:55:00 PM	1:00:00 PM	4/12/2019 12:55	0 Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	Possible Injury	PMX_2007	Possible/Minor Injury	<Null>	3:29:00 PM	3:00:00 PM	4/14/2019 15:29	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_2002	Property Damage Only	PDO	4:24:00 AM	4:00:00 AM	4/15/2019 4:24	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_2243	Property Damage Only	PDO	12:01:00 AM	12:00:00 AM	4/24/2019 0:01	0 Vehicle Only	GAULT WAY & ROCK BLVD
Vehicles Only	Unknown	PMX_2365	Property Damage Only	PDO	10:08:00 PM	10:00:00 PM	4/25/2019 22:08	0 Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Possible Injury	PMX_2263	Possible/Minor Injury	<Null>	8:23:00 AM	8:00:00 AM	4/30/2019 8:23	0 Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	Possible Injury	PMX_2277	Possible/Minor Injury	<Null>	1:44:00 PM	2:00:00 PM	5/2/2019 13:44	0 Vehicle Only	SR668 & SR668 TO IR80E INT17
Vehicles Only	Minor Injury	PMX_2513	Possible/Minor Injury	<Null>	2:48:00 PM	3:00:00 PM	5/4/2019 14:48	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Possible Injury	PMX_2425	Possible/Minor Injury	<Null>	8:21:00 AM	8:00:00 AM	5/6/2019 8:21	0 Vehicle Only	I ST & ROCK BLVD
Vehicles Only	Possible Injury	PMX_2663	Possible/Minor Injury	<Null>	5:55:00 PM	6:00:00 PM	5/10/2019 17:55	0 Vehicle Only	S ROCK BLVD & SHABER AVE
Vehicles Only	Unknown	PMX_2587	Property Damage Only	PDO	11:27:00 PM	11:00:00 PM	5/14/2019 23:27	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_2684	Property Damage Only	PDO	5:15:00 PM	5:00:00 PM	5/23/2019 17:15	0 Vehicle Only	HYMER AVE & S ROCK BLVD
Vehicles Only	Unknown	PMX_2788	Property Damage Only	PDO	8:09:00 PM	8:00:00 PM	5/24/2019 20:09	0 Vehicle Only	H ST & ROCK BLVD
Vehicles Only	Minor Injury	PMX_2988	Possible/Minor Injury	<Null>	5:05:00 PM	5:00:00 PM	6/1/2019 17:05	0 Vehicle Only	ROCK BLVD & YORK WAY
Vehicles Only	Unknown	PMX_2997	Property Damage Only	PDO	7:00:00 PM	7:00:00 PM	6/4/2019 19:00	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Unknown	PMX_3211	Property Damage Only	PDO	3:11:00 PM	3:00:00 PM	6/17/2019 15:11	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Possible Injury	PMX_3238	Possible/Minor Injury	<Null>	4:45:00 PM	5:00:00 PM	6/18/2019 16:45	0 Vehicle Only	ROCK BLVD & SR659
Involved Bicyclist or Ped	Unknown	PMX_3242	Property Damage Only	PDO	5:59:00 PM	6:00:00 PM	6/19/2019 17:59	0 Bicyclist	ROCK BLVD & SBRAGIA WAY
Vehicles Only	Unknown	PMX_3281	Property Damage Only	PDO	6:56:00 AM	7:00:00 AM	6/21/2019 6:56	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Possible Injury	PMX_3203	Possible/Minor Injury	<Null>	1:58:00 AM	2:00:00 AM	6/22/2019 1:58	0 Vehicle Only	SR668 & SR668 TO IR80W INT17
Vehicles Only	Unknown	PMX_3447	Property Damage Only	PDO	12:27:00 PM	12:00:00 PM	6/24/2019 12:27	0 Vehicle Only	IR80W TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_3409	Property Damage Only	PDO	12:16:00 PM	12:00:00 PM	6/27/2019 12:16	0 Vehicle Only	HYMER AVE & S ROCK BLVD
Vehicles Only	Unknown	PMX_3383	Property Damage Only	PDO	6:42:00 AM	7:00:00 AM	6/28/2019 6:42	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Possible Injury	PMX_3536	Possible/Minor Injury	<Null>	12:31:00 PM	1:00:00 PM	7/2/2019 12:31	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Unknown	PMX_3756	Property Damage Only	PDO	7:23:00 PM	7:00:00 PM	7/10/2019 19:23	0 Vehicle Only	G ST & ROCK BLVD
Vehicles Only	Unknown	PMX_3684	Property Damage Only	PDO	1:10:00 PM	1:00:00 PM	7/13/2019 13:10	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Possible Injury	PMX_3888	Possible/Minor Injury	<Null>	3:15:00 PM	3:00:00 PM	7/17/2019 15:15	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Unknown	PMX_4019	Property Damage Only	PDO	8:00:00 AM	8:00:00 AM	7/26/2019 8:00	0 Vehicle Only	HYMER AVE & S ROCK BLVD
Vehicles Only	Unknown	PMX_4199	Property Damage Only	PDO	6:16:00 PM	6:00:00 PM	8/1/2019 18:16	0 Vehicle Only	IR80W TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_4125	Property Damage Only	PDO	10:11:00 PM	10:00:00 PM	8/3/2019 22:11	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Possible Injury	PMX_4217	Possible/Minor Injury	<Null>	1:45:00 PM	2:00:00 PM	8/4/2019 13:45	0 Vehicle Only	PLYMOUTH WAY & ROCK BLVD
Vehicles Only	Possible Injury	PMX_4395	Possible/Minor Injury	<Null>	5:30:00 PM	6:00:00 PM	8/9/2019 17:30	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Possible Injury	PMX_4280	Possible/Minor Injury	<Null>	2:07:00 PM	2:00:00 PM	8/14/2019 14:07	0 Vehicle Only	SR668 & SR668 TO IR80E INT17
Vehicles Only	Unknown	PMX_4519	Property Damage Only	PDO	7:43:00 PM	8:00:00 PM	8/20/2019 19:43	0 Vehicle Only	ROCK BLVD & SR659
Vehicles Only	Unknown	PMX_4622	Property Damage Only	PDO	10:40:00 AM	11:00:00 AM	8/25/2019 10:40	0 Vehicle Only	PITTMAN AVE & S ROCK BLVD
Vehicles Only	Unknown	PMX_4606	Property Damage Only	PDO	12:35:00 PM	1:00:00 PM	8/26/2019 12:35	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Unknown	PMX_4645	Property Damage Only	PDO	12:30:00 PM	1:00:00 PM	8/28/2019 12:30	0 Vehicle Only	SR668 & SR668 TO IR80E INT17
Vehicles Only	Unknown	PMX_4884	Property Damage Only	PDO	9:42:00 PM	10:00:00 PM	8/30/2019 21:42	0 Vehicle Only	C ST & ROCK BLVD
Vehicles Only	Unknown	PMX_4882	Property Damage Only	PDO	4:11:00 AM	4:00:00 AM	8/31/2019 4:11	0 Vehicle Only	ROCK BLVD & SR659
Vehicles Only	Unknown	PMX_4781	Property Damage Only	PDO	11:08:00 PM	11:00:00 PM	9/2/2019 23:08	0 Vehicle Only	GREG ST & S ROCK BLVD
Involved Bicyclist or Ped	Minor Injury	PMX_4822	Possible/Minor Injury (Pedestrian)	<Null>	6:14:00 AM	6:00:00 AM	9/5/2019 6:14	0 Pedestrian	PRATER WAY & ROCK BLVD
Vehicles Only	Minor Injury	PMX_4938	Possible/Minor Injury	<Null>	4:25:00 PM	4:00:00 PM	9/11/2019 16:25	0 Vehicle Only	I ST & ROCK BLVD
Vehicles Only	Unknown	PMX_5265	Property Damage Only	PDO	12:05:00 PM	12:00:00 PM	9/20/2019 12:05	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_5335	Property Damage Only	PDO	6:42:00 AM	7:00:00 AM	9/20/2019 6:42	0 Vehicle Only	IR80W TO SR668 INT17 & SR668
Vehicles Only	Possible Injury	PMX_5545	Possible/Minor Injury	<Null>	4:10:00 PM	4:00:00 PM	10/8/2019 16:10	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Possible Injury	PMX_5554	Possible/Minor Injury	<Null>	2:25:00 PM	2:00:00 PM	10/9/2019 14:25	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_5629	Property Damage Only	PDO	12:32:00 AM	1:00:00 AM	10/12/2019 0:32	0 Vehicle Only	ROCK BLVD & TYLER WAY
Vehicles Only	Unknown	PMX_5699	Property Damage Only	PDO	8:00:00 AM	8:00:00 AM	10/14/2019 8:00	0 Vehicle Only	FREEPORT BLVD & S ROCK BLVD
Vehicles Only	Minor Injury	PMX_5865	Possible/Minor Injury	<Null>	7:17:00 PM	7:00:00 PM	10/20/2019 19:17	0 Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	Unknown	PMX_5816	Property Damage Only	PDO	5:38:00 AM	6:00:00 AM	10/21/2019 5:38	0 Vehicle Only	F ST & ROCK BLVD
Vehicles Only	Unknown	PMX_5868	Property Damage Only	PDO	1:33:00 PM	2:00:00 PM	10/22/2019 13:33	0 Vehicle Only	F ST & ROCK BLVD
Vehicles Only	Possible Injury	PMX_5811	Possible/Minor Injury	<Null>	4:50:00 PM	5:00:00 PM	10/23/2019 16:50	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_5920	Property Damage Only	PDO	1:02:00 PM	1:00:00 PM	10/24/2019 13:02	0 Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	Possible Injury	PMX_6117	Possible/Minor Injury	<Null>	1:16:00 PM	1:00:00 PM	11/6/2019 13:16	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Minor Injury	PMX_6196	Possible/Minor Injury	<Null>	5:09:00 PM	5:00:00 PM	11/10/2019 17:09	0 Vehicle Only	ROCK BLVD & SR659
Vehicles Only	Unknown	PMX_6399	Property Damage Only	PDO	11:32:00 PM	12:00:00 AM	11/16/2019 23:32	0 Vehicle Only	F ST & ROCK BLVD
Vehicles Only	Unknown	PMX_6424	Property Damage Only	PDO	7:46:00 AM	8:00:00 AM	11/17/2019 7:46	0 Vehicle Only	ROCK BLVD & SR659
Vehicles Only	Possible Injury	PMX_6568	Possible/Minor Injury	<Null>	7:55:00 AM	8:00:00 AM	11/26/2019 7:55	0 Vehicle Only	HYMER AVE & S ROCK BLVD
Vehicles Only	Unknown	PMX_6829	Property Damage Only	PDO	6:51:00 AM	7:00:00 AM	12/6/2019 6:51	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Unknown	PMX_6904	Property Damage Only	PDO	2:39:00 PM	3:00:00 PM	12/8/2019 14:39	0 Vehicle Only	ROCK BLVD & SR659
Vehicles Only	Unknown	PMX_6847	Property Damage Only	PDO	8:54:00 PM	9:00:00 PM	12/11/2019 20:54	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Unknown	PMX_6930	Property Damage Only	PDO	4:02:00 PM	4:00:00 PM	12/14/2019 16:02	0 Vehicle Only	IR80W TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_7029	Property Damage Only	PDO	7:19:00 PM	7:00:00 PM	12/15/2019 19:19	0 Vehicle Only	IR80W TO SR668 INT17 & SR668

NDOT Crash Data

PMX_AT_Crashes	PMX_InjuryType	PMX_UI	WebmapSymbology	KTWL_Study_Corridors_CrashLocation	PMX_NormalizeTime	PMX_Timeframes	PMX_DayTime	UserType	PMX_Intersection Location
Vehicles Only	Minor Injury	PMX_6958	Possible/Minor Injury	<Null>	12:47:00 PM	1:00:00 PM	12/16/2019 12:47	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_7120	Property Damage Only	PDO	10:00:00 AM	10:00:00 AM	12/19/2019 10:00	0 Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	Unknown	PMX_7267	Property Damage Only	PDO	4:29:00 PM	4:00:00 PM	1/2/2020 16:29	0 Vehicle Only	15TH ST & ROCK BLVD
Vehicles Only	Unknown	PMX_7258	Property Damage Only	PDO	9:07:00 AM	9:00:00 AM	1/4/2020 9:07	0 Vehicle Only	15TH ST & ROCK BLVD
Vehicles Only	Minor Injury	PMX_7387	Possible/Minor Injury	<Null>	6:07:00 PM	6:00:00 PM	1/5/2020 18:07	0 Vehicle Only	15TH ST & ROCK BLVD
Vehicles Only	Unknown	PMX_7470	Property Damage Only	PDO	12:29:00 PM	12:00:00 PM	1/6/2020 12:29	0 Vehicle Only	GREG ST & ROCK BLVD
Vehicles Only	Unknown	PMX_7460	Property Damage Only	PDO	5:30:00 PM	6:00:00 PM	1/6/2020 17:30	0 Vehicle Only	PLYMOUTH WAY & ROCK BLVD
Vehicles Only	Possible Injury	PMX_7652	Possible/Minor Injury	<Null>	10:26:00 AM	10:00:00 AM	1/24/2020 10:26	0 Vehicle Only	FREEPORT BLVD & ROCK BLVD
Vehicles Only	Possible Injury	PMX_7617	Possible/Minor Injury	<Null>	12:27:00 PM	12:00:00 PM	1/27/2020 12:27	0 Vehicle Only	I ST & ROCK BLVD
Vehicles Only	Unknown	PMX_7860	Property Damage Only	PDO	6:35:00 AM	7:00:00 AM	2/4/2020 6:35	0 Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Unknown	PMX_7737	Property Damage Only	PDO	10:15:00 AM	10:00:00 AM	2/4/2020 10:15	0 Vehicle Only	ROCK BLVD & SR648
Vehicles Only	Serious Injury	PMX_13192	Serious Injury	Serious Injury	9:10:00 AM	9:00:00 AM	2/7/2020 9:10	0 Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	Possible Injury	PMX_7919	Possible/Minor Injury	<Null>	5:50:00 PM	6:00:00 PM	2/10/2020 17:50	0 Vehicle Only	PITTMAN AVE & ROCK BLVD
Vehicles Only	Unknown	PMX_7939	Property Damage Only	PDO	3:05:00 PM	3:00:00 PM	2/12/2020 15:05	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Unknown	PMX_8292	Property Damage Only	PDO	3:47:00 PM	4:00:00 PM	2/21/2020 15:47	0 Vehicle Only	COMMERCE ST & ROCK BLVD
Vehicles Only	Minor Injury	PMX_8201	Possible/Minor Injury	<Null>	5:33:00 PM	6:00:00 PM	2/23/2020 17:33	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Serious Injury	PMX_8327	Serious Injury	<Null>	8:55:00 PM	9:00:00 PM	2/29/2020 20:55	0 Vehicle Only	PROSPECT AVE & ROCK BLVD
Vehicles Only	Unknown	PMX_8320	Property Damage Only	PDO	10:27:00 AM	10:00:00 AM	2/29/2020 10:27	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Involved Bicyclist or Ped	Possible Injury	PMX_8324	Possible/Minor Injury (Pedestrian)	<Null>	2:52:00 PM	3:00:00 PM	3/2/2020 14:52	0 Pedestrian	GREENBRAE DR & ROCK BLVD
Vehicles Only	Unknown	PMX_8407	Property Damage Only	PDO	5:38:00 PM	6:00:00 PM	3/4/2020 17:38	0 Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Serious Injury	PMX_8440	Serious Injury	<Null>	10:08:00 PM	10:00:00 PM	3/5/2020 22:08	0 Vehicle Only	SR668 & SR668 TO IR80W INT17
Vehicles Only	Unknown	PMX_8325	Property Damage Only	PDO	1:13:00 PM	1:00:00 PM	3/6/2020 13:13	0 Vehicle Only	ROCK BLVD & SR659
Vehicles Only	Unknown	PMX_8637	Property Damage Only	PDO	7:38:00 AM	8:00:00 AM	3/14/2020 7:38	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Possible Injury	PMX_8677	Possible/Minor Injury	<Null>	4:39:00 PM	5:00:00 PM	3/19/2020 16:39	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Involved Bicyclist or Ped	Unknown	PMX_8683	Property Damage Only	PDO	6:04:00 PM	6:00:00 PM	3/25/2020 18:04	0 Pedestrian	COMMERCE ST & ROCK BLVD
Vehicles Only	Unknown	PMX_8954	Property Damage Only	PDO	11:14:00 AM	11:00:00 AM	4/23/2020 11:14	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Minor Injury	PMX_8976	Possible/Minor Injury	<Null>	5:37:00 PM	6:00:00 PM	4/26/2020 17:37	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Possible Injury	PMX_9022	Possible/Minor Injury	<Null>	5:40:00 PM	6:00:00 PM	4/30/2020 17:40	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_9263	Property Damage Only	PDO	5:25:00 PM	5:00:00 PM	5/29/2020 17:25	0 Vehicle Only	ROCK BLVD & SR648
Vehicles Only	Possible Injury	PMX_9440	Possible/Minor Injury	<Null>	8:15:00 AM	8:00:00 AM	6/2/2020 8:15	0 Vehicle Only	ROCK BLVD & SR648
Vehicles Only	Unknown	PMX_9613	Property Damage Only	PDO	5:00:00 PM	5:00:00 PM	6/13/2020 17:00	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_9522	Property Damage Only	PDO	3:59:00 PM	4:00:00 PM	6/18/2020 15:59	0 Vehicle Only	C ST & ROCK BLVD
Vehicles Only	Minor Injury	PMX_9621	Possible/Minor Injury	<Null>	2:26:00 PM	2:00:00 PM	6/18/2020 14:26	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_9496	Property Damage Only	PDO	7:30:00 PM	8:00:00 PM	6/18/2020 19:30	0 Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	Unknown	PMX_9611	Property Damage Only	PDO	5:04:00 PM	5:00:00 PM	6/19/2020 17:04	0 Vehicle Only	HYMER AVE & ROCK BLVD
Vehicles Only	Minor Injury	PMX_9660	Possible/Minor Injury	<Null>	3:28:00 PM	3:00:00 PM	6/25/2020 15:28	0 Vehicle Only	ROCK BLVD & SHABER AVE
Vehicles Only	Unknown	PMX_9707	Property Damage Only	PDO	10:40:00 AM	11:00:00 AM	6/28/2020 10:40	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Possible Injury	PMX_9665	Possible/Minor Injury	<Null>	12:32:00 AM	1:00:00 AM	6/28/2020 0:32	0 Vehicle Only	OXFORD AVE & ROCK BLVD
Vehicles Only	Possible Injury	PMX_9746	Possible/Minor Injury	<Null>	2:19:00 PM	2:00:00 PM	6/30/2020 14:19	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Unknown	PMX_9829	Property Damage Only	PDO	4:45:00 PM	5:00:00 PM	7/2/2020 16:45	0 Vehicle Only	FREEPORT BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_9897	Property Damage Only	PDO	3:32:00 PM	4:00:00 PM	7/9/2020 15:32	0 Vehicle Only	ROCK BLVD & SR648
Vehicles Only	Unknown	PMX_10002	Property Damage Only	PDO	3:37:00 PM	4:00:00 PM	7/12/2020 15:37	0 Vehicle Only	GREG ST & ROCK BLVD
Vehicles Only	Unknown	PMX_9930	Property Damage Only	PDO	7:24:00 PM	7:00:00 PM	7/17/2020 19:24	0 Vehicle Only	I ST & ROCK BLVD
Vehicles Only	Unknown	PMX_9924	Property Damage Only	PDO	2:39:00 PM	3:00:00 PM	7/19/2020 14:39	0 Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	Possible Injury	PMX_10168	Possible/Minor Injury	<Null>	4:03:00 PM	4:00:00 PM	7/27/2020 16:03	0 Vehicle Only	ROCK BLVD & RUSSELL WAY
Vehicles Only	Unknown	PMX_10133	Property Damage Only	PDO	8:30:00 AM	9:00:00 AM	7/28/2020 8:30	0 Vehicle Only	GREG ST & ROCK BLVD
Vehicles Only	Possible Injury	PMX_10198	Possible/Minor Injury	<Null>	8:07:00 AM	8:00:00 AM	8/1/2020 8:07	0 Vehicle Only	I ST & ROCK BLVD
Vehicles Only	Unknown	PMX_10495	Property Damage Only	PDO	4:00:00 PM	4:00:00 PM	8/19/2020 16:00	0 Vehicle Only	ROCK BLVD & SR648
Vehicles Only	Unknown	PMX_10510	Property Damage Only	PDO	1:48:00 PM	2:00:00 PM	8/20/2020 13:48	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Unknown	PMX_10620	Property Damage Only	PDO	9:55:00 PM	10:00:00 PM	8/21/2020 21:55	0 Vehicle Only	ROCK BLVD & SBRAGIA WAY
Vehicles Only	Unknown	PMX_10580	Property Damage Only	PDO	7:42:00 PM	8:00:00 PM	8/22/2020 19:42	0 Vehicle Only	HYMER AVE & ROCK BLVD
Vehicles Only	Unknown	PMX_10698	Property Damage Only	PDO	10:39:00 AM	11:00:00 AM	9/2/2020 10:39	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Minor Injury	PMX_10690	Possible/Minor Injury	<Null>	12:01:00 AM	12:00:00 AM	9/5/2020 0:01	0 Vehicle Only	IR80W TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_10982	Property Damage Only	PDO	1:37:00 PM	2:00:00 PM	9/19/2020 13:37	0 Vehicle Only	ROCK BLVD & SBRAGIA WAY
Vehicles Only	Minor Injury	PMX_11269	Possible/Minor Injury	<Null>	11:05:00 PM	11:00:00 PM	9/25/2020 23:05	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_11221	Property Damage Only	PDO	10:05:00 PM	10:00:00 PM	9/26/2020 22:05	0 Vehicle Only	PITTMAN AVE & S ROCK BLVD
Vehicles Only	Unknown	PMX_11170	Property Damage Only	PDO	7:06:00 PM	7:00:00 PM	9/30/2020 19:06	0 Vehicle Only	COMMERCE ST & ROCK BLVD
Vehicles Only	Unknown	PMX_11323	Property Damage Only	PDO	1:53:00 PM	2:00:00 PM	10/9/2020 13:53	0 Vehicle Only	HYMER AVE & SR668
Vehicles Only	Possible Injury	PMX_11346	Possible/Minor Injury	<Null>	9:52:00 PM	10:00:00 PM	10/12/2020 21:52	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_11442	Property Damage Only	PDO	5:22:00 PM	5:00:00 PM	10/14/2020 17:22	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Unknown	PMX_11510	Property Damage Only	PDO	6:40:00 AM	7:00:00 AM	10/16/2020 6:40	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_11513	Property Damage Only	PDO	7:43:00 PM	8:00:00 PM	10/18/2020 19:43	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Minor Injury	PMX_11710	Possible/Minor Injury	<Null>	2:53:00 PM	3:00:00 PM	10/23/2020 14:53	0 Vehicle Only	FREEPORT BLVD & S ROCK BLVD
Vehicles Only	Unknown	PMX_11664	Property Damage Only	PDO	12:20:00 PM	12:00:00 PM	10/28/2020 12:20	0 Vehicle Only	PITTMAN AVE & S ROCK BLVD
Involved Bicyclist or Ped	Possible Injury	PMX_11868	Possible/Minor Injury (Pedestrian)	<Null>	7:46:00 AM	8:00:00 AM	10/31/2020 7:46	0 Pedestrian	COMMERCE ST & ROCK BLVD
Vehicles Only	Possible Injury	PMX_11809	Possible/Minor Injury	<Null>	8:34:00 PM	9:00:00 PM	11/2/2020 20:34	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_11819	Property Damage Only	PDO	5:18:00 PM	5:00:00 PM	11/3/2020 17:18	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_11929	Property Damage Only	PDO	6:00:00 PM	6:00:00 PM	11/13/2020 18:00	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_12116	Property Damage Only	PDO	5:44:00 PM	6:00:00 PM	11/18/2020 17:44	0 Vehicle Only	HYMER AVE & S ROCK BLVD
Vehicles Only	Unknown	PMX_12180	Property Damage Only	PDO	2:44:00 PM	3:00:00 PM	11/19/2020 14:44	0 Vehicle Only	PITTMAN AVE & S ROCK BLVD
Vehicles Only	Unknown	PMX_12186	Property Damage Only	PDO	12:15:00 PM	12:00:00 PM	11/20/2020 12:15	0 Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	Unknown	PMX_12081	Property Damage Only	PDO	5:10:00 PM	5:00:00 PM	11/21/2020 17:10	0 Vehicle Only	ROCK BLVD & SR659
Vehicles Only	Unknown	PMX_12086	Property Damage Only	PDO	2:46:00 AM	3:00:00 AM	11/23/2020 2:46	0 Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	Unknown	PMX_12335	Property Damage Only	PDO	3:01:00 PM	3:00:00 PM	12/4/2020 15:01	0 Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	Unknown	PMX_12226	Property Damage Only	PDO	4:05:00 AM	4:00:00 AM	12/4/2020 4:05	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Serious Injury	PMX_12241	Serious Injury	<Null>	12:14:00 PM	12:00:00 PM	12/6/2020 12:14	0 Vehicle Only	ROCK BLVD & SR659
Vehicles Only	Possible Injury	PMX_12492	Possible/Minor Injury	<Null>	3:51:00 PM	4:00:00 PM	12/9/2020 15:51	0 Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	Possible Injury	PMX_12475	Possible/Minor Injury	<Null>	8:38:00 PM	9:00:00 PM	12/10/2020 20:38	0 Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Possible Injury	PMX_12447	Possible/Minor Injury	<Null>	11:30:00 AM	12:00:00 PM	12/11/2020 11:30	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Unknown	PMX_12359	Property Damage Only	PDO	12:29:00 PM	12:00:00 PM	12/16/2020 12:29	0 Vehicle Only	PLYMOUTH WAY & ROCK BLVD
Vehicles Only	Possible Injury	PMX_18078	Possible/Minor Injury	Possible/Minor Injury	6:07:00 PM	6:00:00 PM	12/29/2020 18:07	0 Vehicle Only	OTHER & OTHER
Vehicles Only	No Injury	PMX_34265	Property Damage Only	PDO	2:37:00 PM	3:00:00 PM	1/5/2021 14:37	0 Vehicle Only	OTHER & OTHER
Vehicles Only	No Injury	PMX_34375	Property Damage Only	PDO	1:00:00 PM	1:00:00 PM	1/8/2021 13:00	0 Vehicle Only	ROCK BLVD & SR659
Vehicles Only	No Injury	PMX_34496	Property Damage Only	PDO	10:38:00 AM	11:00:00 AM	1/16/2021 10:38	0 Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	No Injury	PMX_34497	Property Damage Only	PDO	1:43:00 PM	2:00:00 PM	1/19/2021 13:43	0 Vehicle Only	OTHER & OTHER
Vehicles Only	No Injury	PMX_34411	Property Damage Only	PDO	6:50:00 AM	7:00:00 AM	1/19/2021 6:50	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Minor Injury	PMX_34400	Possible/Minor Injury	Possible/Minor Injury	9:34:00 PM	10:00:00 PM	1/20/2021 21:34	0 Vehicle Only	GAULT WAY & ROCK BLVD
Vehicles Only	Possible Injury	PMX_34650	Possible/Minor Injury	Possible/Minor Injury	3:13:00 PM	3:00:00 PM	1/28/2021 15:13	0 Vehicle Only	GLENDALE AVE & S ROCK BL
Vehicles Only	Possible Injury	PMX_34857	Possible/Minor Injury	Possible/Minor Injury	9:15:00 AM	9:00:00 AM	2/8/2021 9:15	0 Vehicle Only	E GLENDALE AVE & ROCK BL
Vehicles Only	No Injury	PMX_34975	Property Damage Only	PDO	10:29:00 AM	10:00:00 AM	2/10/2021 10:29	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	No Injury	PMX_34890	Property Damage Only	PDO	1:07:00 PM	1:00:00 PM	2/15/2021 13:07	0 Vehicle Only	F ST & ROCK BLVD
Vehicles Only	Unknown	PMX_34987	Property Damage Only	PDO	10:15:00 AM	10:00:00 AM	2/19/2021 10:15	0 Vehicle Only	GLENDALE AVE & S ROCK BLVD
Vehicles Only	Unknown	PMX_35138	Property Damage Only	PDO	8:01:00 AM	8:00:00 AM	2/20/2021 8:01	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_35041	Property Damage Only	PDO	9:24:00 PM	9:00:00 PM	2/21/2021 21:24	0 Vehicle Only	OTHER & OTHER

NDOT Crash Data

PMX_AT_Crashes	PMX_InjuryType	PMX_UI	WebmapSymbology	KTWL_Study_Corridors_CrashLocation	PMX_NormalizeTime	PMX_Timeframes	PMX_DayTime	UserType	PMX_Intersection Location
Vehicles Only	No Injury	PMX_35230	Property Damage Only	PDO	1:06:00 PM	1:00:00 PM	3/2/2021 13:06	0 Vehicle Only	GREG ST & ROCK BLVD
Vehicles Only	No Injury	PMX_35413	Property Damage Only	PDO	4:32:00 PM	5:00:00 PM	3/11/2021 16:32	0 Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	Possible Injury	PMX_35339	Possible/Minor Injury	Possible/Minor Injury	10:03:00 PM	10:00:00 PM	3/16/2021 22:03	0 Vehicle Only	G & ROCK BLVD
Vehicles Only	Unknown	PMX_35648	Property Damage Only	PDO	7:45:00 AM	8:00:00 AM	3/29/2021 7:45	0 Vehicle Only	HYMER AVE & ROCK BLVD
Vehicles Only	Possible Injury	PMX_32678	Possible/Minor Injury	Possible/Minor Injury	5:52:00 PM	6:00:00 PM	4/1/2021 17:52	0 Vehicle Only	IR80 E TO S ROCK BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_32540	Property Damage Only	PDO	12:11:00 PM	12:00:00 PM	4/9/2021 12:11	0 Vehicle Only	COMMERCE ST & ROCK BLVD
Vehicles Only	Possible Injury	PMX_32558	Possible/Minor Injury	Possible/Minor Injury	3:21:00 PM	3:00:00 PM	4/10/2021 15:21	0 Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	No Injury	PMX_32510	Property Damage Only	PDO	10:39:00 AM	11:00:00 AM	4/11/2021 10:39	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Serious Injury	PMX_32800	Serious Injury	Serious Injury	6:55:00 AM	7:00:00 AM	4/20/2021 6:55	0 Vehicle Only	ROCK BLVD & SHABER AVE
Vehicles Only	Unknown	PMX_32887	Property Damage Only	PDO	8:43:00 PM	9:00:00 PM	4/23/2021 20:43	0 Vehicle Only	HYMER AVE & ROCK BLVD
Vehicles Only	No Injury	PMX_32986	Property Damage Only	PDO	3:28:00 AM	3:00:00 AM	5/1/2021 3:28	0 Vehicle Only	ROCK BL TO IR80 W & ROCK BLVD
Vehicles Only	No Injury	PMX_32945	Property Damage Only	PDO	3:24:00 PM	3:00:00 PM	5/4/2021 15:24	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Possible Injury	PMX_33150	Possible/Minor Injury	Possible/Minor Injury	9:01:00 PM	9:00:00 PM	5/10/2021 21:01	0 Vehicle Only	ROCK BL TO IR80 W & ROCK BLVD
Vehicles Only	Minor Injury	PMX_33338	Possible/Minor Injury	Possible/Minor Injury	6:53:00 AM	7:00:00 AM	5/11/2021 6:53	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_33195	Property Damage Only	PDO	5:17:00 PM	5:00:00 PM	5/17/2021 17:17	0 Vehicle Only	HYMER AVE & S ROCK BLVD
Vehicles Only	Unknown	PMX_37349	Property Damage Only	PDO	4:25:00 PM	4:00:00 PM	5/18/2021 16:25	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Possible Injury	PMX_33352	Possible/Minor Injury	Possible/Minor Injury	6:57:00 PM	7:00:00 PM	5/19/2021 18:57	0 Vehicle Only	GAULT WY & ROCK BLVD
Vehicles Only	Possible Injury	PMX_33407	Possible/Minor Injury	Possible/Minor Injury	11:55:00 AM	12:00:00 PM	5/19/2021 11:55	0 Vehicle Only	OTHER & ROCK BL
Vehicles Only	No Injury	PMX_33605	Property Damage Only	PDO	11:20:00 AM	11:00:00 AM	5/28/2021 11:20	0 Vehicle Only	F ST & ROCK BLVD
Vehicles Only	No Injury	PMX_33542	Property Damage Only	PDO	4:58:00 AM	5:00:00 AM	5/29/2021 4:58	0 Vehicle Only	D STREET & ROCK BLVD
Vehicles Only	No Injury	PMX_33580	Property Damage Only	PDO	10:55:00 PM	11:00:00 PM	6/1/2021 22:55	0 Vehicle Only	OTHER & ROCK BLVD
Vehicles Only	Possible Injury	PMX_33784	Possible/Minor Injury	Possible/Minor Injury	1:22:00 PM	1:00:00 PM	6/7/2021 13:22	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	No Injury	PMX_33717	Property Damage Only	PDO	12:01:00 PM	12:00:00 PM	6/9/2021 12:01	0 Vehicle Only	GLENDALE AVE & ROCK BLVD
Vehicles Only	Possible Injury	PMX_33855	Possible/Minor Injury	Possible/Minor Injury	7:57:00 PM	8:00:00 PM	6/17/2021 19:57	0 Vehicle Only	GREG ST & S ROCK BL
Involved Bicyclist or Ped	Fatal	PMX_34196	Fatal (Bicyclist)	Fatal (Bicyclist)	8:46:00 AM	9:00:00 AM	6/30/2021 8:46	0 Bicyclist	ODDIE BLVD & ROCK BLVD
Vehicles Only	Minor Injury	PMX_34159	Possible/Minor Injury	Possible/Minor Injury	3:40:00 PM	4:00:00 PM	6/30/2021 15:40	0 Vehicle Only	PITTMAN AVE & S ROCK BLVD
Vehicles Only	Possible Injury	PMX_37319	Possible/Minor Injury	Possible/Minor Injury	9:26:00 AM	9:00:00 AM	7/2/2021 9:26	0 Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Unknown	PMX_31772	Property Damage Only	PDO	10:32:00 PM	11:00:00 PM	7/3/2021 22:32	0 Vehicle Only	IR80 E TO S ROCK BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_31920	Property Damage Only	PDO	4:24:00 PM	4:00:00 PM	7/7/2021 16:24	0 Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	No Injury	PMX_32148	Property Damage Only	PDO	5:43:00 PM	6:00:00 PM	7/27/2021 17:43	0 Vehicle Only	ROCK BLVD & VICTORIAN AV
Vehicles Only	Possible Injury	PMX_37265	Possible/Minor Injury	Possible/Minor Injury	12:56:00 AM	1:00:00 AM	8/21/2021 0:56	0 Vehicle Only	N MCCARRAN BLVD & ROCK BLVD
Vehicles Only	Serious Injury	PMX_32273	Serious Injury	Serious Injury	12:07:00 AM	12:00:00 AM	8/21/2021 0:07	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Unknown	PMX_32241	Property Damage Only	PDO	11:08:00 PM	11:00:00 PM	8/28/2021 23:08	0 Vehicle Only	HYMER AVE & S ROCK BLVD
Vehicles Only	Unknown	PMX_32386	Property Damage Only	PDO	3:50:00 PM	4:00:00 PM	9/3/2021 15:50	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	No Injury	PMX_32229	Property Damage Only	PDO	6:09:00 PM	6:00:00 PM	9/7/2021 18:09	0 Vehicle Only	HYMER AVE & SR668
Vehicles Only	Serious Injury	PMX_32291	Serious Injury	Serious Injury	6:23:00 AM	6:00:00 AM	9/24/2021 6:23	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_31491	Property Damage Only	PDO	3:19:00 AM	3:00:00 AM	10/14/2021 3:19	0 Vehicle Only	IR80 E & ROCK BLVD
Vehicles Only	Possible Injury	PMX_31454	Possible/Minor Injury	Possible/Minor Injury	9:02:00 AM	9:00:00 AM	10/20/2021 9:02	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	No Injury	PMX_31566	Property Damage Only	PDO	6:44:00 AM	7:00:00 AM	10/30/2021 6:44	0 Vehicle Only	C ST & ROCK BLVD
Vehicles Only	Possible Injury	PMX_31603	Possible/Minor Injury	Possible/Minor Injury	8:34:00 AM	9:00:00 AM	11/13/2021 8:34	0 Vehicle Only	MCCARRAN BLVD & S ROCK BLVD
Vehicles Only	No Injury	PMX_31627	Property Damage Only	PDO	8:08:00 AM	8:00:00 AM	11/19/2021 8:08	0 Vehicle Only	IR80 E & ROCK BLVD
Vehicles Only	Possible Injury	PMX_31723	Possible/Minor Injury	Possible/Minor Injury	11:34:00 AM	12:00:00 PM	11/20/2021 11:34	0 Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	No Injury	PMX_31886	Property Damage Only	PDO	5:03:00 PM	5:00:00 PM	11/23/2021 17:03	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_31685	Property Damage Only	PDO	8:04:00 AM	8:00:00 AM	11/27/2021 8:04	0 Vehicle Only	OXFORD AVE & ROCK BLVD
Vehicles Only	Minor Injury	PMX_31889	Possible/Minor Injury	Possible/Minor Injury	3:45:00 AM	4:00:00 AM	12/1/2021 3:45	0 Vehicle Only	ROCK BLVD & RUSSELL WAY
Vehicles Only	No Injury	PMX_31978	Property Damage Only	PDO	9:45:00 AM	10:00:00 AM	12/5/2021 9:45	0 Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	Minor Injury	PMX_31844	Possible/Minor Injury	Possible/Minor Injury	11:36:00 AM	12:00:00 PM	12/9/2021 11:36	0 Vehicle Only	C ST & ROCK BLVD
Vehicles Only	No Injury	PMX_31908	Property Damage Only	PDO	3:47:00 PM	4:00:00 PM	12/9/2021 15:47	0 Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	No Injury	PMX_31934	Property Damage Only	PDO	9:06:00 AM	9:00:00 AM	12/13/2021 9:06	0 Vehicle Only	ROCK BLVD & ZEPHYR WAY
Involved Bicyclist or Ped	Minor Injury	PMX_26780	Possible/Minor Injury (Pedestrian)	Possible/Minor Injury (Pedestrian)	7:32:00 PM	8:00:00 PM	1/2/2022 19:32	0 Pedestrian	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Possible Injury	PMX_26752	Possible/Minor Injury	Possible/Minor Injury	7:26:00 AM	7:00:00 AM	1/4/2022 7:26	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_26807	Property Damage Only	PDO	1:19:00 PM	1:00:00 PM	1/7/2022 13:19	0 Vehicle Only	HYMER AVE & SR668
Vehicles Only	No Injury	PMX_26891	Property Damage Only	PDO	5:24:00 PM	5:00:00 PM	1/15/2022 17:24	0 Vehicle Only	SR668 & VICTORIAN AVE
Vehicles Only	No Injury	PMX_37635	Property Damage Only	PDO	8:09:00 AM	8:00:00 AM	1/19/2022 8:09	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	No Injury	PMX_26742	Property Damage Only	PDO	6:49:00 AM	7:00:00 AM	1/19/2022 6:49	0 Vehicle Only	SR668 & VICTORIAN AVE
Vehicles Only	Minor Injury	PMX_26868	Possible/Minor Injury	Possible/Minor Injury	9:10:00 PM	9:00:00 PM	1/21/2022 21:10	0 Vehicle Only	GLENDALE AVE & ROCK BLVD
Vehicles Only	No Injury	PMX_26874	Property Damage Only	PDO	8:25:00 AM	8:00:00 AM	1/24/2022 8:25	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_27054	Property Damage Only	PDO	4:02:00 PM	4:00:00 PM	2/1/2022 16:02	0 Vehicle Only	ROCK BLVD & UPTON WAY
Vehicles Only	Possible Injury	PMX_27023	Possible/Minor Injury	Possible/Minor Injury	6:40:00 AM	7:00:00 AM	2/2/2022 6:40	0 Vehicle Only	PITTMAN AVE & S ROCK BLVD
Vehicles Only	No Injury	PMX_27006	Property Damage Only	PDO	7:28:00 PM	7:00:00 PM	2/14/2022 19:28	0 Vehicle Only	HYMER AVE & SR668
Vehicles Only	Possible Injury	PMX_27153	Possible/Minor Injury	Possible/Minor Injury	4:22:00 PM	4:00:00 PM	2/14/2022 16:22	0 Vehicle Only	ROCK BLVD & UPTON WAY
Vehicles Only	No Injury	PMX_27201	Property Damage Only	PDO	8:13:00 AM	8:00:00 AM	2/23/2022 8:13	0 Vehicle Only	ROCK BLVD & RUSSELL WAY
Vehicles Only	No Injury	PMX_27292	Property Damage Only	PDO	8:54:00 AM	9:00:00 AM	3/4/2022 8:54	0 Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Minor Injury	PMX_27288	Possible/Minor Injury	Possible/Minor Injury	12:22:00 PM	12:00:00 PM	3/10/2022 12:22	0 Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	No Injury	PMX_27357	Property Damage Only	PDO	4:48:00 PM	5:00:00 PM	3/14/2022 16:48	0 Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	No Injury	PMX_27539	Property Damage Only	PDO	8:37:00 AM	9:00:00 AM	3/21/2022 8:37	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	No Injury	PMX_27475	Property Damage Only	PDO	2:12:00 PM	2:00:00 PM	3/22/2022 14:12	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_27451	Property Damage Only	PDO	6:47:00 PM	7:00:00 PM	3/23/2022 18:47	0 Vehicle Only	ROCK BLVD & SR659
Vehicles Only	No Injury	PMX_27540	Property Damage Only	PDO	9:45:00 AM	10:00:00 AM	3/28/2022 9:45	0 Vehicle Only	PRATER WAY & SR668
Vehicles Only	Possible Injury	PMX_30530	Possible/Minor Injury	Possible/Minor Injury	10:38:00 AM	11:00:00 AM	4/1/2022 10:38	0 Vehicle Only	I ST & ROCK BLVD
Vehicles Only	No Injury	PMX_30503	Property Damage Only	PDO	4:24:00 PM	4:00:00 PM	4/3/2022 16:24	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_30504	Property Damage Only	PDO	10:47:00 AM	11:00:00 AM	4/11/2022 10:47	0 Vehicle Only	MCCARRAN BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_30633	Property Damage Only	PDO	9:47:00 AM	10:00:00 AM	4/14/2022 9:47	0 Vehicle Only	GAULT WAY & ROCK BLVD
Vehicles Only	Possible Injury	PMX_30713	Possible/Minor Injury	Possible/Minor Injury	6:04:00 PM	6:00:00 PM	4/25/2022 18:04	0 Vehicle Only	SR668 & SR668 TO IR80W INT17
Vehicles Only	No Injury	PMX_30708	Property Damage Only	PDO	1:45:00 PM	2:00:00 PM	4/26/2022 13:45	0 Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	Minor Injury	PMX_30695	Possible/Minor Injury	Possible/Minor Injury	7:17:00 AM	7:00:00 AM	4/27/2022 7:17	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Possible Injury	PMX_30834	Possible/Minor Injury	Possible/Minor Injury	9:41:00 PM	10:00:00 PM	4/30/2022 21:41	0 Vehicle Only	HYMER AVE & S ROCK BLVD
Vehicles Only	No Injury	PMX_38262	Property Damage Only	PDO	7:20:00 AM	7:00:00 AM	5/3/2022 7:20	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Possible Injury	PMX_30959	Possible/Minor Injury	Possible/Minor Injury	10:26:00 PM	10:00:00 PM	5/18/2022 22:26	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Possible Injury	PMX_30921	Possible/Minor Injury	Possible/Minor Injury	1:27:00 PM	1:00:00 PM	5/21/2022 13:27	0 Vehicle Only	H ST & ROCK BLVD
Vehicles Only	No Injury	PMX_30909	Property Damage Only	PDO	10:04:00 AM	10:00:00 AM	5/21/2022 10:04	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Possible Injury	PMX_38316	Possible/Minor Injury	Possible/Minor Injury	2:28:00 PM	2:00:00 PM	5/23/2022 14:28	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Possible Injury	PMX_30907	Possible/Minor Injury	Possible/Minor Injury	2:42:00 PM	3:00:00 PM	5/24/2022 14:42	0 Vehicle Only	S ROCK BLVD & SHABER AVE
Vehicles Only	No Injury	PMX_38318	Property Damage Only	PDO	5:16:00 PM	5:00:00 PM	5/25/2022 17:16	0 Vehicle Only	ROCK BLVD & ROCK BLVD TO IR80E RAMP
Vehicles Only	No Injury	PMX_31065	Property Damage Only	PDO	3:30:00 PM	4:00:00 PM	5/26/2022 15:30	0 Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	No Injury	PMX_31035	Property Damage Only	PDO	3:20:00 PM	3:00:00 PM	5/27/2022 15:20	0 Vehicle Only	HYMER AVE & SR668
Vehicles Only	No Injury	PMX_31139	Property Damage Only	PDO	9:46:00 PM	10:00:00 PM	5/27/2022 21:46	0 Vehicle Only	ROCK BLVD & VANCE WAY
Vehicles Only	No Injury	PMX_31170	Property Damage Only	PDO	2:10:00 AM	2:00:00 AM	5/28/2022 2:10	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	No Injury	PMX_31072	Property Damage Only	PDO	8:00:00 AM	8:00:00 AM	5/31/2022 8:00	0 Vehicle Only	HYMER AVE & SR668
Vehicles Only	Possible Injury	PMX_31124	Possible/Minor Injury	Possible/Minor Injury	2:55:00 PM	3:00:00 PM	6/3/2022 14:55	0 Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	No Injury	PMX_31042	Property Damage Only	PDO	11:10:00 AM	11:00:00 AM	6/3/2022 11:10	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Fatal	PMX_31219	Fatal	Fatal	12:27:00 PM	12:00:00 PM	6/16/2022 12:27	0 Vehicle Only	GLENDALE AVE & ROCK BLVD
Vehicles Only	Possible Injury	PMX_31315	Possible/Minor Injury	Possible/Minor Injury	6:26:00 PM	6:00:00 PM	6/18/2022 18:26	0 Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	No Injury	PMX_31207	Property Damage Only	PDO	2:53:00 PM	3:00:00 PM	6/21/2022 14:53	0 Vehicle Only	PRATER WAY & ROCK BLVD

NDOT Crash Data

PMX_AT_Crashes	PMX_InjuryType	PMX_UI	WebmapSymbology	KTWL_Study_Corridors_CrashLocation	PMX_NormalizeTime	PMX_Timeframes	PMX_DayTime		UserType	PMX_Intersection Location
Vehicles Only	Minor Injury	PMX_27685	Possible/Minor Injury	Possible/Minor Injury	12:13:00 PM	12:00:00 PM	7/3/2022 12:13	0	Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Possible Injury	PMX_27781	Possible/Minor Injury	Possible/Minor Injury	9:59:00 AM	10:00:00 AM	7/8/2022 9:59	0	Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_27696	Property Damage Only	PDO	9:46:00 AM	10:00:00 AM	7/10/2022 9:46	0	Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Possible Injury	PMX_27681	Possible/Minor Injury	Possible/Minor Injury	3:48:00 PM	4:00:00 PM	7/13/2022 15:48	0	Vehicle Only	SR668 & SR668 TO IR80W INT17
Vehicles Only	Possible Injury	PMX_27759	Possible/Minor Injury	Possible/Minor Injury	4:32:00 PM	5:00:00 PM	7/19/2022 16:32	0	Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	No Injury	PMX_28057	Property Damage Only	PDO	8:36:00 PM	9:00:00 PM	8/2/2022 20:36	0	Vehicle Only	PRATER WAY & SR668
Vehicles Only	No Injury	PMX_27992	Property Damage Only	PDO	11:28:00 PM	11:00:00 PM	8/3/2022 23:28	0	Vehicle Only	SR668 & VICTORIAN AVE
Vehicles Only	Minor Injury	PMX_28050	Possible/Minor Injury	Possible/Minor Injury	8:08:00 AM	8:00:00 AM	8/9/2022 8:08	0	Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Possible Injury	PMX_28202	Possible/Minor Injury	Possible/Minor Injury	4:34:00 PM	5:00:00 PM	8/13/2022 16:34	0	Vehicle Only	SR668 & VICTORIAN AVE
Vehicles Only	Minor Injury	PMX_28166	Possible/Minor Injury	Possible/Minor Injury	12:50:00 PM	1:00:00 PM	8/16/2022 12:50	0	Vehicle Only	S ROCK BLVD & SHABER AVE
Vehicles Only	Possible Injury	PMX_28311	Possible/Minor Injury	Possible/Minor Injury	9:36:00 AM	10:00:00 AM	8/23/2022 9:36	0	Vehicle Only	GLENDALE AVE & ROCK BLVD
Involved Bicyclist or Ped	Minor Injury	PMX_28405	Possible/Minor Injury (Pedestrian)	Possible/Minor Injury (Pedestrian)	6:10:00 PM	6:00:00 PM	8/26/2022 18:10	0	Pedestrian	GREENBRAE DR & ROCK BLVD
Vehicles Only	Serious Injury	PMX_28468	Serious Injury	Serious Injury	4:22:00 PM	4:00:00 PM	9/3/2022 16:22	0	Vehicle Only	ROCK BLVD & SR648
Vehicles Only	Possible Injury	PMX_28856	Possible/Minor Injury	Possible/Minor Injury	5:45:00 PM	6:00:00 PM	9/13/2022 17:45	0	Vehicle Only	ROCK BLVD & SR648
Vehicles Only	No Injury	PMX_28693	Property Damage Only	PDO	2:53:00 PM	3:00:00 PM	9/13/2022 14:53	0	Vehicle Only	ROCK BLVD & SR659
Vehicles Only	Possible Injury	PMX_28815	Possible/Minor Injury	Possible/Minor Injury	1:09:00 PM	1:00:00 PM	9/15/2022 13:09	0	Vehicle Only	SR668 & VICTORIAN AVE
Involved Bicyclist or Ped	No Injury	PMX_28964	Property Damage Only	PDO	2:24:00 PM	2:00:00 PM	9/21/2022 14:24	0	Bicyclist	GREENBRAE DR & ROCK BLVD
Vehicles Only	No Injury	PMX_28917	Property Damage Only	PDO	12:00:00 PM	12:00:00 PM	9/21/2022 12:00	0	Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	No Injury	PMX_28869	Property Damage Only	PDO	6:40:00 AM	7:00:00 AM	9/21/2022 6:40	0	Vehicle Only	SR668 & SR668 TO IR80E INT17
Involved Bicyclist or Ped	Possible Injury	PMX_28883	Possible/Minor Injury (Bicyclist)	Possible/Minor Injury (Bicyclist)	6:58:00 AM	7:00:00 AM	9/22/2022 6:58	0	Bicyclist	15TH ST & ROCK BLVD
Vehicles Only	Possible Injury	PMX_29013	Possible/Minor Injury	Possible/Minor Injury	3:03:00 PM	3:00:00 PM	9/24/2022 15:03	0	Vehicle Only	COMMERCE ST & ROCK BLVD
Vehicles Only	No Injury	PMX_28979	Property Damage Only	PDO	5:23:00 PM	5:00:00 PM	9/27/2022 17:23	0	Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Possible Injury	PMX_29127	Possible/Minor Injury	Possible/Minor Injury	6:41:00 AM	7:00:00 AM	9/29/2022 6:41	0	Vehicle Only	SR668 & SR668 TO IR80W INT17
Vehicles Only	Possible Injury	PMX_29208	Possible/Minor Injury	Possible/Minor Injury	5:23:00 PM	5:00:00 PM	10/5/2022 17:23	0	Vehicle Only	FREEPORT BLVD & S ROCK BLVD
Vehicles Only	No Injury	PMX_29482	Property Damage Only	PDO	5:50:00 PM	6:00:00 PM	10/8/2022 17:50	0	Vehicle Only	PRATER WAY & SR668
Vehicles Only	No Injury	PMX_29182	Property Damage Only	PDO	9:13:00 AM	9:00:00 AM	10/10/2022 9:13	0	Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	No Injury	PMX_29401	Property Damage Only	PDO	5:45:00 PM	6:00:00 PM	10/12/2022 17:45	0	Vehicle Only	I ST & ROCK BLVD
Vehicles Only	No Injury	PMX_29674	Property Damage Only	PDO	9:46:00 PM	10:00:00 PM	10/29/2022 21:46	0	Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Possible Injury	PMX_29593	Possible/Minor Injury	Possible/Minor Injury	2:22:00 PM	2:00:00 PM	11/1/2022 14:22	0	Vehicle Only	PRATER WAY & ROCK BLVD
Involved Bicyclist or Ped	Minor Injury	PMX_29822	Possible/Minor Injury (Bicyclist)	Possible/Minor Injury (Bicyclist)	9:38:00 AM	10:00:00 AM	11/7/2022 9:38	0	Bicyclist	GREENBRAE DR & ROCK BLVD
Vehicles Only	Possible Injury	PMX_29764	Possible/Minor Injury	Possible/Minor Injury	6:13:00 PM	6:00:00 PM	11/7/2022 18:13	0	Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Possible Injury	PMX_29672	Possible/Minor Injury	Possible/Minor Injury	11:30:00 PM	12:00:00 AM	11/11/2022 23:30	0	Vehicle Only	ROCK BLVD & TYLER WAY
Vehicles Only	Possible Injury	PMX_29892	Possible/Minor Injury	Possible/Minor Injury	6:32:00 PM	7:00:00 PM	11/14/2022 18:32	0	Vehicle Only	ROCK BLVD & VICTORIAN AVE
Involved Bicyclist or Ped	No Injury	PMX_30035	Property Damage Only	PDO	1:07:00 PM	1:00:00 PM	11/24/2022 13:07	0	Pedestrian	SR668 & VICTORIAN AVE
Vehicles Only	No Injury	PMX_29980	Property Damage Only	PDO	11:30:00 PM	12:00:00 AM	11/26/2022 23:30	0	Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_30202	Property Damage Only	PDO	9:58:00 AM	10:00:00 AM	12/3/2022 9:58	0	Vehicle Only	SR668 & VICTORIAN AVE
Vehicles Only	Possible Injury	PMX_30225	Possible/Minor Injury	Possible/Minor Injury	1:00:00 PM	1:00:00 PM	12/4/2022 13:00	0	Vehicle Only	C ST & SR668
Vehicles Only	No Injury	PMX_30261	Property Damage Only	PDO	3:51:00 PM	4:00:00 PM	12/8/2022 15:51	0	Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Possible Injury	PMX_30289	Possible/Minor Injury	Possible/Minor Injury	12:48:00 PM	1:00:00 PM	12/9/2022 12:48	0	Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	No Injury	PMX_25817	Property Damage Only	PDO	1:03:00 PM	1:00:00 PM	1/6/2023 13:03	0	Vehicle Only	SR668 & SR668 TO IR80E INT17
Vehicles Only	Possible Injury	PMX_25971	Possible/Minor Injury	Possible/Minor Injury	6:15:00 PM	6:00:00 PM	1/12/2023 18:15	0	Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Possible Injury	PMX_26211	Possible/Minor Injury	Possible/Minor Injury	9:53:00 AM	10:00:00 AM	1/24/2023 9:53	0	Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	No Injury	PMX_26116	Property Damage Only	PDO	1:41:00 PM	2:00:00 PM	1/25/2023 13:41	0	Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Possible Injury	PMX_26252	Possible/Minor Injury	Possible/Minor Injury	8:06:00 AM	8:00:00 AM	1/27/2023 8:06	0	Vehicle Only	G ST & ROCK BLVD
Vehicles Only	No Injury	PMX_26149	Property Damage Only	PDO	7:20:00 AM	7:00:00 AM	1/28/2023 7:20	0	Vehicle Only	PRATER WAY & SR668
Vehicles Only	Unknown	PMX_26322	Property Damage Only	PDO	11:21:00 AM	11:00:00 AM	1/29/2023 11:21	0	Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Possible Injury	PMX_25980	Possible/Minor Injury	Possible/Minor Injury	12:23:00 PM	12:00:00 PM	1/29/2023 12:23	0	Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_26651	Property Damage Only	PDO	8:54:00 PM	9:00:00 PM	2/17/2023 20:54	0	Vehicle Only	HYMER AVE & S ROCK BLVD
Vehicles Only	Possible Injury	PMX_26353	Possible/Minor Injury	Possible/Minor Injury	3:53:00 PM	4:00:00 PM	2/27/2023 15:53	0	Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	No Injury	PMX_27534	Property Damage Only	PDO	6:43:00 PM	7:00:00 PM	3/2/2023 18:43	0	Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	No Injury	PMX_30272	Property Damage Only	PDO	4:45:00 AM	5:00:00 AM	3/12/2023 4:45	0	Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	Possible Injury	PMX_28104	Possible/Minor Injury	Possible/Minor Injury	9:25:00 AM	9:00:00 AM	3/14/2023 9:25	0	Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	No Injury	PMX_31911	Property Damage Only	PDO	3:46:00 PM	4:00:00 PM	3/23/2023 15:46	0	Vehicle Only	SR668 & VICTORIAN AVE
Vehicles Only	No Injury	PMX_32323	Property Damage Only	PDO	4:12:00 PM	4:00:00 PM	4/12/2023 16:12	0	Vehicle Only	C ST & SR668
Vehicles Only	No Injury	PMX_32233	Property Damage Only	PDO	3:43:00 PM	4:00:00 PM	4/12/2023 15:43	0	Vehicle Only	HYMER AVE & SR668
Vehicles Only	Possible Injury	PMX_32384	Possible/Minor Injury	Possible/Minor Injury	6:32:00 PM	7:00:00 PM	4/15/2023 18:32	0	Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	No Injury	PMX_32884	Property Damage Only	PDO	4:45:00 PM	5:00:00 PM	4/17/2023 16:45	0	Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	No Injury	PMX_33726	Property Damage Only	PDO	3:45:00 PM	4:00:00 PM	4/23/2023 15:45	0	Vehicle Only	I ST & ROCK BLVD
Vehicles Only	No Injury	PMX_35833	Property Damage Only	PDO	6:48:00 PM	7:00:00 PM	5/6/2023 18:48	0	Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	No Injury	PMX_35835	Property Damage Only	PDO	4:52:00 PM	5:00:00 PM	5/6/2023 16:52	0	Vehicle Only	SR668 & VICTORIAN AVE
Vehicles Only	Possible Injury	PMX_35805	Possible/Minor Injury	Possible/Minor Injury	8:21:00 AM	8:00:00 AM	5/10/2023 8:21	0	Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	No Injury	PMX_35847	Property Damage Only	PDO	6:21:00 PM	6:00:00 PM	5/11/2023 18:21	0	Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Possible Injury	PMX_35962	Possible/Minor Injury	Possible/Minor Injury	10:06:00 AM	10:00:00 AM	5/16/2023 10:06	0	Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	No Injury	PMX_36559	Property Damage Only	PDO	5:28:00 PM	5:00:00 PM	5/16/2023 17:28	0	Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Possible Injury	PMX_35848	Possible/Minor Injury	Possible/Minor Injury	5:17:00 AM	5:00:00 AM	5/20/2023 5:17	0	Vehicle Only	D ST & ROCK BLVD
Vehicles Only	No Injury	PMX_39965	Property Damage Only	PDO	3:03:00 PM	3:00:00 PM	5/20/2023 15:03	0	Vehicle Only	ROCK BLVD & SR659
Vehicles Only	Possible Injury	PMX_36101	Possible/Minor Injury	Possible/Minor Injury	10:15:00 PM	10:00:00 PM	5/26/2023 22:15	0	Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Minor Injury	PMX_36135	Possible/Minor Injury	Possible/Minor Injury	6:43:00 AM	7:00:00 AM	6/2/2023 6:43	0	Vehicle Only	ROCK BLVD & YORK WAY
Vehicles Only	No Injury	PMX_36095	Property Damage Only	PDO	8:55:00 AM	9:00:00 AM	6/4/2023 8:55	0	Vehicle Only	IR80E TO ROCK BLVD INT17 & SR668
Vehicles Only	Possible Injury	PMX_36100	Possible/Minor Injury	Possible/Minor Injury	3:24:00 PM	3:00:00 PM	6/4/2023 15:24	0	Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	No Injury	PMX_36224	Property Damage Only	PDO	3:54:00 PM	4:00:00 PM	6/7/2023 15:54	0	Vehicle Only	PRATER WAY & SR668
Vehicles Only	No Injury	PMX_36331	Property Damage Only	PDO	10:45:00 AM	11:00:00 AM	6/20/2023 10:45	0	Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Minor Injury	PMX_36305	Possible/Minor Injury	Possible/Minor Injury	9:07:00 PM	9:00:00 PM	6/23/2023 21:07	0	Vehicle Only	SR668 & VICTORIAN AVE
Vehicles Only	No Injury	PMX_36584	Property Damage Only	PDO	6:22:00 PM	6:00:00 PM	7/4/2023 18:22	0	Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	No Injury	PMX_36587	Property Damage Only	PDO	8:32:00 AM	9:00:00 AM	7/12/2023 8:32	0	Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	Possible Injury	PMX_36548	Possible/Minor Injury	Possible/Minor Injury	5:05:00 PM	5:00:00 PM	7/20/2023 17:05	0	Vehicle Only	GREG ST & S ROCK BLVD
Vehicles Only	Possible Injury	PMX_40278	Possible/Minor Injury	Possible/Minor Injury	5:46:00 PM	6:00:00 PM	7/24/2023 17:46	0	Vehicle Only	G ST & ROCK BLVD
Vehicles Only	No Injury	PMX_40372	Property Damage Only	PDO	11:15:00 AM	11:00:00 AM	7/24/2023 11:15	0	Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	No Injury	PMX_40311	Property Damage Only	PDO	7:30:00 AM	8:00:00 AM	7/26/2023 7:30	0	Vehicle Only	ROCK BLVD & ROCK BLVD TO IR80W INT17
Vehicles Only	No Injury	PMX_36748	Property Damage Only	PDO	1:26:00 PM	1:00:00 PM	7/31/2023 13:26	0	Vehicle Only	PRATER WAY & SR668
Involved Bicyclist or Ped	Minor Injury	PMX_36674	Possible/Minor Injury (Bicyclist)	Possible/Minor Injury (Bicyclist)	10:22:00 PM	10:00:00 PM	8/1/2023 22:22	0	Bicyclist	SR668 & VICTORIAN AVE
Vehicles Only	No Injury	PMX_37924	Property Damage Only	PDO	6:13:00 PM	6:00:00 PM	8/4/2023 18:13	0	Vehicle Only	GLENDALE AVE & S ROCK BLVD
Vehicles Only	No Injury	PMX_37268	Property Damage Only	PDO	10:50:00 PM	11:00:00 PM	8/4/2023 22:50	0	Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Unknown	PMX_37303	Property Damage Only	PDO	12:20:00 AM	12:00:00 AM	8/5/2023 0:20	0	Vehicle Only	D ST & ROCK BLVD
Vehicles Only	No Injury	PMX_37475	Property Damage Only	PDO	3:41:00 PM	4:00:00 PM	8/8/2023 15:41	0	Vehicle Only	SR668 & SR668 TO IR80E INT17
Vehicles Only	Possible Injury	PMX_37641	Possible/Minor Injury	Possible/Minor Injury	4:55:00 PM	5:00:00 PM	8/10/2023 16:55	0	Vehicle Only	GLENDALE AVE & S ROCK BLVD
Vehicles Only	Possible Injury	PMX_39445	Possible/Minor Injury	Possible/Minor Injury	5:52:00 PM	6:00:00 PM	8/10/2023 17:52	0	Vehicle Only	GLENDALE AVE & S ROCK BLVD
Involved Bicyclist or Ped	Possible Injury	PMX_39638	Possible/Minor Injury (Pedestrian)	Possible/Minor Injury (Pedestrian)	1:57:00 PM	2:00:00 PM	8/21/2023 13:57	0	Pedestrian	GLENDALE AVE & S ROCK BLVD
Vehicles Only	Minor Injury	PMX_39611	Possible/Minor Injury	Possible/Minor Injury	11:00:00 PM	11:00:00 PM	8/22/2023 23:00	0	Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	Possible Injury	PMX_40512	Possible/Minor Injury	Possible/Minor Injury	8:06:00 AM	8:00:00 AM	8/22/2023 8:06	0	Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Possible Injury	PMX_40410	Possible/Minor Injury	Possible/Minor Injury	11:19:00 AM	11:00:00 AM	8/28/2023 11:19	0	Vehicle Only	SR668 & VICTORIAN AVE
Vehicles Only	No Injury	PMX_40630	Property Damage Only	PDO	1:05:00 PM	1:00:00 PM	8/29/2023 13:05	0	Vehicle Only	PRATER WAY & SR668
Vehicles Only	No Injury	PMX_40738	Property Damage Only	PDO	11:28:00 AM	11:00:00 AM	9/10/2023 11:28	0	Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Unknown	PMX_40799	Property Damage Only	PDO	10:19:00 PM	10:00:00 PM	9/14/2023 22:19	0	Vehicle Only	ROCK BLVD & VICTORIAN AVE

NDOT Crash Data

PMX_AT_Crashes	PMX_InjuryType	PMX_UI	WebmapSymbology	KTWL_Study_Corridors_CrashLocation	PMX_NormalizeTime	PMX_Timeframes	PMX_DayTime	UserType	PMX_Intersection Location
Vehicles Only	No Injury	PMX_41058	Property Damage Only	PDO	7:37:00 AM	8:00:00 AM	9/15/2023 7:37	0 Vehicle Only	IR80W TO ROCK BLVD INT17 & SR668
Vehicles Only	Possible Injury	PMX_40942	Possible/Minor Injury	Possible/Minor Injury	6:44:00 AM	7:00:00 AM	9/19/2023 6:44	0 Vehicle Only	ROCK BLVD & VICTORIAN AVE
Vehicles Only	Minor Injury	PMX_41956	Possible/Minor Injury	Possible/Minor Injury	7:25:00 PM	7:00:00 PM	9/22/2023 19:25	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	Minor Injury	PMX_40883	Possible/Minor Injury	Possible/Minor Injury	5:40:00 PM	6:00:00 PM	9/23/2023 17:40	0 Vehicle Only	ROCK BLVD & SR659
Vehicles Only	Possible Injury	PMX_41203	Possible/Minor Injury	Possible/Minor Injury	4:35:00 PM	5:00:00 PM	9/29/2023 16:35	0 Vehicle Only	PRATER WAY & ROCK BLVD
Vehicles Only	Possible Injury	PMX_41214	Possible/Minor Injury	Possible/Minor Injury	9:57:00 AM	10:00:00 AM	10/6/2023 9:57	0 Vehicle Only	S ROCK BLVD & SR648
Vehicles Only	Possible Injury	PMX_41244	Possible/Minor Injury	Possible/Minor Injury	10:00:00 PM	10:00:00 PM	10/7/2023 22:00	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_41323	Property Damage Only	PDO	5:16:00 PM	5:00:00 PM	10/8/2023 17:16	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	No Injury	PMX_41604	Property Damage Only	PDO	6:03:00 AM	6:00:00 AM	10/9/2023 6:03	0 Vehicle Only	GREENBRAE DR & ROCK BLVD
Involved Bicyclist or Ped	Minor Injury	PMX_41222	Possible/Minor Injury (Bicyclist)	Possible/Minor Injury (Bicyclist)	6:36:00 AM	7:00:00 AM	10/10/2023 6:36	0 Bicyclist	PRATER WAY & ROCK BLVD
Vehicles Only	Possible Injury	PMX_41168	Possible/Minor Injury	Possible/Minor Injury	7:01:00 AM	7:00:00 AM	10/12/2023 7:01	0 Vehicle Only	S ROCK BLVD & SHABER AVE
Vehicles Only	No Injury	PMX_41807	Property Damage Only	PDO	9:05:00 PM	9:00:00 PM	10/21/2023 21:05	0 Vehicle Only	ROCK BLVD & SR659
Vehicles Only	No Injury	PMX_41480	Property Damage Only	PDO	12:39:00 PM	1:00:00 PM	10/25/2023 12:39	0 Vehicle Only	SR668 & VICTORIAN AVE
Vehicles Only	Possible Injury	PMX_41592	Possible/Minor Injury	Possible/Minor Injury	2:50:00 PM	3:00:00 PM	10/26/2023 14:50	0 Vehicle Only	COMMERCE ST & ROCK BLVD
Vehicles Only	No Injury	PMX_41540	Property Damage Only	PDO	2:21:00 PM	2:00:00 PM	10/27/2023 14:21	0 Vehicle Only	I ST & ROCK BLVD
Vehicles Only	No Injury	PMX_42025	Property Damage Only	PDO	12:25:00 PM	12:00:00 PM	11/7/2023 12:25	0 Vehicle Only	HYMER AVE & SR668
Vehicles Only	Possible Injury	PMX_41793	Possible/Minor Injury	Possible/Minor Injury	12:18:00 PM	12:00:00 PM	11/8/2023 12:18	0 Vehicle Only	SR668 & SR668 TO IR80E INT17
Vehicles Only	Unknown	PMX_41953	Property Damage Only	PDO	7:15:00 PM	7:00:00 PM	11/11/2023 19:15	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Vehicles Only	Unknown	PMX_42939	Property Damage Only	PDO	9:18:00 PM	9:00:00 PM	11/19/2023 21:18	0 Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Possible Injury	PMX_42779	Possible/Minor Injury	Possible/Minor Injury	1:15:00 PM	1:00:00 PM	11/19/2023 13:15	0 Vehicle Only	ROCK BLVD & SR648
Vehicles Only	Possible Injury	PMX_42550	Possible/Minor Injury	Possible/Minor Injury	10:48:00 AM	11:00:00 AM	11/22/2023 10:48	0 Vehicle Only	PITTMAN AVE & S ROCK BLVD
Involved Bicyclist or Ped	Possible Injury	PMX_42588	Possible/Minor Injury (Pedestrian)	Possible/Minor Injury (Pedestrian)	6:55:00 AM	7:00:00 AM	11/22/2023 6:55	0 Pedestrian	SR668 & VICTORIAN AVE
Vehicles Only	Unknown	PMX_42536	Property Damage Only	PDO	11:51:00 AM	12:00:00 PM	11/24/2023 11:51	0 Vehicle Only	GREENBRAE DR & ROCK BLVD
Vehicles Only	Possible Injury	PMX_42663	Possible/Minor Injury	Possible/Minor Injury	4:18:00 PM	4:00:00 PM	11/25/2023 16:18	0 Vehicle Only	ROCK BLVD & YORK WAY
Vehicles Only	No Injury	PMX_42956	Property Damage Only	PDO	2:00:00 PM	2:00:00 PM	11/30/2023 14:00	0 Vehicle Only	S ROCK BLVD & SHABER AVE
Vehicles Only	No Injury	PMX_42955	Property Damage Only	PDO	6:15:00 PM	6:00:00 PM	12/3/2023 18:15	0 Vehicle Only	ODDIE BLVD & ROCK BLVD
Involved Bicyclist or Ped	Fatal	PMX_42597	Fatal (Pedestrian)	Fatal (Pedestrian)	5:25:00 PM	5:00:00 PM	12/7/2023 17:25	0 Pedestrian	IR80E TO ROCK BLVD INT17 & SR668
Involved Bicyclist or Ped	Unknown	PMX_42600	Property Damage Only	PDO	3:34:00 PM	4:00:00 PM	12/9/2023 15:34	0 Pedestrian	C ST & ROCK BLVD
Vehicles Only	No Injury	PMX_42755	Property Damage Only	PDO	2:37:00 PM	3:00:00 PM	12/12/2023 14:37	0 Vehicle Only	HYMER AVE & SR668
Vehicles Only	No Injury	PMX_42497	Property Damage Only	PDO	5:27:00 PM	5:00:00 PM	12/12/2023 17:27	0 Vehicle Only	IR80E TO SR668 INT17 & SR668
Vehicles Only	No Injury	PMX_42900	Property Damage Only	PDO	12:14:00 PM	12:00:00 PM	12/18/2023 12:14	0 Vehicle Only	SR668 & VICTORIAN AVE
Vehicles Only	No Injury	PMX_42582	Property Damage Only	PDO	5:39:00 PM	6:00:00 PM	12/22/2023 17:39	0 Vehicle Only	D ST & SR668
Vehicles Only	Unknown	PMX_42859	Property Damage Only	PDO	6:47:00 AM	7:00:00 AM	12/24/2023 6:47	0 Vehicle Only	15TH ST & ROCK BLVD

City of Sparks Crash Data

Date	Time	H & R	Case #	Street 1	Street 2	PMX_Location	PMX_Year
11/5/2025	1658	No	SPPD25-8044	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2025
11/3/2025	1023	No	SPPD25-7981	S ROCK BLVD	FREEPORT BLVD	FREEPORT BLVD & S ROCK BLVD	2025
11/3/2025	1118	No	SPPD25-7983	ROCK BLVD	GLENDALE AVE	GLENDALE AVE & ROCK BLVD	2025
11/3/2025	1028	No	SPPD25-7982	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2025
11/1/2025	1031	No	SPPD25-7930	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2025
10/31/2025	2140	Yes	SPPD25-7910	ROCK BLVD	H ST	H ST & ROCK BLVD	2025
10/29/2025	1912	No	SPPD25-7856	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2025
10/26/2025	1206	No	SPPD25-7773	ROCK BLVD	YORK WAY	ROCK BLVD & YORK WAY	2025
10/25/2025	1337	No	SPPD25-7751	ROCK BLVD	IR80E TO ROCK BLVD INT17	IR80E TO ROCK BLVD INT17 & ROCK BLVD	2025
10/23/2025	1901	No	SPPD25-7699	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2025
10/22/2025	1145	No	SPPD25-7646	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2025
10/16/2025	1831	No	SPPD25-7489	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2025
10/13/2025	1655	No	SPPD25-7416	ROCK BLVD	IR80E	IR80E & ROCK BLVD	2025
10/10/2025	1747	No	SPPD25-7332	GREENBRAE DR	ROCK BLVD	GREENBRAE DR & ROCK BLVD	2025
10/10/2025	1849	No	SPPD25-7336	GREENBRAE DR	ROCK BLVD	GREENBRAE DR & ROCK BLVD	2025
10/8/2025	1304	No	SPPD25-7278	ROCK BLVD	IR80W	IR80W & ROCK BLVD	2025
10/2/2025	137	No	SPPD25-7104	ROCK BLVD	I ST	I ST & ROCK BLVD	2025
10/2/2025	1047	No	SPPD25-7110	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2025
10/2/2025	2246	No	SPPD25-7133	S ROCK BLVD	VICTORIAN AVE	S ROCK BLVD & VICTORIAN AVE	2025
9/25/2025	1712	No	SPPD25-6933	ROCK BLVD	TYLER WAY	ROCK BLVD & TYLER WAY	2025
9/20/2025	1808	No	SPPD25-6793-P1	ROCK BLVD	GREG ST	GREG ST & ROCK BLVD	2025
9/20/2025	1808	No	SPPD25-6793	ROCK BLVD	GREG ST	GREG ST & ROCK BLVD	2025
9/16/2025	1733	No	SPPD25-6680	ROCK BLVD	F ST	F ST & ROCK BLVD	2025
9/16/2025	1626	No	SPPD25-6671	S ROCK BLVD	IR80 EB OFF RAMP	IR80 EB OFF RAMP & S ROCK BLVD	2025
9/6/2025	1744	No	SPPD25-6417	ROCK BLVD	IR80E TO ROCK BLVD INT17	IR80E TO ROCK BLVD INT17 & ROCK BLVD	2025
9/4/2025	1841	No	SPPD25-6356	ROCK BLVD	GAULT WAY	GAULT WAY & ROCK BLVD	2025
8/22/2025	1513	No	SPPD25-6021	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2025
8/14/2025	900	No	SPPD25-5776	ROCK BLVD	GREG ST	GREG ST & ROCK BLVD	2025
8/11/2025	1537	Yes	SPPD25-5691	ROCK BLVD		Along Segment	2025
8/10/2025	314	Yes	SPPD25-5644	S ROCK BLVD	SHABER AVE	S ROCK BLVD & SHABER AVE	2025
8/6/2025	1200	Yes	SPPD25-5544	S ROCK BLVD		Along Segment	2025
8/4/2025	1357	No	SPPD25-5483	ROCK BLVD	YORK WAY	ROCK BLVD & YORK WAY	2025
8/3/2025	1435	No	SPPD25-5459	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2025
8/2/2025	1345	Yes	SPPD25-5484	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2025
7/31/2025	1705	No	SPPD25-5398	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2025
7/21/2025	302	No	SPPD25-5132	15TH ST	ROCK BLVD	15TH ST & ROCK BLVD	2025
7/17/2025	921	No	SPPD25-5031	MCCARRAN BLVD	ROCK BLVD	MCCARRAN BLVD & ROCK BLVD	2025
7/15/2025	1337	No	SPPD25-4981	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2025
7/12/2025	1757	No	SPPD25-4900	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2025
7/8/2025	1407	Yes	SPPD25-4786	IR80E TO ROCK BLVD	ROCK BLVD	IR80E TO ROCK BLVD & ROCK BLVD	2025
7/7/2025	2227	Yes	SPPD25-4769	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2025
7/6/2025	2024	No	SPPD25-4741	ROCK BLVD	C ST	C ST & ROCK BLVD	2025
7/6/2025	1527	No	SPPD25-4734	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2025
7/3/2025	940	No	SPPD25-4652	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2025
7/2/2025	1232	No	SPPD25-4634	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2025
6/21/2025	1932	No	SPPD25-4380	ROCK BLVD	MCCARRAN BLVD	MCCARRAN BLVD & ROCK BLVD	2025
6/17/2025	627	Yes	SPPD25-4253	ROCK BLVD	HYMER AVE	HYMER AVE & ROCK BLVD	2025
6/14/2025	2322	No	SPPD25-4189	C ST	ROCK BLVD	C ST & ROCK BLVD	2025
6/11/2025	1439	No	SPPD25-4096	ROCK BLVD	VANCE WAY	ROCK BLVD & VANCE WAY	2025
6/10/2025	1900	Yes	SPPD25-4075	S ROCK BLVD		Along Segment	2025
6/5/2025	1538	Yes	SPPD25-3921	S ROCK BLVD		Along Segment	2025
5/30/2025	927	Yes	SPPD25-3801	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2025
5/30/2025	2115	No	SPPD25-3813	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2025
5/29/2025	546	No	SPPD25-3775	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2025
5/29/2025	546	No	SPPD25-3775-P1	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2025
5/27/2025	430	Yes	SPPD25-3716	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2025
5/16/2025	1743	No	SPPD25-3446	ROCK BLVD		Along Segment	2025
5/10/2025	1645	No	SPPD25-3325	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2025
5/9/2025	1217	No	SPPD25-3297	ROCK BLVD	15TH ST	15TH ST & ROCK BLVD	2025
5/9/2025	1924	No	SPPD25-3308	ROCK BLVD	VANCE WAY	ROCK BLVD & VANCE WAY	2025
5/8/2025	1649	No	SPPD25-3281	I ST	ROCK BLVD	I ST & ROCK BLVD	2025
5/3/2025	345	No	SPPD25-3148	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2025
5/2/2025	1848	Yes	SPPD25-3137	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2025
4/24/2025	1230	Yes	SPPD25-2932	S ROCK BLVD		Along Segment	2025
4/18/2025	2155	No	SPPD25-2768	S ROCK BLVD	FREEPORT BLVD	FREEPORT BLVD & S ROCK BLVD	2025
4/17/2025	949	No	SPPD25-2720	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2025
4/17/2025	1708	No	SPPD25-2729	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2025
4/14/2025	342	Yes	SPPD25-2636	ROCK BLVD	CHESTER SQ	CHESTER SQ & ROCK BLVD	2025
4/11/2025	1812	No	SPPD25-2582	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2025
4/10/2025	2140	Yes	SPPD25-2558	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2025
4/5/2025	849	Yes	SPPD25-2416	GAULT WAY	ROCK BLVD	GAULT WAY & ROCK BLVD	2025
4/3/2025	934	No	SPPD25-2366	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2025
4/1/2025	1337	No	SPPD25-2328	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2025
3/24/2025	1708	No	SPPD25-2145	G ST	ROCK BLVD	G ST & ROCK BLVD	2025
3/22/2025	1329	No	SPPD25-2094	ROCK BLVD	GREG ST	GREG ST & ROCK BLVD	2025
3/21/2025	1532	No	SPPD25-2073	ROCK BLVD	IR80E TO ROCK BLVD INT17	IR80E TO ROCK BLVD INT17 & ROCK BLVD	2025
3/20/2025	1622	Yes	SPPD25-2051-P1	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2025
3/20/2025	1622	Yes	SPPD25-2051	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2025
3/18/2025	1510	No	SPPD25-1995	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2025
3/15/2025	935	No	SPPD25-1923	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2025
3/7/2025	1227	No	SPPD25-1760	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2025
2/20/2025	1012	No	SPPD25-1361	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2025
2/15/2025	338	No	SPPD25-1225	IR80W TO IR580S/US395N INT15	ROCK BLVD	IR80W TO IR580S/US395N INT15 & ROCK BLVD	2025
2/14/2025	545	No	SPPD25-1197	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2025
2/12/2025	1330	Yes	SPPD25-1169	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2025
2/7/2025	1619	No	SPPD25-1058	ROCK BLVD	I ST	I ST & ROCK BLVD	2025
2/4/2025	1215	Yes	SPPD25-1001	S ROCK BLVD		Along Segment	2025

City of Sparks Crash Data

Date	Time	H & R	Case #	Street 1	Street 2	PMX_Location	PMX_Year
1/29/2025	1715	Yes	SPPD25-841	15TH ST	ROCK BLVD	15TH ST & ROCK BLVD	2025
1/16/2025	708	No	SPPD25-440	ROCK BLVD	H ST	H ST & ROCK BLVD	2025
1/15/2025	1930	Yes	SPPD25-433	HYMER AVE	S ROCK BLVD	HYMER AVE & S ROCK BLVD	2025
1/10/2025	1927	Yes	SPPD25-289	S ROCK BLVD		Along Segment	2025
1/8/2025	1049	Yes	SPPD25-225	ROCK BLVD	H ST	H ST & ROCK BLVD	2025
1/5/2025	56	No	SPPD25-148	S ROCK BLVD		Along Segment	2025
1/1/2025	154	No	SPPD25-2	IR80W TO ROCK BLVD INT17		Along Segment	2025
12/31/2024	1347	Yes	SPPD24-10292	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2024
12/27/2024	820	No	SPPD24-10180	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2024
12/27/2024	1000	No	SPPD24-10182	S ROCK BLVD	SHABER AVE	S ROCK BLVD & SHABER AVE	2024
12/19/2024	1729	Yes	SPPD24-9998	FREEPORT BLVD	S ROCK BLVD	FREEPORT BLVD & S ROCK BLVD	2024
12/19/2024	1857	Yes	SPPD24-10004	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2024
12/18/2024	1430	No	SPPD24-9949	S ROCK BLVD		Along Segment	2024
12/17/2024	1427	No	SPPD24-9907	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2024
12/17/2024	700	Yes	SPPD24-9937	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2024
12/13/2024	2243	No	SPPD24-9822	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2024
12/13/2024	1415	No	SPPD24-9816	ROCK BLVD	VANCE WAY	ROCK BLVD & VANCE WAY	2024
12/12/2024	1654	Yes	SPPD24-10096	ROCK BLVD		Along Segment	2024
12/9/2024	2304	Yes	SPPD24-9703	ROCK BLVD	IR80E	IR80E & ROCK BLVD	2024
12/6/2024	1135	Yes	SPPD24-9611	S ROCK BLVD		Along Segment	2024
12/5/2024	1621	No	SPPD24-9589	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2024
12/2/2024	1636	No	SPPD24-9511	ROCK BLVD	IR80E	IR80E & ROCK BLVD	2024
12/2/2024	1855	No	SPPD24-9514	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2024
11/29/2024	435	No	SPPD24-9422-P1	GLENDALE AVE	S ROCK BLVD	GLENDALE AVE & S ROCK BLVD	2024
11/29/2024	435	No	SPPD24-9422	GLENDALE AVE	S ROCK BLVD	GLENDALE AVE & S ROCK BLVD	2024
11/27/2024	2102	Yes	SPPD24-9400	S ROCK BLVD	SOUUTH ROCK BLVD	S ROCK BLVD & SOUUTH ROCK BLVD	2024
11/24/2024	1136	No	SPPD24-9310	1726 1/2 C STREETSPARKSNV	ROCK BLVD	1726 1/2 C STREETSPARKSNV & ROCK BLVD	2024
11/24/2024	1427	No	SPPD24-9314	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2024
11/21/2024	735	No	SPPD24-9233	GLENDALE AVE	S ROCK BLVD	GLENDALE AVE & S ROCK BLVD	2024
11/18/2024	1614	No	SPPD24-9170	ROCK BLVD	15TH ST	15TH ST & ROCK BLVD	2024
11/17/2024	1730	Yes	SPPD24-9199	S ROCK BLVD		Along Segment	2024
11/16/2024	1237	No	SPPD24-9110	ROCK BLVD	YORK WAY	ROCK BLVD & YORK WAY	2024
11/11/2024	1745	Yes	SPPD24-9341	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2024
11/11/2024	1541	Yes	SPPD24-8983	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2024
11/9/2024	1806	No	SPPD24-8932	ROCK BLVD	G ST	G ST & ROCK BLVD	2024
11/4/2024	1430	Yes	SPPD24-8841	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2024
11/4/2024	429	No	SPPD24-8767	ROCK BLVD	IR80E	IR80E & ROCK BLVD	2024
10/31/2024	704	No	SPPD24-8672	ROCK BLVD	I ST	I ST & ROCK BLVD	2024
10/31/2024	1647	No	SPPD24-8694	ROCK BLVD	TYLER WAY	ROCK BLVD & TYLER WAY	2024
10/23/2024	820	No	SPPD24-8457	ROCK BLVD	I ST	I ST & ROCK BLVD	2024
10/22/2024	1930	No	SPPD24-8445	GLENDALE AVE	ROCK BLVD	GLENDALE AVE & ROCK BLVD	2024
10/22/2024	1726	Yes	SPPD24-8442-P2	ROCK BLVD	IR80E TO ROCK BLVD	IR80E TO ROCK BLVD & ROCK BLVD	2024
10/22/2024	1726	Yes	SPPD24-8442-P1	ROCK BLVD	IR80E TO ROCK BLVD	IR80E TO ROCK BLVD & ROCK BLVD	2024
10/22/2024	1726	Yes	SPPD24-8442	ROCK BLVD	IR80E TO ROCK BLVD	IR80E TO ROCK BLVD & ROCK BLVD	2024
10/18/2024	630	Yes	SPPD24-8308	YORK WAY	ROCK BLVD	ROCK BLVD & YORK WAY	2024
10/16/2024	1713	Yes	SPPD24-8272	S ROCK BLVD		Along Segment	2024
10/15/2024	1736	No	SPPD24-8239	S ROCK BLVD	SHABER AVE	S ROCK BLVD & SHABER AVE	2024
10/9/2024	1511	No	SPPD24-8067	S ROCK BLVD	SHABER AVE	S ROCK BLVD & SHABER AVE	2024
10/8/2024	1944	No	SPPD24-8037	ROCK BLVD	HYMER AVE	HYMER AVE & ROCK BLVD	2024
10/5/2024	951	Yes	SPPD24-7916	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2024
10/5/2024	1909	No	SPPD24-7926	ROCK BLVD	YORK WAY	ROCK BLVD & YORK WAY	2024
10/3/2024	2300	No	SPPD24-7889	ROCK BLVD	IR80E TO ROCK BLVD	IR80E TO ROCK BLVD & ROCK BLVD	2024
10/1/2024	1632	No	SPPD24-7822	ROCK BLVD	F ST	F ST & ROCK BLVD	2024
9/30/2024	1514	No	SPPD24-7784	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2024
9/30/2024	732	No	SPPD24-7766	ROCK BLVD	I ST	I ST & ROCK BLVD	2024
9/30/2024	1123	No	SPPD24-7771	ROCK BLVD	I80 WB ON RAMP	I80 WB ON RAMP & ROCK BLVD	2024
9/29/2024	1858	Yes	SPPD24-7759	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2024
9/29/2024	1227	No	SPPD24-7753	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2024
9/25/2024	826	Yes	SPPD24-7632	D ST	ROCK BLVD	D ST & ROCK BLVD	2024
9/25/2024	1504	No	SPPD24-7640	ROCK BLVD	ZEPHYR WAY	ROCK BLVD & ZEPHYR WAY	2024
9/22/2024	2118	Yes	SPPD24-7605	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2024
9/20/2024	1553	No	SPPD24-7494	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2024
9/19/2024	1702	No	SPPD24-7470	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2024
9/15/2024	1531	Yes	SPPD24-7334	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2024
9/13/2024	1951	Yes	SPPD24-7301-P1	OPPIO ST	ROCK BLVD	OPPIO ST & ROCK BLVD	2024
9/13/2024	1951	Yes	SPPD24-7301	OPPIO ST	ROCK BLVD	OPPIO ST & ROCK BLVD	2024
9/13/2024	2101	No	SPPD24-7303	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2024
8/31/2024	2009	No	SPPD24-6920	ROCK BLVD	F ST	F ST & ROCK BLVD	2024
8/31/2024	2009	No	SPPD24-6920-P1	ROCK BLVD	F ST	F ST & ROCK BLVD	2024
8/26/2024	1830	No	SPPD24-6754	C ST	ROCK BLVD	C ST & ROCK BLVD	2024
8/19/2024	1254	Yes	SPPD24-6532	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2024
8/19/2024	1254	Yes	SPPD24-6532-P1	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2024
8/17/2024	2258	No	SPPD24-6486	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2024
8/16/2024	1914	No	SPPD24-6464	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2024
8/14/2024	2131	No	SPPD24-6406	ROCK BLVD		Along Segment	2024
8/11/2024	1508	Yes	SPPD24-6292	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2024
8/8/2024	1349	No	SPPD24-6226	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2024
8/7/2024	1948	No	SPPD24-6201	ROCK BLVD	ROCK BLVD TO IR80W INT17	ROCK BLVD & ROCK BLVD TO IR80W INT17	2024
8/2/2024	2104	Yes	SPPD24-6065	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2024
7/21/2024	1300	Yes	SPPD24-5742-P1	S ROCK BLVD		Along Segment	2024
7/21/2024	1300	Yes	SPPD24-5742	S ROCK BLVD		Along Segment	2024
7/20/2024	1858	No	SPPD24-5708	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2024
7/13/2024	1615	No	SPPD24-5494	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2024
7/13/2024	1839	No	SPPD24-5495	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2024
7/10/2024	1125	No	SPPD24-5387	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2024
7/7/2024	1647	No	SPPD24-5322	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2024
7/6/2024	2000	Yes	SPPD24-5417	S ROCK BLVD		Along Segment	2024
7/6/2024	2000	Yes	SPPD24-5417-P1	S ROCK BLVD		Along Segment	2024

City of Sparks Crash Data

Date	Time	H & R	Case #	Street 1	Street 2	PMX_Location	PMX_Year
7/3/2024	2220	No	SPPD24-5212	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2024
7/3/2024	2220	No	SPPD5212-P1	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2024
7/2/2024	1	Yes	SPPD24-5154	TYLER WAY	ROCK BLVD	ROCK BLVD & TYLER WAY	2024
7/1/2024	1826	No	SPPD24-5147	GREENBRAE DR	ROCK BLVD	GREENBRAE DR & ROCK BLVD	2024
6/28/2024	2200	Yes	SPPD24-5087	SHABER AVE	ROCK BLVD	ROCK BLVD & SHABER AVE	2024
6/27/2024	855	No	SPPD24-5031	ROCK BLVD	C ST	C ST & ROCK BLVD	2024
6/27/2024	1448	Yes	SPPD24-5050	GREG ST	ROCK BLVD	GREG ST & ROCK BLVD	2024
6/26/2024	1534	Yes	SPPD24-5013	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2024
6/17/2024	2148	No	SPPD24-4770	ROCK BLVD	CHANCIE WAY	CHANCIE WAY & ROCK BLVD	2024
6/17/2024	545	No	SPPD24-4745	ROCK BLVD	GREG ST	GREG ST & ROCK BLVD	2024
6/15/2024	55	No	SPPD24-4691	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2024
6/12/2024	1211	No	SPPD24-4611	ROCK BLVD	C ST	C ST & ROCK BLVD	2024
6/11/2024	1238	No	SPPD24-4585	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2024
6/11/2024	650	No	SPPD24-4576	S ROCK BLVD	PITTMAN AVE	PITTMAN AVE & S ROCK BLVD	2024
6/9/2024	1207	No	SPPD24-4531-P1	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2024
6/9/2024	1207	No	SPPD24-4531	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2024
6/8/2024	957	Yes	SPPD24-4512	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2024
6/7/2024	1409	No	SPPD24-4481	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2024
6/6/2024	640	No	SPPD24-4432	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2024
6/6/2024	848	No	SPPD24-4435	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2024
6/6/2024	1345	No	SPPD24-4447	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2024
6/3/2024	1524	No	SPPD24-4356	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2024
5/31/2024	1930	No	SPPD24-4291	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2024
5/31/2024	1615	No	SPPD24-4287	GREENBRAE DR	ROCK BLVD	GREENBRAE DR & ROCK BLVD	2024
5/31/2024	1713	No	SPPD24-4288	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2024
5/29/2024	1634	No	SPPD24-4221	ROCK BLVD	H ST	H ST & ROCK BLVD	2024
5/28/2024	1643	No	SPPD24-4198	ROCK BLVD	GREG ST	GREG ST & ROCK BLVD	2024
5/22/2024	1618	No	SPPD24-4025	S ROCK BLVD	FREEPORT BLVD	FREEPORT BLVD & S ROCK BLVD	2024
5/16/2024	1530	Yes	SPPD24-3851	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2024
5/16/2024	820	Yes	SPPD24-3848	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2024
5/5/2024	612	No	SPPD24-3503	CRANE WAY	ROCK BLVD	CRANE WAY & ROCK BLVD	2024
5/2/2024	1646	Yes	SPPD24-3439	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2024
5/2/2024	2009	No	SPPD24-3444	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2024
4/27/2024	2304	No	SPPD24-3302	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2024
4/18/2024	1515	Yes	SPPD24-3098-P1	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2024
4/18/2024	1515	Yes	SPPD24-3098	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2024
4/15/2024	311	No	SPPD24-2969	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2024
4/13/2024	1521	Yes	SPPD24-50836	S ROCK BLVD		Along Segment	2024
4/7/2024	712	No	SPPD24-2767	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2024
4/7/2024	1045	Yes	SPPD24-2772	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2024
4/2/2024	1350	No	SPPD24-2626	ROCK BLVD	GAULT WAY	GAULT WAY & ROCK BLVD	2024
3/31/2024	355	No	SPPD24-2581	15TH ST	ROCK BLVD	15TH ST & ROCK BLVD	2024
3/30/2024	1622	No	SPPD24-2912	ROCK BLVD		Along Segment	2024
3/30/2024	1622	No	SPPD24-2912-P2	ROCK BLVD		Along Segment	2024
3/30/2024	1622	No	SPPD24-2912-P1	ROCK BLVD		Along Segment	2024
3/28/2024	710	No	SPPD24-2520	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2024
3/23/2024	1843	No	SPPD24-2392	ROCK BLVD	D ST	D ST & ROCK BLVD	2024
3/20/2024	1210	No	SPPD24-2285	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2024
3/18/2024	1500	Yes	SPPD24-2226	ROCK BLVD		Along Segment	2024
3/8/2024	1455	Yes	SPPD24-1963	ROCK BLVD	TYLER WAY	ROCK BLVD & TYLER WAY	2024
3/4/2024	1233	No	SPPD24-1832	ROCK BLVD	G ST	G ST & ROCK BLVD	2024
2/22/2024	1950	Yes	SPPD24-1546	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2024
2/21/2024	1400	Yes	SPPD24-1514	ROCK BLVD		Along Segment	2024
2/21/2024	1400	Yes	SPPD24-1514-P1	ROCK BLVD		Along Segment	2024
2/17/2024	431	No	SPPD24-1378	GAULT WAY	ROCK BLVD	GAULT WAY & ROCK BLVD	2024
2/7/2024	1626	No	SPPD24-1128	ROCK BLVD	C ST	C ST & ROCK BLVD	2024
2/5/2024	1920	Yes	SPPD24-1087	ROCK BLVD	MCCARRAN BLVD	MCCARRAN BLVD & ROCK BLVD	2024
2/2/2024	1230	Yes	SPPD24-984	15TH ST	ROCK BLVD	15TH ST & ROCK BLVD	2024
1/28/2024	1410	Yes	SPPD24-865	ROCK BLVD	TYLER WAY	ROCK BLVD & TYLER WAY	2024
1/27/2024	2201	No	SPPD24-824	ROCK BLVD	GLENDALE AVE	GLENDALE AVE & ROCK BLVD	2024
1/26/2024	1905	No	SPPD24-791	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2024
1/26/2024	1811	No	SPPD24-790	ROCK BLVD	TYLER WAY	ROCK BLVD & TYLER WAY	2024
1/26/2024	236	Yes	SPPD24-0771	ROCK BLVD	VANCE WAY	ROCK BLVD & VANCE WAY	2024
1/14/2024	1228	Yes	SPPD24-392	S ROCK BLVD		Along Segment	2024
1/6/2024	1649	No	SPPD24-175	ROCK BLVD	15TH ST	15TH ST & ROCK BLVD	2024
1/5/2024	1725	No	SPPD24-151	IR80W	ROCK BLVD	IR80W & ROCK BLVD	2024
1/4/2024	1420	No	SPPD24-119	FREEPORT BLVD	S ROCK BLVD	FREEPORT BLVD & S ROCK BLVD	2024
1/3/2024	1755	Yes	SPPD24-98	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2024
12/30/2023	1158	No	SPPD23-10198	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2023
12/24/2023	647	Yes	SPPD23-10021	ROCK BLVD	15TH ST	15TH ST & ROCK BLVD	2023
12/22/2023	1739	No	SPPD23-9976	ROCK BLVD	D ST	D ST & ROCK BLVD	2023
12/22/2023	641	No	SPPD23-9957	ROCK BLVD	UNDERNEATH I-80 OVERPASS	ROCK BLVD & UNDERNEATH I-80 OVERPASS	2023
12/18/2023	1214	No	SPPD23-9822	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2023
12/12/2023	1437	No	SPPD23-9643	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2023
12/9/2023	1534	No	SPPD23-9512	ROCK BLVD	C ST	C ST & ROCK BLVD	2023
12/7/2023	1725	Yes	SPPD23-9491	SR668	IR80E TO ROCK BLVD INT17	IR80E TO ROCK BLVD INT17 & SR668	2023
12/7/2023	1725	Yes	SPPD23-9491-P1	SR668	IR80E TO ROCK BLVD INT17	IR80E TO ROCK BLVD INT17 & SR668	2023
12/5/2023	813	No	SPPD23-9384	ROCK BLVD	C ST	C ST & ROCK BLVD	2023
12/3/2023	1815	No	SPPD23-9331	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2023
11/30/2023	1400	No	SPPD23-9228	SHABER AVE	S ROCK BLVD	S ROCK BLVD & SHABER AVE	2023
11/25/2023	1618	No	SPPD23-9088	ROCK BLVD	YORK WAY	ROCK BLVD & YORK WAY	2023
11/24/2023	1151	No	SPPD23-9053	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2023
11/23/2023	2300	Yes	SPPD23-9365	ROCK BLVD		Along Segment	2023
11/22/2023	1048	No	SPPD23-8996	S ROCK BLVD	PITTMAN AVE	PITTMAN AVE & S ROCK BLVD	2023
11/22/2023	655	Yes	SPPD23-8987	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2023
11/19/2023	1315	No	SPPD23-8917	GLENDALE AVE	ROCK BLVD	GLENDALE AVE & ROCK BLVD	2023
11/19/2023	2118	Yes	SPPD23-8927	GREENBRAE DR	ROCK BLVD	GREENBRAE DR & ROCK BLVD	2023
11/18/2023	500	Yes	SPPD23-8879	ROCK BLVD		Along Segment	2023

City of Sparks Crash Data

Date	Time	H & R	Case #	Street 1	Street 2	PMX_Location	PMX_Year
11/11/2023	1915	No	SPPD23-8700	ROCK BLVD		Along Segment	2023
11/8/2023	1218	No	SPPD23-8600	ROCK BLVD	I80 EB OFF	I80 EB OFF & ROCK BLVD	2023
11/7/2023	1225	No	SPPD23-8567	HYMER AVE	S ROCK BLVD	HYMER AVE & S ROCK BLVD	2023
10/28/2023	105	Yes	SPPD23-8290	ROCK BLVD	I80	I80 & ROCK BLVD	2023
10/27/2023	1421	No	SPPD23-8278	ROCK BLVD	I ST	I ST & ROCK BLVD	2023
10/26/2023	1450	No	SPPD23-8248	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2023
10/26/2023	720	No	SPPD23-8236	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2023
10/26/2023	824	No	SPPD23-8238	S ROCK BLVD		Along Segment	2023
10/25/2023	1239	No	SPPD23-8219-P1	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2023
10/25/2023	1239	No	SPPD23-8219	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2023
10/20/2023	559	No	SPPD23-8024	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2023
10/12/2023	701	No	SPPD23-7800	S ROCK BLVD	SHABER AVE	S ROCK BLVD & SHABER AVE	2023
10/11/2023	737	No	SPPD23-7772	ROCK BLVD	I-80WB	I-80WB & ROCK BLVD	2023
10/10/2023	636	No	SPPD23-7743	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2023
10/9/2023	603	No	SPPD23-7715	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2023
10/8/2023	1716	No	SPPD23-7709	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2023
10/7/2023	2200	No	SPPD23-7693	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2023
10/7/2023	1446	No	SPPD23-7682	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2023
10/6/2023	957	Yes	SPPD23-7650	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2023
9/29/2023	1635	Yes	SPPD23-7485	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2023
9/23/2023	1740	No	SPPD23-7332	ROCK BLVD	MCCARRAN BLVD	MCCARRAN BLVD & ROCK BLVD	2023
9/22/2023	2027	No	SPPD23-7311	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2023
9/20/2023	1845	Yes	SPPD23-7270-P1	S ROCK BLVD	PITTMAN AVE	PITTMAN AVE & S ROCK BLVD	2023
9/20/2023	1845	Yes	SPPD23-7270	S ROCK BLVD	PITTMAN AVE	PITTMAN AVE & S ROCK BLVD	2023
9/19/2023	644	No	SPPD23-7210	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2023
9/14/2023	2219	No	SPPD23-7091	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2023
9/10/2023	1128	No	SPPD23-6958	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2023
9/9/2023	549	No	SPPD23-6937	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2023
9/7/2023	2357	No	SPPD23-6901	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2023
8/29/2023	1305	Yes	SPPD23-6602	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2023
8/28/2023	1119	No	SPPD23-6565	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2023
8/26/2023	2343	Yes	SPPD23-6534	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2023
8/22/2023	2300	No	SPPD23-6418	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2023
8/22/2023	806	No	SPPD23-6394	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2023
8/21/2023	1357	No	SPPD23-6364	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2023
8/19/2023	711	No	SPPD23-6306	S ROCK BLVD		Along Segment	2023
8/14/2023	1804	No	SPPD23-6163	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2023
8/10/2023	1752	No	SPPD23-6038	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2023
8/10/2023	1655	No	SPPD23-6035	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2023
8/8/2023	1541	No	SPPD23-5967	ROCK BLVD	EB I80 ON RAMP	EB I80 ON RAMP & ROCK BLVD	2023
8/5/2023	20	Yes	SPPD23-5876	ROCK BLVD	D STREET	D STREET & ROCK BLVD	2023
8/4/2023	1813	Yes	SPPD23-5867	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2023
8/4/2023	1813	Yes	SPPD23-5867-P1	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2023
8/4/2023	2250	Yes	SPPD23-5874	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2023
8/1/2023	2222	No	SPPD23-5766	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2023
7/31/2023	1326	Yes	SPPD23-5717	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2023
7/26/2023	730	Yes	SPPD23-5622	ROCK BLVD	ROCK BLVD	ROCK BLVD & ROCK BLVD	2023
7/24/2023	1746	No	SPPD23-5526	ROCK BLVD	G ST	G ST & ROCK BLVD	2023
7/24/2023	1115	Yes	SPPD23-5513	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2023
7/20/2023	1705	No	SPPD23-5424	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2023
7/12/2023	832	Yes	SPPD23-5181	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2023
7/8/2023	1023	No	SPPD23-5077	ROCK BLVD	I ST	I ST & ROCK BLVD	2023
7/4/2023	1822	No	SPPD23-4942	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2023
7/3/2023	2152	Yes	SPPD23-4912	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2023
7/1/2023	50	Yes	SPPD23-4892	ROCK BLVD		Along Segment	2023
6/29/2023	1402	No	SPPD23-4800	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2023
6/27/2023	1118	No	SPPD23-4729	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2023
6/24/2023	1946	No	SPPD23-4673	GLENDALE AVE	S ROCK BLVD	GLENDALE AVE & S ROCK BLVD	2023
6/23/2023	2107	No	SPPD23-4655	S ROCK BLVD	VICTORIAN AVE	S ROCK BLVD & VICTORIAN AVE	2023
6/21/2023	1705	No	SPPD23-4582	F ST	ROCK BLVD	F ST & ROCK BLVD	2023
6/21/2023	1719	No	SPPD23-4583	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2023
6/20/2023	1045	No	SPPD23-4545	GLENDALE AVE	S ROCK BLVD	GLENDALE AVE & S ROCK BLVD	2023
6/14/2023	1740	No	SPPD23-4404	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2023
6/9/2023	1122	No	SPPD23-4257	GLENDALE AVE	ROCK BLVD	GLENDALE AVE & ROCK BLVD	2023
6/7/2023	1554	Yes	SPPD23-4206-P1	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2023
6/7/2023	1554	Yes	SPPD23-4206	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2023
6/4/2023	855	No	SPPD23-4096	S ROCK BLVD	I-80 EAST OFF	I-80 EAST OFF & S ROCK BLVD	2023
6/4/2023	1524	No	SPPD23-4105	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2023
6/2/2023	1520	No	SPPD23-4051	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2023
6/2/2023	643	No	SPPD23-4040	ROCK BLVD	YORK WAY	ROCK BLVD & YORK WAY	2023
5/26/2023	2215	Yes	SPPD23-3888	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2023
5/26/2023	1831	No	SPPD23-3883	YORK WAY	ROCK BLVD	ROCK BLVD & YORK WAY	2023
5/20/2023	517	Yes	SPPD23-3709	ROCK BLVD	D ST	D ST & ROCK BLVD	2023
5/17/2023	800	Yes	SPPD23-3629	SBRAGIA WAY	ROCK BLVD	ROCK BLVD & SBRAGIA WAY	2023
5/16/2023	1006	Yes	SPPD23-3600	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2023
5/16/2023	1728	No	SPPD23-3618-P1	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2023
5/16/2023	1728	Yes	SPPD23-3618	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2023
5/15/2023	1744	No	SPPD23-3589	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2023
5/11/2023	1821	No	SPPD23-3491	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2023
5/10/2023	821	No	SPPD23-3453	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2023
5/8/2023	618	No	SPPD23-3398	ROCK BLVD	I ST	I ST & ROCK BLVD	2023
5/6/2023	1848	No	SPPD23-3357	IR80E	S ROCK BLVD	IR80E & S ROCK BLVD	2023
5/6/2023	1652	No	SPPD23-3356	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2023
4/23/2023	1545	No	SPPD23-3010	ROCK BLVD	I ST	I ST & ROCK BLVD	2023
4/17/2023	1645	No	SPPD23-2853	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2023
4/15/2023	1832	No	SPPD23-2805	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2023
4/12/2023	1612	No	SPPD23-2712	ROCK BLVD	C ST	C ST & ROCK BLVD	2023
4/12/2023	1543	No	SPPD23-2710	HYMER AVE	S ROCK BLVD	HYMER AVE & S ROCK BLVD	2023

City of Sparks Crash Data

Date	Time	H & R	Case #	Street 1	Street 2	PMX_Location	PMX_Year
3/23/2023	1546	Yes	SPPD23-2201	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2023
3/14/2023	925	No	SPPD23-1925	ROCK BLVD	I-80 OFFRAMP	I-80 OFFRAMP & ROCK BLVD	2023
3/12/2023	445	No	SPPD23-1877	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2023
3/2/2023	1843	No	SPPD23-1636	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2023
2/27/2023	1553	No	SPPD23-1553	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2023
2/17/2023	2054	No	SPPD23-1330	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2023
2/14/2023	2338	No	SPPD23-1241	SBRAGIA WAY	ROCK BLVD	ROCK BLVD & SBRAGIA WAY	2023
2/8/2023	1352	No	SPPD23-1060	ROCK BLVD	C ST	C ST & ROCK BLVD	2023
1/29/2023	1121	No	SPPD23-775	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2023
1/29/2023	1223	No	SPPD23-777	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2023
1/29/2023	2058	No	SPPD23-738	ROCK BLVD	PLYMOUTH WAY	PLYMOUTH WAY & ROCK BLVD	2023
1/28/2023	720	No	SPPD23-740	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2023
1/25/2023	1341	No	SPPD23-657	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2023
1/24/2023	953	No	SPPD23-617	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2023
1/22/2023	600	Yes	SPPD23-591	S ROCK BLVD		Along Segment	2023
1/22/2023	1617	No	SPPD23-580	S ROCK BLVD	MILL ST	MILL ST & S ROCK BLVD	2023
1/16/2023	559	No	SPPD23-426	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2023
1/12/2023	1815	No	SPPD23-313	GREENBRAE DR	ROCK BLVD	GREENBRAE DR & ROCK BLVD	2023
1/6/2023	733	No	SPPD23-133	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2023
1/6/2023	1303	No	SPPD23-144	S ROCK BLVD	I-80 EB ON RP	I-80 EB ON RP & S ROCK BLVD	2023
1/1/2023	1756	No	SPPD23-19	ROCK BLVD	I ST	I ST & ROCK BLVD	2023
12/26/2022	1902	No	SPPD22-10104	GAULT WAY	ROCK BLVD	GAULT WAY & ROCK BLVD	2022
12/23/2022	2100	Yes	SPPD23-50218	S ROCK BLVD		Along Segment	2022
12/9/2022	1248	No	SPPD22-9696	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2022
12/8/2022	1551	Yes	SPPD22-9667	GLENDALE AVE	S ROCK BLVD	GLENDALE AVE & S ROCK BLVD	2022
12/6/2022	1455	No	SPPD22-9603	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2022
12/4/2022	1300	No	SPPD22-9552	ROCK BLVD	C ST	C ST & ROCK BLVD	2022
12/3/2022	958	Yes	SPPD22-9524	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
11/26/2022	2330	Yes	SPPD22-9344	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2022
11/24/2022	1307	Yes	SPPD22-9284	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
11/18/2022	1626	No	SPPD22-9130	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2022
11/14/2022	1832	No	SPPD22-9020	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
11/11/2022	2330	No	SPPD22-8945	ROCK BLVD	TYLER WAY	ROCK BLVD & TYLER WAY	2022
11/7/2022	1813	No	SPPD22-8804	GREENBRAE DR	ROCK BLVD	GREENBRAE DR & ROCK BLVD	2022
11/7/2022	938	No	SPPD22-8789	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2022
11/1/2022	1422	No	SPPD22-8654	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2022
10/29/2022	2146	No	SPPD22-8591	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2022
10/17/2022	1853	No	SPPD22-8289	ROCK BLVD	PLYMOUTH WAY	PLYMOUTH WAY & ROCK BLVD	2022
10/12/2022	1745	No	SPPD22-8152	ROCK BLVD	I ST	I ST & ROCK BLVD	2022
10/10/2022	913	No	SPPD22-8078	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2022
10/8/2022	1259	No	SPPD22-8027	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2022
10/8/2022	1750	No	SPPD22-8038	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2022
10/6/2022	1253	No	SPPD22-7961	S ROCK BLVD	FREEPORT BLVD	FREEPORT BLVD & S ROCK BLVD	2022
10/5/2022	1723	No	SPPD22-7935	S ROCK BLVD	FREEPORT BLVD	FREEPORT BLVD & S ROCK BLVD	2022
9/27/2022	1723	Yes	SPPD22-7709	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2022
9/24/2022	1503	No	SPPD22-7618	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2022
9/23/2022	725	Yes	SPPD22-7582	HYMER AVE	S ROCK BLVD	HYMER AVE & S ROCK BLVD	2022
9/22/2022	658	Yes	SPPD22-7548	15TH ST	ROCK BLVD	15TH ST & ROCK BLVD	2022
9/21/2022	1424	No	SPPD22-7535	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2022
9/21/2022	1200	No	SPPD22-7532	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2022
9/21/2022	640	No	SPPD22-7526	S ROCK BLVD	INTERSTATE 80 E/B ON RAMP	INTERSTATE 80 E/B ON RAMP & S ROCK BLVD	2022
9/18/2022	153	No	SPPD22-7445	GREENBRAE DR	ROCK BLVD	GREENBRAE DR & ROCK BLVD	2022
9/17/2022	12	No	SPPD22-7416	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2022
9/17/2022	1108	No	SPPD22-7428	ROCK BLVD	I80	I80 & ROCK BLVD	2022
9/15/2022	1309	Yes	SPPD22-7373	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
9/13/2022	1745	No	SPPD22-7345	GLENDALE AVE	ROCK BLVD	GLENDALE AVE & ROCK BLVD	2022
9/4/2022	1229	No	SPPD22-7052	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2022
9/3/2022	1622	No	SPPD22-7035	ROCK BLVD	GLENDALE AVE	GLENDALE AVE & ROCK BLVD	2022
8/27/2022	16	Yes	SPPD22-6807	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2022
8/26/2022	1810	No	SPPD22-6799	GREENBRAE DR	ROCK BLVD	GREENBRAE DR & ROCK BLVD	2022
8/17/2022	1209	No	SPPD22-6514	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2022
8/16/2022	1300	Yes	SPPD22-6500	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2022
8/16/2022	1250	No	SPPD22-6494	S ROCK BLVD	SHABER AVE	S ROCK BLVD & SHABER AVE	2022
8/13/2022	1634	No	SPPD22-6430	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
8/9/2022	808	No	SPPD22-6273	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2022
8/6/2022	2230	No	SPPD22-6205	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2022
8/3/2022	1844	No	SPPD22-6121	ROCK BLVD	F ST	F ST & ROCK BLVD	2022
8/3/2022	2328	No	SPPD22-6126	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
8/2/2022	1436	Yes	SPPD 22-6077	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2022
8/2/2022	2036	No	SPPD22-6091	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2022
7/28/2022	1503	No	SPPD22-5939	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2022
7/19/2022	1632	No	SPPD22-5666	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2022
7/19/2022	1635	No	SPPD22-5667	YORK WAY	ROCK BLVD	ROCK BLVD & YORK WAY	2022
7/13/2022	1548	No	SPPD22-5501	ROCK BLVD	I80 WB ON RAMP	I80 WB ON RAMP & ROCK BLVD	2022
7/10/2022	946	No	SPPD22-5386	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
7/8/2022	959	No	SPPD2-5333	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2022
7/3/2022	1213	No	SPPD22-5179	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
7/2/2022	418	No	SPPDSPD22-5158	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2022
7/1/2022	752	Yes	SPPD22-5139	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2022
6/26/2022	1502	No	SPPD22-4993	GAULT WAY	ROCK BLVD	GAULT WAY & ROCK BLVD	2022
6/24/2022	1535	No	SPPD22-4947	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2022
6/21/2022	1453	No	SPPD22-4870	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2022
6/21/2022	257	No	SPPD22-4857	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
6/20/2022	1623	No	SPPD22-4844	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2022
6/18/2022	1826	No	SPPD22-4809	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2022
6/16/2022	1227	No	SPPD22-4763-P1	GLENDALE AVE	ROCK BLVD	GLENDALE AVE & ROCK BLVD	2022
6/16/2022	1227	No	SPPD22-4763	GLENDALE AVE	ROCK BLVD	GLENDALE AVE & ROCK BLVD	2022
6/16/2022	2111	No	SPPD22-4774	GREG ST	ROCK BLVD	GREG ST & ROCK BLVD	2022

City of Sparks Crash Data

Date	Time	H & R	Case #	Street 1	Street 2	PMX_Location	PMX_Year
6/13/2022	1601	No	SPPD22-4694	PROSPECT AVE	ROCK BLVD	PROSPECT AVE & ROCK BLVD	2022
6/10/2022	1616	No	SPPD22-4600	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2022
6/10/2022	334	No	SPPD22-4578	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2022
6/3/2022	1110	Yes	SPPD22-4350	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2022
6/3/2022	1455	No	SPPD22-4356	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2022
5/31/2022	800	Yes	SPPD22-4252	HYMER AVE	S ROCK BLVD	HYMER AVE & S ROCK BLVD	2022
5/28/2022	210	Yes	SPPD22-4182	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2022
5/27/2022	1520	Yes	SPPD22-4167	ROCK BLVD	HYMER AVE	HYMER AVE & ROCK BLVD	2022
5/27/2022	2146	Yes	SPPD22-4174	ROCK BLVD	VANCE WAY	ROCK BLVD & VANCE WAY	2022
5/26/2022	1530	No	SPPD22-51006	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2022
5/26/2022	1530	No	SPPD22-51006-P1	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2022
5/24/2022	1442	No	SPPD22-4062	S ROCK BLVD	SHABER AVE	S ROCK BLVD & SHABER AVE	2022
5/22/2022	1709	No	SPPD22-4009	ROCK BLVD	VANCE WAY	ROCK BLVD & VANCE WAY	2022
5/21/2022	1327	No	SPPD22-3988	ROCK BLVD	H ST	H ST & ROCK BLVD	2022
5/21/2022	1004	No	SPPD22-3987	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2022
5/20/2022	855	No	SPPD22-3955	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2022
5/18/2022	2226	No	SPPD22-3911	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2022
5/17/2022	1543	Yes	SPPD22-3873-P1	ROCK BLVD	F ST	F ST & ROCK BLVD	2022
5/17/2022	1543	Yes	SPPD22-3873	ROCK BLVD	F ST	F ST & ROCK BLVD	2022
5/14/2022	930	Yes	SPPD22-50939	ROCK BLVD	15TH ST	15TH ST & ROCK BLVD	2022
5/11/2022	844	No	SPPD22-3681	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2022
5/5/2022	1654	No	SPPD22-3532	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2022
4/30/2022	2141	Yes	SPPD22-3398-P1	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2022
4/30/2022	2141	Yes	SPPD22-3398	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2022
4/27/2022	717	No	SPPD22-3291	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
4/26/2022	800	No	SPPDTEST	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2022
4/26/2022	1345	Yes	SPPD22-3276-P1	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2022
4/26/2022	1345	Yes	SPPD22-3276	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2022
4/26/2022	800	No	SPPDTEST	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2022
4/25/2022	1804	Yes	SPPD22-3256-P1	ROCK BLVD	IR80 W	IR80 W & ROCK BLVD	2022
4/25/2022	1804	Yes	SPPD22-3256	ROCK BLVD	IR80 W	IR80 W & ROCK BLVD	2022
4/19/2022	1730	Yes	SPPD22-3090	ROCK BLVD	H ST	H ST & ROCK BLVD	2022
4/14/2022	947	No	SPPD22-2923	ROCK BLVD	GAULT WAY	GAULT WAY & ROCK BLVD	2022
4/3/2022	1624	Yes	SPPD22-2614	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2022
4/1/2022	1038	No	SPPD22-2548	ROCK BLVD	I ST	I ST & ROCK BLVD	2022
3/28/2022	945	No	SPPD22-2430	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2022
3/28/2022	711	No	SPPD22-2428	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2022
3/25/2022	1529	No	SPPD22-2355	ROCK BLVD	IR80 W	IR80 W & ROCK BLVD	2022
3/22/2022	1412	No	SPPD22-2255	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2022
3/22/2022	1412	No	SPPD22-2055-P1	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2022
3/21/2022	837	Yes	SPPD22-2208	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2022
3/15/2022	953	No	SPPD22-2043	ROCK BLVD	OTHER	OTHER & ROCK BLVD	2022
3/14/2022	1648	No	SPPD22-2034	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2022
3/10/2022	1222	No	SPPD22-1893	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2022
3/10/2022	1650	No	SPPD22-1902	ROCK BLVD	IR80 E	IR80 E & ROCK BLVD	2022
3/4/2022	854	No	SPPD22-1717	GREENBRAE DR	ROCK BLVD	GREENBRAE DR & ROCK BLVD	2022
3/3/2022	1606	No	SPPD22-1701	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2022
2/23/2022	813	Yes	SPPD22-1472	ROCK BLVD	RUSSELL WAY	ROCK BLVD & RUSSELL WAY	2022
2/14/2022	1928	Yes	SPPD22-1237	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2022
2/14/2022	1928	Yes	SPPD22-1237-P1	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2022
2/14/2022	1622	No	SPPD22-1228	ROCK BLVD	UPTON WAY	ROCK BLVD & UPTON WAY	2022
2/10/2022	1100	Yes	SPPD22-1177	S ROCK BLVD		Along Segment	2022
1/26/2022	759	No	SPPD22-665	ROCK BLVD	YORK WAY	ROCK BLVD & YORK WAY	2022
1/25/2022	1235	No	SPPD22-648	FREEPORT BLVD	S ROCK BLVD	FREEPORT BLVD & S ROCK BLVD	2022
1/24/2022	825	No	SPPD22-605	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2022
1/19/2022	649	Yes	SPPD22-455	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
1/15/2022	1724	No	SPPD22-363	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
1/6/2022	655	No	SPPD22-139	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
1/6/2022	655	No	SPPD22-139-P1	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2022
1/4/2022	726	Yes	SPPD21-50022-P1	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2022
1/4/2022	726	Yes	SPPD22-50022	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2022
1/2/2022	1932	No	SPPD22-44	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2022
12/25/2021	1712	No	SPPD21-10912-P1	GLENDALE AVE	S ROCK BLVD	GLENDALE AVE & S ROCK BLVD	2021
12/25/2021	1712	No	SPPD21-10912	GLENDALE AVE	S ROCK BLVD	GLENDALE AVE & S ROCK BLVD	2021
12/18/2021	2255	No	SPPD21-10700	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2021
12/13/2021	906	No	SPPD21-10564	ROCK BLVD	ZEPHYR WAY	ROCK BLVD & ZEPHYR WAY	2021
12/12/2021	2245	Yes	SPPD21-10558	15TH ST	ROCK BLVD	15TH ST & ROCK BLVD	2021
12/10/2021	1457	No	SPPD21-10496	ROCK BLVD	TYLER WAY	ROCK BLVD & TYLER WAY	2021
12/9/2021	1136	No	SPPD21-10460	C ST	ROCK BLVD	C ST & ROCK BLVD	2021
12/9/2021	1547	No	SPPD21-10468	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2021
12/5/2021	945	No	SPPD21-10345	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2021
12/3/2021	2339	Yes	SPPD21-10294	S ROCK BLVD		Along Segment	2021
12/1/2021	345	No	SPPD21-10208	ROCK BLVD	RUSSELL WAY	ROCK BLVD & RUSSELL WAY	2021
11/27/2021	804	No	SPPD21-10093	ROCK BLVD	OXFORD AVE	OXFORD AVE & ROCK BLVD	2021
11/26/2021	231	Yes	SPPD21-10055	GREENBRAE DR	ROCK BLVD	GREENBRAE DR & ROCK BLVD	2021
11/23/2021	1703	No	SPPD21-10001	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2021
11/22/2021	506	Yes	SPPD21-9955	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2021
11/20/2021	1134	No	SPPD21-9910	GREENBRAE DR	ROCK BLVD	GREENBRAE DR & ROCK BLVD	2021
11/20/2021	1900	Yes	SPPD21-52974	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2021
11/19/2021	808	No	SPPD21-9872	ROCK BLVD	IR80 E	IR80 E & ROCK BLVD	2021
11/15/2021	1000	Yes	SPPD21-9881	S ROCK BLVD		Along Segment	2021
10/31/2021	1857	Yes	SPPD21-9299	OXFORD AVE	ROCK BLVD	OXFORD AVE & ROCK BLVD	2021
10/30/2021	644	No	SPPD21-9248	ROCK BLVD	C ST	C ST & ROCK BLVD	2021
10/30/2021	2316	No	SPPD21-9269	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2021
10/28/2021	1823	No	SPPD21-9202	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2021
10/26/2021	641	No	SPPD21-9097	ROCK BLVD	C ST	C ST & ROCK BLVD	2021
10/25/2021	802	Yes	SPPD21-9066	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2021
10/22/2021	1444	No	SPPD21-8993	ROCK BLVD	IR80 E	IR80 E & ROCK BLVD	2021

City of Sparks Crash Data

Date	Time	H & R	Case #	Street 1	Street 2	PMX_Location	PMX_Year
10/21/2021	1505	No	SPPD21-8969	ROCK BLVD	I ST	I ST & ROCK BLVD	2021
10/20/2021	1238	No	SPPD21-8921	ROCK BLVD	HYMER AV	HYMER AV & ROCK BLVD	2021
10/20/2021	902	No	SPPD21-8913	IR80 E TO S ROCK BLVD	ROCK BLVD	IR80 E TO S ROCK BLVD & ROCK BLVD	2021
10/19/2021	819	No	SPPD21-8873	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2021
10/16/2021	1345	Yes	SPPD21-8806	S ROCK BLVD		Along Segment	2021
10/14/2021	319	No	SPPD21-8736	ROCK BLVD	IR80 E	IR80 E & ROCK BLVD	2021
10/11/2021	1945	No	SPPD21-8673	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2021
10/1/2021	827	No	SPPD21-8324	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2021
9/29/2021	1528	No	SPPD21-8278	ROCK BLVD	GLENDALE AVE	GLENDALE AVE & ROCK BLVD	2021
9/24/2021	623	No	SPPD21-8132	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2021
9/23/2021	1854	No	SPPD21-8122-P1	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2021
9/23/2021	1854	No	SPPD21-8122	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2021
9/21/2021	1616	No	SPPD21-8060	S ROCK BLVD	SR659 TO S ROCK BLVD	S ROCK BLVD & SR659 TO S ROCK BLVD	2021
9/20/2021	1801	No	SPPD21-8033	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2021
9/16/2021	1620	No	SPPD21-7900	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2021
9/14/2021	1317	No	SPPD21-7835	ROCK BLVD	E PRATER WAY	E PRATER WAY & ROCK BLVD	2021
9/14/2021	704	No	SPPD21-7829	S ROCK BLVD	SHABER AVE	S ROCK BLVD & SHABER AVE	2021
9/11/2021	1656	No	SPPD21-7763	IR80 W TO ROCK BLVD	ROCK BLVD	IR80 W TO ROCK BLVD & ROCK BLVD	2021
9/7/2021	1809	No	SPPD21-7644	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2021
9/3/2021	1550	No	SPPD21-7486	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2021
8/28/2021	2308	No	SPPD21-7317	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2021
8/28/2021	2216	No	SPPD21-7316	ROCK BLVD	I ST	I ST & ROCK BLVD	2021
8/23/2021	1538	No	SPPD21-7167	ROCK BLVD	GAULT WAY	GAULT WAY & ROCK BLVD	2021
8/21/2021	7	No	SPPD21-7105	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2021
8/20/2021	737	No	SPPD21-7083	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2021
8/16/2021	38	Yes	SPPD21-6946	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2021
8/6/2021	2253	No	SPPD21-6653	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2021
8/3/2021	1250	No	SPPD21-6529	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2021
7/27/2021	1743	No	SPPD21-6318	ROCK BLVD	VICTORIAN AV	ROCK BLVD & VICTORIAN AV	2021
7/22/2021	1715	Yes	SPPD21-6287-P1	ROCK BLVD	N MCCARRAN BLVD	N MCCARRAN BLVD & ROCK BLVD	2021
7/22/2021	1715	Yes	SPPD21-6287	ROCK BLVD	N MCCARRAN BLVD	N MCCARRAN BLVD & ROCK BLVD	2021
7/21/2021	1500	No	SPPD21-6118	ROCK BLVD	YORK WAY	ROCK BLVD & YORK WAY	2021
7/19/2021	748	No	SPPD21-6047	ROCK BLVD	SHABER AV	ROCK BLVD & SHABER AV	2021
7/14/2021	421	No	SPPD21-5895	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2021
7/7/2021	1624	No	SPPD21-5690	GREG ST	S ROCK BLVD	GREG ST & S ROCK BLVD	2021
7/4/2021	711	Yes	SPPD21-5580	IR80 E TO S ROCK BLVD	S ROCK BL	IR80 E TO S ROCK BLVD & S ROCK BL	2021
7/3/2021	2232	Yes	SPPD21-5569	ROCK BLVD	IR80 E TO S ROCK BLVD	IR80 E TO S ROCK BLVD & ROCK BLVD	2021
7/2/2021	926	No	SPPD21-5510	GREENBRAE DR	ROCK BLVD	GREENBRAE DR & ROCK BLVD	2021
6/30/2021	1151	No	SPPD21-5423	ROCK BLVD	HYMER AV	HYMER AV & ROCK BLVD	2021
6/30/2021	846	No	SPPD21-5415	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2021
6/30/2021	1540	No	SPPD21-5435	S ROCK BLVD	PITTMAN AVE	PITTMAN AVE & S ROCK BLVD	2021
6/20/2021	2152	No	SPPD21-5126	RUSSELL WAY	ROCK BLVD	ROCK BLVD & RUSSELL WAY	2021
6/19/2021	2025	Yes	SPPD21-5090	S ROCK BLVD	UNSPECIFIED	S ROCK BLVD & UNSPECIFIED	2021
6/18/2021	1700	No	SPPD21-5059	ROCK BLVD	HYMER AV	HYMER AV & ROCK BLVD	2021
6/16/2021	1822	No	SPPD21-4993	RUSSELL WAY	ROCK BLVD	ROCK BLVD & RUSSELL WAY	2021
6/15/2021	1245	Yes	SPPD21-5049	S ROCK BLVD		Along Segment	2021
6/10/2021	1309	No	SPPD21-4802	ROCK BLVD	IR80 E	IR80 E & ROCK BLVD	2021
6/9/2021	1201	Yes	SPPD21-4773	ROCK BLVD	GLENDALE AVE	GLENDALE AVE & ROCK BLVD	2021
6/8/2021	1742	Yes	SPPD21-4753	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2021
6/7/2021	1322	No	SPPD21-4719	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2021
6/3/2021	1730	No	SPPD21-4597	IR80 E	ROCK BLVD	IR80 E & ROCK BLVD	2021
5/29/2021	458	Yes	SPPD21-4413	D STREET	ROCK BLVD	D STREET & ROCK BLVD	2021
5/28/2021	1120	No	SPPD21-4384	ROCK BLVD	F ST	F ST & ROCK BLVD	2021
5/27/2021	1334	Yes	SPPD21-4354	ROCK BLVD		Along Segment	2021
5/27/2021	1334	Yes	SPPD21-4354-P1	ROCK BLVD		Along Segment	2021
5/27/2021	2048	Yes	SPPD21-4368-P1	S ROCK BLVD	ROCK BLVD	ROCK BLVD & S ROCK BLVD	2021
5/27/2021	2048	Yes	SPPD21-4368	S ROCK BLVD	ROCK BLVD	ROCK BLVD & S ROCK BLVD	2021
5/22/2021	2219	Yes	SPPD21-4209	ROCK BLVD	I ST	I ST & ROCK BLVD	2021
5/19/2021	1857	No	SPPD21-4121	ROCK BLVD	GAULT WY	GAULT WY & ROCK BLVD	2021
5/18/2021	1625	Yes	SPPD21-4076	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2021
5/18/2021	1625	Yes	SPPD21-4076-P1	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2021
5/17/2021	1717	No	SPPD21-4039	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2021
5/11/2021	653	No	SPPD21-3824	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2021
5/10/2021	2101	No	SPPD21-3818	ROCK BLVD	ROCK BL TO IR80 W	ROCK BL TO IR80 W & ROCK BLVD	2021
5/5/2021	1735	Yes	SPPD21-3810-P1	S ROCK BLVD		Along Segment	2021
5/5/2021	1735	Yes	SPPD21-3810	S ROCK BLVD		Along Segment	2021
5/4/2021	1524	No	SPPD21-3617	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2021
5/1/2021	328	No	SPPD21-3504	ROCK BLVD	ROCK BL TO IR80 W	ROCK BL TO IR80 W & ROCK BLVD	2021
4/23/2021	2043	Yes	SPPD21-3282	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2021
4/20/2021	655	No	SPPD21-3145	ROCK BLVD	SHABER AVE	ROCK BLVD & SHABER AVE	2021
4/16/2021	2015	Yes	SPPD21-3353	S ROCK BLVD		Along Segment	2021
4/11/2021	1039	No	SPPD21-2894	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2021
4/10/2021	1521	No	SPPD21-2875	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2021
4/9/2021	1211	No	SPPD21-2838	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2021
4/6/2021	1724	No	SPPD21-2753	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2021
4/1/2021	1752	No	SPPD21-2614-P1	ROCK BLVD	IR80 E TO S ROCK BLVD	IR80 E TO S ROCK BLVD & ROCK BLVD	2021
4/1/2021	1752	No	SPPD21-2614	ROCK BLVD	IR80 E TO S ROCK BLVD	IR80 E TO S ROCK BLVD & ROCK BLVD	2021
3/29/2021	745	Yes	SPPD21-50826	ROCK BLVD	HYMER AVE	HYMER AVE & ROCK BLVD	2021
3/20/2021	1311	Yes	SPPD21-2243	S ROCK BLVD		Along Segment	2021
3/17/2021	2217	Yes	SPPD21-2157	ROCK BLVD		Along Segment	2021
3/16/2021	2203	No	SPPD21-2126	ROCK BLVD	G	G & ROCK BLVD	2021
3/11/2021	1632	No	SPPD21-1942	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2021
3/7/2021	1853	No	SPPD21-1830-P1	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2021
3/7/2021	1853	No	SPPD21-1830	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2021
3/3/2021	1826	Yes	SPPD21-1715	ROCK BLVD	VANCE WAY	ROCK BLVD & VANCE WAY	2021
3/2/2021	1306	No	SPPD21-1673	ROCK BLVD	GREG ST	GREG ST & ROCK BLVD	2021
2/28/2021	1905	Yes	SPPD21-1632	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2021
2/20/2021	801	No	SPPD21-1378	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2021

City of Sparks Crash Data

Date	Time	H & R	Case #	Street 1	Street 2	PMX_Location	PMX_Year
2/19/2021	1015	Yes	SPPD21-1356-P1	GLENDALE AVE	S ROCK BLVD	GLENDALE AVE & S ROCK BLVD	2021
2/19/2021	1015	Yes	SPPD21-1356	GLENDALE AVE	S ROCK BLVD	GLENDALE AVE & S ROCK BLVD	2021
2/15/2021	1307	No	SPPD21-1231	ROCK BLVD	F ST	F ST & ROCK BLVD	2021
2/10/2021	1029	No	SPPD21-1072	VICTORIAN AVE	ROCK BLVD	ROCK BLVD & VICTORIAN AVE	2021
2/2/2021	1630	Yes	SPPD21-852	ROCK BLVD	AVENUE OF THE OAKS	AVENUE OF THE OAKS & ROCK BLVD	2021
1/19/2021	650	No	SPPD21-458	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2021
1/16/2021	1038	No	SPPD21-388	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2021
1/15/2021	1304	No	SPPD21-359	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2021
1/10/2021	2307	No	SPPD21-255	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2021
1/5/2021	1541	Yes	SPPD21-113	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2021
12/27/2020	1833	Yes	SPPD20-9635	S ROCK BLVD	S ROCK BLVD	S ROCK BLVD & S ROCK BLVD	2020
12/16/2020	1229	No	SPPD209376	ROCK BLVD	PLYMOUTH WAY	PLYMOUTH WAY & ROCK BLVD	2020
12/10/2020	2038	No	SPPD20-9226	ROCK BLVD	GREENBRAE DR	GREENBRAE DR & ROCK BLVD	2020
12/4/2020	405	No	SPPD20-9070	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2020
12/1/2020	1733	No	SPPD20-9027	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2020
11/23/2020	246	No	SPPD20-8821	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2020
11/20/2020	1030	Yes	SPPD20-8732	ROCK BLVD		Along Segment	2020
11/20/2020	1215	Yes	SPPD20-8735	ROCK BLVD	GREG ST	GREG ST & ROCK BLVD	2020
11/19/2020	1444	No	SPPD20-8711	S ROCK BLVD	PITTMAN AVE	PITTMAN AVE & S ROCK BLVD	2020
11/5/2020	1231	No	SPPD20-8343	RUSSELL WAY	ROCK BLVD	ROCK BLVD & RUSSELL WAY	2020
11/3/2020	1718	Yes	SPPD20-8290	ROCK BLVD	ODDIE BL	ODDIE BL & ROCK BLVD	2020
10/31/2020	746	No	SPPD20-8194	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2020
10/18/2020	1943	Yes	SPPD20-7837	ROCK BLVD	ODDIE BLVD	ODDIE BLVD & ROCK BLVD	2020
10/16/2020	1645	No	SPPD20-7968	S ROCK BLVD		Along Segment	2020
10/16/2020	640	Yes	SPPD20-7757	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2020
10/9/2020	1353	No	SPPD20-7564	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2020
9/30/2020	1906	No	SPPD20-7329	ROCK BLVD	COMMERCE ST	COMMERCE ST & ROCK BLVD	2020
9/26/2020	2205	No	SPPD20-7220	ROCK BLVD	PITTMAN AVE	PITTMAN AVE & ROCK BLVD	2020
9/25/2020	2305	Yes	SPPD20-7192	ROCK BLVD	IR80 E TO S ROCK BLVD	IR80 E TO S ROCK BLVD & ROCK BLVD	2020
9/25/2020	1811	Yes	SPPD20-7181	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2020
9/19/2020	1337	No	SPPD20-7012	ROCK BLVD	SBRAGIA WAY	ROCK BLVD & SBRAGIA WAY	2020
9/5/2020	1	No	SPPD20-6569	ROCK BLVD	IR80 W	IR80 W & ROCK BLVD	2020
9/2/2020	1039	Yes	SPPD20-6470-P1	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2020
9/2/2020	1039	Yes	SPPD20-6470	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2020
8/22/2020	1942	Yes	SPPD20-6128	S ROCK BLVD	HYMER AVE	HYMER AVE & S ROCK BLVD	2020
8/21/2020	2155	Yes	SPPD20-6101	SBRAGIA WAY	ROCK BLVD	ROCK BLVD & SBRAGIA WAY	2020
8/19/2020	1600	Yes	SPPD20-6034	GLENDALE AVE	S ROCK BLVD	GLENDALE AVE & S ROCK BLVD	2020
8/1/2020	807	No	SPPD20-5473	ROCK BLVD	I ST	I ST & ROCK BLVD	2020
7/28/2020	830	No	SPPD20-5365	S ROCK BLVD	GREG ST	GREG ST & S ROCK BLVD	2020
7/17/2020	1924	No	SPPD20-5079	ROCK BLVD	I ST	I ST & ROCK BLVD	2020
7/12/2020	1537	No	SPPD20-4918	ROCK BLVD	GREG ST	GREG ST & ROCK BLVD	2020
7/9/2020	1532	No	SPPD20-4824	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2020
7/2/2020	1645	No	SPPD20-4643	ROCK BLVD	FREEPORT BLVD	FREEPORT BLVD & ROCK BLVD	2020
6/28/2020	1040	No	SPPD20-4533	ODDIE BLVD	ROCK BLVD	ODDIE BLVD & ROCK BLVD	2020
6/28/2020	32	Yes	SPPD20-4522	ROCK BLVD	OXFORD AVE	OXFORD AVE & ROCK BLVD	2020
6/25/2020	1528	No	SPPD20-4455	S ROCK BLVD	SHABER AVE	S ROCK BLVD & SHABER AVE	2020
6/19/2020	1704	No	SPPD20-4288	ROCK BLVD	HYMER AV	HYMER AV & ROCK BLVD	2020
6/18/2020	1930	Yes	SPPD20-4364	PRATER WAY	ROCK BLVD	PRATER WAY & ROCK BLVD	2020
6/13/2020	1700	Yes	SPPD20-4120	ROCK BLVD	IR80 E TO S ROCK BLVD	IR80 E TO S ROCK BLVD & ROCK BLVD	2020
5/29/2020	1725	No	SPPD20-3763	S ROCK BLVD	GLENDALE AVE	GLENDALE AVE & S ROCK BLVD	2020
5/14/2020	1128	No	SPPD20-3387	ROCK BLVD	PRATER WAY	PRATER WAY & ROCK BLVD	2020
4/23/2020	1114	No	SPPD20-2980	ROCK BLVD	VICTORIAN AVE	ROCK BLVD & VICTORIAN AVE	2020

APPENDIX F DATA

Traffic Operations Analysis

Alternatives Attachment F-A - Count Data
Attachment F-B - Existing LOS Calculations
Attachment F-C - Future Forecast Projections
Attachment F-D - Future LOS Calculations

ROCK BOULEVARD
CORRIDOR STUDY

Prepared by National Data & Surveying Services

Rock Blvd & 15th St

Peak Hour Turning Movement Count

ID: 26-110005-001
City: Sparks

Day: Friday
Date: 1/9/2026

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	6:30 AM - 08:30 AM
NONE	NONE
NONE	NONE

CONTROL: 1-Way Stop(WB)

	AM	NOON	PM
TEV	1053	0	0
PHF	0.86		

SOUTHBOUND (Rock Blvd)

	Left	Thru	Right	U-Turn	Total	
AM	0	472	213	1	347	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND (15th St)

	Left	Thru	Right	U-Turn	
AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM

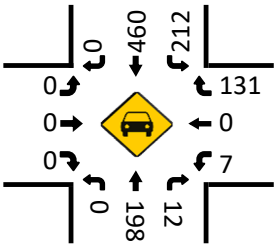
WESTBOUND (15th St)

	Left	Thru	Right	U-Turn	
PM	0	0	136	0	PM
NOON	0	0	0	0	NOON
AM	0	0	7	0	AM
	0	0	226		

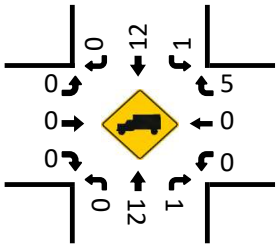
NORTHBOUND (Rock Blvd)

	Left	Thru	Right	U-Turn	Total	
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	480	1	0	210	13	AM

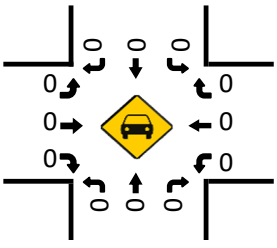
Cars (AM)



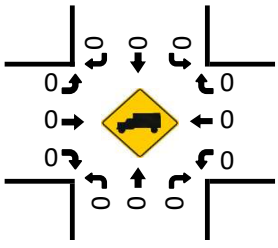
HT (AM)



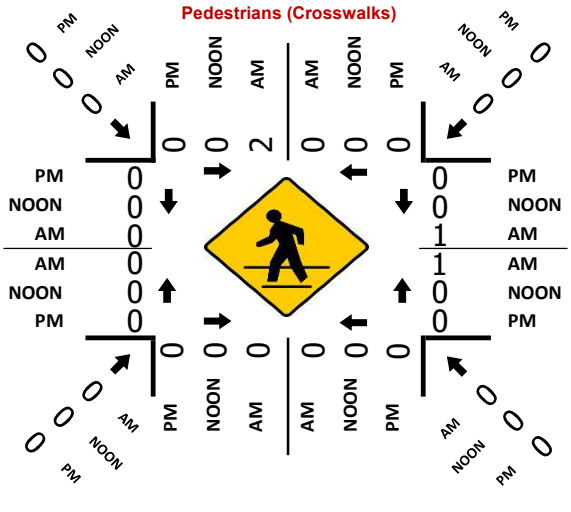
Cars (NOON)



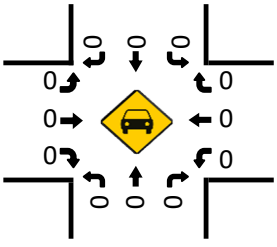
HT (NOON)



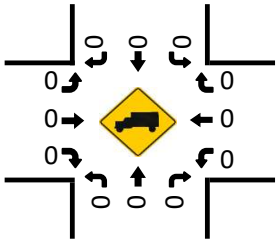
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Rock Blvd & 15th St

Peak Hour Turning Movement Count

ID: 26-110005-001
City: Sparks

Day: Wednesday
Date: 1/7/2026

PEAK HOURS	COUNT PERIODS
NONE	NONE
NONE	NONE
04:30 PM - 05:30 PM	3:30 PM - 05:30 PM

SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	261	67	2	1034	PM

EASTBOUND (15th St)

AM	NOON	PM
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

WESTBOUND (15th St)

PM	NOON	AM
100	0	0
0	0	0
7	0	0
0	0	0
87	0	0

CONTROL

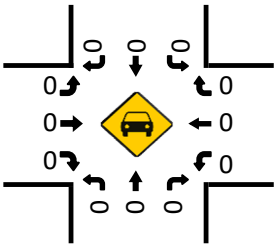
1-Way Stop(WB)

TEV	0 AM	0 NOON	1391 PM
PHF			0.98

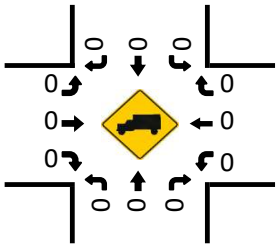
NORTHBOUND (Rock Blvd)

PM	270	2	0	932	20	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

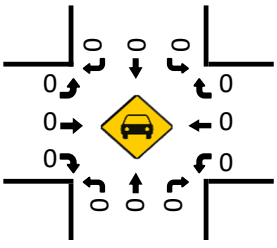
Cars (AM)



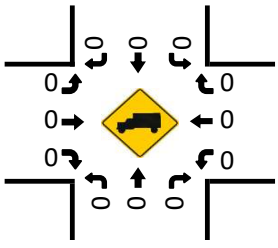
HT (AM)



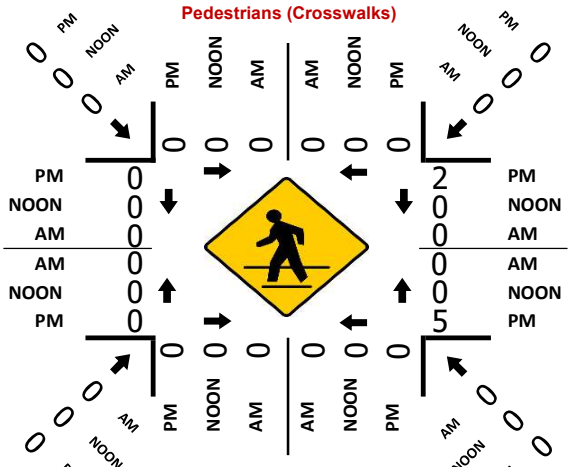
Cars (NOON)



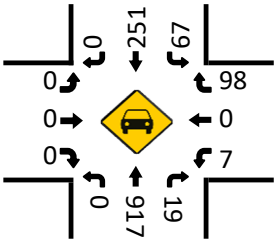
HT (NOON)



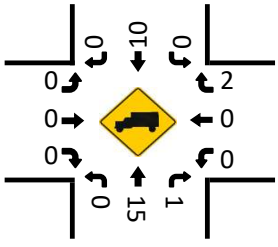
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Rock Blvd & C St

Peak Hour Turning Movement Count

ID: 26-110005-002
City: Sparks

Day: Friday
Date: 1/9/2026

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	6:30 AM - 08:30 AM
NONE	NONE
NONE	NONE

SOUTHBOUND (Rock Blvd)

AM	2	634	5	0	319	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND (C St)

AM	NOON	PM	
13	0	0	⇦
0	0	0	↶ 0
1	0	0	↱ 0
0	0	0	→ 0
4	0	0	↴ 0
AM	NOON	PM	

WESTBOUND (C St)

PM	NOON	AM	
0	0	14	0 ↰
0	0	2	0 ←
0	0	25	0 ↰
0	0	0	0 ↶
0	0	27	⇨
PM	NOON	AM	

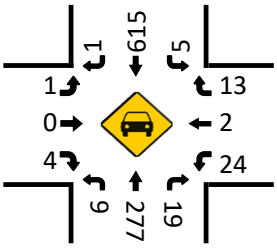
CONTROL: Signalized

TEV	1022	0	0
	AM	NOON	PM
PHF	0.95		

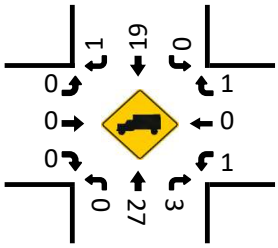
NORTHBOUND (Rock Blvd)

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	663	0	9	304	22	AM

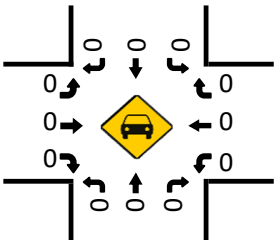
Cars (AM)



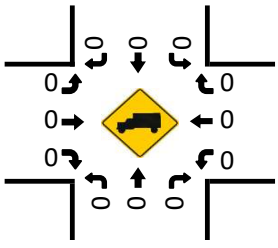
HT (AM)



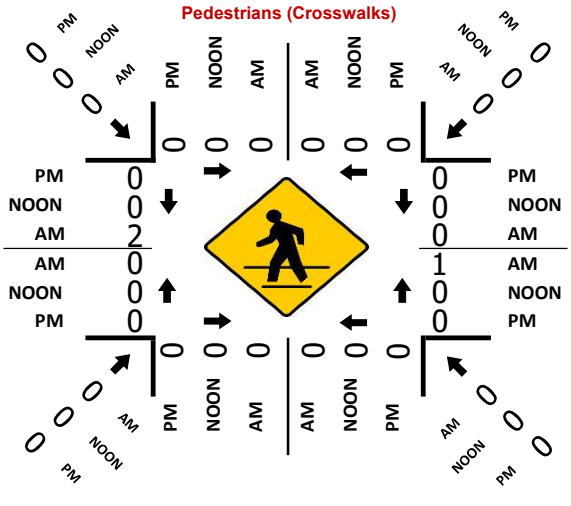
Cars (NOON)



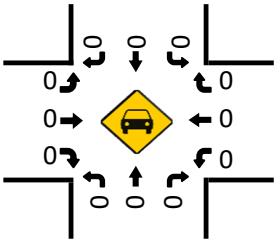
HT (NOON)



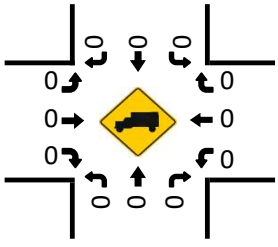
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Rock Blvd & C St

Peak Hour Turning Movement Count

ID: 26-110005-002
City: Sparks

Day: Wednesday
Date: 1/7/2026

PEAK HOURS	COUNT PERIODS
NONE	NONE
NONE	NONE
04:30 PM - 05:30 PM	3:30 PM - 05:30 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	0	0	1759
PHF			0.99

SOUTHBOUND (Rock Blvd)

	Left	Thru	Thru	Right	Total	
AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	361	11	0	1283	PM

EASTBOUND (C St)

	Left	Thru	Right	
AM	0	0	0	0
NOON	0	0	3	0
PM	0	0	1	0
	0	0	4	0
	0	0	12	
AM NOON PM				

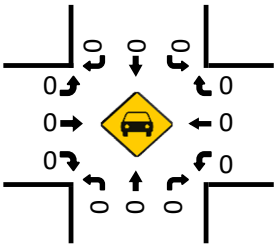
WESTBOUND (C St)

	Left	Thru	Right	
PM NOON AM				
	0	15	0	0
	0	4	0	0
	0	26	0	0
	0	0	0	0
		72	0	0
PM	392	1	8	1265	60	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

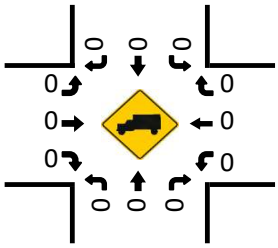
NORTHBOUND (Rock Blvd)

	Left	Thru	Thru	Right	Total	
PM	392	1	8	1265	60	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

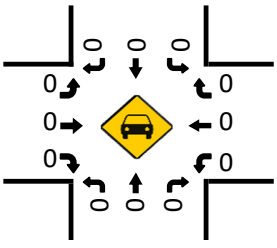
Cars (AM)



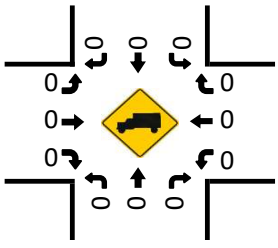
HT (AM)



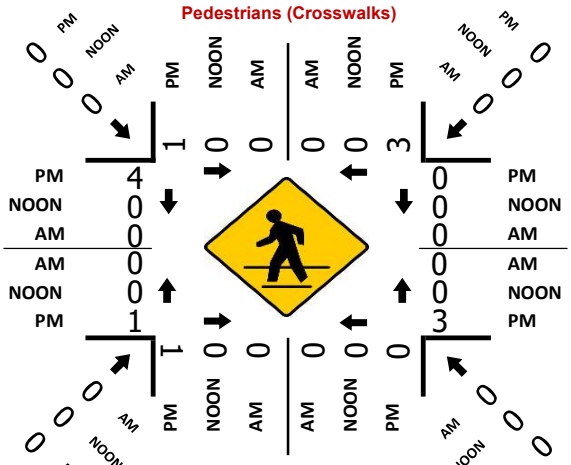
Cars (NOON)



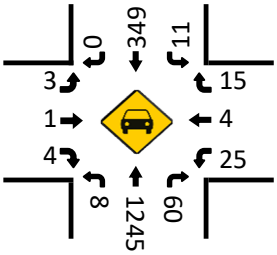
HT (NOON)



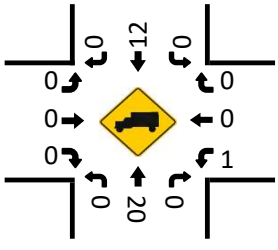
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Rock Blvd & Victorian Ave

Peak Hour Turning Movement Count

ID: 26-110005-003
City: Sparks

Day: Friday
Date: 1/9/2026

PEAK HOURS		COUNT PERIODS
AM	07:15 AM - 08:15 AM	6:30 AM - 08:30 AM
NOON	NONE	NONE
PM	NONE	NONE

SOUTHBOUND (Rock Blvd)

	L	T	R	U	Total
AM	17	632	17	1	336
NOON	0	0	0	0	0
PM	0	0	0	0	0

EASTBOUND (Victorian Ave)

	AM	NOON	PM
L	167	0	0
T	0	0	0
R	12	0	0
U	49	0	0
Total	124	0	0

WESTBOUND (Victorian Ave)

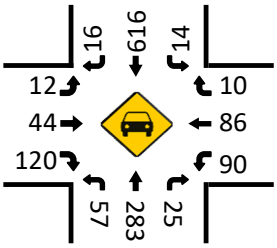
	PM	NOON	AM
L	0	0	13
T	0	0	91
R	0	0	99
U	0	0	0
Total	0	0	97

NORTHBOUND (Rock Blvd)

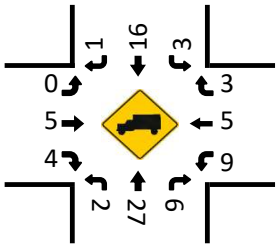
	L	T	R	U	Total
PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	856	1	59	310	31

CONTROL			
Signalized			
TEV	1456	0	0
	AM	NOON	PM
PHF	0.94		

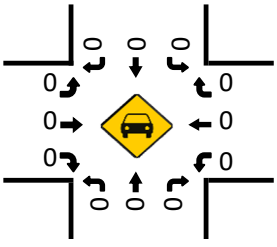
Cars (AM)



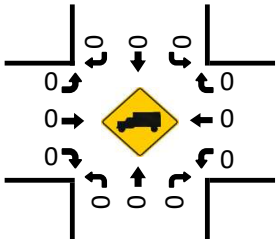
HT (AM)



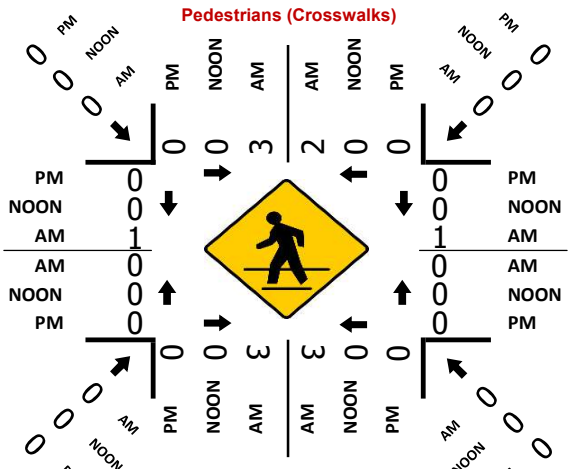
Cars (NOON)



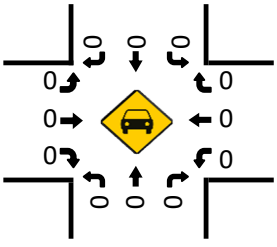
HT (NOON)



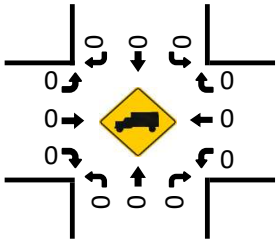
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Rock Blvd & Victorian Ave

Peak Hour Turning Movement Count

ID: 26-110005-003
City: Sparks

Day: Wednesday
Date: 1/7/2026

PEAK HOURS	COUNT PERIODS
NONE	NONE
NONE	NONE
04:30 PM - 05:30 PM	3:30 PM - 05:30 PM

SOUTHBOUND (Rock Blvd)

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	23	356	17	1	1333	PM

EASTBOUND (Victorian Ave)

AM	NOON	PM	
0	0	241	⇦
0	0	0	↶ 0
0	0	51	↱ 0
0	0	106	→ 0
0	0	89	↴ 0
AM	NOON	PM	

WESTBOUND (Victorian Ave)

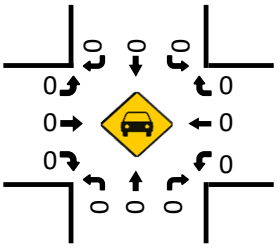
PM	NOON	AM	
15	0	0	0 ↰
93	0	0	0 ←
109	0	0	0 ↰
0	0	0	0 ↰
186	0	0	⇨
PM	NOON	AM	

CONTROL			
Signalized			
TEV	0 AM	0 NOON	2315 PM
PHF			0.98

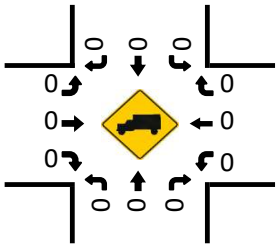
NORTHBOUND (Rock Blvd)

PM	555	1	125	1266	63	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

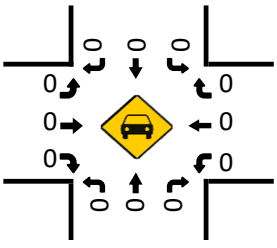
Cars (AM)



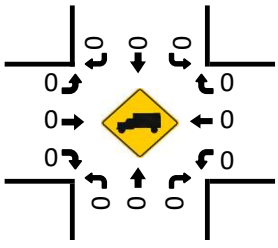
HT (AM)



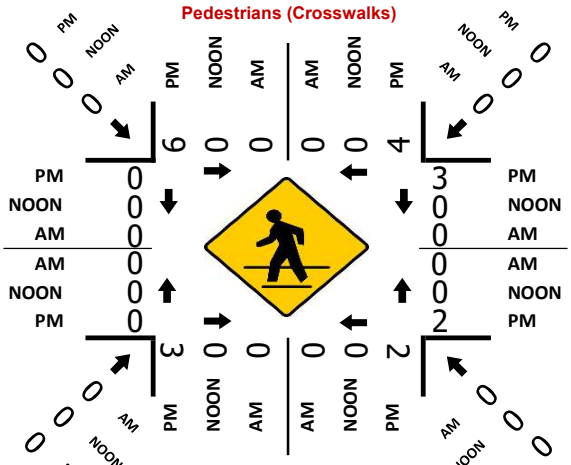
Cars (NOON)



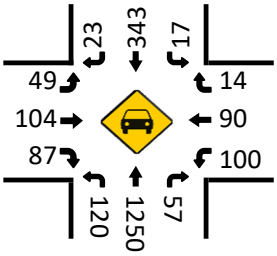
HT (NOON)



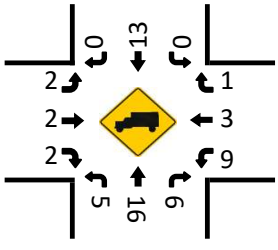
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

SR 668/S Rock Blvd & Hymer Ave

Peak Hour Turning Movement Count

ID: 26-110005-004
City: Sparks

Day: Friday
Date: 1/9/2026

PEAK HOURS		COUNT PERIODS
AM	07:30 AM - 08:30 AM	AM
NOON	NONE	NOON
PM	NONE	PM

AM	142	1126	60	0	583	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

SOUTHBOUND — SR 668/S Rock Blvd

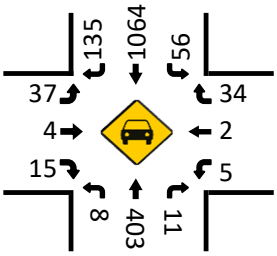
EASTBOUND (Hymer Ave)					WESTBOUND (Hymer Ave)			
AM	NOON	PM			PM	NOON	AM	
154	0	0	⇦	0	0	0	35	↰
0	0	0	↰	0	0	0	3	←
46	0	0	↱	0	0	0	5	↰
5	0	0	→	0	0	0	0	↰
15	0	0	↱	0	0	0	78	⇨
AM	NOON	PM			PM	NOON	AM	

CONTROL			
Signalized			
TEV	1961	0	0
	AM	NOON	PM
PHF	0.94		

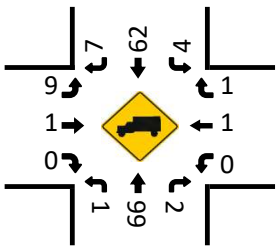
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	1146	0	9	502	13	AM

NORTHBOUND — SR 668/S Rock Blvd

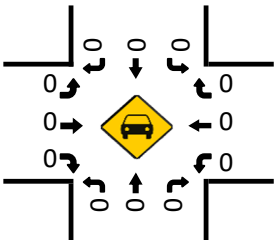
Cars (AM)



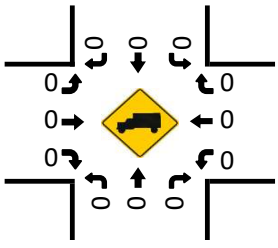
HT (AM)



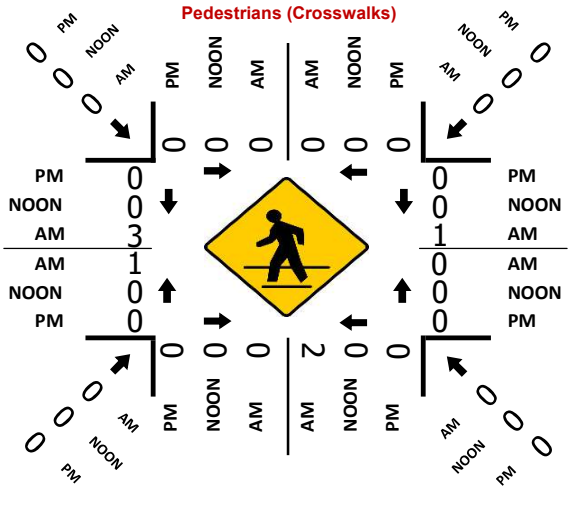
Cars (NOON)



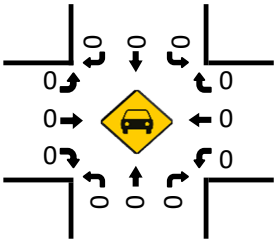
HT (NOON)



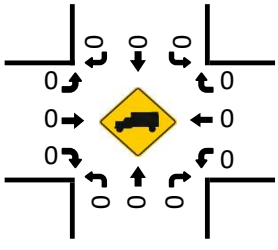
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

SR 668/S Rock Blvd & Hymer Ave

Peak Hour Turning Movement Count

ID: 26-110005-004
City: Sparks

Day: Wednesday
Date: 1/7/2026

PEAK HOURS	COUNT PERIODS
NONE	NONE
NONE	NONE
04:15 PM - 05:15 PM	3:30 PM - 05:30 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	0	0	2640
PHF			0.98

SOUTHBOUND (SR 668/S Rock Blvd)

	Left	Thru	Right	U-Turn	Total	
AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	45	567	64	0	1908	PM

EASTBOUND (Hymer Ave)

	Left	Thru	Right	U-Turn	
AM	0	0	0	0	0
NOON	0	0	0	0	0
PM	49	236	7	10	0

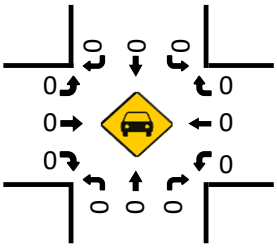
WESTBOUND (Hymer Ave)

	Left	Thru	Right	U-Turn	
AM	0	0	85	0	0
NOON	0	0	0	0	0
PM	175	1	21	0	0

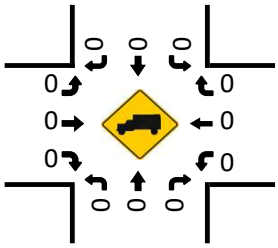
NORTHBOUND (SR 668/S Rock Blvd)

	Left	Thru	Right	U-Turn	Total	
AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	598	0	3	1497	14	PM

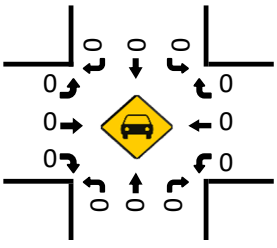
Cars (AM)



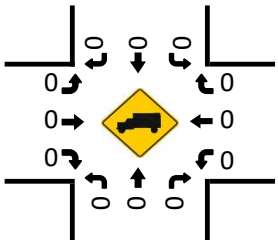
HT (AM)



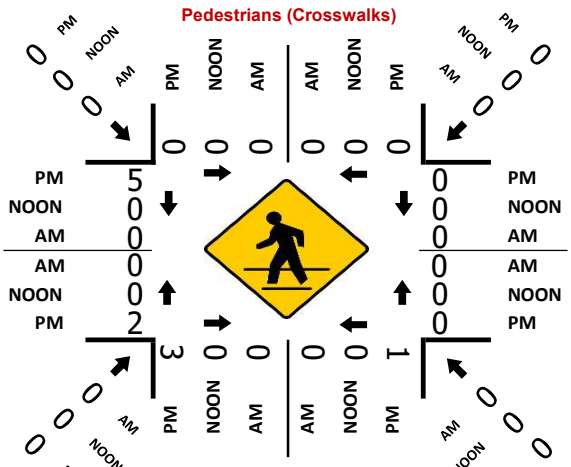
Cars (NOON)



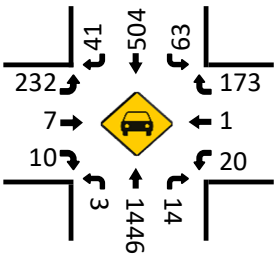
HT (NOON)



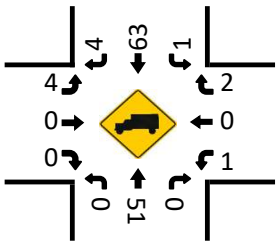
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Rock Blvd & SR 648/Glendale Ave

Peak Hour Turning Movement Count

ID: 26-110005-005
City: Sparks

Day: Friday
Date: 1/9/2026

PEAK HOURS		COUNT PERIODS
AM	07:30 AM - 08:30 AM	AM
NOON	NONE	NOON
PM	NONE	PM

CONTROL: Signalized

TEV	2372	0	0
	AM	NOON	PM
PHF	0.94		

SOUTHBOUND (S Rock Blvd)

	L	T	R	U	Total	
AM	136	769	181	0	533	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND (SR 648/Glendale Ave)

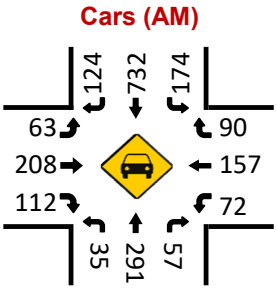
	L	T	R	U	Total	
AM	365	0	0	0	365	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

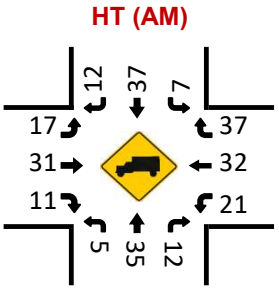
WESTBOUND (SR 648/Glendale Ave)

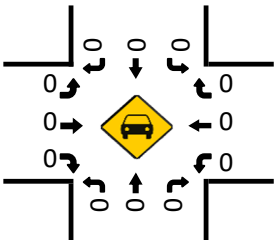
	L	T	R	U	Total	
PM	0	0	127	0	127	PM
NOON	0	0	189	0	189	NOON
AM	0	0	93	0	93	AM

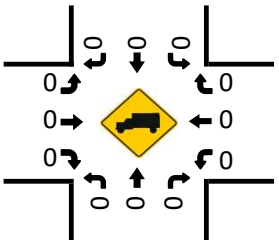
NORTHBOUND (S Rock Blvd)

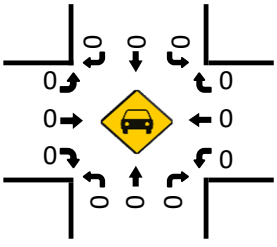
	L	T	R	U	Total	
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	985	0	40	326	69	AM

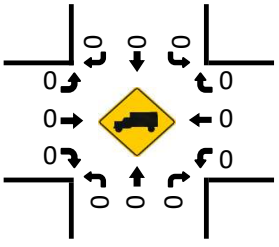


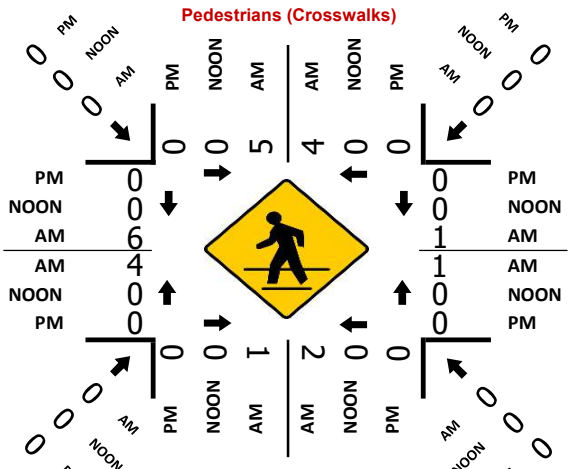












Prepared by National Data & Surveying Services

S Rock Blvd & SR 648/Glendale Ave

Peak Hour Turning Movement Count

ID: 26-110005-005
City: Sparks

Day: Wednesday
Date: 1/7/2026

PEAK HOURS	COUNT PERIODS
NONE	NONE
NONE	NONE
03:30 PM - 04:30 PM	3:30 PM - 05:30 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	0	0	3125
PHF			0.93

SOUTHBOUND (S Rock Blvd)

	Left	Thru	Right	U-Turn	Total	
AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	118	394	120	0	1518	PM

EASTBOUND (SR 648/Glendale Ave)

	Left	Thru	Right	
AM	0	0	0	AM
NOON	0	0	0	NOON
PM	0	0	587	PM
PM	0	0	4	PM
NOON	0	0	185	NOON
AM	0	0	262	AM
	0	0	115	

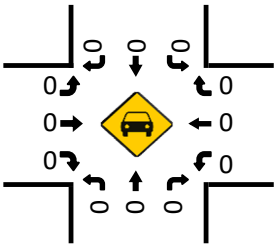
WESTBOUND (SR 648/Glendale Ave)

	Left	Thru	Right	
PM	0	0	392	PM
NOON	0	0	407	NOON
AM	0	0	75	AM
	0	0	2	
			436	

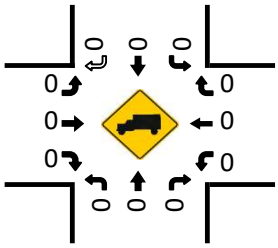
NORTHBOUND (S Rock Blvd)

	Left	Thru	Right	U-Turn	Total	
PM	584	0	58	941	52	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

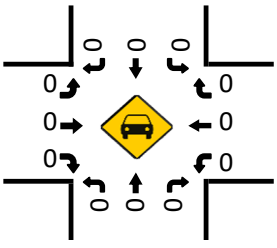
Cars (AM)



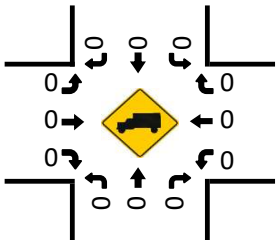
HT (AM)



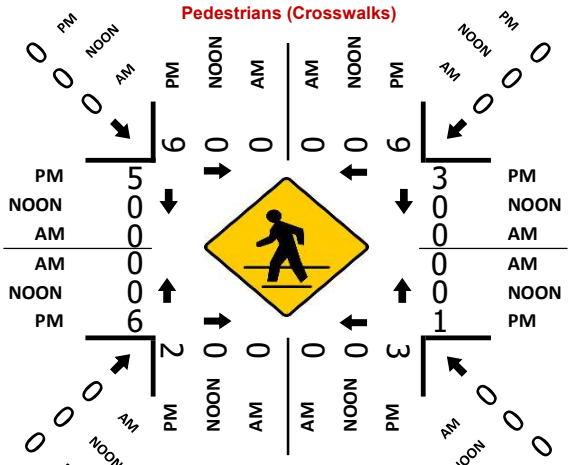
Cars (NOON)



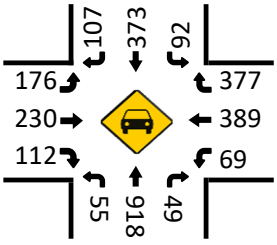
HT (NOON)



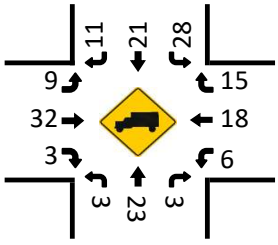
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Rock Blvd & Greg St

Peak Hour Turning Movement Count

ID: 26-110005-006
City: Sparks

Day: Friday
Date: 1/9/2026

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	6:30 AM - 08:30 AM
NONE	NONE
NONE	NONE

CONTROL: Signalized

	AM	NOON	PM
TEV	1800	0	0
PHF	0.94		

SOUTHBOUND (S Rock Blvd)

AM	201	461	198	1	416	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND (Greg St)

AM	NOON	PM	
456	0	0	⇦
0	0	0	↶ 0
124	0	0	↱ 0
198	0	0	→ 0
17	0	0	↴ 0
AM	NOON	PM	

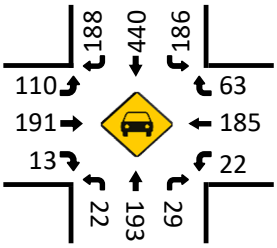
WESTBOUND (Greg St)

	PM	NOON	AM
0 ↰	0	0	72
0 ←	0	0	230
0 ↶	0	0	23
0 ↰	0	0	0
⇨	0	0	427
	PM	NOON	AM

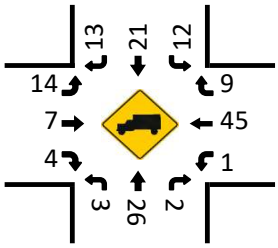
NORTHBOUND (S Rock Blvd)

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	501	0	25	219	31	AM

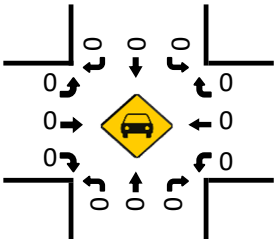
Cars (AM)



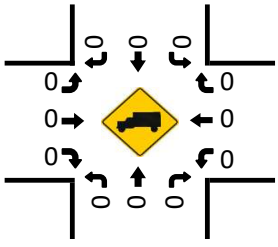
HT (AM)



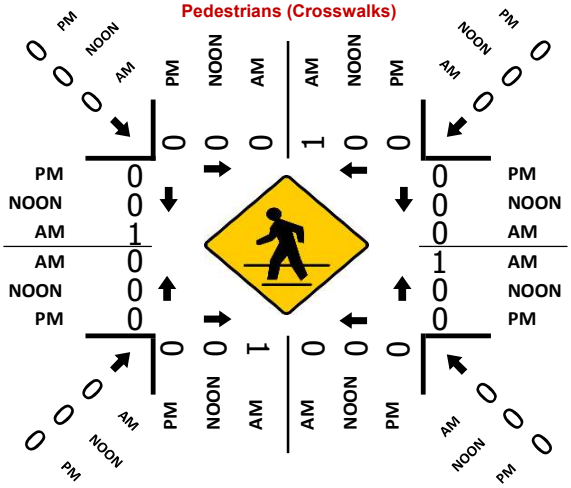
Cars (NOON)



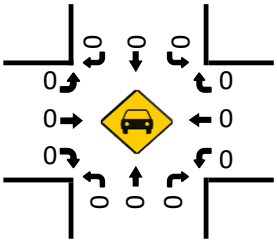
HT (NOON)



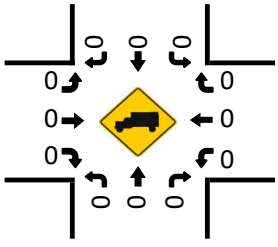
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Rock Blvd & Greg St

Peak Hour Turning Movement Count

ID: 26-110005-006
City: Sparks

Day: Wednesday
Date: 1/7/2026

PEAK HOURS		COUNT PERIODS
AM	NONE	AM
NOON	NONE	NOON
PM	03:30 PM - 04:30 PM	PM

SOUTHBOUND (S Rock Blvd)					
AM	0	0	0	0	0
NOON	0	0	0	0	0
PM	177	280	101	1	1028

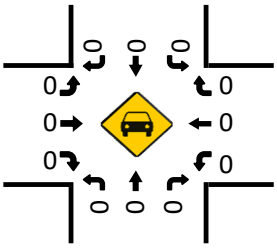
EASTBOUND (Greg St)			
AM	NOON	PM	
0	0	688	⇦
0	0	2	↶ 0
0	0	202	↱ 0
0	0	236	→ 0
0	0	16	↴ 0
AM	NOON	PM	

WESTBOUND (Greg St)			
PM	NOON	AM	
195	0	0	0 ↰
469	0	0	0 ←
41	0	0	0 ↰
0	0	0	0 ↶
372	0	0	⇨
PM	NOON	AM	

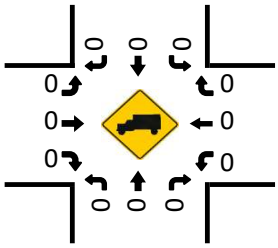
CONTROL			
Signalized			
TEV	0 AM	0 NOON	2425 PM
PHF			0.90

NORTHBOUND (S Rock Blvd)					
PM	337	0	40	630	35
NOON	0	0	0	0	0
AM	0	0	0	0	0

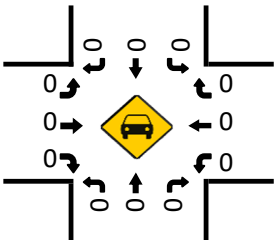
Cars (AM)



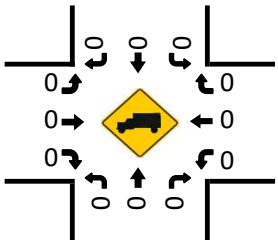
HT (AM)



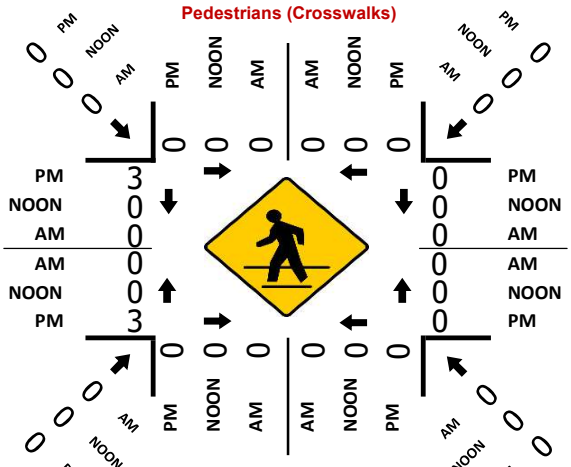
Cars (NOON)



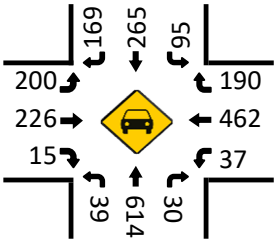
HT (NOON)



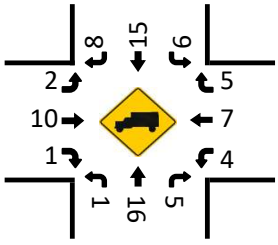
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



HCM 7th TWSC
1: Rock Blvd & 15th St

Intersection	
Int Delay, s/veh	3.5

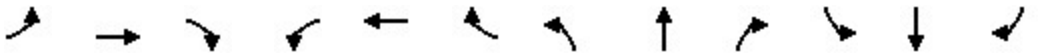
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	150	231	22	242	472
Future Vol, veh/h	8	150	231	22	242	472
Conflicting Peds, #/hr	0	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	9	174	269	26	281	549

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1121	151	0	0	296	0
Stage 1	283	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	199	865	-	-	1255	-
Stage 1	736	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	154	862	-	-	1252	-
Mov Cap-2 Maneuver	154	-	-	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	297	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	11.23	0	2.95
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	154	862	1252	-
HCM Lane V/C Ratio	-	-	0.061	0.202	0.225	-
HCM Control Delay (s/veh)	-	-	29.9	10.2	8.7	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.8	0.9	-

HCM 7th Signalized Intersection Summary
2: Rock Blvd & C St

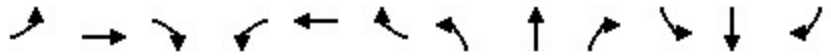


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	4	28	2	15	10	334	24	6	697	2
Future Volume (veh/h)	1	0	4	28	2	15	10	334	24	6	697	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	1	0	3	29	2	11	11	352	18	6	734	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	40	5	35	96	7	41	351	1814	807	577	1838	3
Arrive On Green	0.03	0.00	0.03	0.03	0.03	0.03	0.03	1.00	1.00	0.01	0.52	0.52
Sat Flow, veh/h	221	165	1158	1380	244	1341	1739	3469	1544	1739	3555	5
Grp Volume(v), veh/h	4	0	0	29	0	13	11	352	18	6	358	377
Grp Sat Flow(s),veh/h/ln	1543	0	0	1380	0	1585	1739	1735	1544	1739	1735	1825
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	1.1	0.4	0.0	0.0	0.2	17.0	17.0
Cycle Q Clear(g_c), s	0.3	0.0	0.0	2.7	0.0	1.1	0.4	0.0	0.0	0.2	17.0	17.0
Prop In Lane	0.25		0.75	1.00		0.85	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	80	0	0	96	0	48	351	1814	807	577	897	944
V/C Ratio(X)	0.05	0.00	0.00	0.30	0.00	0.27	0.03	0.19	0.02	0.01	0.40	0.40
Avail Cap(c_a), veh/h	480	0	0	464	0	471	459	1814	807	695	897	944
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.6	0.0	0.0	64.7	0.0	64.0	15.9	0.0	0.0	15.3	19.8	19.8
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.7	0.0	2.9	0.0	0.2	0.1	0.0	1.3	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	0.0	1.9	0.0	0.9	0.3	0.1	0.0	0.2	11.6	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.9	0.0	0.0	66.5	0.0	66.9	15.9	0.2	0.1	15.3	21.2	21.1
LnGrp LOS	E			E		E	B	A	A	B	C	C
Approach Vol, veh/h		4			42			381			741	
Approach Delay, s/veh		63.9			66.6			0.7			21.1	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	75.8		9.0	6.6	75.0		9.0				
Change Period (Y+Rc), s	4.8	5.2		4.9	4.9	5.2		4.9				
Max Green Setting (Gmax), s	10.2	69.8		40.1	10.1	69.8		40.1				
Max Q Clear Time (g_c+I1), s	2.2	2.0		2.3	2.4	19.0		4.7				
Green Ext Time (p_c), s	0.0	2.7		0.0	0.0	5.4		0.1				

Intersection Summary			
HCM 7th Control Delay, s/veh		16.2	
HCM 7th LOS		B	

HCM 7th Signalized Intersection Summary
3: Rock Blvd & Victorian Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	54	136	109	100	14	66	341	34	20	695	19
Future Volume (veh/h)	13	54	136	109	100	14	66	341	34	20	695	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	14	57	71	115	105	11	69	359	25	21	732	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	165	273	229	202	242	25	775	2337	162	412	1657	32
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.08	0.24	0.24	0.04	0.96	0.96
Sat Flow, veh/h	1226	1811	1516	1211	1607	168	1725	3264	226	1725	3452	66
Grp Volume(v), veh/h	14	57	71	115	0	116	69	188	196	21	365	381
Grp Sat Flow(s),veh/h/ln	1226	1811	1516	1211	0	1776	1725	1721	1770	1725	1721	1797
Q Serve(g_s), s	1.4	3.7	5.6	12.4	0.0	8.0	0.0	11.7	11.8	0.9	2.0	2.0
Cycle Q Clear(g_c), s	9.4	3.7	5.6	16.1	0.0	8.0	0.0	11.7	11.8	0.9	2.0	2.0
Prop In Lane	1.00		1.00	1.00		0.09	1.00		0.13	1.00		0.04
Lane Grp Cap(c), veh/h	165	273	229	202	0	268	775	1232	1267	412	826	863
V/C Ratio(X)	0.08	0.21	0.31	0.57	0.00	0.43	0.09	0.15	0.15	0.05	0.44	0.44
Avail Cap(c_a), veh/h	345	538	450	380	0	527	775	1232	1267	567	826	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.97	0.97	0.97	0.98	0.98	0.98
Uniform Delay (d), s/veh	56.4	50.3	51.1	57.4	0.0	52.1	10.8	19.1	19.2	20.4	1.4	1.4
Incr Delay (d2), s/veh	0.2	0.4	0.8	2.5	0.0	1.1	0.0	0.3	0.3	0.0	1.7	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	3.1	4.0	7.1	0.0	6.6	1.7	9.3	9.6	0.7	1.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.6	50.6	51.8	59.8	0.0	53.2	10.8	19.4	19.4	20.5	3.1	3.1
LnGrp LOS	E	D	D	E		D	B	B	B	C	A	A
Approach Vol, veh/h		142			231			453			767	
Approach Delay, s/veh		51.8			56.5			18.1			3.6	
Approach LOS		D			E			B			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	101.9		25.2	39.8	70.0		25.2				
Change Period (Y+Rc), s	5.1	* 5.3		4.9	5.3	5.2		4.9				
Max Green Setting (Gmax), s	14.9	* 65		40.1	14.7	64.8		40.1				
Max Q Clear Time (g_c+I1), s	2.9	13.8		11.4	2.0	4.0		18.1				
Green Ext Time (p_c), s	0.0	2.5		0.6	0.1	5.5		1.0				

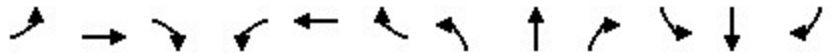
Intersection Summary	
HCM 7th Control Delay, s/veh	19.7
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
4: Rock Blvd & Hymer Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	6	17	6	3	39	10	552	14	66	1239	156
Future Volume (veh/h)	51	6	17	6	3	39	10	552	14	66	1239	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767
Adj Flow Rate, veh/h	54	6	13	6	3	28	11	581	11	69	1304	115
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	9	9	9	9	9	9	9	9	9
Cap, veh/h	72	8	17	7	4	34	236	2438	46	629	2319	204
Arrive On Green	0.06	0.06	0.06	0.03	0.03	0.03	0.01	0.72	0.72	0.02	0.50	0.50
Sat Flow, veh/h	1220	136	294	247	124	1153	1682	3369	64	1682	3114	274
Grp Volume(v), veh/h	73	0	0	37	0	0	11	289	303	69	701	718
Grp Sat Flow(s),veh/h/ln	1649	0	0	1524	0	0	1682	1678	1755	1682	1678	1710
Q Serve(g_s), s	5.9	0.0	0.0	3.3	0.0	0.0	0.2	7.8	7.8	1.4	39.2	39.6
Cycle Q Clear(g_c), s	5.9	0.0	0.0	3.3	0.0	0.0	0.2	7.8	7.8	1.4	39.2	39.6
Prop In Lane	0.74		0.18	0.16		0.76	1.00		0.04	1.00		0.16
Lane Grp Cap(c), veh/h	98	0	0	45	0	0	236	1214	1270	629	1249	1273
V/C Ratio(X)	0.75	0.00	0.00	0.82	0.00	0.00	0.05	0.24	0.24	0.11	0.56	0.56
Avail Cap(c_a), veh/h	238	0	0	164	0	0	406	1214	1270	703	1249	1273
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.95	0.95	0.95	0.93	0.93	0.93
Uniform Delay (d), s/veh	62.5	0.0	0.0	65.1	0.0	0.0	9.9	6.2	6.2	4.4	18.5	18.6
Incr Delay (d2), s/veh	10.7	0.0	0.0	29.0	0.0	0.0	0.1	0.4	0.4	0.1	1.7	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.0	0.0	0.0	2.9	0.0	0.0	0.2	5.0	5.2	0.8	23.5	24.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	73.2	0.0	0.0	94.2	0.0	0.0	10.0	6.7	6.7	4.4	20.2	20.3
LnGrp LOS	E			F			A	A	A	A	C	C
Approach Vol, veh/h		73			37			603			1488	
Approach Delay, s/veh		73.2			94.2			6.7			19.5	
Approach LOS		E			F			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	102.9		9.5	6.3	105.7		13.5				
Change Period (Y+Rc), s	4.5	5.2		5.5	4.6	5.2		5.5				
Max Green Setting (Gmax), s	10.5	69.8		14.5	15.4	64.8		19.5				
Max Q Clear Time (g_c+I1), s	3.4	9.8		5.3	2.2	41.6		7.9				
Green Ext Time (p_c), s	0.1	4.2		0.1	0.0	11.4		0.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	19.0	
HCM 7th LOS	B	

HCM 7th Signalized Intersection Summary
5: Rock Blvd & Glendale Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	263	135	102	208	140	44	359	76	199	846	150
Future Volume (veh/h)	88	263	135	102	208	140	44	359	76	199	846	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	94	280	72	109	221	75	47	382	41	212	900	80
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	116	417	179	132	451	197	60	1058	468	274	1228	543
Arrive On Green	0.07	0.13	0.13	0.08	0.14	0.14	0.04	0.32	0.32	0.08	0.37	0.37
Sat Flow, veh/h	1668	3328	1430	1668	3328	1455	1668	3328	1471	3237	3328	1473
Grp Volume(v), veh/h	94	280	72	109	221	75	47	382	41	212	900	80
Grp Sat Flow(s),veh/h/ln	1668	1664	1430	1668	1664	1455	1668	1664	1471	1618	1664	1473
Q Serve(g_s), s	7.5	10.8	3.8	8.7	8.3	6.3	3.8	11.9	2.6	8.7	31.6	2.0
Cycle Q Clear(g_c), s	7.5	10.8	3.8	8.7	8.3	6.3	3.8	11.9	2.6	8.7	31.6	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	417	179	132	451	197	60	1058	468	274	1228	543
V/C Ratio(X)	0.81	0.67	0.40	0.83	0.49	0.38	0.79	0.36	0.09	0.77	0.73	0.15
Avail Cap(c_a), veh/h	240	602	259	239	602	263	242	1058	468	1067	1228	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96	0.75	0.75	0.75
Uniform Delay (d), s/veh	62.0	56.4	19.9	61.3	54.0	53.2	64.6	35.5	32.3	60.5	36.8	4.6
Incr Delay (d2), s/veh	12.7	1.9	1.5	12.2	0.8	1.2	19.2	0.9	0.4	3.5	2.9	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.5	8.2	4.1	7.4	6.4	4.3	3.5	8.6	1.8	6.4	18.5	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	74.7	58.3	21.3	73.5	54.8	54.4	83.8	36.4	32.7	64.1	39.8	5.0
LnGrp LOS	E	E	C	E	D	D	F	D	C	E	D	A
Approach Vol, veh/h		446			405			470			1192	
Approach Delay, s/veh		55.8			59.8			40.8			41.8	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	48.3	16.4	22.5	10.2	55.0	15.0	23.9
Change Period (Y+Rc), s	5.5	* 5.4	5.7	5.6	5.4	5.2	5.6	5.6
Max Green Setting (Gmax), s	11.5	* 25	19.3	24.4	19.6	49.8	19.4	24.4
Max Q Clear Time (g_c+I1), s	10.7	13.9	10.7	12.8	5.8	33.6	9.5	10.3
Green Ext Time (p_c), s	0.8	1.9	0.2	1.5	0.1	6.2	0.1	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	47.0
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
6: Rock Blvd & Greg St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	218	19	25	253	79	28	241	34	219	507	221
Future Volume (veh/h)	136	218	19	25	253	79	28	241	34	219	507	221
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767
Adj Flow Rate, veh/h	145	232	14	27	269	58	30	256	25	233	539	118
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	9	9	9	9	9	9	9	9	9	9	9	9
Cap, veh/h	229	606	36	225	339	72	316	1255	122	453	1395	622
Arrive On Green	0.09	0.19	0.19	0.02	0.12	0.12	0.03	0.41	0.41	0.07	0.83	0.83
Sat Flow, veh/h	1682	3217	193	1682	2754	584	1682	3091	299	1682	3357	1496
Grp Volume(v), veh/h	145	120	126	27	162	165	30	138	143	233	539	118
Grp Sat Flow(s),veh/h/ln	1682	1678	1732	1682	1678	1660	1682	1678	1712	1682	1678	1496
Q Serve(g_s), s	9.8	8.5	8.6	1.9	12.7	13.0	1.5	7.2	7.3	0.0	5.4	2.1
Cycle Q Clear(g_c), s	9.8	8.5	8.6	1.9	12.7	13.0	1.5	7.2	7.3	0.0	5.4	2.1
Prop In Lane	1.00		0.11	1.00		0.35	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	229	316	326	225	207	204	316	681	695	453	1395	622
V/C Ratio(X)	0.63	0.38	0.39	0.12	0.79	0.81	0.10	0.20	0.21	0.51	0.39	0.19
Avail Cap(c_a), veh/h	323	316	326	428	303	300	454	681	695	573	1395	622
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	45.1	47.9	47.9	50.0	57.5	57.6	26.6	26.0	26.0	33.7	7.1	6.8
Incr Delay (d2), s/veh	2.9	0.8	0.7	0.2	8.0	9.7	0.1	0.7	0.7	0.7	0.7	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.7	6.5	6.8	1.5	9.8	10.1	1.1	5.5	5.7	9.8	3.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.0	48.7	48.7	50.2	65.4	67.3	26.8	26.6	26.7	34.4	7.8	7.4
LnGrp LOS	D	D	D	D	E	E	C	C	C	C	A	A
Approach Vol, veh/h		391			354			311			890	
Approach Delay, s/veh		48.4			65.1			26.7			14.7	
Approach LOS		D			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	60.0	8.7	31.0	8.9	61.5	17.5	22.2
Change Period (Y+Rc), s	5.4	5.2	5.5	5.6	5.5	* 5.4	5.5	5.6
Max Green Setting (Gmax), s	14.6	54.8	19.5	24.4	14.5	* 55	19.5	24.4
Max Q Clear Time (g_c+I1), s	12.0	9.3	3.9	10.6	3.5	7.4	11.8	15.0
Green Ext Time (p_c), s	0.5	1.8	0.0	1.1	0.0	4.7	0.2	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	32.6
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
1: Rock Blvd & 15th St

Intersection	
Int Delay, s/veh	1.8

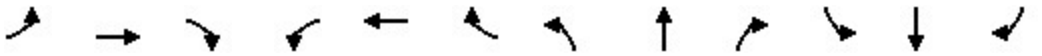
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	100	932	35	92	261
Future Vol, veh/h	7	100	932	35	92	261
Conflicting Peds, #/hr	0	0	0	7	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	102	951	36	94	266

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1297	500	0	0	994	0
Stage 1	976	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	154	516	-	-	692	-
Stage 1	326	-	-	-	-	-
Stage 2	708	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	132	513	-	-	687	-
Mov Cap-2 Maneuver	132	-	-	-	-	-
Stage 1	324	-	-	-	-	-
Stage 2	611	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	15.08	0	2.88
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	132	513	687	-
HCM Lane V/C Ratio	-	-	0.054	0.199	0.137	-
HCM Control Delay (s/veh)	-	-	33.9	13.8	11.1	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.7	0.5	-

HCM 7th Signalized Intersection Summary
2: Rock Blvd & C St

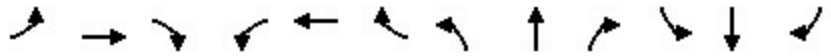


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1	4	26	4	15	9	1265	60	11	361	1
Future Volume (veh/h)	3	1	4	26	4	15	9	1265	60	11	361	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.98	0.98		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	1	3	27	4	10	9	1291	29	11	368	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	23	35	122	24	61	895	2971	1293	378	3043	8
Arrive On Green	0.05	0.05	0.05	0.05	0.05	0.05	0.01	0.84	0.84	0.01	0.84	0.84
Sat Flow, veh/h	450	446	672	1381	465	1163	1781	3554	1547	1781	3635	10
Grp Volume(v), veh/h	7	0	0	27	0	14	9	1291	29	11	180	189
Grp Sat Flow(s),veh/h/ln	1567	0	0	1381	0	1629	1781	1777	1547	1781	1777	1868
Q Serve(g_s), s	0.0	0.0	0.0	2.1	0.0	1.2	0.1	14.0	0.5	0.1	2.8	2.8
Cycle Q Clear(g_c), s	0.6	0.0	0.0	2.7	0.0	1.2	0.1	14.0	0.5	0.1	2.8	2.8
Prop In Lane	0.43		0.43	1.00		0.71	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	116	0	0	122	0	85	895	2971	1293	378	1487	1564
V/C Ratio(X)	0.06	0.00	0.00	0.22	0.00	0.16	0.01	0.43	0.02	0.03	0.12	0.12
Avail Cap(c_a), veh/h	589	0	0	557	0	598	996	2971	1293	478	1487	1564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.6	0.0	0.0	68.6	0.0	67.9	1.8	3.2	2.1	2.4	2.2	2.2
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.9	0.0	0.9	0.0	0.4	0.0	0.0	0.2	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	0.0	1.9	0.0	1.0	0.1	7.2	0.2	0.1	1.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	67.8	0.0	0.0	69.5	0.0	68.8	1.8	3.5	2.1	2.4	2.4	2.4
LnGrp LOS	E			E		E	A	A	A	A	A	A
Approach Vol, veh/h		7			41			1329			380	
Approach Delay, s/veh		67.8			69.2			3.5			2.4	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	130.6		12.8	6.5	130.8		12.8				
Change Period (Y+Rc), s	4.8	5.2		4.9	4.9	5.2		4.9				
Max Green Setting (Gmax), s	10.2	69.8		55.1	10.1	69.8		55.1				
Max Q Clear Time (g_c+I1), s	2.1	16.0		2.6	2.1	4.8		4.7				
Green Ext Time (p_c), s	0.0	14.4		0.0	0.0	2.4		0.1				

Intersection Summary			
HCM 7th Control Delay, s/veh		5.0	
HCM 7th LOS		A	

HCM 7th Signalized Intersection Summary
3: Rock Blvd & Victorian Ave

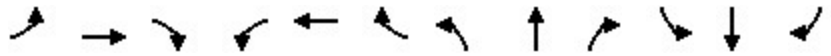


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	106	89	109	93	15	126	1266	63	18	356	23
Future Volume (veh/h)	51	106	89	109	93	15	126	1266	63	18	356	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.97	0.99		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	52	108	45	111	95	10	129	1292	45	18	363	16
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	220	200	164	232	231	24	505	1630	57	142	1484	65
Arrive On Green	0.04	0.11	0.11	0.07	0.14	0.14	0.05	0.47	0.47	0.02	0.43	0.43
Sat Flow, veh/h	1767	1856	1529	1767	1644	173	1767	3472	121	1767	3435	151
Grp Volume(v), veh/h	52	108	45	111	0	105	129	655	682	18	186	193
Grp Sat Flow(s),veh/h/ln	1767	1856	1529	1767	0	1817	1767	1763	1830	1767	1763	1824
Q Serve(g_s), s	3.9	8.3	4.1	8.2	0.0	7.9	5.9	47.1	47.2	0.8	10.0	10.1
Cycle Q Clear(g_c), s	3.9	8.3	4.1	8.2	0.0	7.9	5.9	47.1	47.2	0.8	10.0	10.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.07	1.00		0.08
Lane Grp Cap(c), veh/h	220	200	164	232	0	255	505	827	859	142	762	788
V/C Ratio(X)	0.24	0.54	0.27	0.48	0.00	0.41	0.26	0.79	0.79	0.13	0.24	0.25
Avail Cap(c_a), veh/h	423	372	307	353	0	340	584	827	859	345	762	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.56	0.56	0.56	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	63.4	61.5	53.0	0.0	58.8	20.9	33.6	33.7	29.0	27.0	27.1
Incr Delay (d2), s/veh	0.5	2.3	0.9	1.5	0.0	1.1	0.1	4.4	4.3	0.4	0.8	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	7.3	2.9	6.8	0.0	6.7	4.5	26.7	27.6	0.7	7.9	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.4	65.7	62.4	54.6	0.0	59.9	21.0	38.1	38.0	29.4	27.8	27.8
LnGrp LOS	E	E	E	D		E	C	D	D	C	C	C
Approach Vol, veh/h		205			216			1466			397	
Approach Delay, s/veh		62.9			57.1			36.5			27.9	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	75.6	14.7	21.0	13.3	70.0	9.8	26.0
Change Period (Y+Rc), s	5.1	5.2	4.5	4.9	5.3	5.2	4.5	4.9
Max Green Setting (Gmax), s	19.9	59.8	20.5	30.1	14.7	64.8	22.5	28.1
Max Q Clear Time (g_c+I1), s	12.8	49.2	10.2	10.3	7.9	12.1	5.9	9.9
Green Ext Time (p_c), s	0.0	6.4	0.2	0.6	0.2	2.5	0.1	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	39.3
HCM 7th LOS	D

HCM 7th Signalized Intersection Summary
4: Rock Blvd & Hymer Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	236	7	10	21	1	175	3	1497	14	64	567	45
Future Volume (veh/h)	236	7	10	21	1	175	3	1497	14	64	567	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	241	7	7	21	1	125	3	1528	10	65	579	32
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	266	8	8	21	1	128	422	1644	11	121	1643	91
Arrive On Green	0.16	0.16	0.16	0.10	0.10	0.10	0.00	0.47	0.47	0.06	0.98	0.98
Sat Flow, veh/h	1640	48	48	222	11	1324	1739	3532	23	1739	3341	184
Grp Volume(v), veh/h	255	0	0	147	0	0	3	750	788	65	300	311
Grp Sat Flow(s),veh/h/ln	1735	0	0	1557	0	0	1739	1735	1821	1739	1735	1791
Q Serve(g_s), s	21.7	0.0	0.0	14.1	0.0	0.0	0.1	61.1	61.2	2.9	0.6	0.6
Cycle Q Clear(g_c), s	21.7	0.0	0.0	14.1	0.0	0.0	0.1	61.1	61.2	2.9	0.6	0.6
Prop In Lane	0.95		0.03	0.14		0.85	1.00		0.01	1.00		0.10
Lane Grp Cap(c), veh/h	282	0	0	150	0	0	422	807	847	121	853	881
V/C Ratio(X)	0.91	0.00	0.00	0.98	0.00	0.00	0.01	0.93	0.93	0.54	0.35	0.35
Avail Cap(c_a), veh/h	341	0	0	150	0	0	594	807	847	247	853	881
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.63	0.63	0.63	0.97	0.97	0.97
Uniform Delay (d), s/veh	61.7	0.0	0.0	67.6	0.0	0.0	21.2	37.8	37.8	33.5	0.6	0.6
Incr Delay (d2), s/veh	23.8	0.0	0.0	66.1	0.0	0.0	0.0	13.1	12.7	3.6	1.1	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.0	0.0	0.0	13.2	0.0	0.0	0.1	35.5	37.0	2.3	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	85.5	0.0	0.0	133.7	0.0	0.0	21.2	50.8	50.5	37.1	1.7	1.7
LnGrp LOS	F			F			C	D	D	D	A	A
Approach Vol, veh/h		255			147			1541			676	
Approach Delay, s/veh		85.5			133.7			50.6			5.1	
Approach LOS		F			F			D			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.2	75.0		20.0	5.2	79.0		29.8
Change Period (Y+Rc), s	4.5	5.2		5.5	4.6	5.2		5.5
Max Green Setting (Gmax), s	15.5	69.8		14.5	15.4	69.8		29.5
Max Q Clear Time (g_c+I1), s	4.9	63.2		16.1	2.1	2.6		23.7
Green Ext Time (p_c), s	0.1	4.9		0.0	0.0	4.3		0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	46.9
HCM 7th LOS	D

HCM 7th Signalized Intersection Summary
5: Rock Blvd & Glendale Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	262	115	77	407	392	58	941	52	120	394	111
Future Volume (veh/h)	189	262	115	77	407	392	58	941	52	120	394	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	203	282	59	83	438	210	62	1012	28	129	424	59
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	226	782	343	103	540	231	94	1257	548	175	1257	549
Arrive On Green	0.13	0.23	0.23	0.06	0.16	0.16	0.02	0.12	0.12	0.10	0.73	0.73
Sat Flow, veh/h	1725	3441	1511	1725	3441	1476	1725	3441	1501	3346	3441	1502
Grp Volume(v), veh/h	203	282	59	83	438	210	62	1012	28	129	424	59
Grp Sat Flow(s),veh/h/ln	1725	1721	1511	1725	1721	1476	1725	1721	1501	1673	1721	1502
Q Serve(g_s), s	17.4	10.3	3.0	7.1	18.4	14.2	5.4	43.0	2.5	5.6	6.6	1.7
Cycle Q Clear(g_c), s	17.4	10.3	3.0	7.1	18.4	14.2	5.4	43.0	2.5	5.6	6.6	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	782	343	103	540	231	94	1257	548	175	1257	549
V/C Ratio(X)	0.90	0.36	0.17	0.81	0.81	0.91	0.66	0.81	0.05	0.74	0.34	0.11
Avail Cap(c_a), veh/h	281	789	346	222	674	289	225	1257	548	435	1257	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.70	0.70	0.97	0.97	0.97
Uniform Delay (d), s/veh	64.2	48.8	19.3	69.7	61.1	28.4	72.3	60.8	43.0	66.1	13.7	13.1
Incr Delay (d2), s/veh	25.7	0.3	0.2	13.6	6.0	26.6	5.5	4.0	0.1	5.7	0.7	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.3	8.0	3.2	6.4	13.3	11.1	4.7	27.0	1.7	4.4	4.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	89.9	49.1	19.6	83.3	67.1	54.9	77.8	64.7	43.1	71.9	14.4	13.4
LnGrp LOS	F	D	B	F	E	D	E	E	D	E	B	B
Approach Vol, veh/h		544			731			1102			612	
Approach Delay, s/veh		61.1			65.5			64.9			26.4	
Approach LOS		E			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	60.2	14.7	39.7	13.5	60.0	25.2	29.1
Change Period (Y+Rc), s	5.5	* 5.4	5.7	5.6	5.4	5.2	5.6	5.6
Max Green Setting (Gmax), s	19.5	* 55	19.3	34.4	19.6	54.8	24.4	29.4
Max Q Clear Time (g_c+I1), s	7.6	45.0	9.1	12.3	7.4	8.6	19.4	20.4
Green Ext Time (p_c), s	0.3	5.0	0.1	2.0	0.1	3.4	0.2	2.5

Intersection Summary	
HCM 7th Control Delay, s/veh	56.5
HCM 7th LOS	E

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
6: Rock Blvd & Greg St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	236	16	41	469	195	40	630	35	102	280	177
Future Volume (veh/h)	204	236	16	41	469	195	40	630	35	102	280	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	0.99		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	224	259	13	45	515	149	44	692	26	112	308	97
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	274	1046	52	343	600	173	258	804	30	578	1729	768
Arrive On Green	0.11	0.31	0.31	0.03	0.22	0.22	0.03	0.23	0.23	0.58	0.98	0.98
Sat Flow, veh/h	1767	3417	171	1767	2692	775	1767	3464	130	1767	3526	1567
Grp Volume(v), veh/h	224	133	139	45	336	328	44	352	366	112	308	97
Grp Sat Flow(s),veh/h/ln	1767	1763	1825	1767	1763	1704	1767	1763	1831	1767	1763	1567
Q Serve(g_s), s	14.2	8.5	8.6	2.9	27.5	27.8	3.0	28.7	28.8	0.0	0.3	0.2
Cycle Q Clear(g_c), s	14.2	8.5	8.6	2.9	27.5	27.8	3.0	28.7	28.8	0.0	0.3	0.2
Prop In Lane	1.00		0.09	1.00		0.45	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	274	540	559	343	393	380	258	409	425	578	1729	768
V/C Ratio(X)	0.82	0.25	0.25	0.13	0.86	0.86	0.17	0.86	0.86	0.19	0.18	0.13
Avail Cap(c_a), veh/h	425	581	601	581	522	504	437	409	425	578	1729	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	40.4	39.1	39.1	43.2	56.0	56.1	48.2	55.3	55.3	22.2	0.7	0.7
Incr Delay (d2), s/veh	7.0	0.2	0.2	0.2	10.4	11.4	0.3	20.5	20.0	0.2	0.2	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.0	6.8	7.1	2.4	19.4	19.1	2.5	21.5	22.2	3.2	0.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.4	39.3	39.3	43.3	66.3	67.4	48.5	75.8	75.3	22.3	0.9	1.1
LnGrp LOS	D	D	D	D	E	E	D	E	E	C	A	A
Approach Vol, veh/h		496			709			762			517	
Approach Delay, s/veh		43.0			65.4			74.0			5.6	
Approach LOS		D			E			E			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.8	40.0	9.7	51.5	9.8	79.0	22.2	39.0
Change Period (Y+Rc), s	5.4	5.2	5.5	5.6	5.5	* 5.4	5.5	5.6
Max Green Setting (Gmax), s	13.6	34.8	24.5	49.4	19.5	* 35	29.5	44.4
Max Q Clear Time (g_c+I1), s	12.0	30.8	4.9	10.6	5.0	2.3	16.2	29.8
Green Ext Time (p_c), s	0.2	1.6	0.1	1.7	0.1	2.5	0.5	3.7

Intersection Summary	
HCM 7th Control Delay, s/veh	51.1
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Future Forecast Projections

Location -->	Rock Blvd	Rock Blvd	Rock Blvd	15th St	C St	C St	Rock Blvd	Rock Blvd	Glendale Ave	Glendale Ave	Rock Blvd	Greg St	Greg St
	South of McCarran	*North of 15th*	*South of 15th*	*East of Rock*	*West of Rock*	*East of Rock*	*North of Glendale*	*South of Glendale*	*West of Rock*	*East of Rock*	*South of Greg*	*West of Rock*	*East of Rock*
2024 NDOT AADT	9800	14,300	13,000	1,500	2,800	1,500	27,000	21,000	15,200	12,200	11,100	13,100	11,900
Demand Model Volumes													
2025 RTC	8499	13,577	12,964	974	2,854	488	12,612	10,643	2,492	1,085	1,977	7,770	3,004
2050 RTC	11247	13,428	11,565	1,266	1,709	1,177	12,527	14,562	9,412	2,625	5,728	7,644	2,725
Model Difference 2050-2025	2,748	-149	-1,399	292	-1,145	689	-85	3,919	6,920	1,540	3,751	-126	-279
Growth Rates													
25 Years % Change	32%	-1%	-11%	30%	-40%	141%	-1%	37%	278%	142%	190%	-2%	-9%
% per year	1.3%	0.0%	-0.4%	1.2%	-1.6%	5.6%	0.0%	1.5%	11.1%	5.7%	7.6%	-0.1%	-0.4%
25 years growth factor	**1.3**	**1.0**	**0.9**	**1.3**	**0.6**	**2.4**	**1.0**	**1.4**	**3.8**	**2.4**	**2.9**	**1.0**	**0.9**
Growth Difference													
25 Years Increase	2,748	-149	-1,399	292	-1,145	689	-85	3,919	6,920	1,540	3,751	-126	-279
% Change	28%	-1%	-11%	19%	-41%	46%	0%	19%	46%	13%	34%	-1%	-2%
% per year	1.1%	0.0%	-0.4%	0.8%	-1.6%	1.8%	0.0%	0.7%	1.8%	0.5%	1.4%	0.0%	-0.1%
25 years growth factor	**1.3**	**1.0**	**0.9**	**1.2**	**0.6**	**1.5**	**1.0**	**1.2**	**1.5**	**1.1**	**1.3**	**1.0**	**1.0**

GCW ENGINEERS \ SURVEYORS

HCM 7th TWSC
1: Rock Blvd & 15th St

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	180	200	30	290	540
Future Vol, veh/h	10	180	200	30	290	540
Conflicting Peds, #/hr	0	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	12	209	233	35	337	628

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1240	138	0	0	269	0
Stage 1	252	-	-	-	-	-
Stage 2	988	-	-	-	-	-
Critical Hdwy	6.86	6.96	-	-	4.16	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	-	-	2.23	-
Pot Cap-1 Maneuver	166	882	-	-	1284	-
Stage 1	764	-	-	-	-	-
Stage 2	319	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	122	879	-	-	1281	-
Mov Cap-2 Maneuver	122	-	-	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	235	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	11.8	0	3.08
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	122	879	1281	-
HCM Lane V/C Ratio	-	-	0.095	0.238	0.263	-
HCM Control Delay (s/veh)	-	-	37.6	10.4	8.8	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.9	1.1	-

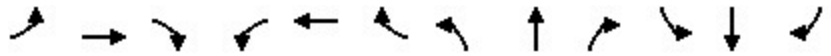
HCM 7th Signalized Intersection Summary
2: Rock Blvd & C St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	10	45	1	20	5	315	15	20	910	5
Future Volume (veh/h)	5	0	10	45	1	20	5	315	15	20	910	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	5	0	10	47	1	15	5	332	8	21	958	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	49	10	46	118	4	66	267	1794	799	613	1878	8
Arrive On Green	0.05	0.00	0.05	0.05	0.05	0.05	0.01	1.00	1.00	0.02	0.53	0.53
Sat Flow, veh/h	290	224	1028	1371	98	1465	1739	3469	1544	1739	3543	15
Grp Volume(v), veh/h	15	0	0	47	0	16	5	332	8	21	469	493
Grp Sat Flow(s),veh/h/ln	1543	0	0	1371	0	1562	1739	1735	1544	1739	1735	1823
Q Serve(g_s), s	0.0	0.0	0.0	3.0	0.0	1.3	0.2	0.0	0.0	0.8	23.5	23.5
Cycle Q Clear(g_c), s	1.2	0.0	0.0	4.2	0.0	1.3	0.2	0.0	0.0	0.8	23.5	23.5
Prop In Lane	0.33		0.67	1.00		0.94	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	105	0	0	118	0	70	267	1794	799	613	920	967
V/C Ratio(X)	0.14	0.00	0.00	0.40	0.00	0.23	0.02	0.19	0.01	0.03	0.51	0.51
Avail Cap(c_a), veh/h	478	0	0	464	0	464	386	1794	799	709	920	967
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.1	0.0	0.0	63.5	0.0	62.2	17.0	0.0	0.0	14.6	20.4	20.4
Incr Delay (d2), s/veh	0.6	0.0	0.0	2.1	0.0	1.6	0.0	0.2	0.0	0.0	2.0	1.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	0.0	0.0	3.0	0.0	1.0	0.1	0.1	0.0	0.6	15.2	15.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.7	0.0	0.0	65.6	0.0	63.8	17.1	0.2	0.0	14.7	22.4	22.3
LnGrp LOS	E			E		E	B	A	A	B	C	C
Approach Vol, veh/h		15			63			345			983	
Approach Delay, s/veh		62.7			65.1			0.5			22.2	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	75.0		11.0	5.8	76.8		11.0				
Change Period (Y+Rc), s	4.8	5.2		4.9	4.9	5.2		4.9				
Max Green Setting (Gmax), s	10.2	69.8		40.1	10.1	69.8		40.1				
Max Q Clear Time (g_c+I1), s	2.8	2.0		3.2	2.2	25.5		6.2				
Green Ext Time (p_c), s	0.0	2.5		0.0	0.0	7.7		0.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			19.2									
HCM 7th LOS			B									

HCM 7th Signalized Intersection Summary
3: Rock Blvd & Victorian Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	70	130	210	130	20	60	300	30	60	900	10
Future Volume (veh/h)	20	70	130	210	130	20	60	300	30	60	900	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	21	74	69	221	137	15	63	316	23	63	947	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	249	427	359	297	378	41	570	2008	145	442	1678	14
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.06	0.20	0.20	0.07	0.96	0.96
Sat Flow, veh/h	1191	1811	1523	1199	1600	175	1725	3253	236	1725	3496	30
Grp Volume(v), veh/h	21	74	69	221	0	152	63	166	173	63	466	489
Grp Sat Flow(s),veh/h/ln	1191	1811	1523	1199	0	1775	1725	1721	1768	1725	1721	1805
Q Serve(g_s), s	2.0	4.4	4.9	24.3	0.0	9.7	0.0	10.7	10.8	2.8	3.2	3.2
Cycle Q Clear(g_c), s	11.7	4.4	4.9	28.7	0.0	9.7	0.0	10.7	10.8	2.8	3.2	3.2
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.13	1.00		0.02
Lane Grp Cap(c), veh/h	249	427	359	297	0	419	570	1062	1091	442	826	866
V/C Ratio(X)	0.08	0.17	0.19	0.74	0.00	0.36	0.11	0.16	0.16	0.14	0.56	0.56
Avail Cap(c_a), veh/h	322	538	452	371	0	527	570	1062	1091	575	826	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.98	0.98	0.98	0.95	0.95	0.95
Uniform Delay (d), s/veh	48.0	41.1	41.3	52.5	0.0	43.1	16.7	24.9	24.9	20.6	1.5	1.5
Incr Delay (d2), s/veh	0.1	0.2	0.3	6.1	0.0	0.5	0.1	0.3	0.3	0.1	2.6	2.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	3.6	3.4	12.4	0.0	7.8	2.0	8.7	9.0	2.0	2.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.1	41.3	41.5	58.6	0.0	43.6	16.8	25.2	25.2	20.7	4.1	4.0
LnGrp LOS	D	D	D	E		D	B	C	C	C	A	A
Approach Vol, veh/h		164			373			402			1018	
Approach Delay, s/veh		42.3			52.5			23.9			5.1	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.6	88.6		36.8	28.2	70.0		36.8
Change Period (Y+Rc), s	5.1	* 5.3		4.9	5.3	5.2		4.9
Max Green Setting (Gmax), s	4.5	* 65		40.1	14.7	64.8		40.1
Max Q Clear Time (g_c+I1), s	4.8	12.8		13.7	2.0	5.2		30.7
Green Ext Time (p_c), s	0.1	2.2		0.7	0.1	7.8		1.2

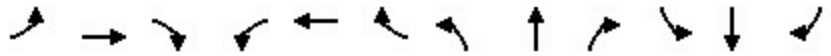
Intersection Summary	
HCM 7th Control Delay, s/veh	21.1
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
4: Rock Blvd & Hymer Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	5	10	10	0	30	15	490	20	100	1470	100
Future Volume (veh/h)	60	5	10	10	0	30	15	490	20	100	1470	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767
Adj Flow Rate, veh/h	63	5	6	11	0	19	16	516	17	105	1547	56
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	9	9	9	9	9	9	9	9	9
Cap, veh/h	85	7	8	14	0	24	236	2407	79	670	2458	89
Arrive On Green	0.06	0.06	0.06	0.03	0.00	0.03	0.02	0.73	0.73	0.04	0.74	0.74
Sat Flow, veh/h	1421	113	135	566	0	977	1682	3316	109	1682	3301	119
Grp Volume(v), veh/h	74	0	0	30	0	0	16	261	272	105	784	819
Grp Sat Flow(s),veh/h/ln	1670	0	0	1543	0	0	1682	1678	1747	1682	1678	1742
Q Serve(g_s), s	5.9	0.0	0.0	2.6	0.0	0.0	0.3	6.8	6.8	2.1	30.2	30.6
Cycle Q Clear(g_c), s	5.9	0.0	0.0	2.6	0.0	0.0	0.3	6.8	6.8	2.1	30.2	30.6
Prop In Lane	0.85		0.08	0.37		0.63	1.00		0.06	1.00		0.07
Lane Grp Cap(c), veh/h	99	0	0	39	0	0	236	1218	1268	670	1250	1297
V/C Ratio(X)	0.74	0.00	0.00	0.78	0.00	0.00	0.07	0.21	0.21	0.16	0.63	0.63
Avail Cap(c_a), veh/h	241	0	0	166	0	0	400	1218	1268	739	1250	1297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.95	0.95	0.95	0.84	0.84	0.84
Uniform Delay (d), s/veh	62.5	0.0	0.0	65.4	0.0	0.0	7.6	6.0	6.0	4.3	8.3	8.3
Incr Delay (d2), s/veh	10.5	0.0	0.0	27.6	0.0	0.0	0.1	0.4	0.4	0.1	2.0	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.0	0.0	0.0	2.4	0.0	0.0	0.2	4.4	4.5	1.2	15.4	16.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	72.9	0.0	0.0	93.0	0.0	0.0	7.7	6.4	6.4	4.4	10.3	10.3
LnGrp LOS	E			F			A	A	A	A	B	B
Approach Vol, veh/h		74			30			549			1708	
Approach Delay, s/veh		72.9			93.0			6.4			9.9	
Approach LOS		E			F			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	103.2		8.9	6.9	105.7		13.5				
Change Period (Y+Rc), s	4.5	5.2		5.5	4.6	5.2		5.5				
Max Green Setting (Gmax), s	10.5	69.8		14.5	15.4	64.8		19.5				
Max Q Clear Time (g_c+I1), s	4.1	8.8		4.6	2.3	32.6		7.9				
Green Ext Time (p_c), s	0.1	3.7		0.0	0.0	16.0		0.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	12.1
HCM 7th LOS	B

HCM 7th Signalized Intersection Summary
5: Rock Blvd & Glendale Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	360	280	120	300	90	100	350	90	220	980	200
Future Volume (veh/h)	100	360	280	120	300	90	100	350	90	220	980	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	106	383	226	128	319	22	106	372	56	234	1043	133
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	129	497	214	152	545	239	129	1171	518	297	1228	543
Arrive On Green	0.08	0.15	0.15	0.09	0.16	0.16	0.08	0.35	0.35	0.09	0.37	0.37
Sat Flow, veh/h	1668	3328	1436	1668	3328	1460	1668	3328	1472	3237	3328	1473
Grp Volume(v), veh/h	106	383	226	128	319	22	106	372	56	234	1043	133
Grp Sat Flow(s),veh/h/ln	1668	1664	1436	1668	1664	1460	1668	1664	1472	1618	1664	1473
Q Serve(g_s), s	8.5	14.9	12.8	10.2	12.0	1.7	8.5	11.0	3.5	9.6	38.9	4.3
Cycle Q Clear(g_c), s	8.5	14.9	12.8	10.2	12.0	1.7	8.5	11.0	3.5	9.6	38.9	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	129	497	214	152	545	239	129	1171	518	297	1228	543
V/C Ratio(X)	0.82	0.77	1.05	0.84	0.59	0.09	0.82	0.32	0.11	0.79	0.85	0.24
Avail Cap(c_a), veh/h	240	602	260	239	602	264	242	1171	518	1067	1228	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.67	0.67	0.67
Uniform Delay (d), s/veh	61.4	55.2	23.2	60.4	52.2	47.9	61.4	31.9	29.5	60.0	39.2	7.7
Incr Delay (d2), s/veh	12.3	5.0	70.0	14.6	1.2	0.2	11.7	0.7	0.4	3.2	5.2	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.3	10.8	13.6	8.6	8.8	1.2	7.2	8.0	2.3	6.8	22.1	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	73.7	60.2	93.1	75.0	53.4	48.1	73.1	32.6	29.9	63.2	44.3	8.4
LnGrp LOS	E	E	F	E	D	D	E	C	C	E	D	A
Approach Vol, veh/h		715			469			534			1410	
Approach Delay, s/veh		72.6			59.1			40.4			44.1	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	52.9	18.0	25.7	15.8	55.0	16.0	27.7
Change Period (Y+Rc), s	5.5	* 5.4	5.7	5.6	5.4	5.2	5.6	5.6
Max Green Setting (Gmax), s	44.5	* 25	19.3	24.4	19.6	49.8	19.4	24.4
Max Q Clear Time (g_c+I1), s	10.5	13.0	12.2	16.9	10.5	40.9	10.5	14.0
Green Ext Time (p_c), s	0.8	2.0	0.2	2.0	0.2	5.0	0.1	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	52.2
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
6: Rock Blvd & Greg St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	190	30	30	220	80	30	320	40	210	770	250
Future Volume (veh/h)	160	190	30	30	220	80	30	320	40	210	770	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767
Adj Flow Rate, veh/h	170	202	26	32	234	59	32	340	32	223	819	149
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	9	9	9	9	9	9	9	9	9	9	9	9
Cap, veh/h	253	570	72	220	303	75	238	1259	118	418	1392	621
Arrive On Green	0.10	0.19	0.19	0.03	0.11	0.11	0.03	0.41	0.41	0.07	0.83	0.83
Sat Flow, veh/h	1682	2995	381	1682	2666	658	1682	3102	290	1682	3357	1496
Grp Volume(v), veh/h	170	112	116	32	145	148	32	183	189	223	819	149
Grp Sat Flow(s),veh/h/ln	1682	1678	1697	1682	1678	1646	1682	1678	1714	1682	1678	1496
Q Serve(g_s), s	11.7	7.8	8.0	2.3	11.4	11.8	1.6	9.8	9.9	0.0	11.0	2.9
Cycle Q Clear(g_c), s	11.7	7.8	8.0	2.3	11.4	11.8	1.6	9.8	9.9	0.0	11.0	2.9
Prop In Lane	1.00		0.22	1.00		0.40	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	253	319	323	220	191	187	238	681	696	418	1392	621
V/C Ratio(X)	0.67	0.35	0.36	0.15	0.76	0.79	0.13	0.27	0.27	0.53	0.59	0.24
Avail Cap(c_a), veh/h	323	319	323	420	303	298	376	681	696	538	1392	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.62	0.62
Uniform Delay (d), s/veh	45.2	47.4	47.5	51.0	58.1	58.3	27.1	26.7	26.8	34.9	7.7	7.0
Incr Delay (d2), s/veh	3.6	0.7	0.7	0.3	6.2	7.2	0.3	1.0	1.0	0.7	1.1	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.9	6.0	6.3	1.8	8.9	9.1	1.2	7.5	7.7	9.1	4.8	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.9	48.1	48.2	51.3	64.3	65.5	27.4	27.7	27.7	35.5	8.8	7.5
LnGrp LOS	D	D	D	D	E	E	C	C	C	D	A	A
Approach Vol, veh/h		398			325			404			1191	
Approach Delay, s/veh		48.4			63.5			27.7			13.6	
Approach LOS		D			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	60.0	9.0	31.3	9.0	61.4	19.4	20.9
Change Period (Y+Rc), s	5.4	5.2	5.5	5.6	5.5	* 5.4	5.5	5.6
Max Green Setting (Gmax), s	14.6	54.8	19.5	24.4	14.5	* 55	19.5	24.4
Max Q Clear Time (g_c+I1), s	2.0	11.9	4.3	10.0	3.6	13.0	13.7	13.8
Green Ext Time (p_c), s	0.5	2.4	0.0	1.0	0.0	7.7	0.2	1.2

Intersection Summary	
HCM 7th Control Delay, s/veh	29.1
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
1: Rock Blvd & 15th St

Intersection	
Int Delay, s/veh	2.2

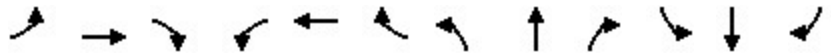
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	130	880	20	130	460
Future Vol, veh/h	10	130	880	20	130	460
Conflicting Peds, #/hr	0	0	0	7	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	133	898	20	133	469

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1415	466	0	0	925	0
Stage 1	915	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	128	543	-	-	734	-
Stage 1	351	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	104	539	-	-	729	-
Mov Cap-2 Maneuver	104	-	-	-	-	-
Stage 1	348	-	-	-	-	-
Stage 2	470	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	15.93	0	2.43
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	104	539	729	-
HCM Lane V/C Ratio	-	-	0.098	0.246	0.182	-
HCM Control Delay (s/veh)	-	-	43.2	13.8	11	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	0.3	1	0.7	-

HCM 7th Signalized Intersection Summary
3: Rock Blvd & Victorian Ave

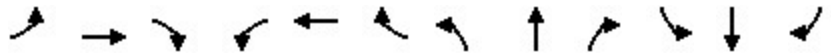


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	160	100	240	210	40	130	810	80	30	540	40
Future Volume (veh/h)	60	160	100	240	210	40	130	810	80	30	540	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	61	163	51	245	214	29	133	827	58	31	551	29
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	227	237	196	329	348	47	412	1548	109	270	1470	77
Arrive On Green	0.04	0.13	0.13	0.13	0.22	0.22	0.06	0.46	0.46	0.02	0.43	0.43
Sat Flow, veh/h	1767	1856	1535	1767	1594	216	1767	3335	234	1767	3402	179
Grp Volume(v), veh/h	61	163	51	245	0	243	133	437	448	31	285	295
Grp Sat Flow(s),veh/h/ln	1767	1856	1535	1767	0	1809	1767	1763	1806	1767	1763	1818
Q Serve(g_s), s	4.5	12.6	4.5	17.6	0.0	18.2	6.1	26.5	26.5	1.5	16.4	16.5
Cycle Q Clear(g_c), s	4.5	12.6	4.5	17.6	0.0	18.2	6.1	26.5	26.5	1.5	16.4	16.5
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.13	1.00		0.10
Lane Grp Cap(c), veh/h	227	237	196	329	0	395	412	818	838	270	762	785
V/C Ratio(X)	0.27	0.69	0.26	0.74	0.00	0.62	0.32	0.53	0.53	0.11	0.37	0.38
Avail Cap(c_a), veh/h	421	372	308	339	0	395	487	818	838	461	762	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.61	0.61	0.61	0.99	0.99	0.99
Uniform Delay (d), s/veh	53.9	62.6	59.1	47.1	0.0	52.9	21.8	28.6	28.6	24.2	28.9	28.9
Incr Delay (d2), s/veh	0.6	3.6	0.7	8.4	0.0	2.8	0.3	1.5	1.5	0.2	1.4	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	10.3	3.2	13.4	0.0	13.5	4.7	16.0	16.3	1.1	11.8	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.5	66.1	59.8	55.4	0.0	55.8	22.1	30.2	30.1	24.4	30.3	30.2
LnGrp LOS	D	E	E	E		E	C	C	C	C	C	C
Approach Vol, veh/h		275			488			1018			611	
Approach Delay, s/veh		62.4			55.6			29.1			30.0	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	74.8	24.2	24.0	13.6	70.0	10.5	37.6
Change Period (Y+Rc), s	5.1	5.2	4.5	4.9	5.3	5.2	4.5	4.9
Max Green Setting (Gmax), s	3.6	59.8	20.5	30.1	14.7	64.8	22.5	28.1
Max Q Clear Time (g_c+I1), s	3.5	28.5	19.6	14.6	8.1	18.5	6.5	20.2
Green Ext Time (p_c), s	0.0	6.6	0.1	0.9	0.2	4.0	0.1	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	38.5
HCM 7th LOS	D

HCM 7th Signalized Intersection Summary
4: Rock Blvd & Hymer Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	5	15	30	5	220	5	1360	20	70	600	40
Future Volume (veh/h)	200	5	15	30	5	220	5	1360	20	70	600	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	204	5	12	31	5	162	5	1388	16	71	612	31
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	230	6	14	24	4	124	415	1634	19	149	1651	84
Arrive On Green	0.14	0.14	0.14	0.10	0.10	0.10	0.01	0.47	0.47	0.07	0.98	0.98
Sat Flow, veh/h	1595	39	94	245	40	1280	1739	3511	40	1739	3359	170
Grp Volume(v), veh/h	221	0	0	198	0	0	5	685	719	71	316	327
Grp Sat Flow(s),veh/h/ln	1728	0	0	1564	0	0	1739	1735	1817	1739	1735	1794
Q Serve(g_s), s	18.8	0.0	0.0	14.5	0.0	0.0	0.2	52.4	52.5	3.2	0.7	0.7
Cycle Q Clear(g_c), s	18.8	0.0	0.0	14.5	0.0	0.0	0.2	52.4	52.5	3.2	0.7	0.7
Prop In Lane	0.92		0.05	0.16		0.82	1.00		0.02	1.00		0.09
Lane Grp Cap(c), veh/h	249	0	0	151	0	0	415	807	846	149	853	882
V/C Ratio(X)	0.89	0.00	0.00	1.31	0.00	0.00	0.01	0.85	0.85	0.48	0.37	0.37
Avail Cap(c_a), veh/h	340	0	0	151	0	0	583	807	846	271	853	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.68	0.68	0.68	0.90	0.90	0.90
Uniform Delay (d), s/veh	63.0	0.0	0.0	67.8	0.0	0.0	21.0	35.4	35.5	29.7	0.6	0.6
Incr Delay (d2), s/veh	18.9	0.0	0.0	178.5	0.0	0.0	0.0	7.7	7.4	2.1	1.1	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.7	0.0	0.0	21.2	0.0	0.0	0.2	30.2	31.5	2.4	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	81.9	0.0	0.0	246.3	0.0	0.0	21.0	43.1	42.9	31.8	1.8	1.7
LnGrp LOS	F			F			C	D	D	C	A	A
Approach Vol, veh/h		221			198			1409			714	
Approach Delay, s/veh		81.9			246.3			42.9			4.7	
Approach LOS		F			F			D			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	75.0		20.0	5.5	78.9		27.1
Change Period (Y+Rc), s	4.5	5.2		5.5	4.6	5.2		5.5
Max Green Setting (Gmax), s	5.5	69.8		14.5	15.4	69.8		29.5
Max Q Clear Time (g_c+I1), s	5.2	54.5		16.5	2.2	2.7		20.8
Green Ext Time (p_c), s	0.1	8.7		0.0	0.0	4.6		0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	51.4
HCM 7th LOS	D

HCM 7th Signalized Intersection Summary
5: Rock Blvd & Glendale Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	350	240	90	600	270	140	940	60	80	390	150
Future Volume (veh/h)	180	350	240	90	600	270	140	940	60	80	390	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	194	376	193	97	645	78	151	1011	37	86	419	101
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	217	917	403	117	720	311	168	1453	635	129	1257	549
Arrive On Green	0.13	0.27	0.27	0.07	0.21	0.21	0.03	0.14	0.14	0.04	0.37	0.37
Sat Flow, veh/h	1725	3441	1514	1725	3441	1486	1725	3441	1503	3346	3441	1502
Grp Volume(v), veh/h	194	376	193	97	645	78	151	1011	37	86	419	101
Grp Sat Flow(s),veh/h/ln	1725	1721	1514	1725	1721	1486	1725	1721	1503	1673	1721	1502
Q Serve(g_s), s	16.6	13.5	11.1	8.3	27.4	5.2	13.1	42.0	3.2	3.8	13.2	6.9
Cycle Q Clear(g_c), s	16.6	13.5	11.1	8.3	27.4	5.2	13.1	42.0	3.2	3.8	13.2	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	217	917	403	117	720	311	168	1453	635	129	1257	549
V/C Ratio(X)	0.89	0.41	0.48	0.83	0.90	0.25	0.90	0.70	0.06	0.67	0.33	0.18
Avail Cap(c_a), veh/h	281	1019	448	164	789	341	168	1453	635	323	1257	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.62	0.62	0.96	0.96	0.96
Uniform Delay (d), s/veh	64.6	45.3	22.0	69.0	57.7	30.6	71.9	55.4	38.7	71.2	34.4	32.4
Incr Delay (d2), s/veh	24.0	0.3	0.9	20.6	12.1	0.4	30.1	1.7	0.1	5.6	0.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	9.9	7.4	7.8	19.1	4.5	11.1	25.7	2.2	3.1	9.6	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	88.6	45.6	22.9	89.6	69.8	31.0	101.9	57.1	38.8	76.8	35.1	33.1
LnGrp LOS	F	D	C	F	E	C	F	E	D	E	D	C
Approach Vol, veh/h		763			820			1199			606	
Approach Delay, s/veh		50.8			68.5			62.2			40.7	
Approach LOS		D			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	68.7	15.9	45.6	20.0	60.0	24.5	37.0
Change Period (Y+Rc), s	5.5	* 5.4	5.7	5.6	5.4	5.2	5.6	5.6
Max Green Setting (Gmax), s	14.5	* 55	14.3	44.4	14.6	54.8	24.4	34.4
Max Q Clear Time (g_c+I1), s	15.6	44.0	10.3	15.5	15.1	15.2	18.6	29.4
Green Ext Time (p_c), s	0.1	5.3	0.1	3.3	0.0	3.5	0.3	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	57.3
HCM 7th LOS	E

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
6: Rock Blvd & Greg St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	220	20	50	450	200	50	700	40	110	370	190
Future Volume (veh/h)	210	220	20	50	450	200	50	700	40	110	370	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	231	242	17	55	495	155	55	769	32	121	407	111
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	280	1004	70	352	579	180	246	800	33	559	1705	758
Arrive On Green	0.11	0.30	0.30	0.03	0.22	0.22	0.04	0.23	0.23	0.58	0.97	0.97
Sat Flow, veh/h	1767	3343	233	1767	2637	821	1767	3448	143	1767	3526	1567
Grp Volume(v), veh/h	231	127	132	55	330	320	55	393	408	121	407	111
Grp Sat Flow(s),veh/h/ln	1767	1763	1814	1767	1763	1695	1767	1763	1828	1767	1763	1567
Q Serve(g_s), s	14.7	8.1	8.2	3.6	26.9	27.3	3.8	33.1	33.1	0.3	0.7	0.4
Cycle Q Clear(g_c), s	14.7	8.1	8.2	3.6	26.9	27.3	3.8	33.1	33.1	0.3	0.7	0.4
Prop In Lane	1.00		0.13	1.00		0.48	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	280	529	545	352	387	372	246	409	424	559	1705	758
V/C Ratio(X)	0.82	0.24	0.24	0.16	0.85	0.86	0.22	0.96	0.96	0.22	0.24	0.15
Avail Cap(c_a), veh/h	425	581	597	581	522	502	413	409	424	559	1705	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	40.4	39.6	39.6	43.1	56.2	56.3	48.5	56.9	56.9	22.5	1.3	1.3
Incr Delay (d2), s/veh	7.8	0.2	0.2	0.2	9.9	11.0	0.5	35.8	35.1	0.2	0.3	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.4	6.5	6.8	2.9	19.0	18.7	3.1	25.9	26.6	3.5	0.6	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.2	39.8	39.8	43.3	66.1	67.4	49.0	92.7	92.0	22.7	1.6	1.6
LnGrp LOS	D	D	D	D	E	E	D	F	F	C	A	A
Approach Vol, veh/h		490			705			856			639	
Approach Delay, s/veh		43.8			64.9			89.6			5.6	
Approach LOS		D			E			F			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.7	40.0	10.6	50.6	10.8	78.0	22.7	38.5
Change Period (Y+Rc), s	5.4	5.2	5.5	5.6	5.5	* 5.4	5.5	5.6
Max Green Setting (Gmax), s	13.6	34.8	24.5	49.4	19.5	* 35	29.5	44.4
Max Q Clear Time (g_c+I1), s	12.3	35.1	5.6	10.2	5.8	2.7	16.7	29.3
Green Ext Time (p_c), s	0.3	0.0	0.1	1.6	0.1	3.3	0.5	3.6

Intersection Summary	
HCM 7th Control Delay, s/veh	54.8
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX G DATA

Alternatives Analysis

Attachment G-A - Improvement Options LOS Calculations
Attachment G-B - Road Diet LOS Calculations
Attachment G-C - Remove Southbound Lane LOS Calculations

ROCK BOULEVARD
CORRIDOR STUDY

HCM 7th Signalized Intersection Summary
5: Rock Blvd & Glendale Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	263	135	102	208	140	44	359	76	199	846	150
Future Volume (veh/h)	88	263	135	102	208	140	44	359	76	199	846	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	94	280	72	109	221	75	47	382	41	212	900	80
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	116	417	179	132	451	197	60	1058	468	274	1140	101
Arrive On Green	0.07	0.13	0.13	0.08	0.14	0.14	0.04	0.32	0.32	0.08	0.37	0.37
Sat Flow, veh/h	1668	3328	1430	1668	3328	1455	1668	3328	1471	3237	3089	275
Grp Volume(v), veh/h	94	280	72	109	221	75	47	382	41	212	485	495
Grp Sat Flow(s),veh/h/ln	1668	1664	1430	1668	1664	1455	1668	1664	1471	1618	1664	1700
Q Serve(g_s), s	7.5	10.8	3.8	8.7	8.3	6.3	3.8	11.9	2.6	8.7	35.0	35.0
Cycle Q Clear(g_c), s	7.5	10.8	3.8	8.7	8.3	6.3	3.8	11.9	2.6	8.7	35.0	35.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	116	417	179	132	451	197	60	1058	468	274	614	627
V/C Ratio(X)	0.81	0.67	0.40	0.83	0.49	0.38	0.79	0.36	0.09	0.77	0.79	0.79
Avail Cap(c_a), veh/h	240	602	259	239	602	263	242	1058	468	1067	614	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96	0.80	0.80	0.80
Uniform Delay (d), s/veh	62.0	56.4	19.9	61.3	54.0	53.2	64.6	35.5	32.3	60.5	37.9	37.9
Incr Delay (d2), s/veh	12.7	1.9	1.5	12.2	0.8	1.2	19.2	0.9	0.4	3.8	8.1	8.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.5	8.2	4.1	7.4	6.4	4.3	3.5	8.6	1.8	6.5	21.4	21.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	74.7	58.3	21.3	73.5	54.8	54.4	83.8	36.4	32.7	64.3	46.1	45.9
LnGrp LOS	E	E	C	E	D	D	F	D	C	E	D	D
Approach Vol, veh/h		446			405			470			1192	
Approach Delay, s/veh		55.8			59.8			40.8			49.2	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	48.3	16.4	22.5	10.2	55.0	15.0	23.9
Change Period (Y+Rc), s	5.5	* 5.4	5.7	5.6	5.4	5.2	5.6	5.6
Max Green Setting (Gmax), s	44.5	* 25	19.3	24.4	19.6	49.8	19.4	24.4
Max Q Clear Time (g_c+I1), s	10.7	13.9	10.7	12.8	5.8	37.0	9.5	10.3
Green Ext Time (p_c), s	0.8	1.9	0.2	1.5	0.1	5.3	0.1	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	50.5
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
5: Rock Blvd & Glendale Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	262	115	77	407	392	58	941	52	120	394	111
Future Volume (veh/h)	189	262	115	77	407	392	58	941	52	120	394	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	203	282	59	83	438	210	62	1012	28	129	424	59
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	226	782	343	103	540	231	94	1257	548	175	1106	153
Arrive On Green	0.13	0.23	0.23	0.06	0.16	0.16	0.02	0.12	0.12	0.10	0.73	0.73
Sat Flow, veh/h	1725	3441	1511	1725	3441	1476	1725	3441	1501	3346	3027	418
Grp Volume(v), veh/h	203	282	59	83	438	210	62	1012	28	129	240	243
Grp Sat Flow(s),veh/h/ln	1725	1721	1511	1725	1721	1476	1725	1721	1501	1673	1721	1725
Q Serve(g_s), s	17.4	10.3	3.0	7.1	18.4	14.2	5.4	43.0	2.5	5.6	7.8	7.9
Cycle Q Clear(g_c), s	17.4	10.3	3.0	7.1	18.4	14.2	5.4	43.0	2.5	5.6	7.8	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	226	782	343	103	540	231	94	1257	548	175	629	630
V/C Ratio(X)	0.90	0.36	0.17	0.81	0.81	0.91	0.66	0.81	0.05	0.74	0.38	0.39
Avail Cap(c_a), veh/h	281	789	346	222	674	289	225	1257	548	435	629	630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.70	0.70	0.97	0.97	0.97
Uniform Delay (d), s/veh	64.2	48.8	19.3	69.7	61.1	28.4	72.3	60.8	43.0	66.1	13.9	13.9
Incr Delay (d2), s/veh	25.7	0.3	0.2	13.6	6.0	26.6	5.5	4.0	0.1	5.7	1.7	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.3	8.0	3.2	6.4	13.3	11.1	4.7	27.0	1.7	4.4	5.1	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	89.9	49.1	19.6	83.3	67.1	54.9	77.8	64.7	43.1	71.9	15.6	15.6
LnGrp LOS	F	D	B	F	E	D	E	E	D	E	B	B
Approach Vol, veh/h		544			731			1102			612	
Approach Delay, s/veh		61.1			65.5			64.9			27.5	
Approach LOS		E			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	60.2	14.7	39.7	13.5	60.0	25.2	29.1
Change Period (Y+Rc), s	5.5	* 5.4	5.7	5.6	5.4	5.2	5.6	5.6
Max Green Setting (Gmax), s	19.5	* 55	19.3	34.4	19.6	54.8	24.4	29.4
Max Q Clear Time (g_c+I1), s	7.6	45.0	9.1	12.3	7.4	9.9	19.4	20.4
Green Ext Time (p_c), s	0.3	5.0	0.1	2.0	0.1	3.3	0.2	2.5

Intersection Summary	
HCM 7th Control Delay, s/veh	56.7
HCM 7th LOS	E

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
5: Rock Blvd & Glendale Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	360	280	120	300	90	100	350	90	220	980	200
Future Volume (veh/h)	100	360	280	120	300	90	100	350	90	220	980	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	106	383	226	128	319	22	106	372	56	234	1043	133
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	129	497	214	152	545	239	129	1171	518	297	1094	139
Arrive On Green	0.08	0.15	0.15	0.09	0.16	0.16	0.08	0.35	0.35	0.09	0.37	0.37
Sat Flow, veh/h	1668	3328	1436	1668	3328	1460	1668	3328	1472	3237	2966	378
Grp Volume(v), veh/h	106	383	226	128	319	22	106	372	56	234	585	591
Grp Sat Flow(s),veh/h/ln	1668	1664	1436	1668	1664	1460	1668	1664	1472	1618	1664	1680
Q Serve(g_s), s	8.5	14.9	12.8	10.2	12.0	1.7	8.5	11.0	3.5	9.6	46.1	46.3
Cycle Q Clear(g_c), s	8.5	14.9	12.8	10.2	12.0	1.7	8.5	11.0	3.5	9.6	46.1	46.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	129	497	214	152	545	239	129	1171	518	297	614	620
V/C Ratio(X)	0.82	0.77	1.05	0.84	0.59	0.09	0.82	0.32	0.11	0.79	0.95	0.95
Avail Cap(c_a), veh/h	240	602	260	239	602	264	242	1171	518	1067	614	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.74	0.74	0.74
Uniform Delay (d), s/veh	61.4	55.2	23.2	60.4	52.2	47.9	61.4	31.9	29.5	60.0	41.4	41.5
Incr Delay (d2), s/veh	12.3	5.0	70.0	14.6	1.2	0.2	11.7	0.7	0.4	3.5	21.6	21.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.3	10.8	13.6	8.6	8.8	1.2	7.2	8.0	2.3	6.9	29.1	29.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	73.7	60.2	93.1	75.0	53.4	48.1	73.1	32.6	29.9	63.5	63.1	63.2
LnGrp LOS	E	E	F	E	D	D	E	C	C	E	E	E
Approach Vol, veh/h		715			469			534			1410	
Approach Delay, s/veh		72.6			59.1			40.4			63.2	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	52.9	18.0	25.7	15.8	55.0	16.0	27.7
Change Period (Y+Rc), s	5.5	* 5.4	5.7	5.6	5.4	5.2	5.6	5.6
Max Green Setting (Gmax), s	44.5	* 25	19.3	24.4	19.6	49.8	19.4	24.4
Max Q Clear Time (g_c+I1), s	11.6	13.0	12.2	16.9	10.5	48.3	10.5	14.0
Green Ext Time (p_c), s	0.8	2.0	0.2	2.0	0.2	1.1	0.1	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	60.8
HCM 7th LOS	E

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
5: Rock Blvd & Glendale Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	350	240	90	600	270	140	940	60	80	390	150
Future Volume (veh/h)	180	350	240	90	600	270	140	940	60	80	390	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	194	376	193	97	645	78	151	1011	37	86	419	101
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	217	917	403	117	720	311	168	1453	635	129	1002	239
Arrive On Green	0.13	0.27	0.27	0.07	0.21	0.21	0.03	0.14	0.14	0.04	0.37	0.37
Sat Flow, veh/h	1725	3441	1514	1725	3441	1486	1725	3441	1503	3346	2742	654
Grp Volume(v), veh/h	194	376	193	97	645	78	151	1011	37	86	261	259
Grp Sat Flow(s),veh/h/ln	1725	1721	1514	1725	1721	1486	1725	1721	1503	1673	1721	1676
Q Serve(g_s), s	16.6	13.5	11.1	8.3	27.4	5.2	13.1	42.0	3.2	3.8	17.0	17.4
Cycle Q Clear(g_c), s	16.6	13.5	11.1	8.3	27.4	5.2	13.1	42.0	3.2	3.8	17.0	17.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	217	917	403	117	720	311	168	1453	635	129	629	612
V/C Ratio(X)	0.89	0.41	0.48	0.83	0.90	0.25	0.90	0.70	0.06	0.67	0.42	0.42
Avail Cap(c_a), veh/h	281	1019	448	164	789	341	168	1453	635	323	629	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.62	0.62	0.97	0.97	0.97
Uniform Delay (d), s/veh	64.6	45.3	22.0	69.0	57.7	30.6	71.9	55.4	38.7	71.2	35.6	35.7
Incr Delay (d2), s/veh	24.0	0.3	0.9	20.6	12.1	0.4	30.1	1.7	0.1	5.7	2.0	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.6	9.9	7.4	7.8	19.1	4.5	11.1	25.7	2.2	3.1	12.0	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	88.6	45.6	22.9	89.6	69.8	31.0	101.9	57.1	38.8	76.9	37.6	37.8
LnGrp LOS	F	D	C	F	E	C	F	E	D	E	D	D
Approach Vol, veh/h		763			820			1199			606	
Approach Delay, s/veh		50.8			68.5			62.2			43.2	
Approach LOS		D			E			E			D	

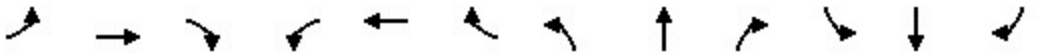
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	68.7	15.9	45.6	20.0	60.0	24.5	37.0
Change Period (Y+Rc), s	5.5	* 5.4	5.7	5.6	5.4	5.2	5.6	5.6
Max Green Setting (Gmax), s	14.5	* 55	14.3	44.4	14.6	54.8	24.4	34.4
Max Q Clear Time (g_c+I1), s	5.8	44.0	10.3	15.5	15.1	19.4	18.6	29.4
Green Ext Time (p_c), s	0.1	5.3	0.1	3.3	0.0	3.5	0.3	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	57.8
HCM 7th LOS	E

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
4: Rock Blvd & Hymer Ave

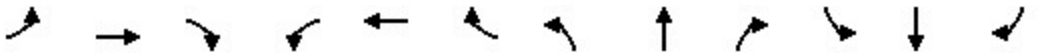


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	6	17	6	3	39	10	552	14	66	1239	156
Future Volume (veh/h)	51	6	17	6	3	39	10	552	14	66	1239	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767
Adj Flow Rate, veh/h	54	6	13	6	3	28	11	581	11	69	1304	115
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	9	9	9	9	9	9	9	9	9
Cap, veh/h	129	21	46	110	5	43	282	2497	47	642	2371	208
Arrive On Green	0.05	0.04	0.04	0.03	0.03	0.03	0.01	0.74	0.74	0.03	0.76	0.76
Sat Flow, veh/h	1682	492	1065	1682	145	1351	1682	3369	64	1682	3114	274
Grp Volume(v), veh/h	54	0	19	6	0	31	11	289	303	69	701	718
Grp Sat Flow(s),veh/h/ln	1682	0	1557	1682	0	1496	1682	1678	1755	1682	1678	1710
Q Serve(g_s), s	0.0	0.0	1.7	0.5	0.0	2.9	0.2	7.5	7.6	1.3	23.9	24.2
Cycle Q Clear(g_c), s	0.0	0.0	1.7	0.5	0.0	2.9	0.2	7.5	7.6	1.3	23.9	24.2
Prop In Lane	1.00		0.68	1.00		0.90	1.00		0.04	1.00		0.16
Lane Grp Cap(c), veh/h	129	0	67	110	0	47	282	1244	1301	642	1278	1302
V/C Ratio(X)	0.42	0.00	0.28	0.05	0.00	0.65	0.04	0.23	0.23	0.11	0.55	0.55
Avail Cap(c_a), veh/h	286	0	272	226	0	208	447	1244	1301	713	1278	1302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.95	0.95	0.95	0.93	0.93	0.93
Uniform Delay (d), s/veh	63.7	0.0	64.9	65.4	0.0	67.0	6.0	5.7	5.7	3.9	6.8	6.9
Incr Delay (d2), s/veh	2.2	0.0	2.3	0.2	0.0	14.2	0.1	0.4	0.4	0.1	1.6	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	0.0	1.3	0.4	0.0	2.3	0.1	4.8	5.0	0.8	12.8	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	65.9	0.0	67.2	65.6	0.0	81.3	6.0	6.1	6.1	4.0	8.4	8.5
LnGrp LOS	E		E	E		F	A	A	A	A	A	A
Approach Vol, veh/h		73			37			603			1488	
Approach Delay, s/veh		66.2			78.7			6.1			8.2	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	109.0	11.9	9.9	6.3	111.8	10.4	11.5
Change Period (Y+Rc), s	4.5	5.2	5.5	5.5	4.6	5.2	5.5	5.5
Max Green Setting (Gmax), s	10.5	69.8	19.5	19.5	15.4	64.8	14.5	24.5
Max Q Clear Time (g_c+I1), s	3.3	9.6	2.0	4.9	2.2	26.2	2.5	3.7
Green Ext Time (p_c), s	0.1	4.2	0.1	0.1	0.0	14.2	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	10.7
HCM 7th LOS	B

HCM 7th Signalized Intersection Summary
4: Rock Blvd & Hymer Ave



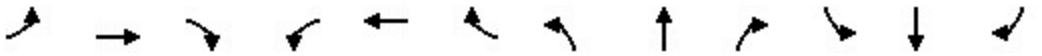
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	236	7	10	21	1	175	3	1497	14	64	567	45
Future Volume (veh/h)	236	7	10	21	1	175	3	1497	14	64	567	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	241	7	7	21	1	125	3	1528	10	65	579	32
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	304	166	166	234	1	144	422	1644	11	121	1643	91
Arrive On Green	0.14	0.20	0.20	0.03	0.09	0.09	0.00	0.47	0.47	0.06	0.98	0.98
Sat Flow, veh/h	1739	835	835	1739	12	1518	1739	3532	23	1739	3341	184
Grp Volume(v), veh/h	241	0	14	21	0	126	3	750	788	65	300	311
Grp Sat Flow(s),veh/h/ln	1739	0	1670	1739	0	1530	1739	1735	1821	1739	1735	1791
Q Serve(g_s), s	18.2	0.0	1.0	1.6	0.0	12.2	0.1	61.1	61.2	2.9	0.6	0.6
Cycle Q Clear(g_c), s	18.2	0.0	1.0	1.6	0.0	12.2	0.1	61.1	61.2	2.9	0.6	0.6
Prop In Lane	1.00		0.50	1.00		0.99	1.00		0.01	1.00		0.10
Lane Grp Cap(c), veh/h	304	0	332	234	0	145	422	807	847	121	853	881
V/C Ratio(X)	0.79	0.00	0.04	0.09	0.00	0.87	0.01	0.93	0.93	0.54	0.35	0.35
Avail Cap(c_a), veh/h	406	0	332	344	0	148	594	807	847	247	853	881
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.63	0.63	0.63	0.97	0.97	0.97
Uniform Delay (d), s/veh	50.3	0.0	48.5	57.7	0.0	67.0	21.2	37.8	37.8	33.5	0.6	0.6
Incr Delay (d2), s/veh	7.6	0.0	0.1	0.2	0.0	38.6	0.0	13.1	12.7	3.6	1.1	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.4	0.0	0.8	1.3	0.0	10.5	0.1	35.5	37.0	2.3	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.9	0.0	48.6	57.9	0.0	105.6	21.2	50.8	50.5	37.1	1.7	1.7
LnGrp LOS	E		D	E		F	C	D	D	D	A	A
Approach Vol, veh/h		255			147			1541			676	
Approach Delay, s/veh		57.4			98.8			50.6			5.1	
Approach LOS		E			F			D			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	75.0	26.2	19.7	5.2	79.0	10.5	35.4
Change Period (Y+Rc), s	4.5	5.2	5.5	5.5	4.6	5.2	5.5	5.5
Max Green Setting (Gmax), s	15.5	69.8	29.5	14.5	15.4	69.8	14.5	29.5
Max Q Clear Time (g_c+I1), s	4.9	63.2	20.2	14.2	2.1	2.6	3.6	3.0
Green Ext Time (p_c), s	0.1	4.9	0.5	0.0	0.0	4.3	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	42.2
HCM 7th LOS	D

HCM 7th Signalized Intersection Summary
4: Rock Blvd & Hymer Ave

04/06/2026

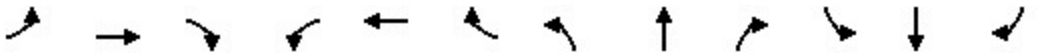


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	5	10	10	0	30	15	490	20	100	1470	100
Future Volume (veh/h)	60	5	10	10	0	30	15	490	20	100	1470	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767
Adj Flow Rate, veh/h	63	5	6	11	0	19	16	516	17	105	1547	56
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	9	9	9	9	9	9	9	9	9
Cap, veh/h	139	32	38	114	0	43	239	2422	80	674	2474	89
Arrive On Green	0.05	0.04	0.04	0.04	0.00	0.03	0.02	0.73	0.73	0.04	0.75	0.75
Sat Flow, veh/h	1682	725	870	1682	0	1473	1682	3316	109	1682	3301	119
Grp Volume(v), veh/h	63	0	11	11	0	19	16	261	272	105	784	819
Grp Sat Flow(s),veh/h/ln	1682	0	1596	1682	0	1473	1682	1678	1747	1682	1678	1742
Q Serve(g_s), s	0.5	0.0	0.9	0.9	0.0	1.7	0.3	6.7	6.7	2.1	29.7	30.0
Cycle Q Clear(g_c), s	0.5	0.0	0.9	0.9	0.0	1.7	0.3	6.7	6.7	2.1	29.7	30.0
Prop In Lane	1.00		0.55	1.00		1.00	1.00		0.06	1.00		0.07
Lane Grp Cap(c), veh/h	139	0	70	114	0	43	239	1226	1276	674	1258	1305
V/C Ratio(X)	0.45	0.00	0.16	0.10	0.00	0.44	0.07	0.21	0.21	0.16	0.62	0.63
Avail Cap(c_a), veh/h	234	0	230	234	0	213	403	1226	1276	744	1258	1305
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.95	0.95	0.95	0.84	0.84	0.84
Uniform Delay (d), s/veh	60.9	0.0	62.1	63.1	0.0	64.5	7.3	5.8	5.8	4.1	8.0	8.0
Incr Delay (d2), s/veh	2.3	0.0	1.0	0.4	0.0	7.0	0.1	0.4	0.4	0.1	2.0	1.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	0.0	0.7	0.7	0.0	1.3	0.2	4.2	4.4	1.2	15.1	15.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.2	0.0	63.2	63.4	0.0	71.5	7.4	6.2	6.2	4.2	9.9	9.9
LnGrp LOS	E		E	E		E	A	A	A	A	A	A
Approach Vol, veh/h		74			30			549			1708	
Approach Delay, s/veh		63.2			68.5			6.2			9.6	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	103.8	12.3	9.4	6.9	106.4	10.3	11.4
Change Period (Y+Rc), s	4.5	5.2	5.5	5.5	4.6	5.2	5.5	5.5
Max Green Setting (Gmax), s	10.5	69.8	14.5	19.5	15.4	64.8	14.5	19.5
Max Q Clear Time (g_c+I1), s	4.1	8.7	2.5	3.7	2.3	32.0	2.9	2.9
Green Ext Time (p_c), s	0.1	3.7	0.1	0.0	0.0	16.1	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	11.2
HCM 7th LOS	B

HCM 7th Signalized Intersection Summary
4: Rock Blvd & Hymer Ave

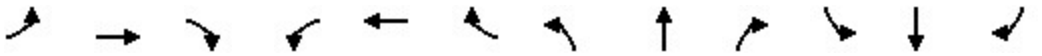


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	5	15	30	5	220	5	1360	20	70	600	40
Future Volume (veh/h)	200	5	15	30	5	220	5	1360	20	70	600	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	204	5	12	31	5	162	5	1388	16	71	612	31
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	254	86	207	236	4	144	415	1634	19	149	1651	84
Arrive On Green	0.12	0.18	0.18	0.03	0.10	0.10	0.01	0.47	0.47	0.07	0.98	0.98
Sat Flow, veh/h	1739	474	1138	1739	46	1490	1739	3511	40	1739	3359	170
Grp Volume(v), veh/h	204	0	17	31	0	167	5	685	719	71	316	327
Grp Sat Flow(s),veh/h/ln	1739	0	1612	1739	0	1536	1739	1735	1817	1739	1735	1794
Q Serve(g_s), s	15.4	0.0	1.3	2.4	0.0	14.5	0.2	52.4	52.5	3.2	0.7	0.7
Cycle Q Clear(g_c), s	15.4	0.0	1.3	2.4	0.0	14.5	0.2	52.4	52.5	3.2	0.7	0.7
Prop In Lane	1.00		0.71	1.00		0.97	1.00		0.02	1.00		0.09
Lane Grp Cap(c), veh/h	254	0	294	236	0	148	415	807	846	149	853	882
V/C Ratio(X)	0.80	0.00	0.06	0.13	0.00	1.12	0.01	0.85	0.85	0.48	0.37	0.37
Avail Cap(c_a), veh/h	390	0	317	346	0	148	583	807	846	271	853	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.68	0.68	0.68	0.90	0.90	0.90
Uniform Delay (d), s/veh	51.4	0.0	50.7	57.8	0.0	67.8	21.0	35.4	35.5	29.7	0.6	0.6
Incr Delay (d2), s/veh	6.7	0.0	0.1	0.2	0.0	111.4	0.0	7.7	7.4	2.1	1.1	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.6	0.0	1.0	1.9	0.0	16.3	0.2	30.2	31.5	2.4	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.2	0.0	50.8	58.0	0.0	179.1	21.0	43.1	42.9	31.8	1.8	1.7
LnGrp LOS	E		D	E		F	C	D	D	C	A	A
Approach Vol, veh/h		221			198			1409			714	
Approach Delay, s/veh		57.6			160.2			42.9			4.7	
Approach LOS		E			F			D			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	75.0	23.3	20.0	5.5	78.9	10.5	32.8
Change Period (Y+Rc), s	4.5	5.2	5.5	5.5	4.6	5.2	5.5	5.5
Max Green Setting (Gmax), s	15.5	69.8	29.5	14.5	15.4	69.8	14.5	29.5
Max Q Clear Time (g_c+I1), s	5.2	54.5	17.4	16.5	2.2	2.7	4.4	3.3
Green Ext Time (p_c), s	0.1	8.7	0.4	0.0	0.0	4.6	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	42.6
HCM 7th LOS	D

HCM 7th Signalized Intersection Summary
20: Rock Blvd & WB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	299	0	52	214	404	0	0	774	223
Future Volume (veh/h)	0	0	0	299	0	52	214	404	0	0	774	223
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1811	1811	1811	1811	1811	0	0	1811	1811
Adj Flow Rate, veh/h				315	0	28	225	425	0	0	815	164
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				6	6	6	6	6	0	0	6	6
Cap, veh/h				348	0	310	419	2453	0	0	1735	349
Arrive On Green				0.20	0.00	0.20	0.07	0.71	0.00	0.00	0.61	0.61
Sat Flow, veh/h				1725	0	1535	1725	3532	0	0	2944	574
Grp Volume(v), veh/h				315	0	28	225	425	0	0	491	488
Grp Sat Flow(s),veh/h/ln				1725	0	1535	1725	1721	0	0	1721	1708
Q Serve(g_s), s				24.1	0.0	2.0	6.3	5.5	0.0	0.0	21.2	21.2
Cycle Q Clear(g_c), s				24.1	0.0	2.0	6.3	5.5	0.0	0.0	21.2	21.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.34
Lane Grp Cap(c), veh/h				348	0	310	419	2453	0	0	1046	1038
V/C Ratio(X)				0.90	0.00	0.09	0.54	0.17	0.00	0.00	0.47	0.47
Avail Cap(c_a), veh/h				431	0	383	941	2453	0	0	1046	1038
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.97	0.97	0.00	0.00	0.93	0.93
Uniform Delay (d), s/veh				52.6	0.0	43.8	10.8	6.3	0.0	0.0	14.5	14.5
Incr Delay (d2), s/veh				19.5	0.0	0.1	1.0	0.1	0.0	0.0	1.4	1.4
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				18.1	0.0	1.4	4.3	3.5	0.0	0.0	13.2	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				72.1	0.0	43.9	11.9	6.5	0.0	0.0	15.9	15.9
LnGrp LOS				E		D	B	A			B	B
Approach Vol, veh/h					343			650			979	
Approach Delay, s/veh					69.8			8.4			15.9	
Approach LOS					E			A			B	

Timer - Assigned Phs	2		5	6		8				
Phs Duration (G+Y+Rc), s	101.4		14.2	87.3		33.6				
Change Period (Y+Rc), s	5.2		5.2	5.2		6.3				
Max Green Setting (Gmax), s	89.8		49.8	34.8		33.7				
Max Q Clear Time (g_c+I1), s	7.5		8.3	23.2		26.1				
Green Ext Time (p_c), s	3.2		0.7	5.0		1.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	22.8	
HCM 7th LOS	C	

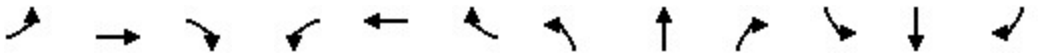
HCM 7th Signalized Intersection Summary
25: Rock Blvd & EB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	0	473	0	0	0	0	480	104	55	1019	0
Future Volume (veh/h)	139	0	473	0	0	0	0	480	104	55	1019	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811				0	1811	1811	1811	1811	0
Adj Flow Rate, veh/h	146	0	250				0	505	54	58	1073	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6				0	6	6	6	6	0
Cap, veh/h	311	0	277				0	2176	971	631	2416	0
Arrive On Green	0.18	0.00	0.18				0.00	1.00	1.00	0.03	0.70	0.00
Sat Flow, veh/h	1725	0	1535				0	3532	1535	1725	3532	0
Grp Volume(v), veh/h	146	0	250				0	505	54	58	1073	0
Grp Sat Flow(s),veh/h/ln	1725	0	1535				0	1721	1535	1725	1721	0
Q Serve(g_s), s	10.2	0.0	21.5				0.0	0.0	0.0	1.5	18.2	0.0
Cycle Q Clear(g_c), s	10.2	0.0	21.5				0.0	0.0	0.0	1.5	18.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	311	0	277				0	2176	971	631	2416	0
V/C Ratio(X)	0.47	0.00	0.90				0.00	0.23	0.06	0.09	0.44	0.00
Avail Cap(c_a), veh/h	354	0	315				0	2176	971	1085	2416	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.97	0.97	0.79	0.79	0.00
Uniform Delay (d), s/veh	49.6	0.0	54.2				0.0	0.0	0.0	7.2	8.7	0.0
Incr Delay (d2), s/veh	1.1	0.0	25.9				0.0	0.2	0.1	0.0	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	0.0	15.6				0.0	0.1	0.1	1.0	10.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.7	0.0	80.1				0.0	0.2	0.1	7.2	9.2	0.0
LnGrp LOS	D		F					A	A	A	A	
Approach Vol, veh/h		396						559			1131	
Approach Delay, s/veh		69.2						0.2			9.1	
Approach LOS		E						A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.4	90.6		31.6		100.0
Change Period (Y+Rc), s	5.0	5.2		7.3		5.2
Max Green Setting (Gmax), s	40.0	49.8		27.7		94.8
Max Q Clear Time (g_c+I1), s	3.5	2.0		23.5		20.2
Green Ext Time (p_c), s	0.1	4.1		0.8		10.8

Intersection Summary	
HCM 7th Control Delay, s/veh	18.1
HCM 7th LOS	B

HCM 7th Signalized Intersection Summary
20: Rock Blvd & WB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	120	0	137	558	1288	0	0	401	298
Future Volume (veh/h)	0	0	0	120	0	137	558	1288	0	0	401	298
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				130	0	72	607	1400	0	0	436	227
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				161	0	143	723	2961	0	0	1393	719
Arrive On Green				0.09	0.00	0.09	0.37	1.00	0.00	0.00	0.20	0.20
Sat Flow, veh/h				1781	0	1585	1781	3647	0	0	2360	1170
Grp Volume(v), veh/h				130	0	72	607	1400	0	0	341	322
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1781	1777	0	0	1777	1660
Q Serve(g_s), s				10.7	0.0	6.5	23.4	0.0	0.0	0.0	24.5	24.8
Cycle Q Clear(g_c), s				10.7	0.0	6.5	23.4	0.0	0.0	0.0	24.5	24.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.70
Lane Grp Cap(c), veh/h				161	0	143	723	2961	0	0	1092	1020
V/C Ratio(X)				0.81	0.00	0.50	0.84	0.47	0.00	0.00	0.31	0.32
Avail Cap(c_a), veh/h				341	0	303	1224	2961	0	0	1092	1020
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.44	0.44	0.00	0.00	0.97	0.97
Uniform Delay (d), s/veh				67.0	0.0	65.0	8.5	0.0	0.0	0.0	32.8	32.9
Incr Delay (d2), s/veh				9.2	0.0	2.7	1.2	0.2	0.0	0.0	0.7	0.8
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				9.1	0.0	5.0	8.3	0.2	0.0	0.0	17.6	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				76.2	0.0	67.8	9.7	0.2	0.0	0.0	33.5	33.7
LnGrp LOS				E		E	A	A			C	C
Approach Vol, veh/h					202			2007			663	
Approach Delay, s/veh					73.2			3.1			33.6	
Approach LOS					E			A			C	

Timer - Assigned Phs	2		5	6		8				
Phs Duration (G+Y+Rc), s	130.2		32.8	97.4		19.8				
Change Period (Y+Rc), s	5.2		5.2	5.2		6.3				
Max Green Setting (Gmax), s	109.8		69.8	34.8		28.7				
Max Q Clear Time (g_c+I1), s	2.0		25.4	26.8		12.7				
Green Ext Time (p_c), s	17.6		2.2	2.6		0.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	15.1
HCM 7th LOS	B

HCM 7th Signalized Intersection Summary
25: Rock Blvd & EB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	0	229	0	0	0	0	1660	279	67	453	0
Future Volume (veh/h)	187	0	229	0	0	0	0	1660	279	67	453	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	203	0	124				0	1804	212	73	492	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	229	0	204				0	2127	949	275	2800	0
Arrive On Green	0.13	0.00	0.13				0.00	0.60	0.60	0.15	0.79	0.00
Sat Flow, veh/h	1781	0	1585				0	3647	1585	1781	3647	0
Grp Volume(v), veh/h	203	0	124				0	1804	212	73	492	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1777	1585	1781	1777	0
Q Serve(g_s), s	16.8	0.0	11.1				0.0	62.1	9.3	5.4	5.1	0.0
Cycle Q Clear(g_c), s	16.8	0.0	11.1				0.0	62.1	9.3	5.4	5.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	229	0	204				0	2127	949	275	2800	0
V/C Ratio(X)	0.89	0.00	0.61				0.00	0.85	0.22	0.27	0.18	0.00
Avail Cap(c_a), veh/h	270	0	240				0	2127	949	275	2800	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.56	0.56	0.86	0.86	0.00
Uniform Delay (d), s/veh	64.3	0.0	61.8				0.0	24.5	13.9	55.9	3.9	0.0
Incr Delay (d2), s/veh	25.0	0.0	3.3				0.0	2.5	0.3	0.4	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.2	0.0	8.2				0.0	32.4	5.7	4.5	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	89.3	0.0	65.0				0.0	27.1	14.3	56.3	4.0	0.0
LnGrp LOS	F		E					C	B	E	A	
Approach Vol, veh/h		327						2016			565	
Approach Delay, s/veh		80.1						25.7			10.8	
Approach LOS		F						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	28.4	95.0		26.6		123.4
Change Period (Y+Rc), s	5.2	* 5.2		7.3		5.2
Max Green Setting (Gmax), s	20.0	* 90		22.7		114.8
Max Q Clear Time (g_c+I1), s	7.4	64.1		18.8		7.1
Green Ext Time (p_c), s	0.1	17.7		0.5		3.8

Intersection Summary		
HCM 7th Control Delay, s/veh		28.9
HCM 7th LOS		C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
20: Rock Blvd & WB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	299	0	52	214	404	0	0	774	223
Future Volume (veh/h)	0	0	0	299	0	52	214	404	0	0	774	223
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1811	1811	1811	1811	1811	0	0	1811	1811
Adj Flow Rate, veh/h				341	0	0	225	425	0	0	815	164
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				6	6	6	6	6	0	0	6	6
Cap, veh/h				413	217	0	521	2736	0	0	2004	403
Arrive On Green				0.12	0.00	0.00	0.05	0.80	0.00	0.00	0.93	0.93
Sat Flow, veh/h				3450	1811	0	1725	3532	0	0	2944	574
Grp Volume(v), veh/h				341	0	0	225	425	0	0	491	488
Grp Sat Flow(s),veh/h/ln				1725	1811	0	1725	1721	0	0	1721	1708
Q Serve(g_s), s				13.0	0.0	0.0	4.6	3.9	0.0	0.0	4.1	4.1
Cycle Q Clear(g_c), s				13.0	0.0	0.0	4.6	3.9	0.0	0.0	4.1	4.1
Prop In Lane				1.00		0.00	1.00		0.00	0.00		0.34
Lane Grp Cap(c), veh/h				413	217	0	521	2736	0	0	1208	1199
V/C Ratio(X)				0.83	0.00	0.00	0.43	0.16	0.00	0.00	0.41	0.41
Avail Cap(c_a), veh/h				861	452	0	1064	2736	0	0	1208	1199
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)				1.00	0.00	0.00	0.97	0.97	0.00	0.00	0.93	0.93
Uniform Delay (d), s/veh				58.0	0.0	0.0	4.3	3.2	0.0	0.0	1.5	1.5
Incr Delay (d2), s/veh				4.2	0.0	0.0	0.6	0.1	0.0	0.0	0.9	1.0
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				9.9	0.0	0.0	2.8	2.2	0.0	0.0	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				62.3	0.0	0.0	4.8	3.4	0.0	0.0	2.4	2.4
LnGrp LOS				E			A	A			A	A
Approach Vol, veh/h					341			650			979	
Approach Delay, s/veh					62.3			3.9			2.4	
Approach LOS					E			A			A	

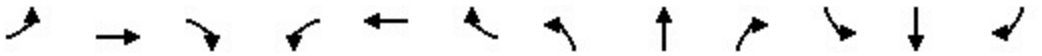
Timer - Assigned Phs	2		5	6		8				
Phs Duration (G+Y+Rc), s	112.5		12.5	100.0		22.5				
Change Period (Y+Rc), s	5.2		5.2	5.2		6.3				
Max Green Setting (Gmax), s	89.8		49.8	34.8		33.7				
Max Q Clear Time (g_c+I1), s	5.9		6.6	6.1		15.0				
Green Ext Time (p_c), s	3.2		0.7	7.5		1.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	13.2
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 7th Signalized Intersection Summary
25: Rock Blvd & EB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	0	473	0	0	0	0	480	104	55	1019	0
Future Volume (veh/h)	139	0	473	0	0	0	0	480	104	55	1019	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811				0	1811	1811	1811	1811	0
Adj Flow Rate, veh/h	146	0	250				0	505	54	58	1073	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6				0	6	6	6	6	0
Cap, veh/h	311	0	277				0	2176	971	631	2416	0
Arrive On Green	0.18	0.00	0.18				0.00	1.00	1.00	0.03	0.70	0.00
Sat Flow, veh/h	1725	0	1535				0	3532	1535	1725	3532	0
Grp Volume(v), veh/h	146	0	250				0	505	54	58	1073	0
Grp Sat Flow(s),veh/h/ln	1725	0	1535				0	1721	1535	1725	1721	0
Q Serve(g_s), s	10.2	0.0	21.5				0.0	0.0	0.0	1.5	18.2	0.0
Cycle Q Clear(g_c), s	10.2	0.0	21.5				0.0	0.0	0.0	1.5	18.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	311	0	277				0	2176	971	631	2416	0
V/C Ratio(X)	0.47	0.00	0.90				0.00	0.23	0.06	0.09	0.44	0.00
Avail Cap(c_a), veh/h	354	0	315				0	2176	971	1085	2416	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.97	0.97	0.82	0.82	0.00
Uniform Delay (d), s/veh	49.6	0.0	54.2				0.0	0.0	0.0	7.2	8.7	0.0
Incr Delay (d2), s/veh	1.1	0.0	25.9				0.0	0.2	0.1	0.1	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	0.0	15.6				0.0	0.1	0.1	1.0	10.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.7	0.0	80.1				0.0	0.2	0.1	7.2	9.2	0.0
LnGrp LOS	D		F					A	A	A	A	
Approach Vol, veh/h		396						559			1131	
Approach Delay, s/veh		69.2						0.2			9.1	
Approach LOS		E						A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.4	90.6		31.6		100.0
Change Period (Y+Rc), s	5.0	5.2		7.3		5.2
Max Green Setting (Gmax), s	40.0	49.8		27.7		94.8
Max Q Clear Time (g_c+I1), s	3.5	2.0		23.5		20.2
Green Ext Time (p_c), s	0.1	4.1		0.8		10.8

Intersection Summary	
HCM 7th Control Delay, s/veh	18.1
HCM 7th LOS	B

HCM 7th Signalized Intersection Summary
20: Rock Blvd & WB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	120	0	137	558	1288	0	0	401	298
Future Volume (veh/h)	0	0	0	120	0	137	558	1288	0	0	401	298
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				101	41	72	607	1400	0	0	436	227
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				151	52	91	724	2980	0	0	1413	729
Arrive On Green				0.08	0.08	0.08	0.36	1.00	0.00	0.00	0.21	0.21
Sat Flow, veh/h				1781	609	1069	1781	3647	0	0	2360	1170
Grp Volume(v), veh/h				101	0	113	607	1400	0	0	341	322
Grp Sat Flow(s),veh/h/ln				1781	0	1678	1781	1777	0	0	1777	1660
Q Serve(g_s), s				8.3	0.0	9.9	22.9	0.0	0.0	0.0	24.4	24.7
Cycle Q Clear(g_c), s				8.3	0.0	9.9	22.9	0.0	0.0	0.0	24.4	24.7
Prop In Lane				1.00		0.64	1.00		0.00	0.00		0.70
Lane Grp Cap(c), veh/h				151	0	142	724	2980	0	0	1108	1035
V/C Ratio(X)				0.67	0.00	0.79	0.84	0.47	0.00	0.00	0.31	0.31
Avail Cap(c_a), veh/h				341	0	321	1231	2980	0	0	1108	1035
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.44	0.44	0.00	0.00	0.97	0.97
Uniform Delay (d), s/veh				66.6	0.0	67.4	8.4	0.0	0.0	0.0	32.1	32.2
Incr Delay (d2), s/veh				5.0	0.0	9.6	1.2	0.2	0.0	0.0	0.7	0.8
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				7.2	0.0	8.2	8.4	0.2	0.0	0.0	17.5	16.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				71.6	0.0	77.0	9.6	0.2	0.0	0.0	32.8	33.0
LnGrp LOS				E		E	A	A			C	C
Approach Vol, veh/h					214			2007			663	
Approach Delay, s/veh					74.4			3.1			32.9	
Approach LOS					E			A			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	131.0		32.3	98.7		19.0						
Change Period (Y+Rc), s	5.2		5.2	5.2		6.3						
Max Green Setting (Gmax), s	109.8		69.8	34.8		28.7						
Max Q Clear Time (g_c+I1), s	2.0		24.9	26.7		11.9						
Green Ext Time (p_c), s	17.6		2.2	2.6		0.8						

Intersection Summary	
HCM 7th Control Delay, s/veh	15.2
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 7th Signalized Intersection Summary
25: Rock Blvd & EB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	0	229	0	0	0	0	1660	279	67	453	0
Future Volume (veh/h)	187	0	229	0	0	0	0	1660	279	67	453	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	203	0	124				0	1804	212	73	492	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	229	0	204				0	2127	949	275	2800	0
Arrive On Green	0.13	0.00	0.13				0.00	0.60	0.60	0.15	0.79	0.00
Sat Flow, veh/h	1781	0	1585				0	3647	1585	1781	3647	0
Grp Volume(v), veh/h	203	0	124				0	1804	212	73	492	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1777	1585	1781	1777	0
Q Serve(g_s), s	16.8	0.0	11.1				0.0	62.1	9.3	5.4	5.1	0.0
Cycle Q Clear(g_c), s	16.8	0.0	11.1				0.0	62.1	9.3	5.4	5.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	229	0	204				0	2127	949	275	2800	0
V/C Ratio(X)	0.89	0.00	0.61				0.00	0.85	0.22	0.27	0.18	0.00
Avail Cap(c_a), veh/h	270	0	240				0	2127	949	275	2800	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.56	0.56	0.85	0.85	0.00
Uniform Delay (d), s/veh	64.3	0.0	61.8				0.0	24.5	13.9	55.9	3.9	0.0
Incr Delay (d2), s/veh	25.0	0.0	3.3				0.0	2.5	0.3	0.4	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.2	0.0	8.2				0.0	32.4	5.7	4.5	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	89.3	0.0	65.0				0.0	27.1	14.3	56.3	4.0	0.0
LnGrp LOS	F		E					C	B	E	A	
Approach Vol, veh/h		327						2016			565	
Approach Delay, s/veh		80.1						25.7			10.8	
Approach LOS		F						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	28.4	95.0		26.6		123.4
Change Period (Y+Rc), s	5.2	* 5.2		7.3		5.2
Max Green Setting (Gmax), s	20.0	* 90		22.7		114.8
Max Q Clear Time (g_c+I1), s	7.4	64.1		18.8		7.1
Green Ext Time (p_c), s	0.1	17.7		0.5		3.8

Intersection Summary		
HCM 7th Control Delay, s/veh		28.9
HCM 7th LOS		C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

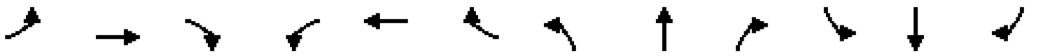
HCM 7th Signalized Intersection Summary
20: Rock Blvd & WB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	299	0	52	214	404	0	0	719	223
Future Volume (veh/h)	0	0	0	299	0	52	214	404	0	0	719	223
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1811	1811	1811	1811	1811	0	0	1811	1811
Adj Flow Rate, veh/h				315	0	28	225	425	0	0	757	164
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				6	6	6	6	6	0	0	6	6
Cap, veh/h				348	0	310	440	2453	0	0	1710	370
Arrive On Green				0.20	0.00	0.20	0.07	0.71	0.00	0.00	0.61	0.61
Sat Flow, veh/h				1725	0	1535	1725	3532	0	0	2903	609
Grp Volume(v), veh/h				315	0	28	225	425	0	0	463	458
Grp Sat Flow(s),veh/h/ln				1725	0	1535	1725	1721	0	0	1721	1701
Q Serve(g_s), s				24.1	0.0	2.0	6.3	5.5	0.0	0.0	19.5	19.5
Cycle Q Clear(g_c), s				24.1	0.0	2.0	6.3	5.5	0.0	0.0	19.5	19.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.36
Lane Grp Cap(c), veh/h				348	0	310	440	2453	0	0	1046	1034
V/C Ratio(X)				0.90	0.00	0.09	0.51	0.17	0.00	0.00	0.44	0.44
Avail Cap(c_a), veh/h				431	0	383	962	2453	0	0	1046	1034
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.98	0.98	0.00	0.00	0.93	0.93
Uniform Delay (d), s/veh				52.6	0.0	43.8	10.3	6.3	0.0	0.0	14.2	14.2
Incr Delay (d2), s/veh				19.5	0.0	0.1	0.9	0.2	0.0	0.0	1.3	1.3
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				18.1	0.0	1.4	4.3	3.5	0.0	0.0	12.3	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				72.1	0.0	43.9	11.2	6.5	0.0	0.0	15.5	15.5
LnGrp LOS				E		D	B	A			B	B
Approach Vol, veh/h					343			650			921	
Approach Delay, s/veh					69.8			8.1			15.5	
Approach LOS					E			A			B	

Timer - Assigned Phs	2		5	6		8				
Phs Duration (G+Y+Rc), s	101.4		14.2	87.3		33.6				
Change Period (Y+Rc), s	5.2		5.2	5.2		6.3				
Max Green Setting (Gmax), s	89.8		49.8	34.8		33.7				
Max Q Clear Time (g_c+I1), s	7.5		8.3	21.5		26.1				
Green Ext Time (p_c), s	3.2		0.7	5.1		1.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	22.7
HCM 7th LOS	C

HCM 7th Signalized Intersection Summary
25: Rock Blvd & EB Ramps

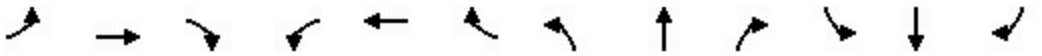


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	0	473	0	0	0	0	480	104	0	1019	0
Future Volume (veh/h)	139	0	473	0	0	0	0	480	104	0	1019	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811				0	1811	1811	0	1811	0
Adj Flow Rate, veh/h	146	0	250				0	505	54	0	1073	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6				0	6	6	0	6	0
Cap, veh/h	311	0	277				0	2416	1078	0	2416	0
Arrive On Green	0.18	0.00	0.18				0.00	1.00	1.00	0.00	0.70	0.00
Sat Flow, veh/h	1725	0	1535				0	3532	1535	0	3622	0
Grp Volume(v), veh/h	146	0	250				0	505	54	0	1073	0
Grp Sat Flow(s),veh/h/ln	1725	0	1535				0	1721	1535	0	1721	0
Q Serve(g_s), s	10.2	0.0	21.5				0.0	0.0	0.0	0.0	18.2	0.0
Cycle Q Clear(g_c), s	10.2	0.0	21.5				0.0	0.0	0.0	0.0	18.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	311	0	277				0	2416	1078	0	2416	0
V/C Ratio(X)	0.47	0.00	0.90				0.00	0.21	0.05	0.00	0.44	0.00
Avail Cap(c_a), veh/h	354	0	315				0	2416	1078	0	2416	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.97	0.97	0.00	0.82	0.00
Uniform Delay (d), s/veh	49.6	0.0	54.2				0.0	0.0	0.0	0.0	8.7	0.0
Incr Delay (d2), s/veh	1.1	0.0	25.9				0.0	0.2	0.1	0.0	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	0.0	15.6				0.0	0.1	0.0	0.0	10.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.7	0.0	80.1				0.0	0.2	0.1	0.0	9.2	0.0
LnGrp LOS	D		F					A	A		A	
Approach Vol, veh/h		396						559			1073	
Approach Delay, s/veh		69.2						0.2			9.2	
Approach LOS		E						A			A	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		100.0		31.6		100.0						
Change Period (Y+Rc), s		5.2		7.3		5.2						
Max Green Setting (Gmax), s		94.8		27.7		94.8						
Max Q Clear Time (g_c+I1), s		2.0		23.5		20.2						
Green Ext Time (p_c), s		4.1		0.8		10.8						

Intersection Summary												
HCM 7th Control Delay, s/veh			18.4									
HCM 7th LOS			B									

HCM 7th Signalized Intersection Summary
20: Rock Blvd & WB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	120	0	137	558	1288	0	0	401	298
Future Volume (veh/h)	0	0	0	120	0	137	558	1288	0	0	401	298
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				130	0	72	607	1400	0	0	436	227
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				161	0	143	723	2961	0	0	1393	719
Arrive On Green				0.09	0.00	0.09	0.37	1.00	0.00	0.00	0.20	0.20
Sat Flow, veh/h				1781	0	1585	1781	3647	0	0	2360	1170
Grp Volume(v), veh/h				130	0	72	607	1400	0	0	341	322
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1781	1777	0	0	1777	1660
Q Serve(g_s), s				10.7	0.0	6.5	23.4	0.0	0.0	0.0	24.5	24.8
Cycle Q Clear(g_c), s				10.7	0.0	6.5	23.4	0.0	0.0	0.0	24.5	24.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.70
Lane Grp Cap(c), veh/h				161	0	143	723	2961	0	0	1092	1020
V/C Ratio(X)				0.81	0.00	0.50	0.84	0.47	0.00	0.00	0.31	0.32
Avail Cap(c_a), veh/h				341	0	303	1224	2961	0	0	1092	1020
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.69	0.69	0.00	0.00	0.97	0.97
Uniform Delay (d), s/veh				67.0	0.0	65.0	8.5	0.0	0.0	0.0	32.8	32.9
Incr Delay (d2), s/veh				9.2	0.0	2.7	1.9	0.4	0.0	0.0	0.7	0.8
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				9.1	0.0	5.0	9.1	0.3	0.0	0.0	17.6	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				76.2	0.0	67.8	10.4	0.4	0.0	0.0	33.5	33.7
LnGrp LOS				E		E	B	A			C	C
Approach Vol, veh/h					202			2007			663	
Approach Delay, s/veh					73.2			3.4			33.6	
Approach LOS					E			A			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	130.2		32.8	97.4		19.8						
Change Period (Y+Rc), s	5.2		5.2	5.2		6.3						
Max Green Setting (Gmax), s	109.8		69.8	34.8		28.7						
Max Q Clear Time (g_c+I1), s	2.0		25.4	26.8		12.7						
Green Ext Time (p_c), s	17.6		2.2	2.6		0.8						

Intersection Summary	
HCM 7th Control Delay, s/veh	15.3
HCM 7th LOS	B

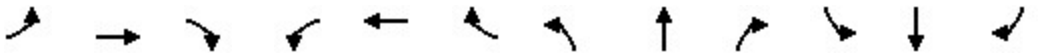
HCM 7th Signalized Intersection Summary
25: Rock Blvd & EB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	0	229	0	0	0	0	1660	279	0	453	0
Future Volume (veh/h)	187	0	229	0	0	0	0	1660	279	0	453	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	203	0	124				0	1804	212	0	492	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	229	0	204				0	2800	1249	0	2800	0
Arrive On Green	0.13	0.00	0.13				0.00	0.79	0.79	0.00	0.79	0.00
Sat Flow, veh/h	1781	0	1585				0	3647	1585	0	3741	0
Grp Volume(v), veh/h	203	0	124				0	1804	212	0	492	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1777	1585	0	1777	0
Q Serve(g_s), s	16.8	0.0	11.1				0.0	32.8	4.9	0.0	5.1	0.0
Cycle Q Clear(g_c), s	16.8	0.0	11.1				0.0	32.8	4.9	0.0	5.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	229	0	204				0	2800	1249	0	2800	0
V/C Ratio(X)	0.89	0.00	0.61				0.00	0.64	0.17	0.00	0.18	0.00
Avail Cap(c_a), veh/h	270	0	240				0	2800	1249	0	2800	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.56	0.56	0.00	0.86	0.00
Uniform Delay (d), s/veh	64.3	0.0	61.8				0.0	6.8	3.9	0.0	3.9	0.0
Incr Delay (d2), s/veh	25.0	0.0	3.3				0.0	0.6	0.2	0.0	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.2	0.0	8.2				0.0	15.3	2.7	0.0	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	89.3	0.0	65.0				0.0	7.5	4.1	0.0	4.0	0.0
LnGrp LOS	F		E					A	A		A	
Approach Vol, veh/h		327						2016			492	
Approach Delay, s/veh		80.1						7.1			4.0	
Approach LOS		F						A			A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	123.4	26.6	123.4
Change Period (Y+Rc), s	5.2	7.3	5.2
Max Green Setting (Gmax), s	114.8	22.7	114.8
Max Q Clear Time (g_c+I1), s	34.8	18.8	7.1
Green Ext Time (p_c), s	32.3	0.5	3.8

Intersection Summary	
HCM 7th Control Delay, s/veh	15.0
HCM 7th LOS	B

HCM 7th Signalized Intersection Summary
20: Rock Blvd & WB Ramps

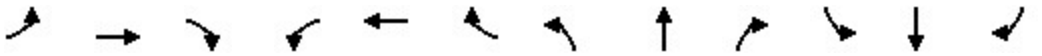


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	299	0	52	214	404	0	0	719	223
Future Volume (veh/h)	0	0	0	299	0	52	214	404	0	0	719	223
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1811	1811	1811	1811	1811	0	0	1811	1811
Adj Flow Rate, veh/h				315	0	28	225	425	0	0	757	164
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				6	6	6	6	6	0	0	6	6
Cap, veh/h				348	0	310	290	2453	0	0	1653	358
Arrive On Green				0.20	0.00	0.20	0.09	0.71	0.00	0.00	0.59	0.59
Sat Flow, veh/h				1725	0	1535	3346	3532	0	0	2903	609
Grp Volume(v), veh/h				315	0	28	225	425	0	0	463	458
Grp Sat Flow(s),veh/h/ln				1725	0	1535	1673	1721	0	0	1721	1701
Q Serve(g_s), s				24.1	0.0	2.0	8.9	5.5	0.0	0.0	20.5	20.5
Cycle Q Clear(g_c), s				24.1	0.0	2.0	8.9	5.5	0.0	0.0	20.5	20.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.36
Lane Grp Cap(c), veh/h				348	0	310	290	2453	0	0	1011	1000
V/C Ratio(X)				0.90	0.00	0.09	0.78	0.17	0.00	0.00	0.46	0.46
Avail Cap(c_a), veh/h				431	0	383	1234	2453	0	0	1011	1000
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.98	0.98	0.00	0.00	0.93	0.93
Uniform Delay (d), s/veh				52.6	0.0	43.8	60.4	6.3	0.0	0.0	15.7	15.7
Incr Delay (d2), s/veh				19.5	0.0	0.1	4.4	0.2	0.0	0.0	1.4	1.4
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				18.1	0.0	1.4	7.1	3.5	0.0	0.0	12.9	12.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				72.1	0.0	43.9	64.7	6.5	0.0	0.0	17.1	17.1
LnGrp LOS				E		D	E	A			B	B
Approach Vol, veh/h					343			650			921	
Approach Delay, s/veh					69.8			26.7			17.1	
Approach LOS					E			C			B	

Timer - Assigned Phs	2		5	6		8				
Phs Duration (G+Y+Rc), s	101.4		16.9	84.5		33.6				
Change Period (Y+Rc), s	5.2		5.2	5.2		6.3				
Max Green Setting (Gmax), s	89.8		49.8	34.8		33.7				
Max Q Clear Time (g_c+I1), s	7.5		10.9	22.5		26.1				
Green Ext Time (p_c), s	3.2		0.8	4.8		1.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	29.8	
HCM 7th LOS	C	

HCM 7th Signalized Intersection Summary
25: Rock Blvd & EB Ramps

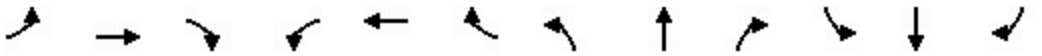


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	0	473	0	0	0	0	480	104	55	1019	0
Future Volume (veh/h)	139	0	473	0	0	0	0	480	104	55	1019	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811				0	1811	1811	1811	1811	0
Adj Flow Rate, veh/h	146	0	250				0	505	54	58	1073	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6				0	6	6	6	6	0
Cap, veh/h	311	0	277				0	2176	971	631	2416	0
Arrive On Green	0.18	0.00	0.18				0.00	1.00	1.00	0.03	0.70	0.00
Sat Flow, veh/h	1725	0	1535				0	3532	1535	1725	3532	0
Grp Volume(v), veh/h	146	0	250				0	505	54	58	1073	0
Grp Sat Flow(s),veh/h/ln	1725	0	1535				0	1721	1535	1725	1721	0
Q Serve(g_s), s	10.2	0.0	21.5				0.0	0.0	0.0	1.5	18.2	0.0
Cycle Q Clear(g_c), s	10.2	0.0	21.5				0.0	0.0	0.0	1.5	18.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	311	0	277				0	2176	971	631	2416	0
V/C Ratio(X)	0.47	0.00	0.90				0.00	0.23	0.06	0.09	0.44	0.00
Avail Cap(c_a), veh/h	354	0	315				0	2176	971	1085	2416	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.97	0.97	0.79	0.79	0.00
Uniform Delay (d), s/veh	49.6	0.0	54.2				0.0	0.0	0.0	7.2	8.7	0.0
Incr Delay (d2), s/veh	1.1	0.0	25.9				0.0	0.2	0.1	0.0	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	0.0	15.6				0.0	0.1	0.1	1.0	10.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.7	0.0	80.1				0.0	0.2	0.1	7.2	9.2	0.0
LnGrp LOS	D		F					A	A	A	A	
Approach Vol, veh/h		396						559			1131	
Approach Delay, s/veh		69.2						0.2			9.1	
Approach LOS		E						A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.4	90.6		31.6		100.0
Change Period (Y+Rc), s	5.0	5.2		7.3		5.2
Max Green Setting (Gmax), s	40.0	49.8		27.7		94.8
Max Q Clear Time (g_c+I1), s	3.5	2.0		23.5		20.2
Green Ext Time (p_c), s	0.1	4.1		0.8		10.8

Intersection Summary	
HCM 7th Control Delay, s/veh	18.1
HCM 7th LOS	B

HCM 7th Signalized Intersection Summary
20: Rock Blvd & WB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	120	0	137	558	1288	0	0	401	298
Future Volume (veh/h)	0	0	0	120	0	137	558	1288	0	0	401	298
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				130	0	72	607	1400	0	0	436	227
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				161	0	143	673	2961	0	0	1369	706
Arrive On Green				0.09	0.00	0.09	0.39	1.00	0.00	0.00	0.20	0.20
Sat Flow, veh/h				1781	0	1585	3456	3647	0	0	2360	1170
Grp Volume(v), veh/h				130	0	72	607	1400	0	0	341	322
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1777	1660
Q Serve(g_s), s				10.7	0.0	6.5	24.8	0.0	0.0	0.0	24.6	24.9
Cycle Q Clear(g_c), s				10.7	0.0	6.5	24.8	0.0	0.0	0.0	24.6	24.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.70
Lane Grp Cap(c), veh/h				161	0	143	673	2961	0	0	1073	1002
V/C Ratio(X)				0.81	0.00	0.50	0.90	0.47	0.00	0.00	0.32	0.32
Avail Cap(c_a), veh/h				341	0	303	1608	2961	0	0	1073	1002
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.69	0.69	0.00	0.00	0.97	0.97
Uniform Delay (d), s/veh				67.0	0.0	65.0	44.5	0.0	0.0	0.0	33.6	33.8
Incr Delay (d2), s/veh				9.2	0.0	2.7	3.4	0.4	0.0	0.0	0.8	0.8
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				9.1	0.0	5.0	13.7	0.3	0.0	0.0	17.6	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				76.2	0.0	67.8	47.9	0.4	0.0	0.0	34.4	34.6
LnGrp LOS				E		E	D	A			C	C
Approach Vol, veh/h					202			2007			663	
Approach Delay, s/veh					73.2			14.7			34.5	
Approach LOS					E			B			C	

Timer - Assigned Phs	2			5	6		8					
Phs Duration (G+Y+Rc), s	130.2			34.4	95.8		19.8					
Change Period (Y+Rc), s	5.2			5.2	5.2		6.3					
Max Green Setting (Gmax), s	109.8			69.8	34.8		28.7					
Max Q Clear Time (g_c+I1), s	2.0			26.8	26.9		12.7					
Green Ext Time (p_c), s	17.6			2.4	2.6		0.8					

Intersection Summary		
HCM 7th Control Delay, s/veh	23.4	
HCM 7th LOS	C	

HCM 7th Signalized Intersection Summary
25: Rock Blvd & EB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	0	229	0	0	0	0	1660	279	0	453	0
Future Volume (veh/h)	187	0	229	0	0	0	0	1660	279	0	453	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	203	0	124				0	1804	212	0	492	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	229	0	204				0	2800	1249	0	2800	0
Arrive On Green	0.13	0.00	0.13				0.00	0.79	0.79	0.00	0.79	0.00
Sat Flow, veh/h	1781	0	1585				0	3647	1585	0	3741	0
Grp Volume(v), veh/h	203	0	124				0	1804	212	0	492	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1777	1585	0	1777	0
Q Serve(g_s), s	16.8	0.0	11.1				0.0	32.8	4.9	0.0	5.1	0.0
Cycle Q Clear(g_c), s	16.8	0.0	11.1				0.0	32.8	4.9	0.0	5.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	229	0	204				0	2800	1249	0	2800	0
V/C Ratio(X)	0.89	0.00	0.61				0.00	0.64	0.17	0.00	0.18	0.00
Avail Cap(c_a), veh/h	270	0	240				0	2800	1249	0	2800	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.56	0.56	0.00	0.92	0.00
Uniform Delay (d), s/veh	64.3	0.0	61.8				0.0	6.8	3.9	0.0	3.9	0.0
Incr Delay (d2), s/veh	25.0	0.0	3.3				0.0	0.6	0.2	0.0	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.2	0.0	8.2				0.0	15.3	2.7	0.0	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	89.3	0.0	65.0				0.0	7.5	4.1	0.0	4.0	0.0
LnGrp LOS	F		E					A	A		A	
Approach Vol, veh/h		327						2016			492	
Approach Delay, s/veh		80.1						7.1			4.0	
Approach LOS		F						A			A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	123.4	26.6	123.4
Change Period (Y+Rc), s	5.2	7.3	5.2
Max Green Setting (Gmax), s	114.8	22.7	114.8
Max Q Clear Time (g_c+I1), s	34.8	18.8	7.1
Green Ext Time (p_c), s	32.3	0.5	3.8

Intersection Summary	
HCM 7th Control Delay, s/veh	15.0
HCM 7th LOS	B

HCM 7th TWSC
2: Rock Blvd & C St

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	4	28	2	15	10	334	24	6	697	2
Future Vol, veh/h	1	0	4	28	2	15	10	334	24	6	697	2
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	1	1	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	50	-	100	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	1	0	4	29	2	16	11	352	25	6	734	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	947	1148	370	753	1124	177	738	0	0	378	0	0
Stage 1	749	749	-	374	374	-	-	-	-	-	-	-
Stage 2	198	399	-	379	750	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.6	6.6	7	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.6	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.6	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.55	4.05	3.35	2.25	-	-	2.25	-	-
Pot Cap-1 Maneuver	211	193	619	293	199	826	844	-	-	1156	-	-
Stage 1	363	410	-	611	609	-	-	-	-	-	-	-
Stage 2	777	593	-	606	410	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	201	189	618	286	195	826	843	-	-	1155	-	-
Mov Cap-2 Maneuver	201	189	-	286	195	-	-	-	-	-	-	-
Stage 1	360	407	-	603	601	-	-	-	-	-	-	-
Stage 2	750	585	-	599	407	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	13.35	16.09	0.25	0.07
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	843	-	-	437	286	598	1155	-	-
HCM Lane V/C Ratio	0.012	-	-	0.012	0.103	0.03	0.005	-	-
HCM Control Delay (s/veh)	9.3	-	-	13.3	19.1	11.2	8.1	-	-
HCM Lane LOS	A	-	-	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0.1	0	-	-

HCM 7th TWSC
2: Rock Blvd & C St

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	4	26	4	15	9	1265	60	11	361	1
Future Vol, veh/h	3	1	4	26	4	15	9	1265	60	11	361	1
Conflicting Peds, #/hr	4	0	1	1	0	4	5	0	3	3	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	50	-	100	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	4	27	4	15	9	1291	61	11	368	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1066	1770	191	1520	1709	652	374	0	0	1355	0	0
Stage 1	396	396	-	1312	1312	-	-	-	-	-	-	-
Stage 2	670	1373	-	208	397	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	177	82	819	81	90	410	1181	-	-	504	-	-
Stage 1	600	602	-	167	227	-	-	-	-	-	-	-
Stage 2	413	212	-	774	602	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	156	79	814	77	87	408	1175	-	-	502	-	-
Mov Cap-2 Maneuver	156	79	-	77	87	-	-	-	-	-	-	-
Stage 1	584	586	-	166	224	-	-	-	-	-	-	-
Stage 2	386	209	-	751	586	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	22.18	52.26	0.05	0.36
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1175	-	-	218	77	229	502	-	-
HCM Lane V/C Ratio	0.008	-	-	0.037	0.343	0.085	0.022	-	-
HCM Control Delay (s/veh)	8.1	-	-	22.2	74.3	22.2	12.3	-	-
HCM Lane LOS	A	-	-	C	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.3	0.3	0.1	-	-

HCM 7th TWSC
2: Rock Blvd & C St

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	10	45	1	20	5	315	15	20	910	5
Future Vol, veh/h	5	0	10	45	1	20	5	315	15	20	910	5
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	1	1	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	150	-	-	50	-	0	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	5	0	11	47	1	21	5	332	16	21	958	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1181	1348	484	864	1350	167	965	0	0	333	0	0
Stage 1	1005	1005	-	343	343	-	-	-	-	-	-	-
Stage 2	177	343	-	521	1007	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.6	6.6	7	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.6	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.6	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.55	4.05	3.35	2.25	-	-	2.25	-	-
Pot Cap-1 Maneuver	142	146	521	243	145	839	691	-	-	1202	-	-
Stage 1	253	311	-	637	628	-	-	-	-	-	-	-
Stage 2	799	628	-	499	310	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	134	142	520	232	141	838	690	-	-	1201	-	-
Mov Cap-2 Maneuver	134	142	-	232	141	-	-	-	-	-	-	-
Stage 1	248	305	-	632	623	-	-	-	-	-	-	-
Stage 2	772	623	-	480	304	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	19.46	20.01	0.15	0.17
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	690	-	-	265	232	679	1201	-	-
HCM Lane V/C Ratio	0.008	-	-	0.06	0.204	0.033	0.018	-	-
HCM Control Delay (s/veh)	10.3	-	-	19.5	24.5	10.5	8.1	-	-
HCM Lane LOS	B	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.7	0.1	0.1	-	-

HCM 7th TWSC
2: Rock Blvd & C St

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	5	40	5	20	5	870	40	20	560	5
Future Vol, veh/h	5	1	5	40	5	20	5	870	40	20	560	5
Conflicting Peds, #/hr	4	0	1	1	0	4	5	0	3	3	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	150	-	-	50	-	0	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	5	41	5	20	5	888	41	20	571	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1080	1521	294	1229	1523	451	582	0	0	891	0	0
Stage 1	620	620	-	901	901	-	-	-	-	-	-	-
Stage 2	461	901	-	328	622	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	172	117	702	134	117	556	989	-	-	757	-	-
Stage 1	442	478	-	299	355	-	-	-	-	-	-	-
Stage 2	550	355	-	659	477	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	152	113	698	127	112	552	984	-	-	755	-	-
Mov Cap-2 Maneuver	152	113	-	127	112	-	-	-	-	-	-	-
Stage 1	428	463	-	297	352	-	-	-	-	-	-	-
Stage 2	517	352	-	634	462	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	21.83	35.21	0.05	0.34
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	984	-	-	225	127	310	755	-	-
HCM Lane V/C Ratio	0.005	-	-	0.05	0.321	0.082	0.027	-	-
HCM Control Delay (s/veh)	8.7	-	-	21.8	46.2	17.7	9.9	-	-
HCM Lane LOS	A	-	-	C	E	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	1.3	0.3	0.1	-	-

HCM 7th TWSC
1: Rock Blvd & 15th St

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	150	231	22	242	472
Future Vol, veh/h	8	150	231	22	242	472
Conflicting Peds, #/hr	0	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	9	174	269	26	281	549

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1395	285	0	0	296	0
Stage 1	283	-	-	-	-	-
Stage 2	1112	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	155	751	-	-	1259	-
Stage 1	762	-	-	-	-	-
Stage 2	313	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	120	748	-	-	1257	-
Mov Cap-2 Maneuver	120	-	-	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	243	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	12.59	0	2.94
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	120	748	1257	-
HCM Lane V/C Ratio	-	-	0.077	0.233	0.224	-
HCM Control Delay (s/veh)	-	-	37.5	11.3	8.7	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.9	0.9	-

HCM 7th Signalized Intersection Summary
2: Rock Blvd & C St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	4	28	2	15	10	334	24	6	697	2
Future Volume (veh/h)	1	0	4	28	2	15	10	334	24	6	697	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	1	0	3	29	2	11	11	352	18	6	734	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	40	5	35	96	7	41	210	955	807	505	943	1
Arrive On Green	0.03	0.00	0.03	0.03	0.03	0.03	0.02	0.70	0.70	0.01	0.52	0.52
Sat Flow, veh/h	221	165	1158	1380	244	1341	1739	1826	1544	1739	1823	2
Grp Volume(v), veh/h	4	0	0	29	0	13	11	352	18	6	0	735
Grp Sat Flow(s),veh/h/ln	1543	0	0	1380	0	1585	1739	1826	1544	1739	0	1825
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	1.1	0.4	10.7	0.5	0.2	0.0	43.9
Cycle Q Clear(g_c), s	0.3	0.0	0.0	2.7	0.0	1.1	0.4	10.7	0.5	0.2	0.0	43.9
Prop In Lane	0.25		0.75	1.00		0.85	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	80	0	0	96	0	48	210	955	807	505	0	944
V/C Ratio(X)	0.05	0.00	0.00	0.30	0.00	0.27	0.05	0.37	0.02	0.01	0.00	0.78
Avail Cap(c_a), veh/h	480	0	0	464	0	471	318	955	807	623	0	944
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.97	0.97	0.97	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.6	0.0	0.0	64.7	0.0	64.0	22.2	11.4	9.9	15.7	0.0	26.4
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.7	0.0	2.9	0.1	1.1	0.0	0.0	0.0	6.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	0.0	1.9	0.0	0.9	0.3	7.4	0.3	0.2	0.0	27.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.9	0.0	0.0	66.5	0.0	66.9	22.3	12.5	9.9	15.7	0.0	32.7
LnGrp LOS	E			E		E	C	B	A	B		C
Approach Vol, veh/h		4			42			381			741	
Approach Delay, s/veh		63.9			66.6			12.7			32.5	
Approach LOS		E			E			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	75.8		9.0	6.6	75.0		9.0				
Change Period (Y+Rc), s	4.8	5.2		4.9	4.9	5.2		4.9				
Max Green Setting (Gmax), s	10.2	69.8		40.1	10.1	69.8		40.1				
Max Q Clear Time (g_c+I1), s	2.2	12.7		2.3	2.4	45.9		4.7				
Green Ext Time (p_c), s	0.0	2.5		0.0	0.0	5.7		0.1				

Intersection Summary			
HCM 7th Control Delay, s/veh		27.4	
HCM 7th LOS		C	

HCM 7th Signalized Intersection
Victorian Ave & Rock Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	54	136	109	100	14	66	341	34	20	695	19
Future Volume (veh/h)	13	54	136	109	100	14	66	341	34	20	695	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.96	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	14	57	71	115	105	11	69	359	25	21	732	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	165	273	229	202	242	25	665	1296	1098	393	784	15
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.29	0.72	0.72	0.04	0.89	0.89
Sat Flow, veh/h	1219	1811	1516	1211	1604	168	1725	1811	1534	1725	1770	34
Grp Volume(v), veh/h	14	57	71	115	0	116	69	359	25	21	0	746
Grp Sat Flow(s),veh/h/ln	1219	1811	1516	1211	0	1772	1725	1811	1534	1725	0	1804
Q Serve(g_s), s	1.4	3.7	5.6	12.4	0.0	8.0	0.0	9.5	0.6	1.0	0.0	36.8
Cycle Q Clear(g_c), s	9.5	3.7	5.6	16.1	0.0	8.0	0.0	9.5	0.6	1.0	0.0	36.8
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	165	273	229	202	0	267	665	1296	1098	393	0	799
V/C Ratio(X)	0.09	0.21	0.31	0.57	0.00	0.43	0.10	0.28	0.02	0.05	0.00	0.93
Avail Cap(c_a), veh/h	343	538	450	380	0	526	665	1296	1098	548	0	799
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.97	0.97	0.97	0.88	0.00	0.88
Uniform Delay (d), s/veh	56.4	50.3	51.1	57.4	0.0	52.1	22.9	6.8	5.5	23.0	0.0	6.4
Incr Delay (d2), s/veh	0.2	0.4	0.8	2.5	0.0	1.1	0.1	0.5	0.0	0.0	0.0	17.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	3.1	4.0	7.1	0.0	6.6	2.5	6.6	0.4	0.7	0.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.6	50.6	51.8	59.8	0.0	53.2	22.9	7.3	5.6	23.0	0.0	23.9
LnGrp LOS	E	D	D	E		D	C	A	A	C		C
Approach Vol, veh/h		142			231			453			767	
Approach Delay, s/veh		51.8			56.5			9.6			23.9	
Approach LOS		D			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.8	101.9		25.2	44.8	65.0		25.2
Change Period (Y+Rc), s	5.1	* 5.3		4.9	5.3	5.2		4.9
Max Green Setting (Gmax), s	4.9	* 65		40.1	19.7	59.8		40.1
Max Q Clear Time (g_c+I1), s	3.0	11.5		11.5	2.0	38.8		18.1
Green Ext Time (p_c), s	0.0	2.5		0.6	0.1	5.6		1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	27.1
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
1: Rock Blvd & 15th St

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	100	932	35	92	261
Future Vol, veh/h	7	100	932	35	92	261
Conflicting Peds, #/hr	0	0	0	7	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	102	951	36	94	266

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1430	976	0	0	994	0
Stage 1	976	-	-	-	-	-
Stage 2	454	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	148	305	-	-	696	-
Stage 1	365	-	-	-	-	-
Stage 2	640	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	127	303	-	-	691	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	363	-	-	-	-	-
Stage 2	553	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	23.62	0	2.87
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	127	303	691	-
HCM Lane V/C Ratio	-	-	0.056	0.337	0.136	-
HCM Control Delay (s/veh)	-	-	34.9	22.8	11	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	0.2	1.4	0.5	-

HCM 7th Signalized Intersection
2: Rock Blvd & C St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1	4	26	4	15	9	1265	60	11	361	1
Future Volume (veh/h)	3	1	4	26	4	15	9	1265	60	11	361	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.97		0.96	0.96		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	1	3	27	4	10	9	1291	29	11	368	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	23	35	121	24	60	873	1564	1293	265	1561	4
Arrive On Green	0.05	0.05	0.05	0.05	0.05	0.05	0.01	0.84	0.84	0.01	0.84	0.84
Sat Flow, veh/h	444	442	664	1361	460	1150	1781	1870	1547	1781	1864	5
Grp Volume(v), veh/h	7	0	0	27	0	14	9	1291	29	11	0	369
Grp Sat Flow(s),veh/h/ln	1549	0	0	1361	0	1610	1781	1870	1547	1781	0	1869
Q Serve(g_s), s	0.0	0.0	0.0	2.1	0.0	1.2	0.1	54.8	0.5	0.1	0.0	6.0
Cycle Q Clear(g_c), s	0.6	0.0	0.0	2.7	0.0	1.2	0.1	54.8	0.5	0.1	0.0	6.0
Prop In Lane	0.43		0.43	1.00		0.71	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	116	0	0	121	0	84	873	1564	1293	265	0	1565
V/C Ratio(X)	0.06	0.00	0.00	0.22	0.00	0.17	0.01	0.83	0.02	0.04	0.00	0.24
Avail Cap(c_a), veh/h	582	0	0	549	0	591	975	1564	1293	365	0	1565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.09	0.09	0.09	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.6	0.0	0.0	68.6	0.0	67.9	1.9	6.5	2.1	12.0	0.0	2.5
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.9	0.0	0.9	0.0	0.5	0.0	0.1	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	0.0	1.9	0.0	1.0	0.1	18.8	0.2	0.3	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	67.8	0.0	0.0	69.5	0.0	68.8	1.9	7.0	2.1	12.1	0.0	2.8
LnGrp LOS	E			E		E	A	A	A	B		A
Approach Vol, veh/h		7			41			1329			380	
Approach Delay, s/veh		67.8			69.3			6.9			3.1	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	130.6		12.8	6.5	130.8		12.8				
Change Period (Y+Rc), s	4.8	5.2		4.9	4.9	5.2		4.9				
Max Green Setting (Gmax), s	10.2	69.8		55.1	10.1	69.8		55.1				
Max Q Clear Time (g_c+I1), s	2.1	56.8		2.6	2.1	8.0		4.7				
Green Ext Time (p_c), s	0.0	9.2		0.0	0.0	2.5		0.1				

Intersection Summary			
HCM 7th Control Delay, s/veh		7.7	
HCM 7th LOS		A	

HCM 7th Signalized Intersection
3: Victorian Ave & Rock Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	106	89	109	93	15	126	1266	63	18	356	23
Future Volume (veh/h)	51	106	89	109	93	15	126	1266	63	18	356	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.96		0.97	0.99		0.94	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	52	108	45	111	95	10	129	1292	45	18	363	16
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	218	200	164	232	230	24	426	871	719	79	761	34
Arrive On Green	0.04	0.11	0.11	0.07	0.14	0.14	0.05	0.47	0.47	0.02	0.43	0.43
Sat Flow, veh/h	1767	1856	1529	1767	1639	173	1767	1856	1532	1767	1761	78
Grp Volume(v), veh/h	52	108	45	111	0	105	129	1292	45	18	0	379
Grp Sat Flow(s),veh/h/ln	1767	1856	1529	1767	0	1811	1767	1856	1532	1767	0	1839
Q Serve(g_s), s	3.9	8.3	4.1	8.2	0.0	7.9	5.9	70.4	2.4	0.8	0.0	22.1
Cycle Q Clear(g_c), s	3.9	8.3	4.1	8.2	0.0	7.9	5.9	70.4	2.4	0.8	0.0	22.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	218	200	164	232	0	254	426	871	719	79	0	794
V/C Ratio(X)	0.24	0.54	0.27	0.48	0.00	0.41	0.30	1.48	0.06	0.23	0.00	0.48
Avail Cap(c_a), veh/h	421	372	307	353	0	339	505	871	719	282	0	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.56	0.56	0.56	0.98	0.00	0.98
Uniform Delay (d), s/veh	56.8	63.4	61.5	53.0	0.0	58.8	22.5	39.8	21.8	37.0	0.0	30.5
Incr Delay (d2), s/veh	0.6	2.3	0.9	1.5	0.0	1.1	0.2	221.1	0.1	1.4	0.0	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	7.3	2.9	6.8	0.0	6.7	4.5	124.1	1.6	0.7	0.0	15.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.4	65.7	62.4	54.6	0.0	59.9	22.8	260.9	21.9	38.4	0.0	32.5
LnGrp LOS	E	E	E	D		E	C	F	C	D		C
Approach Vol, veh/h		205			216			1466			397	
Approach Delay, s/veh		62.9			57.1			232.6			32.8	
Approach LOS		E			E			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	75.6	14.7	21.0	13.3	70.0	9.8	26.0
Change Period (Y+Rc), s	5.1	5.2	4.5	4.9	5.3	5.2	4.5	4.9
Max Green Setting (Gmax), s	19.9	59.8	20.5	30.1	14.7	64.8	22.5	28.1
Max Q Clear Time (g_c+I1), s	12.8	72.4	10.2	10.3	7.9	24.1	5.9	9.9
Green Ext Time (p_c), s	0.0	0.0	0.2	0.6	0.2	2.6	0.1	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	166.0
HCM 7th LOS	F

HCM 7th TWSC
1: Rock Blvd & 15th St

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	180	200	30	290	540
Future Vol, veh/h	10	180	200	30	290	540
Conflicting Peds, #/hr	0	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	12	209	233	35	337	628

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1554	254	0	0	269	0
Stage 1	252	-	-	-	-	-
Stage 2	1302	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	124	782	-	-	1288	-
Stage 1	788	-	-	-	-	-
Stage 2	253	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	91	779	-	-	1286	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	786	-	-	-	-	-
Stage 2	187	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	13.35	0	3.07
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	91	779	1286	-
HCM Lane V/C Ratio	-	-	0.128	0.269	0.262	-
HCM Control Delay (s/veh)	-	-	50.2	11.3	8.8	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	1.1	1.1	-

HCM 7th Signalized Intersection
2: Rock Blvd & C St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	10	45	1	20	5	315	15	20	910	5
Future Volume (veh/h)	5	0	10	45	1	20	5	315	15	20	910	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	5	0	10	47	1	15	5	332	8	21	958	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	49	10	46	118	4	66	68	944	799	613	963	4
Arrive On Green	0.05	0.00	0.05	0.05	0.05	0.05	0.01	1.00	1.00	0.02	0.53	0.53
Sat Flow, veh/h	290	224	1028	1371	98	1465	1739	1826	1544	1739	1817	8
Grp Volume(v), veh/h	15	0	0	47	0	16	5	332	8	21	0	962
Grp Sat Flow(s),veh/h/ln	1543	0	0	1371	0	1562	1739	1826	1544	1739	0	1825
Q Serve(g_s), s	0.0	0.0	0.0	3.0	0.0	1.3	0.2	0.0	0.0	0.8	0.0	70.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	4.2	0.0	1.3	0.2	0.0	0.0	0.8	0.0	70.7
Prop In Lane	0.33		0.67	1.00		0.94	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	105	0	0	118	0	70	68	944	799	613	0	967
V/C Ratio(X)	0.14	0.00	0.00	0.40	0.00	0.23	0.07	0.35	0.01	0.03	0.00	0.99
Avail Cap(c_a), veh/h	478	0	0	464	0	464	187	944	799	709	0	967
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.97	0.97	0.97	1.00	0.00	1.00
Uniform Delay (d), s/veh	62.1	0.0	0.0	63.5	0.0	62.2	32.9	0.0	0.0	14.6	0.0	31.5
Incr Delay (d2), s/veh	0.6	0.0	0.0	2.1	0.0	1.6	0.4	1.0	0.0	0.0	0.0	27.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	0.0	0.0	3.0	0.0	1.0	0.2	0.5	0.0	0.6	0.0	47.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.7	0.0	0.0	65.6	0.0	63.8	33.4	1.0	0.0	14.7	0.0	59.2
LnGrp LOS	E			E		E	C	A	A	B		E
Approach Vol, veh/h		15			63			345			983	
Approach Delay, s/veh		62.7			65.1			1.4			58.2	
Approach LOS		E			E			A			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	75.0		11.0	5.8	76.8		11.0				
Change Period (Y+Rc), s	4.8	5.2		4.9	4.9	5.2		4.9				
Max Green Setting (Gmax), s	10.2	69.8		40.1	10.1	69.8		40.1				
Max Q Clear Time (g_c+I1), s	2.8	2.0		3.2	2.2	72.7		6.2				
Green Ext Time (p_c), s	0.0	2.3		0.0	0.0	0.0		0.2				

Intersection Summary			
HCM 7th Control Delay, s/veh		44.7	
HCM 7th LOS		D	

HCM 7th Signalized Intersection
3: Victorian Ave & Rock Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	70	130	210	130	20	60	300	30	60	900	10
Future Volume (veh/h)	20	70	130	210	130	20	60	300	30	60	900	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	21	74	69	221	137	15	63	316	23	63	947	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	248	427	359	297	377	41	346	1118	946	442	861	7
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.17	0.62	0.62	0.07	0.96	0.96
Sat Flow, veh/h	1187	1811	1523	1199	1597	175	1725	1811	1534	1725	1793	15
Grp Volume(v), veh/h	21	74	69	221	0	152	63	316	23	63	0	955
Grp Sat Flow(s),veh/h/ln	1187	1811	1523	1199	0	1772	1725	1811	1534	1725	0	1808
Q Serve(g_s), s	2.0	4.4	4.9	24.3	0.0	9.7	0.0	10.9	0.8	2.8	0.0	64.8
Cycle Q Clear(g_c), s	11.7	4.4	4.9	28.7	0.0	9.7	0.0	10.9	0.8	2.8	0.0	64.8
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	248	427	359	297	0	418	346	1118	946	442	0	868
V/C Ratio(X)	0.08	0.17	0.19	0.74	0.00	0.36	0.18	0.28	0.02	0.14	0.00	1.10
Avail Cap(c_a), veh/h	321	538	452	371	0	526	346	1118	946	574	0	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.98	0.98	0.98	0.75	0.00	0.75
Uniform Delay (d), s/veh	48.0	41.1	41.3	52.5	0.0	43.1	46.5	12.0	10.0	20.6	0.0	2.7
Incr Delay (d2), s/veh	0.1	0.2	0.3	6.1	0.0	0.5	0.2	0.6	0.0	0.1	0.0	58.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	3.6	3.4	12.4	0.0	7.8	3.2	8.1	0.5	2.0	0.0	22.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.1	41.3	41.5	58.6	0.0	43.6	46.8	12.6	10.1	20.7	0.0	61.1
LnGrp LOS	D	D	D	E		D	D	B	B	C		F
Approach Vol, veh/h		164			373			402			1018	
Approach Delay, s/veh		42.3			52.5			17.8			58.6	
Approach LOS		D			D			B			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.6	88.6		36.8	28.2	70.0		36.8
Change Period (Y+Rc), s	5.1	* 5.3		4.9	5.3	5.2		4.9
Max Green Setting (Gmax), s	4.5	* 65		40.1	14.7	64.8		40.1
Max Q Clear Time (g_c+I1), s	4.8	12.9		13.7	2.0	66.8		30.7
Green Ext Time (p_c), s	0.1	2.2		0.7	0.1	0.0		1.2

Intersection Summary	
HCM 7th Control Delay, s/veh	47.7
HCM 7th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
1: Rock Blvd & 15th St

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	130	880	20	130	460
Future Vol, veh/h	10	130	880	20	130	460
Conflicting Peds, #/hr	0	0	0	7	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	133	898	20	133	469

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1650	915	0	0	925	0
Stage 1	915	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	109	330	-	-	738	-
Stage 1	390	-	-	-	-	-
Stage 2	475	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	88	328	-	-	734	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	388	-	-	-	-	-
Stage 2	389	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	25.19	0	2.42
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	88	328	734	-
HCM Lane V/C Ratio	-	-	0.115	0.404	0.181	-
HCM Control Delay (s/veh)	-	-	50.9	23.2	11	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	0.4	1.9	0.7	-

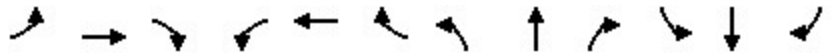
HCM 7th Signalized Intersection
2: Rock Blvd & C St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1	5	40	5	20	5	870	40	20	560	5
Future Volume (veh/h)	5	1	5	40	5	20	5	870	40	20	560	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.97		0.97	0.97		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1	4	41	5	15	5	888	9	20	571	5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	20	38	135	25	75	692	1533	1268	489	1539	13
Arrive On Green	0.06	0.06	0.06	0.06	0.06	0.06	0.01	0.82	0.82	0.02	0.83	0.83
Sat Flow, veh/h	580	329	606	1368	402	1205	1781	1870	1546	1781	1851	16
Grp Volume(v), veh/h	10	0	0	41	0	20	5	888	9	20	0	576
Grp Sat Flow(s),veh/h/ln	1515	0	0	1368	0	1606	1781	1870	1546	1781	0	1867
Q Serve(g_s), s	0.0	0.0	0.0	3.3	0.0	1.8	0.1	24.4	0.2	0.3	0.0	11.3
Cycle Q Clear(g_c), s	0.8	0.0	0.0	4.1	0.0	1.8	0.1	24.4	0.2	0.3	0.0	11.3
Prop In Lane	0.50		0.40	1.00		0.75	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	130	0	0	135	0	100	692	1533	1268	489	0	1553
V/C Ratio(X)	0.08	0.00	0.00	0.30	0.00	0.20	0.01	0.58	0.01	0.04	0.00	0.37
Avail Cap(c_a), veh/h	576	0	0	552	0	590	801	1533	1268	577	0	1553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.63	0.63	0.63	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.4	0.0	0.0	67.8	0.0	66.8	2.6	4.6	2.4	4.0	0.0	3.1
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.3	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	0.0	0.0	2.8	0.0	1.4	0.0	12.0	0.1	0.2	0.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	66.6	0.0	0.0	69.1	0.0	67.8	2.6	5.6	2.5	4.1	0.0	3.8
LnGrp LOS	E			E		E	A	A	A	A		A
Approach Vol, veh/h		10			61			902			596	
Approach Delay, s/veh		66.6			68.7			5.6			3.8	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	128.2		14.2	5.8	130.0		14.2				
Change Period (Y+Rc), s	4.8	5.2		4.9	4.9	5.2		4.9				
Max Green Setting (Gmax), s	10.2	69.8		55.1	10.1	69.8		55.1				
Max Q Clear Time (g_c+I1), s	2.3	26.4		2.8	2.1	13.3		6.1				
Green Ext Time (p_c), s	0.0	8.9		0.0	0.0	4.5		0.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	7.7	
HCM 7th LOS	A	

HCM 7th Signalized Intersection
3: Victorian Ave & Rock Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	160	100	240	210	40	130	810	80	30	540	40
Future Volume (veh/h)	60	160	100	240	210	40	130	810	80	30	540	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.98	0.99		0.95	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	61	163	51	245	214	29	133	827	58	31	551	29
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	225	237	196	329	347	47	286	861	711	112	754	40
Arrive On Green	0.04	0.13	0.13	0.13	0.22	0.22	0.06	0.46	0.46	0.02	0.43	0.43
Sat Flow, veh/h	1767	1856	1535	1767	1589	215	1767	1856	1531	1767	1744	92
Grp Volume(v), veh/h	61	163	51	245	0	243	133	827	58	31	0	580
Grp Sat Flow(s),veh/h/ln	1767	1856	1535	1767	0	1805	1767	1856	1531	1767	0	1836
Q Serve(g_s), s	4.5	12.6	4.5	17.6	0.0	18.2	6.1	64.6	3.2	1.5	0.0	39.3
Cycle Q Clear(g_c), s	4.5	12.6	4.5	17.6	0.0	18.2	6.1	64.6	3.2	1.5	0.0	39.3
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	225	237	196	329	0	394	286	861	711	112	0	793
V/C Ratio(X)	0.27	0.69	0.26	0.74	0.00	0.62	0.47	0.96	0.08	0.28	0.00	0.73
Avail Cap(c_a), veh/h	419	372	308	339	0	394	362	861	711	303	0	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.61	0.61	0.61	0.94	0.00	0.94
Uniform Delay (d), s/veh	53.9	62.6	59.1	47.1	0.0	53.0	27.1	38.8	22.4	35.1	0.0	35.4
Incr Delay (d2), s/veh	0.6	3.6	0.7	8.4	0.0	2.9	0.7	16.1	0.1	1.3	0.0	5.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	10.3	3.2	13.4	0.0	13.5	4.7	40.2	2.2	1.2	0.0	25.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.5	66.1	59.8	55.4	0.0	55.9	27.8	55.0	22.5	36.4	0.0	40.9
LnGrp LOS	D	E	E	E		E	C	D	C	D		D
Approach Vol, veh/h		275			488			1018			611	
Approach Delay, s/veh		62.4			55.6			49.6			40.7	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	74.8	24.2	24.0	13.6	70.0	10.5	37.6
Change Period (Y+Rc), s	5.1	5.2	4.5	4.9	5.3	5.2	4.5	4.9
Max Green Setting (Gmax), s	19.9	59.8	20.5	30.1	14.7	64.8	22.5	28.1
Max Q Clear Time (g_c+I1), s	3.5	66.6	19.6	14.6	8.1	41.3	6.5	20.2
Green Ext Time (p_c), s	0.0	0.0	0.1	0.9	0.2	4.1	0.1	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	50.0
HCM 7th LOS	D

HCM 7th TWSC
1: Rock Blvd & 15th St

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	150	231	22	242	472
Future Vol, veh/h	8	150	231	22	242	472
Conflicting Peds, #/hr	0	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	9	174	269	26	281	549

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1395	151	0	0	296	0
Stage 1	283	-	-	-	-	-
Stage 2	1112	-	-	-	-	-
Critical Hdwy	6.645	6.945	-	-	4.145	-
Critical Hdwy Stg 1	5.845	-	-	-	-	-
Critical Hdwy Stg 2	5.445	-	-	-	-	-
Follow-up Hdwy	3.5285	3.3285	-	-	2.2285	-
Pot Cap-1 Maneuver	143	866	-	-	1257	-
Stage 1	738	-	-	-	-	-
Stage 2	312	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	110	863	-	-	1255	-
Mov Cap-2 Maneuver	110	-	-	-	-	-
Stage 1	736	-	-	-	-	-
Stage 2	242	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	11.77	0	2.95
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	110	863	1255	-
HCM Lane V/C Ratio	-	-	0.084	0.202	0.224	-
HCM Control Delay (s/veh)	-	-	40.6	10.2	8.7	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.8	0.9	-

HCM 7th Signalized Intersection Summary
2: Rock Blvd & C St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	4	28	2	15	10	334	24	6	697	2
Future Volume (veh/h)	1	0	4	28	2	15	10	334	24	6	697	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	1	0	3	29	2	11	11	352	18	6	734	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	40	5	35	96	7	41	210	1814	807	577	943	1
Arrive On Green	0.03	0.00	0.03	0.03	0.03	0.03	0.03	1.00	1.00	0.01	0.52	0.52
Sat Flow, veh/h	221	165	1158	1380	244	1341	1739	3469	1544	1739	1823	2
Grp Volume(v), veh/h	4	0	0	29	0	13	11	352	18	6	0	735
Grp Sat Flow(s),veh/h/ln	1543	0	0	1380	0	1585	1739	1735	1544	1739	0	1825
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	1.1	0.4	0.0	0.0	0.2	0.0	43.9
Cycle Q Clear(g_c), s	0.3	0.0	0.0	2.7	0.0	1.1	0.4	0.0	0.0	0.2	0.0	43.9
Prop In Lane	0.25		0.75	1.00		0.85	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	80	0	0	96	0	48	210	1814	807	577	0	944
V/C Ratio(X)	0.05	0.00	0.00	0.30	0.00	0.27	0.05	0.19	0.02	0.01	0.00	0.78
Avail Cap(c_a), veh/h	480	0	0	464	0	471	318	1814	807	695	0	944
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.99	0.99	0.99	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.6	0.0	0.0	64.7	0.0	64.0	22.0	0.0	0.0	15.3	0.0	26.4
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.7	0.0	2.9	0.1	0.2	0.1	0.0	0.0	6.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	0.0	1.9	0.0	0.9	0.3	0.1	0.0	0.2	0.0	27.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.9	0.0	0.0	66.5	0.0	66.9	22.1	0.2	0.1	15.3	0.0	32.7
LnGrp LOS	E			E		E	C	A	A	B		C
Approach Vol, veh/h		4			42			381			741	
Approach Delay, s/veh		63.9			66.6			0.9			32.5	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	75.8		9.0	6.6	75.0		9.0				
Change Period (Y+Rc), s	4.8	5.2		4.9	4.9	5.2		4.9				
Max Green Setting (Gmax), s	10.2	69.8		40.1	10.1	69.8		40.1				
Max Q Clear Time (g_c+I1), s	2.2	2.0		2.3	2.4	45.9		4.7				
Green Ext Time (p_c), s	0.0	2.7		0.0	0.0	5.7		0.1				

Intersection Summary												
HCM 7th Control Delay, s/veh			23.5									
HCM 7th LOS			C									

HCM 7th Signalized Intersection Summary
3: Victorian Ave & Rock Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	54	136	109	100	14	66	341	34	20	695	19
Future Volume (veh/h)	13	54	136	109	100	14	66	341	34	20	695	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	14	57	71	115	105	11	69	359	25	21	732	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	165	273	229	202	242	25	749	2337	162	412	850	16
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.08	0.24	0.24	0.04	0.96	0.96
Sat Flow, veh/h	1226	1811	1516	1211	1607	168	1725	3264	226	1725	1770	34
Grp Volume(v), veh/h	14	57	71	115	0	116	69	188	196	21	0	746
Grp Sat Flow(s),veh/h/ln	1226	1811	1516	1211	0	1776	1725	1721	1770	1725	0	1804
Q Serve(g_s), s	1.4	3.7	5.6	12.4	0.0	8.0	0.0	11.7	11.8	0.9	0.0	12.9
Cycle Q Clear(g_c), s	9.4	3.7	5.6	16.1	0.0	8.0	0.0	11.7	11.8	0.9	0.0	12.9
Prop In Lane	1.00		1.00	1.00		0.09	1.00		0.13	1.00		0.02
Lane Grp Cap(c), veh/h	165	273	229	202	0	268	749	1232	1267	412	0	866
V/C Ratio(X)	0.08	0.21	0.31	0.57	0.00	0.43	0.09	0.15	0.15	0.05	0.00	0.86
Avail Cap(c_a), veh/h	345	538	450	380	0	527	749	1232	1267	567	0	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.97	0.97	0.97	0.88	0.00	0.88
Uniform Delay (d), s/veh	56.4	50.3	51.1	57.4	0.0	52.1	13.3	19.1	19.2	20.4	0.0	1.7
Incr Delay (d2), s/veh	0.2	0.4	0.8	2.5	0.0	1.1	0.1	0.3	0.3	0.0	0.0	9.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	3.1	4.0	7.1	0.0	6.6	2.0	9.3	9.6	0.7	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.6	50.6	51.8	59.8	0.0	53.2	13.4	19.4	19.4	20.5	0.0	11.5
LnGrp LOS	E	D	D	E		D	B	B	B	C		B
Approach Vol, veh/h		142			231			453			767	
Approach Delay, s/veh		51.8			56.5			18.5			11.7	
Approach LOS		D			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.8	101.9		25.2	39.8	70.0		25.2
Change Period (Y+Rc), s	5.1	* 5.3		4.9	5.3	5.2		4.9
Max Green Setting (Gmax), s	14.9	* 65		40.1	14.7	64.8		40.1
Max Q Clear Time (g_c+I1), s	12.9	13.8		11.4	2.0	14.9		18.1
Green Ext Time (p_c), s	0.0	2.5		0.6	0.1	6.7		1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	23.7
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
1: Rock Blvd & 15th St

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	100	932	35	92	261
Future Vol, veh/h	7	100	932	35	92	261
Conflicting Peds, #/hr	0	0	0	7	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	102	951	36	94	266

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1430	500	0	0	994	0
Stage 1	976	-	-	-	-	-
Stage 2	454	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	136	517	-	-	694	-
Stage 1	327	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	117	513	-	-	689	-
Mov Cap-2 Maneuver	117	-	-	-	-	-
Stage 1	325	-	-	-	-	-
Stage 2	552	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	15.31	0	2.88
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	117	513	689	-
HCM Lane V/C Ratio	-	-	0.061	0.199	0.136	-
HCM Control Delay (s/veh)	-	-	37.7	13.7	11	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.7	0.5	-

HCM 7th Signalized Intersection Summary
2: Rock Blvd & C St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1	4	26	4	15	9	1265	60	11	361	1
Future Volume (veh/h)	3	1	4	26	4	15	9	1265	60	11	361	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.96	0.96		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	1	3	27	4	10	9	1291	29	11	368	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	23	35	121	24	61	873	2971	1293	378	1561	4
Arrive On Green	0.05	0.05	0.05	0.05	0.05	0.05	0.01	0.84	0.84	0.01	0.84	0.84
Sat Flow, veh/h	447	443	667	1361	465	1163	1781	3554	1547	1781	1864	5
Grp Volume(v), veh/h	7	0	0	27	0	14	9	1291	29	11	0	369
Grp Sat Flow(s),veh/h/ln	1556	0	0	1361	0	1629	1781	1777	1547	1781	0	1869
Q Serve(g_s), s	0.0	0.0	0.0	2.1	0.0	1.2	0.1	14.0	0.5	0.1	0.0	6.0
Cycle Q Clear(g_c), s	0.6	0.0	0.0	2.7	0.0	1.2	0.1	14.0	0.5	0.1	0.0	6.0
Prop In Lane	0.43		0.43	1.00		0.71	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	116	0	0	121	0	85	873	2971	1293	378	0	1565
V/C Ratio(X)	0.06	0.00	0.00	0.22	0.00	0.16	0.01	0.43	0.02	0.03	0.00	0.24
Avail Cap(c_a), veh/h	586	0	0	549	0	598	975	2971	1293	478	0	1565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.80	0.80	0.80	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.6	0.0	0.0	68.6	0.0	67.9	1.9	3.2	2.1	2.4	0.0	2.5
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.9	0.0	0.9	0.0	0.4	0.0	0.0	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	0.0	1.9	0.0	1.0	0.1	7.2	0.2	0.1	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	67.8	0.0	0.0	69.5	0.0	68.8	1.9	3.5	2.1	2.4	0.0	2.8
LnGrp LOS	E			E		E	A	A	A	A		A
Approach Vol, veh/h		7			41			1329			380	
Approach Delay, s/veh		67.8			69.3			3.5			2.8	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	130.6		12.8	6.5	130.8		12.8				
Change Period (Y+Rc), s	4.8	5.2		4.9	4.9	5.2		4.9				
Max Green Setting (Gmax), s	10.2	69.8		55.1	10.1	69.8		55.1				
Max Q Clear Time (g_c+I1), s	2.1	16.0		2.6	2.1	8.0		4.7				
Green Ext Time (p_c), s	0.0	14.4		0.0	0.0	2.5		0.1				

Intersection Summary			
HCM 7th Control Delay, s/veh		5.1	
HCM 7th LOS		A	

HCM 7th Signalized Intersection Summary
3: Victorian Ave & Rock Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	106	89	109	93	15	126	1266	63	18	356	23
Future Volume (veh/h)	51	106	89	109	93	15	126	1266	63	18	356	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.97	0.99		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	52	108	45	111	95	10	129	1292	45	18	363	16
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	220	200	164	232	231	24	426	1630	57	142	761	34
Arrive On Green	0.04	0.11	0.11	0.07	0.14	0.14	0.05	0.47	0.47	0.02	0.43	0.43
Sat Flow, veh/h	1767	1856	1529	1767	1644	173	1767	3472	121	1767	1761	78
Grp Volume(v), veh/h	52	108	45	111	0	105	129	655	682	18	0	379
Grp Sat Flow(s),veh/h/ln	1767	1856	1529	1767	0	1817	1767	1763	1830	1767	0	1839
Q Serve(g_s), s	3.9	8.3	4.1	8.2	0.0	7.9	5.9	47.1	47.2	0.8	0.0	22.1
Cycle Q Clear(g_c), s	3.9	8.3	4.1	8.2	0.0	7.9	5.9	47.1	47.2	0.8	0.0	22.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.07	1.00		0.04
Lane Grp Cap(c), veh/h	220	200	164	232	0	255	426	827	859	142	0	794
V/C Ratio(X)	0.24	0.54	0.27	0.48	0.00	0.41	0.30	0.79	0.79	0.13	0.00	0.48
Avail Cap(c_a), veh/h	423	372	307	353	0	340	505	827	859	345	0	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.56	0.56	0.56	0.98	0.00	0.98
Uniform Delay (d), s/veh	56.8	63.4	61.5	53.0	0.0	58.8	22.5	33.6	33.7	29.0	0.0	30.5
Incr Delay (d2), s/veh	0.5	2.3	0.9	1.5	0.0	1.1	0.2	4.4	4.3	0.4	0.0	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	7.3	2.9	6.8	0.0	6.7	4.5	26.7	27.6	0.7	0.0	15.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.4	65.7	62.4	54.6	0.0	59.9	22.8	38.1	38.0	29.4	0.0	32.5
LnGrp LOS	E	E	E	D		E	C	D	D	C		C
Approach Vol, veh/h		205			216			1466			397	
Approach Delay, s/veh		62.9			57.1			36.7			32.3	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	75.6	14.7	21.0	13.3	70.0	9.8	26.0
Change Period (Y+Rc), s	5.1	5.2	4.5	4.9	5.3	5.2	4.5	4.9
Max Green Setting (Gmax), s	19.9	59.8	20.5	30.1	14.7	64.8	22.5	28.1
Max Q Clear Time (g_c+I1), s	2.8	49.2	10.2	10.3	7.9	24.1	5.9	9.9
Green Ext Time (p_c), s	0.0	6.4	0.2	0.6	0.2	2.6	0.1	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	40.2
HCM 7th LOS	D

HCM 7th TWSC
1: Rock Blvd & 15th St

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	180	200	30	290	540
Future Vol, veh/h	10	180	200	30	290	540
Conflicting Peds, #/hr	0	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	12	209	233	35	337	628

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1554	138	0	0	269	0
Stage 1	252	-	-	-	-	-
Stage 2	1302	-	-	-	-	-
Critical Hdwy	6.645	6.945	-	-	4.145	-
Critical Hdwy Stg 1	5.845	-	-	-	-	-
Critical Hdwy Stg 2	5.445	-	-	-	-	-
Follow-up Hdwy	3.5285	3.3285	-	-	2.2285	-
Pot Cap-1 Maneuver	113	883	-	-	1286	-
Stage 1	765	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	83	880	-	-	1284	-
Mov Cap-2 Maneuver	83	-	-	-	-	-
Stage 1	763	-	-	-	-	-
Stage 2	186	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	12.73	0	3.07
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	83	880	1284	-
HCM Lane V/C Ratio	-	-	0.14	0.238	0.263	-
HCM Control Delay (s/veh)	-	-	55.3	10.4	8.8	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.9	1.1	-

HCM 7th Signalized Intersection Summary
2: Rock Blvd & C St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	10	45	1	20	5	315	15	20	910	5
Future Volume (veh/h)	5	0	10	45	1	20	5	315	15	20	910	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	5	0	10	47	1	15	5	332	8	21	958	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	49	10	46	118	4	66	68	1794	799	613	963	4
Arrive On Green	0.05	0.00	0.05	0.05	0.05	0.05	0.01	1.00	1.00	0.02	0.53	0.53
Sat Flow, veh/h	290	224	1028	1371	98	1465	1739	3469	1544	1739	1817	8
Grp Volume(v), veh/h	15	0	0	47	0	16	5	332	8	21	0	962
Grp Sat Flow(s),veh/h/ln	1543	0	0	1371	0	1562	1739	1735	1544	1739	0	1825
Q Serve(g_s), s	0.0	0.0	0.0	3.0	0.0	1.3	0.2	0.0	0.0	0.8	0.0	70.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	4.2	0.0	1.3	0.2	0.0	0.0	0.8	0.0	70.7
Prop In Lane	0.33		0.67	1.00		0.94	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	105	0	0	118	0	70	68	1794	799	613	0	967
V/C Ratio(X)	0.14	0.00	0.00	0.40	0.00	0.23	0.07	0.19	0.01	0.03	0.00	0.99
Avail Cap(c_a), veh/h	478	0	0	464	0	464	187	1794	799	709	0	967
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.99	0.99	0.99	1.00	0.00	1.00
Uniform Delay (d), s/veh	62.1	0.0	0.0	63.5	0.0	62.2	32.9	0.0	0.0	14.6	0.0	31.5
Incr Delay (d2), s/veh	0.6	0.0	0.0	2.1	0.0	1.6	0.5	0.2	0.0	0.0	0.0	27.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	0.0	0.0	3.0	0.0	1.0	0.2	0.1	0.0	0.6	0.0	47.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.7	0.0	0.0	65.6	0.0	63.8	33.4	0.2	0.0	14.7	0.0	59.2
LnGrp LOS	E			E		E	C	A	A	B		E
Approach Vol, veh/h		15			63			345			983	
Approach Delay, s/veh		62.7			65.1			0.7			58.2	
Approach LOS		E			E			A			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	75.0		11.0	5.8	76.8		11.0				
Change Period (Y+Rc), s	4.8	5.2		4.9	4.9	5.2		4.9				
Max Green Setting (Gmax), s	10.2	69.8		40.1	10.1	69.8		40.1				
Max Q Clear Time (g_c+I1), s	2.8	2.0		3.2	2.2	72.7		6.2				
Green Ext Time (p_c), s	0.0	2.5		0.0	0.0	0.0		0.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			44.5									
HCM 7th LOS			D									

HCM 7th Signalized Intersection Summary
3: Victorian Ave & Rock Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	70	130	210	130	20	60	300	30	60	900	10
Future Volume (veh/h)	20	70	130	210	130	20	60	300	30	60	900	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	21	74	69	221	137	15	63	316	23	63	947	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	249	427	359	297	378	41	346	2008	145	442	861	7
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.06	0.20	0.20	0.07	0.96	0.96
Sat Flow, veh/h	1191	1811	1523	1199	1600	175	1725	3253	236	1725	1793	15
Grp Volume(v), veh/h	21	74	69	221	0	152	63	166	173	63	0	955
Grp Sat Flow(s),veh/h/ln	1191	1811	1523	1199	0	1775	1725	1721	1768	1725	0	1808
Q Serve(g_s), s	2.0	4.4	4.9	24.3	0.0	9.7	0.5	10.7	10.8	2.8	0.0	64.8
Cycle Q Clear(g_c), s	11.7	4.4	4.9	28.7	0.0	9.7	0.5	10.7	10.8	2.8	0.0	64.8
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.13	1.00		0.01
Lane Grp Cap(c), veh/h	249	427	359	297	0	419	346	1062	1091	442	0	868
V/C Ratio(X)	0.08	0.17	0.19	0.74	0.00	0.36	0.18	0.16	0.16	0.14	0.00	1.10
Avail Cap(c_a), veh/h	322	538	452	371	0	527	346	1062	1091	575	0	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.98	0.98	0.98	0.75	0.00	0.75
Uniform Delay (d), s/veh	48.0	41.1	41.3	52.5	0.0	43.1	52.9	24.9	24.9	20.6	0.0	2.7
Incr Delay (d2), s/veh	0.1	0.2	0.3	6.1	0.0	0.5	0.2	0.3	0.3	0.1	0.0	58.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	3.6	3.4	12.4	0.0	7.8	3.7	8.7	9.0	2.0	0.0	22.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.1	41.3	41.5	58.6	0.0	43.6	53.2	25.2	25.2	20.7	0.0	61.1
LnGrp LOS	D	D	D	E		D	D	C	C	C		F
Approach Vol, veh/h		164			373			402			1018	
Approach Delay, s/veh		42.3			52.5			29.6			58.6	
Approach LOS		D			D			C			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.6	88.6		36.8	28.2	70.0		36.8
Change Period (Y+Rc), s	5.1	* 5.3		4.9	5.3	5.2		4.9
Max Green Setting (Gmax), s	4.5	* 65		40.1	14.7	64.8		40.1
Max Q Clear Time (g_c+I1), s	4.8	12.8		13.7	2.5	66.8		30.7
Green Ext Time (p_c), s	0.1	2.2		0.7	0.1	0.0		1.2

Intersection Summary	
HCM 7th Control Delay, s/veh	50.1
HCM 7th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th TWSC
1: Rock Blvd & 15th St

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	130	880	20	130	460
Future Vol, veh/h	10	130	880	20	130	460
Conflicting Peds, #/hr	0	0	0	7	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	133	898	20	133	469

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1650	466	0	0	925	0
Stage 1	915	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	99	544	-	-	736	-
Stage 1	352	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	80	540	-	-	731	-
Mov Cap-2 Maneuver	80	-	-	-	-	-
Stage 1	349	-	-	-	-	-
Stage 2	388	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	16.85	0	2.43
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	80	540	731	-
HCM Lane V/C Ratio	-	-	0.127	0.246	0.181	-
HCM Control Delay (s/veh)	-	-	56.3	13.8	11	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	0.4	1	0.7	-

HCM 7th Signalized Intersection Summary
2: Rock Blvd & C St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1	5	40	5	20	5	870	40	20	560	5
Future Volume (veh/h)	5	1	5	40	5	20	5	870	40	20	560	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.98		0.97	0.97		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1	4	41	5	15	5	888	9	20	571	5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	20	38	135	25	75	692	2913	1268	553	1539	13
Arrive On Green	0.06	0.06	0.06	0.06	0.06	0.06	0.01	0.82	0.82	0.02	0.83	0.83
Sat Flow, veh/h	584	330	609	1368	406	1217	1781	3554	1546	1781	1851	16
Grp Volume(v), veh/h	10	0	0	41	0	20	5	888	9	20	0	576
Grp Sat Flow(s),veh/h/ln	1523	0	0	1368	0	1623	1781	1777	1546	1781	0	1867
Q Serve(g_s), s	0.0	0.0	0.0	3.3	0.0	1.8	0.1	9.0	0.2	0.3	0.0	11.3
Cycle Q Clear(g_c), s	0.8	0.0	0.0	4.1	0.0	1.8	0.1	9.0	0.2	0.3	0.0	11.3
Prop In Lane	0.50		0.40	1.00		0.75	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	130	0	0	135	0	101	692	2913	1268	553	0	1553
V/C Ratio(X)	0.08	0.00	0.00	0.30	0.00	0.20	0.01	0.30	0.01	0.04	0.00	0.37
Avail Cap(c_a), veh/h	580	0	0	552	0	596	801	2913	1268	641	0	1553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.91	0.91	0.91	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.4	0.0	0.0	67.8	0.0	66.8	2.6	3.2	2.4	2.3	0.0	3.1
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.3	0.0	1.0	0.0	0.2	0.0	0.0	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	0.0	0.0	2.8	0.0	1.4	0.0	5.1	0.1	0.1	0.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	66.6	0.0	0.0	69.1	0.0	67.8	2.6	3.5	2.5	2.3	0.0	3.8
LnGrp LOS	E			E		E	A	A	A	A		A
Approach Vol, veh/h		10			61			902			596	
Approach Delay, s/veh		66.6			68.7			3.5			3.7	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	128.2		14.2	5.8	130.0		14.2				
Change Period (Y+Rc), s	4.8	5.2		4.9	4.9	5.2		4.9				
Max Green Setting (Gmax), s	10.2	69.8		55.1	10.1	69.8		55.1				
Max Q Clear Time (g_c+I1), s	2.3	11.0		2.8	2.1	13.3		6.1				
Green Ext Time (p_c), s	0.0	8.0		0.0	0.0	4.5		0.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			6.5									
HCM 7th LOS			A									

HCM 7th Signalized Intersection Summary
3: Victorian Ave & Rock Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	160	100	240	210	40	130	810	80	30	540	40
Future Volume (veh/h)	60	160	100	240	210	40	130	810	80	30	540	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	61	163	51	245	214	29	133	827	58	31	551	29
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	227	237	196	329	348	47	286	1548	109	270	754	40
Arrive On Green	0.04	0.13	0.13	0.13	0.22	0.22	0.06	0.46	0.46	0.02	0.43	0.43
Sat Flow, veh/h	1767	1856	1535	1767	1594	216	1767	3335	234	1767	1744	92
Grp Volume(v), veh/h	61	163	51	245	0	243	133	437	448	31	0	580
Grp Sat Flow(s),veh/h/ln	1767	1856	1535	1767	0	1809	1767	1763	1806	1767	0	1836
Q Serve(g_s), s	4.5	12.6	4.5	17.6	0.0	18.2	6.1	26.5	26.5	1.5	0.0	39.3
Cycle Q Clear(g_c), s	4.5	12.6	4.5	17.6	0.0	18.2	6.1	26.5	26.5	1.5	0.0	39.3
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.13	1.00		0.05
Lane Grp Cap(c), veh/h	227	237	196	329	0	395	286	818	838	270	0	793
V/C Ratio(X)	0.27	0.69	0.26	0.74	0.00	0.62	0.47	0.53	0.53	0.11	0.00	0.73
Avail Cap(c_a), veh/h	421	372	308	339	0	395	362	818	838	461	0	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.61	0.61	0.61	0.94	0.00	0.94
Uniform Delay (d), s/veh	53.9	62.6	59.1	47.1	0.0	52.9	27.1	28.6	28.6	24.2	0.0	35.4
Incr Delay (d2), s/veh	0.6	3.6	0.7	8.4	0.0	2.8	0.7	1.5	1.5	0.2	0.0	5.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	10.3	3.2	13.4	0.0	13.5	4.7	16.0	16.3	1.1	0.0	25.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.5	66.1	59.8	55.4	0.0	55.8	27.8	30.2	30.1	24.4	0.0	40.9
LnGrp LOS	D	E	E	E		E	C	C	C	C		D
Approach Vol, veh/h		275			488			1018			611	
Approach Delay, s/veh		62.4			55.6			29.8			40.1	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	74.8	24.2	24.0	13.6	70.0	10.5	37.6
Change Period (Y+Rc), s	5.1	5.2	4.5	4.9	5.3	5.2	4.5	4.9
Max Green Setting (Gmax), s	19.9	59.8	20.5	30.1	14.7	64.8	22.5	28.1
Max Q Clear Time (g_c+I1), s	3.5	28.5	19.6	14.6	8.1	41.3	6.5	20.2
Green Ext Time (p_c), s	0.0	6.6	0.1	0.9	0.2	4.1	0.1	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	41.5
HCM 7th LOS	D

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 6.2.**

To: Regional Transportation Commission

From: Marquis Williams, Senior Transportation Planner

SUBJECT: Draft Sun Valley/Panther Valley & Meadowood/Hidden Valley Neighborhood Network Plans

RECOMMENDED ACTION

Receive a presentation on the draft Sun Valley/Panther Valley & Meadowood/Hidden Valley Neighborhood Network Plans.

BACKGROUND AND DISCUSSION

The Sun Valley/Panther Valley & Meadowood/Hidden Valley Neighborhood Network Plans (NNPs) kicked off in September 2025 based on a recommendation from the Active Transportation Plan (ATP), approved in September 2024, and the Active Transportation Technical Advisory Committee. The NNPs are meant to increase the number of walking and biking trips within the two neighborhood areas by improving safety and comfort along key corridors. The Plans recommend traditional bicycle and pedestrian infrastructure improvements as well as low-cost, quick-build improvements. The 2024 ATP recommended, and these NNPs support, before and after data collection to measure the effectiveness of the improvements in the creation of a comprehensive and responsive active transportation network accessible to a broader cross-section of our community.

The two NNPs recommend both traditional and quick-build style transportation improvements. In total, 9.6 miles of roadways are recommended for improvements across the neighborhoods, including 4.6 miles in Sun Valley/Panther Valley and 5 miles in Meadowood/Hidden Valley. The NNPs include cutsheets for each quick-build corridor project recommendation, detailing the project extents, approximate cost, potential intersection enhancements, and a conceptual cross-section. Based on funding availability and construction feasibility, many recommended quick-build projects are expected to be implemented using funds from the RTC Active Transportation Program.

The two NNPs became available for public review and comment at rtcwashoe.com/neighborhood starting on October 7, 2026. Following the October presentation to the RTC Board, the final Plans are anticipated to be included for approval at the November 20, 2026, RTC Board meeting.

This item supports Strategic Roadmap Goal #2, "Promote neighborhood mobility" and FY2027 RTC Goal, "Initiate: Neighborhood Network Plans #3 & #4".

FISCAL IMPACT

Funding for this item has been budgeted for in the FY2026-FY2027 Unified Planning Work Program (UPWP).

PREVIOUS BOARD ACTION

09/19/2025 - Approved a contract with Parametrix, Inc., for planning services to complete Neighborhood Network Plans 3 & 4.

NEIGHBORHOOD NETWORK PLAN
MEADOWOOD & HIDDEN VALLEY

RTC

Meadowood & Hidden Valley

Neighborhood Network Plan

October 2026



Acknowledgements

The Meadowood and Hidden Valley Neighborhood Network Plan was developed through collaboration with partner agencies and local organizations. The agencies and individuals listed below helped to guide the development of the plan and will continue to support the implementation of project recommendations.

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1. Introduction

The Meadowood and Hidden Valley Neighborhood Network Plan (NNP) was developed as part of the Active Transportation (AT) Program to make walking, biking, and rolling safer and more comfortable for community members. The NNP helps address the following concerns highlighted in the 2024 RTC AT Plan:

- People feel unsafe getting around without a car due to aggressive/speeding vehicles.
- Crossing major roadways is challenging, unsafe, and uncomfortable for many pedestrians and bicyclists.
- Many roads lack adequate pedestrian and bicycle infrastructure.

The NNPs address these concerns by developing specific project concepts tailored to the needs of each neighborhood with the goal of improving safety and creating a comfortable experience for everyone. These plans seek to identify quick-build and pilot active transportation projects that can be implemented in a cost-effective and time-efficient manner.

Active transportation is a way of getting around that relies on human physical power. This includes walking, bicycling, rolling (skateboarding, scooters), and using a wheelchair. By investing in active transportation, RTC and partner agencies can take direct steps toward creating a healthier, more sustainable, and more vibrant place to live, work, and play.

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1.1 Planning Context

This section describes relevant plans and studies for the Meadowood and Hidden Valley neighborhood planning area.

2050 Regional Transportation Plan

The most recent update to the 2050 Regional Transportation Plan (RTP) was adopted by RTC in 2025. RTC collaborated with partner agencies and community stakeholders to develop a vision for the future of transportation within the Truckee Meadows. Through this process, RTC established nine goals for transportation:

- Improve Safety
- Maintain Infrastructure Condition
- Reduce Congestion
- Improve System Reliability and Resiliency
- Ensure Efficient Freight Movement and Economic Vitality
- Promote Equity and Environmental Sustainability
- Reduce Project Delivery Delays
- Expand Accessibility and Mobility
- Integrate Land Use and Economic Development

In addition, the RTP identifies projects in this study area that will enhance safety, mobility, and connectivity. A summary of RTP projects is provided in Table 1. Projects in this plan are also compatible with projects in the RTP.

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Table 1. RTP Projects Located in or Adjacent to the NNP Area

Project	Description	Time Period
Pembroke Dr. Capacity	McCarran Blvd. to Veterans Pkwy.	2025-2034
Mira Loma Dr. Capacity	McCarran Blvd. to Veterans Pkwy.	2025-2034
McCarran Blvd., Longley Ln. to Airway Dr. Capacity	Add lanes and Eastbound shared use path	2025-2034
McCarran Blvd., Neil Rd. to South Virginia St. Capacity	Remove Lanes and Provide Protected Shared Use Path	2025-2034
McCarran Blvd./Mira Loma Dr.	Add westbound and northbound improvements	2035-2050
Peckham Ln. Multimodal	Lakeside Dr. to Airway Dr.	2025-2034
S. Virginia St. Multimodal and ADA South	Longley Ln. to Meadowood Mall Cr.	2025-2034
S. Virginia St. Multimodal and ADA North	Meadowood Mall Cr. To Moana Ln.	2025-2034
Rock Blvd. Sidewalks and Bike Lanes	Greg St. to McCarran Blvd.	2035-2050
Gateway Dr. Pedestrian Facility	S. Meadows Pkwy. to Offenhauser Dr.	2035-2050
McCarran Blvd. Rio Encantado Ln. to Longley Ln. Multimodal	Add Southbound Sidewalk	Unfunded
McCarran Blvd. Rock Blvd. to Perro Ln. Multimodal	Add Southbound Sidewalk	Unfunded

Active Transportation Plan

The AT Plan presents the vision and goals for active transportation throughout the Truckee Meadows and a planning process to apply across the region. The AT Plan established the NNP process and produced resources such as regional findings from public engagement, regional data analysis results, and the RTC Street Typology guide, which identifies suitable facilities for people walking, biking, and rolling across ten different types of roads. The comprehensive outreach and data collection in the AT Plan serves as a starting point for the more localized NNP process.

Other RTC Initiatives

RTC implements the following initiatives that support AT mobility:

- **RTC Smart Trips Program** – This travel demand management program provides information and resources regarding route planning, trip matching, a bus pass subsidy program, and a guaranteed ride home.

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- **Safe Routes to School** – RTC has funded implementation of the Safe Routes to School program, in partnership with the Washoe County School District. Through this program, the Washoe County School District staffs Safe Routes to School coordinator positions that are dedicated to providing transportation safety education resources to students across the county.

1.2 Vision and Goals

The following is the vision statement for the Meadowood and Hidden Valley NNP as developed and refined for the neighborhood by community stakeholders:

Vision Statement

We envision a connected network of comfortable, convenient, and consistent transportation facilities for people of all ages and abilities walking, bicycling, riding transit, and rolling on a mobility device which prioritizes accessibility to schools, jobs, shopping, neighborhoods, community facilities, parks, and regional trails.

The AT Plan identified four goals to achieve the vision statement. These four goals were adopted for this NNP, and are as follows:

- **Improve Safety:** Create a safe environment for all users by reducing the risk of death or serious injury on the transportation network.
- **Expand Mode Share:** Increase the percentage of trips made by walking, bicycling, and rolling, by making these modes a viable and attractive alternative to driving.
- **Maintain the System Sustainably**: Identify long-term maintenance and repair strategies to ensure the network remains functional and appealing for years to come.
- **Enhance the Community:** Foster a healthier, more sustainable, and more vibrant community by promoting active transportation as a way to connect with neighbors and enjoy the outdoors and integrate physical activity into daily life.

1.3 Plan Process

The Meadowood and Hidden Valley NNP was developed using in-depth data analysis combined with partner agency collaboration and direct engagement with members of the public. The planning area is shown in Figure 1. The development process included public engagement featuring multiple in-person events and online elements.

In addition to public engagement, RTC used regional data analysis to identify neighborhood issues and areas of need based on demographics, roadway context, and crash history. By integrating community insights with data findings, the plan highlights and addresses the most pressing challenges for people walking and biking. The result is a quick-build implementation strategy designed to rapidly enhance connectivity and comfort throughout the neighborhood.

Improvements identified in this plan focus on high-priority corridors for quick-build projects. Larger-scale improvements are identified for consideration in future planning and implementation efforts,

such as the RTP, individual corridor studies, or the pavement preservation program. The plan also identifies improvements that may be completed by partner agencies such as the Nevada Department of Transportation or local jurisdictions.

Figure 1. Meadowood and Hidden Valley Neighborhood Network Area





2. Neighborhood Profile

The Meadowood and Hidden Valley neighborhood is located south of the Truckee River and east of I-580 in Reno and unincorporated Washoe County. The area contains a mix of suburban and rural development patterns and contains undeveloped land that is zoned for agriculture, parks and recreation, or open space uses. This chapter describes neighborhood demographics, land use, transportation safety needs, and the transportation network.

The Meadowood and Hidden Valley neighborhood has a population of almost 23,000 residents. While the neighborhood demographics are generally similar to Washoe County as a whole, the lower median income, higher senior population, and higher proportion of households with a single vehicle indicate a need for active transportation options. A summary of population demographics and other information that contributed to the existing conditions analysis and needs assessment is provided in Appendix A.

The housing density, employment centers, and outdoor recreation destinations in the Meadowood and Hidden Valley neighborhood create strong potential for active transportation trips.

2.1 Key Destinations

This section describes key community resources and other destinations in the NNP area, which are shown in Figure 2. The network plan seeks to identify improvements that allow residents to access these destinations more safely and comfortably using active transportation.

Schools and Colleges

There are four elementary schools, two high schools, and a community college within the neighborhood area. Providing safer options to walk and bicycle to neighborhood schools is a priority of this plan. The Dodson, Donner Springs, and Hidden Valley Elementary Schools are located in

residential areas and therefore experience higher levels of active transportation activity than the other schools. The Washoe County School District has plans to repurpose the Dodson Springs Elementary School, which will result in students being rezoned to Donner Springs or Hidden Valley Elementary School. While the specific boundaries for school attendance and busing have not yet been determined, there is the potential that more students will be bicycling to Donner Spring Elementary. The Coral Academy of Science High School and Elementary School are both located on Neil Road near South Virginia Street. The Academy of Arts, Careers, and Technology High School is located in a primarily industrial area in the northern portion of the NNP area. The area is also home to the Truckee Meadows Community College Meadowood Center campus on Neil Road, which is accessible by transit and active transportation modes.

Parks

There are several major parks and open space areas within the Meadowood and Hidden Valley neighborhood. These include Hidden Valley Regional Park, Mira Loma Park, Huffaker Hills Open Space, Rosewood Nature Study Area, and many smaller community parks. The Veterans Parkway shared use path is used for commuting and is also a major destination for recreational walking and bicycling. These parks and trails offer a variety of recreational opportunities such as playgrounds, sports fields, hiking trails, dog parks, and skate parks. They are popular resources for area residents of all ages, many of whom walk or bike to the parks from the surrounding neighborhood. This makes providing safe multimodal access a priority in this plan.



Playground at Hidden Valley Regional Park



People walking on a trail toward Huffaker Park

Services

The neighborhood includes multiple major grocery retailers. The Meadowood Mall area provides access to many retail shops and restaurants, but there are similar establishments along most major arterials within the community.

The Sierra Medical Center is a full-service hospital located on Longley Lane in the southern end of the neighborhood. There are also several urgent care centers and specialty medical clinics throughout the community. In addition, there are multiple places of worship within the area.

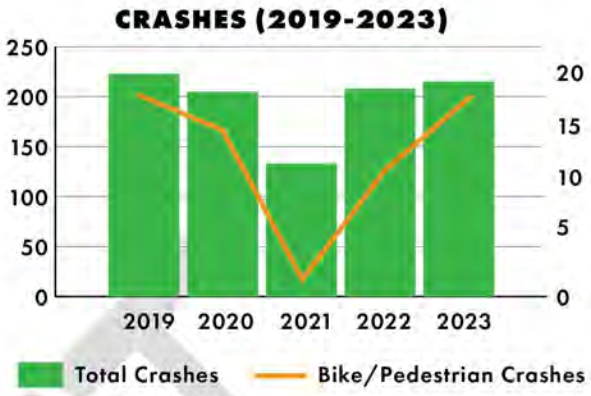
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Figure 2. Major Destinations



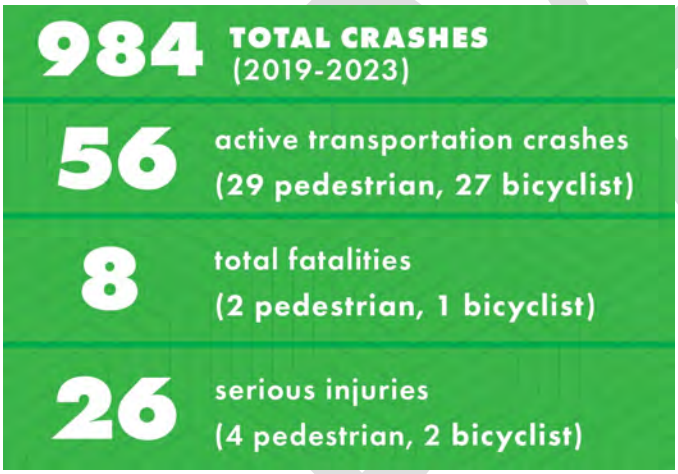
2.2 Safety

To better understand trends and identify opportunities to increase active transportation, RTC analyzed crash history and safety conditions for people walking and biking. This analysis builds on the regional work completed for the AT Plan, with a focus on the Meadowood and Hidden Valley neighborhood to identify priority areas for improvement.



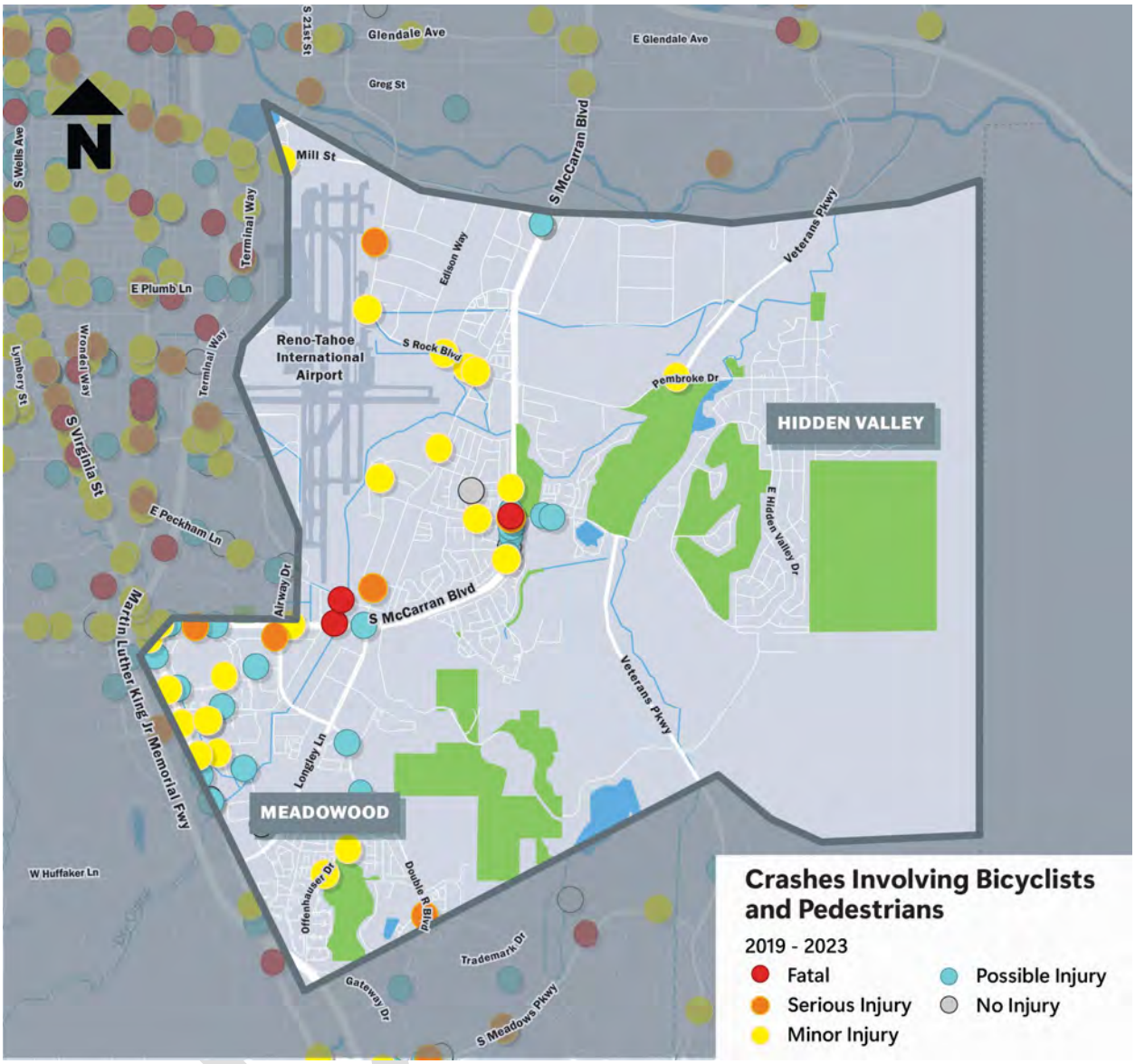
The safety analysis reviewed crashes within the Meadowood and Hidden Valley neighborhood over the 2019–2023 period, which was the most current data available at the time of this study.

There were 29 crashes involving pedestrians, resulting in two pedestrian fatalities and four serious pedestrian injuries. During the same period, 27 crashes involved bicyclists, including one bicyclist fatality and two serious injuries. Active transportation crashes were concentrated at specific locations, with a significant hotspot near the intersection of South McCarran Boulevard and Mira Loma Drive, and a notable number of bicycle crashes occurring along South Rock Boulevard. While detailed contributing factors are limited, available data shows that drivers failed to obey traffic rules in about 14% of these crashes. Five crashes involving active transportation users were hit-and-run incidents. Figure 3 shows active transportation crash locations.



Nearly 1,000 crashes occurred in the area during this five-year timeframe, with crash totals dipping in 2021. Angle crashes accounted for nearly half of all reported crashes, making them the most prevalent crash type, followed by rear-end crashes and non-collision crashes. Non-collision crashes typically involved vehicles veering off the roadway or losing control due to excessive speed, highlighting ongoing concerns related to intersection conflicts and driving behavior.

Figure 3. Active Transportation Crashes



2.3 Transportation Network, Conditions, and Trends

To better understand trends and identify opportunities to increase active transportation, RTC analyzed datasets related to safety, multimodal, and roadway conditions. This analysis identifies priority areas for improvement, particularly where data insights align with community feedback.

Pedestrian Infrastructure

The Meadowood and Hidden Valley neighborhood includes a mix of pedestrian infrastructure that supports both daily travel and recreational use. Sidewalks line many residential streets, providing local connectivity, though some gaps remain that limit continuous pedestrian access. A 10-foot-wide paved shared use path runs along Veterans Parkway as well as a section of South McCarran Boulevard, accommodating pedestrians and bicyclists and offering a higher level of comfort along these high-traffic roadways. Parks and nearby open space feature informal and formal trails that support walking and recreation, helping connect neighborhoods to open space and community amenities.

Bicycle Infrastructure

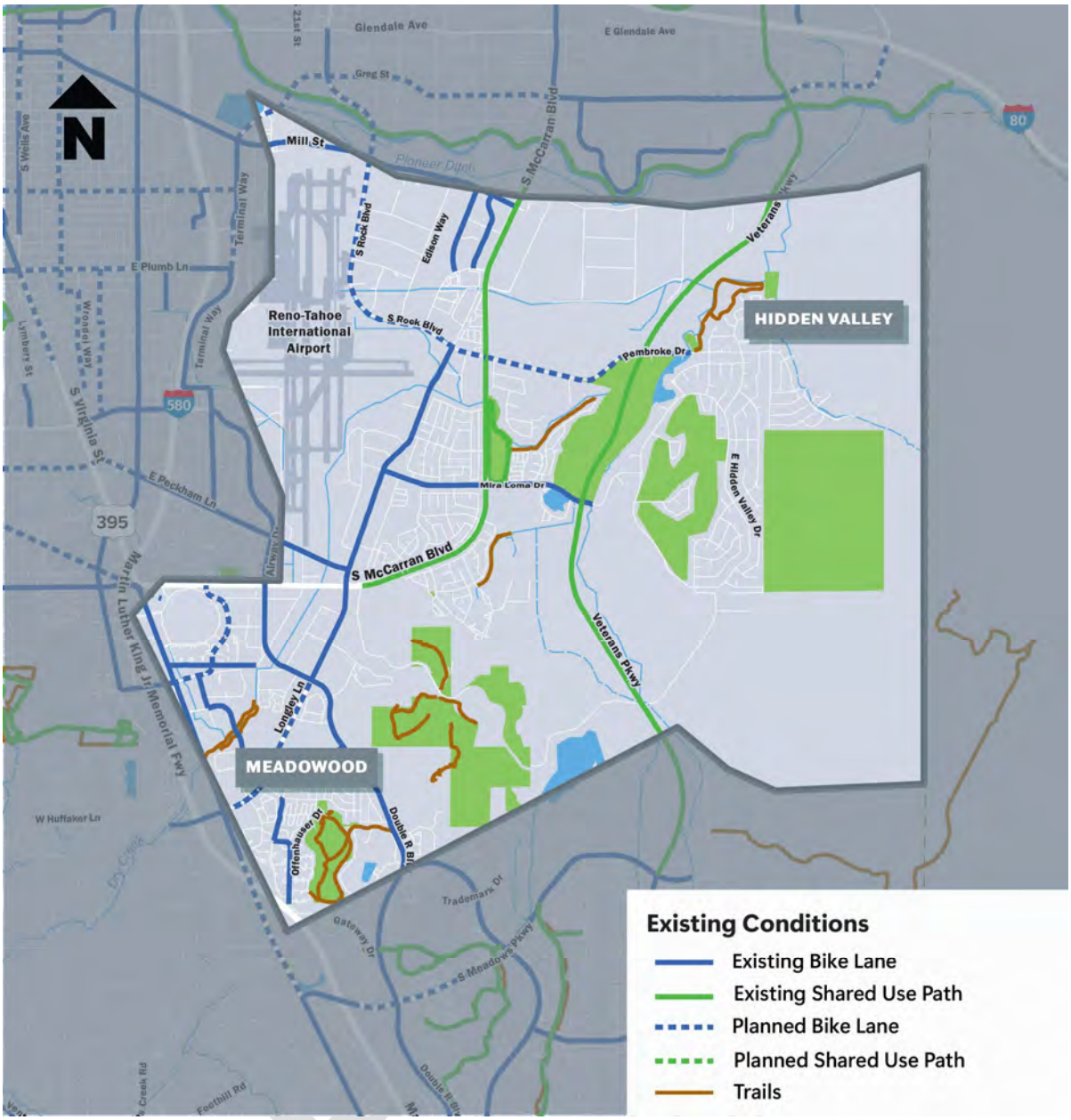
EXISTING FACILITIES (in miles)	
Bike Lane:	17
Shared-Use Path:	9
Sharrow:	0.4
Signed Bike Route:	0.2

Bicycle facilities in the Meadowood and Hidden Valley neighborhood range from on-street accommodations to fully separated paths. Standard 5-foot bike lanes run along Longley Lane and Double R Boulevard, placing bicyclists adjacent to moving traffic and primarily serving only the most confident riders. Additional on-street bike lanes appear on several streets in the southwest portion of the neighborhood near Meadowood Mall, improving access to shopping and employment. In lower-volume areas, shared street facilities such as signed bike routes and sharrows support bicycle travel by alerting drivers to expect bicyclists in the roadway. For riders of all ages and abilities, 10-foot-wide shared use paths along segments of McCarran Boulevard and Veterans Parkway provide a separated, high-comfort option that supports both bicycling and walking along these major corridors. Existing and planned bicycle facilities are shown in Figure 4.



Bicyclist on McCarran Boulevard shared use path near the Mira Loma Drive intersection

Figure 4. Existing and Planned Bike Facilities





Transit

Transit service in the study area includes four fixed bus routes operated by RTC. Transit provides access to major destinations throughout the neighborhood and surrounding areas, including shopping, the airport, grocery stores, and the Meadowood Transit Station. The Meadowood Transit Station offers connections to routes travelling throughout the RTC regional system, including the Regional Connector that provides service to Carson City. There are 82 bus stops in the neighborhood for these four routes, with Route 54 accounting for nearly half of all stops. Amenities at bus stops vary throughout the area, ranging from signs to covered shelters.

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3. Understanding Community Experiences

RTC engaged with community members and organizations within the Meadowood and Hidden Valley neighborhood throughout the development of this NNP. A variety of strategies and outreach tools were used, including in-person meetings, pop-up events, stakeholder meetings, an interactive map and online survey, and a steering committee. This section summarizes the engagement efforts and findings.

During the planning process, RTC reached more than 80 community members through a combination of online and in-person activities. People were invited to learn about the plan and share feedback about specific locations and other transportation issues. Table 2 summarizes engagement activities.

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Table 2. Engagement Tools

Engagement Tool	Description	Date(s)
Agency Collaboration	Partner agencies met with RTC monthly to collaboratively develop the NNP. Agency staff participated in a neighborhood site visit/walk audit. One-on-one meetings were also held with each jurisdiction.	Agency meetings held monthly. Site visit held on April 29, 2026. Meeting held with Reno on April 24, 2026 and with Washoe County on April 29, 2026.
Steering Committee	This group of stakeholders helped to define the vision and goals for the NNP and identify key issues.	Meetings were held on November 6, 2025, and July 23, 2026.
Community Workshop	A public workshop was held at the Truckee Meadows Community College Meadowood Campus to gather input about concerns and ideas for the planning area.	December 10, 2025
Pop-up Event	Mira Loma Shopping Center	November 12, 2025
Stakeholder Meeting	Northern Nevada Center for Independent Living	November 12, 2025
Project Website	RTC published a project web page at www.rtcwashoe.com/neighborhood.	The site was launched in November 2025 and maintained throughout the study.
Survey	A brief text-based survey was developed in English and Spanish to gather input on transportation needs in the study area.	The survey launched on November 12, 2025, and continued through February 12, 2026.
Online Comment Map	An online map invited participants to identify specific locations of transportation needs in the study area.	The comment map launched on November 12, 2025, and continued through February 12, 2026.
Advisory Committees	RTC Citizens Multimodal Advisory Committee (CMAC) and Technical Advisory Committee (TAC) and the South Valleys Citizens Advisory Board (CAB) were provided with information about the study and community survey.	CMAC was held on December 3, 2025; TAC and South Valleys CAB were held on December 4, 2025.

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3.1 In-Person Engagement

Agency Collaboration

RTC partnered with the City of Reno and Washoe County to develop the NNP, using monthly meetings to ensure communication and collaboration throughout the process. Staff representing both planning and engineering disciplines were involved. The agency partners supported the identification of needs, priorities, and potential solutions. Coordination also included one-on-one meetings, and a site visit of the neighborhood area (see Appendix C).



Agency site visit

Neighborhood Network Plan Steering Committee

The NNP process strives to collaboratively develop solutions with regional partners. One key element of this process is the Steering Committee, which includes representatives from the City of Reno, Washoe County, Nevada Department of Transportation, Washoe County School District, and Truckee Meadows Community College. The initial meeting, held on November 6, 2025, focused on establishing the vision and goals for the study. Participants also reviewed existing conditions data and shared input on needs and priorities. Safe mobility options to reach both K-12 public schools and the Truckee Meadows Community College were identified as key issues. Speeding on neighborhood roads was also discussed as a concern. Proposed recommendations were reviewed on July 23, 2026. The group indicated support for the proposed concepts.



Steering Committee Meeting

Community Workshop

A community workshop was held to gather input from local residents. The meeting was held at the Truckee Meadows Community College Meadowood Campus on December 10, 2025, with about ten people in attendance. A presentation was provided about existing conditions and a group discussion followed, which allowed participants to share and document their experiences and ideas. Key themes expressed included the following:

NNP Steering Committee on November 6, 2025

- There is a perceived lack of bicycle connectivity on safe corridors across the planning area.
- Protected bicycle facilities are preferred, with Mira Loma Drive identified as an example that would benefit from enhancements.
- Pedestrian crossings at major roadways are a concern, with the Neil Road and McCarran Boulevard intersection identified as an example.

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- Bicycle crossings at intersections are a concern, with Mira Loma Drive and Pembroke Drive at McCarran Boulevard identified as examples.

Pop-Up Event

A pop-up event was held to make providing input convenient for area residents. Located at the Mira Loma Shopping Center, over 15 area residents spoke with project team members about the study. They were invited to take the online survey and add comments to a project map. Key concerns were centered around the Mira Loma Drive corridor. Residents from surrounding residential areas and Hidden Valley rely on this shopping center for groceries and other services. The popular Mira Loma Park is right across the street, contributing to high levels of pedestrian and bicycle activity. Crossing both McCarran Boulevard and Mira Loma Drive is challenging for active transportation users.



Community workshop



Pop-up event at Mira Loma Shopping Center



Bicyclists at the McCarran Boulevard and Mira Loma Drive intersection

Stakeholder Meetings

The project team met with the Northern Nevada Center for Independent Living early in the project process. This organization advocates for area residents with mobility limitations. Key issues identified were the need for audible push button traffic signals for visually impaired residents at intersections across the region, the need for continuous sidewalk networks, and the need to maintain sidewalks and prevent overgrown vegetation from becoming an obstacle in the path of travel. Providing ADA accessible digital materials is also important for the study.

Advisory Committees

RTC made presentations to the RTC Citizens Multimodal Advisory Committee (CMAC) and Technical Advisory Committee (TAC) on December 3 and December 4, respectively. The project team attended the South Valleys Citizens Advisory Board (CAB) to provide information about the study and invite participation in the public meeting and online survey on December 4, 2025.

3.2 Digital Engagement

Online outreach supplemented in-person opportunities to participate, adding convenient ways to learn about the plan and provide input. Virtual opportunities included a project web page, social media, online survey questionnaire, and online map survey. Surveys and flyers were developed in English and Spanish.

Web Page

RTC hosted a project web page at www.rtcwashoe.com/neighborhood. This page included a summary of the planning process, details on how to participate, and links to surveys and public meeting materials.

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Social Media

RTC used its social media channels, including Facebook, Instagram, and X, to promote engagement opportunities, including the survey and public meeting.



Survey Questionnaire

RTC published a brief online questionnaire to seek additional input from area residents. The questions asked about safety and mobility concerns. It also invited participants to add details about specific concerns or ideas. Key findings from the nine surveys received are summarized below:

1. No respondents indicated that they feel "very safe" walking or riding a bicycle in their neighborhood.
2. Challenges to a comfortable walking experience include a lack of sidewalks, a lack of safe places to cross the street, and high traffic volumes.
3. A lack of safe facilities and high traffic volumes were the most commonly cited barriers to riding a bike.
4. There is a desire for improvements to existing pedestrian facilities.
5. There is a strong desire for new and expanded bicycle and transit facilities.
6. Destinations residents are interested in accessing via active transportation include work, grocery stores, and parks/recreation areas.

Map Survey

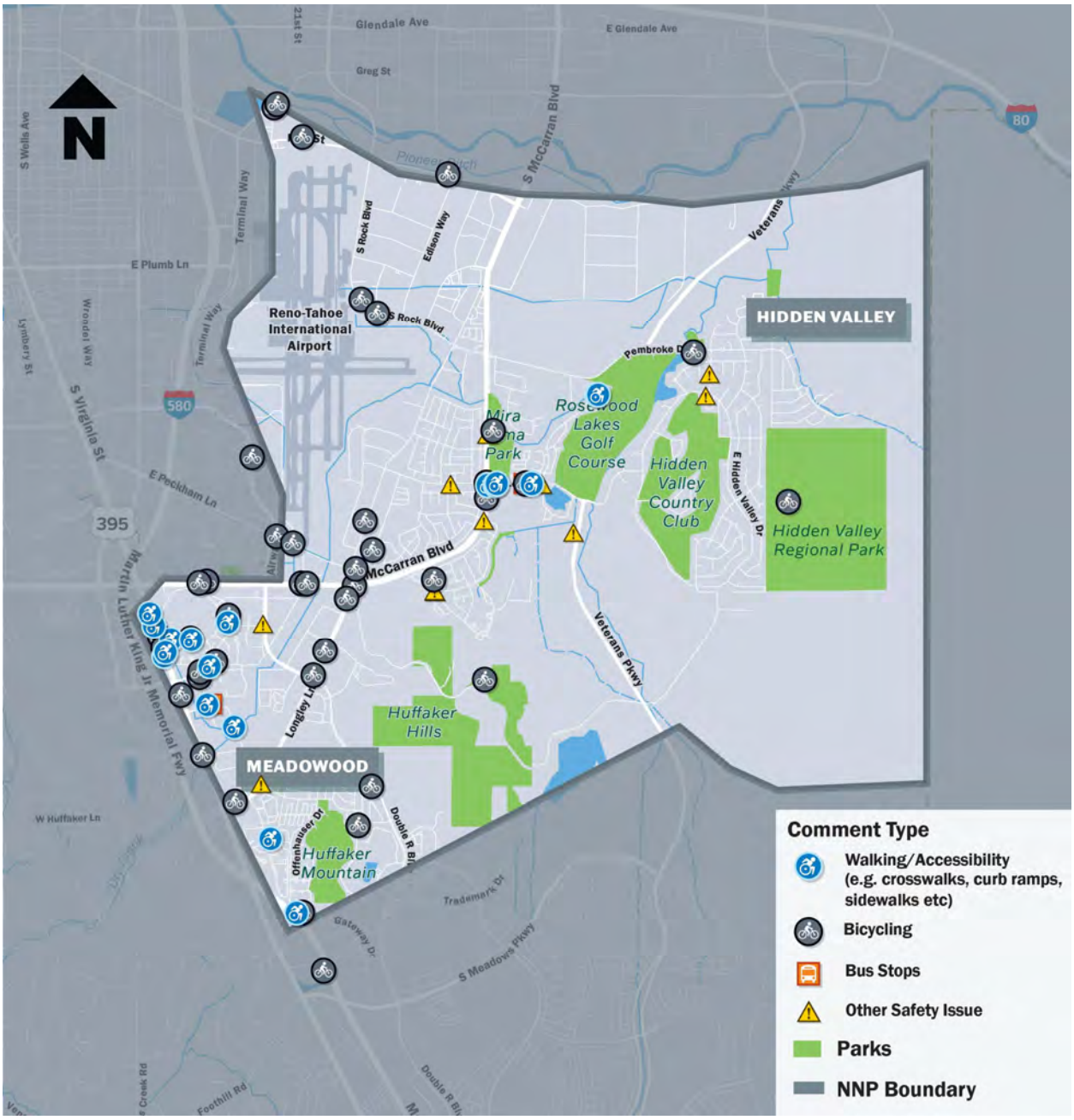
An online interactive map survey was published to invite residents to add specific location-based comments. A total of 79 map comments were received for the Meadowood and Hidden Valley neighborhood. A summary of key findings is provided below:

1. The bicycle network is perceived as incomplete, uncomfortable, and unsafe.
2. Intersections and turning conflicts with vehicles are viewed as a major issue.
3. Walking and biking are stressful along high-speed roads.
4. There is a lack of active transportation connections to key destinations.
5. There are major gaps in the active transportation network.
6. School-area traffic and circulation create recurring safety conflicts.
7. There is a strong desire for protected bike lanes and other separated facilities.
8. There is also a desire for improvements along corridors and at intersections with high injury rates.

The location of comments by type is illustrated in Figure 5.

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Figure 5. Location of NNP Public Comments



The active transportation safety and connectivity needs identified by community members informed the development of alternatives. Safe connections to key destinations such as schools and parks are a priority for the NNP. Many of the public comments, including those on Mira Loma Drive, Rock Boulevard, McCarran Boulevard, and Virginia Street relate to other planned major projects and were shared with the relevant agency staff.



4. Developing and Evaluating Alternatives

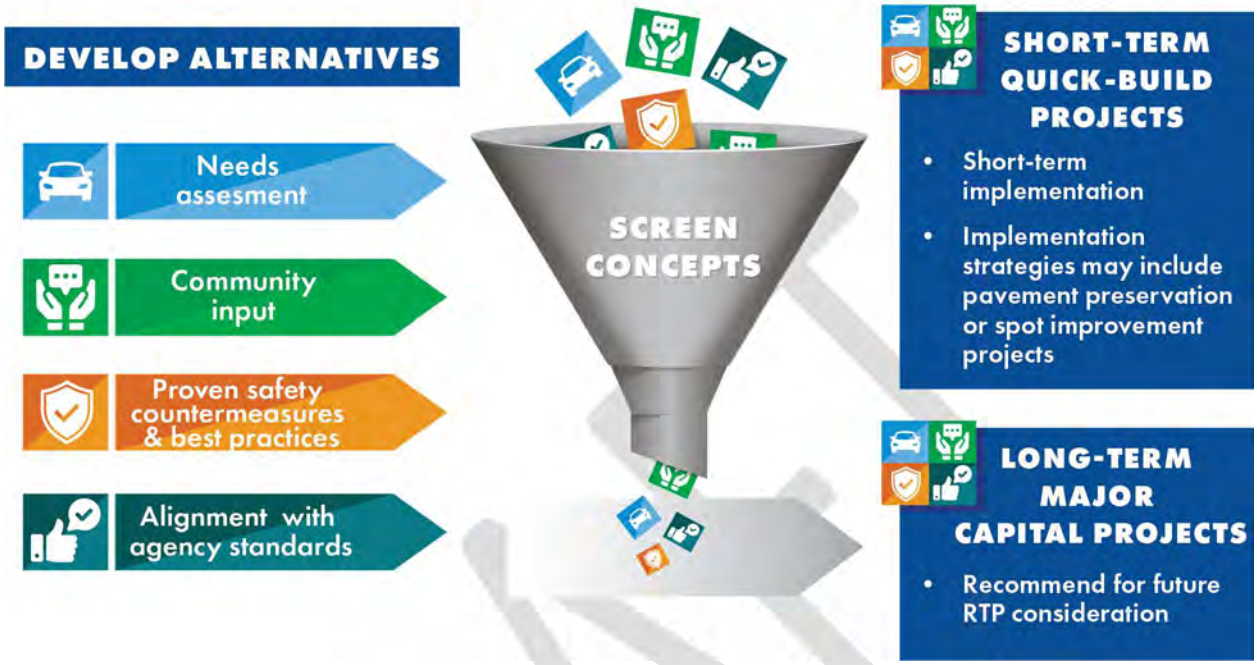
This study developed and evaluated alternative concepts using a collaborative and data-driven process. Key elements included existing conditions analysis, incorporation of community input, identification of appropriate best practice solutions, and alignment with agency input.

While the NNP program is primarily focused on lower cost improvements that can deliver benefits to the public within a short timeframe, this effort also identified projects consistent with a longer-term vision for a safe and connected regional network. Many of these improvements would involve substantial roadway reconstruction or new construction of shared use paths and would not be eligible for the NNP quick-build program, but could potentially be incorporated into future RTP updates or other future pavement or safety projects. Once the range of potential improvements was developed, the concepts were assessed using a two-tier process that is illustrated in Figure 6 and summarized below:

- **Screen potential improvements according to whether they are short-term quick-build projects or longer-term major capital projects.** Quick-build projects generally include pavement striping, signage, and smaller-scale installations such as speed tables. Projects that would involve impacts to right-of-way or larger-scale construction activities were considered to be major capital projects for purposes of this study.
- **Evaluate short-term quick-build projects to identify the highest priority projects for implementation funding.** Funding for the next phase of project design and construction is limited to $2.5 million. Criteria considered in the prioritization included safety, infrastructure condition, access to community resources, connectivity to the regional multimodal network, and community input.

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Figure 6. Project Development and Evaluation Process



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4.1 Prioritization Process

The AT Program allocated $2.5 million for design and construction in the neighborhood. As a result, the quick-build projects were ranked to determine which improvements would be advanced for near-term implementation. Projects not funded through the AT Program will be considered for funding through other RTC programs, such as the preventive maintenance and intersection improvement programs.

Projects considered to be quick-build type improvements were prioritized based on safety, infrastructure condition, access to community facilities, connectivity, and community input. The projects considered are listed in Table 3.

- **Safety** – The greater the safety need, the higher the concept scores.
- **Infrastructure Condition** – Corridors with poorer conditions are scored higher.
- **Access** – Corridors that improve access to community resources received a higher score.
- **Connectivity** – Improvements that fill a network gap or connect to regional bike or pedestrian facilities scored higher.
- **Community Input** – Concepts that received positive public and agency comments were scored higher.



4.2 Low-Cost Near-Term Improvements Considered

The following improvements were considered for short-term implementation (Table 3 and Figure 7). While all of the proposed concepts would provide benefits for active transportation, only higher-scoring projects are recommended for quick-build implementation due to limited funding. The scoring results are provided in Appendix D.

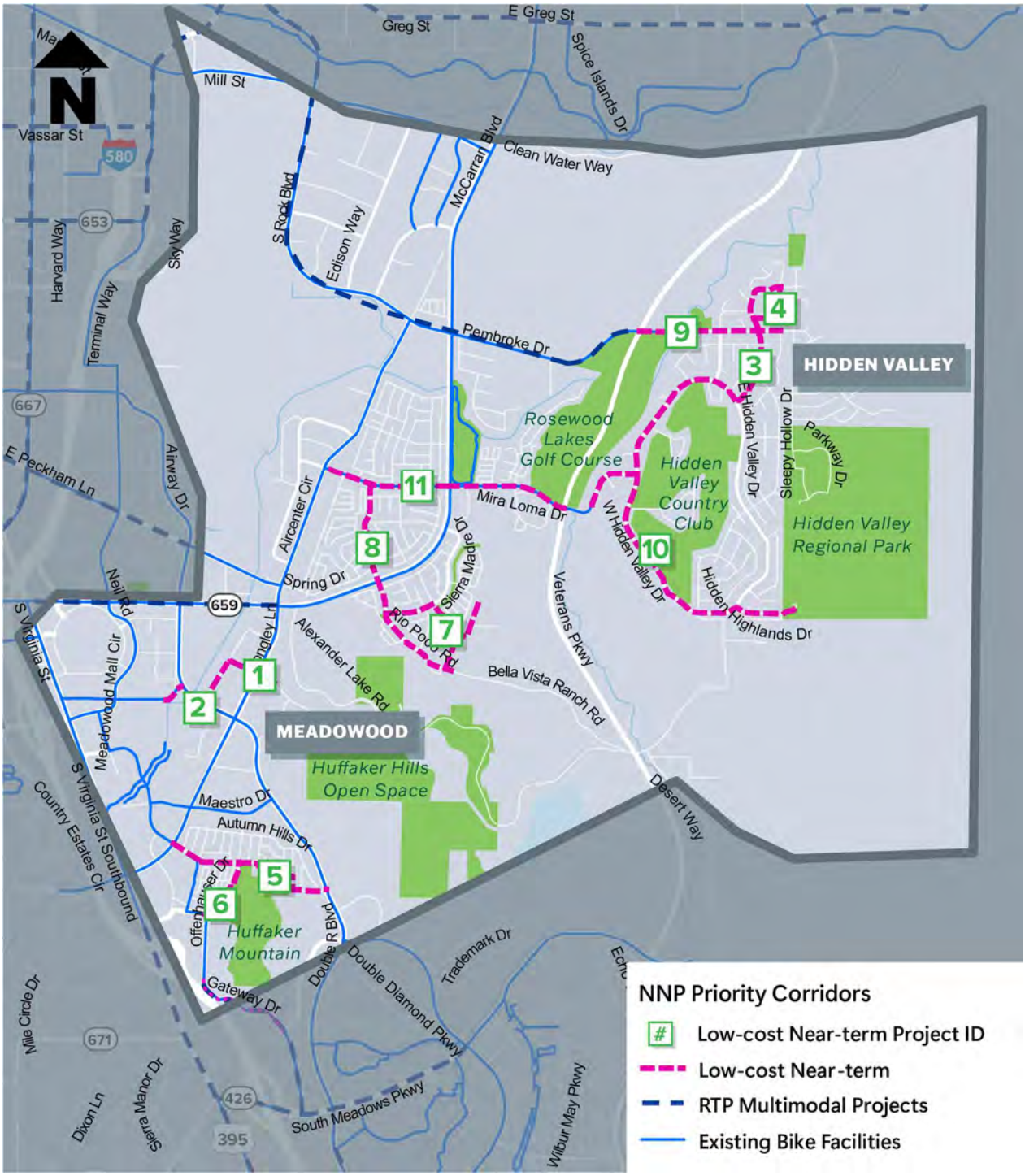
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Table 3. Low-Cost Near-Term Improvements Considered

Location	Description
1. Barron Way	Bike lanes and traffic calming measures were considered on Barron Way to provide access to Longley Town Center and an active transportation alternative to the busy Airway Drive and Longley Lane intersection in combination with Louie Lane.
2. Louie Lane	Bike lanes and traffic calming were considered on Louie Lane as an alternative to Longley Lane in combination with Barron Way.
3. Tamarisk Drive	Traffic calming measures were considered on Tamarisk Drive from Hidden Valley Drive to Pembroke Drive to support active transportation circulation.
4. Tamarisk Drive / Alphabet Drive / History Drive	Traffic calming and crosswalk improvements are proposed on the roads surrounding Hidden Valley Elementary School to improve safe school access. This concept is recommended for quick-build implementation.
5. Huffaker Lane / Celeste Drive / Amston Road	Traffic calming and crosswalk improvements are proposed on this connection between Double R Boulevard and Longley Lane, which provides access to Huffaker Park. This concept is recommended for quick-build implementation.
6. Offenhauser Drive	Traffic calming and crosswalk improvements are proposed on this neighborhood corridor that provides access to Huffaker Park. This concept is recommended for quick-build implementation and will be compatible with and in support of City of Reno traffic calming currently under development.
7. Sierra Madre Drive / Reggie Road	Traffic calming and crosswalk improvements are proposed to provides access to Donner Springs Elementary School and a shared use path that traverses the neighborhood. This concept is recommended for quick-build implementation.
8. Rio Poco Road	Bicycle lanes are proposed on Rio Poco Road between Reggie Road and Mira Loma Road, improving access to Donner Springs Elementary School and other community destinations. This concept is recommended for quick-build implementation.
9. Pembroke Drive	Bicycle lanes and pedestrian improvements are proposed on Pembroke Drive between Veterans Parkway and Parkway Drive, improving access to Hidden Valley Elementary School and the Veterans Parkway shared use path. This concept is recommended for quick-build implementation.
10. West Hidden Valley Drive	Traffic calming and bike lanes were considered on Hidden Valley Drive to improve access to Hidden Valley Regional Park.
11. Mira Loma Drive	Improvements to existing bicycle lanes and crosswalks are proposed on Mira Loma Drive between Longley Lane and McCarran Boulevard. This concept would add a striped buffer and delineators to the existing bike lanes. This concept is recommended for quick-build implementation. This will be compatible with improvements underway at the McCarran Boulevard intersection.
12. Campus Way	Reconfigure this segment to include both a parking lane and bike lane. This would improve bike access during school pick-up and drop-off periods.

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Figure 7. Low-Cost Near-Term Improvements Considered



4.3 Larger-Scale Improvements Considered

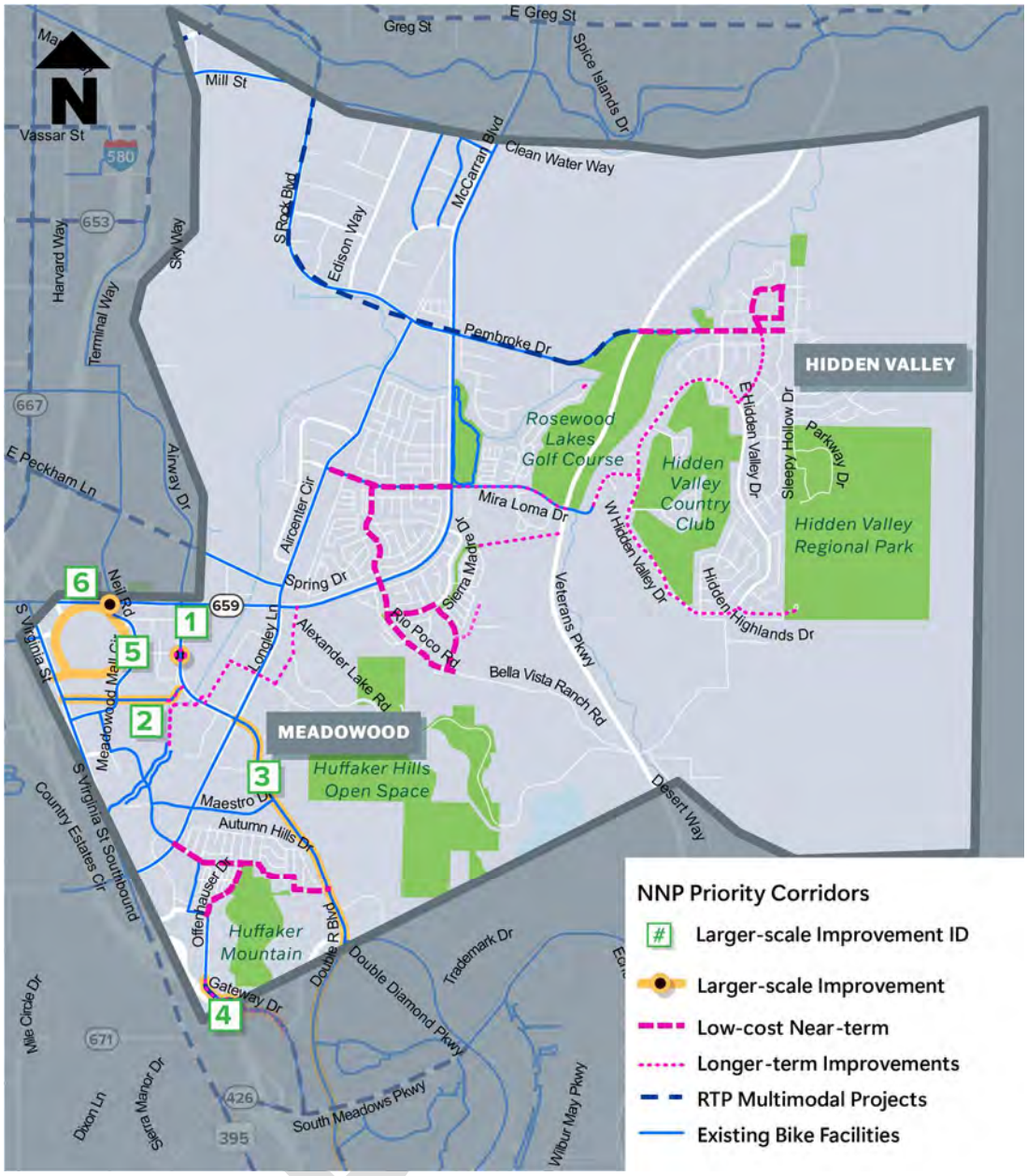
Several improvements were identified that are important for safe multimodal connectivity, but would involve more substantial construction activities. These projects will be considered for inclusion in a future RTP update but exceed the resources available for quick-build implementation. A listing of these longer-term proposed improvements is provided in Table 4 and illustrated in Figure 8.

Table 4. Larger-Scale Improvements Considered

Location	Description
1. Airway Drive pedestrian crossing at Meadowood Lane	Large-scale industrial development is underway on the east side of Airway Drive at McCarran Boulevard. A pedestrian crossing is recommended at Meadowood Lane to improve connectivity for employees and customers between the industrial center and Meadowood Mall. It is recommended that this be evaluated after construction of adjacent development for possible pedestrian improvements.
2. Delucchi Lane	The bike lane on Delucchi Lane comes to an abrupt end as the road transitions to Home Gardens Drive and approaches Airway Drive. An extension of this bike lane to Airway Drive and Tyrone Road would fill a gap in the network.
3. Double R Boulevard	Double R Boulevard is a high-speed corridor that is a barrier to regional bicycle connectivity. It is recommended that a separated bike facility be developed in this corridor to provide a multimodal link between South Meadows and the Meadowood and Hidden Valley neighborhoods.
4. Gateway Drive	Offenhauser Drive bike lane ends as the road transitions to Gateway Drive. An extension of bicycle and pedestrian infrastructure here would connect high density residential to a major employment district.
5. Meadowood Mall Circle	Pedestrian and bicycle access to Meadowood Mall is limited on Meadowood Mall Circle, the primary access road. Bike lanes or pedestrian facilities would improve safety and access. This road is privately owned.
6. McCarran Boulevard	There are longer term plans to extend the McCarran Boulevard shared use path to Virginia Street. This would improve access to the Smithridge Shopping Center. The intersection of Neil Road and McCarran Boulevard is challenging for pedestrians to safely navigate due to a driveway located very close to the intersection. Improvements for pedestrian access should be incorporated into the shared use path improvement project.

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Figure 8. Larger-Scale Improvements Considered



Major improvements on multiple key corridors are already included in the RTP. This includes multimodal improvements on Pembroke Drive and Mira Loma Road between McCarran Boulevard and Veterans Parkway, as well as multimodal improvements on Rock Boulevard. Safety and active transportation improvements are also planned on McCarran Boulevard.



McCarran Boulevard and Neil Road intersection.





Double R Boulevard (above), Meadowood Mall Cr (below)

Additionally, areas where shared use paths between residential areas could provide off-street connection options were identified. Some of these corridors follow paths that have been worn by people walking or biking, even when there is no formal trail. Additional analysis is recommended to identify public land ownership and public access easements in relationship to existing and proposed shared used paths. Proposed trail connections are shown in Table 5 and Figure 9.

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Table 5. Potential Shared Use Path Connections Considered

Location	Description
1. Alexander Lake Road	There is an unpaved area between the back of the Longely Town Center and Alexander Lake Road. This area connects to the McCarran Boulevard shared use path. **Development of a shared use path in this area could provide an off-street connection between the Meadowood area and the Donner Springs area.**
2. Dry Creek Path Extension	There is an existing paved shared use path that extends from Virginia Street behind the Sierra Town Center shopping center that connects to employment centers along Dry Creek. **An extension of this shared use path to Delucchi Lane/Airway Drive would provide an important network connection and an alternate to Longley Lane.**
3. Fairwood Drive	There is an existing paved path along Dry Creek near the intersection of Pembroke Drive and Veterans Parkway. **Connecting the shared use path to Fairwood Drive would improve access to the multimodal network.**
4. Veterans Parkway Path Connection	The Donner Springs neighborhood area has an unpaved path that traverses the community parallel to Sierra Madre Drive. Future development provides an opportunity to connect this path to the Veterans Parkway shared use path, enhancing shared modal connectivity. Improved access from this path to Sierra Madre Drive could also enhance bicycle and pedestrian access to the Mira Loma Shopping Center. **A future connection from Rio Poco Road to the Veterans Parkway shared use path would also provide an important regional link.**



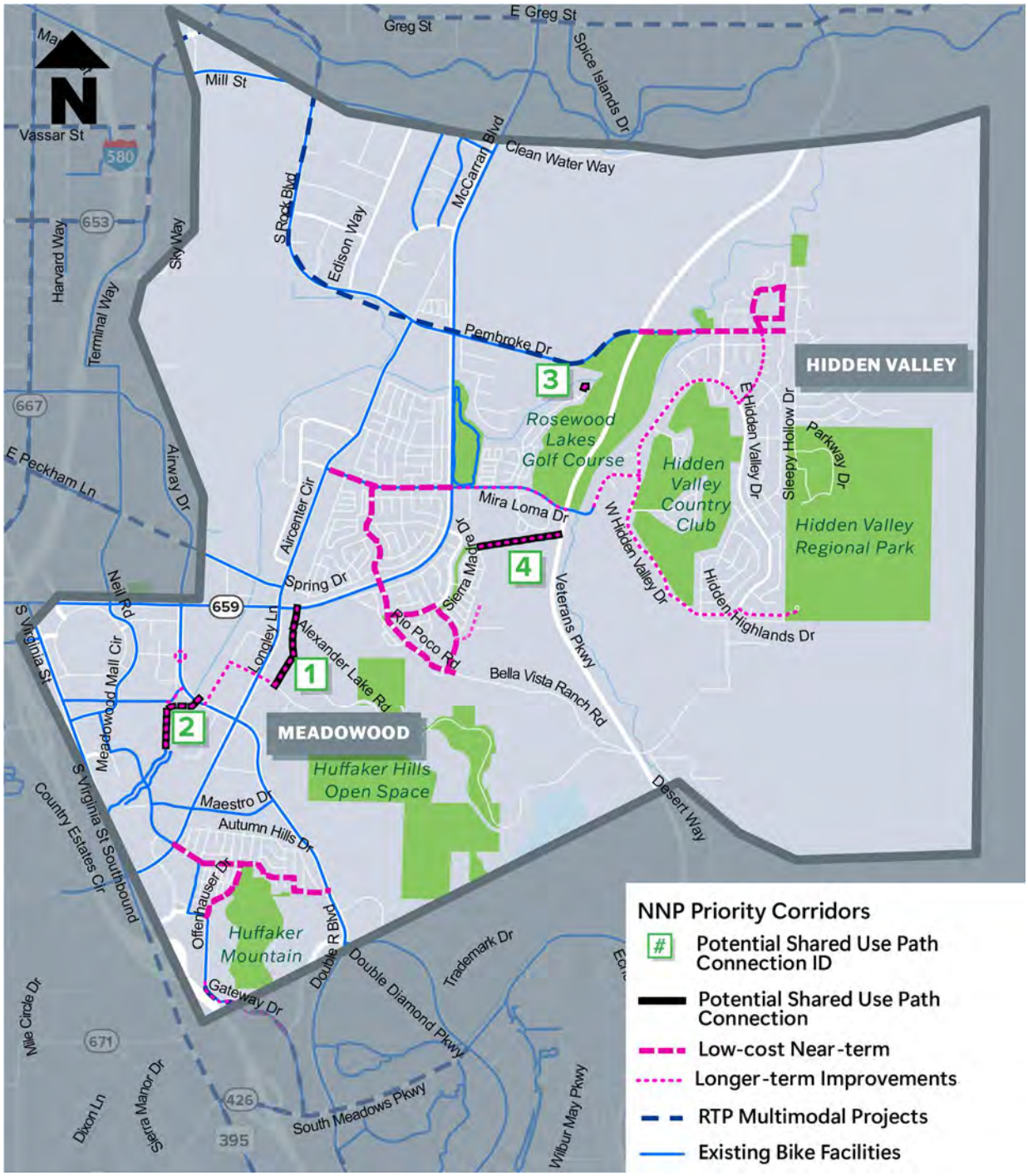
Unpaved corridor along Alexander Lake Road



Existing Dry Creek Trail near Virginia Street that could be extended to Delucchi Lane

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Figure 9. Potential Shared Use Path Connections



Note: Locations are preliminary and subject to change



5. Neighborhood Network Recommendations and Implementation Strategy

The NNP is a short-term plan that identifies transportation improvements to increase walking and biking in the neighborhood. This approach provides improvements to the existing network, while also providing policies and programs that encourage, educate, and engage with the community about active transportation. This chapter describes the recommended short-term improvements within the Meadowood and Hidden Valley neighborhood. The recommendations in this study may be modified through the project development process as development occurs and community priorities change.

5.1 Quick-Build Recommendations

This section summarizes the recommended short-term quick-build improvements for the NNP. These concepts were developed to improve safe multimodal access to key neighborhood destinations such as schools, parks, transit stops, and grocery stores. The evaluation of concepts is summarized in Appendix D. The recommended low-cost, near-term improvements are a step toward implementing a connected neighborhood AT network.

Figure 10 illustrates the quick-build projects to be advanced toward near-term implementation as well as recommended longer-term improvements that help expand the network. Table 6 includes a description of the quick-build projects as well as a planning-level cost estimate for recommendations in the Hidden Valley area. Thermoplastic crosswalks and striping should be installed on a milled surface so that the striping is flush with the street. Figure 11 and Table 7 show recommendations in the Meadowood area. Cost estimates are based on recent construction costs in the region and include a 30% contingency.

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Figure 10. Hidden Valley Area Improvements

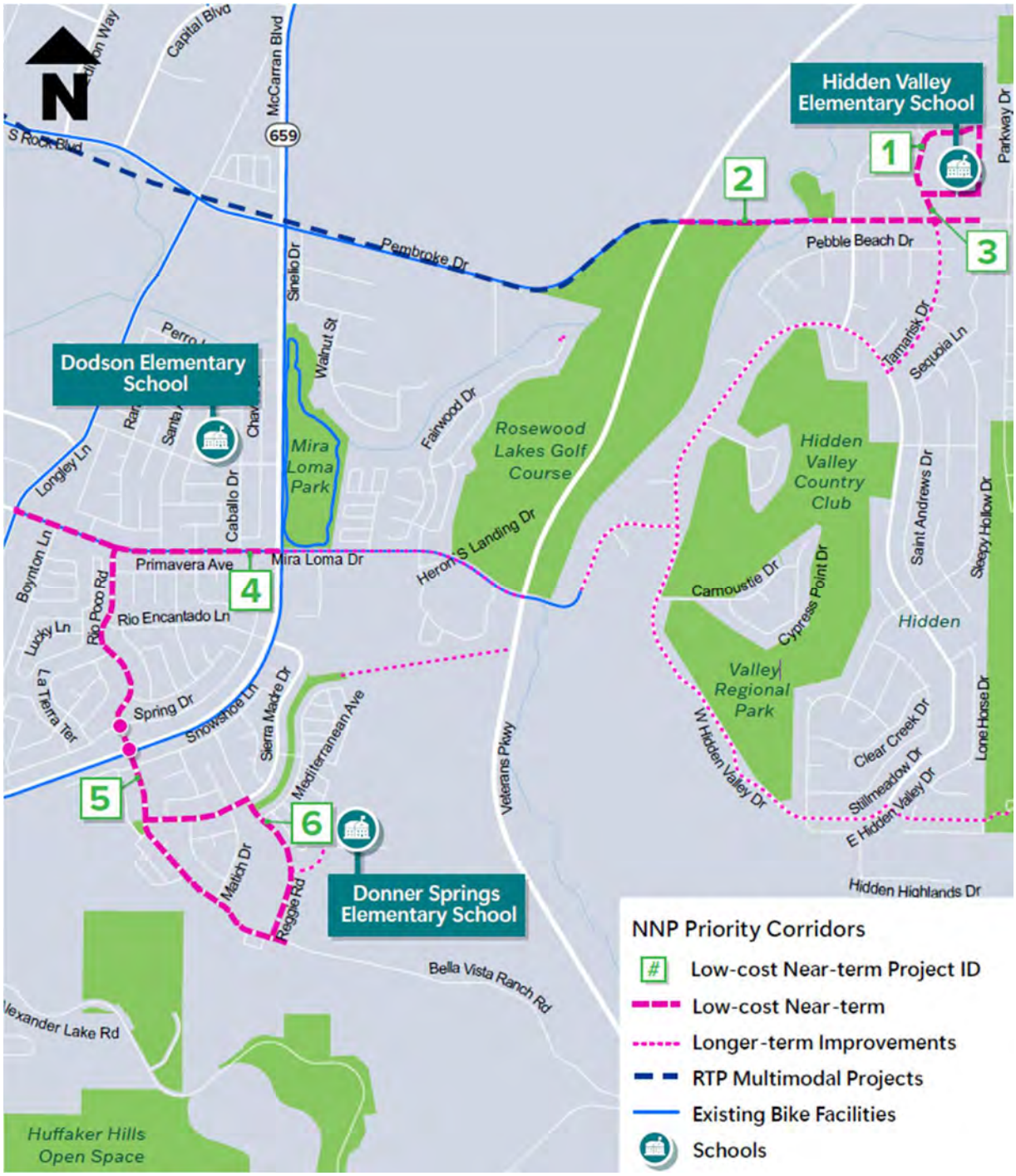


Table 6. Hidden Valley Area Improvements

Project Name and Location	Length (Mi.)	Bike Facility Type	Description	Preliminary Cost Estimate
1. Tamarisk Drive/Alphabet Drive/ History Drive Hidden Valley Elementary Loop	0.4	Neighborhood Byway	High-visibility crosswalks at existing crosswalks around the school with painted bulbouts. New high-visibility crosswalk at Alphabet Drive and Native Dancer Drive.	$130,000
2. Pembroke Drive Veterans Parkway to Sequoia Lane	0.4	Striped Bike Lanes (Both Sides)	Extend existing bike lanes to Sequoia Drive. Painted bulbouts at intersections, conflict striping at Veterans Parkway.	$430,000
3. Tamarisk Drive Pembroke Drive to History Drive	0.1	Neighborhood Byway	Painted bulbouts mainline at Pembroke Drive plus additional throughout the corridor, and high-visibility crosswalks at History Drive, Pembroke Drive.	$100,000
4. Mira Loma Drive McCarran Boulevard to Longley Lane	0.7	Protected Bike Lanes (Both Sides)	Upgrade existing bike lanes to a protected facility. High-visibility crosswalk at Boynton Lane, painted bulbouts at existing crossings.	$230,000
5. Rio Poco Drive Mira Loma Drive to Reggie Road	1.4	Neighborhood Byway	Install striped bike lanes from Mira Loma Drive to McCarran Boulevard, with intersection improvements at Spring Drive. Install buffered bike lanes from McCarran to Reggie Road. Concrete speed tables and painted bulbouts with delineators.	$1,060,000
6. Sierra Madre Drive/Reggie Road Sierra Madre Drive (Rio Poco Road to Reggie Road); Reggie Road (Sierra Madre Drive to Hombre Way)	0.7	Neighborhood Byway	Painted bulbouts, wayfinding, and a high-visibility crosswalk at Hombre Way & Reggie Road and Sierra Madre Drive and Rio Poco Road.	$140,000

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Figure 11. Meadowood Area Improvements

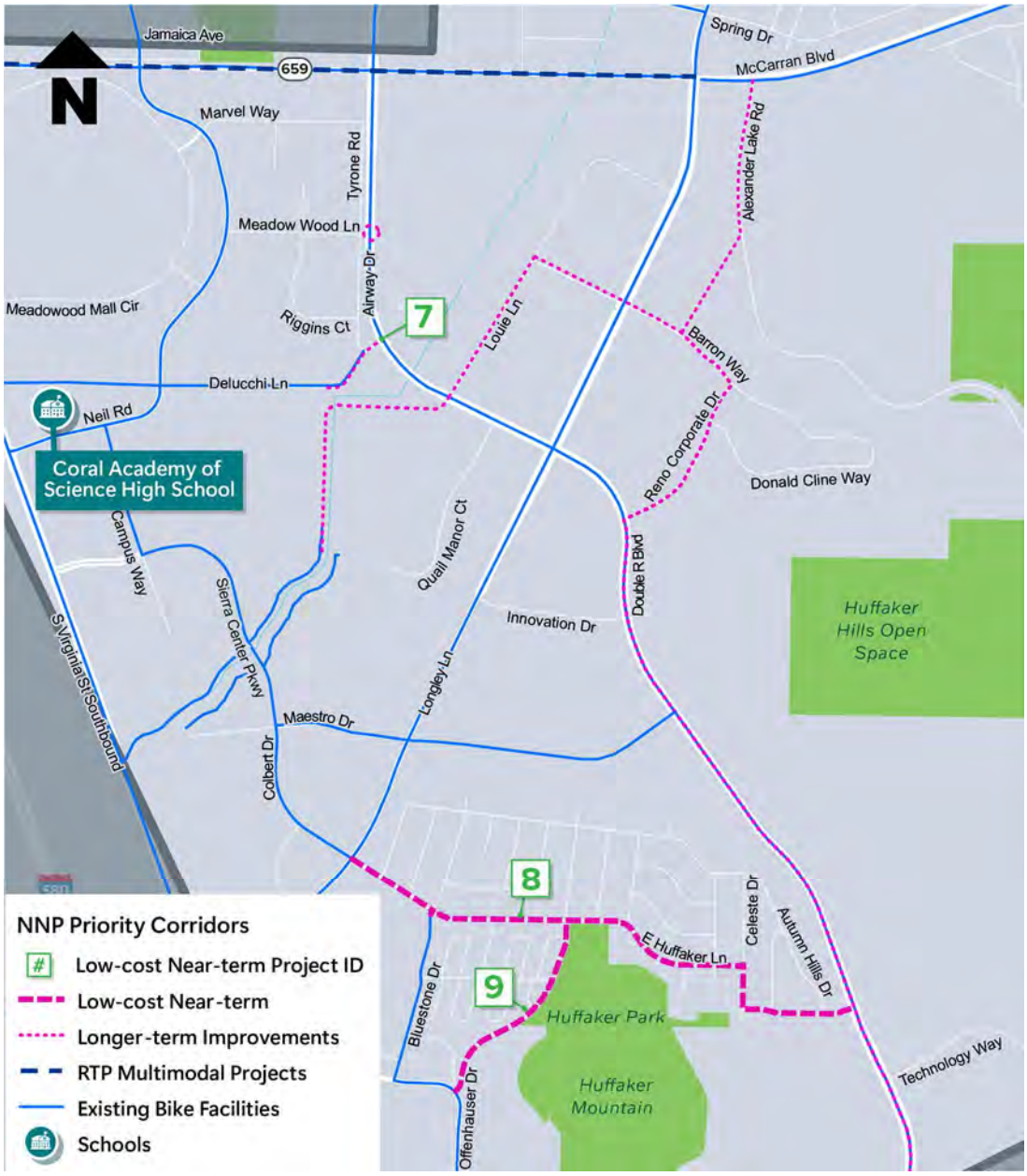


Table 7. Meadowood Area Improvements

Project Name and Location	Length (Mi.)	Bike Facility Type	Description	Preliminary Cost Estimate
7. Airway Drive & Delucchi Lane Intersection	N/A	N/A	Upgrade the existing pedestrian crossing to improve visibility with a flashing pedestrian beacon in the center median.	$35,000
8. Huffaker Lane/ Celeste Drive/Amston Road Huffaker Lane (Longley Lane to Celeste Drive); Celeste Drive (Huffaker Lane to Amston Road); Amston Road (Celeste Drive to Double R Boulevard)	0.9	Neighborhood Byway	Traffic calming improvements via painted bulbout at intersections and additional mid-block locations. Consider speed tables if updated vehicle volumes become available during design.	$140,000
9. Offenhauser Drive Portman Avenue to Huffaker Lane	0.39	Neighborhood Byway	Painted bulbouts to be included at the beginning and end of the corridor, with additional painted bulbouts for potential mid-block opportunities. High visibility crosswalks at intersections. Bike lane will extend west on Portman Avenue and operational improvements will be evaluated and implemented at the intersection with Offenhauser Drive.	$230,000

5.2 Implementation

The projects recommended by this plan will be considered for implementation using AT Program funds and are intended to be implemented quickly across the neighborhood. RTC will conduct project design for identified quick-build improvements in 2026 and 2027, with a goal to begin construction in 2028. Projects will be constructed based on AT Program fund availability.

Other potential funding opportunities are available for projects not implemented through the AT Program, as described in the following sections.

Federal Funding (Formula and Discretionary Grant Programs)

The Bipartisan Infrastructure Law (BIL), signed in November of 2021, allocated $550 billion to transportation, broadband, and utility investments across the United States. This funding will be

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distributed over the five-year period between fiscal years 2022 and 2026 via both formula funding and competitive grant application processes.

As this funding program comes to a close, transportation reauthorization is in the proposal stages, preliminarily named Building Unrivaled Infrastructure and Long-term Development for America's 250th Act or the BUILD America 250 Act. This funding program would authorize funds to be appropriated from the Highway Trust Fund and General Fund for fiscal years 2027 through 2031, at an estimated total amount of $580 billion. While not all funding elements are yet known, the following provides a listing of the most likely relevant funding sources for implementation of the proposed improvements.

Surface Transportation Block Grant Program (STBG): STBG is a flexible federal formula program that provides for allocations to both RTC, as the MPO, and the Nevada Department of Transportation. RTC incorporates these funds into a regional call for projects dedicated to the MPO planning area. The Nevada Department of Transportation manages STBG funds that are available for allocation on a statewide basis. Use of STBG funds must be managed in accordance with federal and state processes.

Transportation Alternatives Set-Aside: The Transportation Alternatives Set-Aside (also known as TA Set-Aside) from the STBG Program provides federal funds for community-based projects that expand travel choices and enhance the transportation experience. These projects are intended to integrate modes and improve the cultural, historic, and environmental aspects of our transportation infrastructure. Local governments, regional transportation authorities, transit agencies, MPOs, and school districts, among others, are eligible to apply for TA Set-Aside funding. Federal guidelines specify that projects must be selected based on a competitive process.

Eligible project types include planning, design, and construction of a variety of facilities, programs, and other efforts. More specific examples of eligible projects include:

- Bicycle, pedestrian, and other nonmotorized transportation facilities
- Traffic calming, lighting, and other safety-related infrastructure
- ADA improvements
- Turnouts, overlooks, and viewing areas
- Recreational trails
- Safe Routes to School (SRTS), including infrastructure, non-infrastructure, and coordinator positions
- Vulnerable road user safety assessment
- Vegetation management
- Environmental mitigation related to stormwater, water pollution prevention, wildlife crossings, and habitat connectivity
- Micromobility projects, including bike and scooter share (construction and non-construction projects that facilitate safe access for pedestrians and bicyclists)
- Removal of outdoor advertising

Better Utilizing Investments to Leverage Development (BUILD) / Surface Transportation Accelerator Grants (STAG): The BUILD grant program is designed to help urban and rural communities advance projects that modernize roads, bridges, transit, rail, ports, and intermodal transportation and make our transportation systems safer, more accessible, more affordable, and more sustainable. Competitive projects will emphasize safety, environmental sustainability, quality

of life, economic competitiveness and opportunity, partnership and collaboration, innovation, state of good repair, and mobility and community connectivity.

The program was last allocated $9.7 billion over a five-year period for individual projects of up to $25 million. Projects may be for capital investments or planning activities.

The Surface Transportation Accelerator Grant (STAG) program is a proposed new discretionary grant program proposed under the BUILD America 250 Act that consolidates several prior grant programs, including BUILD. It is intended to be a hyper-flexible competitive program that allocates more than $2 billion a year to the program. It is anticipated that STAG will allocate at least 50% of annual funds to local projects. The program will aim to fund major construction projects, having a much higher cap on the grant award that the current BUILD program (maximum of $25 million).

Safe Streets and Roads for All (SS4A): The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. Eligible applicants include MPOs, counties, cities, towns, transit agencies, and Tribal governments. The program has been allocated $5 billion over the next five years.

Grant awards are divided into two categories: Action Plan Grants and Implementation Grants. An Action Plan Grant is used to develop an Action Plan – a holistic, well-defined strategy to prevent roadway fatalities and serious injuries in a locality (i.e., a safety plan). Implementation Grants are used to fund and implement specific projects previously identified in the Action Plan. To receive an implementation grant, the local entity applying must have an adopted Safety Plan that adheres to the program.

State Funding

The Nevada Department of Transportation receives fuel tax revenues that are available for use statewide. These funds are prioritized using the One Nevada process and programmed over a four-year time period in the STIP.

Regional/Local Funding

The RTC receives fuel and sales taxes that are available for use on facilities throughout Washoe County. Voters approved indexing the fuel tax to inflation in 2008, which now provides a reliable source of revenue for improvements on regional roads. A sales tax was also approved by Washoe County voters to fund both transit and roadway improvements. RTC allocates funding through the RTP process for major projects. The RTC pavement preservation program and intersection improvement program are also used to deliver smaller scale improvements across the region using a needs-based assessment framework. As an example, on roadway segments with sufficient width, RTC may consider adding striped buffers to improve separation between vehicles and cyclists.

The City of Reno and Washoe County both manage traffic calming programs that can implement improvements to slow traffic and improve safety. The City of Reno Public Works Design Manual includes details about this program, including the process to request traffic calming measures and the types of eligible uses. The Washoe County Traffic Calming and Traffic Engineering Request Policy describes the process for implementing neighborhood improvements.

Private funding can also support community improvements. RTC coordinates with the City of Reno and Washoe County on the review of proposed projects. There are opportunities to integrate improvements into new development.

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5.3 Monitoring Progress

Part of RTC's planning program involves performance monitoring. This includes a range of safety and operational metrics that RTC tracks on an ongoing basis as the MPO. In addition to regional performance monitoring, there is a benefit to tracking the impacts of individual corridor improvements. This is relevant for the AT Program, as RTC seeks to deliver projects that are of the greatest value and benefit for the community. Potential performance monitoring for this NNP may include safety, maintenance needs, active transportation usage, and community input.

5.4 Quick-Build Projects

Additional information about the recommended quick-build projects is provided on the following pages.

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NEIGHBORHOOD NETWORK PLAN

MEADOWOOD & HIDDEN VALLEY

Rio Poco Drive & Sierra Madre Dive | Reggie Road

RTC

AT A GLANCE

Location: Rio Poco Drive from Mira Loma Drive to Hombre Way; Sierra Madre Drive and Reggie Road connecting between Rio Poco Road; Hombre Way between Reggie Road and Escuela Way

Improvement Type: Bike lane improvements, intersection safety improvements, speed tables

Cost: $2,100,000

Length: 2.1 miles

GOALS/BENEFITS

- IMPROVE BIKE & CROSSWALK SAFETY
- IMPROVE SCHOOL ACCESS
- IMPROVE TRAIL ACCESS

PROJECT DESCRIPTION

Rio Poco Drive connects neighborhoods from Mira Loma Drive to Reggie Road. The segments on Sierra Madre Drive and Reggie Road provide a loop that connects to Donner Springs Elementary School, the McCarran Boulevard multi-use path, Donner Party Park, and unpaved trails.

Recommendations include bike lanes on Rio Poco Drive and intersection enhancements to improve pedestrian and bicycle safety, including at Spring Drive, McCarran Boulevard, and Hombre Way/Escuela Way. Traffic calming measures such at painted bulbouts are planned for Sierra Madre Drive and Reggie Road.



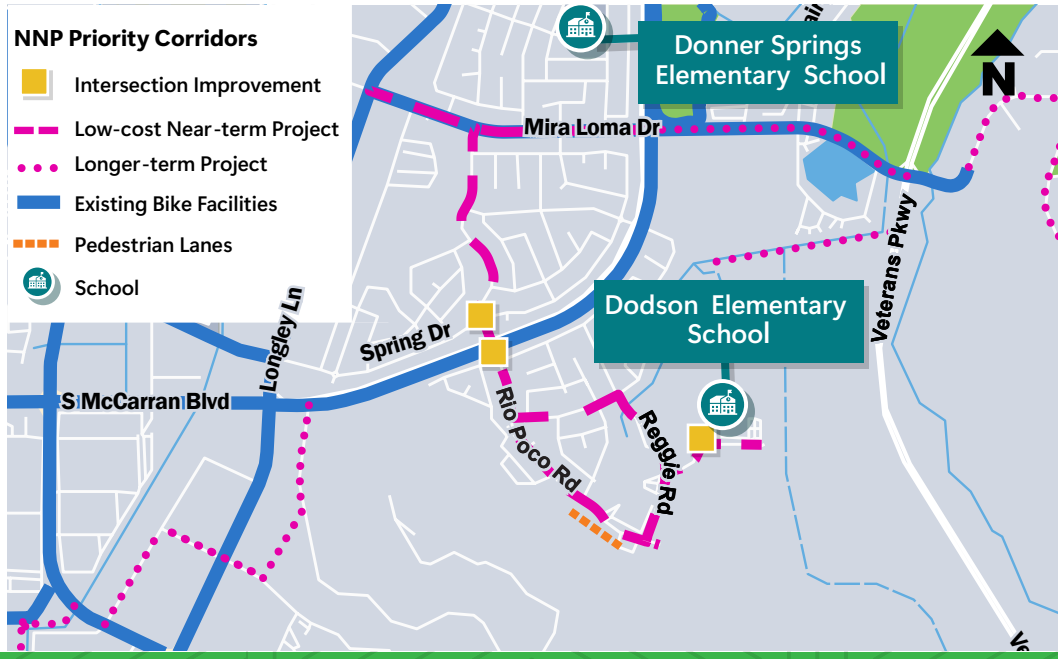
Proposed view toward the east on Rio Poco Drive near Sierra Madre Drive

PROJECT DETAILS



Existing view toward the east on Rio Poco Road near Sierra Madre Drive

PROJECT MAP



MEADOWOOD & HIDDEN VALLEY
Mira Loma Drive

AT A GLANCE

Location: Mira Loma Drive from Longley Lane to S. McCarran Boulevard

Improvement Type: Bike lane improvements, high-visibility crosswalks, painted bulbouts with delineators

Cost: $230,000

Length: 0.7 mile

GOALS/BENEFITS

- IMPROVE BIKE & CROSSWALK SAFETY
- IMPROVE SCHOOL ACCESS
- IMPROVE BUS STOP ACCESS

PROJECT DESCRIPTION

Mira Loma Drive is important for multimodal access between residential neighborhoods, shopping, and employment centers. It serves RTC RIDE Route 54. Dodson Elementary School is a few blocks to the north of Mira Loma Drive, which contains a school zone.

Recommendations include upgrading the existing bike lanes to protected facilities, installing high-visibility crosswalks at Boynton Lane, and painted bulbouts with delineators at existing crosswalks.



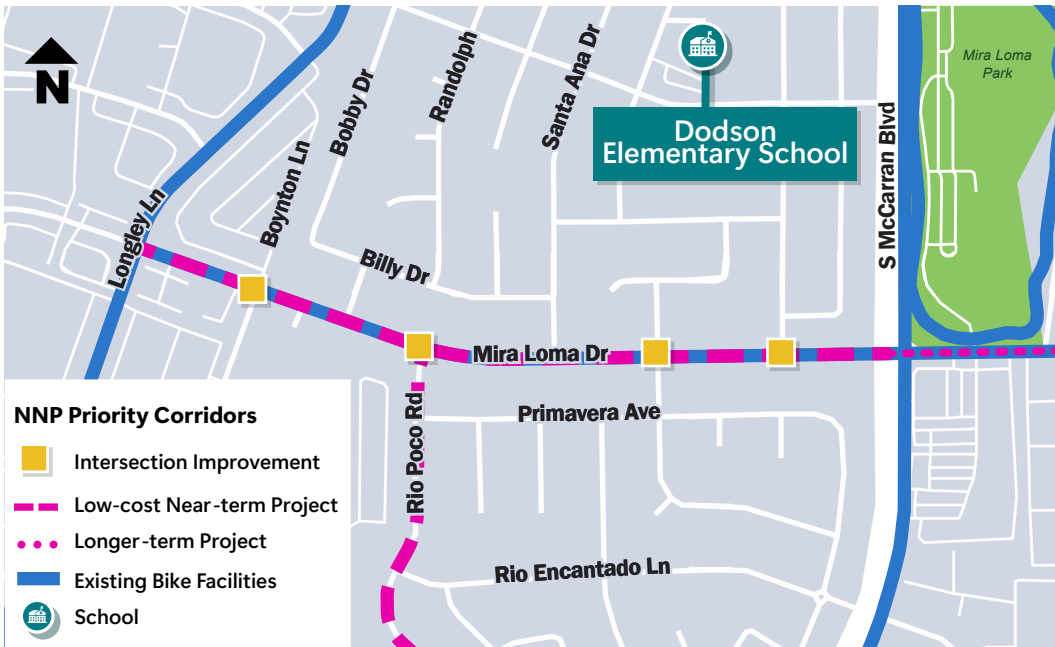
Proposed view toward the east from Mira Loma Drive

PROJECT DETAILS



Existing view toward the east from Mira Loma Drive

PROJECT MAP



NEIGHBORHOOD NETWORK PLAN

MEADOWOOD & HIDDEN VALLEY

E Huffaker Lane | Celeste Drive | Amston Road and Offenhauser Drive

RTC

AT A GLANCE

Location: The connection between Longley Lane and Double R Boulevard along E Huffaker Lane, Celeste Drive, and Amston Road; Offenhauser Drive between E Huffaker Lane and Portman Aveune

Improvement Type: Traffic calming improvements, intersection and crosswalk safety improvements, bike lane improvements

Cost: $140,000

Length: 0.9 mile

GOALS/BENEFITS

- IMPROVE BIKE & CROSSWALK SAFETY
- IMPROVE PARK ACCESS
- IMPROVE TRAIL ACCESS

PROJECT DESCRIPTION

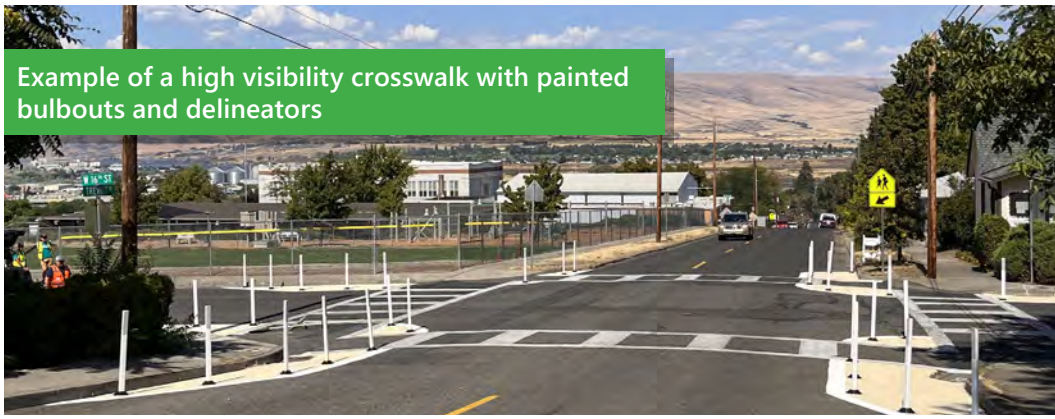
The combination of E Huffaker Lane, Celeste Drive, and Amston Road traverses a residential neighborhood and connects Longley Lane to Double R Boulevard. It provides access to the trails, playgrounds, and ballfields at Huffaker Park at the center of this neighborhood. A new traffic signal is planned at Amston Road and Double R Boulevard.

Recommendations include traffic calming improvements such as painted bulbouts at intersections and high visibility crosswalks.



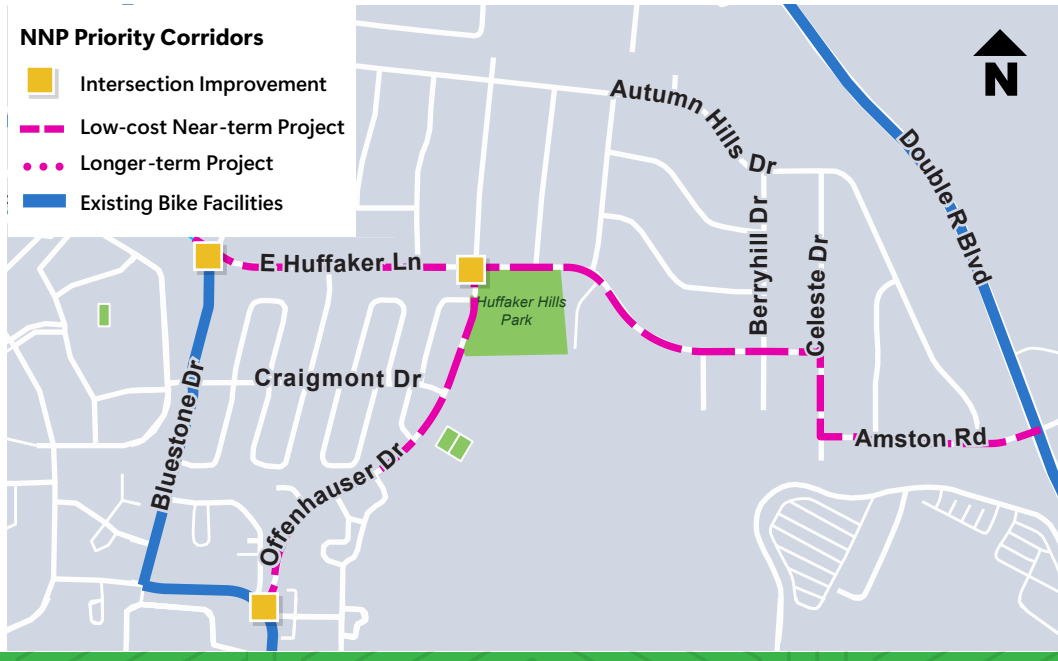
View toward the south from Huffaker Lane and Offenhauser Drive

PROJECT DETAILS



Example of a high visibility crosswalk with painted bulbouts and delineators

PROJECT MAP



NEIGHBORHOOD NETWORK PLAN

MEADOWOOD & HIDDEN VALLEY
Pembroke Drive

RTC

AT A GLANCE

Location: Pembroke Drive from Veterans Parkway to Sequoia Lane

Improvement Type: Bike lanes and intersection traffic calming

Cost: $430,000

Length: 0.4 mile

GOALS/BENEFITS

- IMPROVE BIKE & CROSSWALK SAFETY
- IMPROVE BIKE CONNECTIVITY
- IMPROVE SCHOOL ACCESS

PROJECT DESCRIPTION

Pembroke Drive is an access point to Hidden Valley, the Veterans Parkway shared use path, and Hidden Valley Elementary School. A shared use path is being developed on Pembroke Drive between Veterans Parkway and McCarran Boulevard.

Proposed improvements include bike boxes and conflict striping at the Pembroke Drive and Veterans Parkway intersection to improve safety. Bike lanes and traffic calming. on Pembroke Drive east of Veterans Parkway are recommended, including painted bulbouts with delineators at 4-way intersections and speed tables. A pedestrian lane is also proposed.



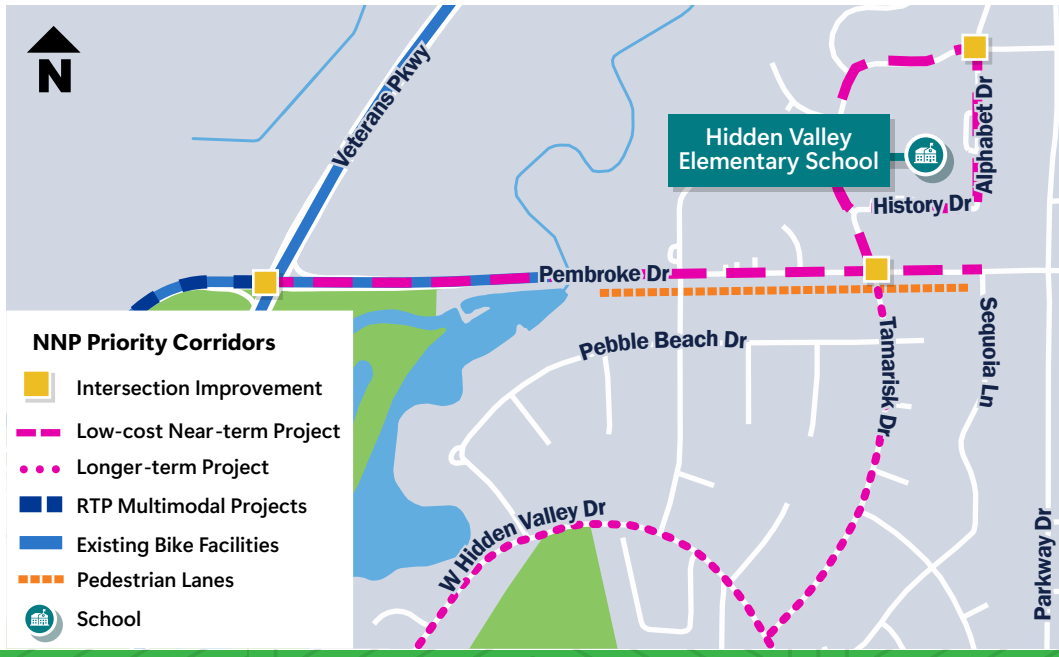
Proposed view to the east from Pembroke Drive

PROJECT DETAILS



Existing view to the east from Pembroke Drive

PROJECT MAP



NEIGHBORHOOD NETWORK PLAN

MEADOWOOD & HIDDEN VALLEY

Tamarisk Drive | Alphabet Drive | History Drive

RTC

AT A GLANCE

Location: Tamarisk Drive from Pembroke Drive to and around Hidden Valley Elementary School

Improvement Type: High-visibility crosswalks and neighborhood byway traffic calming

Cost: $230,000

Length: 0.5 mile

GOALS/BENEFITS

- IMPROVE BIKE & CROSSWALK SAFETY
- IMPROVE BIKE CONNECTIVITY
- IMPROVE SCHOOL ACCESS

PROJECT DESCRIPTION

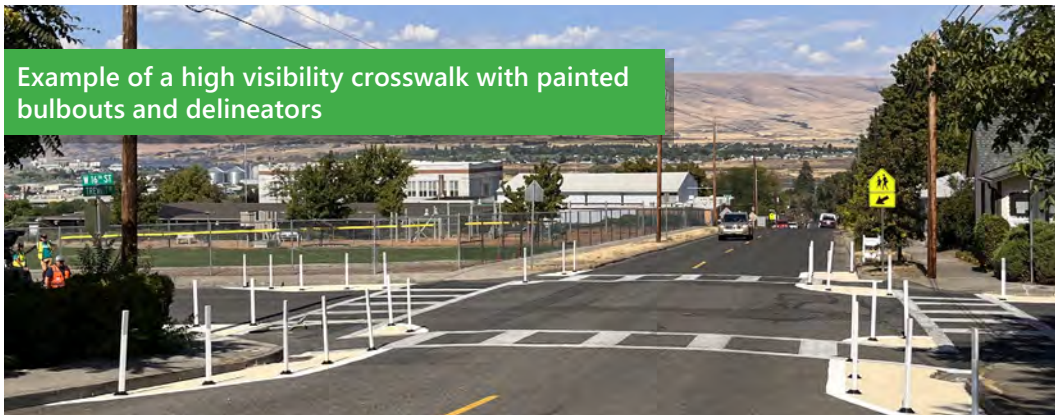
Tamarisk Drive is a corridor that connects to Hidden Valley Elementary School. Neighborhood byway improvements would be installed on Tamarisk, including painted bulbouts with delineators at Hidden Valley Drive and 4-way intersections.

High-visibility crosswalk upgrades are proposed at existing crosswalks on the loop around Hidden Valley Elementary School. Increasing visibility of the crosswalk at Tamarisk Drive and History Drive is important due to limited sightlines. A new crosswalk would be installed at Alphabet Drive and Native Dancer Drive.



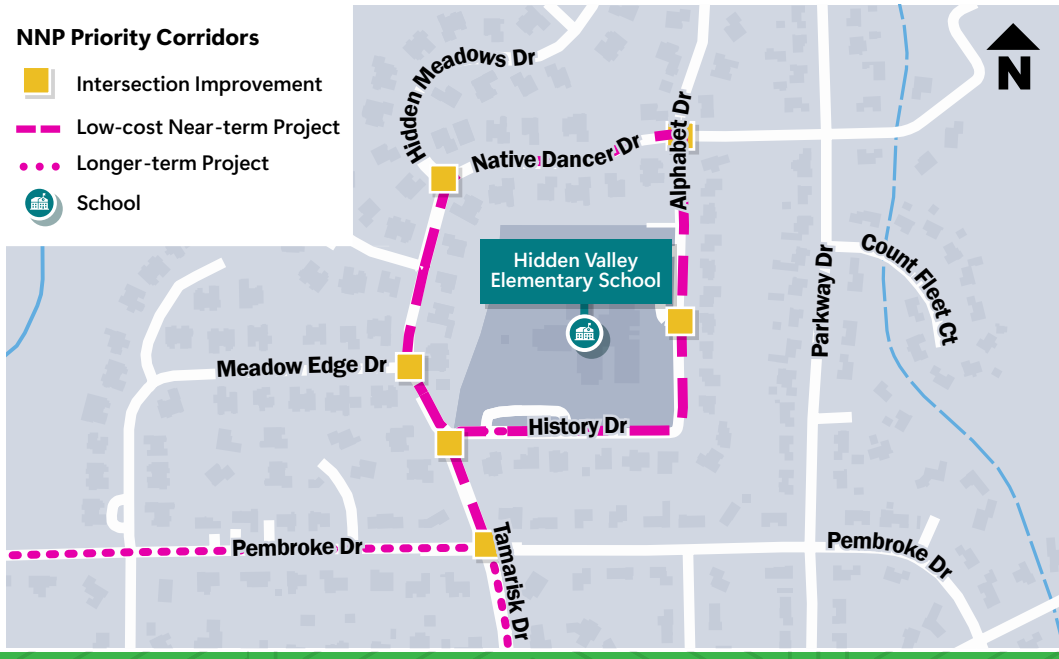
Existing view to the southeast at the Tamarisk Drive and History Drive

PROJECT DETAILS



Example of a high visibility crosswalk with painted bulbouts and delineators

PROJECT MAP



Appendix A: Supplemental Existing Conditions Information

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Existing Conditions

The Meadowood and Hidden Valley neighborhood has a population of almost 23,000 residents. While the neighborhood demographics are generally similar to Washoe County as a whole, the lower median income, higher senior population, and higher proportion of households with a single vehicle indicate a need for active transportation options. A summary of population demographics is provided in Table A-1.

Table A-1. Comparison of Population Characteristics

Demographic	Washoe County	NNP Area
Median Household Income	$85,600	$79,829
Housing Cost Burden	31%	32%
Under age 18	21%	10%
Over age 64	17%	18%
Has a Disability	25%	21%
Hispanic	26%	24%
Minority Population	35%	35%
Limited English Proficiency (LEP)	3%	3%
Zero-Vehicle Households	6%	3%
Single Vehicle Households	28%	32%

Source: American Community Survey, 2023

Figure A-1 provides an overview of areas with higher needs, based on demographic characteristics, where a higher number represents an area of greater need, as documented in the AT Plan. Areas of greater need indicate the potential demand for affordable active transportation options.

Active trip potential measures where short vehicle trips could realistically shift to walking or biking with improved infrastructure. The Plan uses this metric to identify areas with latent demand or existing active travel, helping target investments that reduce auto trips and support first- and last-mile connectivity. Illustrated in Figure A-2, 59% of the planning area shows moderate or high potential for active trips, with more active destinations concentrated near parks. This pattern highlights strong opportunities to support walking and bicycling by improving connections in these areas.

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Figure A-1. Transportation Equity Analysis

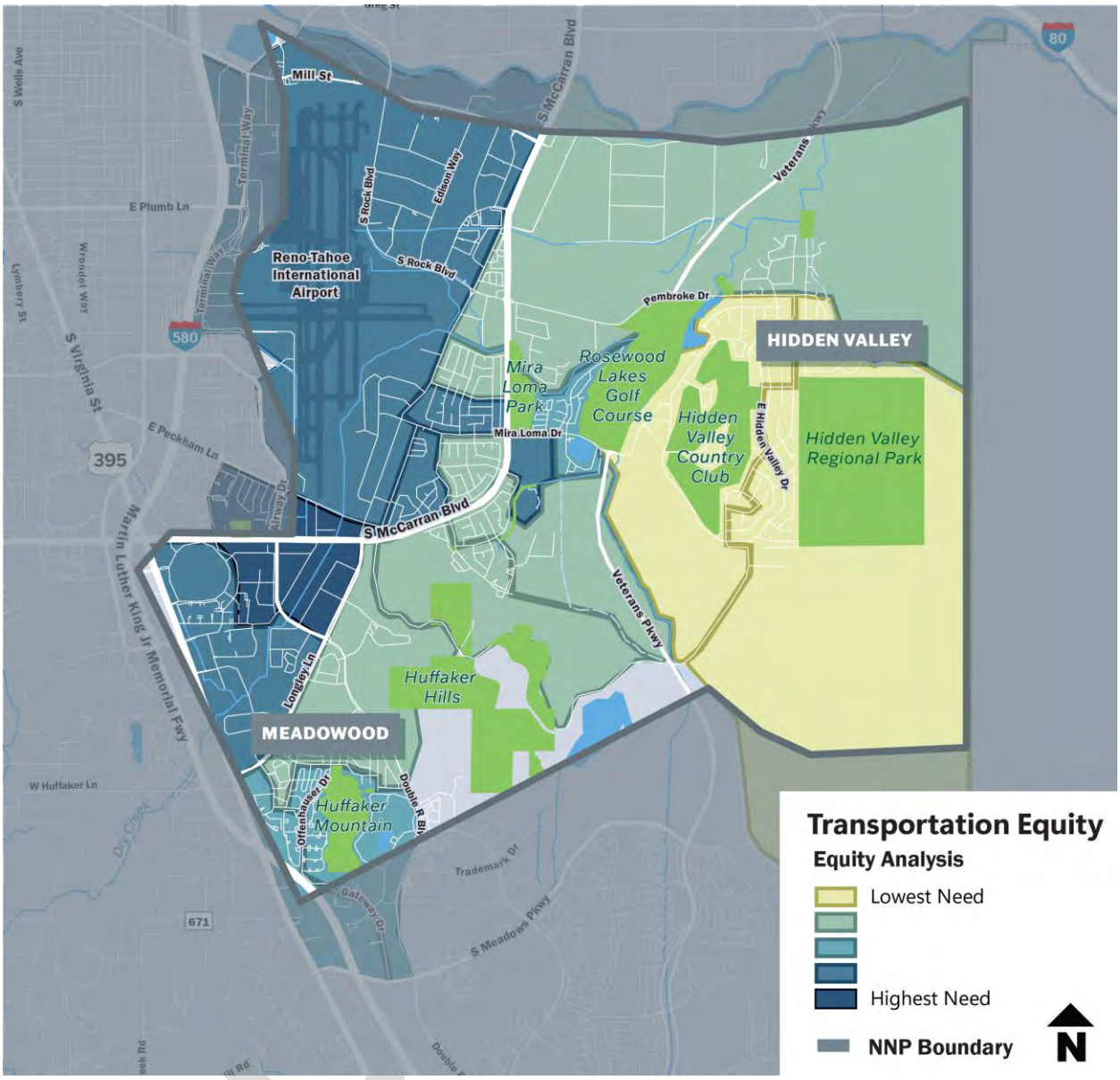
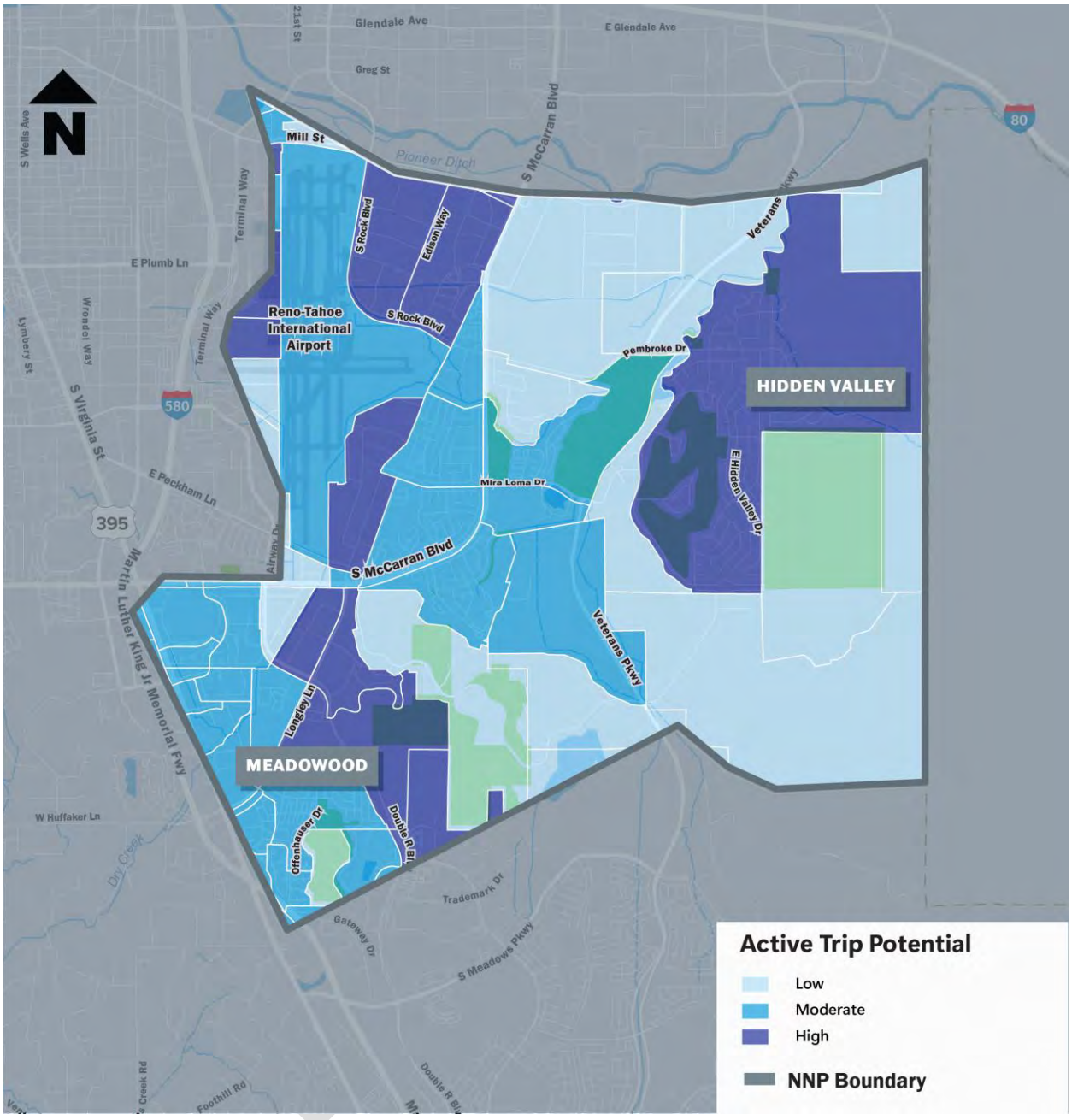


Figure A-2. Active Trip Potential



Safety Needs

The safety analysis identified several crash hotspots, most of which occur at high-volume intersections within the neighborhood, as shown in Figure A-3. South McCarran Boulevard stands out as the corridor with the highest crash concentrations, particularly at its intersections with South Virginia Street, Longley Lane, and Mira Loma Drive. Another notable hotspot occurs at the intersection of Rock Boulevard and Longley Lane. These locations coincide with the roads carrying the highest traffic volumes, where heavy turning movements and numerous driveways contribute to more crashes.

Crashes in the Meadowood and Hidden Valley neighborhood resulted in eight fatalities and 26 serious injuries, while roughly half of all reported crashes caused no injuries. As shown in Figure A-4, serious injury crashes clustered primarily on the northeast side of the planning area and along the McCarran Boulevard corridor, indicating elevated risk on these higher-volume, higher speed roadways. Two fatal crashes occurred along Hidden Valley Drive, highlighting this roadway as a particular area of concern for severe outcomes.

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Figure A-3. Crash History

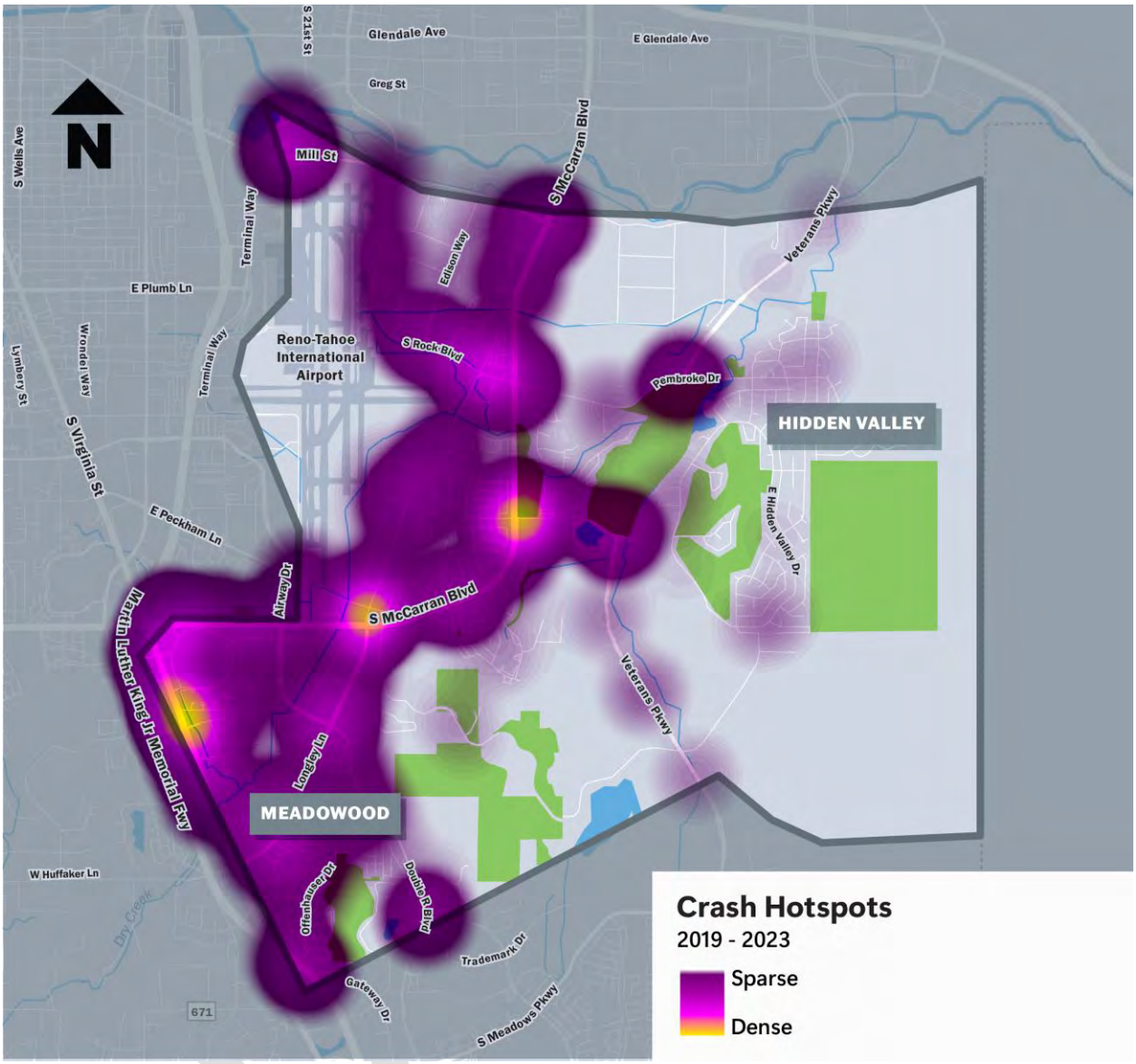
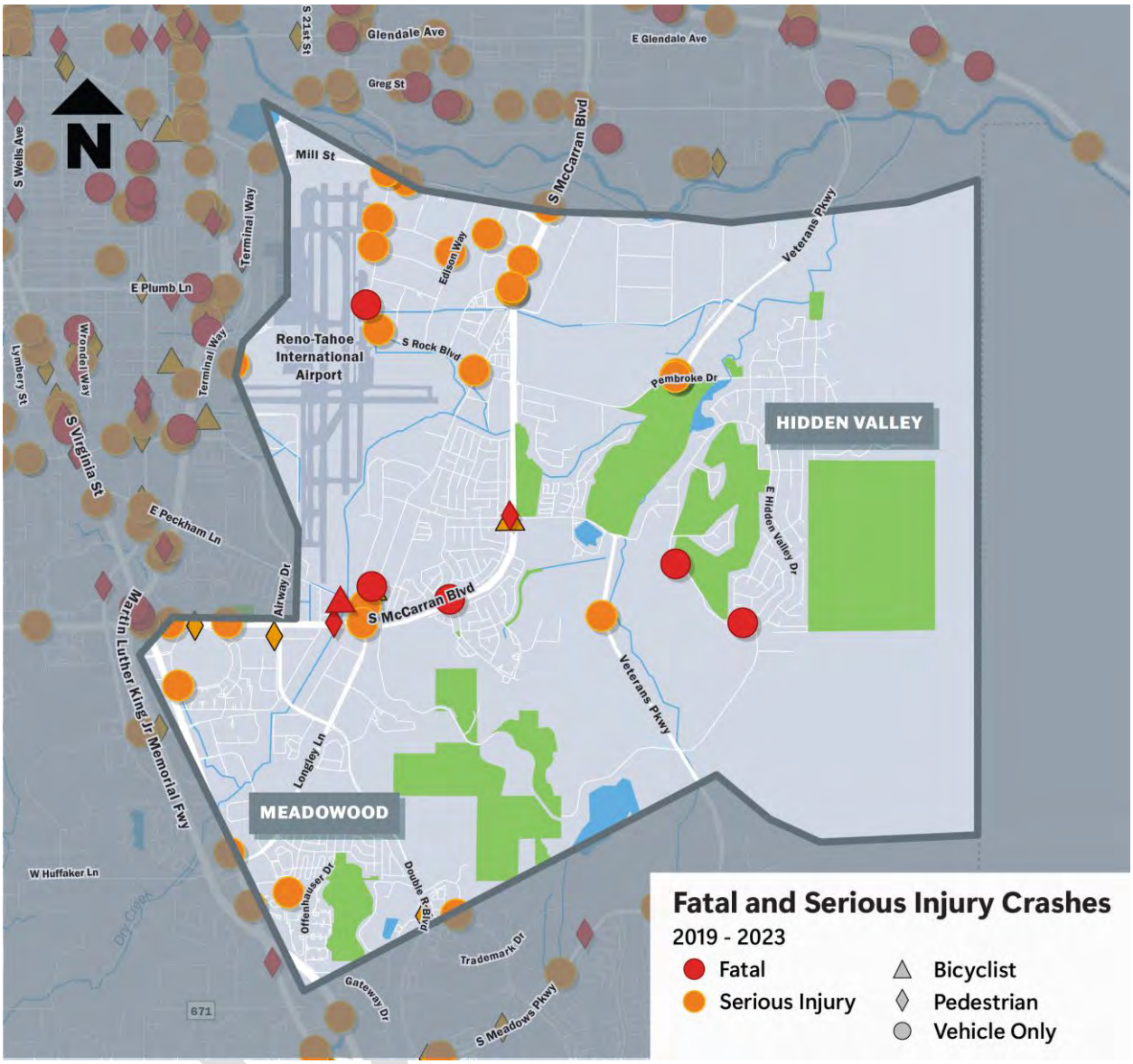


Figure A-4. Serious and Fatal Crashes



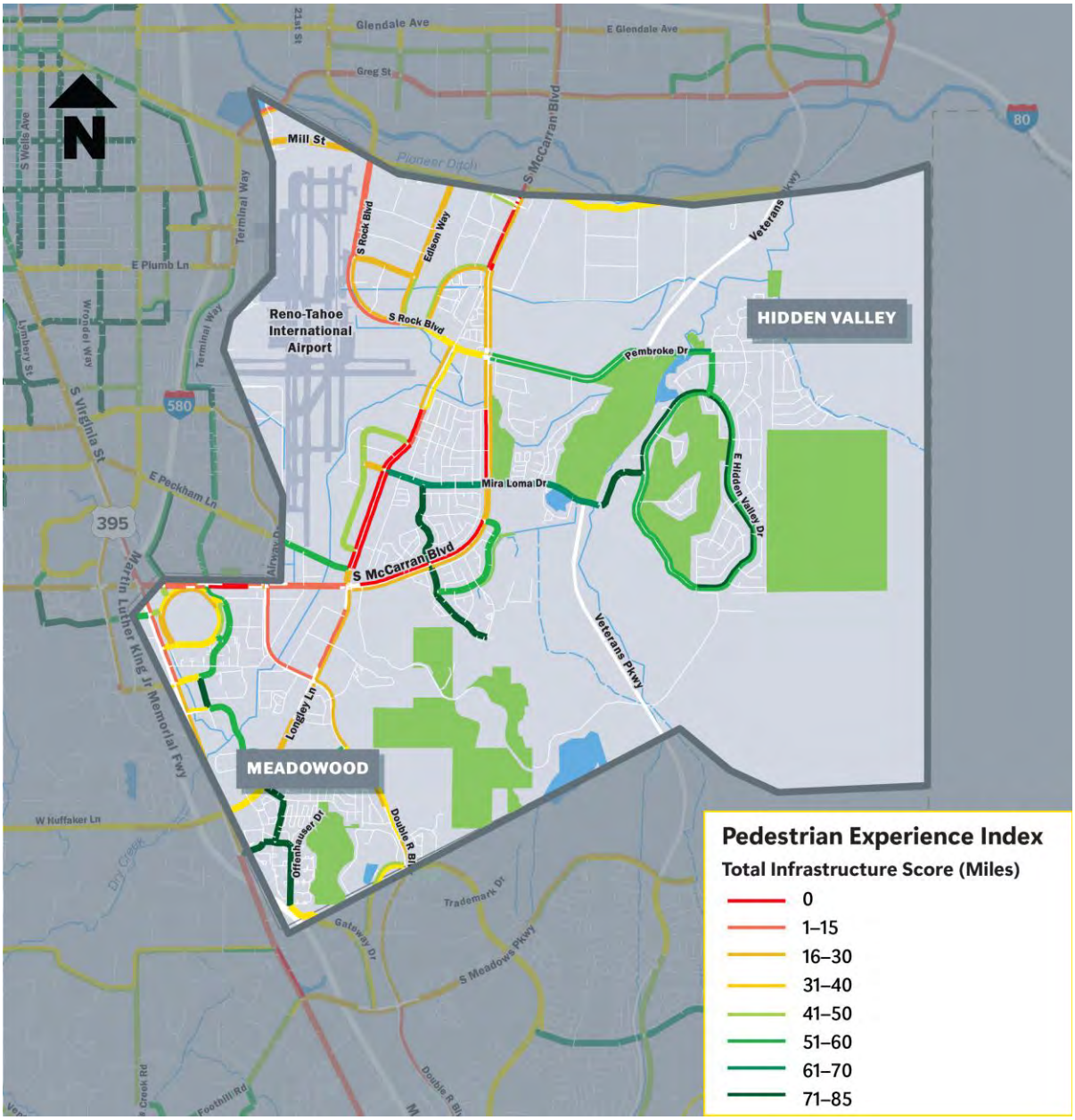
Pedestrian Experience Index

Developed for the AT Plan, the Pedestrian Experience Index (PEI) measures the level of comfort for walking on a given roadway. It considers factors such as traffic volumes and speeds and the presence or absence of sidewalks. Scores are assigned on a 0-85 scale, with higher scores indicating a more comfortable walking experience, as shown in Figure A-5.

Several critical through streets in the neighborhood scored very low on the PEI. For example, Longley Lane has an absence of sidewalks as well as a 45 MPH speed limit and lack of safe crossing opportunities, which discourages walking as a viable transportation mode. By contrast, some of the important connecting streets in the NNP area create a more inviting environment for pedestrians and have PEI scores ranging from 61-85.

Although many neighborhood streets present comfortable walking experiences for pedestrians, low PEI scores on some key parts of the roadway network present obstacles to walking as a viable mode of transportation in much of the neighborhood area. There is limited pedestrian connectivity between residential areas in the neighborhood, with roadways such as Longley Lane and Double R Boulevard presenting barriers to pedestrian access. Sidewalk construction on these major corridors would require a larger-scale, more permanent solution and does not align with quick-build strategies.

Figure A-5. Pedestrian Experience Index



Bicycle Level of Traffic Stress

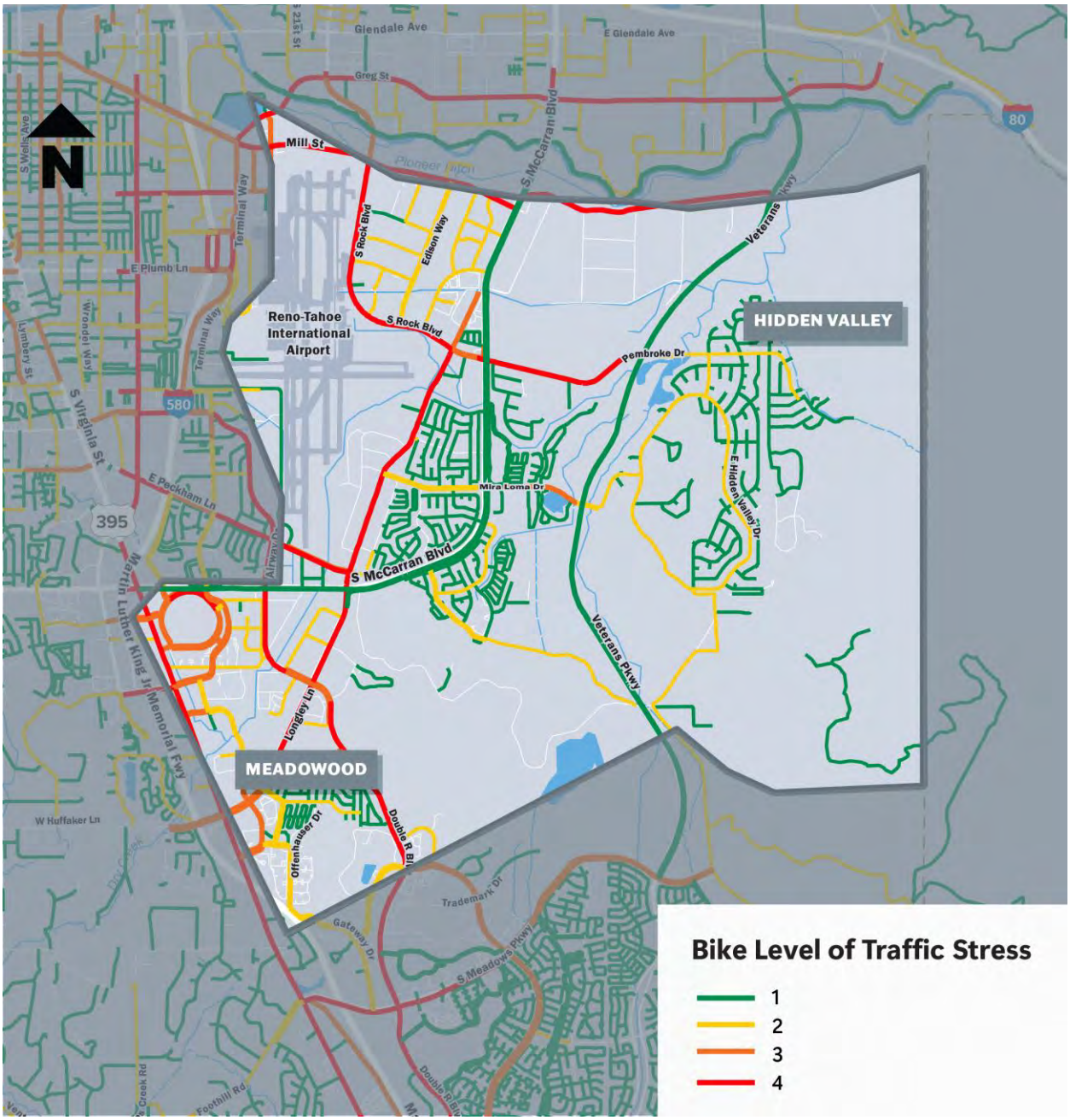
Bicycle Level of Traffic Stress (BLTS), developed as a metric in the AT Plan, measures the level of comfort for someone riding a bike on a given roadway. It considers factors such as traffic volumes, posted speed limits, and the presence or absence of bicycle facilities such as bike lanes and separated paths, as shown in the image below. Scores are assigned on a 1-4 scale with higher scores indicating streets and roads that are more stressful to ride on, as shown in Figure A-6.



Illustration of Bicycle Level of Traffic Stress

Many of the important connector streets in the neighborhood have very high BLTS scores. For example, Longley Lane and Double R Boulevard have a BLTS score of 4 due to comparatively higher traffic volumes and a 45 MPH speed limit, as well as a lack of a separated facility. Similar challenges exist on Rock Boulevard and Airway Drive. These higher stress environments present an obstacle to people using bicycling as a mode of transportation between Meadowood and Hidden Valley or even to access the wider Reno metro region. However, the BLTS scores on other important connecting corridors, such as McCarran Boulevard and Veterans Parkway, highlight the importance and possibility of creating more comfortable bicycling experiences that promote bicycling as a viable mode of transportation, enabling residents to access key community destinations such as schools, shopping centers, and parks. It is generally more cost effective and well-suited to quick-build to improve a corridor from BLTS 2 to 1 compared to upgrading from a BLTS 4 or 3 to BLTS 2.

Figure A-6. Bicycle Level of Traffic Stress



Transit

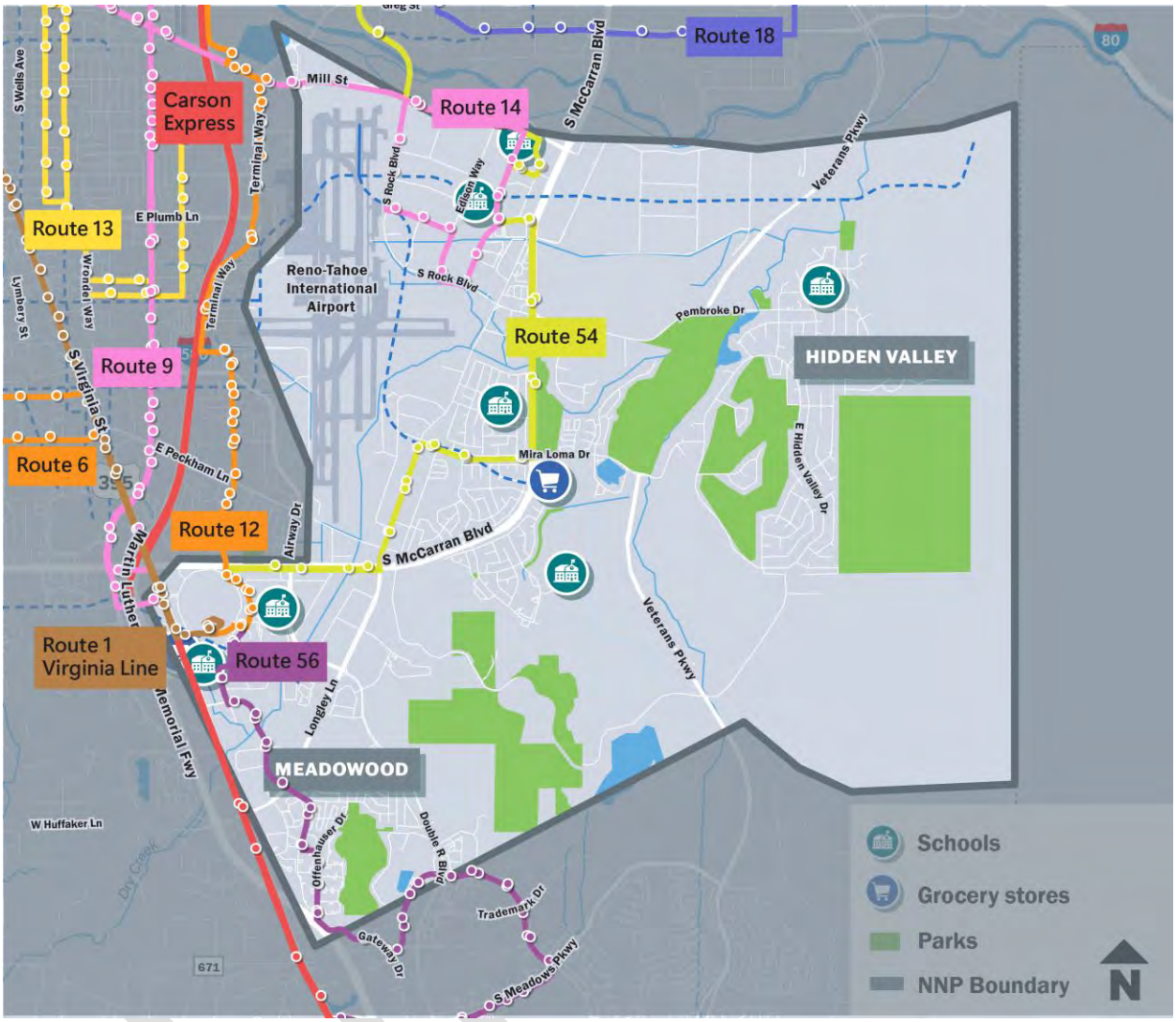
RTC transit service provides many residents and employees with access across the region. The transit routes in the neighborhood are described in Table A-2 and illustrated in Figure A-7.

Table A-2. Transit Service

Route	Service Frequency	Major Destinations	July 2025 Ridership
Route 14 East Mill	30 minutes (weekdays) 1 hour (weekends)	• Renown Medical Center • Grand Sierra Resort • VA Outpatient Clinic	10,650
Route 54 Sparks/ Meadowood	1 hour (weekdays) 1 hour (weekends)	• Mira Loma Park • Meadowood Mall • VA Outpatient Clinic • Baldini's Casino, Nugget Casino	6,500
Route 56 South Meadows/ Damonte Ranch	30 minutes (weekdays) 1 hour (weekends)	• Renown South Meadows • Meadowood Mall • Walmart, Winco • DMV	15,900
Virginia Line **Route 1**	10 minutes 30 minutes	• Downtown Reno, Midtown • Meadowood Mall • UNR • Atlantis Casino, Peppermill Resort • Reno Public Market • Federal Court Building	86,100 35,600

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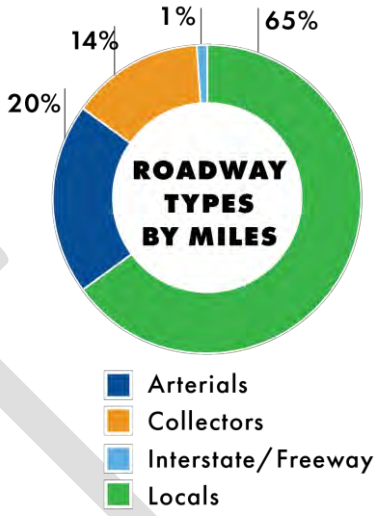
Figure A-7. Transit Service



Roadways

Functional classification categorizes roadways based on how they move people and vehicles and provide access to adjacent land uses. Four functional classes can be found within the study area:

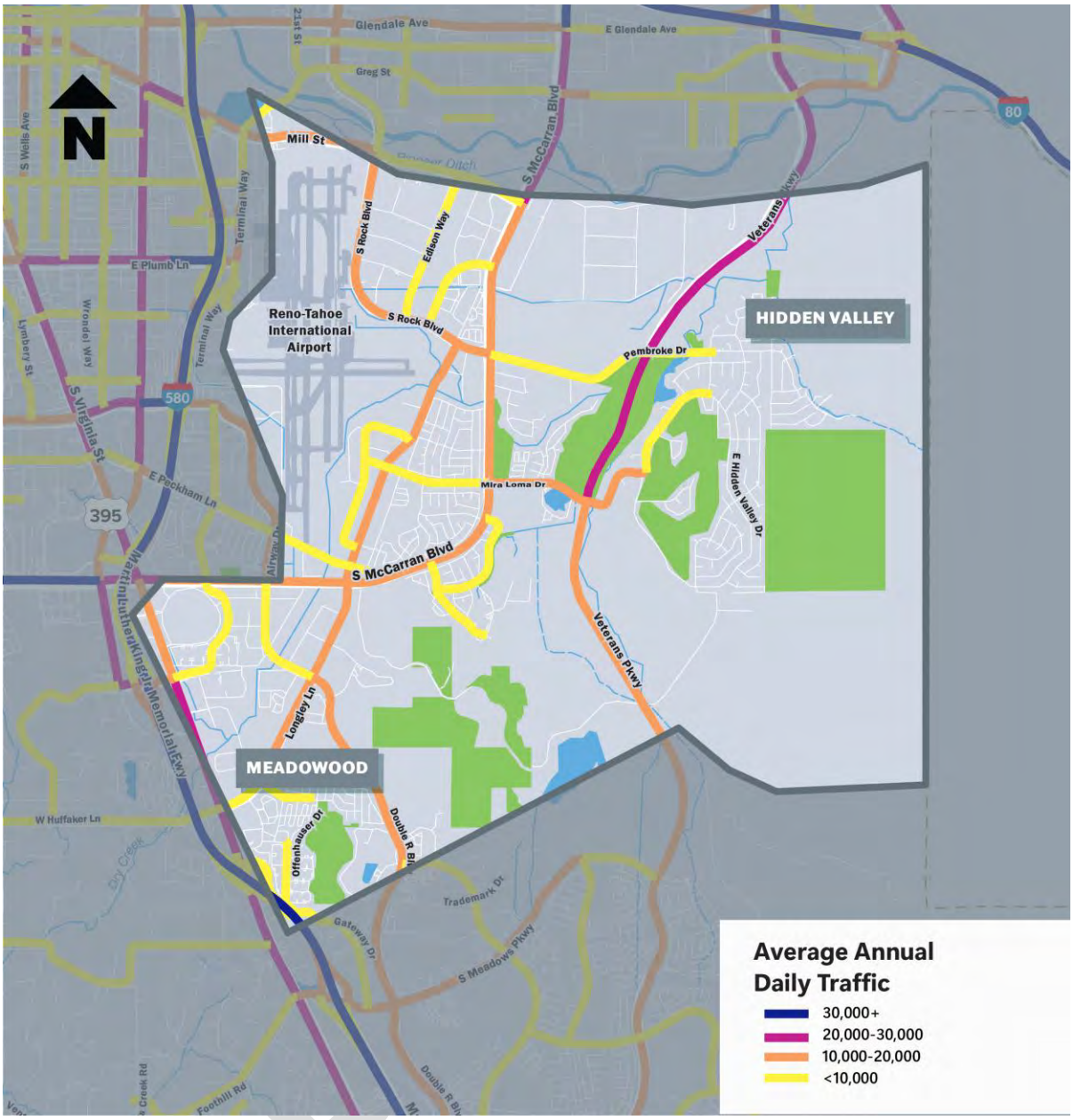
- **Interstates and Freeways**: Serve long-distance, high-speed travel with limited access, prioritizing regional mobility
- **Arterials**: Carry high traffic volumes through the area, connecting major destinations while balancing mobility and access
- **Collectors**: Connect local streets to arterials, channeling traffic from neighborhoods to higher-capacity roads
- **Local Roads**: Provide direct access to homes and businesses, supporting low-speed, low-volume neighborhood travel



The Meadowood and Hidden Valley neighborhood relies on a network of arterials that support both local access and regional connectivity. Veterans Parkway functions as the primary north–south spine on the eastern side of the area, carrying about 25,100 vehicles per day and supporting through travel as well as access to surrounding neighborhoods. Rock Boulevard, a minor arterial that transitions into Pembroke Drive near Hidden Valley, serves local circulation and is heavily used by bicyclists, with an average daily traffic volume of approximately 11,800 vehicles. On the western side, Double R Boulevard acts as a major north–south route, moving roughly 15,700 vehicles daily as it connects residential neighborhoods to shopping centers and employment hubs. Longley Lane is a minor arterial, carrying 19,900 vehicles per day and linking residential areas to nearby commercial and employment destinations. McCarran Boulevard is a principal arterial that ties the area to I-580 and I-80, providing critical regional access and carrying up to 30,000 vehicles per day near Virginia Street. Traffic volumes are shown in Figure A-8.

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Figure A-8. Traffic Volumes



Appendix B: Outreach Documentation

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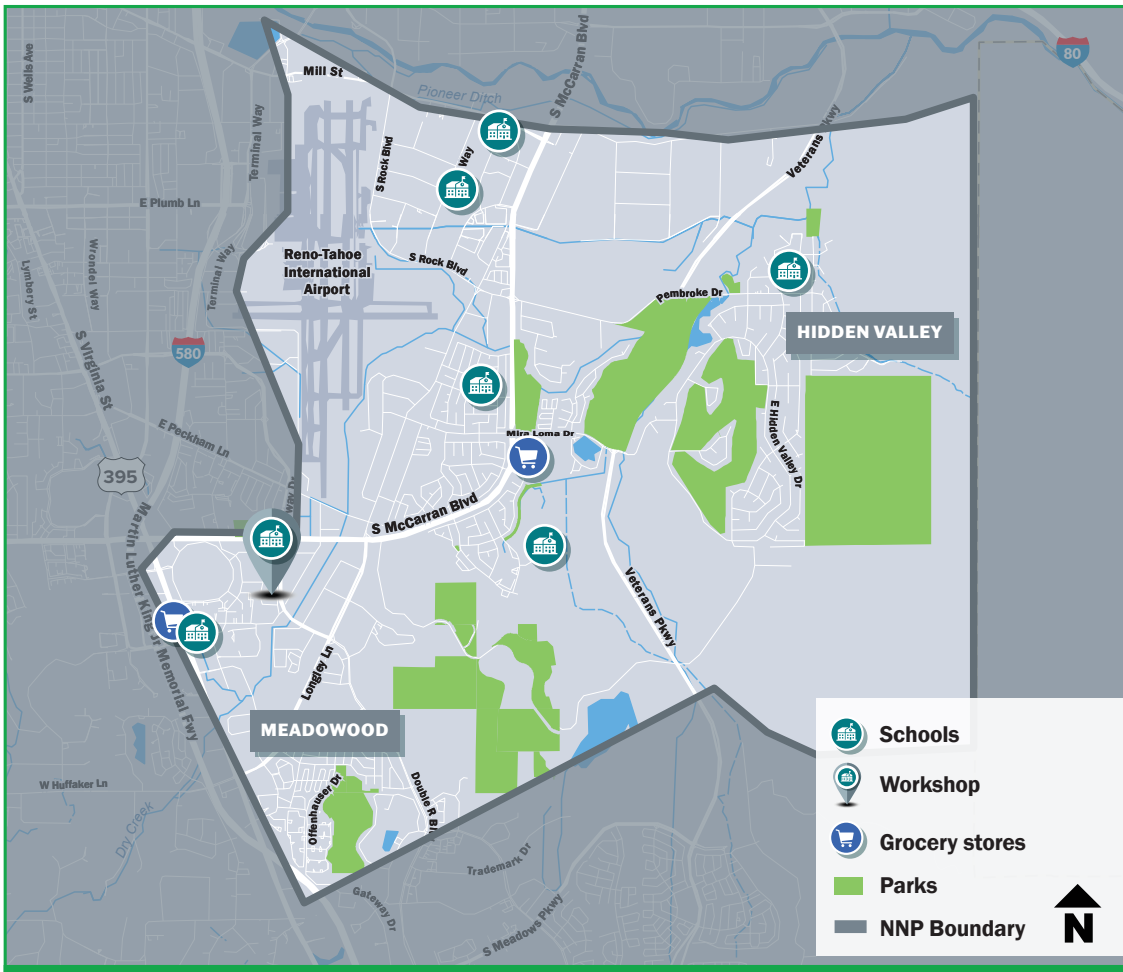
NEIGHBORHOOD NETWORK PLAN
MEADOWOOD & HIDDEN VALLEY

MEADOWOOD & HIDDEN VALLEY NEIGHBORHOOD NETWORK PLAN

The RTC, through its Active Transportation Program, is working with community members to develop Neighborhood Network Plans (NNPs) to make walking, biking, and rolling safer and more comfortable.

The NNPs will be tailored to the needs of each neighborhood and recommend projects that improve safety and create a comfortable experience for everyone.

The Meadowood & Hidden Valley NNP is expected to be completed by summer 2026 and will include recommendations for quick-build projects that can bring rapid improvements in transportation safety.



Get involved with the project by:

- **Completing the survey and adding to the virtual comment map at rtcwashoe.com/neighborhood**
- **Reaching out to the project team at neighborhoodplans@rtcwashoe.com**
- **Following @rtcwashoe on social media platforms**

SEPTEMBER-NOVEMBER 2025
Assess existing conditions

DECEMBER 2025
Commmunity workshop on December 10 from 5-6:30 and survey

DECEMBER 2025-MARCH 2026
Develop and refine improvement concepts

APRIL-MAY 2026
Community meetings

MARCH-JULY 2026
Develop Neighborhood Network Plan

AUGUST 2026
Neighborhood Network Plan finalized

For more information contact the project team at neighborhoodplans@rtcwashoe.com or visit www.rtcwashoe.com/neighborhood

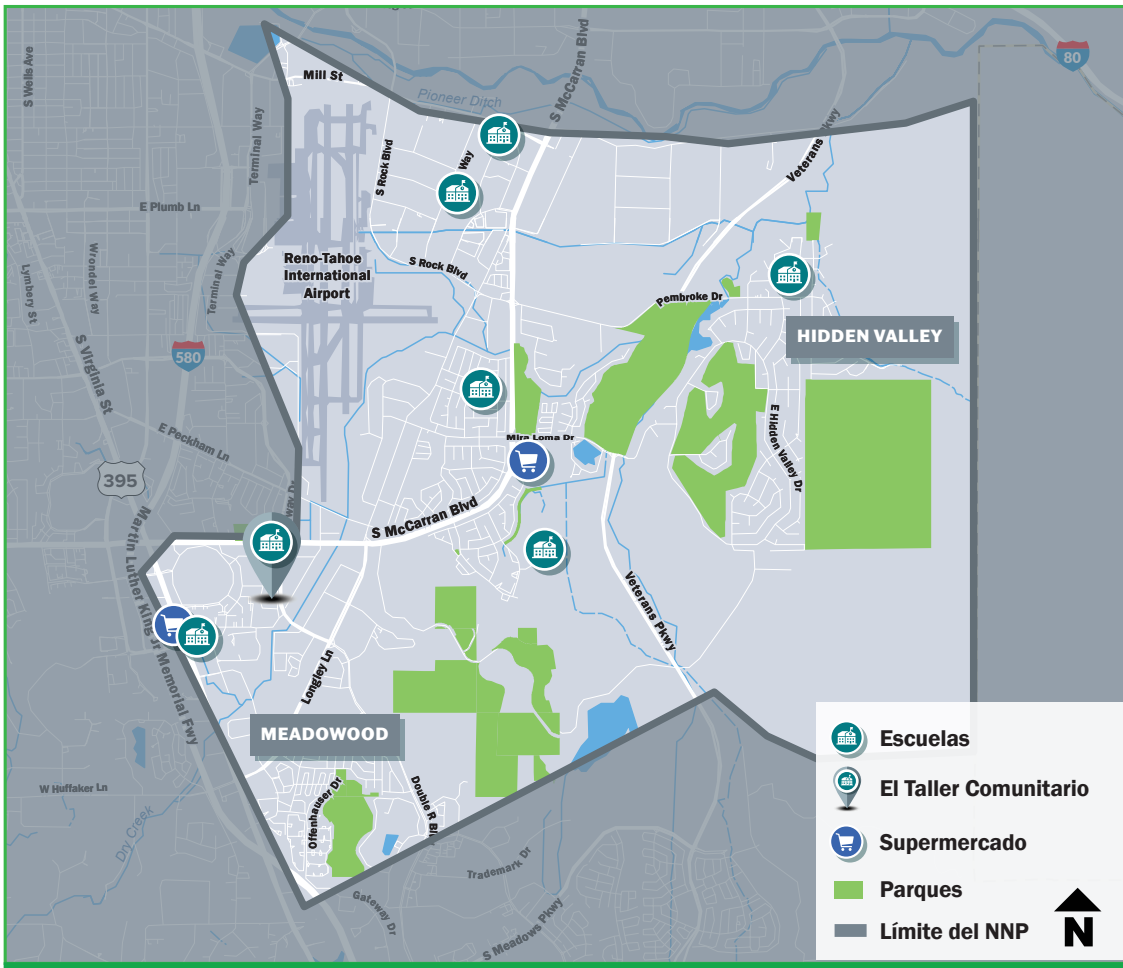
NEIGHBORHOOD NETWORK PLAN
MEADOWOOD & HIDDEN VALLEY

MEADOWOOD Y HIDDEN VALLEY
PLAN DE RED PARA LA VECINDAD DE

RTC, por parte de su programa transporte activo, está colaborando con la comunidad para desarrollar Planes de Red de Vecindarios (NNPs, por sus siglas en inglés) con la finalidad de promover la seguridad y comodidad para caminar, andar en bicicleta y el desplazamiento en silla de ruedas u otros dispositivos de movilidad.

Los NNP se adaptarán a las necesidades de cada uno de nuestros vecinos y recomendarán proyectos que mejoran la seguridad que generan una experiencia comoda para todos.

Esperamos que el NNP de Meadowood y Hidden Valley termine para el verano de 2026. Esta incluye recomendaciones para proyectos de construcción rápida ("quick-build") que puedan atraer y ofrecer mejoras rápidas y seguras para el transporte.



El Taller Comunitario De Meadowood Y Hidden Valley Es:

El 10 de diciembre del 2025

5-6:30 p.m.

Truckee Meadows Community College Meadowood North - Room 152
5270 Neil Rd | Reno, NV 89502

SEPTIEMBRE-NOVIEMBRE 2025
Evaluar las condiciones actuales

DICIEMBRE 2025
Taller comunitatio el 10 de diciembre entre 5-6:30 PM y encuesta

DICIEMBRE 2025-MARZO 2026
Crear y mejorar conceptos

ABRIL-MAYO 2026
Reuniones comunitarias

MARZO-JULIO 2026
Desarrollar el plan de red de vecindad

AGOSTO 2026
Finalizar el plan de red de vecindad

Para mas informacion contacte al personal del proyecto en neighborhoodplans@rtcwashoe.com o visite www.rtcwashoe.com/neighborhood

December 2025

WELCOME!

Thank you for attending this **Neighborhood Network Plan** community workshop. The Regional Transportation Commission of Washoe County (RTC) wants to hear your ideas about how to make walking and bicycling safer in your community. Tonight's meeting is from 5:00 to 6:30 p.m. A **brief presentation beginning at 5:15 p.m**. will be followed by **small group discussions with the project team** at tables around the room. Project materials shared during the in-person meeting are also available on the project website at www.rtcwashoe.com/neighborhood.

As you enter the room, you will notice displays describing the study, the project area, safety trends, current conditions for walking and bicycling, and ways you can participate. Maps are provided so you can identify places where improvements are needed. Project representatives (wearing name tags) are located near the displays and maps. Please take this opportunity to discuss the project with them, ask questions, and share your ideas and comments.

Ways to Participate

We want your input! Your comments are welcome and encouraged on topics related to this study – either during this meeting or using the methods below (through February 2026):Fill out a survey during tonight's meeting and leave it with the project team or at the welcome desk or complete it online.

- Visit the project website and fill out a survey at https://rtcwashoe.com/planning/neighborhood.
- Email your comments to neighborhoodplans@rtcwashoe.com.
- Write a letter or mail your comment to:

  Marquis Williams, RTC Project Manager
  1105 Terminal Way, Suite 108
  Reno, Nevada 89502

Thank you for attending this workshop and for your interest in the study. Visit www.rtcwashoe.com/neighborhood for more information. Please let us know if you would like your name and contact information added to the study mailing list to receive updates and future meeting notices.

Sincerely,

Marquis Williams
RTC Project Manager
www.rtcwashoe.com

Welcome to the Neighborhood Network Plan Survey

Thank you for participating in this survey. Your input will help shape improvements to walking, biking, and neighborhood travel options as part of the Meadowood & Hidden Valley Neighborhood Network Plan. Please answer the following questions about your travel habits and experiences in your neighborhood. This survey takes about 5 minutes to complete.

Which neighborhood do you live in?

- ☐ Meadowood
- ☐ Hidden Valley
- ☐ Sun Valley
- ☐ Panther Valley

Other _____

How do you regularly travel in your neighborhood? Select all that apply.

- ☐ Drive
- ☐ Walk
- ☐ Bicycle/E-Bike
- ☐ Scooter/E-Scooter
- ☐ Transit
- ☐ Carpool/Rideshare

Other _____

How often do you make a trip as a pedestrian (on foot or via mobility device), including travel to/from a bus stop?

- ☐ Daily / A few times per week
- ☐ Weekly
- ☐ Monthly
- ☐ A few times per year
- ☐ Rarely / Never

How safe do you feel as a pedestrian in your neighborhood?

- ☐ Very safe
- ☐ Somewhat safe
- ☐ Not Safe at all
- ☐ Not applicable

What conditions make it difficult or uncomfortable to walk in your neighborhood?

- ☐ Lack of sidewalks
- ☐ Crossing the street does not feel safe
- ☐ Not enough street lighting
- ☐ Too much traffic/vehicles drive too fast

Other (please specify) _____

How often do you make a trip on a bicycle, e-bike, e-scooter, or similar device?

- ☐ Daily / A few times per week
- ☐ Weekly
- ☐ Monthly
- ☐ A few times per year
- ☐ Rarely / Never

How safe do you feel riding a bicycle or scooter in your neighborhood?

- ☐ Very Safe
- ☐ Somewhat safe
- ☐ Not safe at all
- ☐ Not applicable

What conditions make it difficult or uncomfortable to ride a bike or scooter in your neighborhood?

- ☐ Lack of safe bike lanes or separated bike paths
- ☐ Crossing the street does not feel safe
- ☐ Not enough street lighting
- ☐ Too much traffic/vehicles drive too fast

Other (please specify) _____

Please rate the condition of key walking and biking features in your neighborhood.

	In good/ acceptable condition	Existing facilities need improvement	New or expanded facilities are needed	Not sure/not applicable
Sidewalks	☐	☐	☐	☐
Crosswalks	☐	☐	☐	☐
Street lighting	☐	☐	☐	☐
Traffic signals	☐	☐	☐	☐
Bike lanes or paths	☐	☐	☐	☐
Separation from traffic (buffers or barriers)	☐	☐	☐	☐
Bus stop or transit access	☐	☐	☐	☐

Where do you go, or where would you like to go, by walking, biking, or using a scooter in your neighborhood? Select all that apply.

- ☐ Work
- ☐ School
- ☐ Grocery/shopping
- ☐ Dining/entertainment
- ☐ Parks/recreation areas

Other _____

Please enter any specific streets, intersections, or locations within the neighborhood you would like to comment on. _____

_____

_____

What is your ZIP code? (optional) _____

What is a major intersection near your residence or workplace? (optional)
Example: S. McCarran Blvd & Longley Ln

_____

_____

Welcome to the Neighborhood Network Plan Survey

¡Muchas Gracias por participar en esta encuesta! Su opinión es muy importante porque nos ayuda a desarrollar y mejorar las opciones de transporte ya sea a pie o en bicicleta, como parte del Plan de Red Vecinal de Sun Valley / Panther Valley. Por favor, conteste a las siguientes preguntas sobre sus viajes habituales y su experiencias en la comunidad. Esta encuesta toma aproximadamente 5 minutos en completarse.

¿En qué area vive?

- ☐ Meadowood
- ☐ Hidden Valley
- ☐ Sun Valley
- ☐ Panther Valley

Otro _____

¿Cómo suele viajar dentro de su comunidad? Seleccione todas las que apliquen.

- ☐ En automóvil
- ☐ Caminando
- ☐ En bicicleta/bicicleta eléctrica
- ☐ En patinete/patinete eléctrico
- ☐ En transporte público
- ☐ En automóvil compartido/servicio de transporte

Otro _____

¿Con qué frecuencia realiza un viaje como peatón, incluyendo el trayecto hacia/desde una parada de autobús (a pie o con algún dispositivo de movilidad)?

- ☐ A diario/Varias veces por semana
- ☐ Semanalmente
- ☐ Mensualmente
- ☐ Unas pocas veces al año
- ☐ Rara vez/Nunca

¿Qué tan seguro(a) se siente como peatón en su vecindario

- ☐ Muy seguro(a)
- ☐ Algo seguro(a)
- ☐ Nada seguro(a)
- ☐ No aplica

¿Qué condiciones le impiden o limitan caminar en su vecindario?

- ☐ Falta de aceras
- ☐ Al Cruzar la calle, no se siente seguro
- ☐ Falta de visibilidad o iluminación en las calles
- ☐ Demasiado tráfico / los vehículos van demasiado rápidofast

Otro (especifique) _____

¿Con qué frecuencia realiza un viaje en bicicleta, regula o eléctrica o patinete (u otro dispositivo similar)?

- ☐ A diario/Varias veces por semanaSemanalmente
- ☐ Mensualmente
- ☐ Unas pocas veces al año
- ☐ Rara vez/Nunca

¿Qué tan seguro(a) se siente al andar en bicicleta o patinete en su vecindario?

- ☐ Muy seguro(a)
- ☐ Algo seguro(a)
- ☐ Nada seguro(a)
- ☐ No aplica

¿Qué condiciones le impiden o limitan andar en bicicleta o patineta en su vecindario?

- ☐ Falta de ciclovías/carriles para ciclismo
- ☐ Falta de senderos o carriles separados para bicicletasNot enough street lighting
- ☐ Cruzar la calle no se siente seguro
- ☐ Falta de iluminación en las calles
- ☐ Demasiado tráfico / los vehículos van demasiado rápido

Otro (pespecifique) _____

¿Cómo calificaría el estado actual de los siguientes elementos en su comunidad?

	Aceptable/ Satisfactorio	Las instalaciones existentes necesitan mejoras	Se necesitan nuevas o ampliadas instalaciones	No está seguro/ No aplica
Aceras	☐	☐	☐	☐
Cruces peatonales	☐	☐	☐	☐
Iluminación en las calles	☐	☐	☐	☐
Semáforos	☐	☐	☐	☐
Ciclovías o senderos para bicicletas	☐	☐	☐	☐
Tráfico más lento o reducido	☐	☐	☐	☐
Acceso a paradas de autobús o transporte público	☐	☐	☐	☐

¿A qué lugares va, o le gustaría ir, caminando, en bicicleta o en patineta dentro de su comunidad? Seleccione todas las que apliquen.

- ☐ Trabajo
- ☐ Escuela
- ☐ Supermercado / compras
- ☐ Restaurantes / entretenimiento
- ☐ Parques / áreas recreativas

Otro _____

Ingrese las calles que más utiliza o un lugar en específico dentro de esta área, que le gustaría comentar.

_____

_____

¿Cuál es su código postal? (opcional) _____

W¿Cuál es una intersección principal cerca de su residencia o lugar de trabajo? (opcional)

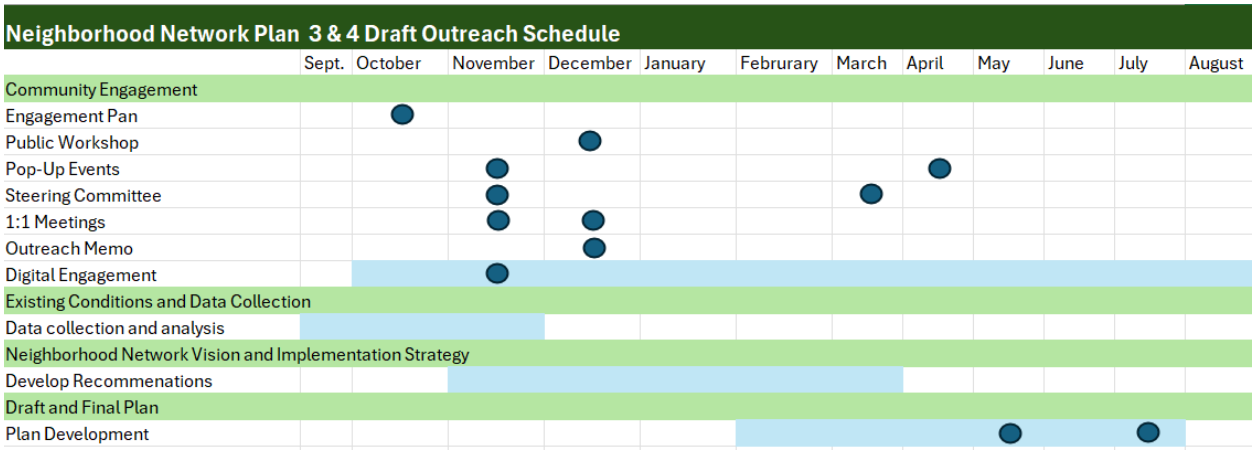
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Location: RTC 1st Floor Conference Room & Teams **Meeting Date:** November 6, 2025

Subject: Meadowood/Hidden Valley Neighborhood Network Plan Steering Committee Meeting

---

- ## Welcome and Introductions
  - RTC: Marquis Williams, Alex Cruz, Sara Going, Josh MacEachern, LaShonn Ford
  - City of Reno: Tara Smaltz
  - Washoe County: Mariam Ahmad, Michon Reede
  - Washoe County School District: Robbie Pape (Safe Routes to School (SRTS)), Jennifer Iverson (SRTS), Scott Lee (Transportation Services)
  - Nevada Department of Transportation (NDOT): Laura Wise, Mat Morris
  - Truckee Meadows Community College (TMCC): Marcus Ollom, Ayodele Akinola
  - Parametrix: Amy Cummings, Erin David, Dan Doenges, Rachel Graff, Jackie Kuechenmeister, Jillian Emery
- ## Study Purpose
  - Provide safe and convenient mobility options for Meadowood/Hidden Valley. Support stronger communities through transportation investments that:
    - Improve safety,
    - Expand active transportation mode share,
    - Maintain the system sustainability, and
    - Enhance the community.
- ## Schedule



- ## Previous Efforts / Planned Improvements
  - Incorporating findings from previous planning efforts, such as the 2050 Regional Transportation Plan, Active Transportation Plan, McCarran Boulevard Corridor Study, and South Meadows Transportation Study.
  - Acknowledge planned improvements on Pembroke Drive, Mira Loma Drive, Rock Boulevard, and McCarran Boulevard.
- ## Engagement
  - Steering Committee
  - Community Workshop

        - Potential locations: TMCC Meadowood Campus or Hidden Valley Country Club
    - 1:1 Meetings
    - Flyer
    - Website/Digital
    - Pop-ups
        - *Mira Loma Shopping Center /Mira Loma Park*
        - *Meadowood Station*

- **Active Transportation Comments**
    - More bike connections
    - Better bike facilities
    - Allow bikes on Alexander Lake Road
    - Bus stop improvements
    - Trail improvements
    - Pedestrian access and bike parking at Meadowood Mall

- **Safety**
    - 984 crashes reported in the study area, based on NDOT's 2019-2023 crash data
        - 26 serious injury crashes, including 4 pedestrian and 2 bicyclist-involved crashes
        - 8 fatal crashes, including 2 pedestrian and 1 bicycle fatalities
    - Hotspots
        - Major intersections along McCarran Boulevard
    - Common crash types
        - Angle (42%)
        - Rear end (25%)
        - Non-collision (19%)

- **Traffic**
    - Volumes differ depending on corridor type. Veterans Parkway, Rock Boulevard, Longley Lane, Double R Boulevard, and McCarran Boulevard have the highest traffic volumes

- **Transit**
    - Four bus routes traverse this area (Routes 14, 54, 56, and Viriginia Line)
    - Meadowood Transfer Station located within neighborhood

- **Active Transportation Infrastructure**
    - Planned multi-use path on Pembroke Drive
    - Planned sidewalks and bike lanes on Rock Boulevard
    - Segments of multi-use path planned on South McCarran Boulevard
    - Maps show the RTC data for Pedestrian Experience Index and Bicycle Level of Stress

- **Land Use and Development**
    - Presented a map showing key destinations, such as employment centers, schools, and commercial centers

- **Needs and Opportunities**
  - *TMCC Meadowood experiences non-student population issues, particularly at bus stops, TMCC restrooms are being used when mall is closed, possibly discouraging transit riders to campus, RTC to look into this*
  - *Hidden Valley only has two access points, Mira Loma Drive and Pembroke Drive*
  - *There are a lot of wide roads with space for improvements within Hidden Valley neighborhood*
  - *Pending new roadway connection from Rio Poco Drive to South Meadows Parkway for the Talus Valley development*
  - *Question between City and County as to whether Alexander Lake Road will remain open or gated, AT Plan comments indicated desire for bike access along road*
  - *Lack of connectivity between neighborhood areas*
  - *Coral Academy on Neil Road drop off/pick up traffic is challenging, not adequate/designated space and no busing because it's a charter school*
  - *Residents want better bike access to parks, particularly off Pembroke Drive as well as Mira Loma Drive*
  - *Have been complaints of speeding near Hidden Valley Elementary School, residents want more traffic calming in general, Washoe County will install speed tables on roadways below collector functional classification, and are okay with painted buffer bike lanes (maintenance concerns about physical/vertical barriers)*
  - *Also speeding concerns have been raised at AACT High School, school zone flashers to be installed*
  - *Pine MS closing next year and will be expanded as future elementary school (~ 3 years), will absorb students from Smithridge and Dodson Elementary Schools*

- **ATP Vision**
  - We envision a connected network of comfortable, convenient, and consistent facilities for people of all ages and abilities walking, bicycling, and rolling on a mobility device that prioritizes accessibility to schools, jobs, shopping, neighborhoods, community facilities, parks, and regional trails within the Truckee Meadows.
  - **Is this still appropriate for the NNP?**
    - *Recommend clarifying that "facilities" means transportation infrastructure and adding "transit" to access priorities.*

- **ATP Goals**
  - Improve Safety
  - Expand Mode Share
  - Maintain the System Sustainably
  - Enhance the Community
  - **Is this still appropriate for the NNP?**
    - *Yes*

- **Next Steps**
  - Needs analysis
  - Community workshop
  - Develop concept alternatives

Location: Teams **Meeting Date:** July 23, 2026

Subject: Meadowood/Hidden Valley and Sun Valley / Panther Valley Neighborhood Network Plan Steering Committee Meeting

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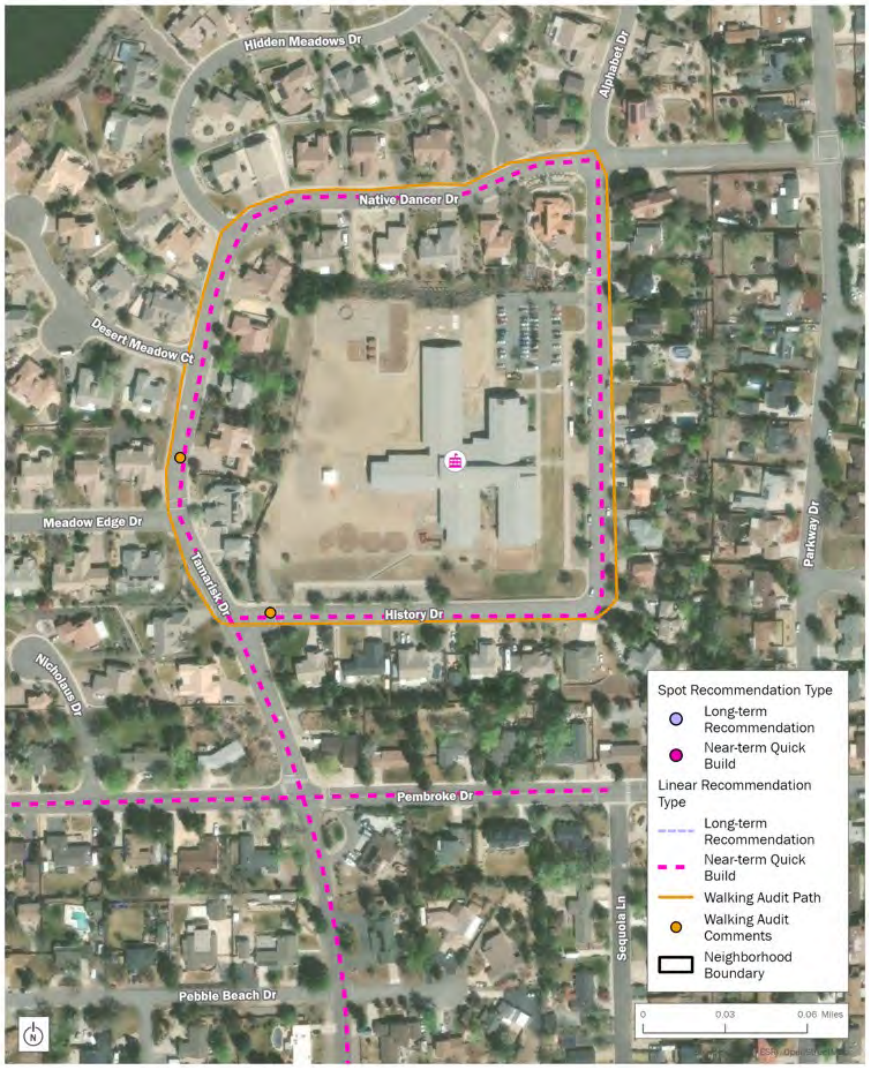
- **Welcome and Introductions**
  - RTC: Marquis Williams, Alex Cruz, Josh MacEachern, LaShonn Ford
  - City of Reno: Tara Smaltz
  - Washoe County: Michon Reede, Kat Oakley
  - Washoe County School District: Jennifer Iverson (Safe Routes to School (SRTS)), Kyle Chisholm, Tom Macaluso
  - Nevada Department of Transportation (NDOT): Chantelle Ewing
  - Sun Valley General Improvement District: Chris Melton
  - Parametrix: Amy Cummings, Dan Doenges, Jillian Emery
- **Review Planning Process**
  - Program background as part of the RTC Active transportation Program with $2.5 million identified for short-term, quick-build improvements
  - Review of project vision and goals
  - Discussion of alternatives development and evaluation process
  - Community outreach
- **Review Proposed Recommendations**
  - The project team provided an overview of the proposed short-term quick-build and longer-term proposed improvements for discussion.
- **Discussion**
  - There was a question about whether near-term improvements could be extended for all of Beckwourth. Amy suggested that this improvement could benefit from a potential future preservation project. Full improvements limited by funding.
  - The school district anticipates a significant increase in active transportation with proposed development near Alice Smith Elementary School. The project team is looking at potential off-street trails as part of plan recommendations.
  - Washoe County and Sun Valley staff supportive of proposed improvements in Sun Valley.
  - RTC described the intent of the program to conduct continued data collection and analysis and highlighted the ability to make iterative adjustments for improvement given the quick build nature of the projects.
  - The RTC Pembroke Drive improvement project east of Veterans Parkway is currently under construction.
  - Looking at October for RTC Advisory Committee and Board meetings.
  - Central Reno & Sparks Community Bike Ride is under development to celebrate implementation of first NNP areas (probably in 2027).
  - RTC encouraged committee members to share the draft with colleagues.

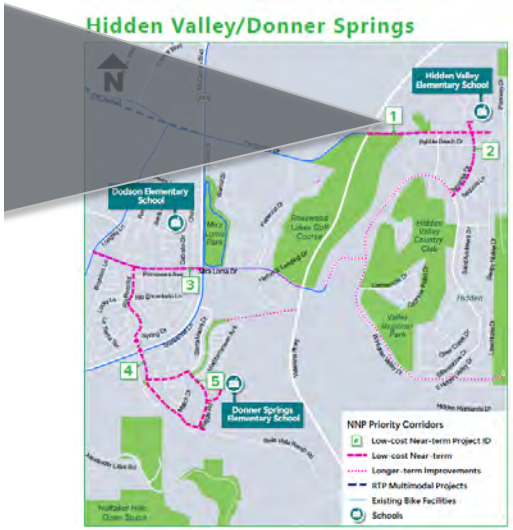
Appendix C: Walk Audit

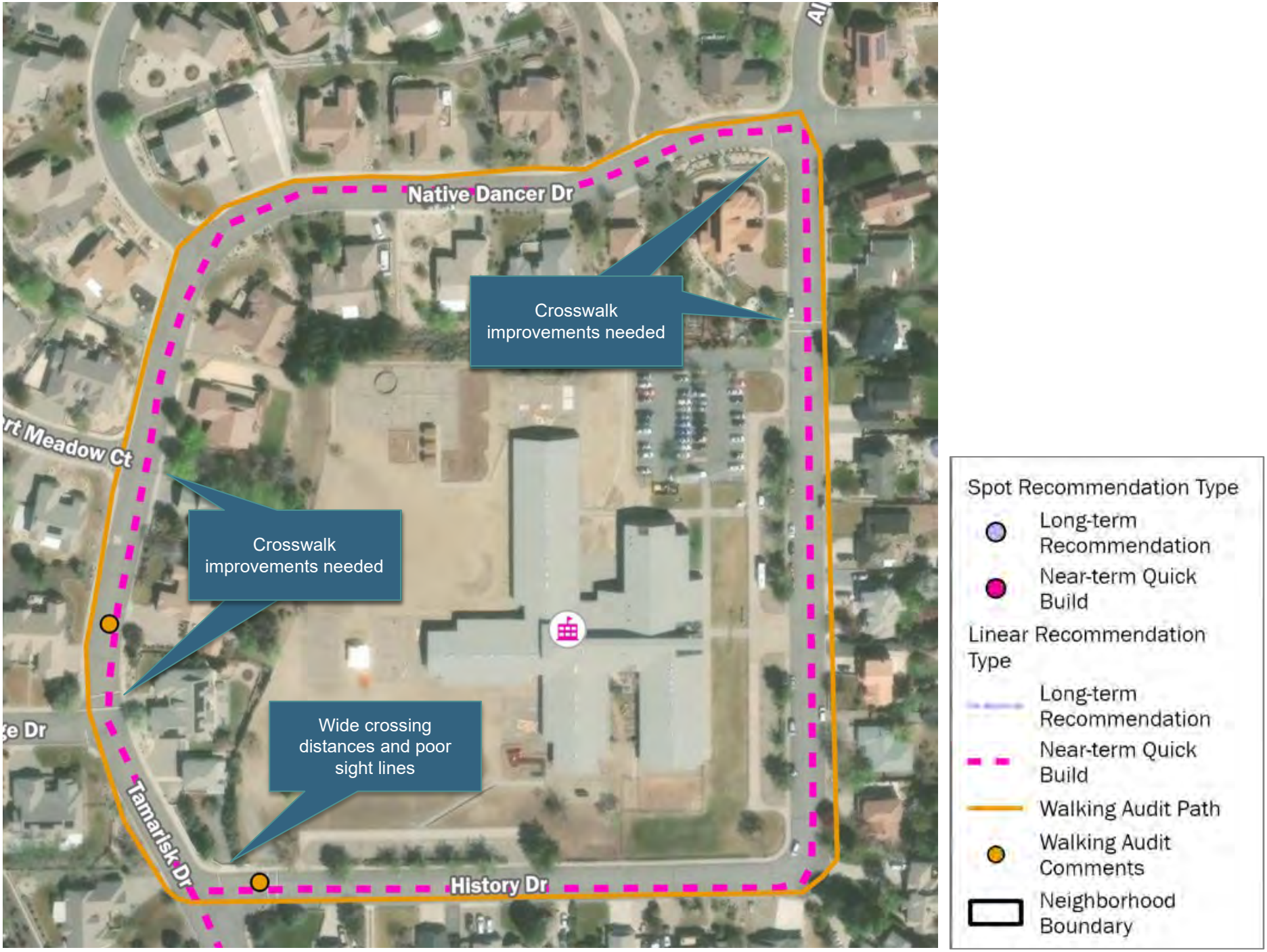
DRAFT

Walk Audit Assessment
Hidden Valley

The goal of the walk audit is to identify barriers to walking and biking in the study area.






Native Dancer Dr
Crosswalk improvements needed
rt Meadow Ct
Crosswalk improvements needed
ge Dr
Wide crossing distances and poor sight lines
Tamarisk Dr
History Dr
Spot Recommendation Type
Long-term Recommendation
Near-term Quick Build
Linear Recommendation Type
Long-term Recommendation
Near-term Quick Build
Walking Audit Path
Walking Audit Comments
Neighborhood Boundary

Summary Comments and Observations



Tamarisk Drive and History Drive – The crosswalk on History Drive is set back from the intersection and vegetation blocks the view of motorists turning right from Tamarisk Drive. Consider curb extension/bulb out and ladder crosswalk pavement markings.

This neighborhood area does not have street lights.



Tamarisk Drive and Meadow Edge Drive – The crosswalk does not have striping that meets current standards. Consider high visibility crosswalk with ladder pavement markings.

Audit Information	
Name	Hidden Valley
Participants/Organization	☒ RTC
	☒ City of Reno
	☒ Washoe County
	☒ Parametrix
Date	4/29/26
Route segment walked/observed (refer to map)	Hidden Valley

Environment	
Who are the primary users of this route segment? Select all that apply.	☒ Pedestrians
	☒ Bicyclists
	☒ Vehicular Traffic
	☐ Transit
	☐ Trucks and Freight
	☐ Other: _____
Type of pedestrians using the route? Select all that apply.	☒ Adult
	☐ Elderly
	☒ Children
	☒ Families
	☐ Differently Abled
	☐ Other: _____

Pedestrian and Cyclist Infrastructure

Are there sidewalks?	☒ Yes ☐ No	
If yes, select all that apply.	☐ The sidewalk is not continuous. There are sections missing.	
	☐ The sidewalk is too narrow to accommodate pedestrians.	
	☐ The sidewalk is blocked by poles or other infrastructure.	
Are there shared use paths?	☐ Yes ☒ No	
If yes, select all that apply.	☐ The shared use path is difficult to find; there is no signage/wayfinding.	
	☐ The shared use path is too narrow to fit both pedestrians and cyclists.	
	☐ The shared use path does not connect to pedestrian facilities/areas.	
Other Observations		

Overall, the quality and safety of the sidewalk infrastructure is: (circle your choice)



Are there bicycle lanes?	☐ Yes ☒ No	
If yes, select all that apply.	☐ The bicycle lane is not clearly marked.	
	☐ The bicycle lane is too narrow.	
	☐ The bicycle lane is not properly maintained.	
	☐ Conventional ☐ Buffered ☐ Separated	
If the bicycle lane is not properly maintained, please describe the issue/s. _____		
Are there sharrows?	☐ Yes ☒ No	
If yes, select all that apply.	☐ The sharrow is not positioned in the middle of the lane.	
☐ There is no signage along the route indicating that bicycles may be sharing the roadway.		
☐ There are no designated locations to park and lock bicycles along the route.		

Overall, the quality and safety of the bicycle infrastructure is: (circle your choice)



Pedestrian and Cyclist Infrastructure		
Other observations:		

Street Crossings and Intersections		
☐ There are too many driveways along the route that make it uncomfortable or unsafe to walk.		Overall, the quality and safety of street crossings and intersections are: (circle your choice) 
☐ Street names, route names, and walking paths are not clearly labeled.		
☐ Pedestrian signage does not exist or is not well-maintained.		
☒ Pedestrian crossings do not have pushbuttons.		
☐ Pedestrian pushbuttons are not close to the crosswalk.		
☐ There are bumps, curbs, or gutters that may block the passage of people using wheelchairs or people with low mobility.		
☒ Curb ramps are missing at intersections and alley entrances/exits.		
☐ Crossings/streets are too wide for slower pedestrians to cross safely.		
X There are blind spots where pedestrians may not see oncoming traffic or vice-versa.		
☒ Crosswalks are poorly lit.		
Other observations:		

Walk Audit Assessment
Rio Poco Rd and Hombre Wy

The goal of the walk audit is to identify barriers to walking and biking in the study area.






Casa Blanca Rd
San Marcos Ln
Camino Lindo Way
Noche Ln
Spring Dr
659
Snowshoe Ln
Leeward Ln
Bismar


Illinois Ave
Saint Charles Pl
Water Works Way
Reggie Rd
Escuela Way
Hombre Way
Spot Recommendation Type
Long-term Recommendation
Near-term Quick Build
Linear Recommendation Type
Long-term Recommendation
Near-term Quick Build
Walking Audit Path
Walking Audit Comments
Neighborhood Boundary

Summary Comments and Observations



Rio Poco Road and Spring Drive – This is a wide, four-way stop intersection without marked crosswalks. Sidewalks are present on both sides of the street. No bike lanes are present.

A streetlight is located at the northwest corner of this intersection.



McCarran Boulevard and Rio Poco Road - This is a major, high-traffic intersection with a multiuse path along the south/east side. The transition across the intersection for bicycles and pedestrians is challenging.

Streetlights are placed on each corner of this intersection.

Summary Comments and Observations



Rio Poco Road – On the south side of McCarran Boulevard, this roadway is very wide and has no bike lanes. Sidewalks are present on both sides of the street.

Streetlights are present on Rio Poco Road.



Hombre Way and Escuela Way – This segment has recently been restriped. The bicycle lanes on Hombre Way do not continue to the school on Escuela Way. There is potential to stripe a bike lane or path on the south side of Escuela Way. The north side is constrained by multiple driveways. A crossing guard was present to support student access at the crosswalk during afternoon pick-up.

A streetlight is located at this intersection.

Audit Information	
Name	Rio Poco Road and Hombre Way
Participants/Organization	☒ RTC
	☒ City of Reno
	☒ Washoe County
	☒ Parametrix
Date	4/29/26
Route segment walked/observed (refer to map)	Rio Poco Road from Spring Drive to Sierra Madre Drive; Hombre Way and Escuela Way.

Environment	
Who are the primary users of this route segment? Select all that apply.	☒ Pedestrians
	☒ Bicyclists
	☒ Vehicular Traffic
	☐ Transit
	☐ Trucks and Freight
	☐ Other: _____
Type of pedestrians using the route? Select all that apply.	☒ Adult
	☐ Elderly
	☒ Children
	☒ Families
	☐ Differently Abled
	☐ Other: _____

Pedestrian and Cyclist Infrastructure

Are there sidewalks?	☒ Yes ☐ No	
If yes, select all that apply.	☐ The sidewalk is not continuous. There are sections missing.	
	☐ The sidewalk is too narrow to accommodate pedestrians.	
	☐ The sidewalk is blocked by poles or other infrastructure.	
Are there shared use paths?	☒ Yes ☐ No	
If yes, select all that apply.	☐ The shared use path is difficult to find; there is no signage/wayfinding.	
	☐ The shared use path is too narrow to fit both pedestrians and cyclists.	
	☐ The shared use path does not connect to pedestrian facilities/areas.	
Intersection crossings are challenging for users of the McCarran Boulevard multiuse path.		

Overall, the quality and safety of the bicycle infrastructure is: (circle your choice)



Are there bicycle lanes?	☐ Yes ☒ No	
If yes, select all that apply.	☐ The bicycle lane is not clearly marked.	
	☐ The bicycle lane is too narrow.	
	☐ The bicycle lane is not properly maintained.	
	☐ Conventional ☐ Buffered ☐ Separated	
If the bicycle lane is not properly maintained, please describe the issue/s. _____		
Are there sharrows?	☐ Yes ☒ No	
If yes, select all that apply.	☐ The sharrow is not positioned in the middle of the lane.	
☐ There is no signage along the route indicating that bicycles may be sharing the roadway.		

Overall, the quality and safety of the bicycle infrastructure is: (circle your choice)

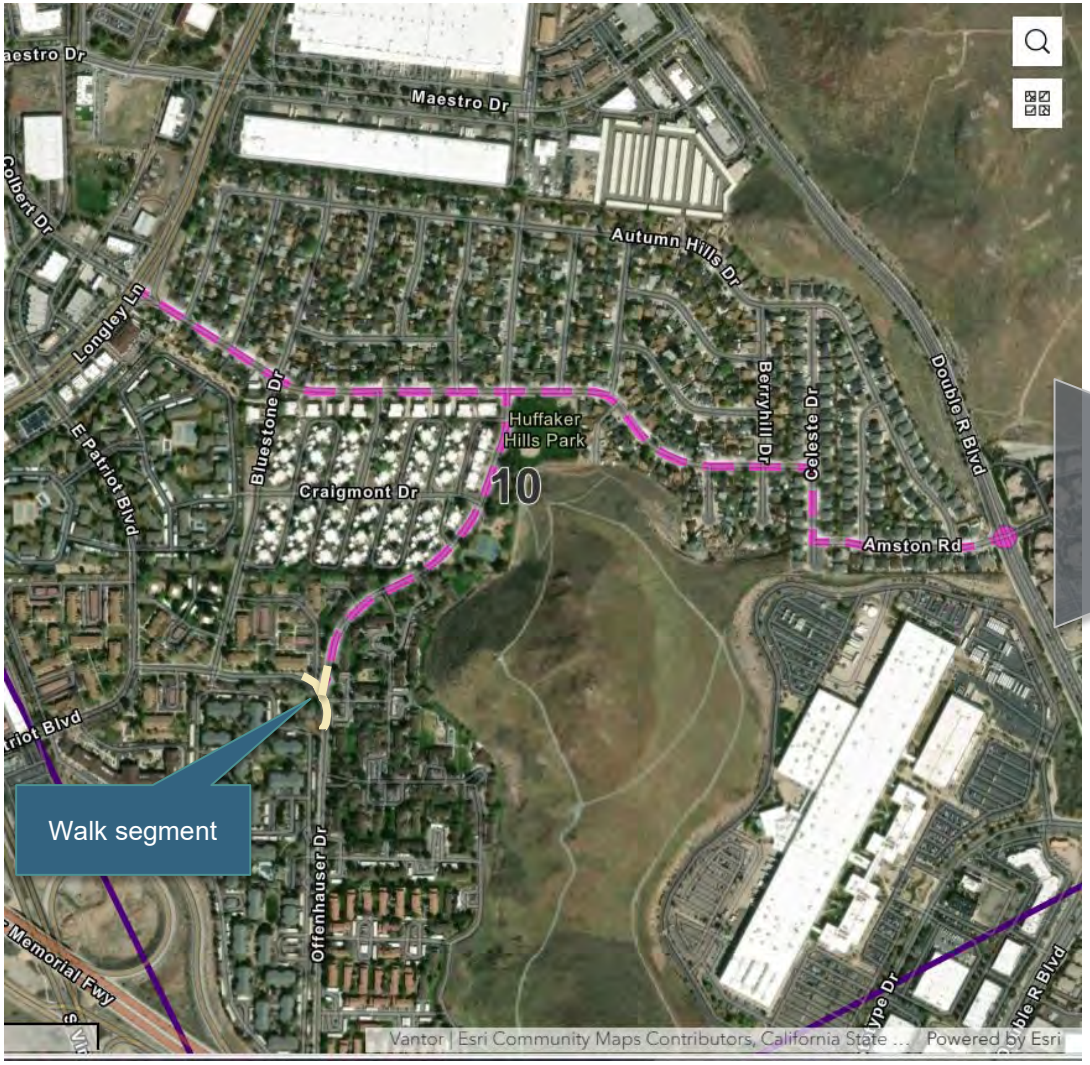


Pedestrian and Cyclist Infrastructure		
☒ There are no designated locations to park and lock bicycles along the route.		
Other observations:		

Street Crossings and Intersections		
☐ There are too many driveways along the route that make it uncomfortable or unsafe to walk.		Overall, the quality and safety of street crossings and intersections are: (circle your choice) ☹ ☹ 😐 🙂 🙂
☐ Street names, route names, and walking paths are not clearly labeled.		
☒ Pedestrian signage does not exist or is not well-maintained.		
☐ Pedestrian crossings do not have pushbuttons.		
☐ Pedestrian pushbuttons are not close to the crosswalk.		
☐ There are bumps, curbs, or gutters that may block the passage of people using wheelchairs or people with low mobility.		
☐ Curb ramps are missing at intersections and alley entrances/exits.		
☒ Crossings/streets are too wide for slower pedestrians to cross safely.		
☐ There are blind spots where pedestrians may not see oncoming traffic or vice-versa.		
☐ Crosswalks are poorly lit.		
Other observations:		

Walk Audit Assessment
Huffaker Area

The goal of the walk audit is to identify barriers to walking and biking in the study area.






Barclay Ct
Offenhauser Dr
No bike facilities
Portman Ave
10
Left-turn pocket
Sharrows
Bike lanes
end/begin
Offenhauser Dr

Summary Comments and Observations



Offenhauser Drive and Portman Avenue intersection – This area has high pedestrian volumes due to nearby Route 56 bus stops and heavily used school bus stops. Offenhauser Drive provides access to Huffaker Park to the north. Portman Avenue has sharrows and on-street parking. Bike lanes begin/end just to the southeast of the intersection. Future analysis of intersection may include whether the center turn lane can be eliminated or if a 3-way stop would be appropriate. A streetlight is located to the west of the intersection but does not light the crosswalk well.



Audit Information	
Name	Huffaker Area
Participants/Organization	☒ RTC
	☒ City of Reno
	☒ Washoe County
	☒ Parametrix
Date	4/29/26
Route segment walked/observed (refer to map)	Offenhauser and Patriot

Environment	
Who are the primary users of this route segment? Select all that apply.	☒ Pedestrians
	☒ Bicyclists
	☒ Vehicular Traffic
	☒ Transit
	☐ Trucks and Freight
	☐ Other: _____
Type of pedestrians using the route? Select all that apply.	☒ Adult
	☒ Elderly
	☒ Children
	☒ Families
	☐ Differently Abled
	☐ Other: _____

Pedestrian and Cyclist Infrastructure

Are there sidewalks?	☒ Yes ☐ No		Overall, the quality and safety of the sidewalk infrastructure is: (circle your choice) 
If yes, select all that apply.	☐ The sidewalk is not continuous. There are sections missing.		
	☐ The sidewalk is too narrow to accommodate pedestrians.		
	☐ The sidewalk is blocked by poles or other infrastructure.		
Are there shared use paths?	☐ Yes ☒ No		
If yes, select all that apply.	☐ The shared use path is difficult to find; there is no signage/wayfinding.		
	☐ The shared use path is too narrow to fit both pedestrians and cyclists.		
	☐ The shared use path does not connect to pedestrian facilities/areas.		
Other Observations			

Are there bicycle lanes?	☒ Yes ☐ No		Overall, the quality and safety of the bicycle infrastructure is: (circle your choice) 
If yes, select all that apply.	☐ The bicycle lane is not clearly marked.		
	☐ The bicycle lane is too narrow.		
	☐ The bicycle lane is not properly maintained.		
	☒ Conventional ☐ Buffered ☐ Separated		
The bicycle lane on Patriot is not continuous, ending south of the Offenhauser intersection. _____			
Are there sharrows?	☒ Yes ☐ No		
If yes, select all that apply.	☐ The sharrow is not positioned in the middle of the lane.		
☐ There is no signage along the route indicating that bicycles may be sharing the roadway.			

Pedestrian and Cyclist Infrastructure		
☒ There are no designated locations to park and lock bicycles along the route.		
Sharrows are located west of the Offenhauser intersection on Portman.		

Street Crossings and Intersections		
☐ There are too many driveways along the route that make it uncomfortable or unsafe to walk.		Overall, the quality and safety of street crossings and intersections are: (circle your choice) 
☐ Street names, route names, and walking paths are not clearly labeled.		
☐ Pedestrian signage does not exist or is not well-maintained.		
☒ Pedestrian crossings do not have pushbuttons.		
☐ Pedestrian pushbuttons are not close to the crosswalk.		
☐ There are bumps, curbs, or gutters that may block the passage of people using wheelchairs or people with low mobility.		
☐ Curb ramps are missing at intersections and alley entrances/exits.		
☐ Crossings/streets are too wide for slower pedestrians to cross safely.		
X There are blind spots where pedestrians may not see oncoming traffic or vice-versa.		
☒ Crosswalks are poorly lit.		
Other observations:		

Appendix D: Concept Development and Prioritization Process

DRAFT

Quick-Build Improvements Toolkit

The following types of improvements provide an overview of the type of short-term quick-build improvements considered in the AT Program. Table D-1 describes improvements on roadway segments and Table D-2 highlights options for intersections. This toolkit was considered as potential design solutions were proposed for corridors within the neighborhood.

Speed management is a key consideration regarding the development of potential improvements. Higher travel speeds increase crash risks and the likelihood of fatalities, particularly for active transportation users. Designing streets for safe speeds instead of speed limits can increase safety benefits. For example, a design speed between 10 and 30 MPH is typically suitable for urban streets, with a design speed of 20 MPH or lower often appropriate for streets where children frequently walk or bike. Many of the toolbox options are intended to encourage safe driving speeds.

DRAFT

Table D-1. Roadway Segment Treatments

Treatment	Example / Illustration	Description
Neighborhood Byway		Neighborhood byways offer low-speed and low-stress connections. Traffic is calmed through treatments such as speed tables and curb extensions. These measures help maintain low speeds to create a place where people biking can comfortably share space with people driving. This improvement assumes the application of traffic calming treatments at appropriate intervals throughout the corridor.
Bike Lane		Bike lanes provide dedicated space for bicycle travel adjacent to vehicle traffic, which enables people biking to ride at their preferred speed. This facility is separated from vehicle traffic by a painted lane line.
Buffered Bike Lane		This enhanced bike lane provides increased separation between people biking and people driving through a striped buffer, which creates a more comfortable environment for people biking. They can be implemented in a quick-build fashion given sufficient existing right of way.
Protected Bike Lane		The most comfortable on-street facility type for people biking, this facility provides a physical barrier between people biking and people driving. In a quick-build project, the separation may be with concrete parking stops, planters, parking, or other physical barriers.
Pedestrian Lane		This quick-build solution is considered where sidewalks are not already present in the corridor. In a quick-build setting, it is defined using striping and/or barriers such as concrete parking stops.

DRAFT

Table D-2. Roadway Intersection and Mid-Block Crossing Treatments

Treatment	Example / Illustration	Description
High-Visibility Crosswalk		This crosswalk type includes thick white bars to increase driver awareness of the crossing. This crosswalk design has been shown to increase driver awareness compared to the standard crosswalk design with two parallel white lines on the outside of the crosswalk.
Quick-Build Curb Extension / Painted Bulbouts with Delineators		This improvement reduces the total crossing distance for people walking, reduces speed of turning vehicles and increases pedestrian visibility at the crosswalk. These may be implemented with delineators to offer more visual and physical separation.
Intersection Daylighting		Daylighting refers to improving visibility at intersections by not allowing vehicles to park in areas that block sight lines.
Conflict Striping		This describes green pavement markings that show where bicycles should ride to cross intersections. It is recommended at signalized intersections and other appropriate locations.
Raised Crosswalk		This improvement brings the crosswalk up to sidewalk level to increase pedestrian visibility and reduce vehicle speeds as they travel over the raised crosswalk. These are typically installed on lower volume/lower-speed roadways.

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Treatment	Example / Illustration	Description
Leading Pedestrian Interval		This provides people walking with a 3- to 7-second head start when crossing at a signalized intersection by showing the walk symbol while people driving have a red light. This helps make pedestrians more visible at intersections and improves pedestrian safety.
Bicycle Wayfinding		Signage to indicate distance and direction to key destinations along a bike corridor, or within the network to help bicyclists stay on the most comfortable streets. This improvement can be used in transition areas where riders may benefit from directional signage.
Bike Cut Through		This is a type of modal filtering that modifies the existing median to provide bicyclists with a small opening to enable them to continue straight. This creates a more direct network for people biking with minimal impact to the overall roadway.
Bike Box		An area at the front of a traffic lane at signalized intersections where people biking can wait ahead of vehicles to make left turns more easily. This makes bicyclists more visible, reduces delays for bicyclists, and helps keep vehicles from encroaching into the crosswalk.
Two-Staged Turn Box		These roadway markings help bicyclists make left turns at complex intersections without merging with vehicle traffic and allow bicyclists to wait for a green light ahead of vehicles to be more visible.

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Treatment	Example / Illustration	Description
Pedestrian Hybrid Beacon (PHB)		This pedestrian-activated flasher improves crossings at unsignalized intersections or midblock crossings on major streets. PHBs include a signal head with two red lenses over a single yellow lens. These are suitable in areas with three or more lanes or speed limits that exceed 35 MPH.
Rectangular Rapid Flashing Beacon (RRFB)		This pedestrian activated flasher improves crossings at unsignalized intersections or midblock crossings on single or multi-lane roadways. This includes flashing amber lights which alert drivers to the person crossing. RRFBs are typically installed on roadways with speed limits up to 35 MPH.
Traffic Signal Adjustments		Traffic signal adjustments have the potential to be low cost and provide highly efficient benefits for active transportation users. Examples include bike detection, extending the time provided for pedestrians to cross, leading pedestrian interval, and leading bicycle interval.

Projects considered to be quick-build type improvements were prioritized based on safety, infrastructure condition, access to community facilities, connectivity, and community input, which are described below.

- **Safety** – The greater the safety need, the higher the concept scores. Among the quick-build corridors, two traffic fatalities involving vehicles occurred on Hidden Valley Drive , while injury crashes involving bicyclists or pedestrians occurred on Offenhauser Drive, Huffaker Lane, and Mira Loma Drive.

- **Infrastructure Condition** – Corridors with poorer conditions are scored higher. Examples include poor pavement condition on Rio Poco Road, lack of crosswalk infrastructure around Hidden Valley Elementary School, and absence of bicycle facilities on Huffaker Lane and Offenhauser Drive.

- **Access** – Corridors that improve access to community resources such as schools, transit service, or parks, received a higher score.

- **Connectivity** – Improvements that fill a network gap or connect to regional bike or pedestrian facilities scored higher. Examples include connections to the McCarran Boulevard or Veterans Parkway shared use paths.

DRAFT

- **Community Input** – Concepts that received positive public and agency comments were scored higher.

The potential quick-build improvements were given a qualitative score for each of the above criteria in the form of a low (1), medium (2), or high (3). The average of these scores is provided as a summary measure.

DRAFT

Table D-3. Evaluation of Potential Quick-Build Projects

Name	Safety Need	Infrastructure Condition	Access	Connectivity	Community Input	Average Score
1 Barron Way	■	■	■■	■■	■	■■
2 Louie Lane	■	■	■■	■■	■	■■
3 Tamarisk Drive	■	■	■■■	■■	■■	■■
4 Tamarisk Drive/ Alphabet Drive/ History Drive	■	■■	■■■	■■	■■	■■
5 Huffaker Lane/ Celeste Drive/ Amston Road	■■	■■	■■■	■■	■■	■■
6 Offenhauser Drive	■■	■■	■■■	■■	■	■■
7 Sierra Madre Drive/ Reggie Road	■	■■	■■■	■■■	■	■■
8 Rio Poco Road	■	■■	■■■	■■■	■	■■
9 Pembroke Drive	■	■	■■	■■■	■■■	■■
10 W Hidden Valley Drive	■■■	■■	■■■	■	■	■■
11 Mira Loma Drive	■■	■■	■■■	■■■	■■■	■■■

LEVEL OF NEED
■ ■■ ■■■
LOW >>>>>>>>>>>>>>>>>>>>>>>>>>> HIGH

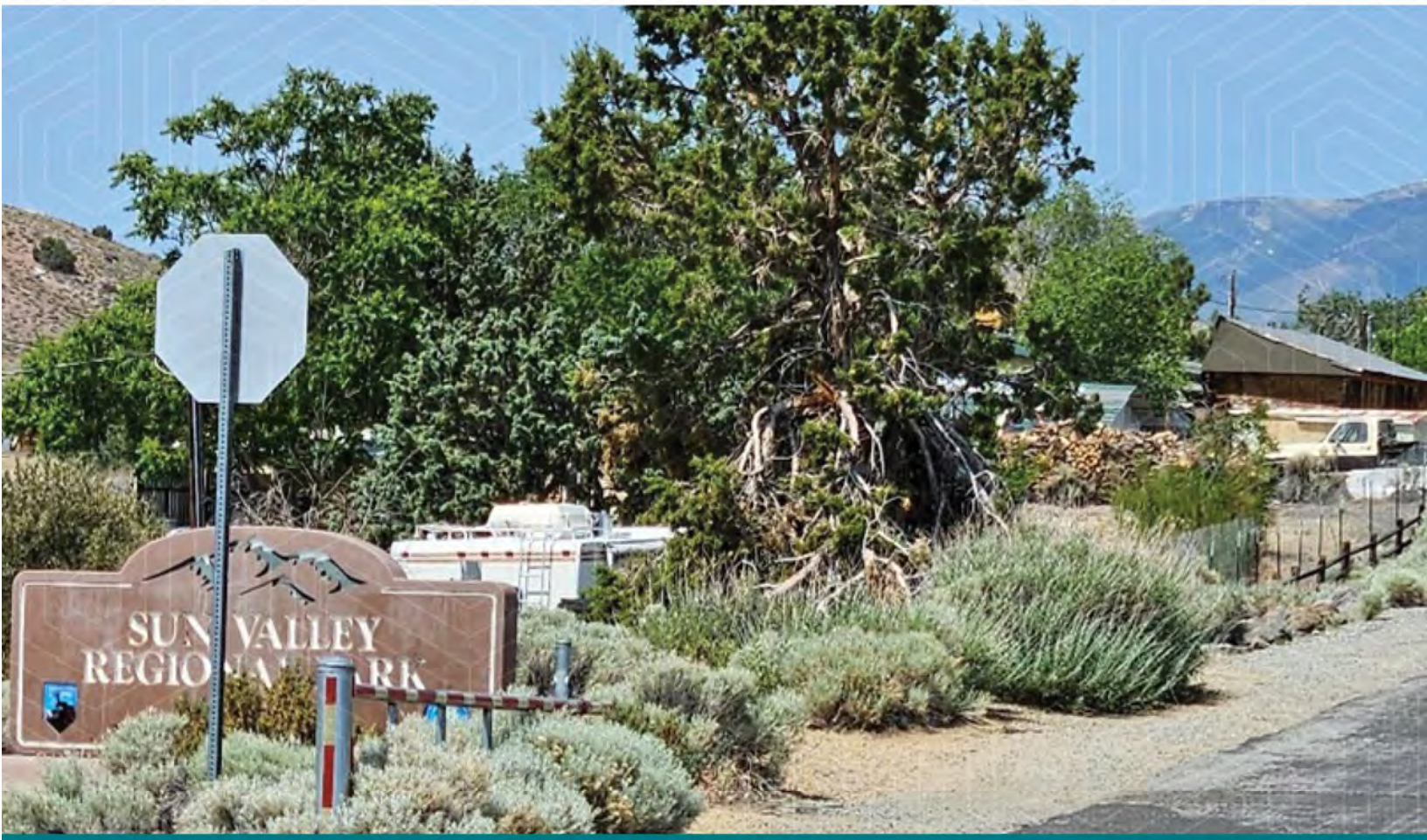
NEIGHBORHOOD NETWORK PLAN
SUN VALLEY & PANTHER VALLEY

RTC

Sun Valley & Panther Valley

Neighborhood Network Plan

October 2026



Acknowledgements

The Sun Valley and Panther Valley Neighborhood Network Plan was developed through collaboration with partner agencies and local organizations. The agencies and individuals listed below helped to guide the development of the plan and will continue to support the implementation of project recommendations.

RTC Washoe Project Team

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Josh MacEachern

RTC Engineering

Jeff Wilbrecht, PE

LaShonn Ford, PE

Sara Going, PE, PTOE

RTC Government Affairs

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Kat Oakley

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Mat Morris

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Truckee Meadows Community College

Ayodele Akinola

Marcus Ollom

Washoe County School District

Kyle Chisholm

Scott Lee

Robbie Pape

Jennifer Iverson

Tom Macaluso

Sun Valley General Improvement District

Chris Melton

Planning Effort Support

Parametrix

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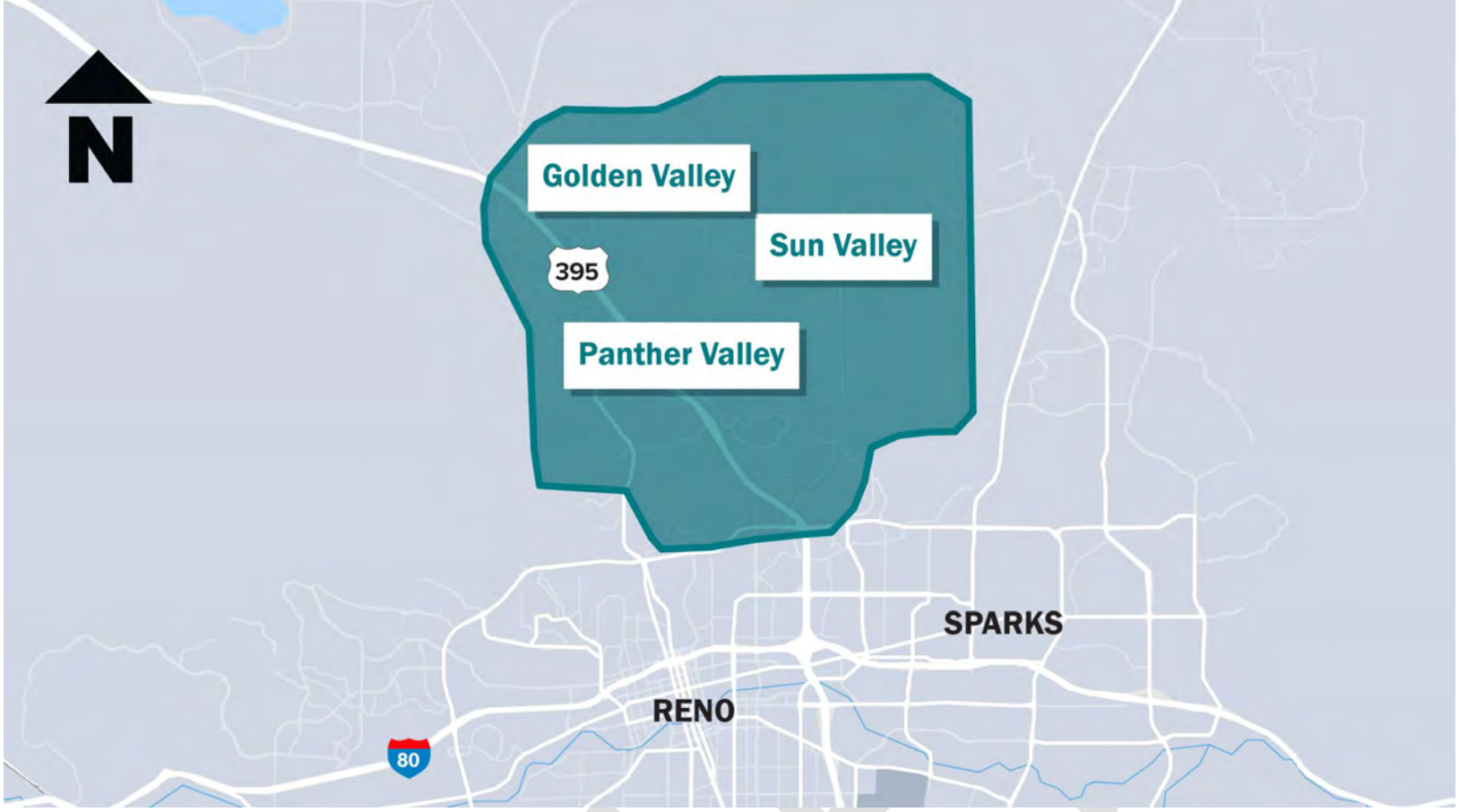
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B. Outreach Documentation
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D. Concept Development and Prioritization Process



1. Introduction

The Sun Valley and Panther Valley Neighborhood Network Plan (NNP) was developed as part of the Active Transportation (AT) Program to make walking, biking, and rolling safer and more comfortable for community members. The NNP helps address the following concerns highlighted in the 2024 RTC AT Plan:

- People feel unsafe getting around without a car due to aggressive/speeding vehicles.
- Crossing major roadways is challenging, unsafe, and uncomfortable for many pedestrians and cyclists.
- Many roads lack adequate pedestrian and bicycle infrastructure.

The NNPs will address these concerns by developing specific project concepts tailored to the needs of each neighborhood with the goal of improving safety and creating a comfortable experience for everyone. These Plans seek to identify quick-build and pilot active transportation projects that can be implemented in a cost-effective and time-efficient manner.

Active transportation is a way of getting around that relies on human physical power. This includes walking, cycling, rolling (skateboarding, scooters), and using a wheelchair. By investing in active transportation, RTC and partner agencies can take direct steps toward creating a healthier, more sustainable, and vibrant place to live, work, and play.

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1.1 Planning Context

This section describes relevant plans and studies for the Sun Valley and Panther Valley neighborhood planning area.

2050 Regional Transportation Plan

The most recent update to the 2050 Regional Transportation Plan (RTP) was adopted by RTC in 2025. RTC collaborated with partner agencies and community stakeholders to develop a vision for the future of transportation within the Truckee Meadows. Through this process, RTC established nine goals for transportation:

- Improve Safety
- Maintain Infrastructure Condition
- Reduce Congestion
- Improve System Reliability and Resiliency
- Ensure Efficient Freight Movement and Economic Vitality
- Promote Equity and Environmental Sustainability
- Reduce Project Delivery Delays
- Expand Accessibility and Mobility
- Integrate Land Use and Economic Development

In addition, the RTP identifies projects in this study area that will enhance safety, mobility, and connectivity. The Sun Valley Boulevard Corridor Improvements project is particularly relevant to this study. Sun Valley Boulevard is a key destination for retail and commercial uses, as well as public transit access. This project will construct sidewalks, improve intersection safety, and address drainage needs. A summary of RTP projects is provided in Table 1. Projects in this plan are also compatible with projects in the RTP.

SUN VALLEY BLVD
CORRIDOR IMPROVEMENTS

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Table 1. RTP Projects Located in or Adjacent to the NNP Area

Project	Description	Time Period
Sun Valley Blvd. Multimodal	Scottsdale Rd. to 7th Ave.	2025-2034
O'Brien's Pass Safety Project	Safety and Shared Use Path from Spearhead Way to Sun Valley Blvd.	2025-2034
Highland Ranch Pkwy. Capacity	Sun Valley Blvd. to Pyramid Hwy.	2025-2034
Panther Dr. Extension	N. Virginia St. to Panther Dr. to N. Hills Blvd.	2025-2034
N. Hills Blvd. Capacity	Golden Valley Rd. to Buck Dr.	2025-2034
Estates Dr. Extension	Lemmon Dr. to Golden Valley Rd.	2035-2050
Sun Valley Blvd. Extension	Road Extension to Eagle Cayon Dr.	2035-2050
Pyramid Hwy./US 395 Connector Phase 3	Construct Connector, US 395 to Pyramid Hwy.	2035-2050
Golden Valley Rd. Bike Lanes	N. Virginia St. to North Hills Blvd.	Unfunded
W. Sun Valley Arterial Roadway	New 4 Lane Road, Dandini Blvd. to Eagle Canyon Dr.	Unfunded

Active Transportation Plan

The AT Plan presents the vision and goals for active transportation throughout the Truckee Meadows and a planning process to apply across the region. The AT Plan established the NNP process and produced resources, such as regional findings from public engagement, regional data analysis results, and the RTC Street Typology guide, which identifies suitable facilities for people walking, biking, and rolling across ten different types of roads. The comprehensive outreach and data collection in the AT Plan serves as a starting point for the more localized NNP process.

Other RTC Initiatives

RTC implements the following initiatives that support AT mobility:

- **RTC Smart Trips Program** – This travel demand management program provides information and resources regarding route planning, trip matching, bus pass subsidy program, and a guaranteed ride home.
- **Safe Routes to School** – RTC has funded implementation of the Safe Routes to School program, in partnership with the Washoe County School District. Through this program, the Washoe County School District staffs Safe Routes to School coordinator positions that are dedicated to providing transportation safety education resources to students across the county.

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1.2 Vision and Goals

The following is the vision statement for the Sun Valley and Panther Valley NNP as developed and refined for the neighborhood by community stakeholders:

Vision Statement

We envision a connected network of comfortable, convenient, and consistent transportation facilities for people of all ages and abilities walking, bicycling, riding transit, and rolling on a mobility device which prioritizes accessibility to schools, jobs, shopping, neighborhoods, community facilities, parks, and regional trails.

The AT Plan identified four goals to achieve the vision statement. These four goals were adopted for this NNP, and are as follows:

- **Improve Safety:** Create a safe environment for all users by reducing the risk of death or serious injury on the transportation network.
- **Expand Mode Share:** Increase the percentage of trips made by walking, cycling, and rolling, by making these modes a viable and attractive alternative to driving.
- **Maintain the System Sustainably**: Identify long-term maintenance and repair strategies to ensure the network remains functional and appealing for years to come.
- **Enhance the Community:** Foster a healthier, more sustainable, and more vibrant community by promoting active transportation as a way to connect with neighbors, enjoy the outdoors, and integrate physical activity into daily life.

1.3 Plan Process

The Sun Valley and Panther Valley NNP was developed using in-depth data analysis combined with partner agency collaboration and direct engagement with members of the public. The planning area is shown in Figure 1. The development process included public engagement featuring multiple in-person events and online engagement opportunities.

In addition to public engagement, RTC used regional data analysis to identify neighborhood issues and areas of need based on demographics, roadway context, and crash history. By integrating community insights with data findings, the plan highlights and addresses the most pressing challenges for people walking and biking. The result is a quick-build implementation strategy designed to rapidly enhance connectivity and comfort throughout the neighborhood.

Improvements identified in this plan focus on high-priority corridors for quick-build projects. Larger-scale improvements are identified for consideration in future planning and implementation efforts, such as the RTP, individual corridor studies, or the pavement preservation program. The plan also identifies improvements that may be completed by partner agencies such as the Nevada Department of Transportation or local jurisdictions.

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Figure 1. Sun Valley and Panther Valley Neighborhood Network Area





2. Neighborhood Profile

The Sun Valley and Panther Valley neighborhood is situated north of the Reno-Sparks urban core. The Golden Valley community is partially located in the northwest portion of the planning area.

The planning area has a population of over 44,000 and is experiencing the effects of accelerated growth and economic development occurring within the North Valleys and Spanish Springs. While Sun Valley is mostly built out, primarily due to physical development constraints of the natural environment and infrastructure limitations, some infill development is occurring. The area also experiences traffic and associated impacts from growth in surrounding areas. Panther Valley and Golden Valley are experiencing new development and are also affected by many of the same regional pressures occurring in Sun Valley.

Sun Valley has a higher population density than many communities in the Truckee Meadows. The roadway network is primarily laid out in a grid pattern allowing for a higher level of connectivity for active transportation. However, many of the roadways lack pedestrian infrastructure such as sidewalks due to the network of open drainage ditches on both sides of the road. Sun Valley Boulevard is the main north-south corridor in the community. Most Sun Valley commercial development is located along Sun Valley Boulevard, highlighting the importance of active transportation access. 7th Avenue serves as the primary east-west route through the community, which transitions to Golden Valley Road, providing a direct connection to Panther Valley.

Panther Valley consists of pockets of residential, industrial, and commercial land uses and is representative of a suburban development pattern with curvilinear roads, cul-de-sacs, and limited access points into neighborhoods. However, there are many multifamily residential developments dispersed throughout the area.

To better understand the context and needs of the planning area, RTC reviewed various datasets to compare the NNP area with the broader Reno/Sparks area. This section includes a summary of demographic data/population characteristics, key destinations throughout the neighborhood, and the foundational transportation system. A summary of population demographics and other information that contributed to the existing conditions analysis and needs assessment is provided in Appendix A.

The high proportion of residents under age 18, lower incomes relative to Washoe County overall, and high levels of transit ridership indicate a strong need for active transportation options. The high number of crashes on residential streets in Sun Valley further emphasizes the need for traffic calming and active transportation infrastructure.

2.1 Key Destinations

This section describes key community resources and other destinations in the NNP area. Major destinations are shown in Figure 2.

Schools and Colleges

There are five elementary schools, one middle school, and three high schools (including two magnet schools) in the NNP area, as shown in Figure 2. Most of the elementary schools in the area could be considered "neighborhood schools," meaning they are located in residential areas away from major arterial roadways. As such, there is high active transportation potential as a mode for students traveling to and from school. Anecdotal information from school staff indicates that many students walk to school, either alone or with their parents. However, depending on the home location of individual students, there are still areas within the walk zone that would require students to cross major roads.

The Sun Valley neighborhood is zoned for Hug High School, which is just outside of the NNP area boundary for this plan. However, due to the large number of students who walk and take public transportation to school, Hug High School is considered a key destination for this plan and is included in the analysis.

North Valleys High School is located on Golden Valley Road and serves residents from surrounding areas and other communities in the North Valleys. A large proportion of students ride school buses to North Valleys High School, with some students also using RTC FlexRIDE.

The main campus of Truckee Meadows Community College (TMCC) is located at the southern end of the study area between the two communities, bounded by Dandini Boulevard on the north and Raggio Parkway on the south. Dandini Boulevard lacks any sidewalks, and Raggio Parkway has a sidewalk on at least one side of the road for most of its length. Neither road has marked bike facilities. TMCC also houses a high school that attracts students from across the region.

Parks

There are several regional and community parks throughout the area, including Sun Valley Regional Park, Sun Valley Community Park, Gepford Park, and Panther Valley Park. These parks offer many recreational opportunities, such as a community pool, baseball and soccer fields, BMX and mountain biking, skate parks, and a disc golf course.

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These resources highlight the need for active transportation connections for area residents. At present, most of these parks lack connected pedestrian and bicycle facilities for access. One notable exception is Sun Valley Community Park, which has a sidewalk along most of the perimeter.

Services

There are limited services in Sun Valley, with commercial spaces in the neighborhood concentrated on Sun Valley Boulevard. Several medical clinics, churches, restaurants and convenience stores are present, but notably, there is not a local grocery store. The US Department of Agriculture Food Access Research Atlas identifies Sun Valley as having low access to large grocery retailers.

A grocery store and the North Valleys Library are located on North Hills Boulevard near the intersection with Golden Valley Road. Two grocery stores are located near the Lemmon Drive interchange at US 395. There are also fast food restaurants in the vicinity. This area is characterized by an auto-centric development pattern, though there is an informal footpath along the fenceline at Alice Smith Elementary School that leads to a grocery store. Most major employment centers are located outside of the neighborhood area, though there is higher employment density in the warehousing and distribution center west of Virginia Street and north of Golden Valley Road.

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Figure 2. Major Destinations

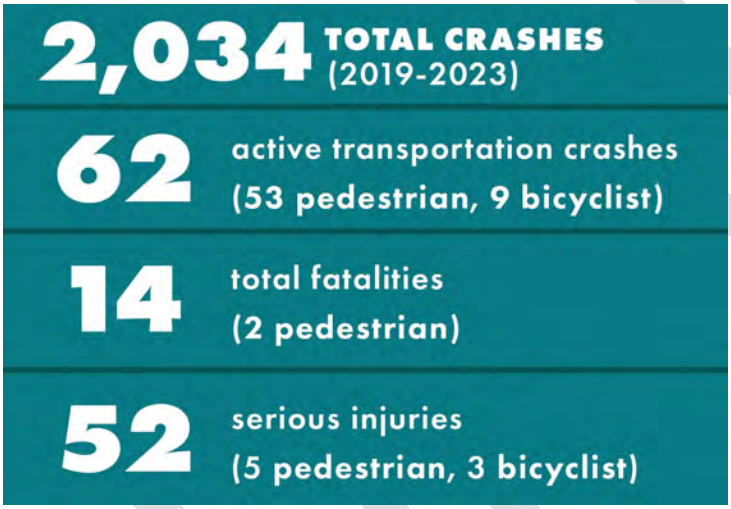


2.2 Safety

To better understand trends and identify opportunities to increase active transportation, RTC analyzed crash history and safety conditions for people walking and biking. This analysis builds on the regional work completed for the AT Plan.

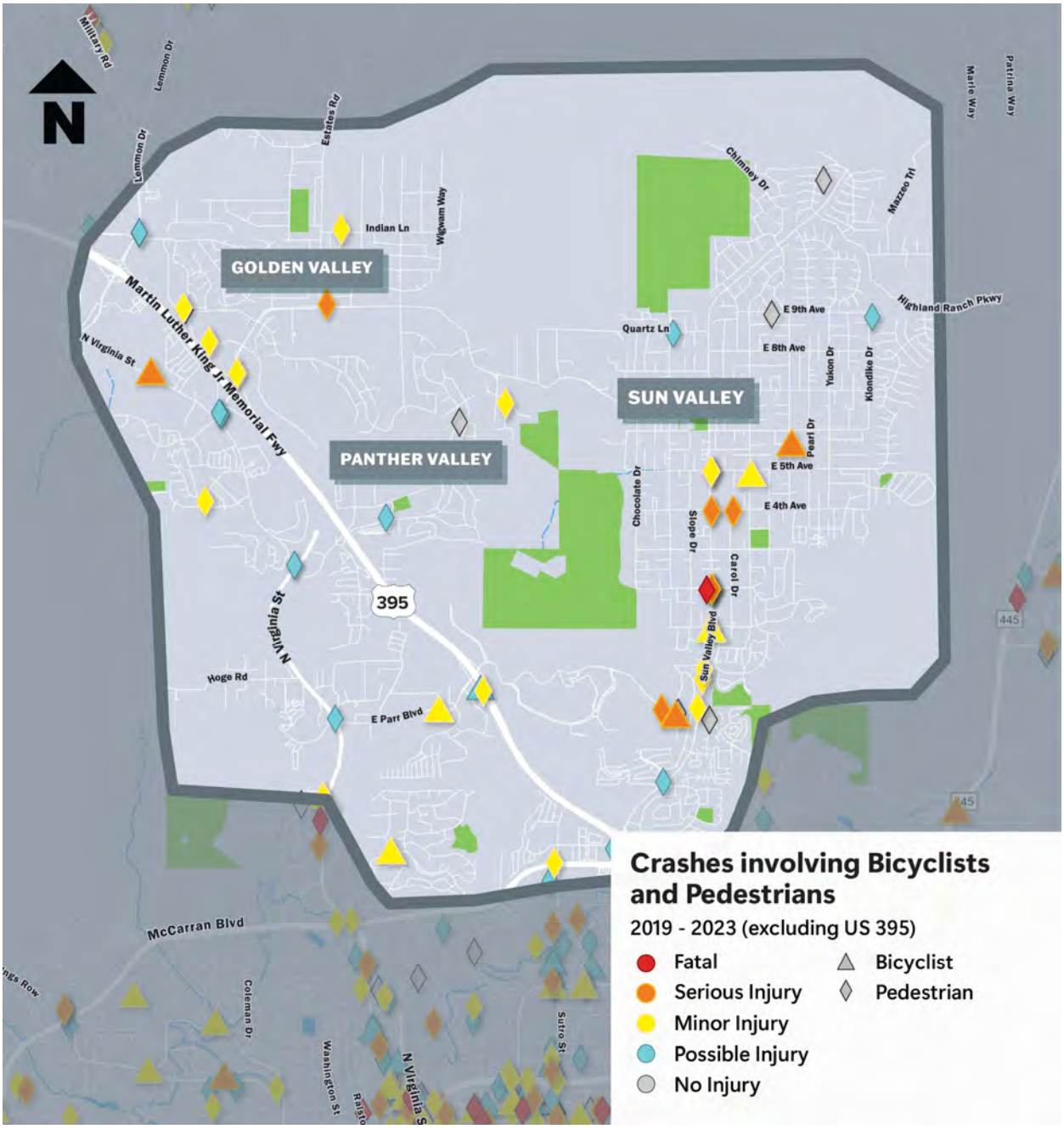


The safety analysis examined crashes within the study area, excluding crashes along US 395, where walking and bicycling is prohibited. Between 2019 and 2023 (the most recent crash data available at the time of this analysis), more than 2,000 crashes occurred in the area. Crash frequency has increased steadily since 2020, with an average annual growth rate of about 8%. The most common crash types were angle crashes and rear-end crashes. Figure 3 shows the location of crashes involving bicyclists and pedestrians.



In the neighborhood, there were 53 crashes involving pedestrians, resulting in two pedestrian fatalities and five serious injuries. Both pedestrian fatalities occurred at night along a segment with lighting. There were also nine crashes involving bicyclists, three of which resulted in serious injuries. Drivers failed to yield the right of way in 24% of crashes involving active transportation users. In addition, 10 crashes involving active transportation users were hit-and-run incidents.

Figure 3. Active Transportation Crashes



2.3 Transportation Network, Conditions, and Trends

To better understand trends and identify opportunities to increase active transportation, RTC analyzed datasets related to safety and multimodal and roadway conditions for people walking and biking, as well as the potential for shifting short trips to active modes. This analysis identifies priority areas for improvement, particularly where data insights align with community feedback.

Pedestrian Infrastructure

Local residential streets in Sun Valley offer limited sidewalk coverage, resulting in people walking in the road or along unpaved shoulders. Some newer neighborhoods, including the area around North Valleys High School in Golden Valley, have sidewalks on both sides of the street.

Bikeways



The Sun Valley and Panther Valley neighborhoods include approximately 13 miles of on-street bikeways, primarily in the form of traditional 5-foot bike lanes. These facilities provide dedicated space for bicyclists adjacent to vehicle travel lanes but do not include buffers. Bike lanes are present along major corridors such as Golden Valley Road near North Valleys High School and along Sun Valley Boulevard.

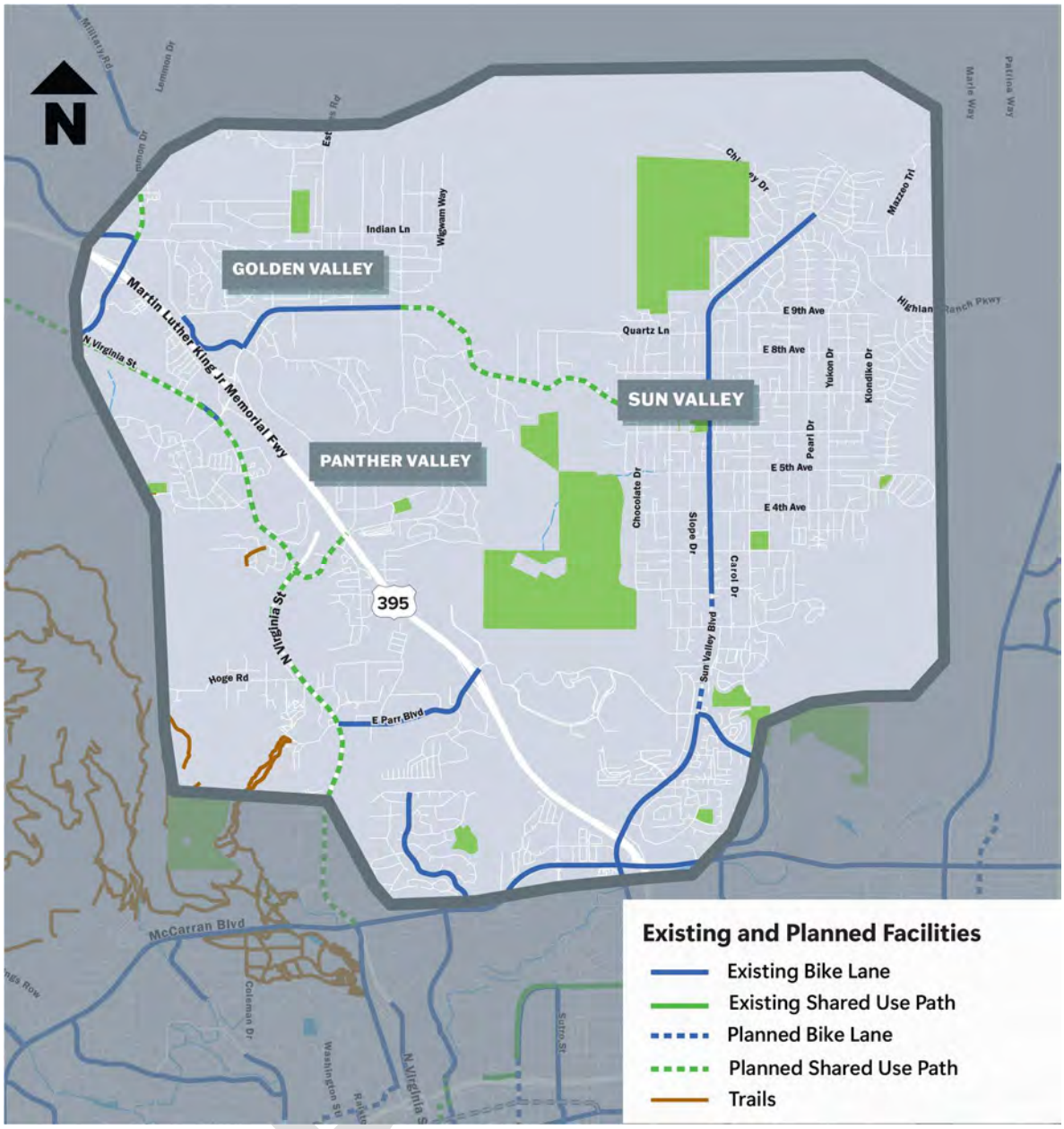
Planned projects aim to improve connectivity within the neighborhood bicycle network. As mentioned in the previous section, future bike facilities are proposed to close an existing gap along Sun Valley Boulevard and to connect with the shared use path along Golden Valley Road, improving access for bicyclists traveling through the area. Existing and planned bicycle facilities are shown in Figure 4.



Bicycle Lane on El Rancho Drive

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Figure 4. Existing and Planned Bike Facilities





Transit

Transit service in the study area includes three fixed bus routes and on-demand service operated by RTC. Transit provides access to several schools and major employers throughout the area. Route 5 and Route 7 both have monthly ridership of about 30,000 and are among the top performing RTC bus routes outside of the bus rapid transit corridors. There are 74 bus stops in the neighborhood, with Route 5 accounting for half of all stops. Amenities for bus stops vary throughout the area, ranging from signs to covered shelters.

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3. Understanding Community Experiences

RTC engaged with community members and organizations within the Sun Valley, Panther Valley, and Golden Valley neighborhoods throughout the development of this NNP. A variety of strategies and outreach tools were used, including in-person meetings, pop-up events, stakeholder meetings, an interactive map and online survey, and steering committee. This section summarizes the engagement efforts and findings, to lay the groundwork for incorporation into recommendations and priorities for transportation improvements.

During the planning process, RTC reached more than 130 community members through a combination of online and in-person activities. Community members were invited to learn about the plan and share feedback about specific locations and other transportation issues. Table 2 summarizes the engagement activities.

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Table 2. Engagement Activities

Engagement Tool	Description	Dates
Agency Coordination Meetings	Partner agencies meet with RTC monthly to collaboratively develop the NNP.	Second Tuesday of each month
Steering Committee	This group of local agency staff and other stakeholders helped to define the vision and goals for the NNP, as well as identifying key issues.	November 6, 2025 July 23, 2026
Community Workshop	A workshop open to the public was held at Hug High School to gather input about concerns and ideas for the planning area.	December 9, 2025
Pop Up Event	North Valleys High School at Hug High School basketball game	February 2, 2026
Stakeholder Meetings	Northern Nevada Center for Independent Living	November 12, 2025
	Sun Valley Elementary School	November 13, 2025
	North Valleys High School Student Voice	January 22, 2026
Project Website	RTC published a project web page at www.rtcwashoe.com/neighborhood	The site was launched in November 2025, and maintained throughout the study
Survey	A brief text-based survey was developed in English and Spanish to gather input on transportation needs in the study area	The survey launched on November 12, 2025, and continued through February 12, 2026
Online Comment Map	An online map invites participants to identify specific locations of transportation needs in the study area.	The comment map launched on November 12, 2025, and continued through February 12, 2026

3.1 In-Person Engagement

Agency Coordination Meetings

RTC partnered with the City of Reno and Washoe County to develop the NNP, using monthly meetings to ensure communication and collaboration throughout the process. Staff representing both planning and engineering disciplines were involved. The agency partners supported the identification of needs, priorities, and potential solutions. Coordination included monthly meetings, one-on-one meetings, and a site visit of the neighborhood area (see Appendix C).



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Neighborhood Network Plan Steering Committee



NNP Steering Committee on November 6, 2025

The NNP process strives to collaboratively develop solutions with regional partners. One key element of this process is the Steering Committee, which includes representatives from the City of Reno, Washoe County, Sun Valley General Improvement District, Nevada Department of Transportation, Washoe County School District, and Truckee Meadows Community College. The initial meeting, held on November 6, 2025, focused on establishing the vision and goals for the study. Participants also reviewed existing conditions data and shared input on needs and priorities. Safe mobility options to reach both K-12 public schools and TMCC were identified as key issues, including student access to North Valleys High School and Hug High School. Proposed recommendations were reviewed on July 23, 2026. The group indicated support for the proposed concepts.

Community Workshop

A community workshop was held to gather input from local residents. The meeting was held at Hug High School on December 9, 2025, with about 20 people in attendance. A presentation was provided about existing conditions and a group discussion followed, which allowed people to share and document their experiences and ideas. Key themes expressed at the meeting included the following:

- There are traffic safety concerns around North Valleys High School.
- There are concerns about high traffic volumes and speeds on Golden Valley Road and Sun Valley Boulevard.
- There are concerns about bicycle and pedestrian safety on roads and intersections across Sun Valley.
- Participants noted that people are more likely to drive when there are few safe places to ride a bicycle.
- Attendees highlighted concerns about traffic congestion on major roads.
- There are intersections without stop signs or lights.

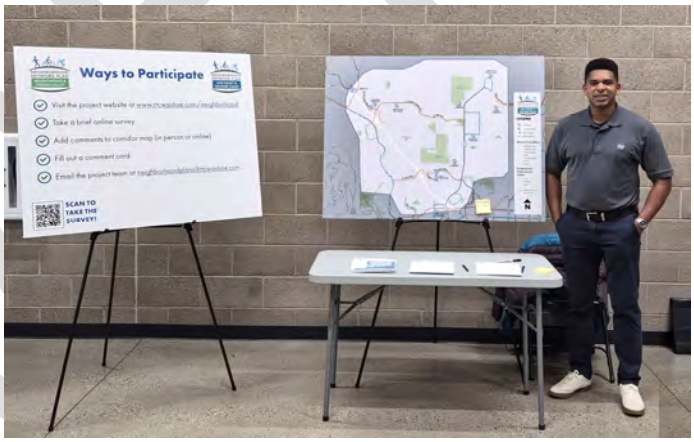
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Community workshop held at Hug High School

Pop-Up Event

A pop-up event was held at a Hug High School / North Valleys High School basketball game to allow for area residents to provide input at a convenient location. Over 40 people spoke with project team members about the study. They were invited to take the online survey and add comments to the project map. Some attendees completed paper surveys. Key concerns focused on walking to Hug High School from Sun Valley.



Pop-up event at Hug High School

Stakeholder Meetings

RTC held targeted stakeholder meetings to better understand community needs, which are summarized below:

- **Northern Nevada Center for Independent Living** – The project team met with advocates for area residents with mobility limitations. Key issues identified were the need for audible push button traffic signals for visually impaired residents at intersections across the region, the need for continuous sidewalk networks, and the need to maintain sidewalks and prevent overgrown vegetation from becoming an obstacle in the path of travel. Providing ADA accessible digital materials is also important for the study.
- **Sun Valley Elementary School** – The safety of students and families walking or bicycling to the school is a concern. Sidewalk access is limited in the neighborhood. Opportunities to improve intersections and increase pedestrian safety are important.

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- **North Valleys High School Student Voice** – This group of high school students shared their concerns about safe access into North Valleys High School. Traffic on Golden Valley Road makes left turns out of the high school parking lot difficult. The school received frequent complaints about speeding on nearby access roads, including Spearhead Way and Beckwourth Drive.



Sun Valley Elementary School meeting and site visit

3.2 Digital Engagement

Online outreach supplemented in-person opportunities to participate, adding convenient ways to learn about the plan and provide input. This included a project web page, social media, online survey questionnaire, and online map survey. Surveys and flyers were developed in English and Spanish.

Web Page

RTC hosted a project web page at www.rtcwashoe.com/neighborhood. This page included a summary of the planning process, details on how to participate, and links to surveys and public meeting materials.



Social Media

RTC used its social media channels, including Facebook, Instagram, and X, to promote information about the project, including the survey and public meeting.

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Survey Questionnaire

RTC published a brief online questionnaire to seek additional input from area residents. The questions asked about safety and mobility concerns. It also invited participants to add details about specific concerns or ideas. Key findings from the 21 surveys received are summarized below:



Discussion with students at North Valleys High School

1. Only one respondent indicated they feel "very safe" as a pedestrian or riding a bicycle in their neighborhood.
2. A lack of sidewalks and safe places to cross the street make walking uncomfortable.
3. A lack of safe facilities, lighting, and large traffic volumes were the primary reasons cited for feeling unsafe riding a bike.
4. There is a strong desire for improvements and expansions to existing bike, pedestrian, and transit facilities.
5. Destinations residents are interested in accessing via active transportation include parks/recreation areas, grocery stores, and shopping areas.

Map Survey

An online interactive map survey was published to invite residents to add specific location-based comments. A summary of key findings is provided below:

1. Many roads do not have pedestrian or bike infrastructure.
2. High vehicle speeds make the neighborhood feel unsafe.
3. Pedestrian and bicycle facilities do not connect to places people need them to go.
4. Transit access is limited by poor stop conditions and limited sidewalk access.
5. There are safety challenges in school areas.
6. Lighting and visibility are barriers to safe walking and biking.

The location of comments by type is illustrated in Figure 5.

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Figure 5. Location of NNP Public Comments



The active transportation safety and connectivity needs identified by community members informed the development of alternatives. Safe connections to key destinations such as schools and parks are a priority for the NNP. Many of the public comments, including those on Golden Valley Road and Sun Valley Boulevard relate to other planned major projects and were shared with the relevant agency staff.



4. Developing and Evaluating Alternatives

This study developed and evaluated alternative concepts using a collaborative and data-driven process. Key elements included existing conditions analysis, incorporation of community input, identification of appropriate best practice solutions, and alignment with agency and community input.

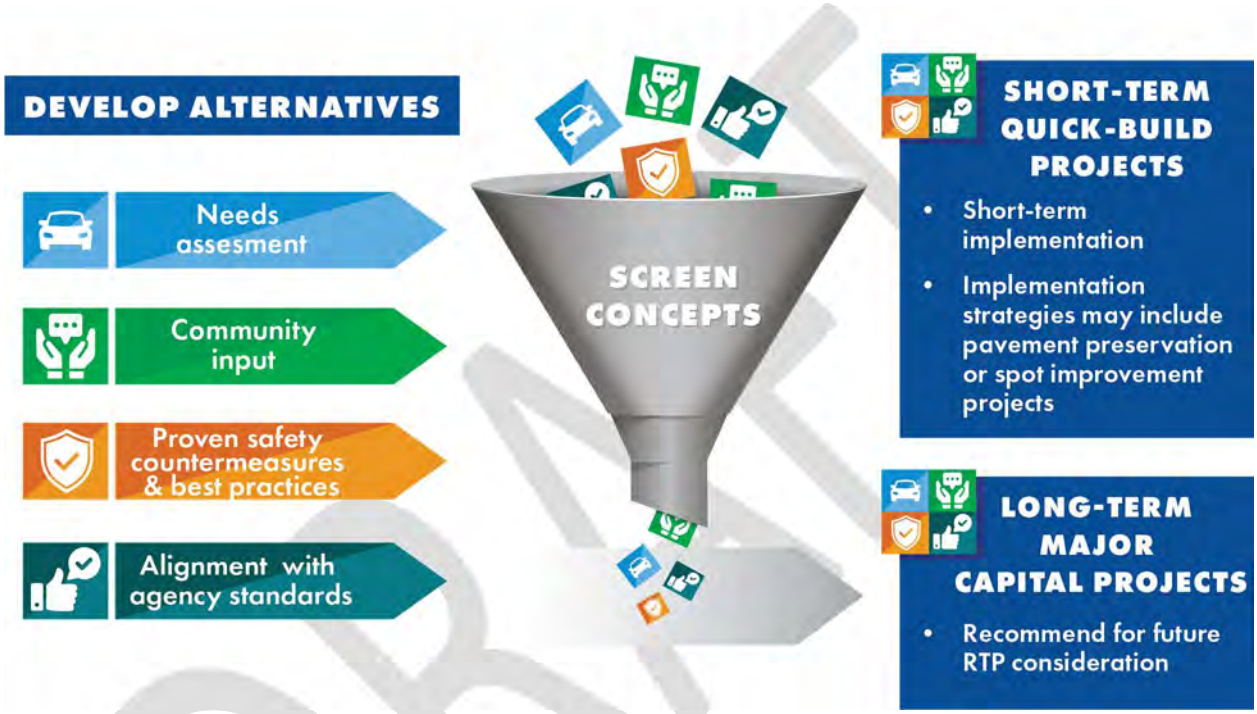
While the NNP program is primarily focused on lower cost improvements that can deliver benefits to the public within a short timeframe, this effort also identified projects consistent with a longer-term vision for a safe and connected regional network. Many of these improvements would involve substantial roadway reconstruction or new construction of shared use paths and would not be eligible for the NNP quick-build program, but could potentially be incorporated into future RTP updates or other future pavement or safety projects. Once the range of potential improvements was developed, the concepts were assessed using a two-tier process that is illustrated in Figure 6 and summarized below:

- **Screen potential improvements according to whether they are short-term quick-build projects or longer-term major capital projects.** Quick-build projects generally include pavement striping, signage, and smaller-scale installations such as speed tables. Projects

that would involve impacts to right-of-way or larger-scale construction activities were considered to be major capital projects for purposes of this study.

- **Evaluate short-term quick-build projects to identify the highest priority projects for implementation funding.** Funding for the next phase of project design and construction is limited to $2.5 million. Criteria considered in the prioritization included safety, infrastructure condition, access to community resources, connectivity to the regional multimodal network, and community input.

Figure 6. Project Development and Evaluation Process



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4.1 Prioritization Process

The AT Program allocated $2.5 million for design and construction in the neighborhood. As a result, the quick-build projects were ranked to determine which improvements would be advanced for near-term implementation. Projects not funded through the AT Program will be considered for funding through other RTC programs, such as the preventive maintenance and intersection improvement programs.

Projects considered to be quick-build type improvements were prioritized based on safety, infrastructure condition, access to community facilities, connectivity, and community input. The projects considered are listed in Table 3.

- **Safety** – The greater the safety need, the higher the concept scores.
- **Infrastructure Condition** – Corridors with poorer conditions are scored higher.
- **Access** – Corridors that improve access to community resources received a higher score.
- **Connectivity** – Improvements that fill a network gap or connect to regional bike or pedestrian facilities scored higher.
- **Community Input** – Concepts that received positive public and agency comments were scored higher.



4.2 Low-Cost Near-Term Improvements Considered

The following improvements were considered for short-term implementation (Table 3 and Figure 7). While all of the proposed concepts would provide benefits for active transportation, only higher-scoring projects are recommended for quick-build implementation due to limited funding. The scoring results are provided in Appendix D.

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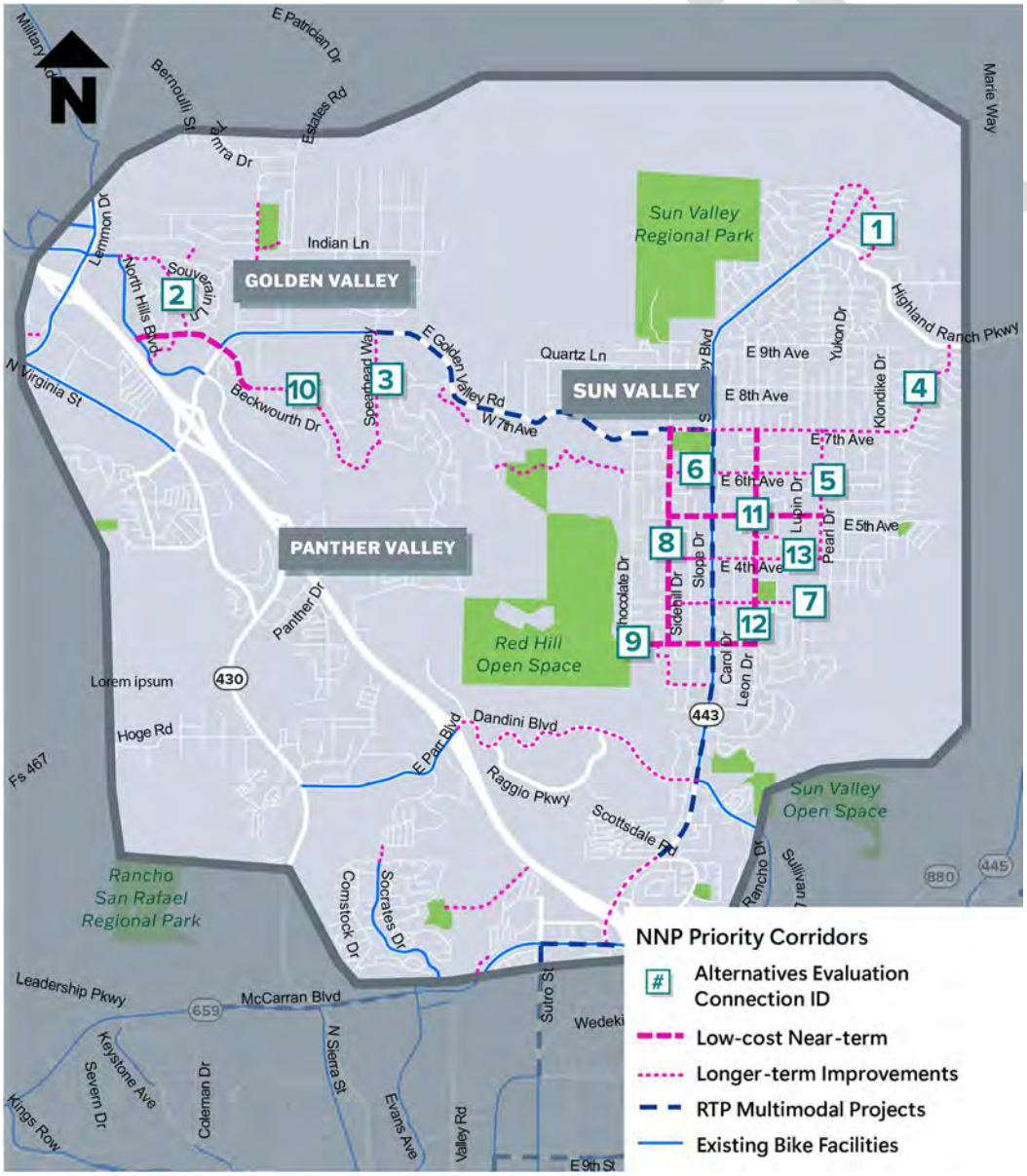
Table 3. Low-Cost Near-Term Improvements Considered

Location	Description
1. Debussey Drive / Donatello Drive	Traffic calming measures were considered on this connection between Sun Valley Boulevard and Desert Skies Middle School.
2. Rutherford Drive / Buck Drive	The extension of bike lanes and installation of painted bulbouts at intersections to provide an alternate path from North Hills Boulevard for active transportation use.
3. Spearhead Way Bike Lanes	The installation of a shared use path from Golden Valley Road to Rolling Ridge Road and a bike lane to connect to Beckwourth Drive were considered.
4. 7th Avenue / Magenta Drive / Lightning Drive / Midnight Drive	The upgrade of existing bike lanes to protected bike lanes and traffic calming measures were considered on this connection to Highland Ranch Parkway.
5. Pearl Drive	Bike lane and traffic calming improvements were considered between 4th Avenue and 7th Avenue.
6. 6th Avenue	Bike lanes were considered between Sidehill Drive and Pearl Drive.
7. Gepford Parkway	Traffic calming improvements with painted bulbouts and crosswalk improvements were considered between Sidehill Drive and Lupin Drive.
8. Sidehill Drive	Multimodal improvements are proposed between 2nd Avenue and 7th Avenue. This includes high visibility crosswalks and intersection pavement markings, painted bulbouts, speed tables, and a segment of a pedestrian lane. This improves safe access to Allen Elementary School and Sun Valley Community Park and is recommended for quick-build implementation. An RRFB would be installed at the 7th Avenue intersection to improve safety for students.
9. 2nd Avenue	Multimodal improvements are proposed between Chocolate Drive and Leon Drive. Proposed improvements include speed tables and painted bulbouts with delineators at intersections. High visibility crosswalks are recommended at Whittenmore Way/ Del Way and at Sidehill Dr. This improves safe access to Allen Elementary School and is recommended for quick-build implementation.
10. Beckwourth Drive	Multimodal improvements are proposed between North Hills Boulevard and Spearhead Way. This would include bike lanes and painted bulbouts with delineators at intersection and speed tables. This would improve safe access to Alice Smith Elementary School and North Valleys High School. This concept is recommended for quick-build implementation from North Hills Boulevard to Stonegate Court. Traffic signal upgrades at Golden Valley Road may also be considered through other RTC programs.
11. 5th Avenue	Multimodal improvements are proposed between Sidehill Drive to Pearl Drive. This includes bike lanes from Sun Valley Boulevard to Lupin Drive, speed tables, and high visibility crosswalks. A painted midblock crosswalk with curb extensions is proposed at Sun Valley Elementary School. This concept is recommended for quick-build implementation.

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Location	Description
12. Leon Drive	Multimodal improvements are proposed between 2nd Avenue and 7th Avenue. This includes high visibility crosswalks and intersection pavement markings, painted bulbouts, speed tables, and a segment of a pedestrian lane. This would improve access to Sun Valley Elementary School and Gepford Park. This concept is recommended for quick-build implementation.
13. 4th Avenue	Multimodal improvements were considered on 4th Avenue between Sidehill Drive and Pearl Drive, including high visibility crosswalks and intersection pavement markings, painted bulbouts, and speed tables.

Figure 7. Low-Cost Near-Term Improvements Considered



4.3 Larger-Scale Improvements Considered

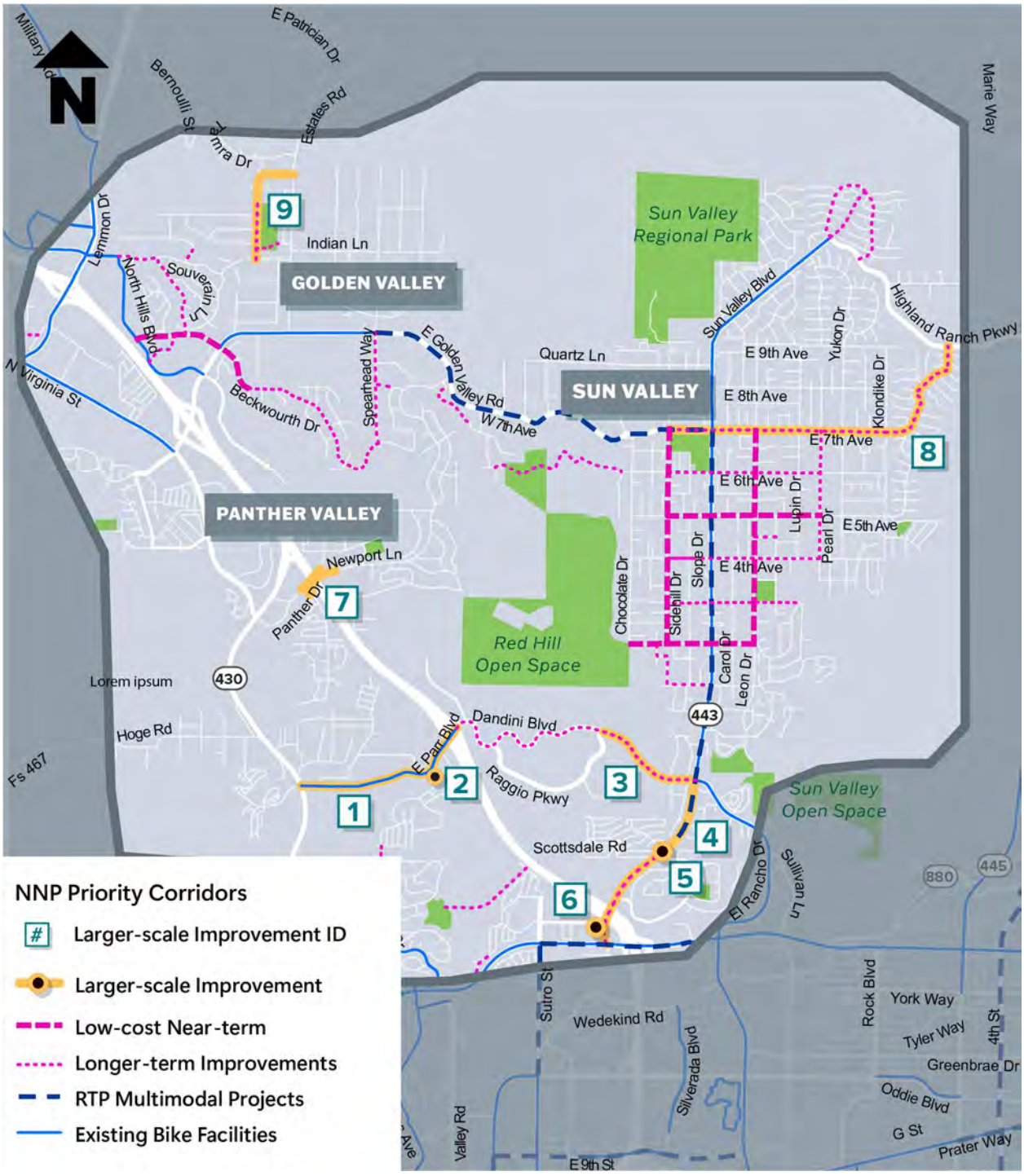
Several improvements were identified that are important for safe multimodal connectivity, but would involve more substantial construction activities. These projects will be considered for inclusion in a future RTP update but exceed the resources available for quick-build implementation. A listing of these longer-term proposed improvements is provided in Table 4 and illustrated in Figure 8.

Table 4. Larger-Scale Improvements

Location	Description
1. Parr Boulevard and Virginia Street Intersection	Complete sidewalks on Vista Rafael leading to this intersection.
2. Parr Boulevard and Ferrari McLeod Boulevard Intersection	Install pedestrian crossing improvements on Parr Boulevard south side of Ferrari McLeod Boulevard.
3. Dandini Boulevard	Provide buffered bike lanes along roadway from Raggio Parkway to Clear Acre Lane.
4. Clear Acre Lane	Extend separated bike lane that is planned for Sun Valley Boulevard along Clear Acre Lane.
5. Clear Acre Lane and Scottsdale Road	Eliminate parking on the northwest corner of the intersection, extend southbound right-turn pocket into intersection to align with westbound Scottsdale travel lane, add bulbouts at corners opposite of pork chop islands, add marked crosswalks on all segments of intersection.
6. Selmi Drive and Clear Acre Lane Intersection	Install curb extensions/bulbouts and add crosswalks at driveway access.
7. Newport Lane / Panther Drive	Install bicycle facility along Newport Lane or Panther Drive to cross under US 395 and connect neighborhoods on both sides of the freeway.
8. 7th Avenue connecting to Highland Ranch Parkway	Install traffic calming and safety improvements as well as bike lanes from Sidehill to Klondike Drive, continuing along Magenta Drive, Lighting Drive, and Midnight Drive.
9. Hillview Drive	Install traffic calming improvements from Estates Rd to Sherman Way.

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Figure 8. Larger-Scale Improvements Considered



Major improvements on multiple key corridors are already included in the RTP, as listed below:

- **Sun Valley Boulevard Corridor Improvements** – This project will install safety and drainage improvements and upgraded bicycle and pedestrian facilities from Scottsdale Road to 7th Avenue. This project was awarded a federal grant for implementation.
- **O'Brien's Pass Safety Project** – This project will construct safety improvements and a shared use path from Spearhead Way to Sun Valley Boulevard.
- **El Rancho Drive / Dandini Boulevard Sidewalks** – This project from Raggio Parkway to Sullivan Lane is currently identified as an unfunded need.
- **Golden Valley Road Bike Lanes** – Extend bike lanes from North Virginia Street to North Hills Boulevard. This project is currently an unfunded need.
- **North Virginia Street Capacity Project** – Install additional lanes and multimodal facilities from Panther Drive to Stead Boulevard.
- **Highland Ranch Parkway** – Add roadway capacity between Sun Valley Boulevard and Pyramid Highway.

Additionally, areas where shared use paths between residential areas could provide off-street connection options were identified. Some of these corridors follow paths that have been worn by people walking or biking, even when there is no formal trail. Additional analysis is recommended to identify public land ownership and public access easements in relationship to existing and proposed shared used paths. Proposed trail connections are shown in Table 5 and Figure 9.



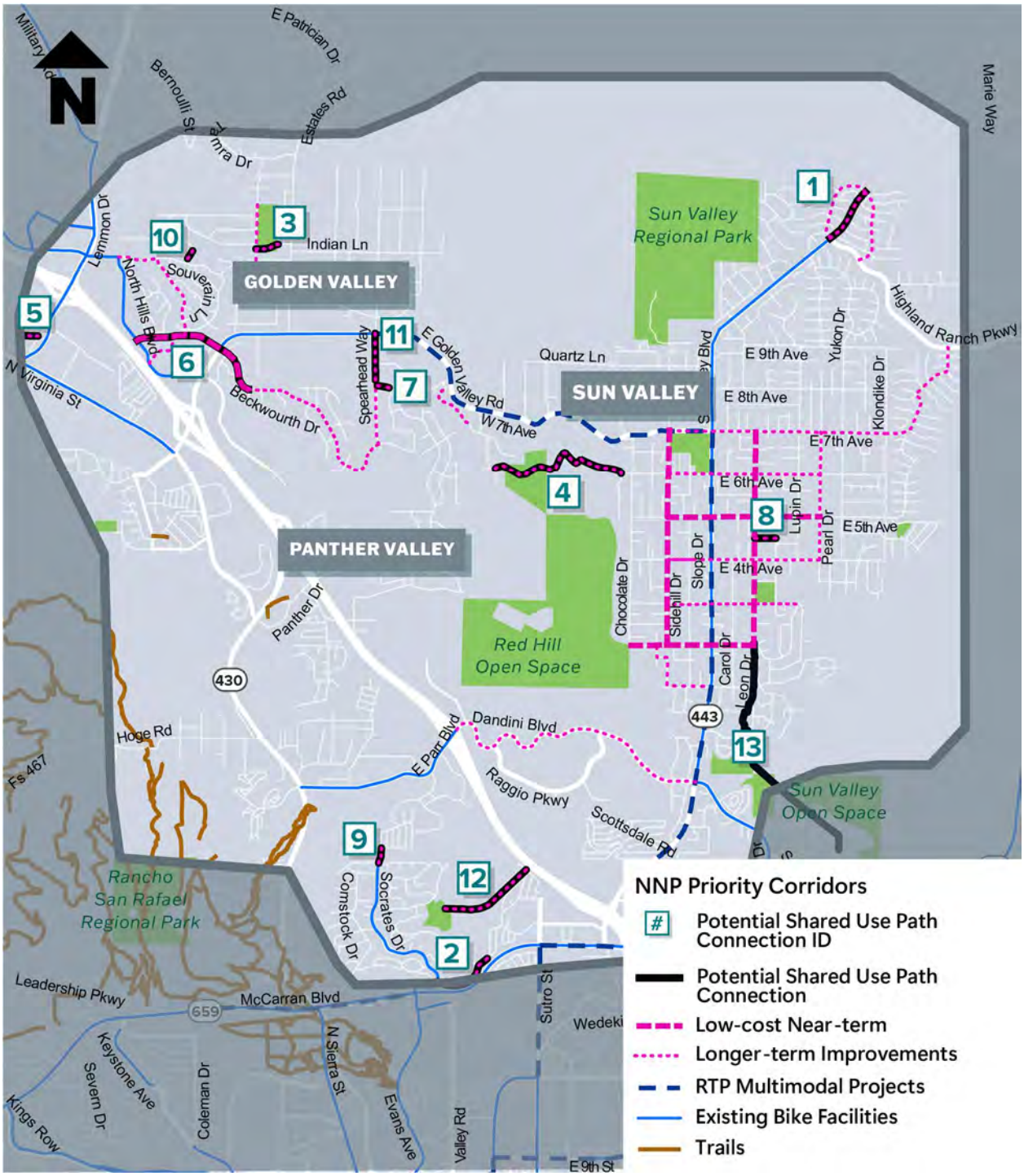
Families walking along School Lane to Sun Valley Elementary School.

Table 5. Potential Shared Use Path Connections

Location	Description
1. Shared use path to Desert Skies Middle School	Install paved shared use path between the northern terminus of Sun Valley Boulevard and Donatello Drive
2. Gaslight Lane from Socrates Drive to Cabernet Parkway	Designated trail along roadway (would provide off-street connection for residents in Sun Villa Estates neighborhood)
3. Golden Valley Park Connection from Margaret Drive to Hillview Drive	Shared use path or trail through park property
4. New active transportation connection from 6th Avenue to Fire Opal Lane via cul-de-sac trail access	Designate existing path as trail connection between Sun Valley and Golden Valley neighborhoods
5. New active transportation connection from Malcolm Avenue to Heindel Rd	New shared use path connection providing more direct access from neighborhood to Lemmon Drive bus stop
6. New active transportation connection from Beckwourth Drive to N Hills Boulevard	New shared use path along existing dirt trail for off-street connection from neighborhood and Alice Smith ES to retail
7. Opal Ranch Way Connection to Spearhead Way	Shared use path along existing access road enhancing neighborhood connectivity
8. School Street from Leon Drive to Woods Drive	Install shared use path along north side of access road. A portion of this corridor is owned by WCSD and a portion is owned by adjacent property owners. Students walk on this unpaved area to school.
9. Socrates to Shailyn connection from Sienna Park Drive to Shailyn Drive	Designate existing path as trail connection between neighborhoods
10. Connect path along Souverain Court to Cactus View Drive	Shared use path along existing access road, which could be included in potential future development.
11. Spearhead Way shared use Path from Golden Valley Rd to Opal Ranch Way	Shared use path along east side of road on school right-of-way
12. University Ridge Park Connector from Chablis Drive to University Park Loop	Designate existing path as trail connection between neighborhoods
13. Shared use path between Leon Drive and Hug High School	Construct a shared use path to provide an off-street path to Hug High School.

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Figure 9. Potential Shared Use Path Connections



Note: Locations are preliminary and subject to change.



5. Neighborhood Network Recommendations and Implementation Strategy

The NNP is a short-term plan that identifies transportation improvements to increase walking and biking in the neighborhood. This approach provides improvements to the existing network, while also providing policies and programs that encourage, educate, and engage with the community about active transportation. This chapter describes the recommended short-term improvements within the Sun Valley, Golden Valley, and Panther Valley neighborhood. The recommendations in this study may be modified through the project development process as development occurs and community priorities change.

5.1 Quick-Build Recommendations

This section summarizes the recommended short-term quick-build improvements for the NNP. These concepts were developed to improve safe multimodal access to key neighborhood destinations such as schools, parks, transit stops, and grocery stores. The evaluation of concepts is summarized in Appendix D. The recommended low-cost, near-term improvements are a step toward implementing a connected neighborhood AT network.

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Figure 10 illustrates the quick-build projects to be advanced toward near-term implementation as well as recommended longer-term improvements that help expand the network. Table 6 includes a description of the proposed quick-build projects as well as a planning-level cost estimate. Figure 11 shows recommendations in the Golden Valley and Panther Valley area. Thermoplastic crosswalks and striping should be installed on a milled surface so that the striping is flush with the street. Figure 12 shows recommendations in the Sun Valley area. Cost estimates are based on recent construction costs in the region and include a 30% contingency.

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Figure 10. NNP Area Proposed Improvements

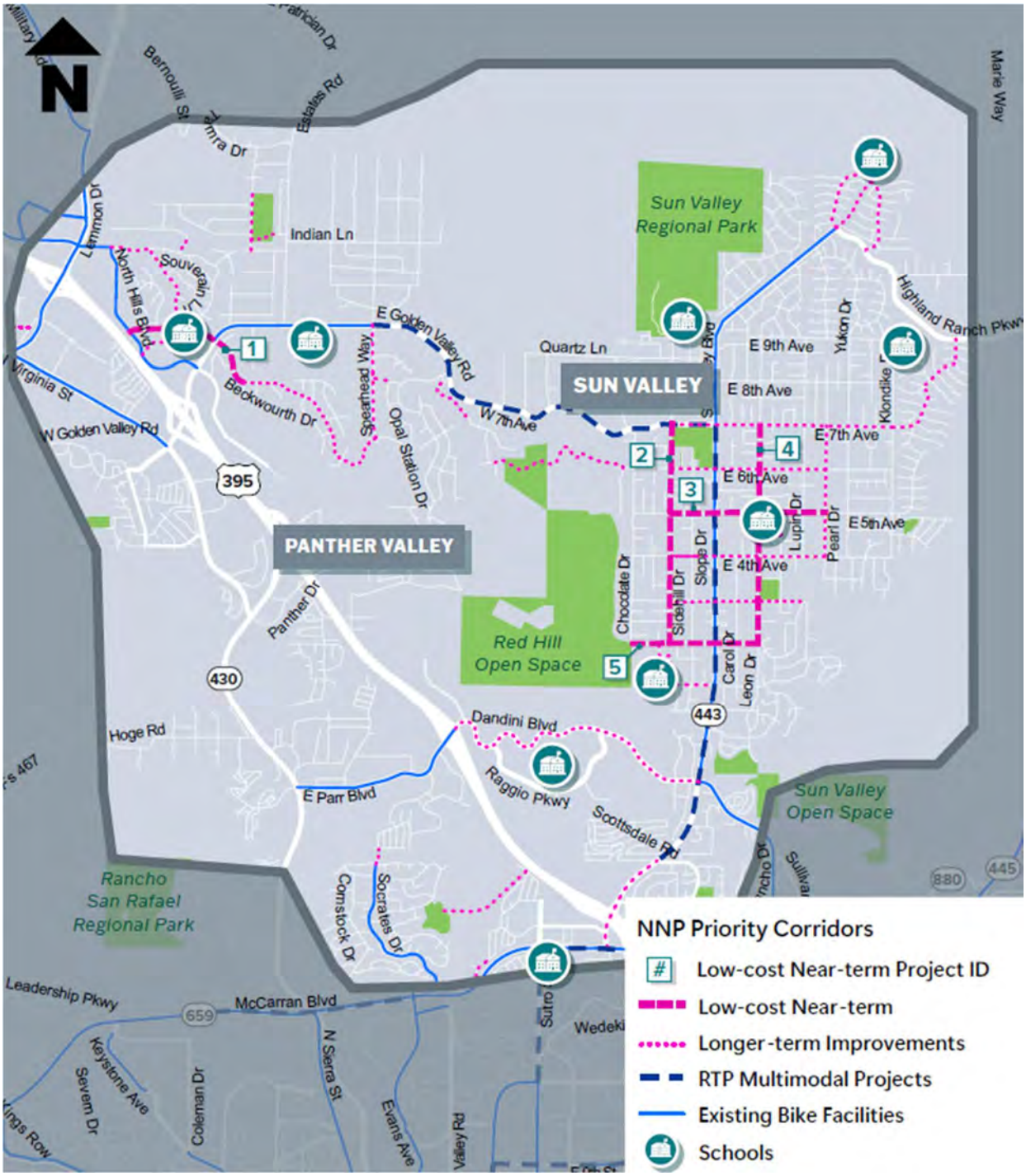


Figure 11. Detail of Golden Valley and Panther Valley Area Improvements

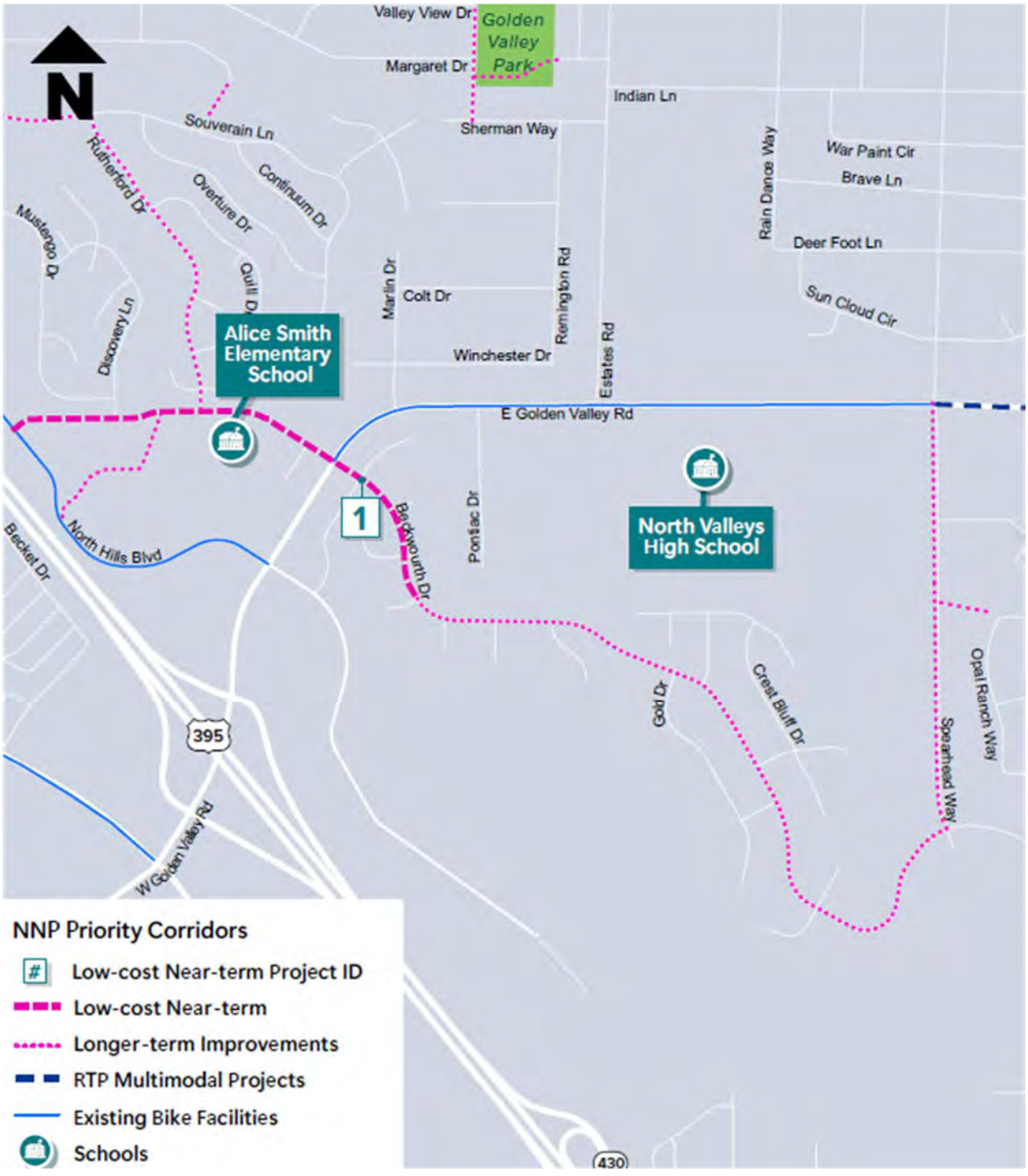


Figure 12. Detail of Sun Valley Area Improvements



Table 6. Sun Valley and Panther Valley Area Improvements

Project Name and Location	Length (Mi.)	Bike Facility Type	Description	Preliminary Cost Estimate
1. Beckwourth Drive N Hills Boulevard to Stonegate Ct	.5	Bike lane	Striped bike lanes and bulbouts	$410,000
2. Sidehill Drive 2nd Avenue to 7th Avenue	1.25	Neighborhood byway	Traffic calming with edge striping, painted bulbouts, high visibility crosswalks, and segment of pedestrian lane	$460,000
3. 5th Avenue Sidehill Drive to Pearl Drive	.9	Neighborhood byway	Traffic calming with edge striping, painted bulbouts, speed tables, high visibility crosswalks, and segment of pedestrian lane	$620,000
4. Leon Drive 2nd Avenue to 7th Avenue	1.25	Neighborhood byway	Traffic calming with edge striping, painted bulbouts, speed tables, and high visibility crosswalks	$530,000
5. 2nd Avenue Chocolate Drive to Leon Drive	.7	Neighborhood byway	Traffic calming with edge striping, painted bulbouts, speed tables, and high visibility crosswalks	$480,000

5.2 Implementation

The projects recommended by this plan will be considered for implementation using AT Program funds and are intended to be implemented quickly across the neighborhood. RTC will conduct project design for identified quick-build improvements in 2026 and 2027, with a goal to begin construction in 2028. Projects will be constructed based on AT Program fund availability.

Other potential funding opportunities are available for projects not implemented through the AT Program, as described in the following sections.

Federal Funding (Formula and Discretionary Grant Programs)

The Bipartisan Infrastructure Law (BIL), signed in November of 2021, allocated $550 billion to transportation, broadband, and utility investments across the United States. This funding will be distributed over the five-year period between fiscal years 2022 and 2026 via both formula funding and competitive grant application processes.

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As this funding program comes to a close, transportation reauthorization is in the proposal stages, preliminarily named Building Unrivaled Infrastructure and Long-term Development for America's 250th Act or the BUILD America 250 Act. This funding program would authorize funds to be appropriated from the Highway Trust Fund and General Fund for fiscal years 2027 through 2031, at an estimated total amount of $580 billion. While not all funding elements are yet known, the following provides a listing of the most likely relevant funding sources for implementation of the proposed improvements.

Surface Transportation Block Grant Program (STBG): STBG is a flexible federal formula program that provides for allocations to both RTC, as the MPO, and the Nevada Department of Transportation. RTC incorporates these funds into a regional call for projects dedicated to the MPO planning area. The Nevada Department of Transportation manages STBG funds that are available for allocation on a statewide basis. Use of STBG funds must be managed in accordance with federal and state processes.

Transportation Alternatives Set-Aside: The Transportation Alternatives Set-Aside (also known as TA Set-Aside) from the STBG Program provides federal funds for community-based projects that expand travel choices and enhance the transportation experience. These projects are intended to integrate modes and improve the cultural, historic, and environmental aspects of our transportation infrastructure. Local governments, regional transportation authorities, transit agencies, MPOs, and school districts, among others, are eligible to apply for TA Set-Aside funding. Federal guidelines specify that projects must be selected based on a competitive process.

Eligible project types include planning, design, and construction of a variety of facilities, programs, and other efforts. More specific examples of eligible projects include:

- Bicycle, pedestrian, and other nonmotorized transportation facilities
- Traffic calming, lighting, and other safety-related infrastructure
- ADA improvements
- Turnouts, overlooks, and viewing areas
- Recreational trails
- Safe Routes to School (SRTS), including infrastructure, non-infrastructure, and coordinator positions
- Vulnerable road user safety assessment
- Vegetation management
- Environmental mitigation related to stormwater, water pollution prevention, wildlife crossings, and habitat connectivity
- Micromobility projects, including bike and scooter share (construction and non-construction projects that facilitate safe access for pedestrians and bicyclists)
- Removal of outdoor advertising

Better Utilizing Investments to Leverage Development (BUILD) / Surface Transportation Accelerator Grants (STAG): The BUILD grant program is designed to help urban and rural communities advance projects that modernize roads, bridges, transit, rail, ports, and intermodal transportation and make our transportation systems safer, more accessible, more affordable, and more sustainable. Competitive projects will emphasize safety, environmental sustainability, quality of life, economic competitiveness and opportunity, partnership and collaboration, innovation, state of good repair, and mobility and community connectivity.

The program was last allocated $9.7 billion over a five-year period for individual projects of up to $25 million. Projects may be for capital investments or planning activities.

The Surface Transportation Accelerator Grant (STAG) program is a proposed new discretionary grant program proposed under the BUILD America 250 Act that consolidates several prior grant programs, including BUILD. It is intended to be a flexible competitive program that allocates more than $2 billion a year to the program. It is anticipated that STAG will allocate at least 50% of annual funds to local projects. The program will aim to fund major construction projects, having a much higher cap on the grant award that the current BUILD program (maximum of $25 million).

Safe Streets and Roads for All (SS4A): The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. Eligible applicants include MPOs, counties, cities, towns, transit agencies, and Tribal governments.

Grant awards are divided into two categories: Action Plan Grants and Implementation Grants. An Action Plan Grant is used to develop an Action Plan – a holistic, well-defined strategy to prevent roadway fatalities and serious injuries in a locality (i.e., a safety plan). Implementation Grants are used to fund and implement specific projects previously identified in the Action Plan. To receive an implementation grant, the local entity applying must have an adopted Safety Plan that adheres to the program.

State Funding

The Nevada Department of Transportation receives fuel tax revenues that are available for use statewide. These funds are prioritized using the One Nevada process and programmed over a four-year time period in the STIP.

Regional/Local Funding

The RTC receives fuel and sales taxes that are available for use on facilities throughout Washoe County. Voters approved indexing the fuel tax to inflation in 2008, which now provides a reliable source of revenue for improvements on regional roads. A sales tax was also approved by Washoe County voters to fund both transit and roadway improvements. RTC allocates funding through the RTP process for major projects. The RTC pavement preservation program and intersection improvement program are also used to deliver smaller scale improvements across the region using a needs-based assessment framework.

The City of Reno and Washoe County both manage traffic calming programs that can implement improvements to slow traffic and improve safety. The City of Reno Public Works Design Manual includes details about this program, including the process to request traffic calming measures and the types of eligible uses. The Washoe County Traffic Calming and Traffic Engineering Request Policy describes the process for implementing neighborhood improvements.

Private funding can also support community improvements. RTC coordinates with the City of Reno and Washoe County on the review of proposed projects. There are opportunities to integrate improvements into new development.

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5.3 Monitoring Progress

Part of RTC's planning program involves performance monitoring. This includes a range of safety and operational metrics that RTC tracks on an ongoing basis as the MPO. In addition to regional performance monitoring, there is a benefit to tracking the impacts of individual corridor improvements. This is relevant for the AT Program, as RTC seeks to deliver projects that are of the greatest value and benefit for the community. Potential performance monitoring for this NNP may include safety, maintenance needs, active transportation usage, and community input.

5.4 Quick-Build Featured Projects

Additional information about the recommended quick-build projects is provided on the following pages.

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SUN VALLEY & PANTHER VALLEY
Sidehill Drive

AT A GLANCE

Location: Sidehill Drive from 2nd Avenue to 7th Avenue

Improvement Type: Traffic calming improvements, intersection and crosswalk safety improvements

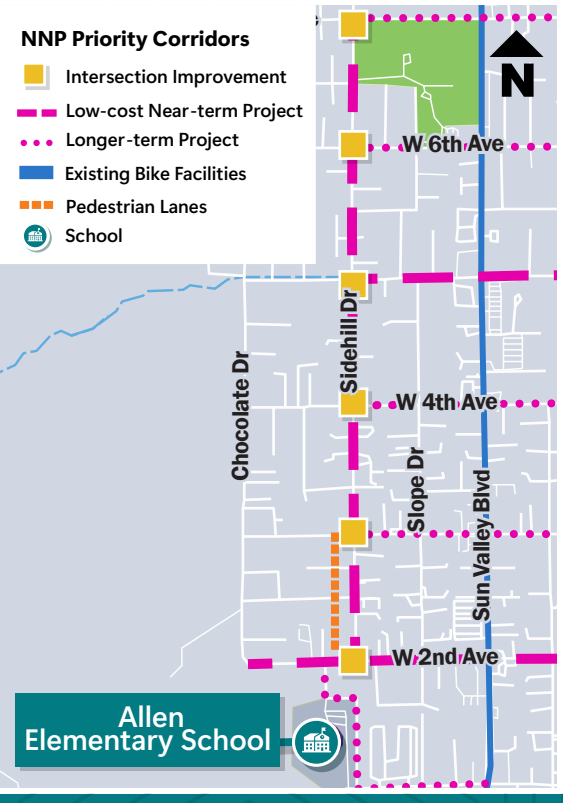
Cost: $460,000

Length: 1.25 miles

GOALS/BENEFITS

- IMPROVE BIKE & CROSSWALK SAFETY
- IMPROVE SCHOOL ACCESS
- IMPROVE PARK ACCESS

PROJECT MAP





Proposed view toward the south on Sidehill Drive near 7th Avenue

PROJECT DETAILS



Existing toward the south on Sidehill Drive near 7th Avenue

PROJECT DESCRIPTION

The Sidehill Drive corridor traverses the western side of the Sun Valley community and provides access to Allen Elementary School and Sun Valley Community Park. This corridor has experienced multiple severe crashes. Pedestrian infrastructure is limited with roadside ditches along much of the corridor. Pavement markings at intersections are faded and difficult to see in some locations.

The proposed neighborhood byway improvements include high visibility crosswalks and intersection pavement markings, painted bulbouts, and speed tables.

NEIGHBORHOOD NETWORK PLAN

SUN VALLEY & PANTHER VALLEY
Leon Drive

RTC

AT A GLANCE

Location: Leon Drive from 2nd Avenue to 7th Avenue

Cost: $530,000

Improvement Type: Traffic calming improvements, intersection and crosswalk safety improvements

Length: 1.25 miles

GOALS/BENEFITS

- IMPROVE BIKE & CROSSWALK SAFETY
- IMPROVE SCHOOL ACCESS
- IMPROVE PARK ACCESS

PROJECT MAP



NNP Priority Corridors

- Intersection Improvement
- Low-cost Near-term Project
- Longer-term Project
- Existing Bike Facilities
- School



Proposed view to the north on Leon Drive at Gepford Park

PROJECT DETAILS



Existing view to the north on Leon Drive at Gepford Park

PROJECT DESCRIPTION

The Leon Drive corridor traverses the eastern side of the Sun Valley community and provides access to Sun Valley Elementary School and Gepford Park. This corridor has experienced multiple severe crashes. While there are separate pedestrian paths near Gepford Park and the elementary school, pedestrian infrastructure is limited with roadside ditches along much of the corridor. Pavement markings at intersections are faded and difficult to see in some locations.

This proposed neighborhood byway improvements include high visibility crosswalks and intersection pavement markings, painted bulbouts, and speed tables,. A pedestrian lane is proposed east of the school.

NEIGHBORHOOD NETWORK PLAN

SUN VALLEY & PANTHER VALLEY

5th Avenue

RTC

AT A GLANCE

Location: 5th Avenue from Sidehill Drive to Pearl Drive

Improvement Type: Traffic calming improvements, intersection and crosswalk safety improvements, bicycle lanes from Sun Valley Boulevard to Lupin Drive

Cost: $620,000

Length: 0.9 mile

GOALS/BENEFITS

- IMPROVE BIKE & CROSSWALK SAFETY
- IMPROVE SCHOOL/PARK ACCESS
- IMPROVE TRANSIT ACCESS

PROJECT DESCRIPTION

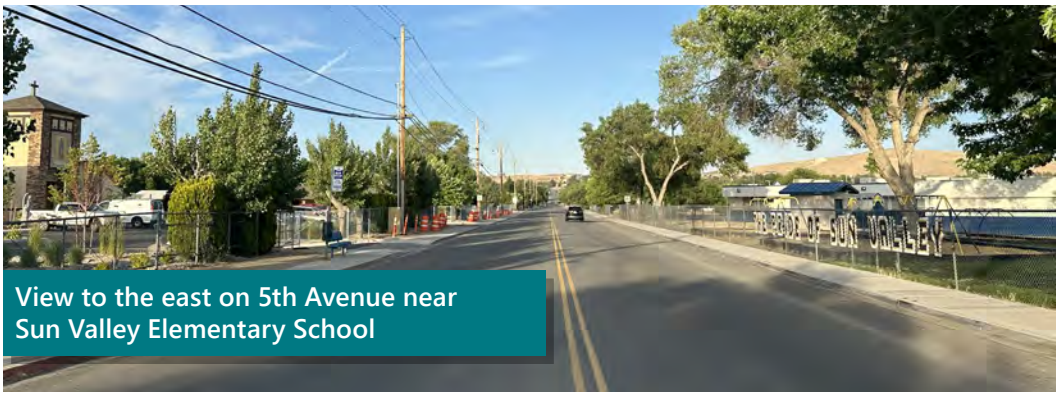
5th Avenue provides east-west access across sun Valley. It connects to RTC Route 5 transit service as well as the shopping and employment opportunities on Sun Valley Boulevard. Sun Valley Elementary School is located on 5th Avenue and experiences challenges for students walking to school and crossing area roadways.

Proposed improvements include bike lanes from Sun Valley Boulevard to Lupin Drive, speed tables, and high visibility crosswalks. A painted mid-block crosswalk with curb extension is proposed to support school access.



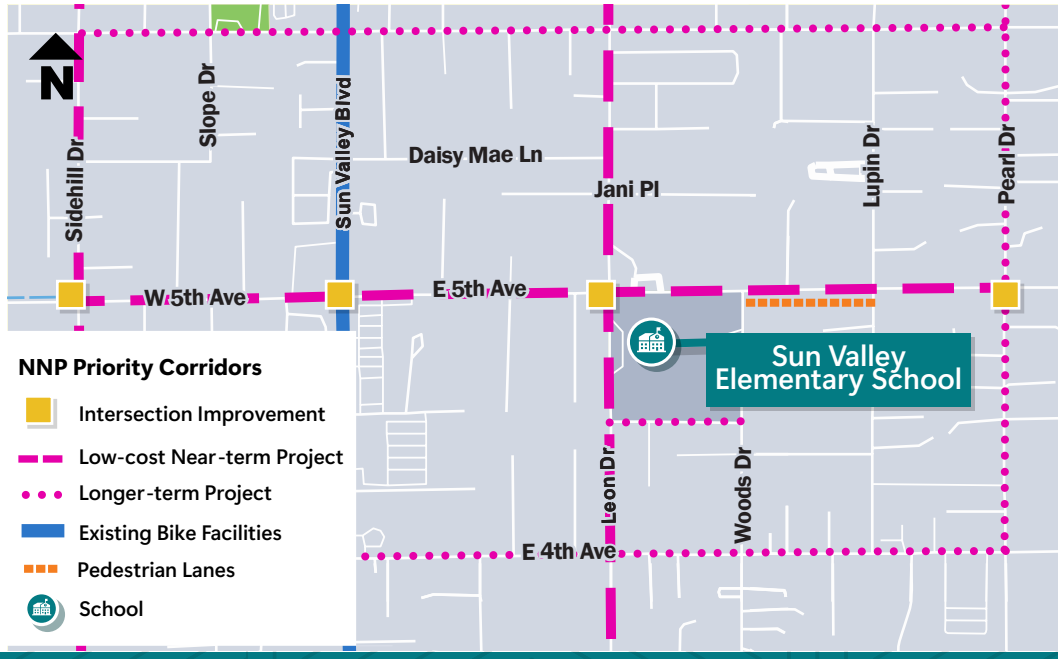
Proposed view to the east on 5th Avenue near Sun Valley Elementary School

PROJECT DETAILS



View to the east on 5th Avenue near Sun Valley Elementary School

PROJECT MAP



SUN VALLEY & PANTHER VALLEY
2nd Avenue

AT A GLANCE

Location: 2nd Avenue from Chocolate Drive to Leon Drive

Cost: $480,000

Improvement Type: Traffic calming improvements, intersection and crosswalk safety improvements

Length: 0.7 miles

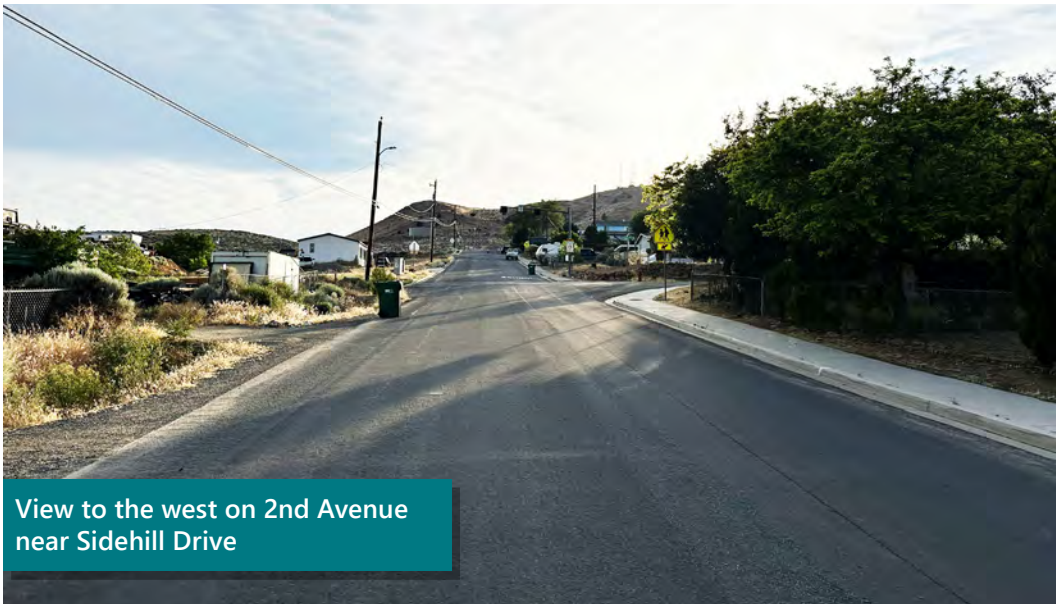
GOALS/BENEFITS

- IMPROVE BIKE & CROSSWALK SAFETY
- IMPROVE SCHOOL ACCESS
- IMPROVE TRANSIT ACCESS

PROJECT DESCRIPTION

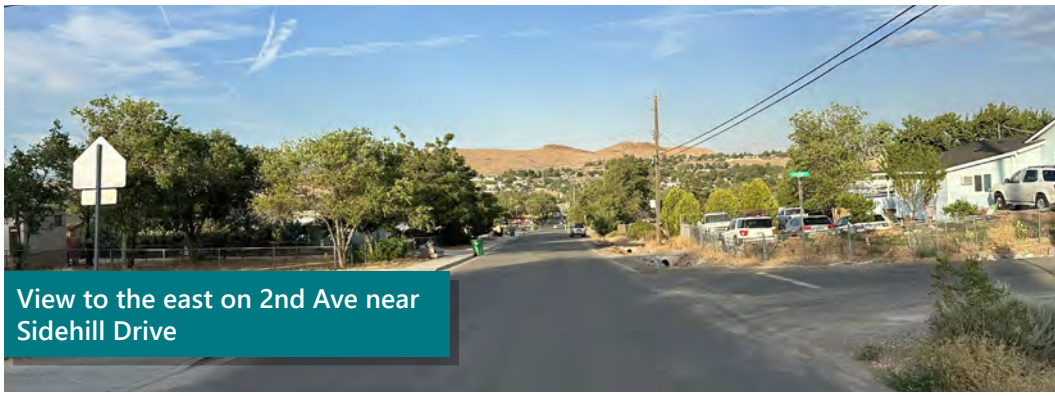
2nd Avenue provides east-west access across sun Valley. It provides a connection to RTC Route 5 transit service as well as the shopping and employment opportunities on Sun Valley Boulevard. Lois Allen Elementary School is located just south of 2nd Avenue and experiences challenges for students walking to school and crossing area roadways.

Proposed improvements include speed tables and painted bulbouts with delineators at intersections. High visibility crosswalks are recommended at Whittenmore Way/ Del Way and at Sidehill Dr.



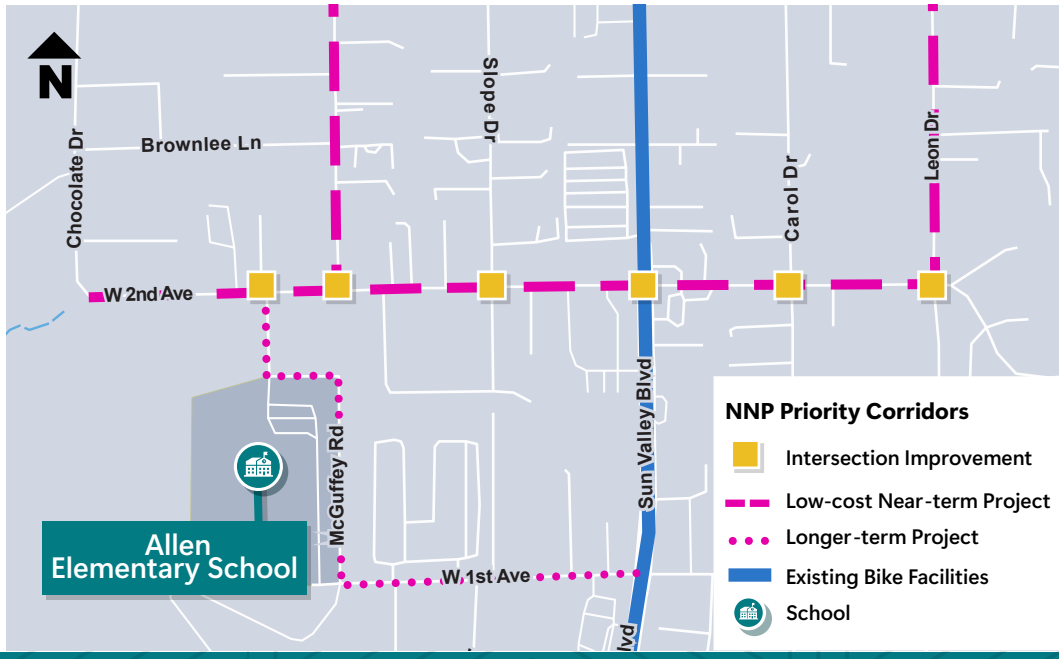
View to the west on 2nd Avenue near Sidehill Drive

PROJECT DETAILS



View to the east on 2nd Ave near Sidehill Drive

PROJECT MAP



SUN VALLEY & PANTHER VALLEY
Beckwourth Drive

AT A GLANCE

Location: North Hills Boulevard to Stonegate Court

Cost: $410,000

Improvement Type: Traffic calming improvements, intersection and crosswalk safety improvements, and bike lanes

Length: 0.7 miles

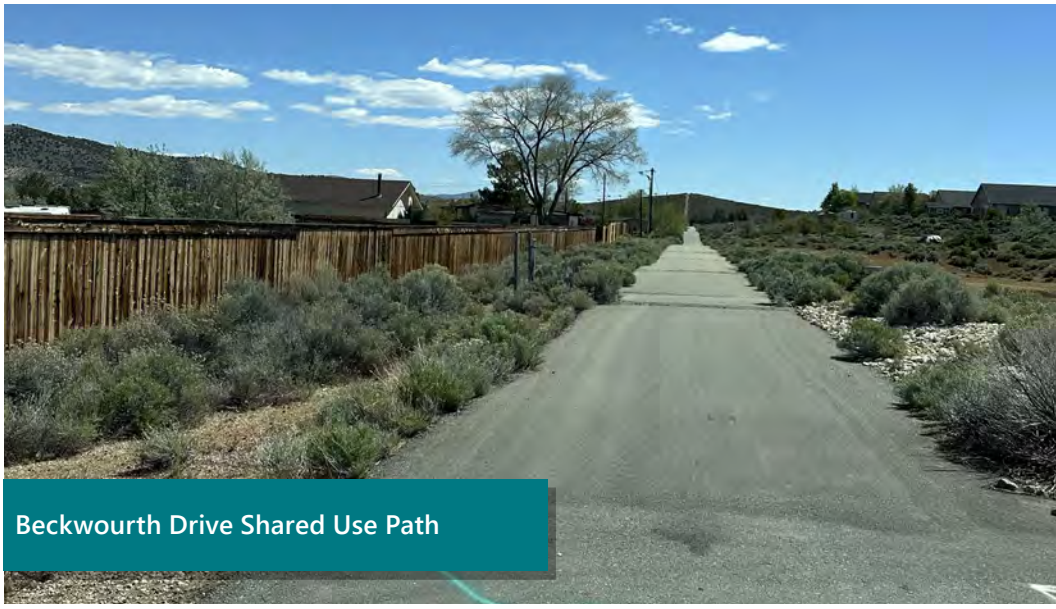
GOALS/BENEFITS

- IMPROVE BIKE & CROSSWALK SAFETY
- IMPROVE SCHOOL ACCESS
- IMPROVE BIKE CONNECTIVITY

PROJECT DESCRIPTION

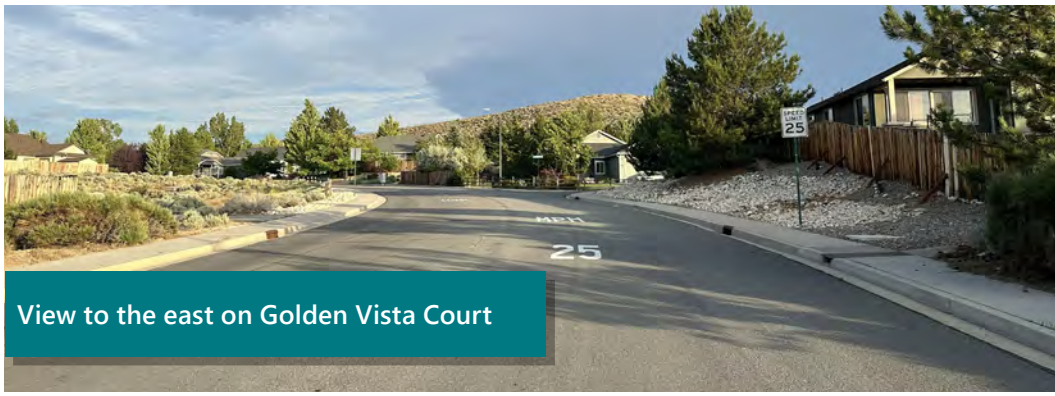
Beckwourth Drive provides access to Alice Smith Elementary School and connections to North Valleys High School. While the majority of this corridor has sidewalks, there are no bike facilities.

Proposed improvements between North Hills Boulevard and Golden Valley Road include bike lanes and painted bulbouts with delineators at intersections. Speed tables would be added to calm traffic speeds. Buffered bike lanes would be added from Golden Valley Road to Stonegate Court, providing access to the shared use path that goes to North Valleys High School. Wayfinding signage is recommended to help people navigate the network of shared use paths. Upgrades to the traffic signal at Golden Valley Drive are recommended to be considered through other RTC programs.



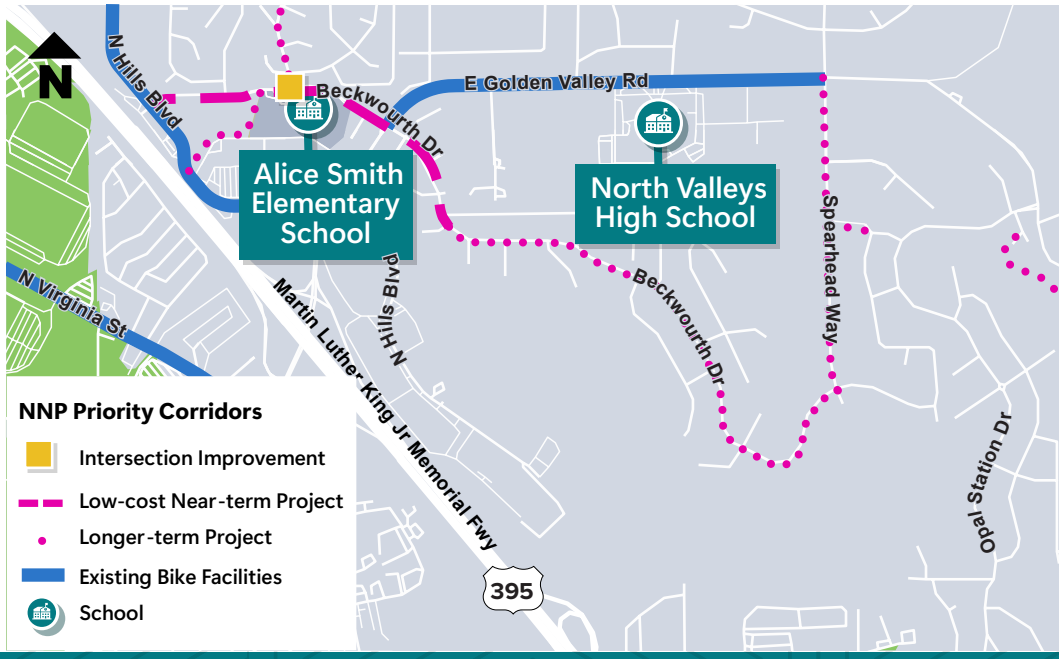
Beckwourth Drive Shared Use Path

PROJECT DETAILS



View to the east on Golden Vista Court

PROJECT MAP



Appendix A: Supplemental Existing Conditions Information

Existing Conditions

The Sun Valley and Panther Valley neighborhoods has a population over 44,000. The median income for the planning area is lower than the average for Washoe County. Approximately 38% of the population is younger than 18 or above age 64, indicating a need for transportation options beyond driving. A summary of population demographics is provided in Table A-1. Given these economic and demographic factors, there is a clear need to promote access to all modes of transportation.

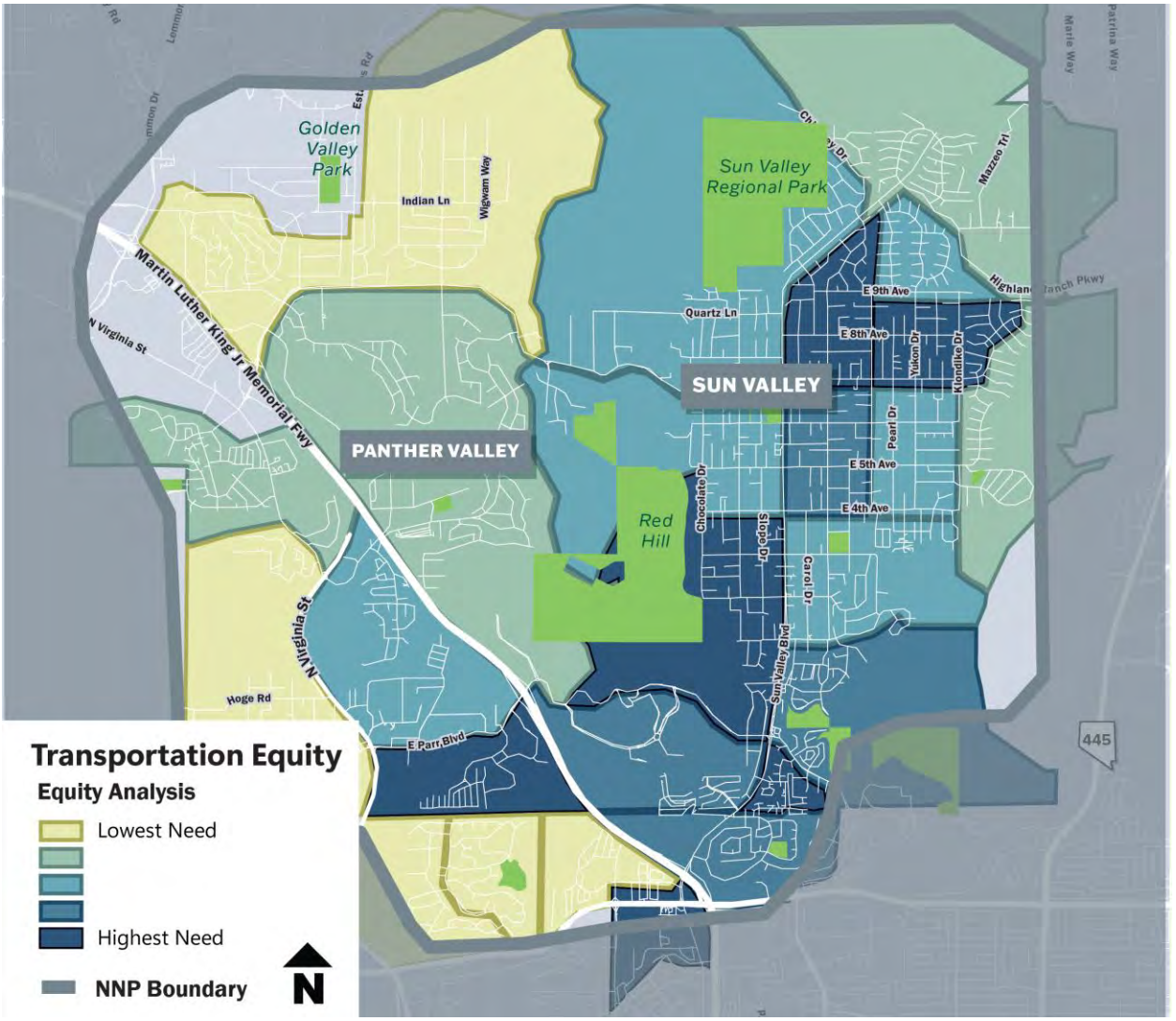
Table A-1. Comparison of Population Characteristics

Demographic	Washoe County	NNP Area
Median Household Income	$85,600	$76,524
Housing Cost Burdened Households (B25140)	31%	32%
Under age 18	21%	25%
Over age 64	17%	13%
Has a Disability	25%	28%
Hispanic	26%	41%
Minority Population	35%	44%
Limited English Proficiency (LEP)	3%	4%
Zero-Vehicle Households	6%	5%
Single Vehicle Households	28%	25%

Source: American Community Survey, 2023

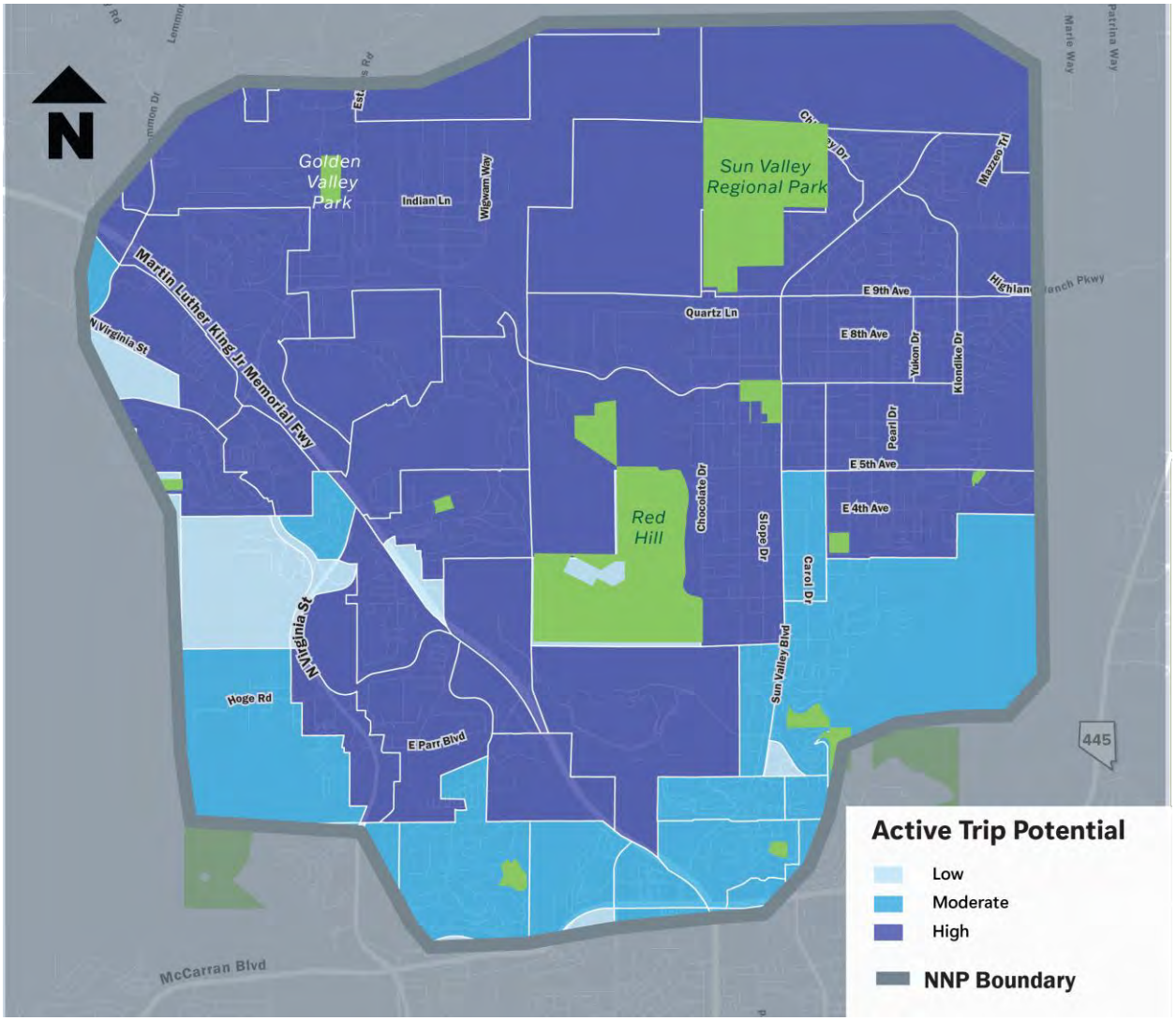
Figure A-1 provides an overview of areas with higher needs, based on demographic characteristics, where a higher number represents an area of greater need, as documented in the AT Plan. Areas of greater need indicate the potential demand for affordable active transportation options.

Figure A-1. Transportation Equity Analysis



Active trip potential measures where short vehicle trips could realistically shift to walking or biking with improved infrastructure. The Plan uses this metric to identify areas with latent demand or existing active travel, helping target investments that reduce auto trips and support first- and last-mile connectivity. **Illustrated in Figure A-2, substantial portions of the planning area show moderate or high potential for active trips. This pattern highlights strong opportunities to support walking and bicycling, particularly in Sun Valley.**

Figure A-2. Active Trip Potential



Safety Needs

The analysis identified several crash hotspots. Sun Valley Boulevard experienced a high number of crashes, with the greatest concentration occurring near the interchange with US 395. Additional hotspots appeared near the US 395 interchanges at Golden Valley Road, Lemmon Drive, and East Parr Road. Interchange ramps often function as crash-prone locations because drivers transition rapidly from high-speed, limited-access freeway conditions to lower-speed environments with turning movements and the presence of bicyclists and pedestrians.

During the five-year period between 2019 and 2023, 14 crashes resulted in fatalities and 52 resulted in serious injuries. Over half of the fatal and serious injury crashes occurred at nighttime during dark conditions, with 32% of these crashes along roadways that do not have illumination. Figure A-3 shows crash concentration in the planning area and Figure A-4 shows the locations of fatal and injury crashes.

Figure A-3. Crash History

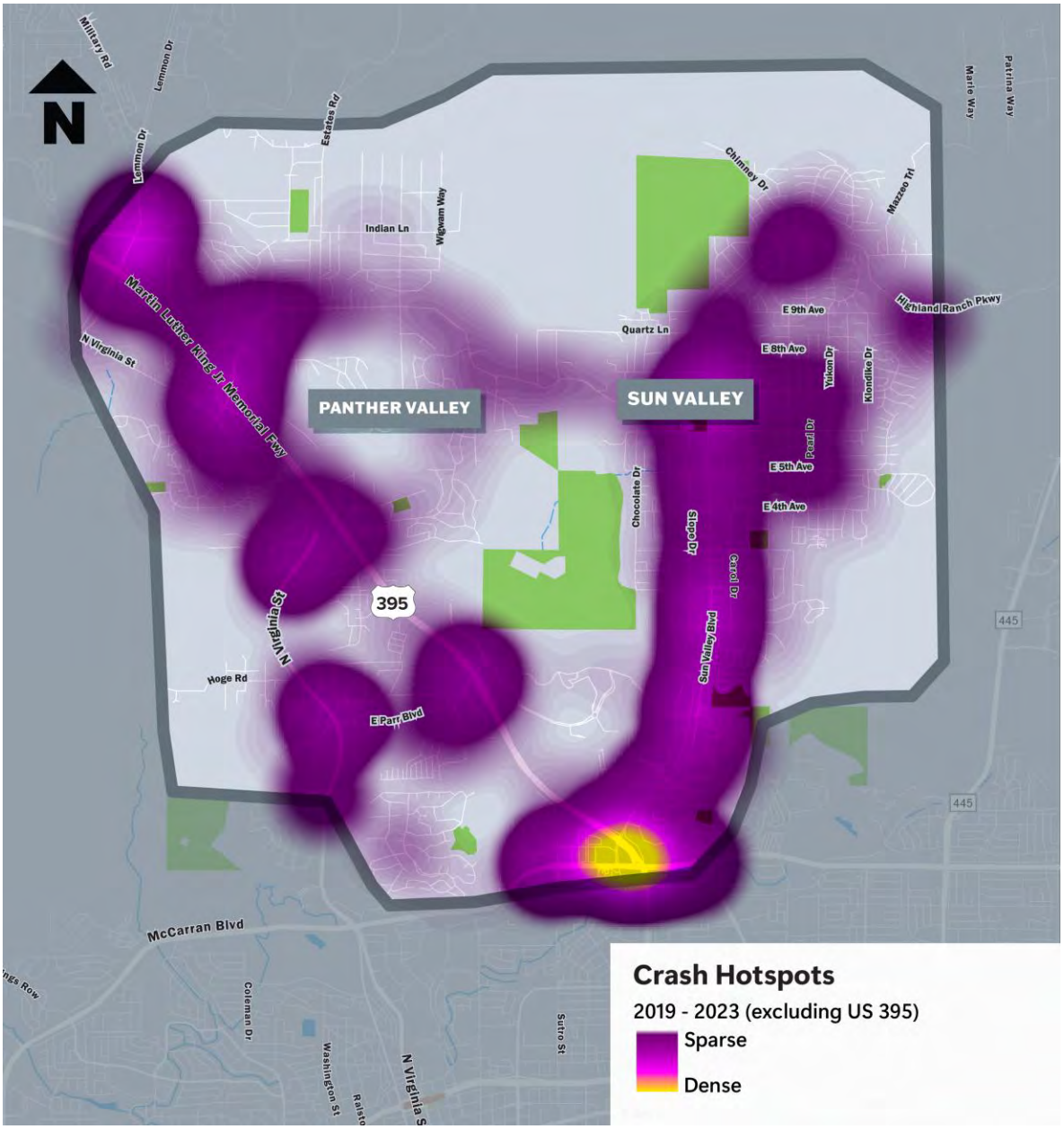
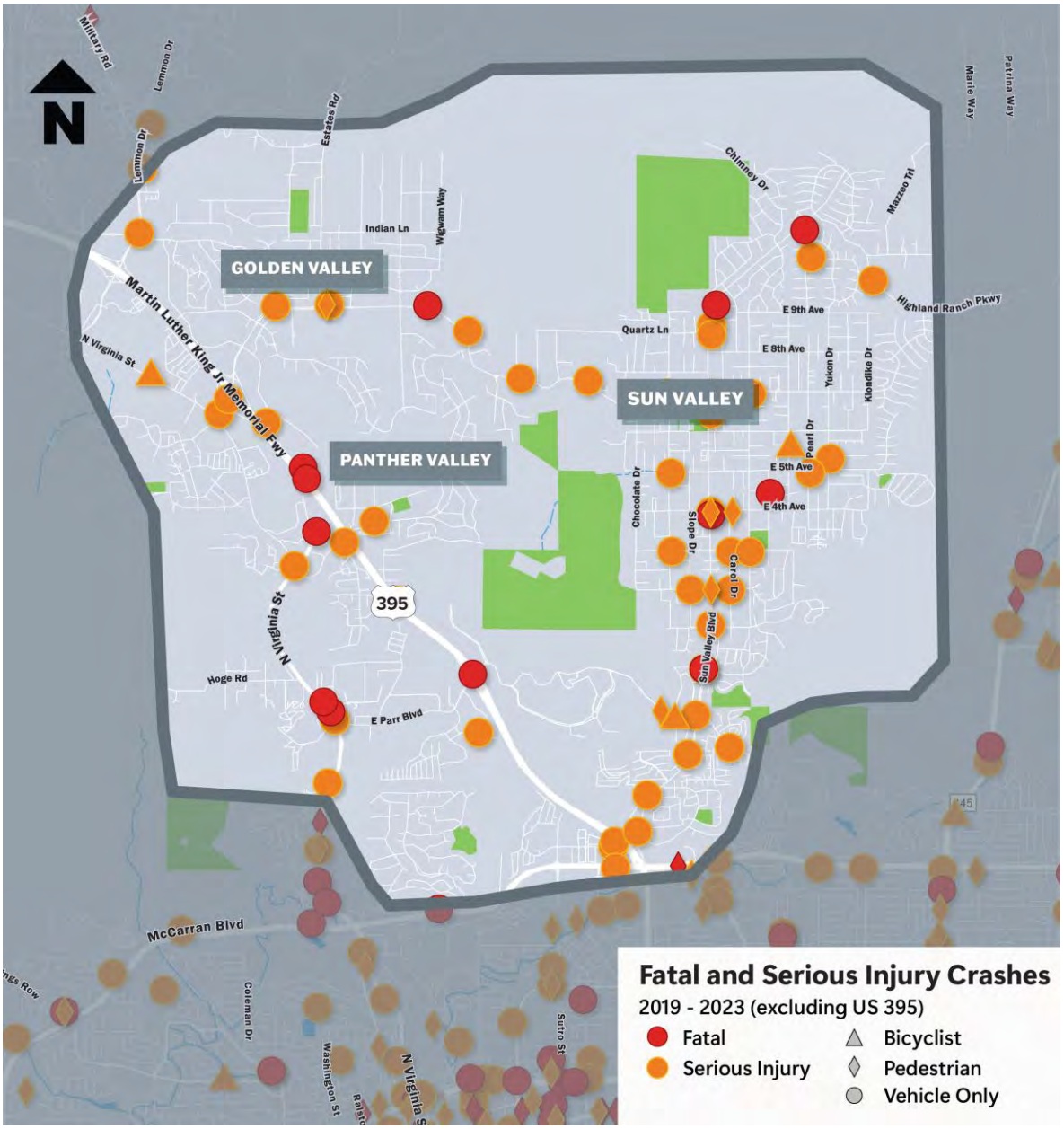


Figure A-4. Fatal and Serious Injury Crashes



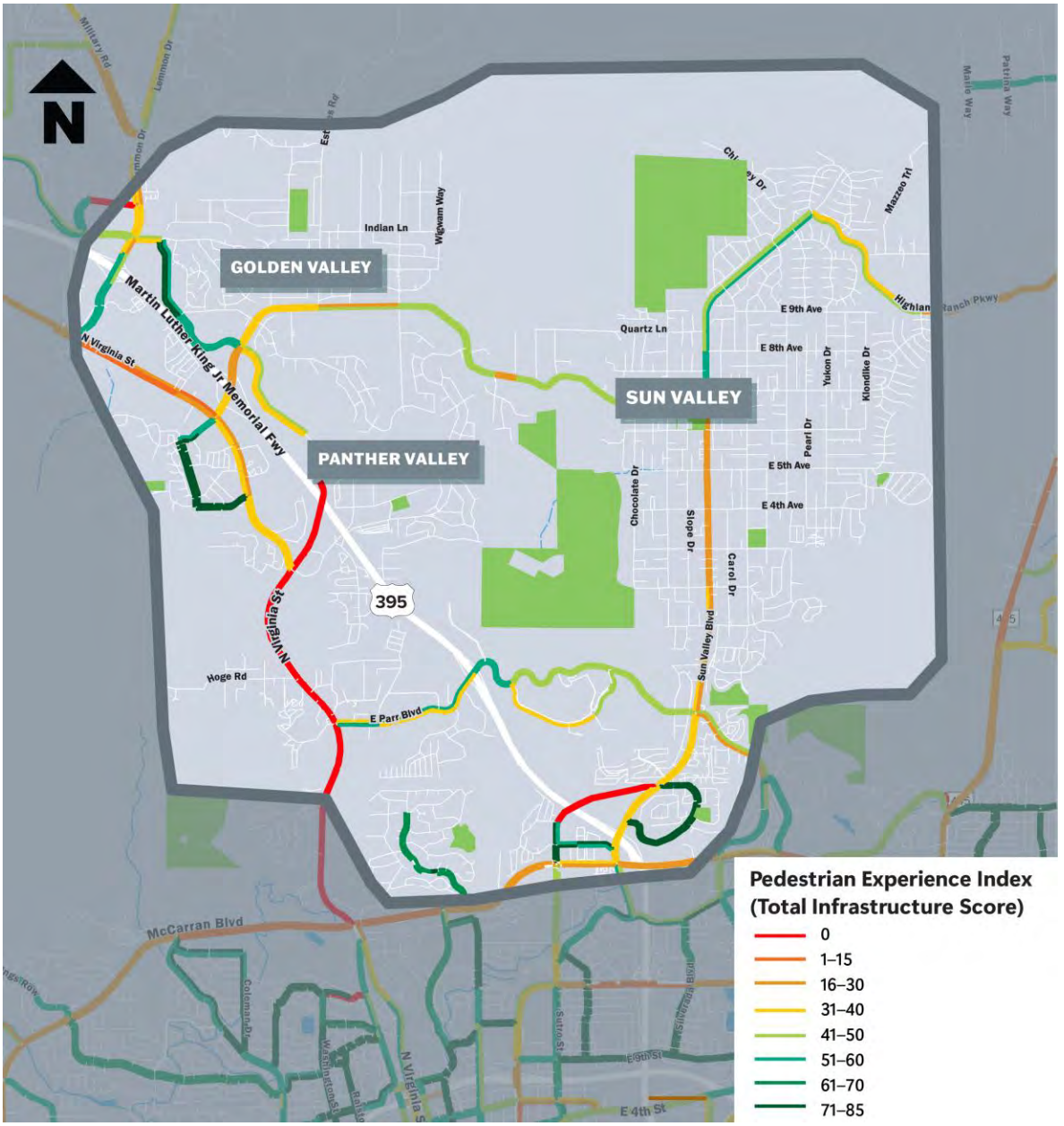
Pedestrian Experience Index

Developed for the Active Transportation Plan, the Pedestrian Experience Index (PEI) measures the level of comfort for walking on a given street. PEI uses factors such as traffic volumes, speeds, and the presence or absence of sidewalks. Scores are assigned on a 0-85 scale, with higher scores indicating a more comfortable walking experience, as shown in Figure A-5.

Several major streets in the neighborhood scored very low on the PEI. Sun Valley Boulevard's lack of sidewalks combined with higher traffic volumes makes for an uncomfortable and unsafe walking experience. RTC has an upcoming project to construct pedestrian and bicycle facilities, landscaping, lighting, traffic signal modification, and drainage improvements on the section between Scottsdale Road and 7th Avenue. Similarly, Viriginia Street's general lack of sidewalks and a 50 MPH speed limit create an environment that discourages walking. Multimodal safety improvements are currently planned for the Virginia Street corridor. RTC constructed sidewalks along North Hills Boulevard in 2019, creating a more inviting environment for pedestrians.

While the PEI focuses primarily on larger roadways, this plan is also considering improvements on neighborhood streets that offer connections to local schools, parks, and other resources.

Figure A-5. Pedestrian Experience Index



Bicycle Level of Traffic Stress

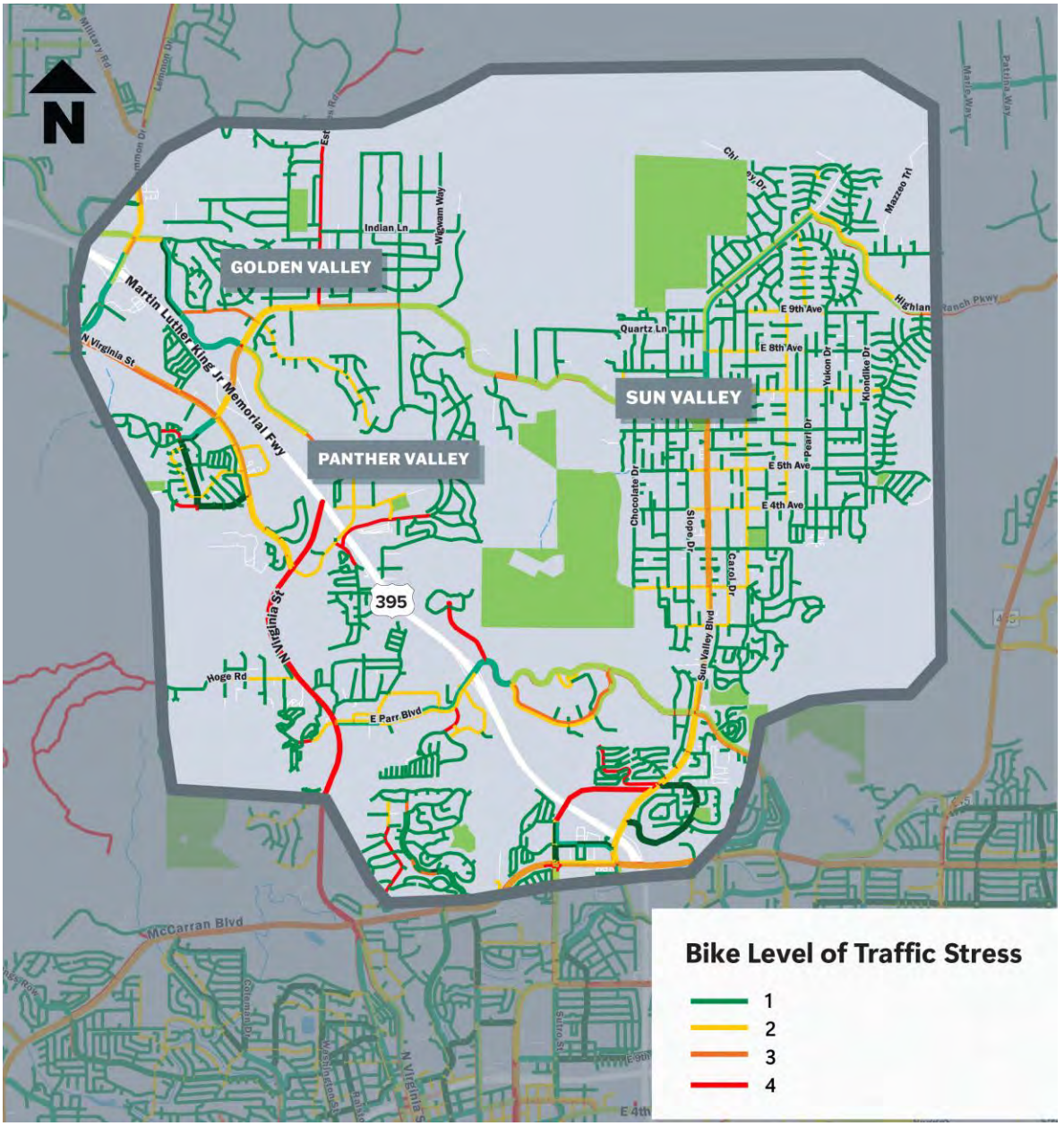
Bicycle Level of Traffic Stress (BLTS), developed as a metric in the AT Plan, measures the level of comfort for someone riding a bike on a given roadway. It accounts for factors such as traffic volumes, posted speed limits, and the presence or absence of bicycle facilities such as bike lanes and separated paths, as shown in the illustration below. Scores are assigned on a 1-4 scale with higher scores indicating roads that are more stressful to ride on, as shown in Figure A-6.



Illustration of Bicycle Level of Traffic Stress

Many of the major connecting streets in the NNP area such as Golden Valley Road, Sun Valley Boulevard, and Dandini Boulevard have BLTS scores of 3 and 4 due to higher traffic volumes, speeds, and a general absence of bicycle facilities. These higher stress environments on key corridors present an obstacle to people bicycling between Sun Valley and Panther Valley, or to access the greater Reno metro region. Many of the streets with lower traffic volumes in the study area have BLTS scores of 1 or 2 and present an accessible network of streets for many riders. These low stress bicycle facilities can provide connections to the regional network which would enable community residents to access important destinations in their neighborhood such as schools, parks, and shopping centers. It is generally more cost effective and well-suited to quick-build to improve a corridor from BLTS 2 to 1 compared to upgrading from a BLTS 4 or 3 to BLTS 2.

Figure A-6. Bike Level of Traffic Stress



Transit

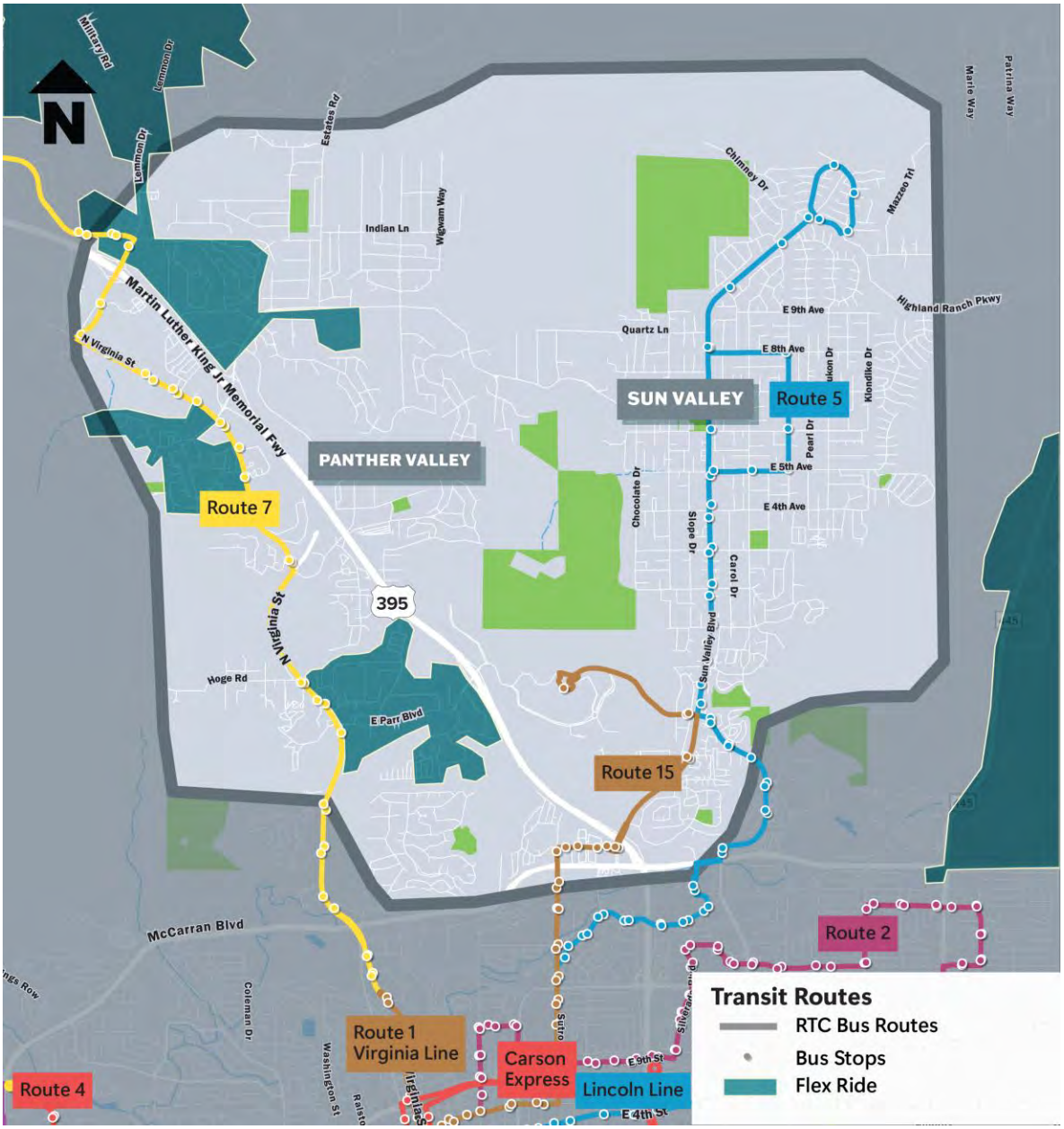
RTC transit service provides many residents and employees with access across the region. The transit routes in the neighborhood are described in Table A-2 and illustrated in Figure A-7.

Table A-2. Transit Service

Route	Service Frequency	Major Destinations	July 2025 Ridership
Route 5 Sutro - Sun Valley	30 minutes (weekdays) 1 hour (weekends)	• Desert Skies Middle School • Hug High School • Downtown Reno • Washoe County Services	29,700
Route 7 Stead	30 minutes (weekdays) 1 hour (weekends)	• Bonanza Casino • UNR • Rancho San Rafael Park • Amazon • Grocery Stores	31,100
Route 15 Sutro – Wedekind - TMCC	30 minutes (weekdays) 1 hour (weekends)	• Senior Center • TMCC • Washoe County Complex	14,000
North Valleys FlexRIDE On-Demand Service	On-demand service	• Alice Smith Elementary School • North Valleys High School	4,800

Source: RTC

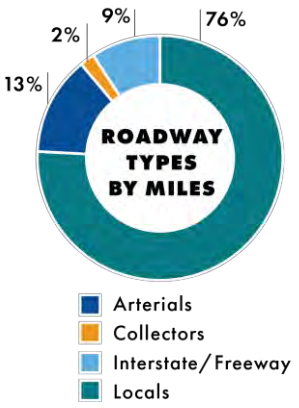
Figure A-7. Transit Service



Roadways

Functional classification categorizes roadways based on how they move people and vehicles and provide access to adjacent land uses. Four functional classes can be found within the study area:

- **Interstates and Freeways**: Serve long-distance, high-speed travel with limited access, prioritizing regional mobility
- **Arterials**: Carry high traffic volumes through the area, connecting major destinations while balancing mobility and access
- **Collectors**: Connect local streets to arterials, channeling traffic from neighborhoods to higher-capacity roads
- **Local Roads**: Provide direct access to homes and businesses, supporting low-speed, low-volume neighborhood travel

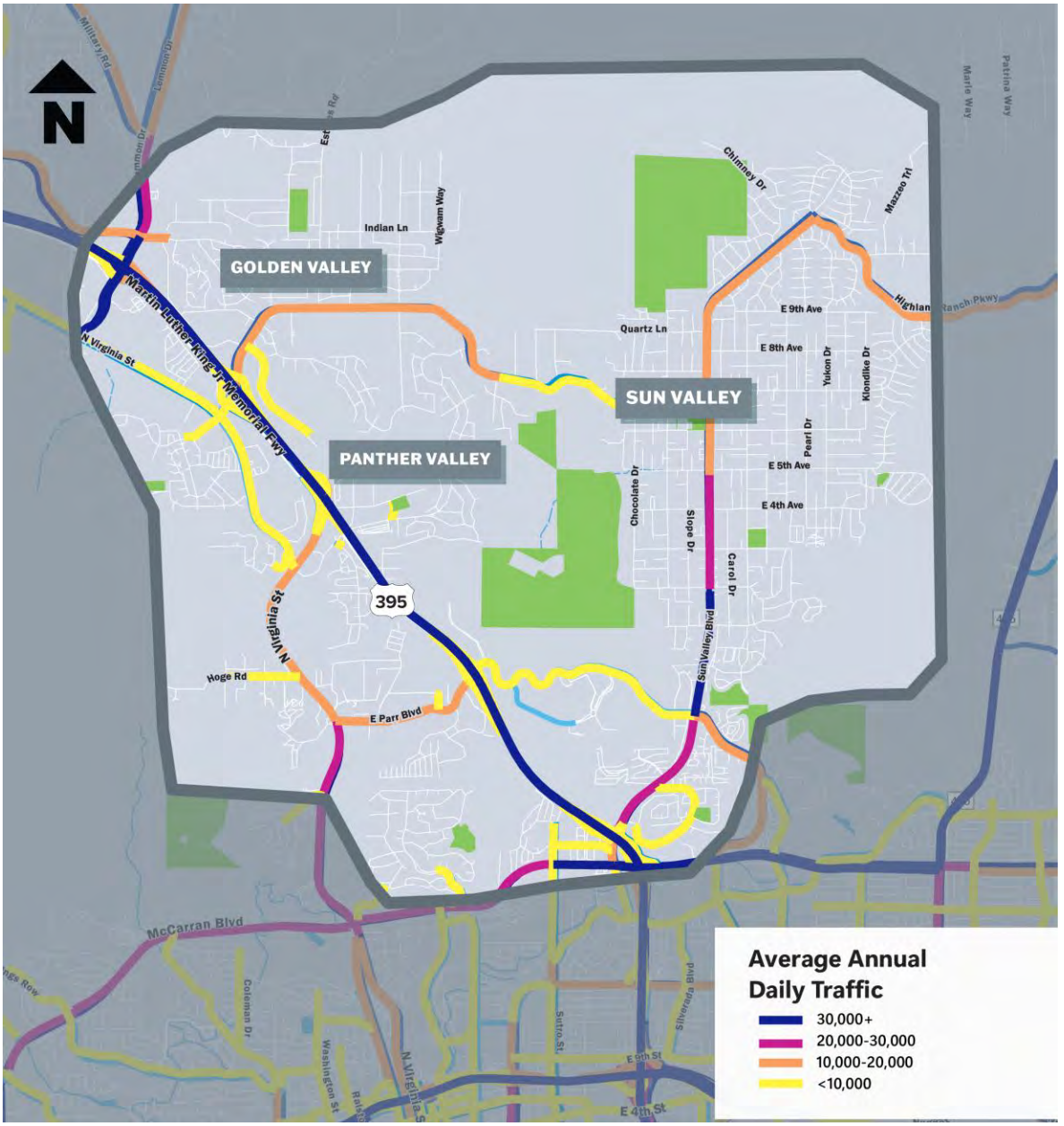


Traffic Growth along Major Roads (2014-2024)

Golden Valley Rd +30%
Sun Valley Boulevard +35%
N Virginia Street +54%

US 395 is a major highway that bisects the planning area, providing access-controlled regional connectivity through six interchanges in the NNP area. As expected, this corridor carries the highest traffic volumes in the study area—up to 103,000 vehicles per day on the southern end. North Virginia Street connects US 395 to North McCarran Boulevard and downtown Reno and also serves as an alternate US 395 business route. Golden Valley Road, Sun Valley Boulevard, and Parr Boulevard/Dandini Boulevard are minor arterials that provide key connections between residential neighborhoods and major destinations in Sun Valley and Panther Valley. Among these routes, Golden Valley Road carries the highest volumes at about 18,000 vehicles per day, followed by Parr Boulevard and Sun Valley Boulevard at roughly 10,000 vehicles per day each. Traffic volumes have risen substantially over the past decade, highlighting the need for multimodal options and active transportation facilities that are separated from vehicular traffic. Traffic volumes are shown in Figure A-8.

Figure A-8. Traffic Volumes



Appendix B: Outreach Documentation

SUN VALLEY & PANTHER VALLEY
NEIGHBORHOOD NETWORK PLAN

The RTC, through its Active Transportation Program, is working with community members to develop Neighborhood Network Plans (NNPs) to make walking, biking, and rolling safer and more comfortable.

The NNPs will be tailored to the needs of each neighborhood and recommend projects that improve safety and create a comfortable experience for everyone.

The Sun Valley & Panther Valley NNP is expected to be completed by summer 2026 and will include recommendations for quick-build projects that can bring rapid improvements in transportation safety.



Get involved with the project by:

- **Completing the survey and adding to the virtual comment map at rtcwashoe.com/neighborhood**
- **Reaching out to the project team at neighborhoodplans@rtcwashoe.com**
- **Following @rtcwashoe on social media platforms**

SEPTEMBER-NOVEMBER 2025
Assess existing conditions

DECEMBER 2025
Commmunity workshop on December 9 from 5-6:30 and survey

DECEMBER 2025-MARCH 2026
Develop and refine improvement concepts

APRIL-MAY 2026
Community meetings

MARCH-JULY 2026
Develop Neighborhood Network Plan

AUGUST 2026
Neighborhood Network Plan finalized

For more information contact the project team at neighborhoodplans@rtcwashoe.com or visit www.rtcwashoe.com/neighborhood

NEIGHBORHOOD NETWORK PLAN
SUN VALLEY & PANTHER VALLEY

SUN VALLEY Y PANTHER VALLEY
PLAN DE RED PARA LA VESINDAD

RTC, por parte de su programa transporte activo, está trabajando con los miembros de la comunidad para desarrollar planes de Red para el Vecindario (NNPs, por sus siglas en inglés) con el objetivo de poder caminar, andar en bicicleta y desplazarse con algún dispositivo de movilidad, sintiendose, seguro y cómodo.

El NNP se adaptará a las necesidades de cada vecindario y recomendarán mejoran la seguridad que generan una experiencia más cómoda para todos.

Se espera que el NNP de Sun Valley y Panther Valley sea completado para el verano de 2026 e incluirá recomendaciones para proyectos de construcción rápida ("quick-build") que puedan generar mejoras rápidas de seguridad y transporte.



El Taller Comunitario De Sun Valley Y Panther Valley Es:

El 9 de diciembre del 2025

5-6:30 p.m.

Procter R. Hug High School | 3530 Sullivan Lane | Sparks, NV

SEPTIEMBRE-NOVIEMBRE 2025
Evaluar las condiciones actuales

DICIEMBRE 2025
Taller comunitatio el 9 de diciembre entre 5-6:30 PM y encuesta

DICIEMBRE 2025-MARZO 2026
Crear y mejorar conceptos

ABRIL-MAYO 2026
Reuniones comunitarias

MARZO-JULIO 2026
Desarrollar el plan de red de vecindad

AGOSTO 2026
Finalizar el plan de red de vecindad

Para mas informacion contacte al personal del proyecto en neighborhoodplans@rtcwashoe.com o visite www.rtcwashoe.com/neighborhood

December 2025

WELCOME!

Thank you for attending this **Neighborhood Network Plan** community workshop. The Regional Transportation Commission of Washoe County (RTC) wants to hear your ideas about how to make walking and bicycling safer in your community. Tonight's meeting is from 5:00 to 6:30 p.m. A **brief presentation beginning at 5:15 p.m**. will be followed by **small group discussions with the project team** at tables around the room. Project materials shared during the in-person meeting are also available on the project website at www.rtcwashoe.com/neighborhood.

As you enter the room, you will notice displays describing the study, the project area, safety trends, current conditions for walking and bicycling, and ways you can participate. Maps are provided so you can identify places where improvements are needed. Project representatives (wearing name tags) are located near the displays and maps. Please take this opportunity to discuss the project with them, ask questions, and share your ideas and comments.

Ways to Participate

We want your input! Your comments are welcome and encouraged on topics related to this study – either during this meeting or using the methods below (through February 2026):Fill out a survey during tonight's meeting and leave it with the project team or at the welcome desk or complete it online.

- Visit the project website and fill out a survey at https://rtcwashoe.com/planning/neighborhood.
- Email your comments to neighborhoodplans@rtcwashoe.com.
- Write a letter or mail your comment to:

  Marquis Williams, RTC Project Manager
  1105 Terminal Way, Suite 108
  Reno, Nevada 89502

Thank you for attending this workshop and for your interest in the study. Visit www.rtcwashoe.com/neighborhood for more information. Please let us know if you would like your name and contact information added to the study mailing list to receive updates and future meeting notices.

Sincerely,

Marquis Williams
RTC Project Manager
www.rtcwashoe.com

Welcome to the Neighborhood Network Plan Survey

Thank you for participating in this survey. Your input will help shape improvements to walking, biking, and neighborhood travel options as part of the Meadowood & Hidden Valley Neighborhood Network Plan. Please answer the following questions about your travel habits and experiences in your neighborhood. This survey takes about 5 minutes to complete.

Which neighborhood do you live in?

- ☐ Meadowood
- ☐ Hidden Valley
- ☐ Sun Valley
- ☐ Panther Valley

Other _____

How do you regularly travel in your neighborhood? Select all that apply.

- ☐ Drive
- ☐ Walk
- ☐ Bicycle/E-Bike
- ☐ Scooter/E-Scooter
- ☐ Transit
- ☐ Carpool/Rideshare

Other _____

How often do you make a trip as a pedestrian (on foot or via mobility device), including travel to/from a bus stop?

- ☐ Daily / A few times per week
- ☐ Weekly
- ☐ Monthly
- ☐ A few times per year
- ☐ Rarely / Never

How safe do you feel as a pedestrian in your neighborhood?

- ☐ Very safe
- ☐ Somewhat safe
- ☐ Not Safe at all
- ☐ Not applicable

What conditions make it difficult or uncomfortable to walk in your neighborhood?

- ☐ Lack of sidewalks
- ☐ Crossing the street does not feel safe
- ☐ Not enough street lighting
- ☐ Too much traffic/vehicles drive too fast

Other (please specify) _____

How often do you make a trip on a bicycle, e-bike, e-scooter, or similar device?

- ☐ Daily / A few times per week
- ☐ Weekly
- ☐ Monthly
- ☐ A few times per year
- ☐ Rarely / Never

How safe do you feel riding a bicycle or scooter in your neighborhood?

- ☐ Very Safe
- ☐ Somewhat safe
- ☐ Not safe at all
- ☐ Not applicable

What conditions make it difficult or uncomfortable to ride a bike or scooter in your neighborhood?

- ☐ Lack of safe bike lanes or separated bike paths
- ☐ Crossing the street does not feel safe
- ☐ Not enough street lighting
- ☐ Too much traffic/vehicles drive too fast

Other (please specify) _____

Please rate the condition of key walking and biking features in your neighborhood.

	In good/ acceptable condition	Existing facilities need improvement	New or expanded facilities are needed	Not sure/not applicable
Sidewalks	☐	☐	☐	☐
Crosswalks	☐	☐	☐	☐
Street lighting	☐	☐	☐	☐
Traffic signals	☐	☐	☐	☐
Bike lanes or paths	☐	☐	☐	☐
Separation from traffic (buffers or barriers)	☐	☐	☐	☐
Bus stop or transit access	☐	☐	☐	☐

Where do you go, or where would you like to go, by walking, biking, or using a scooter in your neighborhood? Select all that apply.

- ☐ Work
- ☐ School
- ☐ Grocery/shopping
- ☐ Dining/entertainment
- ☐ Parks/recreation areas

Other _____

Please enter any specific streets, intersections, or locations within the neighborhood you would like to comment on. _____

_____

_____

What is your ZIP code? (optional) _____

What is a major intersection near your residence or workplace? (optional)
Example: S. McCarran Blvd & Longley Ln

_____

_____

Welcome to the Neighborhood Network Plan Survey

¡Muchas Gracias por participar en esta encuesta! Su opinión es muy importante porque nos ayuda a desarrollar y mejorar las opciones de transporte ya sea a pie o en bicicleta, como parte del Plan de Red Vecinal de Sun Valley / Panther Valley. Por favor, conteste a las siguientes preguntas sobre sus viajes habituales y su experiencias en la comunidad. Esta encuesta toma aproximadamente 5 minutos en completarse.

¿En qué area vive?

- ☐ Meadowood
- ☐ Hidden Valley
- ☐ Sun Valley
- ☐ Panther Valley

Otro _____

¿Cómo suele viajar dentro de su comunidad? Seleccione todas las que apliquen.

- ☐ En automóvil
- ☐ Caminando
- ☐ En bicicleta/bicicleta eléctrica
- ☐ En patinete/patinete eléctrico
- ☐ En transporte público
- ☐ En automóvil compartido/servicio de transporte

Otro _____

¿Con qué frecuencia realiza un viaje como peatón, incluyendo el trayecto hacia/desde una parada de autobús (a pie o con algún dispositivo de movilidad)?

- ☐ A diario/Varias veces por semana
- ☐ Semanalmente
- ☐ Mensualmente
- ☐ Unas pocas veces al año
- ☐ Rara vez/Nunca

¿Qué tan seguro(a) se siente como peatón en su vecindario

- ☐ Muy seguro(a)
- ☐ Algo seguro(a)
- ☐ Nada seguro(a)
- ☐ No aplica

¿Qué condiciones le impiden o limitan caminar en su vecindario?

- ☐ Falta de aceras
- ☐ Al Cruzar la calle, no se siente seguro
- ☐ Falta de visibilidad o iluminación en las calles
- ☐ Demasiado tráfico / los vehículos van demasiado rápidofast

Otro (especifique) _____

¿Con qué frecuencia realiza un viaje en bicicleta, regula o eléctrica o patinete (u otro dispositivo similar)?

- ☐ A diario/Varias veces por semanaSemanalmente
- ☐ Mensualmente
- ☐ Unas pocas veces al año
- ☐ Rara vez/Nunca

¿Qué tan seguro(a) se siente al andar en bicicleta o patinete en su vecindario?

- ☐ Muy seguro(a)
- ☐ Algo seguro(a)
- ☐ Nada seguro(a)
- ☐ No aplica

¿Qué condiciones le impiden o limitan andar en bicicleta o patineta en su vecindario?

- ☐ Falta de ciclovías/carriles para ciclismo
- ☐ Falta de senderos o carriles separados para bicicletasNot enough street lighting
- ☐ Cruzar la calle no se siente seguro
- ☐ Falta de iluminación en las calles
- ☐ Demasiado tráfico / los vehículos van demasiado rápido

Otro (pespecifique) _____

¿Cómo calificaría el estado actual de los siguientes elementos en su comunidad?

	Aceptable/ Satisfactorio	Las instalaciones existentes necesitan mejoras	Se necesitan nuevas o ampliadas instalaciones	No está seguro/ No aplica
Aceras	☐	☐	☐	☐
Cruces peatonales	☐	☐	☐	☐
Iluminación en las calles	☐	☐	☐	☐
Semáforos	☐	☐	☐	☐
Ciclovías o senderos para bicicletas	☐	☐	☐	☐
Tráfico más lento o reducido	☐	☐	☐	☐
Acceso a paradas de autobús o transporte público	☐	☐	☐	☐

¿A qué lugares va, o le gustaría ir, caminando, en bicicleta o en patineta dentro de su comunidad? Seleccione todas las que apliquen.

- ☐ Trabajo
- ☐ Escuela
- ☐ Supermercado / compras
- ☐ Restaurantes / entretenimiento
- ☐ Parques / áreas recreativas

Otro _____

Ingrese las calles que más utiliza o un lugar en específico dentro de esta área, que le gustaría comentar.

_____

_____

¿Cuál es su código postal? (opcional) _____

W¿Cuál es una intersección principal cerca de su residencia o lugar de trabajo? (opcional)

_____

Location: RTC 1st Floor Conference Room & Teams **Meeting Date:** November 6, 2025

Subject: Sun Valley/Panther Valley Neighborhood Network Plan Steering Committee Meeting

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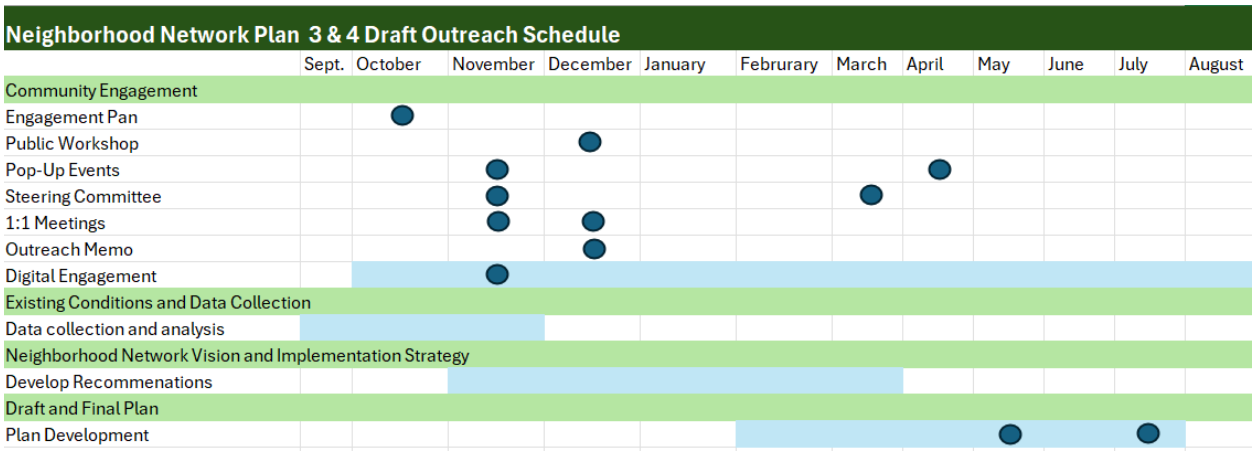
Welcome and Introductions

- RTC: Marquis Williams, Graham Dollarhide, Alex Cruz, Sara Going, Josh MacEachern, LaShonn Ford, Thomas Tsunemoto
- City of Reno: Tara Smaltz
- Washoe County: Mariam Ahmad, Michon Reede
- Washoe County School District: Robbie Pape (Safe Routes to School (SRTS)), Jennifer Iverson (SRTS), Tomas Macaluso (North Valleys High School), Scott Lee (Transportation Services)
- Nevada Department of Transportation (NDOT): Laura Wise, Mat Morris
- Truckee Meadows Community College (TMCC): Marcus Ollom, Ayodele Akinola
- Parametrix: Amy Cummings, Erin David, Dan Doenges, Rachel Graff, Jackie Kuechenmeister, Jillian Emery

Study Purpose

- Provide safe and convenient mobility options for Sun Valley/Panther Valley. Support stronger communities through transportation investments that:
  - Improve safety,
  - Expand active transportation mode share,
  - Maintain the system sustainability, and
  - Enhance the community.

Schedule



Previous Efforts

- Incorporating findings from previous planning efforts, such as the 2050 Regional Transportation Plan, Active Transportation Plan, North Valleys Multimodal Transportation Study, and the Sun Valley Boulevard Transportation Improvement Project.

- **Engagement**
  - Steering Committee
  - Community Workshop
  - 1:1 Meetings
  - Flyer
  - Website/Digital
  - Pop-ups
- **Active Transportation Comments**
  - Concerns about lack of sidewalks and bike facilities, especially near schools
  - Requests for improved pedestrian crossings
  - Concerns about driver behavior
- **Safety**
  - 2,034 crashes reported in the study area, based on NDOT's 2019-2023 crash data
    - 52 serious injury crashes, including 5 pedestrian and 3 bicyclist-involved crashes
    - 14 fatal crashes, including 2 pedestrian fatalities
  - Hotspots
    - Sun Valley Boulevard
    - McCarran Boulevard
  - Common crash types
    - Angle (39%)
    - Rear end (28%)
    - Non-collision (17%)
- **Traffic**
  - Volumes differ depending on corridor type. Sun Valley Boulevard, Golden Valley Road, East Parr Boulevard and North Virginia Street have the highest traffic volumes
    - *Numbers on 395 seem higher than expected*
    - *Sheriff's data is not incorporated into TRINA, but should be looked at, as it may be more accurate for this area, especially on Sun Valley.*
- **Transit**
  - Three bus routes traverse this area and serves major employment centers (Routes 5, 7, and 15); Route 7 (North Virginia) and Route 5 (Sun Valley) are two of RTC's highest performing routes
- **Active Transportation Infrastructure**
  - Planned improvements on Sun Valley Boulevard and Golden Valley Road/W 7th
  - Limited facilities on neighborhood streets
  - Maps show the RTC data for Pedestrian Experience Index and Bicycle Level of Stress
- **Land Use and Development**
  - Presented a map showing key destinations, such as employment centers, schools, and commercial centers

- **Needs and Opportunities**

  - *TMCC*
    - *Enrollment is ~ 12,100 students*
    - *Traffic has diverted into neighborhoods (Dandini) to avoid US 395 construction, expected to worsen with new housing development*
    - *Have had conversations with RTC for sidewalk improvements on Dandini*
  - *North Valleys High School*
    - *Traffic flow from school, exiting onto Golden Valley (turning right into the neighborhood via Spearhead to Beckwourth, perception is that it's faster than waiting to turn left, speeding is an issue), Golden Valley is heavily congested between high school and freeway*
    - *North Valleys High School has the highest number of buses going to a single school each day (66 daily trips), many buses are consistently late due to construction and increased traffic*
    - *Many students walk/bike to school (bus zone is 3+ miles out)*
    - *Many students fall on the edge of the walk zone (west of freeway) and live in Section 8 housing and walk, but have to cross the freeway, have few sidewalks - major safety obstacles; School District looking at bus options*
    - *RTC FlexRIDE zone covers North Valleys HS and area west of freeway*
  - *Large amount of kids from Sun Valley area go to Hug High School*
    - *Walk along Sun Valley Boulevard to El Rancho to Sullivan where the high school is located*
    - *Students are good at using the crosswalks but pass through roundabouts in continuous stream before and after school which causes significant traffic congestion (including for buses)*
    - *Emergency services access to high school difficult*
  - *All high schools have a Student Voice Committee – can tap into them for their input*
  - *Desert Skies Middle School: lots of pedestrians and bicyclists*
  - *Intersection of Highland Ranch and Sun Valley Boulevard gets really congested right before school starts*
  - *Several comments received during the ATP near Sun Valley Elementary School regarding pedestrian access, limited and incomplete sidewalks*
  - *Washoe County staff said traffic calming measures are not popular in with residents in Sun Valley*

- **ATP Vision**

  - We envision a connected network of comfortable, convenient, and consistent facilities for people of all ages and abilities walking, bicycling, and rolling on a mobility device that prioritizes accessibility to schools, jobs, shopping, neighborhoods, community facilities, parks, and regional trails within the Truckee Meadows.
  - **Is this still appropriate for the NNP?**
    - *Recommend clarifying that "facilities" means transportation infrastructure and adding "transit" to access priorities.*

- **ATP Goals**
  - Improve Safety
  - Expand Mode Share
  - Maintain the System Sustainably
  - Enhance the Community
  - **Is this still appropriate for the NNP?**
    - *Yes*
- **Next Steps**
  - Needs analysis
    - *Comment was made regarding potential recommendations specifically for e-bikes*
    - *Question was asked about potential pedestrian counts for some locations*
  - Community workshop
  - Develop concept alternatives
  - Opportunities for pop-up meetings:
    - *Basketball season/sporting events at high schools*
    - *TMCC campus*

Location: Teams **Meeting Date:** July 23, 2026

Subject: Meadowood/Hidden Valley and Sun Valley / Panther Valley Neighborhood Network Plan Steering Committee Meeting

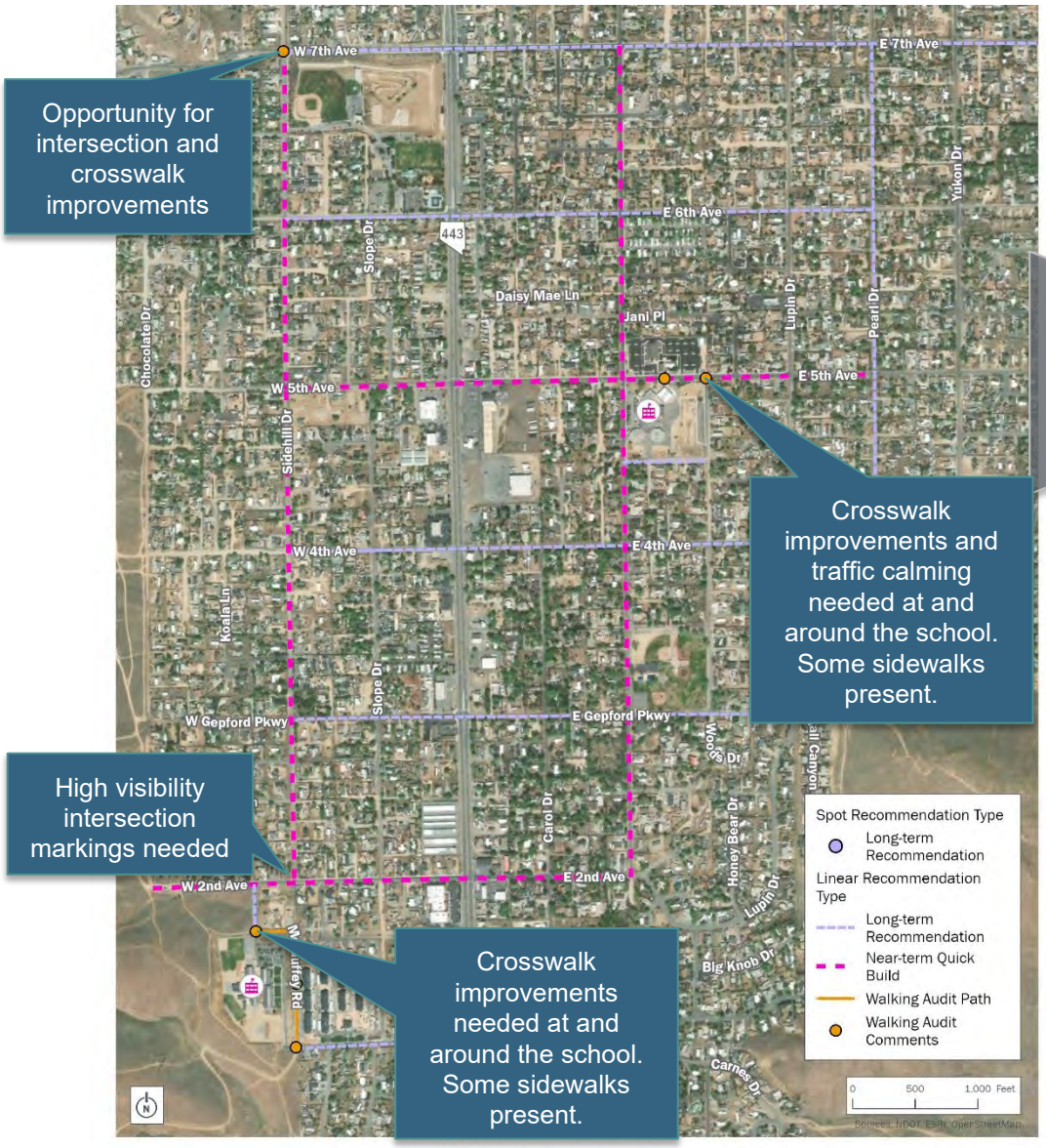
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- **Welcome and Introductions**
  - RTC: Marquis Williams, Alex Cruz, Josh MacEachern, LaShonn Ford
  - City of Reno: Tara Smaltz
  - Washoe County: Michon Reede, Kat Oakley
  - Washoe County School District: Jennifer Iverson (Safe Routes to School (SRTS)), Kyle Chisholm, Tom Macaluso
  - Nevada Department of Transportation (NDOT): Chantelle Ewing
  - Sun Valley General Improvement District: Chris Melton
  - Parametrix: Amy Cummings, Dan Doenges, Jillian Emery
- **Review Planning Process**
  - Program background as part of the RTC Active transportation Program with $2.5 million identified for short-term, quick-build improvements
  - Review of project vision and goals
  - Discussion of alternatives development and evaluation process
  - Community outreach
- **Review Proposed Recommendations**
  - The project team provided an overview of the proposed short-term quick-build and longer-term proposed improvements for discussion.
- **Discussion**
  - There was a question about whether near-term improvements could be extended for all of Beckwourth. Amy suggested that this improvement could benefit from a potential future preservation project. Full improvements limited by funding.
  - The school district anticipates a significant increase in active transportation with proposed development near Alice Smith Elementary School. The project team is looking at potential off-street trails as part of plan recommendations.
  - Washoe County and Sun Valley staff supportive of proposed improvements in Sun Valley.
  - RTC described the intent of the program to conduct continued data collection and analysis and highlighted the ability to make iterative adjustments for improvement given the quick build nature of the projects.
  - The RTC Pembroke Drive improvement project east of Veterans Parkway is currently under construction.
  - Looking at October for RTC Advisory Committee and Board meetings.
  - Central Reno & Sparks Community Bike Ride is under development to celebrate implementation of first NNP areas (probably in 2027).
  - RTC encouraged committee members to share the draft with colleagues.

Appendix C: Walk Audit

Walk Audit Assessment
Sun Valley

The goal of the walk audit is to identify barriers to walking and biking in the study area.






W 2nd Ave
Crosswalk improvements needed
Crosswalk improvements needed
Mc Guffey Rd
Spot Recommendation Type
Long-term Recommendation
Linear Recommendation Type
Long-term Recommendation
Near-term Quick Build
Walking Audit Path
Walking Audit Comments
N


Crosswalk needed
Crosswalk improvements needed
E 4th Ave

Summary Comments and Observations



7th Avenue and Sidehill Drive– This intersection appeared to have high traffic volumes and high levels of pedestrian activity at the time of the walk audit. Improved crosswalk visibility would be beneficial. The power pole on the northwest side of the intersection has a streetlight.



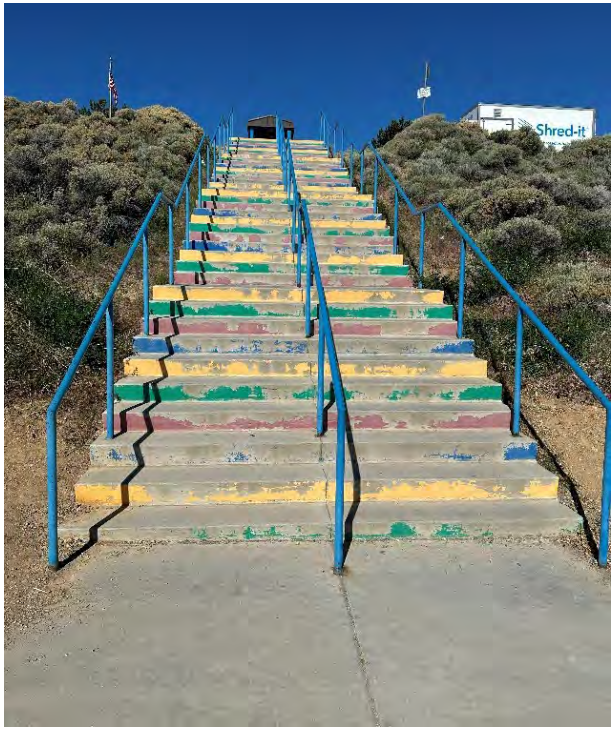


Sidehill Drive intersections – The intersections between 2nd Avenue and 7th Avenue lack clear pavement markings. Higher visibility treatments such as stop bars and solar powered flashing stop signs would be beneficial. Streetlights are mounted on power poles at one corner of most intersections.

Summary Comments and Observations



McGuffey Road - A new crosswalk with signage and ADA ramps has been installed between the apartment complex and an access point for Allen Elementary.



Stairs lead from the crosswalk to the school entrance. Sidewalks continue to other access points on 1st Avenue and Whittenmore Way.

Summary Comments and Observations





Whittenmore Way – There is no crosswalk striping in this area that is signed as a crosswalk. Families were observed to cross here during the field visit. People must cross because there is only sidewalk on one side of the street between this intersection and the school entrance. No streetlight is present at this location.

Summary Comments and Observations



5th Avenue at school gate – Highly used crossing area for school access. Proposed high visibility crosswalk and traffic calming. No streetlight is present at this location.



5th Avenue and Wood Avenue Intersection – Highly used crossing area for school access. Does not meet current standards for high visibility crosswalk. Recommend upgrade. No streetlight is present at this location.

Audit Information	
Participants/Organization	☒ RTC
	☒ City of Reno
	☒ Washoe County
	☒ Parametrix
Date	4/29/26
Route segment walked/observed (refer to map)	Sun Valley

Environment	
Who are the primary users of this route segment? Select all that apply.	☒ Pedestrians
	☒ Bicyclists
	☒ Vehicular Traffic
	☐ Transit
	☐ Trucks and Freight
	☐ Other: _____
Type of pedestrians using the route? Select all that apply.	☒ Adult
	☐ Elderly
	☒ Children
	☒ Families
	☐ Differently Abled
	☐ Other: _____

Pedestrian and Cyclist Infrastructure

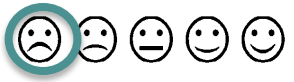
Are there sidewalks?	☒ Yes ☐ No	
If yes, select all that apply.	☒ The sidewalk is not continuous. There are sections missing.	
	☐ The sidewalk is too narrow to accommodate pedestrians.	
	☐ The sidewalk is blocked by poles or other infrastructure.	
Are there shared use paths?	☐ Yes ☒ No	
If yes, select all that apply.	☐ The shared use path is difficult to find; there is no signage/wayfinding.	
	☐ The shared use path is too narrow to fit both pedestrians and cyclists.	
	☐ The shared use path does not connect to pedestrian facilities/areas.	
Other Observations: Short segments of sidewalks exist in some blocks around the school. Most roadway segments have no sidewalks and have a ditch next to the roadway.		

Overall, the quality and safety of the sidewalk infrastructure is: (circle your choice)



Are there bicycle lanes?	☐ Yes ☒ No	
If yes, select all that apply.	☐ The bicycle lane is not clearly marked.	
	☐ The bicycle lane is too narrow.	
	☐ The bicycle lane is not properly maintained.	
	☐ Conventional ☐ Buffered ☐ Separated	
If the bicycle lane is not properly maintained, please describe the issue/s. _____		
Are there sharrows?	☐ Yes ☒ No	
If yes, select all that apply.	☐ The sharrow is not positioned in the middle of the lane.	
☒ There is no signage along the route indicating that bicycles may be sharing the roadway.		
☒ There are no designated locations to park and lock bicycles along the route.		

Overall, the quality and safety of the bicycle infrastructure is: (circle your choice)

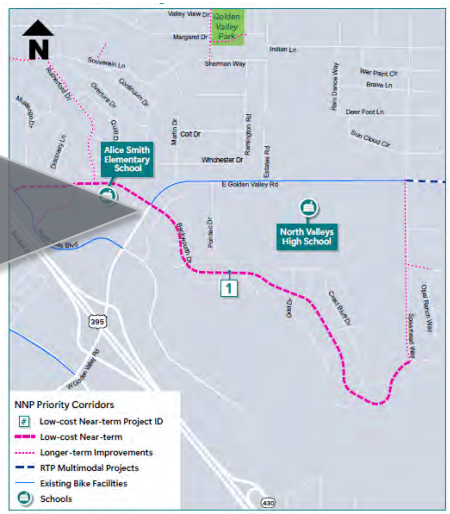


Street Crossings and Intersections		
☐ There are too many driveways along the route that make it uncomfortable or unsafe to walk.		Overall, the quality and safety of street crossings and intersections are: (circle your choice) 
☐ Street names, route names, and walking paths are not clearly labeled.		
☒ Pedestrian signage does not exist or is not well-maintained.		
☒ Pedestrian crossings do not have pushbuttons.		
☐ Pedestrian pushbuttons are not close to the crosswalk.		
☒ There are bumps, curbs, or gutters that may block the passage of people using wheelchairs or people with low mobility.		
☒ Curb ramps are missing at intersections and alley entrances/exits.		
☐ Crossings/streets are too wide for slower pedestrians to cross safely.		
☐ There are blind spots where pedestrians may not see oncoming traffic or vice-versa.		
☒ Crosswalks are poorly lit.		
Other observations: There are few segments of sidewalks, and large segments with no sidewalks and a ditch next to the road.		

Walk Audit Assessment
Beckwourth Drive

The goal of the walk audit is to identify barriers to walking and biking in the study area.






Spot Recommendation Type
Long-term Recommendation
Linear Recommendation Type
Long-term Recommendation
Near-term Quick Build
Walking Audit Path
Walking Audit Comments
E Golden Valley Rd
Pontiac Dr
Wide roadway, no bike lanes. Opportunity for bike lanes and wayfinding for trail
Beckwourth Dr
Opportunity for wayfinding for trail

Summary Comments and Observations



Multiuse path behind North Valleys High School. A multiuse path extends across the neighborhood behind the high school to provide access and an alternative to traveling on roadways. There is an access point on Beckwourth Drive and through some cul-de-sacs. No wayfinding signage is currently available. A streetlight is located at the intersection where trail access is provided near Creek Canyon Drive.



Beckwourth Drive – Existing sidewalks on both sides of the street are in good condition. The roadway is wide and there are no bike lanes or other pavement markings. Streetlights are located at intersections.

Audit Information	
Participants/Organization	☒ RTC
	☒ City of Reno
	☒ Washoe County
	☒ Parametrix
Date	4/29/26
Route segment walked/observed (refer to map)	Beckwourth Drive and North Valleys HS Multiuse Path

Environment	
Who are the primary users of this route segment? Select all that apply.	☒ Pedestrians – for multiuse path segment
	☐ Bicyclists
	☒ Vehicular Traffic
	☐ Transit
	☐ Trucks and Freight
	☐ Other: _____
Type of pedestrians using the route? Select all that apply.	☐ Adult
	☐ Elderly
	☒ Children (NVHS multiuse path)
	☒ Families (NVHS multiuse path)
	☐ Differently Abled
	☐ Other: _____

Pedestrian and Cyclist Infrastructure

Are there sidewalks?	☒ Yes ☐ No	Overall, the quality and safety of the pedestrian infrastructure is: (circle your choice)
If yes, select all that apply.	☐ The sidewalk is not continuous. There are sections missing.	
	☐ The sidewalk is too narrow to accommodate pedestrians.	
	☐ The sidewalk is blocked by poles or other infrastructure.	
		
Are there shared use paths?	☒ Yes ☐ No	
If yes, select all that apply.	☒ The shared use path is difficult to find; there is no signage/wayfinding.	
	☐ The shared use path is too narrow to fit both pedestrians and cyclists.	
	☐ The shared use path does not connect to pedestrian facilities/areas.	
Other Observations		

Are there bicycle lanes?	☐ Yes ☒ No	Overall, the quality and safety of the bicycle infrastructure is: (circle your choice)
If yes, select all that apply.	☐ The bicycle lane is not clearly marked.	
	☐ The bicycle lane is too narrow.	
	☐ The bicycle lane is not properly maintained.	
	☐ Conventional ☐ Buffered ☐ Separated	
If the bicycle lane is not properly maintained, please describe the issue/s. _____		
Are there sharrows?	☐ Yes ☒ No	
If yes, select all that apply.	☐ The sharrow is not positioned in the middle of the lane.	
☒ There is no signage along the route indicating that bicycles may be sharing the roadway.		
☒ There are no designated locations to park and lock bicycles along the route.		

Pedestrian and Cyclist Infrastructure

Other observations: Sidewalks are in good condition. The roadway is wide and traffic volumes are low. Complaints of speeding have been provided to the City of Reno and NVHS. The multiuse path provides an off-street connection to the back of NVHS and an alternative to walking or biking on Golden Valley Drive.		

Street Crossings and Intersections

☐ There are too many driveways along the route that make it uncomfortable or unsafe to walk.		Overall, the quality and safety of street crossings and intersections are: (circle your choice) 
☐ Street names, route names, and walking paths are not clearly labeled.		
☒ Pedestrian signage does not exist or is not well-maintained.		
☐ Pedestrian crossings do not have pushbuttons.		
☐ Pedestrian pushbuttons are not close to the crosswalk.		
☐ There are bumps, curbs, or gutters that may block the passage of people using wheelchairs or people with low mobility.		
☐ Curb ramps are missing at intersections and alley entrances/exits.		
☐ Crossings/streets are too wide for slower pedestrians to cross safely.		
☐ There are blind spots where pedestrians may not see oncoming traffic or vice-versa.		
☐ Crosswalks are poorly lit.		
Other observations: The neighborhood streets do not have crosswalks. The signal at Beckwourth Golden Valley Drive should have a protected pedestrian phase. There is no wayfinding information about the multiuse paths.		

Appendix D: Concept Development and Prioritization Process

Quick-Build Improvements Toolkit

The following types of improvements provide an overview of the type of short-term quick-build improvements considered in the AT Program. Table D-1 describes improvements on roadway segments and Table D-2 highlights options for intersections. This toolkit was considered as potential design solutions were proposed for corridors within the neighborhood.

Speed management is a key consideration regarding the development of potential improvements. Higher travel speeds increase crash risks and the likelihood of fatalities, particularly for active transportation users. Designing streets for safe speeds instead of speed limits can increase safety benefits. For example, a design speed between 10 and 30 MPH is typically suitable for urban streets, with a design speed of 20 MPH or lower often appropriate for streets where children frequently walk or bike. Many of the toolbox options are intended to encourage safe driving speeds.

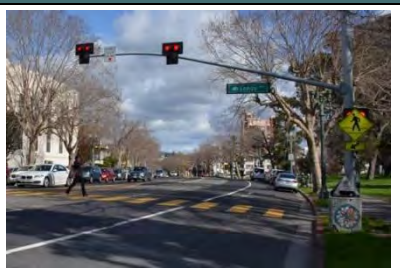
Table D-1. Roadway Segment Treatments

Treatment	Example / Illustration	Description
Neighborhood Byway		Neighborhood byways offer low-speed and low-stress connections. Traffic is calmed through treatments such as speed tables and curb extensions. These measures help maintain low speeds to create a place where people biking can comfortably share space with people driving. This improvement assumes the application of traffic calming treatments at appropriate intervals throughout the corridor.
Bike Lane		Bike lanes provide dedicated space for bicycle travel adjacent to vehicle traffic, which enables people biking to ride at their preferred speed. This facility is separated from vehicle traffic by a painted lane line.
Buffered Bike Lane		This enhanced bike lane provides increased separation between people biking and people driving through a striped buffer, which creates a more comfortable environment for people biking. They can be implemented in a quick-build fashion given sufficient existing right of way.
Protected Bike Lane		The most comfortable on-street facility type for people biking, this facility provides a physical barrier between people biking and people driving. In a quick-build project, the separation may be with concrete parking stops, planters, parking, or other physical barriers.
Pedestrian Lane		This quick-build solution is considered where sidewalks are not already present in the corridor. In a quick-build setting, it is defined using striping and/or barriers such as concrete parking stops.

Table D-2. Roadway Intersection and Mid-Block Crossing Treatments

Treatment	Example / Illustration	Description
High-Visibility Crosswalk		This crosswalk type includes thick white bars to increase driver awareness of the crossing. This crosswalk design has been shown to increase driver awareness compared to the standard crosswalk design with two parallel white lines on the outside of the crosswalk.
Quick-Build Curb Extension / Painted Bulbouts with Delineators		This improvement reduces the total crossing distance for people walking, reduces speed of turning vehicles and increases pedestrian visibility at the crosswalk. These may be implemented with delineators to offer more visual and physical separation.
Intersection Daylighting		Daylighting refers to improving visibility at intersections by not allowing vehicles to park in areas that block sight lines.
Conflict Striping		This describes green pavement markings that show where bicycles should ride to cross intersections. It is recommended at signalized intersections and other appropriate locations.
Raised Crosswalk		This improvement brings the crosswalk up to sidewalk level to increase pedestrian visibility and reduce vehicle speeds as they travel over the raised crosswalk. These are typically installed on lower volume/lower-speed roadways.

Treatment	Example / Illustration	Description
Leading Pedestrian Interval		This provides people walking with a 3- to 7-second head start when crossing at a signalized intersection by showing the walk symbol while people driving have a red light. This helps make pedestrians more visible at intersections and improves pedestrian safety.
Bicycle Wayfinding		Signage to indicate distance and direction to key destinations along a bike corridor, or within the network to help bicyclists stay on the most comfortable streets. This improvement can be used in transition areas where riders may benefit from directional signage.
Bike Cut Through		This is a type of modal filtering that modifies the existing median to provide bicyclists with a small opening to enable them to continue straight. This creates a more direct network for people biking with minimal impact to the overall roadway.
Bike Box		An area at the front of a traffic lane at signalized intersections where people biking can wait ahead of vehicles to make left turns more easily. This makes bicyclists more visible, reduces delays for bicyclists, and helps keep vehicles from encroaching into the crosswalk.
Two-Staged Turn Box		These roadway markings help bicyclists make left turns at complex intersections without merging with vehicle traffic and allow bicyclists to wait for a green light ahead of vehicles to be more visible.

Treatment	Example / Illustration	Description
Pedestrian Hybrid Beacon (PHB)		This pedestrian-activated flasher improves crossings at unsignalized intersections or midblock crossings on major streets. PHBs include a signal head with two red lenses over a single yellow lens. These are suitable in areas with three or more lanes or speed limits that exceed 35 MPH.
Rectangular Rapid Flashing Beacon (RRFB)		This pedestrian activated flasher improves crossings at unsignalized intersections or midblock crossings on single or multi-lane roadways. This includes flashing amber lights which alert drivers to the person crossing. RRFBs are typically installed on roadways with speed limits up to 35 MPH.
Traffic Signal Adjustments		Traffic signal adjustments have the potential to be low cost and provide highly efficient benefits for active transportation users. Examples include bike detection, extending the time provided for pedestrians to cross, leading pedestrian interval, and leading bicycle interval.

Projects considered to be quick-build type improvements were prioritized based on safety, infrastructure condition, access to community facilities, connectivity, and community input, which are described below.

- **Safety** – The greater the safety need, the higher the concept scores. The Sun Valley area experienced crashes at many roadway intersections during the study period, including injury crashes on Sidehill Drive, Leon Drive, 2nd Avenue, Gepford Parkway, 4th Avenue, and 5th Avenue.

- **Infrastructure Condition** – Corridors with poorer conditions are scored higher. Examples include the lack of sidewalks and crosswalks in much of Sun Valley.

- **Access** – Corridors that improve access to community resources such as schools, transit service, or parks, received a higher score. As examples, Sun Valley Boulevard and Virginia Street offer access to RTC transit routes.

- **Connectivity** – Improvements that fill a network gap or connect to regional bike or pedestrian facilities scored higher. As an example, Beckwourth Drive links to shared use paths that provide off-street multimodal connections.

- **Community Input** – Concepts that received positive public and agency comments were scored higher.

The potential quick-build improvements were given a qualitative score for each of the above criteria in the form of a low (1), medium (2), or high (3). The average of these scores is provided as a summary measure in Table D-3.

Table D-3. Evaluation of Potential Quick-Build Projects

Name	Safety Need	Infrastructure Condition	Access	Connectivity	Community Input	Average Score
1 Debussy Drive/ Donatello Drive	Low	Medium	High	Low	Low	Low–Medium
2 Rutherford Drive/ Buck Drive	Low	High	Medium	Medium	Low	Low–Medium
3 Spearhead Way Bike Lanes	Low	High	Medium	Low	Low	Low–Medium
4 7th Avenue/ Magenta Drive/ Lightning Drive/ Midnight Drive	Medium	High	Medium	Low	High	Medium–High
5 Pearl Drive	Medium	High	Medium	Low	Low	Low–Medium
6 6th Avenue	High	High	Medium	Low	Medium	Medium–High
7 Gepford Parkway	High	High	High	Low	Low	Medium–High
8 Sidehill Drive	High	High	High	Low	Low	Medium–High
9 2nd Avenue	High	High	High	Low	Medium	Medium–High
10 Beckwourth Drive	Medium	Low	High	High	High	Medium–High
11 5th Avenue	High	High	High	Low	High	Medium–High
12 Leon Drive	High	High	High	Low	High	Medium–High
13 4th Avenue	High	High	High	Low	High	Medium–High

LEVEL OF NEED
LOW »»»»»»»»»»»»»»»»»»»»»»»»»» HIGH

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 7.1**

To: Regional Transportation Commission

From: Bill Thomas, Executive Director

SUBJECT: Executive Director Report

RECOMMENDED ACTION

Monthly verbal update/messages from RTC Executive Director Bill Thomas - no action taken.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 7.2**

To: Regional Transportation Commission

From: Paul Nelson, Government Affairs Officer

SUBJECT: Federal Report Discussion

RECOMMENDED ACTION

Monthly verbal update/messages from Paul Nelson, RTC Government Affairs Officer on federal matters related to the RTC - no action will be taken.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

REGIONAL TRANSPORTATION COMMISSION of Washoe County

Engineering & Construction • Planning • Public Transportation

Meeting Date: 10/16/2026 **Agenda Item: 7.3**

To: Regional Transportation Commission

From: Tracy Larkin Thomason, NDOT Director

SUBJECT: NDOT Report

RECOMMENDED ACTION

Monthly verbal update/messages from NDOT Director Tracy Larkin Thomason or designated NDOT Deputy Director - no action will be taken.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.