



**RIDGEFIELD CITY COUNCIL
MEETING AGENDA**

**Thursday, September 24, 2026
RACC - Columbia Assembly Room
510 Pioneer Street, Ridgefield, WA 98642**

I. GENERAL SESSION CALL TO ORDER - 6:30 PM

- 1. Flag Salute**
- 2. Roll Call**
- 3. Late changes to the agenda**

II. PUBLIC COMMENT

Anyone requesting to speak to the Council regarding all items not subject to a specific Public Hearing may come forward at this time. Please state your name and limit comments to three minutes. Written comments may be submitted to the Clerk prior to the meeting.

III. CONSENT AGENDA

- 1. Approval of Claims And/Or Payroll**
- 2. Approval of Minutes from the September 3, 2026 and September 10, 2026 Meeting**

IV. PRESENTATION

V. BUSINESS

VI. PUBLIC HEARING/BUSINESS

- 1. Public Hearing and Motion to Approve the Selection of the Locally Preferred Alternative for the South 35th Avenue Corridor Extension Project - Miranda Lange, PW Infrastructure Deputy Director**

VII. PUBLIC COMMENT

Anyone requesting to speak to the Council regarding all items not subject to a specific Public Hearing may come forward at this time. Please state your name and limit comments to three minutes. Written comments may be submitted to the Clerk prior to the meeting.

VIII. COUNCIL/PRESIDING OFFICER/STAFF REPORTS

- 1. Council**
- 2. Mayor**
- 3. City Manager**

IX. ADJOURN

**CITY OF RIDGEFIELD
REQUEST FOR COUNCIL ACTION**

MEETING DATE: September 24, 2026

AGENDA ITEM NAME: Approval of Claims And/Or Payroll

GOVERNING LEGISLATION

PREVIOUS COUNCIL ACTION TAKEN:

SUMMARY/BACKGROUND:

BUDGET/FINANCIAL IMPACTS:

RECOMMENDED ACTION OR MOTION:

STAFF CONTACT:

ATTACHMENTS:

None

**CITY OF RIDGEFIELD
REQUEST FOR COUNCIL ACTION**

MEETING DATE: September 24, 2026

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SUMMARY/BACKGROUND:

BUDGET/FINANCIAL IMPACTS:

RECOMMENDED ACTION OR MOTION:

STAFF CONTACT:

ATTACHMENTS:

None

CITY OF RIDGEFIELD
REQUEST FOR COUNCIL ACTION

MEETING DATE: September 24, 2026

AGENDA ITEM NAME: Motion – Selection of the Locally Preferred Alternative for the South 35th Avenue Corridor Extension Project

GOVERNING LEGISLATION

Revised Code of Washington Title 35 – Cities and Town, Title 35A Optional Municipal Code
RCW Title 39 Public Contracts and Indebtedness
City Financial Policy #04: Procurement of Goods and Services

PREVIOUS COUNCIL ACTION TAKEN:

Council approved a contract with the consultant WSP on May 22, 2025, to study three alternatives, the red, the green, and the no-build option for the South 35th Avenue Corridor Extension project.

SUMMARY/BACKGROUND:

The project evaluates a new connection from South 10th Way to Pioneer Street. The project has been planned since the late 2000s, where previous studies indicated that long-term improvements to the Pioneer Street/Bertsinger Road intersection, and the Pioneer Street/Reiman Road intersection nearby, would be expensive and may not resolve future transportation mobility and congestion issues in the Gee Creek Plateau subarea. The previously completed Gee Cree Plateau Subarea Plan indicated the 35th Avenue corridor improvements as the primary circulation route through the subarea.

An alternatives analysis was completed in 2024, culminating with Council taking action in December 2024 to carry forward two “Build” alternatives, now known as the “red” or “green” alternatives, into this environmental stage of the project. The criteria used during the alternatives analysis are anticipated to also be carried forward into the environmental stage:

- Minimize impacts to existing properties, communities, natural features, wetlands, oak habitat, and fish-bearing streams.
- Preserve identified historic structures and determine additional areas of historical significance.
- Create a new connection that follows property lines where possible to avoid splitting up land parcels, maximize multimodal connectivity, and further connects existing roads and pedestrian facilities.

Council selected the red, green, and no-build alternatives to move forward for an environmental review. A consultant contract with WSP was awarded in 2025 for \$850,000. The project conducted environmental studies, completed stakeholder engagement, and compiled and analyzed data for Council to determine the Locally Preferred Alternative.

This decision will determine what phase 2 of the project will be, which may include preliminary engineering, permits and right-of-way planning, with completion targeted by 2030. The project is funded in part by traffic impact fees collected since 2022.

The red and green alternatives are shown on the map below.



BUDGET/FINANCIAL IMPACTS:

None

RECOMMENDED ACTION OR MOTION:

Council action is requested on this item at the second hearing.

A suggested motion is: "I move to approve the _____ (Red, Green, or No Build) alternative as the locally preferred alternative.

STAFF CONTACT: Miranda Lange, Public Works Infrastructure Deputy Director

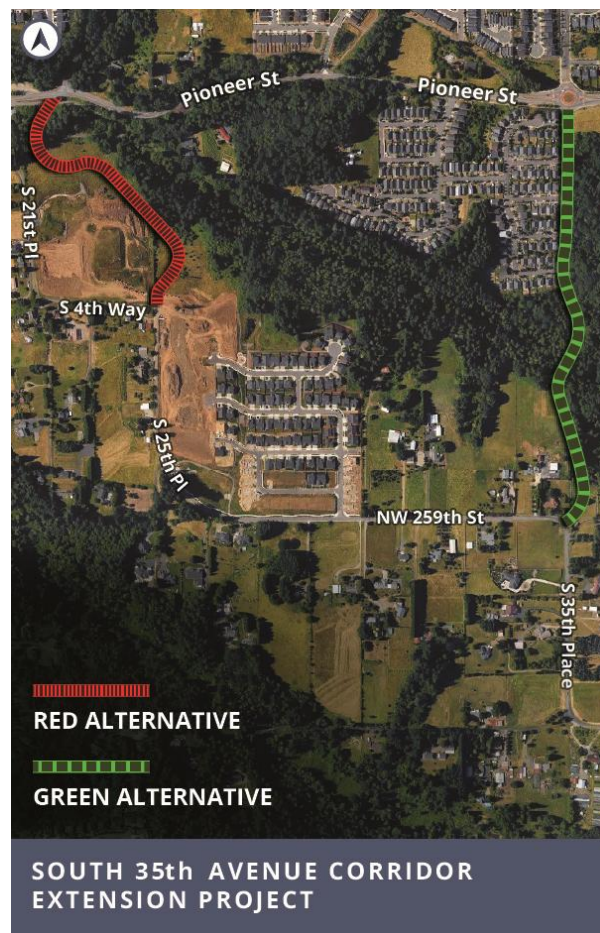
ATTACHMENTS:

1. Staff Report
2. Gee Creek Plateau Extension Pre-NEPA Report
3. Gee Creek Plateau City Council Hearing 09102026 Presentation
4. Gee Creek Plateau Screening Criteria Framework

CITY OF RIDGEFIELD

35TH AVENUE AND GEE CREEK PLATEAU EXTENSION PROJECT

PRE-NEPA/SEPA ANALYSIS REPORT





35TH AVENUE AND GEE CREEK PLATEAU EXTENSION PROJECT

PRE-NEPA/SEPA ANALYSIS REPORT CITY OF RIDGEFIELD

MAY 2026

WSP



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APPENDICES

A	COMMUNITY ENGAGEMENT SUMMARIES
B	PRELIMINARY TRANSPORTATION ANALYSIS
C	GEOTECHNICAL ENGINEERING FEASIBILITY STUDY



ACRONYMS

ADU	accessory dwelling unit
AINW	Archaeological Investigations Northwest, Inc.
APE	area of potential effect
CARA	critical aquifer recharge area
CCC	Clark County Codes
CFR	Code of Federal Regulations
City	City of Ridgefield
dBA	A-weighted decibel
DNR	Department of Natural Resources
ELS	Ecological Land Services
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
GMA	Growth Management Act
LPA	locally preferred alternative
NEPA	National Environmental Protection Act
NRHP	National Register of Historic Places
PBS	PBS Engineering and Environmental
RMC	Ridgefield Municipal Code
ROW	right-of-way
RUGA	Ridgefield Urban Growth Area
SEPA	State Environmental Protection Act
UL	Urban Low Density
UM	Urban Medium Density
WDFW	Washington Department of Fish & Wildlife
WSDOT	Washington State Department of Transportation

1 INTRODUCTION

1.1 BACKGROUND

The Gee Creek Plateau, covering approximately 355 acres, is located in the geographic center of Ridgefield. Gee Creek Plateau is currently within Clark County and is surrounded on all sides by Ridgefield city limits. The City of Ridgefield (City) is working with property owners to make sure that as the Plateau becomes part of the city, development of the area reflects the vision and desires of current property owners and provides a connection to Ridgefield's history and a path to a shared future. In the late 2010s, development started to pick up in the city and as new subdivisions developed, road improvements were made to South 15th Street to South Royle Road, which increased connectivity to the Gee Creek Plateau Subarea. Development in and around the subarea has continued, and roadway improvements are still needed to provide additional connections from the subarea to the rest of the city.

In 2023, the City contracted with PBS Engineering and Environmental (PBS) (now Apex Companies, LLC) to provide an engineering analysis of potential transportation routes that could meet the City's and current residents' goals for the Gee Creek Plateau Subarea. Multiple route options were developed during the alternatives analysis process. The alternatives analysis included public outreach, including three neighborhood meetings, several stakeholder interviews, and two public open houses. After development of the alternative and conducting public outreach, PBS evaluated each of the alternative route options based on the following baseline and contextual needs:

- Capacity for various route options to minimize impacts to existing properties, communities, natural features, wetlands, oak habitat, and fish-bearing streams.
- Preservation of historic structures and additional areas of historical significance.
- Creation of a new connection that follows property lines to avoid splitting parcels, maximizes multimodal connectivity, and further connects existing roads and pedestrian facilities.

The Ridgefield City Council decided to proceed with further analysis of two alternatives, Red and Green to further assess the potential environmental, transportation, and community impacts. This report provides a planning-level analysis of the Red and Green Alternatives and describes the potential impacts from each alternative on different aspects of the built and natural environment. The Red and Green Alternatives are further described in Section 1.3 below and Section 2 provides an overview of potential impacts. The information included in this report will assist the City Council with selection of a locally preferred alternative (LPA). The LPA will then be further analyzed consistent with the National Environmental Policy Act (NEPA) and State Environmental Policy Act (SEPA). NEPA is required for this project because federal funding is anticipated. SEPA is required for compliance with state regulations.

1.2 PURPOSE AND NEED OF THE PROJECT

Under NEPA, a purpose and need statement explains why a proposed action, in this case building a new roadway, is necessary despite its costs and potential environmental impacts. This statement clarifies the issues that could arise if the project does not move forward and helps narrow down which alternatives should be considered.

The purpose of the South 35th Avenue Corridor Extension Project is to enhance connectivity and resilience between the Gee Creek Plateau Subarea and the city of Ridgefield for all transportation modes, improve the capacity and safety of transportation facilities, and balance long-term land use objectives for the area with potential impacts to current residents.

Enhance Connectivity and Resilience

A direct route between the Gee Creek Plateau Subarea and Pioneer Street is needed to address the limited options for accessing the other parts of Ridgefield on the existing transportation network and to provide better community connectivity. Creating a direct route in and out of the subarea will increase community resilience by providing an additional evacuation route for emergency responses.

Improve Capacity and Safety

Improvements to existing transportation facilities and expansion capacity of the current transportation system are needed to ensure compliance with the City's adopted mobility standards, serve travel demand, account for the movement of both people and vehicles in compliance with the City's Complete Streets policy, and maintain safe and efficient operations as traffic volumes are anticipated to increase in the future.

Balance Long-term Land Use Objectives and Potential Impacts

The City needs to accommodate projected residential growth within the subarea by improving the transportation system. These improvements require a balanced approach to address the needs of the transportation system while avoiding or minimizing impacts to property owners and natural environments.

1.3 STUDY AREA

The Red and Green Alternatives, shown in **Figure 1** below, differ in alignment, connectivity, and travel efficiency, offering distinct benefits. The following summarizes each alternative's proposed route and key connections.

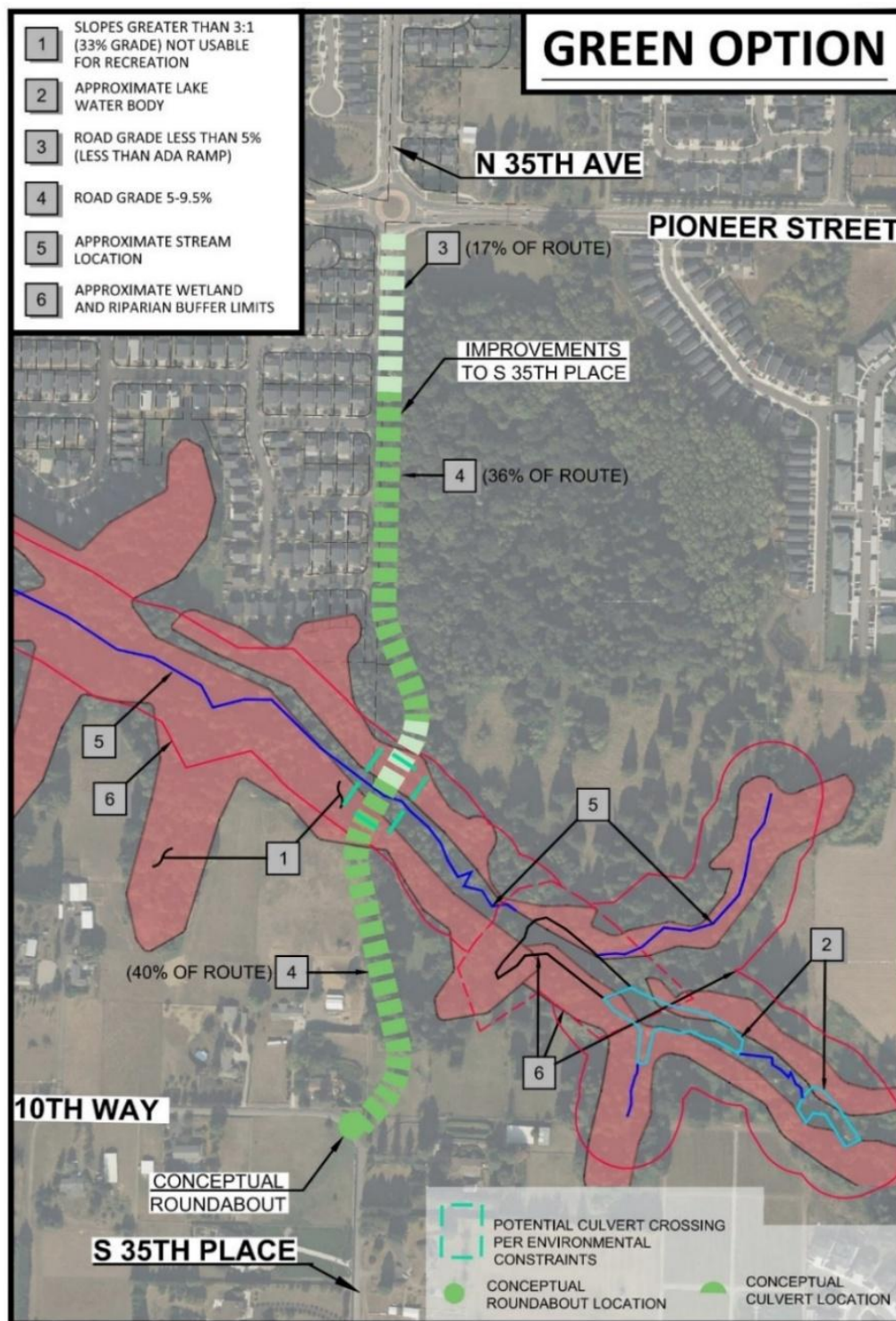
Figure 1. Project Vicinity



Green Alternative

The Green Alternative would provide a direct route from the north and south, as shown in **Figure 2** below. It would start at the intersection of South 10th Way/NW 259th Street and South 35th Place, heading north and connecting with 35th Avenue at Pioneer Street.

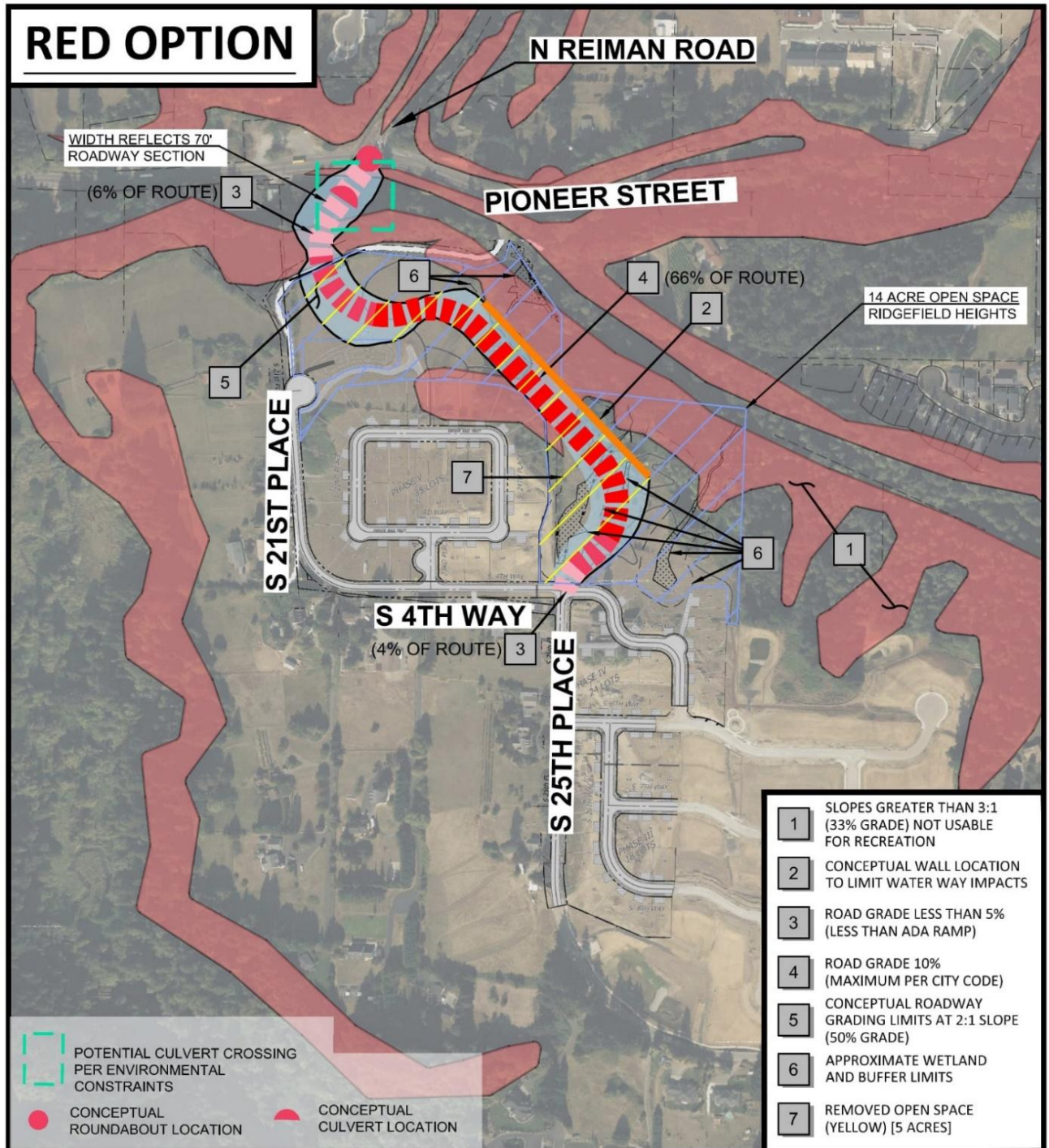
Figure 2. Green Alternative Study Area



Red Alternative

The Red Alternative would connect with Pioneer Street at the intersection of North Rieman Road. The road would head south from the intersection, turn southeast around the Ridgefield Heights development, and turn south and connect at the intersection of South Fourth Way and South 25th Place, as shown in **Figure 3** below.

Figure 3. Red Alternative Study Area



1.4 COMMUNITY ENGAGEMENT

The planning for this project began nearly 20 years ago in anticipation for the Gee Creek Plateau Subarea. In 2017, the City worked with the community to prepare the Gee Creek Plateau Subarea Plan that established the vision and future zoning and identified the 35th Avenue extension as a necessary roadway to support future growth. In early 2023, the alternatives analysis included three neighborhood meetings, stakeholder interviews, and two public open houses to obtain community feedback. Based on the input and suggestions heard at those meetings, several alignment options were developed for the community to review. City Council then selected the two alternatives (Red and Green) to move forward for further analysis.

Following the identification of the two primary alternatives, the City conducted additional outreach during the initial stage of this pre-NEPA/SEPA process. The project team engaged the community through a series of individual and group interviews with approximately 40 residents, including those from Cedar Ridge and Ridgefield Heights neighborhoods, as well as private landowners and long-term residents in the Gee Creek Plateau Subarea. These sessions were held at various local venues and provided an overview of the 35th Avenue Corridor Extension Project, inviting participants to share their goals, concerns, and suggestions. Interview questions centered on residents' history in the area, project interests, desired outcomes, perceived benefits, suggestions for improvements, environmental concerns, and alignment with local planning goals.

In addition, the City hosted a community open house in early March 2026 to present preliminary findings and gather input from the broader community. The open house provided an opportunity for community members to review project information, ask questions, and provide feedback to help inform ongoing project development. The open house materials were also posted online to extend opportunities for input.

Through these conversations, community members emphasized that increasing connectivity and improving infrastructure are primary goals, with each alternative offering distinct advantages and concerns, as outlined below in [Table 1](#). Across both alternatives, participants highlighted the importance of safety measures, enhanced pedestrian and bicycle facilities, and traffic calming to balance connectivity with residents' well-being. Many community members also expressed concern about avoiding impacts to existing wildlife and habitat.

Overall, most community members expressed a preference for the Green Alternative. It was generally favored for providing a more direct connection to I-5 and for supporting walkability and intentional greenspace planning, although residents noted potential safety considerations and greater impacts to existing property owners. Community members also commented that the Green Alternative aligns more closely with the City's transportation plans. The Red Alternative was also supported by some participants for its potential to create a second access point and enhance multimodal infrastructure, though concerns were raised about environmental constraints and long-term traffic performance.

Appendix A includes a detailed summary of the initial community engagement activities and the key themes raised. Ongoing opportunities for community input will be provided during planning and design to ensure the Council-selected locally preferred alternative truly reflects local values and addresses community priorities and concerns.

Table 1. Summary of Community Objectives

	Red Alternative	Green Alternative
Perceived Benefits	- Provides a second access to Pioneer Street; extension further west offers broader community advantages. - Creates a more direct route and may reduce traffic diversion along South 10th Avenue. - Reiman Road lacks sidewalks and bike lanes; Red Alternative may encourage new multimodal infrastructure.	- Majority of comments favored the Green Alternative - Provides a third access to Pioneer Street; Bertsinger would remain restricted to emergency access and local traffic only. - Directly links neighborhoods and integrates with existing sidewalks and bike lanes. - Flatter terrain allows for more intentional greenspace planning.
Community Concerns	- Limited integration with current sidewalks and bike lanes. - Significant environmental constraints, including unstable terrain, stream crossings, wetlands, open spaces, and trails. - Higher infrastructure costs. - Alignment would deviate from the original development vision. - Impacts to view corridor for Ridgefield Heights residents. - Concerns that it may not adequately address long-term traffic needs.	- Safety risks to children in Cedar Ridge neighborhood. - Higher traffic speeds due to sloped terrain and straight alignment. - Could lead to future development east of 35th and impacts to the desired natural setting. - Impacts on local wildlife, wetlands, noise, pollution, and air quality during construction. - Would cross private property, affecting individual property owners and residents.

1.5 PLANNING CONTEXT

The purpose of this pre-NEPA/SEPA analysis is to assess current environmental conditions, identify the potential impacts of both the Green and Red Alternatives, and determine how each alignment addresses the project's stated purpose and need. This initial evaluation offers planning-level insights to support informed decision making, identify possible impacts and risks, and facilitate the selection of a LPA prior to continuing with a formal environmental review process to comply with NEPA and SEPA. After an LPA is chosen, the environmental review will include a detailed analysis of the LPA, as well as a no-build alternative.

Once an LPA is selected, the City will consult with the Washington State Department of Transportation (WSDOT) and Federal Highway Administration to determine the NEPA class of action¹, which will determine the level of environmental analysis needed for the project. As the environmental review is conducted, the City will continue to coordinate with both agencies, the Ridgefield City Council, and the community. At the same time, the City will prepare a biological assessment to determine the potential effects on endangered species and critical habitat.

¹ Under NEPA, a “class of action” refers to the level of environmental review required for a proposed action. The three classes of action are: Categorical Exclusion, Environmental Assessment, or Environmental Impact Statement.

2 EXISTING CONDITIONS AND POTENTIAL IMPACTS

Existing data sources were used to assess current conditions and evaluate planning-level impacts for the Red and Green Alternatives. The process included collecting preliminary traffic counts at key intersections, completing a geotechnical analysis based on recent investigations, and performing a desktop review of land use to identify noise-sensitive land uses. In addition, previously documented environmental factors, such as critical areas, cultural and archaeological resources, land use, and parks and recreational assets, were verified through comprehensive desktop reviews, primarily informed by Clark County MapsOnline data (Clark County Geographic Information Services). The following summarizes the environmental conditions and assesses how each alternative aligns with the project's purpose and need.

2.1 TRANSPORTATION ANALYSIS

2.1.1 SCOPE OF STUDY

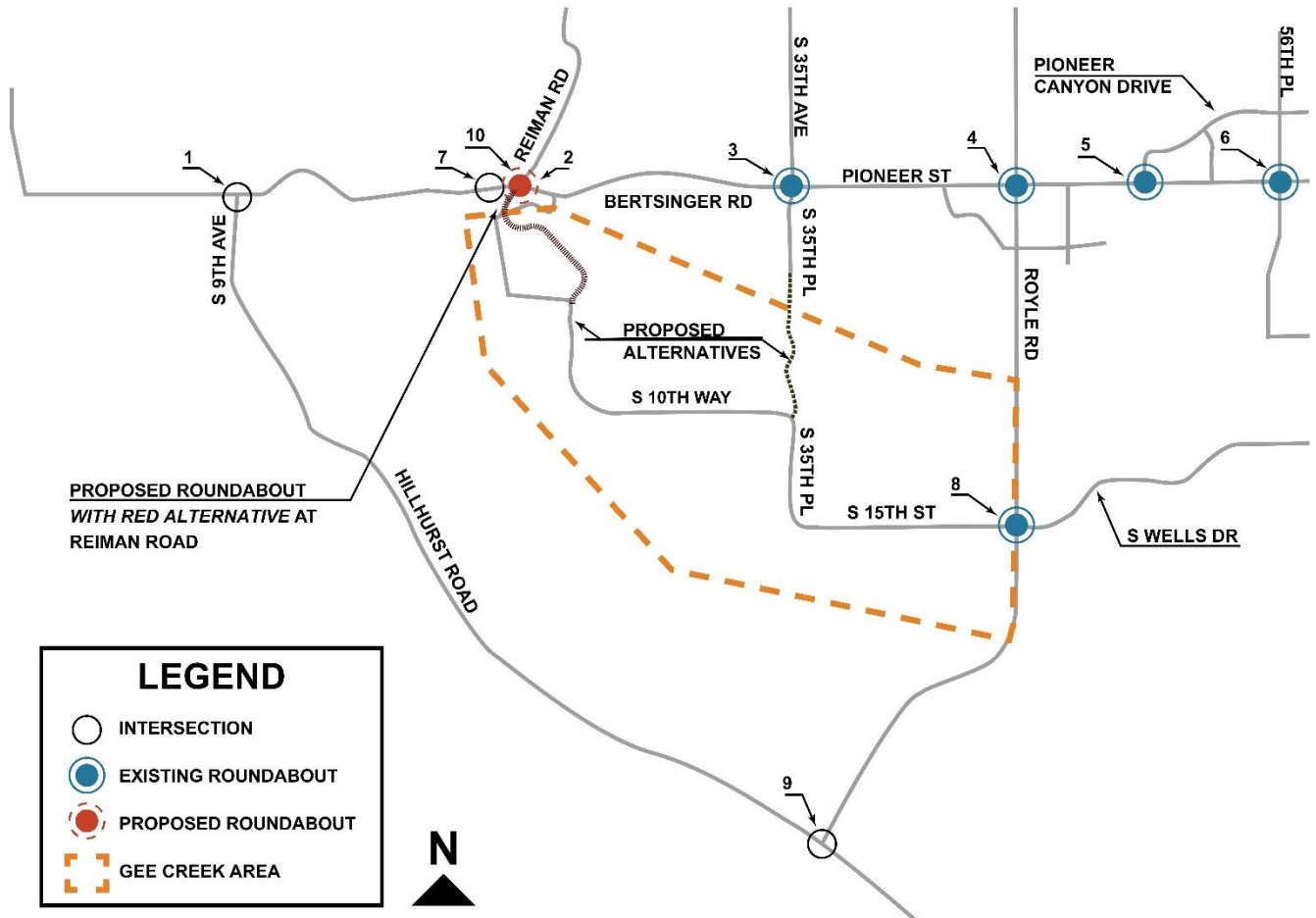
Apex conducted a preliminary transportation analysis to assess the current and future conditions, as well as multimodal impacts, for each alternative. The study examined existing vehicle, bicycle, and pedestrian facilities along the proposed corridors, and projected 2040 conditions with and without (No-Build) the alternatives at key intersections. The study also included an analysis of trip distribution within the Gee Creek Plateau to determine which alternative minimized east-west traffic on local roads. See Appendix B for the full report.

The 2040 conditions were based on traffic model volumes provided by the Southwest Washington Regional Transportation Council. The traffic modeling assumed that the Red Alternative will also include a roundabout that realigns the Reiman Road / Pioneer Street and Bertsinger Road intersections, and that, under the Green Alternative, Bertsinger Road will remain in its current aligned and will continue to be restricted for local access only. The traffic analysis included existing and planned facilities, traffic data, safety, and intersection operations at the following locations, as shown in **Figure 4**:

- South Ninth Avenue/Pioneer Street
- Pioneer Street/Reiman Road
- North 35th Avenue/Pioneer Street
- South Royle Road/Pioneer Street
- Pioneer Canyon Drive/Pioneer Street
- 56th Place/Pioneer Street
- Bertsinger Road/Pioneer Street
- South Royle Road/South Wells Drive
- Hillhurst Road/Royle Road
- Bertsinger Road and Reiman Road/Pioneer Street²

² Represents a proposed intersection to model possible future conditions.

Figure 4. Transportation Analysis Intersections



2.1.2 POTENTIAL IMPACTS

The analysis found that both the Green and Red Alternatives would support future transportation demand in the Gee Creek Plateau area. All studied intersections are anticipated to operate at satisfactory service levels in accordance with WSDOT and City standards under the Red and Green build scenarios for 2040, except for the Royle Road and Pioneer Street intersection. For all 2040 Build conditions, increased delays at this intersection are expected, primarily due to significant westbound left-turn and through traffic volumes within the roundabout. The Green Alternative would provide minor or negligible operational benefits at the other study intersections, while the Red Alternative substantially improves operations at the Reiman Road and Pioneer Street intersection through construction of a single-lane roundabout. The Red Alternative would provide only minor or negligible changes at the other study intersections.

The analysis found that converting the Reiman Road and Pioneer Street intersection to a single-lane roundabout, as proposed with the Red Alternative, is projected to reduce five-year collisions from 7 to 2 by 2040 and lower the collision rate from 0.27 to 0.08 per million entering vehicles at that intersection.

Based on the traffic modeling, the preliminary analysis found that the Green Alternative would serve a larger portion of the Gee Creek Plateau area due to its central location and broader access to future development, while the Red Alternative would more effectively address existing traffic conditions in the subarea by diverting

east-bound trips from South 10th Way. Assuming no feasibility constraints, a combined Red and Green Alternative would ultimately provide the greatest overall benefit to mobility and connectivity within the Gee Creek Plateau.

A detailed summary of the transportation analysis is included in Appendix B.

2.2 LAND USE AND PARKS AND RECREATION

Land use planning in Clark County is guided by the Growth Management Act (GMA), which was adopted to ensure that development occurs in a planned manner, that there are adequate services available, and that critical resources are protected. The GMA requires that jurisdictions establish land use designations and growth boundaries to guide development and ensure that the land supply can accommodate projected demands for housing and employment. The City maintains a comprehensive plan that outlines land use designations to address future demand and encompasses both existing and planned roadways. The transportation element of the comprehensive plan establishes goals and policies to create and maintain an adequate and efficient transportation system that supports efficient land use patterns. The Ridgefield City Council relies on the comprehensive plan to evaluate how upcoming projects will integrate with and affect citywide traffic patterns.

2.2.1 EXISTING CONDITIONS

Because Gee Creek is within the center of the city, both alternatives are within the Ridgefield Urban Growth Area (RUGA). A portion of the Green Alternative is within city limits, but the southern terminus is outside the city limits and is within Clark County jurisdiction with County comprehensive plan designations and zones. The City is currently in the process of updating its comprehensive plan and as part of this process, the preferred land use scenario (as of October 2025) assumes the annexation of the Gee Creek Subarea. The Gee Creek Plateau Subarea Plan was adopted by Ridgefield City Council with Ordinance No. 1252 on December 7, 2017. Annexation of the Gee Creek Subarea is pursuant to the Revised Code of Washington (RCW) 35A.14.120 and must be initiated by landowners with 60 percent or more of the assessed property value within the proposed annexed area. Annexation can occur in phases or the entire subarea can be annexed at one time. The timing and sequence of annexation will be driven by property owners' interest in developing their property and connecting to City services.

Currently, the Green Alternative includes two City comprehensive plan designations; Urban Low Density Residential (UL) and Urban Medium Density Residential (UM). The portion of the project area outside city limits is zoned as Single-Family Residential (R1-6). Most of the project area is designated UL, and properties west of North 35th Avenue from the northern project limit to South Second Way are designated UM. As of October 2025, the Ridgefield City Council's preferred comprehensive plan update anticipates that this area outside city limits along the Green Alternative corridor would be annexed and rezoned to low-density residential.

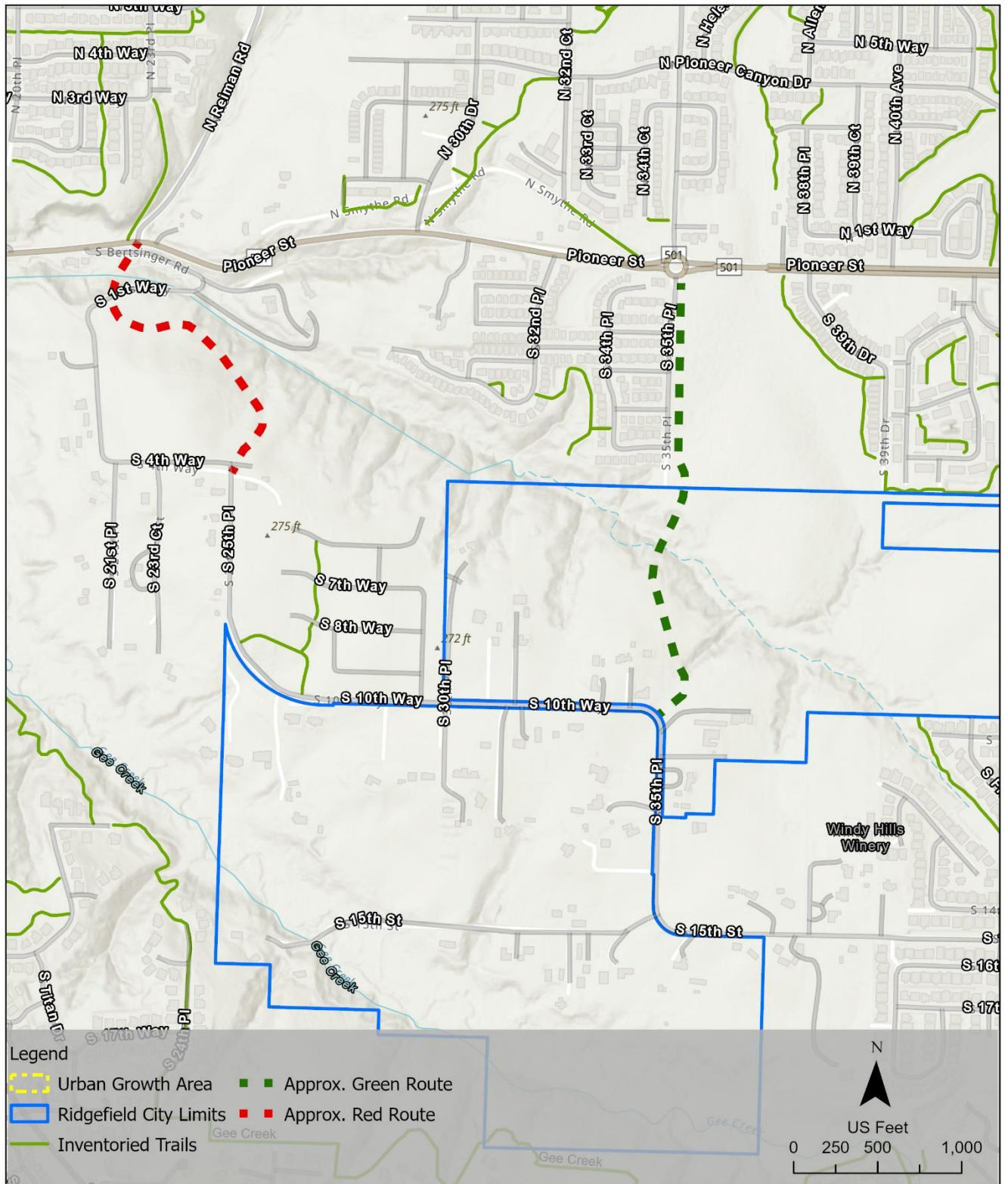
The entirety of the Red Alternative corridor is within Ridgefield city limits. The Red Alternative is entirely designated UL. No changes to the land use designations are proposed within the Red Alternative corridor related to the comprehensive plan's preferred land use alternative. **Table 2** below summarizes the permitted uses for each land use designation affected by either option. Transportation infrastructure is allowed in all zones.

Table 2. Permittable Uses by Comprehensive Plan Designation

Comprehensive Plan Designation and Regulating Code	Permittable Uses	Impacted Alternative
Single-Family Residential CCC 40.220.010	Primarily for residential uses, including single-family detached, accessory uses, duplex, triplex, quadplex, townhome, family daycare centers, adult family homes, home businesses, cottage housing, and some temporary dwellings Commercial uses, including temporary sales offices, model homes, farm stands, and agricultural market Public facilities, including school, parks or trails, limited infrastructure and public facilities Other uses subject to conditional use reviews	Green Alternative
Urban Low Density Residential Ridgefield Municipal Code (RMC) 18.210	Primarily for residential uses, including single-family detached, cottage housing, duplex, triplex, townhome, accessory dwelling unit (ADU), home occupation, manufactured home park, and use temporary lodging uses Residential uses permitted at maximum density of 4 units per acre within the RLD-4 and RLD-6 zones and 6 units per acre in the RLD-8 zone Some limited uses, including EV infrastructure, daycare facilities Public facilities, including parks or trails, limited infrastructure and public facilities Other uses subject to conditional use reviews	Green Alternative Red Alternative
Urban Medium Density Residential RMC 18.220	Primarily for medium-density residential, including single-family detached, cottage housing, duplex, triplex, townhouse, ADU, home occupation, multifamily residential, manufactured home park, community residential facilities, and some temporary lodging uses Residential uses permitted at maximum density of 16 units per acre Some limited uses, including EV infrastructure, daycare facilities Public facilities, including parks or trails, limited infrastructure and public facilities Other uses subject to conditional use reviews	Red Alternative

There are no existing parks within the Green or Red Alternative project areas. The Green Alternative is within a half-mile walkshed of the Cedar Ridge open space. The Red Alternative corridor is within a 1-mile walkshed of the nearest park or open space. The City's 2020 Parks, Recreation, and Open Space Plan identified target areas for future parkland acquisition near the southern termini of both routes. An existing trail is located at the northern end of the Green Alternative corridor through a residential area, providing a connection to Pioneer Street. Similarly, an existing trail north of the Red Alternative corridor just west of North Reiman Road also connects to Pioneer Street, shown in **Figure 5**. In addition, there is an existing trail in the Ridgefield Heights neighborhood. Neither alternative would cross or directly impact the existing trails; however the proposed alignments would improve access to the local trail network.

Figure 5. Existing Trail Network



2.2.2 POTENTIAL IMPACTS

A 70-foot right-of-way (ROW) would require approximately 2.7 acres of land acquisition for either alternative. For both alternatives, this will result in the conversion of residentially zoned land for public ROW. The Green Alternative includes areas outside current city limits, which may be annexed and rezoned in the future and would likely increase the allowed residential development in the area. However, converting residential land to public ROW will reduce the amount of land available for housing in the future. This reduction is slightly greater under the Green Alternative than the Red Alternative because of the differences in housing densities permitted by City zoning. The proposed roadway is a public facility that is permitted in all affected zones. However, the construction of a new arterial may change the character of residential neighborhoods and affect the market value of nearby residential developments.

Because neither alternative spans an existing park, direct impacts to parks are not anticipated. Both alternatives are near areas targeted for future parkland acquisition and could be potential land use conflicts if roadway alignment overlaps with future park boundaries. The existing trails at the northern end of both alternatives and within Ridgefield Heights could experience increased use and require realignment if construction affects their paths. At a minimum, safe trail user crossings would need to be considered where the alignments intersect with the trails. Construction activities may temporarily disrupt trail access or connectivity. If the roadway alignment is close to the trail, there may be concerns about safety, noise, or visual impacts. Both alternatives would improve the roadway connectivity, which could enhance access to parks and trails for residents.

2.3 NOISE

Noise impacts are identified when “predicted traffic noise levels approach or exceed the Noise Abatement Criteria, or when the predicted traffic noise levels in the design year will substantially exceed the existing condition noise levels.”³ This project meets the definition of a Type I project as established in 23 CFR 772 and defined in the WSDOT Traffic and Noise Policy and Procedures (WSDOT, 2020) because the project improvements include construction of new through lanes in a new location. Therefore, during NEPA review, the project will be required to analyze traffic noise and any associated effects.

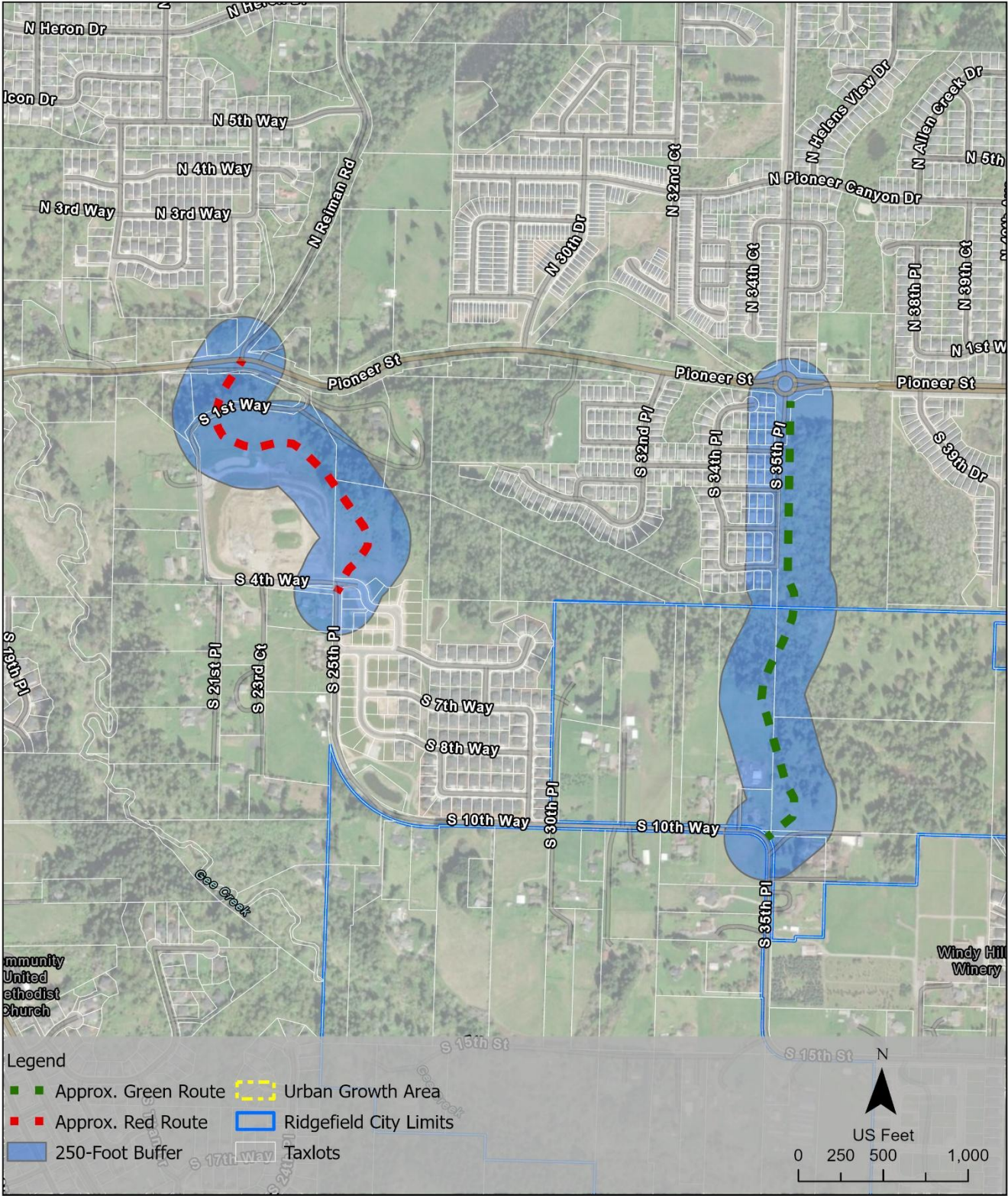
2.3.1 EXISTING CONDITIONS

The primary noise-sensitive uses within the project area are residential developments. Other noise-sensitive receptors present in the corridor include trail crossings and recreational areas. Agricultural land and undeveloped properties within the corridor are not expected to be affected by increases in noise levels. A preliminary noise analysis used a 250-foot buffer around both alternatives to identify potentially affected properties, shown below in [Figure 6](#). Recent residential developments associated with Phase V of Ridgefield Heights are not shown in the figure below due to available aerial imagery; however, these developments are included in the following count of sensitive noise receptors. WSDOT standards consider noise receptors to be impacted when the worst hourly traffic noise is predicted to increase sound level of 10 dBA⁴ or more between the existing and Build conditions.

³ 23 CFR Part 772 – Procedures for Abatement of Highway Traffic

⁴ A-weighted decibels

Figure 6. Sensitive Noise Receptors



Within the Green Alternative corridor, residential uses are predominate, and recreational uses include an existing trail at the northern end of the Green Alternative corridor connecting to Pioneer Street and a neighborhood trail in the Cedar Ridge development connecting to 35th Avenue. **Table 3** summarizes noise-sensitive receptors located within 250-feet of the Green Alternative, grouped according to current land use types and noise standards (dBA) as outlined by WSDOT.

Table 3. Noise Receptors within 250 Feet of Green Alternative Corridor

Noise Receptor Category	Number of Impacted Properties	dBA at Evaluation Location
B: Residential (single- and multifamily units)	47	67
C: Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings	2	67
F: Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing	3	-
G: Undeveloped lands that are not permitted	-	-

The Red Alternative corridor is also predominately residential. Recreational uses include an existing trail just west of Reiman Road that connects to Pioneer Street, as well as an existing trail in the Ridgefield Heights neighborhood. **Table 4** summarizes the number of noise receptors located within 250 feet of the Red Alternative corridor that may experience elevated noise levels. These receptors are categorized by existing land use types and corresponding noise standards (dBA) as established by WSDOT.

Table 4. Noise Receptors within 250 Feet of Red Alternative Corridor

Noise Receptor Category	Number of Impacted Properties	dBA at Evaluation Location
B: Residential (single- and multifamily units)	30	67
C: Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings	5	67
F: Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing	3	-
G: Undeveloped lands that are not permitted	-	-

2.3.2 POTENTIAL IMPACTS

For both alternatives, the construction of a new traffic through-way would lead to new and increased traffic volumes and, consequently, increased noise levels in the affected corridors. Both alternatives require compliance with WSDOT and federal noise abatement criteria, which may require mitigation measures.

The Green Alternative is projected to affect a greater number of existing residential properties, with primary impacts concentrated on outdoor areas and side yards within the Cedar Ridge development. Notably, residences immediately adjacent to 35th Avenue are anticipated to experience increased noise levels in their exterior spaces. Additionally, the existing trail along Pioneer Street at the corridor's northern end may be subject to further impact; however, the current trail usage is already influenced by typical traffic noise from Pioneer Street.

The Red Alternative would have less noise impacts because a majority of the surrounding land is agricultural or undeveloped. However, as the Ridgefield Heights subdivision develops, those new residential properties constructed prior to the completion of the roadway extension will be impacted by traffic noise levels. Similar to the existing trail along Pioneer Street, current trail usage is exposed to typical traffic noise.

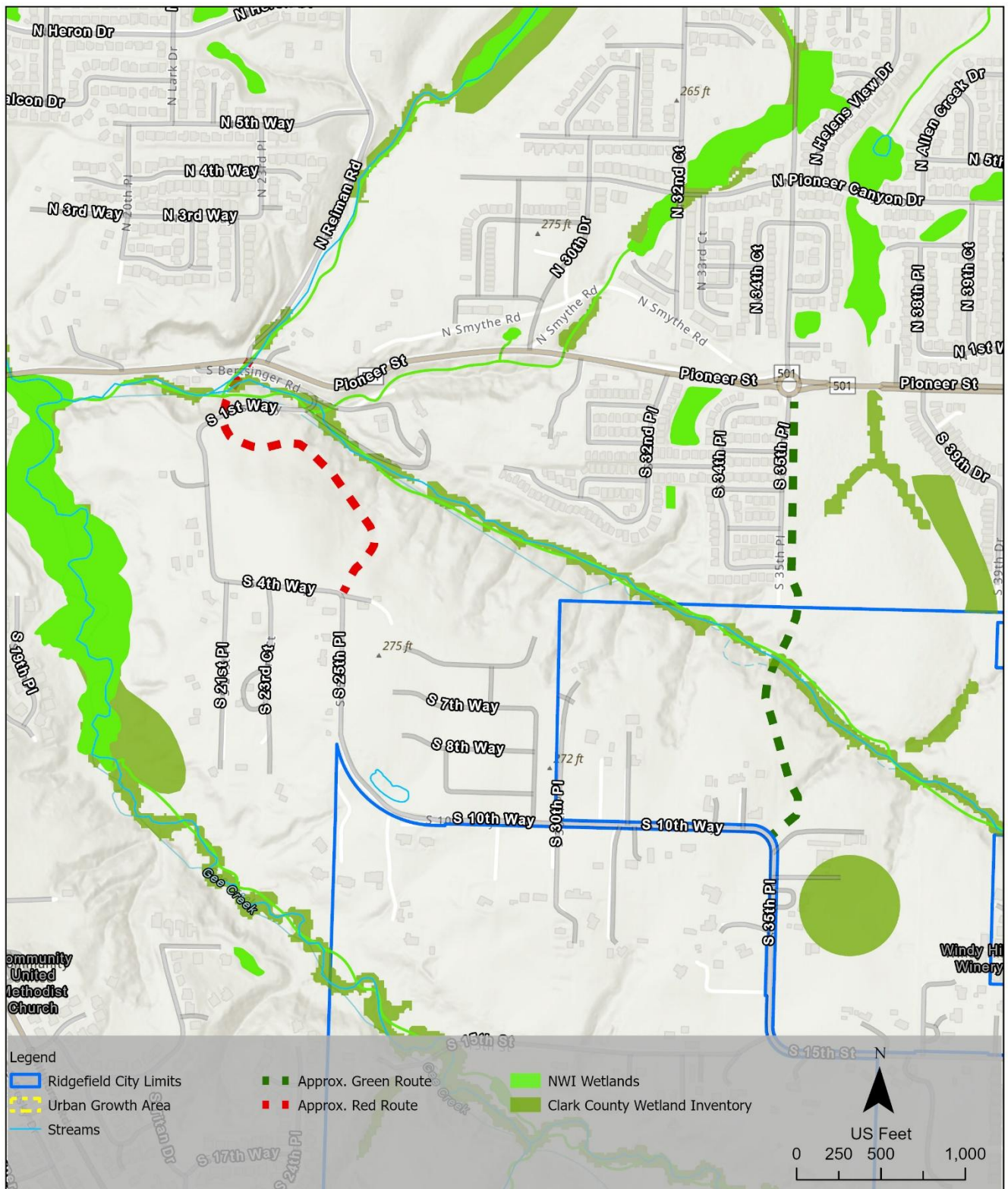
2.4 CRITICAL AREAS

The RCW 36.70A.060, RMC 18.280, and Clark County Codes (CCC) 40.410 through 40.445 establishes five kinds of critical areas that are afforded protections and adequate mitigations with proposed developments and resulting impacts. These critical areas are (1) critical aquifer recharge areas (CARAs), (2) flood hazard areas, (3) geologically hazardous areas (seismic, landslide, and erosion hazard areas), (4) fish and wildlife habitat conservation areas, and (5) wetlands. Both the Green and Red Alternatives include critical areas requiring protection and mitigation; these include wetlands, fish and wildlife habitat conservation areas, CARAs, and flood hazard areas. There are no designated shorelines, shoreline jurisdiction, or shorelines of statewide significance within the project areas that would be subject to the Ridgefield Shoreline Master Program, Clark County Shoreline Master Program, or the State's Shoreline Management Act. The following sections provide a comparison of the types and location of each critical area(s) that occur within the Red and Green Alternatives project areas. Geotechnical conditions and potential impacts are discussed below in Section 2.5.

2.4.1 WETLANDS AND OTHER WATERS

Wetlands and other waterbodies within the project areas may also include regulatory buffers to protect the functions of the water resources. Buffer widths will vary based on the quality of the resource and surrounding conditions as determined by RMC and CCC. An unnamed perennial stream runs through both project areas, shown in [Figure 7](#) below. This stream and its tributaries flow into Gee Creek. The Green Alternative would cross the stream over a culvert, and the Red Alternative would cross the stream over dual culverts. The Washington State Department of Natural Resources (DNR) data was analyzed to identify the presence of waterbodies in the project area for both alternatives. The Forest Practices Application Mapping Tool indicates that the unnamed stream is modeled as fish habitat, while its tributaries are not (DNR, 2025).

Figure 7. Wetlands and Other Waters



The preliminary alternative analysis completed by PBS in 2024 delineated wetlands in both areas, as shown outlined in red in [Figure 2](#) and [Figure 3](#). The National Wetlands Inventory identified riverine wetlands within both the Green and Red Alternatives project areas along the unnamed stream. Additionally, Clark County MapsOnline indicates potential wetlands east of the intersection of South 10th Way and South 35th Place within the Green Alternative project area, shown above in [Figure 7](#).

The preliminary alternative analysis report completed by PBS in 2024 found that the Green Alternative would require approximately 0.2 acres of wetland mitigation. A critical areas study conducted within the Ridgefield Heights area in 2015 by Ecological Land Services (ELS) confirmed the presence of Category II and Category III wetlands within proximity of the Red Alternative. The Categories II and III wetlands will require a 100-foot buffer, unless exempt, according to RMC 18.280.150 (ELS, 2015). However, additional analysis will be needed to confirm if current wetland conditions have been impacted by the Ridgefield Heights development. The Red Alternative would require approximately 0.3 acres of wetland mitigation.

Once an LPA is selected, wetland delineation will be conducted within the appropriate project area to determine the presence and location of wetlands that may be impacted. Additionally, any unavoidable impacts will be mitigated in accordance with federal, state, and local regulations.

2.4.2 FISH AND WILDLIFE HABITAT

The Washington Department of Fish and Wildlife (WDFW) maintains a list of Priority Habitats and Species, which includes species and habitats for which special conservation measures should be taken. Priority species require protective measures for their survival due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance. Priority habitats provide unique or significant value to a large number of species (WDFW, 2025a).

Two priority wildlife bat species are indicated as potentially present near both the Green and Red Alternatives: little brown bat (*Myotis lucifugus*) and Yuma myotis (*Myotis Yumanensis*). No bats were observed during an initial site visit in 2024, but it should be noted that they would not likely be observed during the daylight hours (PBS, 2024). The area represents good quality habitat for the bat species given the large amounts of open water where insects that serve as prey species for bats would be common. Neither species are designated federally as endangered, threatened, or sensitive.

Steelhead (*Oncorhynchus mykiss*) and coho salmon (*Oncorhynchus kisutch*) may be present during migration periods in the unnamed stream within 250 feet of the Red Alternative corridor. Steelhead is identified as a priority species by WDFW; however, it is not listed as threatened or endangered by the WDFW or Endangered Species Act (ESA) in the area. Coho salmon is listed as threatened by ESA.

Oak Woodland habitat may be found within 250 feet of the Red Alternative adjacent to the Reiman Road and Pioneer Street intersection. Oak Woodland habitat is also found within 250 feet of the Green Alternative, east of the existing 35th Avenue within the undeveloped property; although no development is anticipated within this property for the proposed roadway construction (WDFW, 2025b).

Once an LPA is selected, a habitat assessment will be conducted within the appropriate project area to determine the presence and location of any habitats or priority species that may be impacted. Any unavoidable impacts will be mitigated in accordance with state and local regulations.

This map illustrates the proposed Green and Red routes through the Ridgefield area, highlighting various land use and habitat conservation zones. The map includes a legend, a north arrow, and a scale bar in US feet.

Legend:

- Urban Growth Area (Yellow hatched area)
- Ridgefield City Limits (Blue outline)
- Streams (Blue line)
- Approx. Green Route (Green dashed line)
- Approx. Red Route (Red dashed line)
- Fish and Wildlife Habitat Conservation Areas:
 - Adjacent to Habitat Area (Blue outline)
 - Habitat Area (Blue hatched area)
 - Riparian Habitat Area (Green hatched area)

Map Features:

- Streets:** N 1st Way, N 3rd Way, N 4th Way, N 5th Way, N 6th Way, N 7th Way, N 8th Way, N 9th Way, N 10th Way, N 11th Way, N 12th Way, N 13th Way, N 14th Way, N 15th Way, N 16th Way, N 17th Way, N 18th Way, N 19th Way, N 20th Way, N 21st Way, N 22nd Way, N 23rd Way, N 24th Way, N 25th Way, N 26th Way, N 27th Way, N 28th Way, N 29th Way, N 30th Way, N 31st Way, N 32nd Way, N 33rd Way, N 34th Way, N 35th Way, N 36th Way, N 37th Way, N 38th Way, N 39th Way, N 40th Way, N 41st Way, N 42nd Way, N 43rd Way, N 44th Way, N 45th Way, N 46th Way, N 47th Way, N 48th Way, N 49th Way, N 50th Way, N 51st Way, N 52nd Way, N 53rd Way, N 54th Way, N 55th Way, N 56th Way, N 57th Way, N 58th Way, N 59th Way, N 60th Way, N 61st Way, N 62nd Way, N 63rd Way, N 64th Way, N 65th Way, N 66th Way, N 67th Way, N 68th Way, N 69th Way, N 70th Way, N 71st Way, N 72nd Way, N 73rd Way, N 74th Way, N 75th Way, N 76th Way, N 77th Way, N 78th Way, N 79th Way, N 80th Way, N 81st Way, N 82nd Way, N 83rd Way, N 84th Way, 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2.4.3 OTHER VEGETATION

Both alternatives consist of a mix of grassland and mature forest. A preliminary critical areas assessment of the Green Alternative found that there is a significant amount of large western red cedar (*Thuja plicata*) and Douglas fir (*Pseudotsuga menziesii*) trees. Some of these trees measured over 40 inches in diameter at breast height. Other dominant canopy species include red alder (*Alnus rubra*) and big-leaf maple (*Acer macrophyllum*). Canopy coverage approaches 100 percent throughout the forested areas, which are primarily just east of South 35th Place and the southern terminus. Shrub layer vegetation included vine maple (*Acer circinatum*), salmonberry (*Rubus spectabilis*), beaked hazelnut (*Corylus cornuta*), willow (*Salix* sp.), red elderberry (*Sambucus racemosa*), evergreen huckleberry (*Vaccinium ovatum*), tall Oregon grape (*Mahonia nervosa*), oceanspray (*Holodiscus discolor*), Pacific ninebark (*Physocarpus capitatus*), and Indian plum (*Oemleria cerasiformis*) (PBS, 2024).

Based on a survey conducted in 2007 of an area encompassing the Red Alternative, and confirmed via desktop survey of existing conditions, the Red Alternative project area is also likely to include western red cedar and Douglas fir trees. The forested areas are primarily located along North Reiman Road and Pioneer Street, and along the unnamed stream. Grass and shrub vegetation includes tall fescue (*Festuca arundinacea*), red clover (*Trifolium pratense*), common velvetgrass (*Holcus lanatus*), northern bentgrass (*Agrostis borealis*), Himalayan blackberry (*Rubus armenaicus*), common dandelion (*Taraxacum officinale*), raspberry (*Rubus* sp.), and orchardgrass (*Dactylis glomerata*). Low-lying areas in the project vicinity may also include reed canarygrass (*Phalaris arundinacea*), soft rush (*Juncus effusus*), salmonberry, creeping buttercup (*Ranunculus repens*), largeleaf avens (*Geum macrophyllum*), common velvetgrass (*Holcus lanatus*), Western red cedar, Douglas fir, American speedwell (*Veronica americana*), red alder, and stinging nettle (*Urtica dioica*) (ELS, 2007).

2.4.4 CRITICAL AQUIFER RECHARGE AREAS

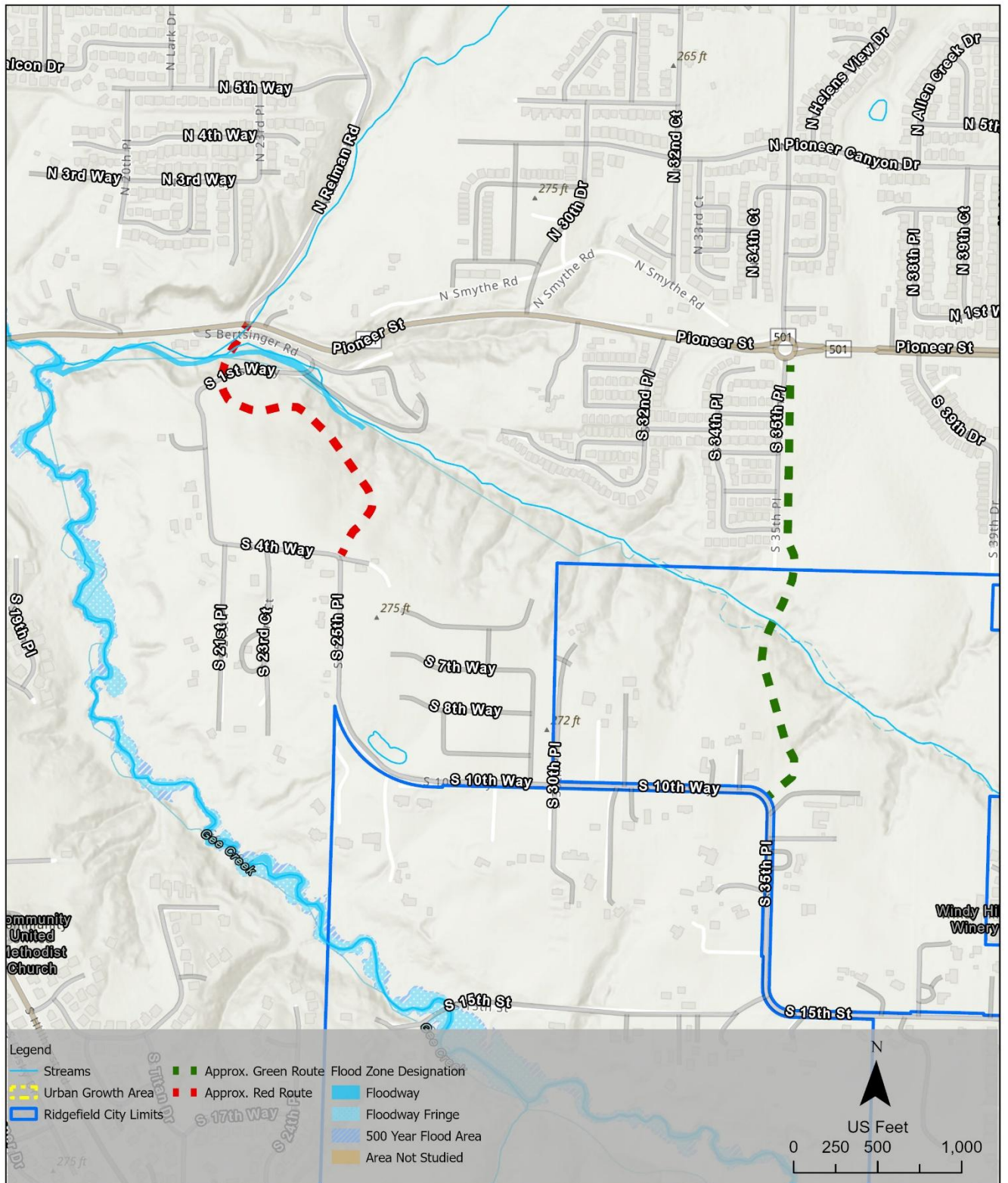
Both project areas are within a Category II CARA. CARAs are intended to prevent the degradation of, and where possible the enhancement of, the quality of groundwater. The area outside city limits along the Green Alternative is within a CARA-designated area by the county. There are no activities prohibited in this designation, but any construction will require a CARA permit. For either alignment, best management practices will be implemented to minimize effects of the roadway on groundwater.

2.4.5 FLOODPLAIN

The Green Alternative project area is not within a Federal Emergency Management Agency (FEMA) mapped regulatory floodway, and the area generally has minimal flood risk. The route will cross a ravine at a spot where the stream is thinnest and could be spanned with an appropriately sized culvert.

The Red Alternative project area does encompass a FEMA mapped regulatory floodway along the unnamed stream that feeds into Gee Creek, and would therefore be subject to floodplain permitting consistent with RMC Chapter 18.750. The mapped floodway is shown below in [Figure 9](#). The route would need to cross over the stream with dual culverts adequately sized to avoid any upstream flooding risks. Other than directly adjacent to the stream, the surrounding project area has minimal flood risk (FEMA, 2024).

Figure 9. Floodway



2.4.6 POTENTIAL IMPACTS

Both alternatives cross an unnamed perennial stream that flows into Gee Creek. Wetlands are present adjacent to the stream within both project areas, with additional potential wetlands near South 10th Way and South 35th Place in the Green Alternative corridor. Based on preliminary assessments, the Green Alternative would require approximately 0.2 acres of wetland mitigation, whereas the Red Alternative would require about 0.3 acres. Both the Green and Red Alternatives project areas are characterized by a mix of grassland and mature-to-old-growth forest, containing significant stands of western red cedar and Douglas fir, along with a diverse native shrub and herbaceous species. Development in these areas could result in the loss of important forest habitat and fragmentation of existing habitat corridors. Development of the Red Alternative may impact Oak Woodland habitat adjacent to the Reiman Road and Pioneer Street intersection. Both alternatives have the potential to impact two bat sensitive species; although future studies may be needed to confirm the presence of bats in the area. Additionally, the Red Alternative has the potential to impact coho salmon, which could occasionally be found in the project area during periods of migration. Once an alternative is selected, additional analysis will be completed to confirm the presence of Oak Woodland near the project area, particularly the Red Alternative. There is generally low flood risk for both the Green and Red Alternatives. However, crossing the unnamed stream through the Red Alternative would occur within a mapped floodway and would be subject to floodplain permitting.

2.5 GEOTECHNICAL CONDITIONS

Geotechnical hazards are defined as geologic or seismic conditions that could influence existing and/or proposed improvements. Hazards that could affect construction of the project are identified below and should be considered during the planning process, including:

- Slope stability
- Adverse soils
- Erosion and sedimentation
- Groundwater
- Other seismic hazards (i.e., liquefaction, lateral spreading, earthquake-induced landslides, ground shaking)

A preliminary geotechnical analysis and general construction considerations for both alternatives are detailed in Appendix C.

2.5.1 EXISTING CONDITIONS

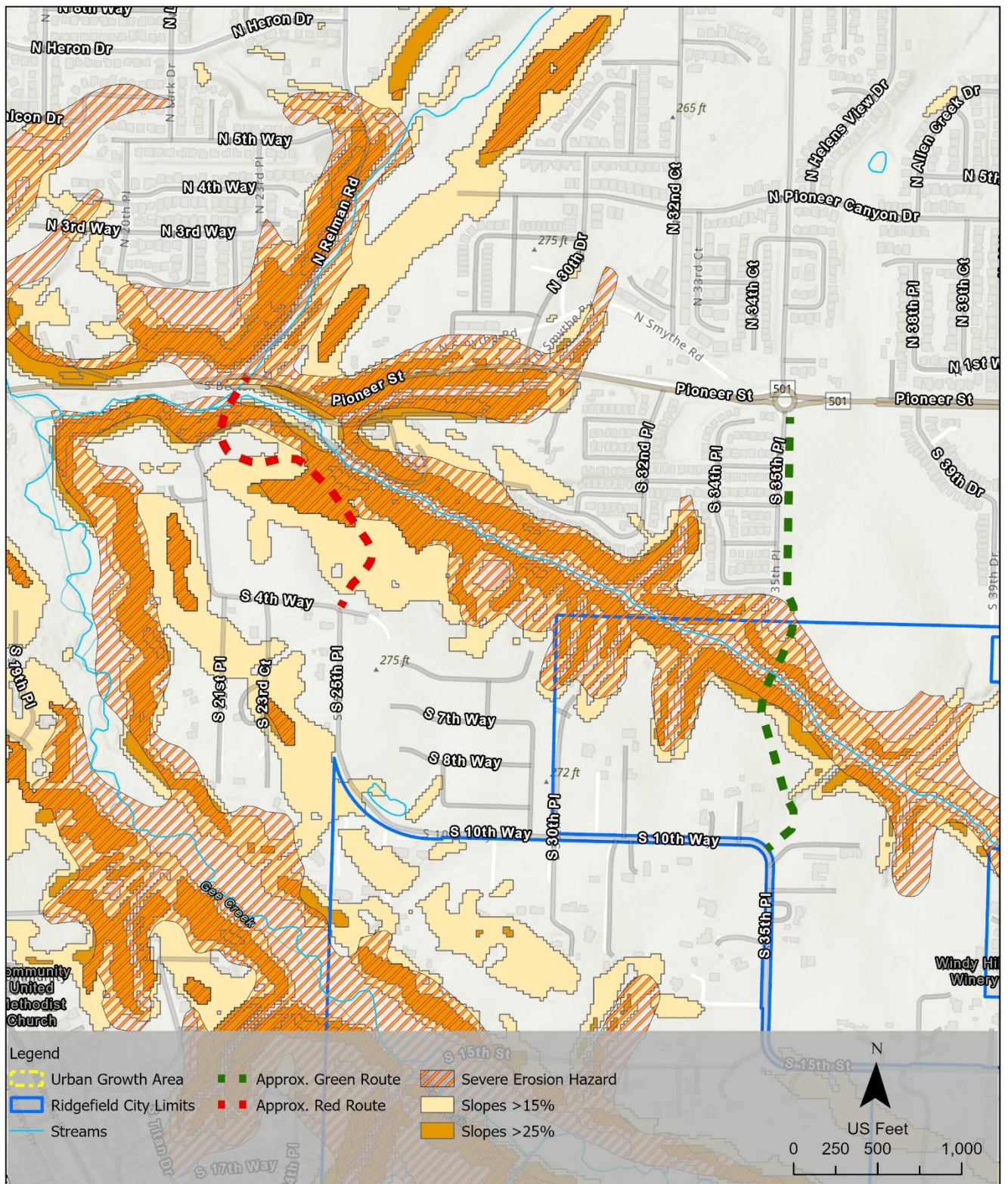
Both alignments are located within the northern Portland-Vancouver Basin and feature varied elevation changes, with slopes primarily descending along north- and south-facing Gee Creek tributaries. The geology is shaped by tectonic activity of the Cascadia Subduction Zone, resulting in a landscape governed by northwest-trending faults and the presence of Columbia River Basalt Group flows. The area has accumulated diverse sedimentary deposits, including widespread Troutdale Formation conglomerates and younger Quaternary deposits from repeated Pleistocene glacial floods, which have dramatically influenced the basin's modern topography.

Geologic mapping and subsurface investigations reveal layers of unconsolidated Missoula flood sediments, Holocene alluvium along stream channels, and semi-consolidated conglomerates and mudstone beneath. Prior test pits and boring logs adjacent to the alignments indicate localized fill and topsoil overlying fine-grained alluvium, with deeper layers of weathered conglomerate and sandy mudstone. Groundwater is perched at shallow depths in some areas, with regional groundwater levels typically ranging from 20 to 30 feet below the

surface but sometimes much deeper, and surface water is present along stream channels. Seasonal and climatic factors may cause fluctuations in groundwater levels throughout the year. Based on a review of geologic hazard maps and prior studies, the general risk of soil liquefaction for either alternative is considered low, though the possibility of encountering liquefiable soils is possible.

A review of Clark County GIS layers indicates two primary geologic hazards within the project areas: severe erosion hazards and steep slope hazards. According to CCC 40.430.010, steep slope hazard areas include those with slopes of 40 percent or greater where no landslide hazard is mapped. Landslide hazard areas within the project corridors are characterized by factors, such as previous slope failures, the combination of steep slopes (over 15 percent), specific soil and geologic conditions, groundwater presence, and areas noted as potentially unstable due to stream activity or location within canyons or alluvial fans. The general location of steep slopes and severe erosion hazard areas are shown below in **Figure 10**. There are steep slopes and severe erosion hazard areas along the majority of the proposed Red Alternative, including at the Reiman Road / Bertsinger Road and Pioneer Street intersection. Steep slopes and severe erosion hazard areas are also located along the stream which would be crossed by both alternatives.

Figure 10. Steep Slopes



2.5.2 POTENTIAL IMPACTS

Construction of the proposed roadway alignments is considered geotechnically feasible, but several potential impacts must be considered. In general, similar soil types and slope conditions will be encountered along portions of both alignments. There are limited risks associated with slope stability and erosion that can be addressed with appropriate design and standard construction procedures. The seismic hazard is limited to small portions at the bottom of some ravines. This could be mitigated with a bridge, spanning those materials, or removing, replacing, or improving those soils under culverts.

The Red Alternative, which crosses steeper slopes, will likely require more complex retaining walls, increasing both design and construction complexity. In contrast, the Green Alternative's perpendicular approach to the ravine may allow for engineered fill slopes and fewer retaining walls, reducing the risk to slope stability.

Either alignment will require careful grading and alignment planning to manage slope stability, especially in the steep ravine areas, for both temporary construction and the completed roadway. Installation of a culvert at stream elevation could require fill of 30 to 40 feet, potentially causing settlement issues that may exceed tolerable limits for the structure. As a result, deep foundations or soil improvements may be necessary. Cuts at the top of the ravine may encounter groundwater. Although the risk of liquefaction is generally low, site-specific studies will be required to confirm this hazard for the project area once an LPA is identified. Deeper excavations in the ravine could face challenges if conglomerate material behaves like bedrock, which would require specialized excavation methods.

2.6 CULTURAL RESOURCES

Archaeological Investigations Northwest, Inc. (AINW) reviewed the study area in 2024 for potential historic and cultural impacts. The review covered parcels directly next to the Green and Red Alternatives. The following analysis of current conditions draws on previous studies conducted in the project areas, as well as a desktop survey using archaeological predictive models.

2.6.1 EXISTING CONDITIONS - ARCHEOLOGICAL RESOURCES

Archaeological sites include precontact and historic-era surfaces, buried or underwater features, and artifacts. Areas in the study area are either undeveloped or have previously been farmed. Previous archaeological investigations overlap with some portions of the alternatives, and no archaeological resources have previously been recorded. Areas that have been previously disturbed, paved, or surveyed, and did not encounter archaeological resources, are considered low risk.

The statewide archeological predictive model shows the area near the northern termini of both alternatives have a moderate to high risk of containing archaeological resources. However, these areas have previously been disturbed along Pioneer Street as noted above and, therefore, retain a low probability for cultural resources. The southern terminus of the Green Alternative also has a moderate to high risk of containing archaeological resources. This area is largely undeveloped and, therefore, archaeological impacts are unknown. The lower terrain associated with the ravine in the central part of the study area has a lower probability for archaeological resources according to the same predictive model.

The portion of the Red Alternative that is south of Pioneer Street adjacent to the unnamed stream has a low probability due to the steep terrain. Like the Green Alternative, the southern terminus of the Red Alternative has a moderate to high probability for encountering archaeological resources.

2.6.2 EXISTING CONDITIONS – HISTORIC RESOURCES

Historic resources are buildings and structures that are at least 45 years of age. Buildings and structures constructed less than 45 years ago are considered modern, so no further cultural resources work would be needed. Potential historical resources were identified by reviewing property data in Clark County tax assessor records for parcels that would be crossed by the alternatives. **Table 5** below includes the historic built properties that were identified on parcels directly adjacent to the Green and Red Alternatives. These resources include residences and rural outbuildings constructed between 1912 and 1972. No cemeteries were identified within the vicinity of the study area. There are no historic resources that are already listed in the National Register of Historic Places (NRHP) on parcels adjacent to the alignment options; however, there is one historic residential building adjacent to the Red Alternative that is likely eligible for listing in the NRHP.

Table 5. Table of Historic Built Properties Adjacent to the Alternatives

	Address	Property Identification Number	Date of Construction	Likely NRHP Eligibility
Green	3400 S 10th Way	213781000	1969	Likely Not Eligible
	3412 S 10th Way	213748000	1948	Likely Not Eligible
	1032 S 35th Place	215831000	1969	Likely Not Eligible
	2410 S Bertsinger Road	213730000	1967	Likely Not Eligible
Red	20 S 30th Place	213788000	1972	Likely Not Eligible
	2596 N Smythe Road	213714000	1948	Likely Not Eligible
	3249 N Smythe Road	213705000	1955	Likely Not Eligible
	2447 S Fourth Way	213504000	1912	Likely Eligible

Source: AINW, 2024.

2.6.3 POTENTIAL IMPACTS

Once an alternative is selected, all historic resources in the area of potential effect (APE) for the LPA would need to be documented, evaluated for their NRHP eligibility, and project effects assessed. Shovel testing would be needed where the archaeological risk is high. As noted in **Table 5**, one historic resource directly adjacent to the Red Alternative is likely eligible for listing in the NRHP (213504000). Additionally, once an LPA is selected, the project would need to be reviewed under Section 106 of the National Historic Preservation Act to be eligible to receive federal funding.

The 2024 AINW study found that, overall, the Green Alternative has a moderate probability for encountering archaeological resources. Due to the moderate to high risk of archaeological resources, additional studies would be needed. As no prior studies have been done near the southern terminus, shovel testing would be needed. Any archaeological resources identified would need to be recorded with the Washington Department of Archaeology and Historic Preservation. Overall, the Red Alternative has a low to moderate probability. Over half of the Red Alternative route has previously been studied for archaeological resources, has already been impacted by modern development, or is along steep terrain that is unlikely to have any cultural resources (AINW, 2024).

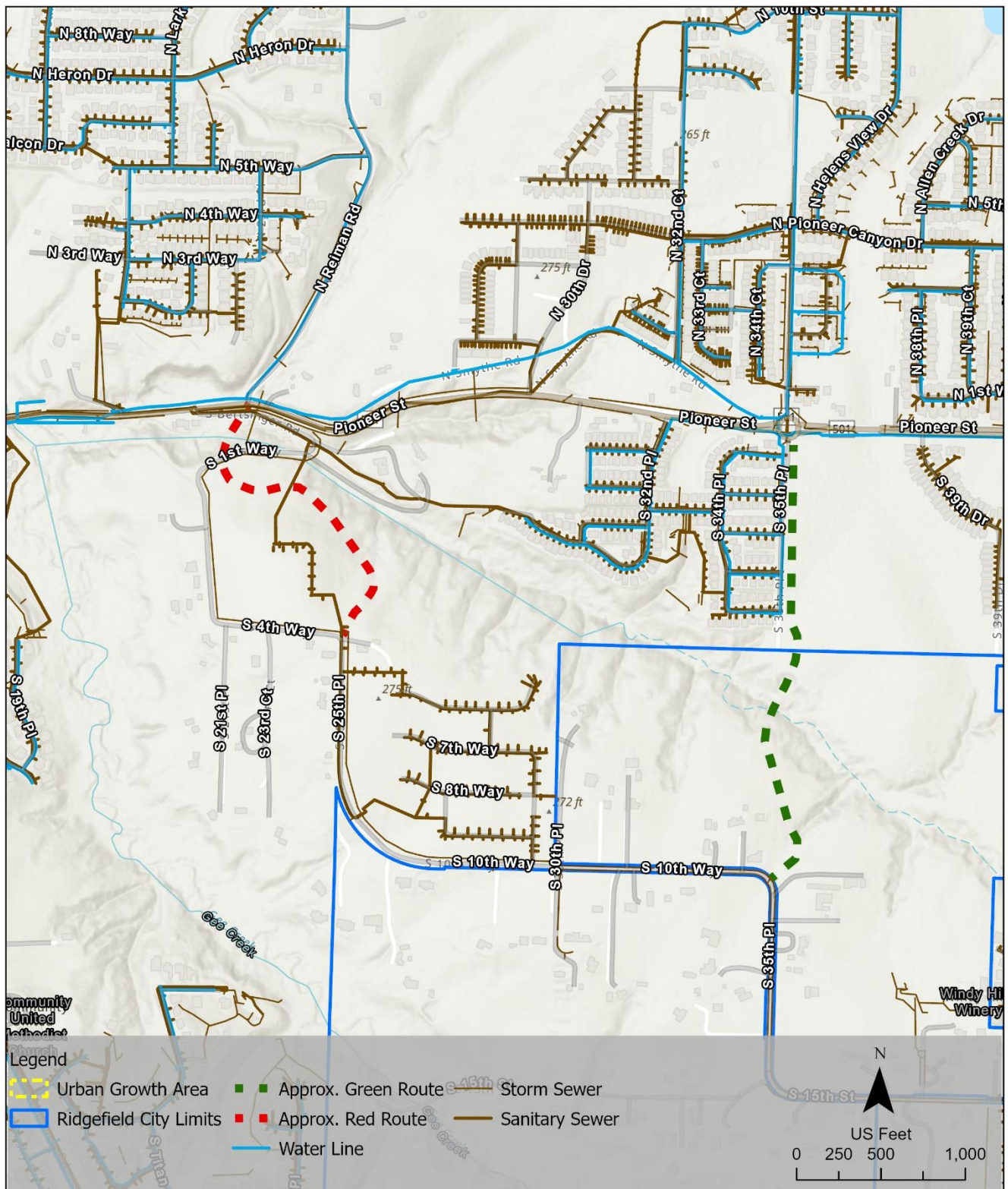
2.7 PUBLIC UTILITIES

Public utilities play an important role in the planning and development of any infrastructure project to ensure communities have adequate and reliable water, sewer, and stormwater services. Therefore, it is important to consider the existing conditions of utility corridors, service coverage, and possible conflicts that may arise. Assessing the need for utility relocations, upgrades, or new installations will help minimize disruptions, maintain essential services, and support development of the Gee Creek Subarea.

2.7.1 EXISTING CONDITIONS

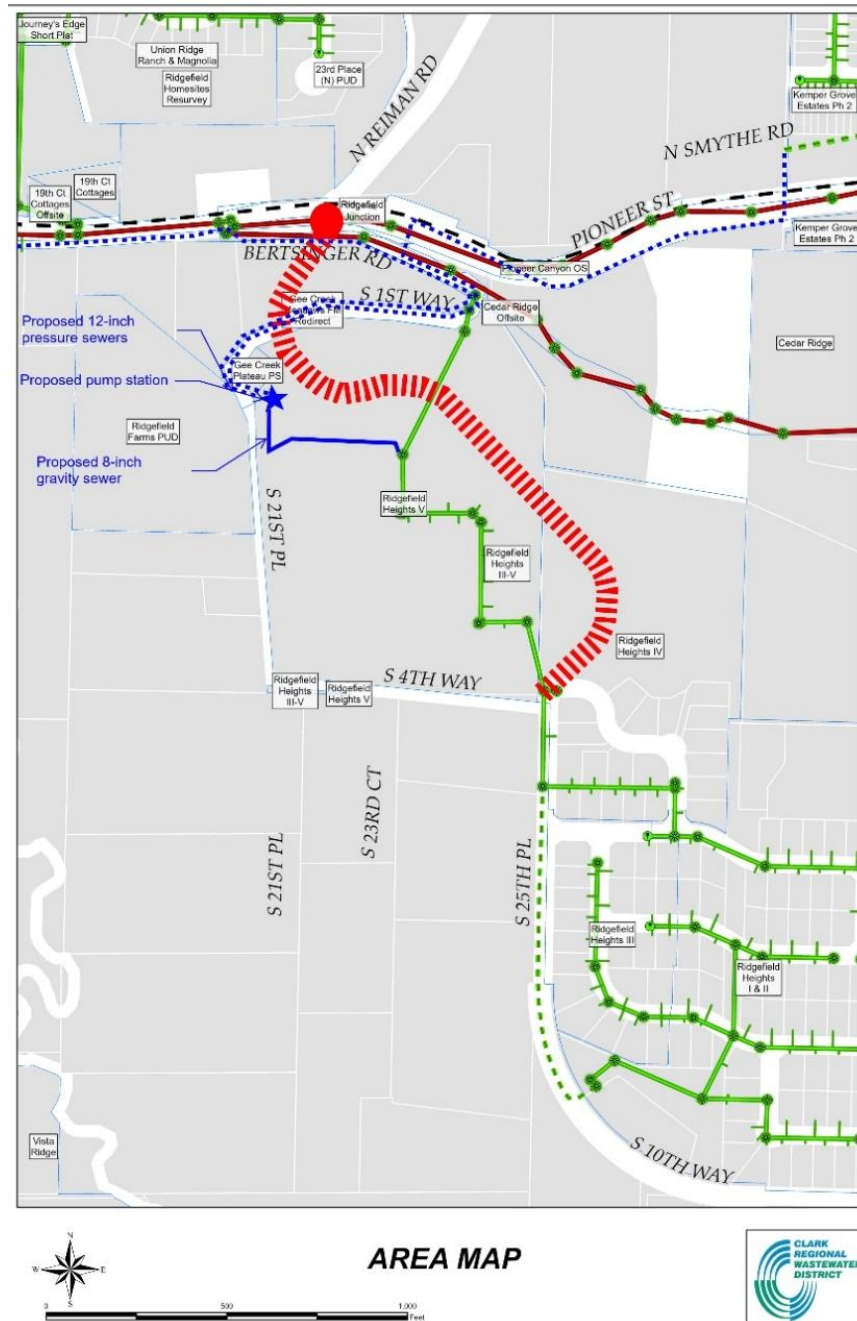
Water, sewer, and stormwater services are provided by the City. Electricity and gas are provided by Clark Public Utilities and Northwest Natural Gas, respectively. Water, sewer, and stormwater lines along the Green Alternative corridor align with the current road system, as shown in [Figure 11](#) below. Areas outside the city limits do not have existing waterlines. Properties at the southern end of the Green Alternative rely on private or public water wells, and this region uses a septic system for wastewater.

Figure 11. Existing Utilities



Sanitary sewer and stormwater infrastructure currently align with the existing roadway configuration throughout the Red Alternative project area. However, waterlines do not extend south of Pioneer Street within this area. Clark Regional Wastewater District has identified several potential sewer conflicts related to the Red Alternative. These planned sewer connections, shown in **Figure 12** below, are intended to serve the Ridgefield Heights neighborhood. The proposed route would intersect a planned sewer line and may also affect the location of a future pump station along 21st Place.

Figure 12. Future Sewer System in Red Alternative Corridor



2.7.2 POTENTIAL IMPACTS

As noted above, the Red Alternative may have several impacts on planned sewer systems. Additionally, for both the Red and Green Alternatives, any necessary utility relocations or upgrades should be planned to minimize service interruptions and align with roadway improvements. Engagement with affected property owners and coordination with local agencies will help to address potential concerns and ensure that essential services remain available throughout the duration of design and construction phases for the project.

2.8 SUMMARY OF IMPACTS

The Purpose and Need (Section 1.2 above) establishes the framework for why this project is necessary, and guides the development, evaluation, and comparison of the proposed alternatives. The statements help clarify which alternatives are considered “reasonable, prudent and practical” by defining the transportation challenges to be addressed and the objectives that the project must achieve. Both alternatives were evaluated for their ability to meet the project purpose and need, including improving connectivity and community resilience, enhancing transportation capacity and safety, and supporting long-term land use objectives while minimizing potential impacts.

The Green Alternative meets the purpose and need by improving connectivity between the Gee Creek Plateau Subarea and Pioneer Street through expansion of an existing roadway facility. This alternative provides a direct north–south connection to the Gee Creek Plateau that improves access for people and vehicles and adds a second access to the transportation network, supporting emergency response and evacuation needs. The Green Alternative improves and expands the existing 35th Avenue to meet adopted City standards, incorporates Complete Streets elements, and maintains safe and efficient traffic operations. While it supports projected residential growth within the subarea, operational benefits at the study intersections are limited, and the alternative does not provide measurable advantages over the Red Alternative in terms of traffic performance. The Green Alternative results in fewer impacts to environmental resources but would affect a greater number of existing property owners. This alternative was favored by a majority of residents who participated in community engagement activities.

The Red Alternative also meets the purpose and need by providing a new north–south roadway connection that improves access between the Gee Creek Plateau Subarea and Pioneer Street. The new roadway strengthens community resilience by offering the greatest relief to the existing transportation network in the Gee Creek Plateau. This alternative improves and constructs new roadway facilities to meet adopted City standards and incorporates Complete Streets features to support multimodal travel. Compared to the Green Alternative, the Red Alternative provides greater transportation system benefits, including improved traffic operations at the Reiman Road and Pioneer Street intersection (through replacement with a single-lane roundabout) and minor reductions in vehicle delay. The Red Alternative supports long-term residential growth while reducing impacts to existing and future property owners; however, it would result in greater impacts to natural environmental resources compared to the Green Alternative.

Both alternatives are reasonable and feasible solutions to meet the project purpose and need, with distinct differences in the performance and potential impacts, as summarized in [Table 6](#) below.

Table 6. Evaluation of Alternatives

Potential Impact	Red Alternative	Green Alternative
Meets Project Purpose and Need	• Meets purpose and need by constructing a new north-south connection between the Gee Creek Plateau and Pioneer Street that improves the existing Reiman Road and Pioneer Street intersection and provides the greatest relief to the existing transportation conditions in the Gee Creek Plateau • Constructs new roadway and improves existing intersection to meet adopted City standards and include Complete Streets elements • Provides greater system benefits, including improved operations and minor reductions in vehicle delay • Supports long-term growth and would result in comparatively fewer impacts to existing and future property owners • More impacts to critical areas which would require mitigation • Primarily favored by Cedar Ridge neighborhood with concerns about increased traffic on 35th Avenue, but received less overall support by community members that have been involved in outreach activities	• Meets purpose and need by expanding and improving an existing roadway to provide a direct north-south connection between the Gee Creek Plateau and Pioneer Street that improves access for a larger portion of the Gee Creek Plateau • Constructs new roadway and expands existing roadway to meet adopted City standards and include Complete Streets elements • Maintains safe and efficient operations but provides limited to negligible operational benefits at study intersections • Supports long-term growth, but would require more conversion of residential land and results in impacts to more existing property owners • Less impacts to critical areas which would require mitigation • Favored by majority of community members that have been involved in outreach activities
Transportation Analysis	• Supports future transportation demand • Reduces collision rate at Reiman Road / Pioneer Street intersections • Provides minor delay reductions; does not introduce new operational delays • Better addresses existing traffic within the Gee Creek Plateau	• Supports future transportation demand • Provides minimal to negligible delay reductions; does not introduce new operational delays • Accommodates larger service area within Gee Creek Plateau for future development

Land Use & Parks and Recreation	• Designated Urban Low Density and Urban Medium Density Residential • No changes to land use designations proposed • Would require less conversion of residential land to ROW compared to the Green Alternative • No impacts to existing parks • Improves access to local trail network, including direct access to two existing trails	• Includes areas outside city limits, which are likely to be annexed and rezoned by 2045 • Designated Urban Low Density • Conversion of residential land to public ROW is slightly greater than the Red Alternative • Within a 0.5-mile watershed of Cedar Ridge open space • Improves access to local trail network
Noise	• Impacts to ~30 residential properties • Increased noise levels for trail usage	• Impacts to ~47 existing residential properties • Increased noise levels for trail usage
Geotechnical Analysis	• Alignment will cross through a steep ravine • Groundwater may be present at variable depths • Low risk of liquefaction • Steep slopes will likely require more retaining walls along the ravine compared to the Green Alternative	• Alignment will cross through a steep ravine • Groundwater may be present at variable depths • Low risk of liquefaction • Perpendicular approach to the ravine may allow for less risk to stability of existing slopes and require fewer retaining walls
Critical Areas	• Requires ~0.3 acres of wetland mitigation for riverine wetlands along stream • Potential impacts to Oak Woodland, mature forest area, and sensitive bat habitat • Potential impacts to Steelhead and Coho salmon; Coho salmon is a threatened species • Part of the corridor is within a FEMA mapped floodway; construction of the roadway would be subject to RMC 18.750	• Requires ~0.2 acres of wetland mitigation for riverine wetlands along stream; potential wetlands at southern terminus may be impacted (if present) • Potential impacts to mature forest area and sensitive bat habitat • Minimal flood risk and no mapped floodplains

Cultural Resources	• Moderate to high probability of archaeological resources at southern terminus • Impacts to one property that is likely eligible for listing: 213504000	• Moderate to high probability of archaeological resources at southern terminus • No historic property impacts
Public Utilities	• Conflicts with planned sewer system, including pump station and sewer lines to serve Ridgefield Heights	• No known conflicts with existing or planned utility system

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APPENDIX

A

COMMUNITY ENGAGEMENT SUMMARIES

35th Avenue Corridor Extension Project

Community Interviews Summary

Engagement Overview

The project team conducted a series of individual and group interviews to engage community members most directly affected by the 35th Avenue Corridor Extension Project. Five separate interviews were conducted with 35 residents, including one large group meeting open to community members that attended the last open house in 2024, focused meetings with residents from the Cedar Ridge and Ridgefield Heights neighborhoods, and individual discussions with property owners and long-term residents. The sessions were held in person at the Windy Hills Winery, TMI Building, Ridgefield Administrative and Civic Center, and Ridgefield City Hall and lasted approximately one hour. These conversations provided an overview of the project background, including its current status, and invited participants to share their primary goals and concerns to ensure that a range of perspectives were heard.

The interviews engaged with residents that attended the last open house in 2024 and live in the Cedar Ridge and Ridgefield Heights neighborhoods. Interview participants included long-term residents, newer community members, and private landowners, with varying levels of previous involvement or knowledge of the project. A list of participants is included in Attachment A, however, to maintain anonymity, the following summary does not attribute specific comments to individuals. Attachment B includes written statements attributed to specific community members at their request.

Interview Questions

Community members were asked a range of questions to learn more about their perspectives on the project. The main topics addressed in these questions included:

- Individuals' history in the area and involvement in previous phases of the project;
- Their general interest in the project;
- Their specific goals and desired outcomes for the project;
- The perceived benefits the project could provide to the community;
- Suggestions for additional improvements beyond roadway construction;
- Concerns related to environmental impacts and effects on residents; and
- Whether the project aligns with the Gee Creek Plateau Subarea plan vision.

Feedback Summary

Primary Goals and Project Benefits

Interview participants expressed that the primary benefit of the project is to increase connectivity and improve infrastructure to accommodate the growing population, although noting that each alternative offers different advantages. Community members frequently expressed that minimizing impacts to property owners, wildlife and habitat, and addressing safety concerns were also primary goals of the project for either alternative.

Red Alternative

Some participants felt that the Red Alternative was favorable because it would create a second access point to Pioneer Street to serve residents further west. Some noted that 35th Avenue is close to Royle Road, so having the extension further west would create a larger benefit for the community. This alternative also provides a more direct route for residents of Ridgefield Heights, which would reduce the traffic diversion along 10th Avenue to reach 35th Avenue if the Green Alternative were chosen. The area near 35th Avenue is more developed than along Reiman Road, which lacks sidewalks and bike lanes, so the Red Alternative may encourage more multimodal infrastructure. While the Green Option connects to several roads and is close to Royle Road, the Red Option has fewer nearby roads but offers distinct access benefits further west.

Green Alternative

Alternatively, some participants felt that the Green Alternative was favorable because it would create a third connection to Pioneer Street, noting that Bertsinger Road would remain open for emergency access, local traffic, and existing residents. The Green Alternative directly links neighborhoods and integrates with existing pedestrian and cycling infrastructure, supporting walkability and multimodal travel. The Green Alternative would also allow for more intentional greenspace planning because it has comparatively flatter terrain and potentially fewer environmental constraints.

Concerns

Similar to discussing the overall project benefits, interview participants commented on the degree of differences in the potential impacts when discussing their primary concerns for either alternative.

Red Alternative

Concerns about the Red Alternative centered on increased traffic and safety risks for existing residents. Some people commented on the limited integration with current sidewalks and bike lanes, which could reduce the effectiveness of the transportation system. Participants also highlighted significant environmental constraints in the area, including unstable terrain, stream crossings, wetlands, and the potential impacts on open spaces, community trails, mature vegetation, and the Gee Creek tributary. These factors contribute to higher infrastructure costs which also raised some concern among some residents. Residents in the area commented that the alignment would deviate from the original development vision and would therefore negatively affect the community. Additionally, there were worries that the Red Alternative would impact the view corridor for future phases of Ridgefield Heights, which could prompt opposition from the neighborhood. Finally, some residents questioned the Red Alternative's ability to adequately address long-term traffic needs for Ridgefield Heights, expressing concerns that it might only provide a short-term solution and serve as a less direct route to I-5 compared to the Green Alternative.

Green Alternative

Concerns about the Green Alternative focused on the increased traffic and related safety risks on 35th Avenue, especially for children walking or biking in the area from the Cedar Ridge neighborhood. Extending the roadway could result in higher speeds due to the sloped terrain and straight alignment, raising additional safety concerns. Some homeowners expressed worry about potential development in the wooded areas east of 35th, noting a preference to maintain this area for a natural setting and referencing previous assurances about future development plans. Additional worries included impacts on local wildlife and wetlands, as well as noise, pollution, and air quality during construction for nearby homes. Residents also noted that the Green Alternative would cross private property, affecting

individual owners, while the Red Alternative would mostly impact undeveloped areas owned by developers. Some participants felt that the Green Alternative would affect more existing residents than the Red Alternative.

Desired Improvements

Regardless of their preferred alternative, community members expressed a strong desire for enhancements that prioritize safety, accessibility, and community well-being to balance connectivity and community needs.

- **Safety:** Speed control was a priority because both alternatives have steep slopes and straight portions of the proposed alignment which could lead to high speeds.
- **Multimodal Improvements:** Several people recommended installing sidewalks on both sides of the street to improve pedestrian safety and connectivity, as well as creating bike trails and off-street paths to encourage active transportation and provide safer routes for cyclists.
- **Traffic Calming and Safety Improvements:** To address concerns about increased traffic and especially protecting children in existing neighborhoods, residents suggested implementing speed bumps, marked crosswalks, and other safety measures. Some residents advocated for fencing or physical separation between residential yards and the roadway to enhance privacy and safety (particularly for the Green Alternative). Additionally, a few people commented on the importance of bridge and culvert safety, especially over wetlands and in steep terrain, emphasizing that designs should prevent unsafe access in these sensitive areas.

Other Thoughts

In addition to the guided questions, community members shared a range of feedback about the proposed alternatives and other related infrastructure projects. Some people felt that ultimately, both alternatives should be constructed to meet access needs in the long term.

- **Project Cost and Funding Sources:** There were questions about how project cost differences might influence the selection between alternatives, with many people noting that preliminary cost estimates show that the Red Alternative would be more expensive to construct. Residents also had an interest in learning more about the funding sources for the project, including the anticipated percentage of federal funding and whether a detailed cost breakdown by project element would be provided.
- **Neighborhood Infrastructure:** Frustration was expressed about past development in Ridgefield Heights occurring without sufficient supporting infrastructure. Some long-term residents noted that previous transportation and land use studies should inform the current project, as past environmental conditions and projected traffic impacts remain relevant to growth and infrastructure constraints.
- **Meaningful Engagement:** Some people voiced concerns that previous meetings with City staff or consultants did not meaningfully incorporate community input or allow residents the opportunity to influence decisions about development in the area. There is an apparent lack of trust in the process for some residents based on feelings that the City misled them in the past regarding the timing of future roadway completion, specifically citing the number of homes that

would be allowed to be built in Ridgefield Heights prior to the construction of a new roadway. Others expressed concerns with how existing environmental regulations have been enforced . For future community engagement activities, there was a request for a map displaying both alternatives together to facilitate comparison and understanding of the options.

- **Bertsinger Road Roundabout:** Clarification was requested on whether the roundabout at Bertsinger Road would be tied exclusively to the Red Alternative or could be a standalone project, regardless of which option is chosen. Questions were raised about how this project would affect the widening of Pioneer Street and what the consequences would be if either project were delayed. Additional inquiries addressed potential plans for improvements on Reiman Road and whether nearby roads, such as Pioneer Road between 30th Drive and N Reiman Road, would be widened to accommodate increased traffic from the new development.

Attachment A – Contributing Community Members

- Karen Berg
- Larry Brown
- Kathy Burton
- Rich Chose
- Shana Chose
- Michelle Coggin
- Kylie Collins
- Robert Conoscenti
- Darcy Cornelius
- Wendy Cross
- Carmen Dawkins
- Jim Dawkins
- Hung Dao
- Verna Flack
- Roy Garrison
- Jon Girod
- Heather Gurden
- Brian Haberly
- Michael Jennings
- Kelly Jones
- Dave Kelly
- Ashley Miller
- Becky Myers
- Patricia Peterson Hodge
- Adriana Perira
- Carolyn Sawyer
- Beth Shelton
- Stacie Sutter
- Joyce Verette
- Rod Verette
- Amy Wachsnicht
- John Zanzi
- Julie Zanzi
- Angela Zwingli
- Peter Zwingli

Attachment B – Written Comments

- Heather Gordon
- Peter Zwingli
- Angela Zwingli

Mescher, Jodi

From: McDermott, Nicole
Sent: Monday, October 27, 2025 11:54 AM
To: Mescher, Jodi
Subject: Fw: Follow-up Ridgefield Meeting on 35th Extension
Attachments: IMG_3679.jpeg; IMG_3667.jpeg; IMG_3655.jpeg; IMG_3666.jpeg; IMG_3685.jpeg

Follow Up Flag: Follow up
Flag Status: Flagged

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From: Heather Gordon <[REDACTED]>
Sent: Monday, October 27, 2025 11:27:46 AM
To: McDermott, Nicole <[REDACTED]>
Subject: Follow-up Ridgefield Meeting on 35th Extension

Hi Nicole,

Thank you so much for facilitating the meeting at Windy Hills last Wednesday evening. I felt you really tried to listen to the residents who will be most affected by the road extension.

I felt as though the risks highlighted with the 25th option were really important to hear. I hadn't fully appreciated the gravity of the challenges to building in that ravine as much as I do now based on the numerous comments, and maybe especially the observations of the construction engineer that was on hand that evening, Bob Conoscenti.

I do have a strong desire for the road extension to be at 35th, and some of it is based on the beauty of Bertsinger and the many native trees, shrubs, and plants that reside there. It's a gorgeous road to walk, and I have walked it regularly for 18 years with my dog. I also am highly concerned about the impact to the Gee Creek tributary that is there and has been established previously as fish-bearing.

I also know that as often as cities and developers talk about "replacing" the native vegetation they remove, in many cases they greatly minimize the cost and time involved -- which can be and would be in the Bertsinger area -- 50-80-100 years. There are old Doug firs in that area, old Big Leaf Maples, and old Red Cedars as well, if I'm not mistaken. The cost of replacing these is really not something one can calculate, especially if one adds in the current environmental services towards clean air and water that this piece of local ecosystem adds to Ridgefield residents.

I hope that your best folks can be on board to review our situation with regard to the relevant factors in this process to analyze the two options. We are a community built around a wildlife refuge, a community that values its rivers and streams for its fish, and a community that highly enjoys the being surrounded by existing, thriving natural resources.

I'm sending along a few of the many photos I took yesterday on Bertsinger as I walked it. You can see how beautiful it is and how much native vegetation is there.

Thanks for the work you are doing!

Best,

Heather

--

Heather G. Gordon

Native Plant Advocate & Native Plant Steward
Ridgefield Garden Club - Washington Native Plant Society













Mescher, Jodi

From: Angela Zwingli <[REDACTED]>
Sent: Monday, October 27, 2025 12:38 PM
To: Mescher, Jodi
Cc: Peter Zwingli
Subject: South 35th Avenue Corridor Extension - Follow-Up on Meeting – Pros and Cons Discussion

Follow Up Flag: Follow up
Flag Status: Completed

Thank you for meeting with me today. As promised, below are the pros and cons we reviewed and discussed. They reflect not only my own observations and concerns but also those of my neighbors on S. 25th, S. 23rd, and S. 21st.

My husband will be emailing you separately with his overall concerns regarding the project, including his pros and cons for both the red and green options.

I also appreciate your willingness to drive Bertsinger today before it closes from October 29th to November 21st, and for scheduling the traffic impact analysis while both Bertsinger and Pioneer are open and school is still in session.

Thank you again for your time and consideration.

Sincerely,
Angela Zwingli

Pros – S. 35th Alignment (Green Option)

- **Creates a third access point to Pioneer Street**, improving overall traffic flow, safety, and emergency access.
- **Connects Gee Creek Plateau and Bertsinger neighborhoods** (current and future) with other Pioneer communities, enhancing citywide connectivity.
- **Directly links to the newly widened section of Pioneer**, preventing bottlenecks at existing intersections.
- **Ties into existing sidewalk infrastructure** that already extends to I-5, improving pedestrian access and overall walkability.

- **Creates a safe and beautiful multimodal connection** for pedestrians and cyclists to the **scenic natural landscape of Bertsinger and Gee Creek Plateau**, uniting the community's open spaces, ravines, creeks, and trees in a way that celebrates Ridgefield's rural historic past and character and outdoor lifestyle.
- **Includes a new roundabout at S 10th & S 35th**, addressing a known problem area where multiple accidents have occurred and trucks struggle to navigate the curve safely.
- **Connects to Pioneer at the 35th roundabout**, which sits on **stable, already improved terrain**—unlike the Bertsinger and Reiman Road area, where Pioneer is **prone to landslides, requires major upgrades, lacks sidewalks**, and may contain **unstable voids** that could lead to prolonged closures.
- **Allows for intentional greenspace planning** within new communities, integrating the roadway design with open space preservation from the start.
- **Fulfills the original development commitment** made during the Ridgefield Heights approval process—long viewed as the expected and most logical continuation.
- **Located on flatter terrain with fewer construction hazards**, reducing the likelihood of costly or complex build challenges.
- **Lower construction cost estimates** due to simpler grading, fewer hazards, and minimal required infrastructure.
- **No significant historic resources** are expected to require protection.
- **Only one culvert** is needed to cross the stream where the channel narrows to approximately **20 feet wide**, compared to **dual culverts** required at S. 25th, where the stream spans about **40 feet**.
- **Large tracts of developable land along S. 35th** allow infrastructure to be **planned and constructed in advance of new development**, supporting coordinated growth and minimizing disruption.

Pros – S. 25th Alignment (Red Option)

- Located closer to the newest homes, offering short-term convenience but reflecting a **shortsighted focus on current development rather than long-term citywide connectivity**. By the time this access road is completed, additional connections will likely be required to meet future growth and traffic demands.

Cons – S. 25th Alignment (Red Option)

- **Does not establish a new connection to Pioneer Street**—instead, it **realigns and upgrades the existing Bertsinger Road approach**.
- **Shortsighted placement**—located closer to current housing but not positioned for long-term citywide connectivity.
- **By the time construction is complete**, a third access point will likely be needed, making it an **inefficient short-term solution** rather than a strategic long-term investment.
- **Proposed following the Ridgefield Heights Final Plat approval**, this alignment would **negatively affect established open spaces and community trails**, undermining the original neighborhood design and commitments.
- **Does not connect directly to the newly widened section of Pioneer**, creating a **traffic bottleneck** and inefficiency.
- **Fails to integrate with existing sidewalks or bike paths** leading to I-5, limiting pedestrian and multimodal access.
- **No existing sidewalks** along Pioneer in this section, increasing **pedestrian and cyclist safety risks** and requiring costly new installations.
- **Misses the opportunity to link neighborhoods and greenspace cohesively**, resulting in fragmented community development.
- **Connects to Pioneer** where Pioneer is **prone to landslides, requires major upgrades, lacks sidewalks**, and may contain **unstable voids** that could lead to Pioneer Road collapse, construction hazards, and possible Pioneer closures, and costly infrastructure upgrades to safely handle additional multimodal demand.
- **Higher infrastructure costs** due to dual stream crossings, unstable soils, and required slope stabilization.
- **Requires dual culverts** where the stream is approximately **40 feet wide**, compared to a single 20-foot crossing at S. 35th—raising both cost and environmental impact.
- **Potential disruption to historic or environmental resources** in the area, which may require additional review or protection measures.
- **Loss of mature native vegetation**, including red cedars, bigleaf maples, Douglas firs, beaked hazelnut, dogwoods, alders, and understory plants such as ferns, bracken, elderberry, thimbleberry, Oregon grape, and more.

- **Potential compromise to the Gee Creek tributary, a fish-bearing stream and vital component of the local watershed**, risking ecological health and water quality.
- **Unlikely to fulfill the original Ridgefield Heights development intent**, diverging from the long-anticipated and planned extension via S. 35th.

Cons – S. 35th Alignment (Green Option)

- Land will need to be acquired from large tracts of land owners who might not yet be ready to develop their land.

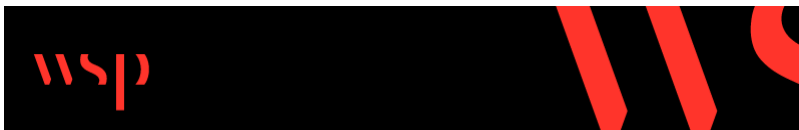
From: Mescher, Jodi <[REDACTED]>
Sent: Tuesday, October 21, 2025 5:15 PM
To: Angela Zwingli <[REDACTED]>; Peter Zwingli <[REDACTED]>
Cc: Miranda Lange <[REDACTED]>
Subject: RE: Input Requested: South 35th Avenue Corridor Extension - Neighborhood Discussion

Good morning Angela and Peter,

Thank you again for your interest in participating in a conversation about the 35th Avenue Extension project. The meeting is scheduled to take place on **Monday, October 27th from 11:00 – 12:00 PM in the conference room at City Hall**. If you have any questions or need further information, please do not hesitate to reach out. We are looking forward to a productive discussion!

Best regards,

Jodi Mescher
Land Use Planner
AICP
She/her



S 35th Extension Project

Overall Concerns with the Project

1. Public involvement with this study is simply a “check the box” exercise by City staff based on past experience. Findings will be manipulated by City staff to support their desired outcome and to direct City Council’s decision.
2. Lack of trust in the process of working with City staff based on many years trying to work with the City.
 - a. Hundreds, if not thousands, of hours invested by local residents over 18 years in reviewing proposals, preparing and submitting comments, attending meetings, preparing and making public statements, and trying to hold both developers and City staff accountable. Basically, it continues to be a waste of our time.
 - b. The public involvement process appears to be a check the box exercise rather than a sincere effort by City staff to hear, involve, and respect residents’ interests and concerns.
 - c. Complete lack of transparency over artificial slopes created by Ridgefield Heights development.
 - i. Instead of being concerned about landslide risks which will likely happen, especially in a Cascadia Subduction Zone earthquake scenario, City staff have allowed the creation of these slopes without clearly informing and sharing potential risks with residents before approval and construction.
3. Cost/funding:
 - a. Unrealistic planning budgets and cost overruns.
 - b. Cost shifting from developer to taxpayers.
 - c. Unrealistic funding.
 - i. Inflation ignored
 - ii. Overly optimistic revenues from Gee Creek Plateau impact fees (assumes everything will be developed with little indication that this is reality)
 - d. Definitions of what defines “full funded” arbitrarily changed by City staff.
4. Schedule – Unrealistic schedule and delays.

- a. Project was supposed to be completed by now based on the progress of work on the Ridgefield Heights subdivision.
5. Deterioration of the project over the past 18 years:
- a. A forest felled in 2021 due to lack of communication among City staff (as per City Manager). Even though work was temporarily halted on cutting down the forest for a few days, City staff succumbed to the developer's demands over residents' concerns.
 - b. Poor track record of infrastructure projects in the Gee Creek Plateau. For example, S 15th was never widened to S 35th as required before subdivision construction.
 - c. Lack of transparency and engagement by City staff with residents.
 - d. Decisions are made behind closed doors after public hearings and Hearing Examiner approvals.
 - e. City staff ignore Development Agreements and conditions of approval, with no communication with residents on the failure of adherence:
 - i. Example: No efforts made to ensure that Ridgefield Heights shall not add any traffic to Bertsinger Road.
 - ii. Example: Required road alignments not adhered to
 - iii. Example: Road improvements not completed before more than 100 homesites approved/built
 - f. S 21st trashed by developer (2022) for their convenience to transfer materials from one side of property to another, turning a public paved road into a gravel and dirt road for months. City staff did nothing to prevent the damage.

Green Option – S 35th (Preferred option)

Note: Access for the two homes which currently have access from the west via the eastern end of Bertsinger Road, also have access from the east via an existing road built in 2005 connecting to the Cedar Ridge subdivision.

Pros	Cons
Adheres to City's transportation plan for a north-south connector along 35th	Longer access to downtown Ridgefield from western end of Gee Creek Plateau. Note: <i>This issue can be resolved by:</i> • <i>Making minor upgrades to the existing Bertsinger / S 1st / S 21st Corridor,</i> • <i>Restricting traffic to/from all post 2007 subdivision, access to new homes, and adhering to commitments made by the City to guarantee access to the Bertsinger / S 1st / S 21st Corridor to connect to Pioneer.</i>
Leverages existing roundabout at 35 th and Pioneer and existing sections of S 35 th .	Legal risks due to land appropriation needs.
Grades are acceptable, reducing pedestrian/vehicle safety risks, particularly in inclement weather	
Lower risks: • Lower cost • Lower schedule risk • Great probability of project completion • Far lower Geotech risks • Lower environmental risks	
Retains historic Bertsinger Road route – probably the last original road from Ridgefield's rural heritage.	
Potential to reduce traffic on Pioneer at Reiman Road (assuming traffic is to I-5 Junction vs downtown)	
Frees up open public space through the beautiful area around Bertsinger Road.	

Red Option - Bertsinger

Note: Access for the two homes which currently have access from the west via the eastern end of Bertsinger Road, also have access from the east via an existing road built in 2005 connecting to the Cedar Ridge subdivision.

Pros	Cons
Shorter access to downtown Ridgefield from western end of Gee Creek Plateau	Geotech risks and hazards increasing costs, delaying the schedule, and potentially freezing the project indefinitely mid-project.
	Road closure due to landslides from artificially created steep slopes on west, south and east side of Ridgefield Heights phase 5
	Steeper grades which create pedestrian and vehicle safety risks, particularly in inclement weather.
	Potential to increase traffic on Pioneer at Reiman Road (assuming traffic is to I-5 Junction vs downtown)
	Consumer open public space through the beautiful area around Bertsinger Road.

Open House Summary

A community open house was held to present preliminary traffic and environmental findings for the Red and Green Alternatives and to obtain community feedback. The meeting, facilitated by the City of Ridgefield and the consultant team, was attended by approximately 32 people. When community members arrived at the open house, they were invited to review the project information on a project fact sheet and poster boards displayed around the room, as well as ask questions to project staff. Community members also had the opportunity to provide feedback on sticky notes on one of the poster boards, or on comment cards. Poster boards displayed around the room summarized the project schedule, community input received to date, transportation analysis results, and key environmental considerations.



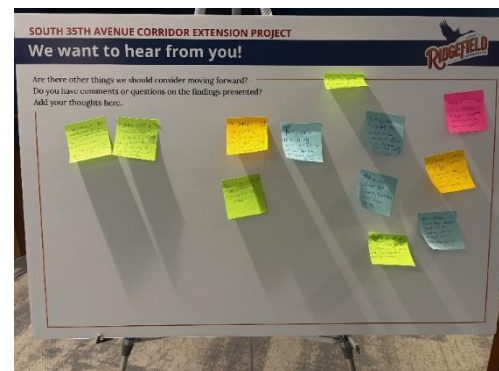
After the open house, the meeting materials were posted online to Ridgefield Roundtable, accompanied by a prompting question to solicit further feedback and questions from community members. The online post reached approximately 150 visitors and received 22 comments/questions. The post was also shared through the City's Facebook page, which received approximately 35 additional comments.

Community Feedback

Key themes from community input heard at the open house and online are summarized below. Copies of the written responses are available for reference in Attachment A.

Green Alternative

Across the open house and online engagement, the Green Alternative seemed to be the preferred alternative for the majority of the community members that participated. Community members who preferred the Green Alternative commented that it would provide a more direct connection to I-5, better align with existing roundabouts, and help reduce congestion on local streets such as Pioneer, Royle, 15th, and 10th. Participants also noted that the Green Alternative is closer to anticipated growth areas and could be implemented sooner, making it a more effective solution for relieving current and future traffic concerns.



Community members preferring the Green Alternative also viewed it as the lower risk and more feasible option, while noting the Red Alternative seems to be costly, complex, and uncertain due to the geotechnical challenges.

A few people commented that the Green Alternative is preferred because it is consistent with the City's transportation plans.

Red Alternative

While the Green Alternative appeared to be preferred by the majority of community members who participated in the in person and online open house, several community members favored the Red Alternative. Community members who preferred the Red Alternative noted that it would provide a more direct and convenient connection for Ridgefield Heights residents to downtown, improving access to Pioneer Street, downtown, and emergency services while reducing the need to travel out of the neighborhood to reach key routes.

Several community members who favored the Red Alternative also emphasized that it best addresses existing safety concerns on Bertsinger Road by reducing crash risk at known problem areas, improving connections at Pioneer/Reimann, and helping prevent future safety and liability issues as traffic increases. A few participants commented that the Red Alternative would have fewer impacts to current residents and properties.

Overall Safety Concerns

Community members emphasized the need for any option to meaningfully improve existing traffic and safety issues, particularly on Royle Road and local neighborhood streets, and expressed concern about decisions based on traffic data collected during construction. There was clear interest in incorporating safety and traffic-calming measures, such as speed management and improved pedestrian crossings, regardless of which alternative is selected.

Several community members expressed concern about safety for pedestrians and cyclists, particularly along South 10th Way. Concerns focused on fast-moving traffic, e-bikes mixing with vehicles, narrow roadways, and the risk of serious injuries without dedicated pedestrian and bicycle facilities.



Environmental Analysis and Methodology

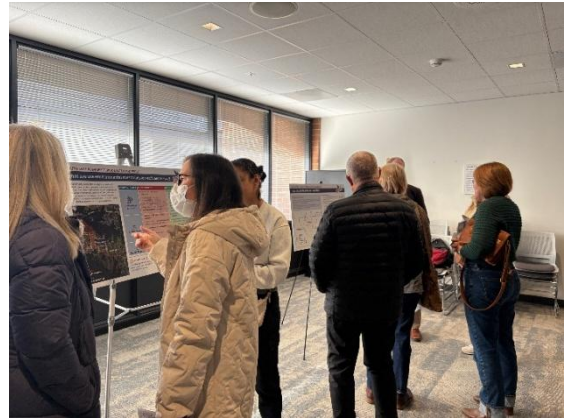
A few community members requested a comprehensive evaluation of environmental impacts, including effects on wildlife, greenspace, and recreational trails, before identifying a preferred alternative. One resident noted that there is a new walking trail through Ridgefield Heights which may be impacted by the Red Alternative.

Several community members at the open house noted that residential impacts associated with the Red Alternative may be understated because current maps and imagery do not reflect recent home construction in Ridgefield Heights. They asked that up-to-date aerial photos be used so residential impacts can be accurately evaluated and clearly shown to the public. An updated analysis will be provided in the final Pre-NEPA/SEPA Analysis Report for review prior to City Council selection of the locally preferred alternative.

One person commented that going forward, the City should focus on consistent messaging for next steps.

Questions and Responses

Community members shared the following questions and concerns; responses from the project team are also noted below. A FAQ document to share responses to common questions and concerns is in development and will be posted on Ridgefield Roundtable.



- What was the key number of feet that was considered to be within the impacted area for noise (specifically for the red alternative)?
 - *A 250-foot buffer was used to identify potentially noise-impacted properties for both the Red and Green Alternatives. This screening was based on an aerial desktop review; a more detailed noise analysis will be completed for the LPA, including on-site measurements to better quantify potential impacts.*
- How are we accounting for if the red or green alternative impacts adjacent homes if affected by both routes (i.e., S. 25th Place). Are we double counting homes or are they a wash and not accounted for?
 - *Residential impacts were evaluated separately for each alternative. Properties were not 'double counted' within a single analysis; however, the same property may appear in both alternatives' impact summaries because each alternative was assessed independently.*
- Do we have updated count of homes impacted for the imagery (aerial image and count)?
 - *Aerial imagery is based on an aerial desktop review and the latest satellite imagery available. Based on feedback provided at the open house, the number of potentially impacted homes will be updated to account for developable lots.*
- What is the quantity of traffic from 21st Pl to Bertsinger Rd?
 - *A typical PM peak hour conducted on 12/10/025 showed a peak volume of 10 trips between 21st Pl and Bertsinger Rd.*
- If the green alternative is selected how does construction timing of the roadway impacted adjacent annexations and development?
 - *Through the development review process, City staff would work with property owners and developers to identify how future development may or may not be effected by the location of the future roadway and whether or not a portion of the roadway is constructed in conjunction with development.*
- What is the long term solution for Bertsinger?
 - *For the Green Alternative, Bertsinger Road would remain restricted to emergency and local access only. For the Red Alternative, Bertsinger Road would be replaced by the construction of the new roadway.*
- The red alternative would split Ridgefield Heights in two...would be the mitigation plan for traffic to ensure pedestrian safety?
 - *At this stage of the project we have not identified specific mitigation, as potential impacts are still being assessed and the design of both alternatives is still conceptual. Once the City Council selects a locally preferred alternative, we will advance the design, including finalizing the alignment and conducting an additional evaluation of impacts. We will then identify mitigation to offset the potential impacts. At that time, there will*

be additional opportunities for the community to weigh-in on the assessed impacts and the mitigation identified.

- I would want to know if land on any housing areas would be taken to create the "green alternative" and if any home/land owners are particularly concerned about this.
 - *Both alternatives would convert approximately 2.7 acres of land into public right of way. A portion of the land within the green alternative is residentially zoned. Based on our preliminary analysis, the Green Alternative is anticipated to result in greater potential impacts to existing residentially zoned properties compared to the Red Alternative. The initial preliminary environmental analysis does not identify potential impacts to individual properties, which would be assessed after a locally preferred alternative is selected and more detailed engineering and design is complete.*
- Will there be separated bike lanes from vehicle traffic? How about a sidewalk, bike path, trail or anything safe to get to downtown Ridgefield?
 - *Both alternatives would include bicycle and pedestrian features such as a separated sidewalk and trail for bicycles or other non-motorized travelers. At this stage of the project, the designs are conceptual. Once the City Council selects a locally preferred alternative, we will advance the design. At that time, we will know more about the roadway design and the amenities included.*
- ...one question I have is why is this even necessary either alternative? It doesn't seem to me that it's really necessary to increase access to every inch of land in Ridgefield.
 - *The adopted Gee Creek Plateau Sub Area Plan identified the new road as a key project to improve mobility in this area of Ridgefield. It will help improve access between the Gee Creek Plateau and the rest of the city as the area expands to accommodate projected growth. The Gee Creek area currently has limited roadway connections, which affects daily travelers, emergency access, and safety. The project addresses these gaps while supporting planned growth and minimizing impacts to surrounding neighborhoods and the natural environment.*
- Why is Ridgefield Heights continuing to build houses if it's not fully funded?
 - *Ridgefield Heights was approved to build homes in multiple phases. Each phase requires specific transportation improvements to be complete while also meeting the City's adopted concurrency and development agreement requirements. The South 35th Avenue Corridor Extension is a city-led capital project that has been planned for many years and is now undergoing preliminary environmental review to determine a preferred alignment and the next steps. While federal funding is anticipated to support construction, full funding is not required before development at Ridgefield Heights can continue under existing approvals. Completing the environmental review and identifying a locally preferred alternative are necessary steps before the City can pursue federal funding for the roadway extension. This planning process is intended to ensure that future roadway improvements are carefully designed, transparent, and aligned with community goals as growth continues.*

Date	Comment	Source (Comm. Meeting #1, Email, Voicemail, etc.)
3/9/2026	Show an accurate and up to date representation of the existing homes in Ridgefield Heights for satellite imagery on maps. Photos do not show many homes now existing in Ridgefield Heights. Relatedly, the number of residential structures depicted on the current graphic for the red is greatly under what is actually there.	Community Open House 1
3/9/2026	Definitely the red route, because a roundabout will be constructed on Pioneer & Reiman road. Very important for safety issues on that particular corner! Thanks.	Community Open House 1
3/9/2026	Make 35th & Pioneer have "red flashing" lights for pedestrians and all roundabouts. Nobody stops if no lights blink.	Community Open House 1
3/9/2026	With the more than 200 homes being built near the red route. A safer road should be built by Reimann and helps encourage traffic to downtown and relieve Royal Rd.	Community Open House 1
3/9/2026	The images being used of the area are at least a year out of date. Many new unhabited homes in RH are not yet shown.	Community Open House 1
3/9/2026	Please recalculate red alternative residential impact.	Community Open House 1
3/9/2026	There is now a lovely lung walking trail in RH that may be impacted by the red alternative.	Community Open House 1
3/9/2026	Use the green. The red alt hits Pioneer in an already dangerous spot.	Community Open House 1
3/9/2026	The # of homes "impacted" by the red is way under what it actually is. Visit the area again + see Thank you!	Community Open House 1
3/9/2026	35th is a cleaner shot to Pioneer, businesses + I-5. Please consider this.	Community Open House 1
3/9/2026	Traffic count on S 21st/Bertsinger is artificially low due to current construction.	Community Open House 1
3/9/2026	New development have much larger impact along red to be revised.	Community Open House 1
3/9/2026	1st choice is green. (1) Better connection to I-5. (2) Connects easier to Pioneer with the existing roundabouts.	Community Open House 1
3/9/2026	More traffic from the neighborhood will be heading east on Pioneer to I-5. The green option is closer to I-5.	Community Open House 1
3/9/2026	Bertsinger road is a lovely, pastoral drive, but we feel it is unsafe for a larger population. It has always been somewhat dangerous, but more cars increase the likelihood of an accident. Our family thinks it makes logical sense to provide an outlet for the Heights neighborhood NEARER to the Heights houses themselves. Thank you – Kelly Jones	Community Open House 1
3/9/2026	The Green alternative has many more pros than the red alternative. Also, it appears it can be completed much sooner. This will help alleviate the traffic concerns everyone on 15th & 10th are having.	Community Open House 1
3/9/2026	The red alternative would have fewer impacts to current residents as well as future properties.	Community Open House 1

3/9/2026	Bertsinger & Pioneer will have less impact on residents and their prospective property. When S 35th goes through, speed bumps and extra safety are my concerns. An overpass preferably on S. 35th because there will be a huge impact to all the wildlife in the greenspace. I'm on 34th and I've had a river otter, deer, coyote, etc in my yard.	Community Open House 1
3/9/2026	The green is better. The red would require an extremely deep investigation of the physics of that route.	Community Open House 1
3/9/2026	Green alternative looks very similar to the McKanta connection at Pioneer. Red is a better route if the City doesn't want to be in a similar spot.	Community Open House 1
3/9/2026	The red alternative is the common sense selection. For people near 25th Pl it would make it much easier to not just get on Pioneer, but especially to go downtown without going east to 35th and back on Pioneer. For those residents closer to 35th, going south to 15th St and to Royle Rd is already an easy acceptable route. Also emergency services would be better enhanced with the red route.	Community Open House 1
3/9/2026	The green alternative seems far less risky from an engineering + geotechnical standpoint. It's a shorter route, less costly and would be a far faster connection for emergency vehicles. It is less costly than the Red and favored by most Ridgefield Heights neighbors. It is called the S. 35th extension for a reason! Green please!!	Community Open House 1
3/9/2026	Red option offers a more direct out than the traverse of the mass of residents and all their traffic needs ie emergency, delivery.	Community Open House 1
3/9/2026	Green alternative is on the city's transportation plan for years. Red was not, and is now being considered due to Ridgefield Heights. Green alternative will connect areas north of Pioneer to S 15th and the new I-5 Overpass at Paar Lumber, reducing traffic through Royle/Pioneer interchange.	Community Open House 1
3/9/2026	The Red option or some variable is the only way to get Ridgefield out of future liability. If there is money to do both then fine, but if not, as a community we must be responsible and fix Bertsinger in whatever manner we can so that no one gets killed when merging from Bertsinger to Pioneer.	Community Open House 1
3/9/2026	Community Priorities. Green Alt: Concerns. Safety risks and traffic speeds can be addressed by mitigating factors identified in my email sent after last public mtg. (Peter Zwing)). Impacts to local wildlife should be included as a concern for the red alternative as well. Could lead to further development... Development will happen if the land owner wants it, regardless if green alternative is built. Ridgefield Heights is a prime example of development without roads.	Community Open House 1
3/9/2026	The red alternative poses many uncertainties and far higher costs. The raven to be filled is huge!! Way too much earth to be moved to connect to Reimann Road + Pioneer realignment would further delay the connection which is needed now!! Development towards Costco + new community center favors connection east of S. 35th and not this red alternative. We prefer green alternative.	Community Open House 1
3/9/2026	Royle Rd traffic has gotten really bad. Hoping one of these options improve and don't worsen this issue.	Community Open House 1
3/9/2026	I think environmental impacts should be fully considered before Council picks a preferred option. Please use up-to-date photo images of the neighborhood when presenting in the future. Photos do not show many homes now existing in Ridgefield Heights. Relatedly, the # of residential structures depicted on current graphic for the red is greatly under what is actually.	Community Open House 1

4/10/2026	Pros Adheres to City’s transportation plan for a north-south connector via 35th. The Green option replaces the need for the Red option (or at least delays it a generation) Leverages existing roundabout at 35th and Pioneer and existing sections of S 35th. Benefits for overall traffic flow through Ridgefield, particularly reducing volumes through the Pioneer/Royle intersection: •By 2030, the planned S. 11th overpass across I 5 will help relieve pressure on the Pioneer/I 5 interchange. •The Green alignment allows two way travel between the following areas without routing vehicles through the Pioneer/Royle intersection: ·Neighborhoods north of Pioneer and west of 35th ·Royle Road and the future S. 11th overpass Grades are acceptable, reducing pedestrian/vehicle safety risks, particularly in inclement weather Lower risks: •Lower cost •Far lower Geotech risks •Lower environmental risks •Lower project schedule risk (primarily due to potential Geotech risks) •Higher probability of project completion (potential Geotech and other risks have the potential to derail the project) Retains historic Bertsinger Road route – potentially the last original road from Ridgefield’s rural heritage. Potential to reduce traffic on Pioneer at Reiman Road for traffic to/from I-5 and areas in Ridgefield to the east. Protects open public spaces through the beautiful area around Bertsinger Road. Cons Longer access to downtown Ridgefield from western end of Gee Creek Plateau. Note: This issue can be resolved by: •Making minor upgrades to the existing Bertsinger / S 1st / S 21st Corridor. This will require some “out-of-the-box” thinking. I request that City staff responsible for transportation planning reach out to me to discuss viable options. •Restricting traffic to/from all post 2007 subdivisions via Bertsinger as required by Ridgefield Heights and Ridgefield Farms Development Agreements.	Email (Comm. Open House 1)
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4/10/2026	Pros Shorter access to downtown Ridgefield from western end of Gee Creek Plateau Potential to reduce traffic along S 259th Cons High public safety risks. When Bertsinger is closed for design and construction work on the Red alternative (potentially months/years), only a single access point will exist for several hundred homes existing/currently-in-construction west of S 43rd. Given development applications that are already in the approval process in the area west of S 43rd, more homes and traffic will be added long before the Red alternative is completed. This issue alone should disqualify the Red option. Red Option does not replace the Green Option. The Green Option is part of the overall transportation plans and will need to be built relatively soon even if the Red Option is chosen, This makes the Red Option a very expensive luxury and will delay other needed transportation projects in Ridgefield. Higher project risks: •Higher cost •Higher schedule risk •Greater risk of project completion •Higher Geotech risks Higher environmental risks Unknown/potential Geotech risks/ hazards have the potential to increase costs, delay the schedule, and potentially freeze the project indefinitely mid-project. Geotech risks are not yet assessed, yet given the terrain, these Geotech issues could be very significant. Steeper grades which create pedestrian and vehicle safety risks, particularly in inclement weather. Potential to increase traffic on Pioneer at Reiman Road to/from I-5 and east along a narrow section of Pioneer Road with blind curves. Consumes open public space and footpaths in and around the Ridgefield Heights/ S 1st/Bertsinger area. Impacts on local residents. While Bertsinger is closed for design and construction work (potentially months/years), trips to and from Downtown Ridgefield will be up to five miles longer. Also, residents will no longer be able to walk between neighborhoods just north and south of Pioneer.	Email (Comm. Open House 1)
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4/10/2026	<u>Additional Cons</u> 1. Inconsistency with Previous Findings (2017 Final Order) The Final Order for PLZ-16-0049 explicitly stated that realignment to Pioneer Street via the Bertsinger corridor was "not likely to be constructed due to topographic, environmental and cost constraints." •The Concern: The "Red Option" (S. 25th) is functionally a recreation of the Bertsinger route that was already deemed unfeasible. Historically, Bertsinger encompassed what is currently S. 21st, S. 1st, and the remaining Bertsinger Road. Shifting the Pioneer connection point across the creek from S. 21st to S. 25th merely changes the street name; it does not change the terrain. Proposing this option ignores the historical record and the previous engineering conclusions that led to the 2017 Development Agreement. 2. Contradiction of Current Topographical Standards The City has moved toward more stringent protections against drastic topographical changes. The S. 25th option appears to require: •Major Earthworks: This route demands significant grading and soil movement that contradicts the City's stated goal of limiting drastic topographical changes—and this impact occurs before even reaching the creek and Bertsinger crossing. •Stability Risks: This route would abut Ridgefield Heights Phase V, which already features 40–60' artificially steep slopes on one side and a Gee Creek tributary ravine on the other. This positioning leaves no solid geotechnical anchor for the additional steep earthworks that would be required, especially given the current steep grade. 3. Environmental and Community Impact The S. 25th route would necessitate the destruction of additional mature tree canopies and the severe disruption of the ravine ecosystem. •Trail Destruction: Significant public investment has been made in the new trail system through the ravine and the common community area just east of S. 25th. Pursuing the S. 25th option would effectively bulldoze these established community assets. •Creek & Watershed Protection: The S. 25th route would severely impact a Gee Creek tributary and its surrounding riparian corridor. The environmental constraints mentioned in 2017 regarding the creek crossing remain completely unchanged. Furthermore, by degrading this tributary and its natural riparian buffer, the City would be directly compromising the health and water quality of the broader Gee Creek Watershed. The "Red Option" threatens these vital Critical Areas which the City is obligated to protect. 4. Fiscal Irresponsibility and Redundancy It is deeply frustrating to see public and developer funds being used to re-evaluate the exact same terrain that was disqualified nearly a decade ago. •The Concern: Why is the City spending resources to evaluate a route (S. 25th) that shares equal, if not greater, "topographic, environmental and cost constraints" than the abandoned Bertsinger route? The S. 35th option was already established as the primary access solution in the 2017 Agreement to avoid these very hurdles.	Email (Comm. Open House 1)
3/9/2026	How about a sidewalk, bike path, trail or anything safer to get to downtown Ridgefield? There are too many young people on e-bikes zipping down the road to town and there is not a bike lane or even a shoulder. Someone is going to get hurt. Plus, I would love to be able to walk the 2 miles to town, enjoy a coffee or have lunch, maybe a drink, and walk home.	Facebook (Comm. Open House 1)
3/9/2026	It'd be nice to have a sidewalk/bike path on Pioneer from 35th Pl to downtown Ridgefield	Facebook (Comm. Open House 1)
3/9/2026	Agreed. There's no safe biking or walking route from upper Pioneer to downtown that I'm aware of. I saw preliminary plans from 2016 for some kind of trail path connection, but it seems like nothing happened with it. I've heard rumors that the planning commission has been pushing for a bike/walk route from Pioneer to downtown for years. I think there must be different legislative and property barriers that have the city in a bind?	Facebook (Comm. Open House 1)

3/9/2026	Agree with prioritizing adding the sidewalk from seven wells entrance to the high school!!!	Facebook (Comm. Open House 1)
3/9/2026	Red please. Funding is already earmarked for Rieman Rd and Pioneer. This would allow all the western property owners an additional egress from Kemper Hill, including all the longtim and deeply vested property owners who are not a part of Lennar's project	Facebook (Comm. Open House 1)
3/9/2026	Green would be ideal. I appreciate that it would have a lower environmental and a lower cost. It also avoids any potential damage to historicaal monuments so it seems like a no brainer	Facebook (Comm. Open House 1)
3/9/2026	Red version. We need to quit stressing out roundabouts with more traffic on Pioneer. It's crazy withing the last two months one roundabout b 7/11 was hit and damaged and the newest one by Roseaurs was already hit and missing a chunk. Why would we keep adding more traffic dumping into these???	Facebook (Comm. Open House 1)
3/9/2026	Either way it's connecting to a roundabout. It either connects to the current one that's west of the one by Roseaurs or they will be building an entirely new one for the red option.	Facebook (Comm. Open House 1)
3/9/2026	They intend to do another roundabout on the red location if selected? The green location isn't Rosauers. It's the roundabout just before you get to the apartments and papa Murphey's if you're heading to i5 from downtown. If they add another one I can't believe how quickly the newest one was damaged and huge chunks of concrete are missing	Facebook (Comm. Open House 1)
3/9/2026	Yes, if the red option is selected it would be connected to yet another new roundabout. I attending the first meeting they about it. Sorry that's the roundabout that I was trying to describe. I just did a poor job	Facebook (Comm. Open House 1)
3/9/2026	I agree with Phase 3 of Royal Rd being complete first. Sidealks to high school and ball field	Facebook (Comm. Open House 1)
3/9/2026	How about we stop building shit housing and let the infrastructure get caught up	Facebook (Comm. Open House 1)
3/9/2026	How about you connect the road between In/Out and McDonalds. Ridiculous that you have to drive all the way across the bridge and turn around to get to the 76 and McDonalds	Facebook (Comm. Open House 1)
3/9/2026	I believe that's a lot owner dispute. Not sure what leverage the City would have in that issue	Facebook (Comm. Open House 1)
3/9/2026	Regardless it's ridiculous	Facebook (Comm. Open House 1)
3/9/2026	How about instead of a road, you put a bike path/trail in the green section and fix the red option as it's too narrow to access because it looks like a driveway	Facebook (Comm. Open House 1)
3/9/2026	They should do both.	Facebook (Comm. Open House 1)
3/9/2026	Attention City. Please work on Royle Rd by the High School Dip. The potholds are ridiculous! People should be charging the City fo their wheel alignments. It's also extremely unsafe for the kids and the people walking as there are no sidewalks. Those kids with ebikes need guidance from the police. The parents need guidance. This area shoul be a city priority.	Facebook (Comm. Open House 1)
3/9/2026	Please widen and add sidewalks down Royle Rd from the High School to 19th. This is dangerous to walk and seems at this time should be a priority	Facebook (Comm. Open House 1)
3/9/2026	Neither location is accessible to pedestriancs to stop planning this. Nobody wants or needs it	Facebook (Comm. Open House 1)

3/9/2026	Please finish the sidewalk/road on Royle Rd from the High School to 19th first	Facebook (Comm. Open House 1)
3/9/2026	Maybe it makes it safer for kids from the high school down Royle Rd but dince your not paying this like can you use who is and why you can't spend our tax dollars on things that matter or we have to wait for a kid to get hit so they sue the city? Matt Cole do your job please I know this will matter when your kids are in school or maybe when one gets hit	Facebook (Comm. Open House 1)
3/9/2026	Thank you!!! I saw your post after I wrote mine. Could the city be liable if someone would fall as people no choice but to walk on the side? What if someone gets hit by a car because the city isn't doing anything to make this area safe? The city has definitely been put on written notice of the risk in this stretch many times. Risk prevention should be addressing this area ASAP. The city and the Risk Prevention Dept. has now been put on written notice of the risk in this area twice in the city generated post	Facebook (Comm. Open House 1)
3/9/2026	Till the city manager is gone, nothing will change	Facebook (Comm. Open House 1)
3/9/2026	There's nothing wrong with politely asking vs. assuming negligence. You can always check out Ridgefield Roundabout for the status of projects across the city. This is a high priority project but requires additional funding. Check back here for updates: Ridgefield Roundtable	Facebook (Comm. Open House 1)
3/9/2026	I'm not claiming negligence but a lawyer will just wish you and others counseleers would put things at a higher priority don't what that light cost at the high school but sure that money could have to make a sidewalk and don't know why RFPD doesn't direct traffic still are they too good or is the city manager still incompetent? Don't worry I don't blame you it's him we want gone and till he is enjoy every mistake or things I disagree with	Facebook (Comm. Open House 1)
3/9/2026	Did the city really delete my comment y'all are sad fire the city manager and your social media manager for cencorship	Facebook (Comm. Open House 1)
3/9/2026	Glad my comment is back maybe it was just facebook but let's be honest your own wife has deleted comments before like I said you know what we all want and this should be a top priority along with firing the city manager no matter how many people come to defend you others will oppse you till Steve is gone	Facebook (Comm. Open House 1)
3/9/2026	I'm confident nobody deleted your comment. If you want to discuss any of this further, you can call city hall and make an appointment. I remain committed to our city manager and the work he and our staff do to run our city exceptionally well	Facebook (Comm. Open House 1)
3/9/2026	You already know by the color options the city will choose the green no matter how many favor the red option. They have month to burn on roads yet the trail system and sidewalks and crosswalks don't have signals	Facebook (Comm. Open House 1)
3/9/2026	The red option is pretty horrible, it will split a neighborhood in two and will dismantle a couple recently built walking trails	Facebook (Comm. Open House 1)
3/9/2026	The red option has far less impact on the green space, which is a key initiative of the city. The red option will directly serve the neighborhood you speak of. Walking trails can be redone	Facebook (Comm. Open House 1)
3/9/2026	We don't need more roads!!! We don't need more construction!!	Facebook (Comm. Open House 1)
3/9/2026	We desperately need a sidewalk on that Royle Rd hill to conenct what was built with the new subdivisions	Facebook (Comm. Open House 1)
3/9/2026	Please put some bike lanes in. This is one of the NE cities that has poor safe biking routes. And while you're at it on Royle Rd too. Pitiful!!	Facebook (Comm. Open House 1)

4/10/2026	If you have never visited the neighborhood along the green road, I encourage you to do so. Our road is now barely wide enough at times for two cars, and already established to the roundabout. Our neighborhood has four outlets leading to the road and the roundabout to lead majority of us to a main road to exit and enter our neighborhood and only one on the other half of our neighborhood. The sidewalk along that road now is not pushed back. The homes along the green would be very close to what potentially would be a 36 mph marked road, with no widening of the sidewalks or proper fencing to establish true safety to our residents and children. Since HOAs have been predominately taking over Ridgfield, the city has let go helping take care of our neighborhood. Streets are cleaned 4 times a year, trees that were once cut but the city have been left to overgrow because we don't "fit" the schedule. We have had icy roadways in previous winter seasons with a build up of leaves and natural debris in our roads, without a care of the city to help us maintain safety for us as drivers. Please, drive the road on the green. To see in person the impact it would have on many of us who live in the neighborhood. And I hope the city understands just because there is money involved now, we who have reached out to help with the previous issues I've addressed, won't forget how those issues were never your problem because there was no profit for you to do the right thing when it mattered.	Facebook (Comm. Open House 1)
4/10/2026	The green alternative makes way more sense!!! The red makes no sense at all.	Website (Comm. Open House 1)
4/10/2026	I am very concerned about the Red alternative. I live in the neighborhood near next to that proposed road and it would split the two neighborhood in half. It would also wipe away some walking trails and a pavilion that were recently added as features for our neighborhood. I also hate that this option would be a larger expense and would likely have a bigger environmental impact. If you are leaning this direction, I beg you to reconsider.	Website (Comm. Open House 1)
4/10/2026	I vote for the green alternative.....seems most direct route with limited interruption to the surrounding wildlife. Plus it is not being built in a floodplain.	Website (Comm. Open House 1)
4/10/2026	The red alternative would split Ridgfield Heights in two...would be the mitigation plan for traffic to ensure pedestrian safety?	Website (Comm. Open House 1)
4/10/2026	I would want to know if land on any housing areas would be taken to create the "green alternative" and if any home/land owners are particularly concerned about this. If the answer is there is not great concern, then the green alternative looks much more practical as a roundabout is already in place and those have proven to be substantially beneficial to the flow of traffic.	Website (Comm. Open House 1)

4/10/2026	I am writing to express my support for the Green Alternative for the proposed road connection. This option clearly provides broader benefits to the community by creating a more direct route between two larger and growing neighborhoods, rather than primarily serving a smaller number of residents in Ridgefield Heights. As our city continues to grow, it is important that infrastructure investments prioritize solutions that serve the greatest number of people and improve overall connectivity. In addition to its wider community benefit, the Green Alternative is the more practical and forward-looking choice. Its straighter alignment makes it more efficient, cost-effective, and easier to navigate compared to the curved design of the Red Alternative. It also aligns better with existing infrastructure, including roundabouts and I-5 access, and has the potential to reduce congestion on surrounding local streets. Given projected population growth, it is likely that a similar connection would need to be built in the future regardless—making it more sensible to construct the most direct and scalable option now. While the Red Alternative offers some localized benefits, particularly for Ridgefield Heights residents, the Green Alternative better serves the long-term needs of the broader community. For these reasons, I strongly encourage the city to move forward with the Green Alternative.	Website (Comm. Open House 1)
4/10/2026	Based on the information detailed here, the Green Alternative seems to be the best choice to me.	Website (Comm. Open House 1)
4/10/2026	Will there be separated bike lanes from vehicle traffic? It's difficult to ride a bicycle with young kids when cars and trucks are driving fast up and down our main corridors.	Website (Comm. Open House 1)
4/10/2026	My vote is for the green option but I don't see a place for me to vote	Website (Comm. Open House 1)
4/10/2026	I've spoken with many Ridgefield Heights residents and none of them prefer the Red Alternative. I'm not sure who is making the comment that it is improved access for the neighborhood. In fact, the Red Alternative cuts the neighborhood in two, takes away community space, and takes away walking paths that multiple families use daily. The Green Alternative was always the original plan and the infrastructure has been planned around it. Additionally, more direct i5, Costco, Rosauers, etc access is significantly more useful to the dozens of families that live in the neighborhood. As being part of the original plan the Green Alternative is what all the new developments have been showcasing as how Ridgefield is developing. Consistency with the plan is key so that residents do not feel surprises. Thank you for capturing the points in the final bullet! All are valid and 100% agree!	Website (Comm. Open House 1)
4/10/2026	Green option 100%. I live in Clover Hill and this option makes so much sense in terms of traffic management.	Website (Comm. Open House 1)
4/10/2026	Hi! I'm a resident on the other side of 35th & Pioneer. I would love to see the Green Alternative come through. It works well with our existing roundabout and reduces congestion. I personally would love the additional walking/biking area that is not on a major road.	Website (Comm. Open House 1)
4/10/2026	My preference is for the RED alternative. The reason is because, it will have a roundabout on Pioneer Street and North Reiman road, which we desperate need for safety. It doesn't make sense to construct a roundabout on the south side of the green alternative. Thanks for considering it.	Website (Comm. Open House 1)

4/10/2026	After careful consideration I prefer the red alternative. This alignment will enhance traffic safety by adding the proposed roundabout at the alignment of Pioneer and Reiman. In addition to providing enhanced access to the heart of our city for the residents of the new development, this would have a traffic calming effect and alleviate some of the current problems with speeds on this section of Pioneer	Website (Comm. Open House 1)
4/10/2026	Living in the area since 1998 and looking at the future development along Reiman Road, the long term advantage of the Red alternative is street calming along a new walkway to downtown Ridgefield. The Red alternative will keep the downtown more alive and vital by making improvements on a hill that everyone races down. The turn lane is not enough going down the hill. A whole new traffic revision is necessary since the new decade started. I vote for the Red alternative to be built 1st while downtown is still alive and while the new development is HOT (we have money coming in to build it now.) Vote RED	Website (Comm. Open House 1)
4/10/2026	I am in agreement that the Green alternative is a better alternative more direct and better aligned. My concern with the red alternative is that it's closer going into old town more rural of an area and I think it would cause a big mess of congestion and I think it's important that Ridgefield do whatever it can in order to preserve our older town Ridgefield along with the current Pioneer Street going down there without destroying the natural beauty of the area But one question I have is why is this even necessary either alternative? It doesn't seem to me that it's really necessary to increase access to every inch of land in Ridgefield. ever since the start of development in this city and especially since the widening of pioneer I think the flow of traffic is very good. There's no reason to be increasing roadways south side direction unless your plan is to one day be connecting up with another exit I5 maybe connecting at the battleground 502 but again I if I had to pick one, it is the Green alternative but again I don't see the necessity in doing this unless there is something more behind it like developing more homes and retail, and that opens up another entire subject because I don't believe we need to develop every inch of land in this city. We should try to retain some of its original beauty.	Website (Comm. Open House 1)
4/10/2026	The approval for Ridgefield Heights stated they could only build the first phase until 35th was funded. Your report says that if the 35th is chosen federal funding will be needed to build it. Why is Ridgefield Heights continuing to build houses if it's not fully funded?	Website (Comm. Open House 1)
4/10/2026	I'm a future resident in the Ridgefield Heights area near S 25th Place and S 4th Way, and I strongly support the Green Option for the South 35th Avenue connection. The Green Option appears to better balance long term connectivity with lower environmental and geotechnical risk, while also avoiding unnecessary disruption to established and planned residential areas. In contrast, the Red Option would introduce a primary connector directly through a neighborhood setting, increasing cut-through traffic, reducing safety for pedestrians, and impacting nearby community spaces. Of particular concern is the potential loss or disruption of recently developed neighborhood amenities and open space, which are important to the livability and long-term value of this area. The Green Option still achieves the project's connectivity goals while preserving neighborhood character and minimizing impacts to residents. For these reasons, I encourage the City to advance the Green Option as the preferred alternative	Website (Comm. Open House 1)

4/10/2026	How about a sidewalk, bike path, trail or anything safe to get to downtown Ridgefield? There are too many young people on e-bikes zipping down the road to town and there is not a bike lane or even a shoulder. Someone is going to get hurt. Plus, I would love to be able to walk the 2 miles to town, enjoy a coffee or have lunch, maybe a drink and walk home.	Website (Comm. Open House 1)
4/10/2026	My vote is green. Typography is less steep and makes sense with the existing development. Adding another roundabout or heavy traffic to pioneer is not a good idea. I do agree with the environmental and residential evaluation as that is important as you will be doing "imminent domaine" which is always a loss to the property owner.	Website (Comm. Open House 1)
4/10/2026	I would like to vote for the red path	Website (Comm. Open House 1)
4/10/2026	I support the "Green" alternative because it would disturb less wildlife and involve less engineering than the "Red" alternative.	Website (Comm. Open House 1)

APPENDIX

B

PRELIMINARY TRANSPORTATION ANALYSIS



Memorandum

DATE: April 10, 2026

TO: City of Ridgefield

FROM: John Manix, PJ McKelvey, and Emmelie Schultheis

PROJECT: 25005550, Phase 001.2, Task 0002

REGARDING: Gee Creek 35th Avenue Extension—Revised Summary of Analysis Findings

INTRODUCTION

This memorandum summarizes the existing transportation facilities and conditions, as well as the future year level of service (LOS) analysis for the identified study intersections in Ridgefield, Washington. The memorandum includes a summary of existing conditions and analyses for the 2040 planning horizon during the PM peak hour for both No-Build and Build scenarios, based on traffic model volumes provided by the Southwest Washington Regional Transportation Council (RTC) and subsequently post-processed volumes.

Two alternatives are analyzed for the 2040 Build scenario. The Green Alternative proposes connecting Pioneer Street with 35th Place in the Gee Creek Plateau area. The Red Alternative proposes a roundabout that realigns Reiman Road/Pioneer Street and Bertsinger Road. Travel demand modeling was used to evaluate changes in future traffic conditions associated with the implementation of the Green and Red Alternatives.

At the March 9, 2026 project open house, residents of the Gee Creek Plateau provided input on traffic concerns in the area. See Appendix G for a summary of the open house comments. The comments highlighted in yellow were addressed. This report does not address feasibility comments of building each alternative. Additional analysis of trip distribution within the Gee Creek Plateau to the Red Alternative, Green Alternative, and Royle Road corridors was conducted to determine which option minimizes east-west traffic on local roads.

EXECUTIVE SUMMARY

This analysis indicates that both the Green and Red Alternatives would support continued transportation growth around the Gee Creek Plateau area, with the most substantial operational benefits occurring at the Reiman Road/Pioneer Street intersection. The Green Alternative results in minor or negligible improvements at the study intersections. The Red Alternative significantly improves operations at Reiman Road/Pioneer Street intersection through the implementation of a single-lane roundabout, with only minor or negligible changes at the studied intersections along the arterial network surrounding the Gee Creek Plateau.

When compared directly, the Red Alternative generally results in minor delay reduction and v/c improvements at the Royle Road / Pioneer Street and re-configured Reiman Road & Bertsinger Road / Pioneer Street study intersections. The Green Alternative does not provide any tangible operational benefits over the Red Alternative. Overall, neither alternative is projected to introduce significant operational delay or benefit to the surrounding roadway network.

A pattern of sideswipes and fixed-object collisions was identified at the 56th Place and Pioneer Street intersection. The majority of the sideswipe and left-turn collisions occurred when drivers failed to yield the right-of-way to vehicles already circulating within the roundabout or executing improper turning movements. Many of the fixed-object collisions were associated with driver impairment due to alcohol use or excessive speed.

A Red Alternative conversion of the Reiman Road / Pioneer Street intersection from a three-leg two-way stop-controlled intersection to a four-leg single-lane roundabout is estimated to reduce the 2040 estimated five-year collisions from 7 to 2 collisions. The collision rate is estimated to be reduced from 0.27 collisions per MEV to 0.08 collisions per MEV.

Based on closer proximity to the center of the Gee Creek Plateau, the Green Alternative provides the greatest service area within the Gee Creek Plateau for future development if only one of the Red or Green Alternatives are implemented.

The Red Alternative provides the greatest relief of existing traffic impacts through the Gee Creek Plateau by diverting traffic destined to Pioneer Street and the Interstate 5 (I-5) interchange. The Red Alternative also replaces Bertsinger Road, which previously provided access to the Gee Creek Plateau.

For an area the size of the Gee Creek Plateau, both the Green and Red Alternatives should be considered to meet collector roadway spacing of approximately one-half mile. A combination of the Red and Green Alternatives supports Comprehensive Plan Policies TR-8 (Transportation circulation and system connectivity), TR-9 (Livable streets), and TR-10 (Neighborhood streets).

Assuming neither alternative has a fatal feasibility constraint, the Red Alternative better addresses existing traffic within the Gee Creek Plateau, while the Green Alternative serves a larger area. A combination of both alternatives would provide a more complete roadway network.

Scope of Study

This study documents the existing and proposed conditions, traffic data, safety evaluation, and intersection operations prepared in coordination with the City of Ridgefield (City). See Figure 1 for a vicinity map.

The following intersections were identified by the City for analysis:

1. S 9th Avenue / Pioneer Street
2. Reiman Road / Pioneer Street
3. N 35th Avenue / Pioneer Street
4. Royle Road / Pioneer Street
5. Pioneer Canyon Drive / Pioneer Street
6. 56th Place / Pioneer Street
7. Bertsinger Road / Pioneer Street
8. Royle Road / S Wells Drive
9. Hillhurst Road / Royle Road
10. Bertsinger Road & Reiman Road / Pioneer Street (Proposed)

The traffic-related issues addressed in this report include:

- Existing vehicular, bicycle, and pedestrian facilities

- Forecast year (2040) conditions without and with the Green Alternative
- Forecast year conditions without and with the Red Alternative
- Collision analysis of existing scenarios and the Reiman Road / Pioneer Street intersection in the forecast year with the Red Alternative

The Green Alternative connects S 35th Place to Pioneer Street, providing a more direct connection to the surrounding roadway network. The Red Alternative connects to Pioneer Street at the intersection of Reiman Road. This alignment begins at S 25th Place and extends north to the Pioneer Street and Reiman Road intersection. The Red Alternative also proposes construction of a new roundabout that realigns the Reiman Road / Pioneer Street and Bertsinger Road intersection. Exhibit 1 illustrates the approximate locations and conceptual layouts of both the Red and Green Alternatives.

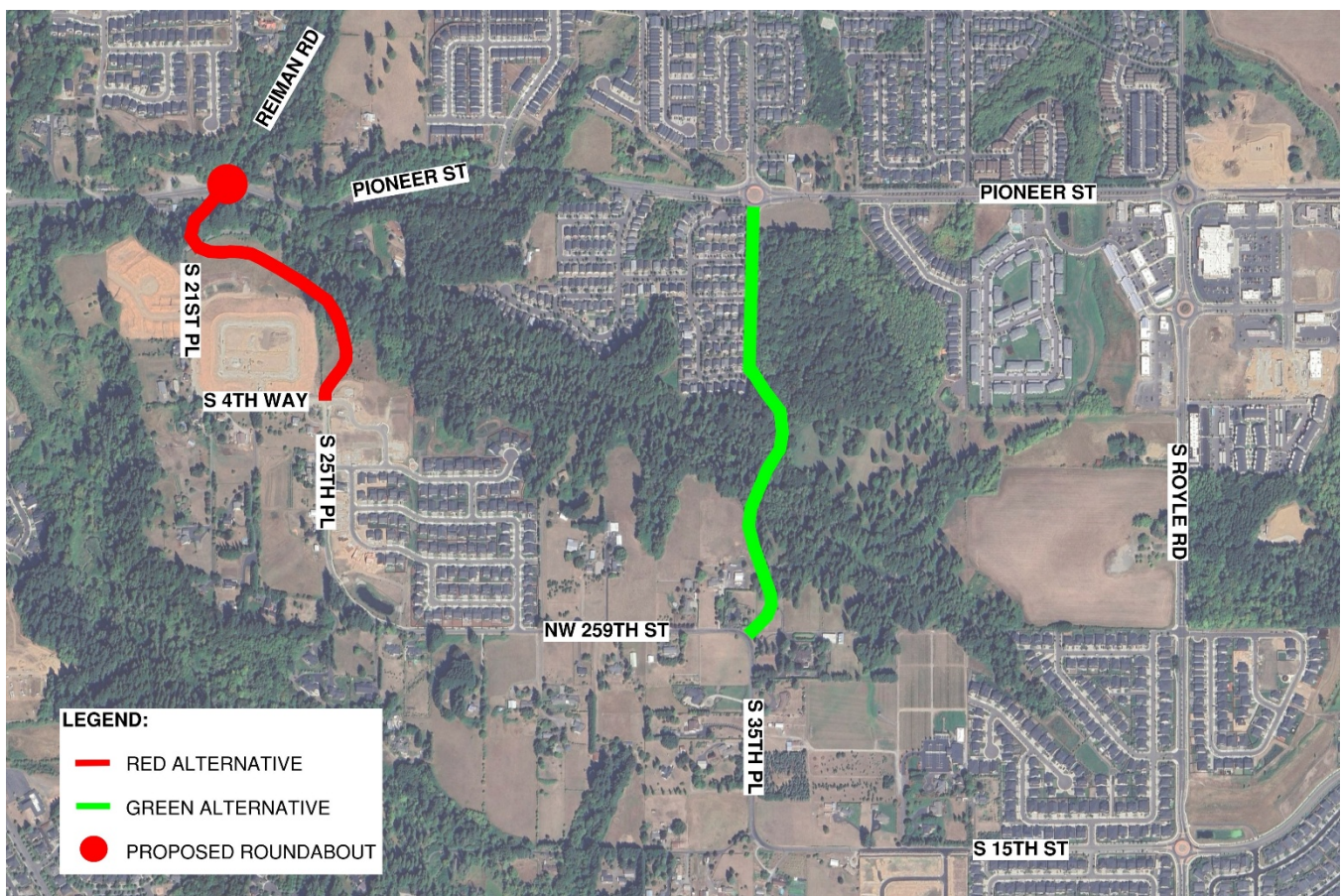


Exhibit 1. Red and Green Alternatives Map

EXISTING CONDITIONS

This section summarizes the existing vehicular, bicycle, and pedestrian facilities within the study area and gives an overview of the current roadway configurations, as well as the presence and characteristics of bicycle and pedestrian facilities within the study area. These existing conditions provide the baseline for evaluating future year operations and identifying potential transportation system needs associated with the Green Alternative.

Existing Vehicular and Bicycle Facilities

Table 1 summarizes the existing vehicular and bicycle facilities within the study area. The inventory identifies current speed limits, travel lanes, shoulder widths, and available bicycle accommodations, providing a baseline understanding of the transportation facilities throughout the study area.

Table 1. Existing Vehicular and Bicycle Facilities

Roadway Segment	Speed Limit (mph)	Lane Configuration			Bicycle Facilities	
		Lanes	Lane Width	Shoulder Width	Bike Lane	Lane Width
Pioneer Street (56th Place to S 9th Avenue)	35–40	2–4	11'	3'–5'	Partial	5'
Royle Road (Pioneer Street to Hillhurst Road)	35	2–4	11'–12'	0'–5'	Partial	5'
S 15th Street (west of Royle Road)	35	2	9'–11'	0'–5'	Partial	5'
S Wells Drive	35	2–3	11'	4'	Yes	4'
S 35th Place (south of Pioneer Street)	35	2	12'	0'	NA	
NW 259th Street	35	2	12'	0'	NA	
S 9th Avenue - S Hillhurst Road	25–35	2–3	12'	0'–14'	Partial	5'
Reiman Road	25	2	11'	0'–3'	NA	
N Pioneer Canyon Drive	25	2–3	12'	4'–6'	Partial	5'
N 56th Place	25	2–4	12'–20'	0'	NA	
S Bertsinger Road	20	2	7'	0'	NA	

mph: miles per hour; NA: not applicable

Existing Pedestrian Facilities

Table 2 summarizes the existing pedestrian facilities within the study area, including the presence and width of sidewalks, the presence of crosswalks, and the length of crosswalks. This inventory provides an overview of current pedestrian infrastructure surrounding the Gee Creek Plateau study area.

Table 2. Existing Pedestrian Facilities

Roadway Segment	Sidewalk		Crosswalk		
	Sidewalks	Width	Crosswalk	Length	Pathway or Trails
Pioneer Street (56th Place to S 9th Avenue)	Partial	8 feet	Yes	55'	No

Roadway Segment	Sidewalk		Crosswalk		
	Sidewalks	Width	Crosswalk	Length	Pathway or Trails
Royle Road (Pioneer Street to Hillhurst Road)	Partial	6 feet	Yes	30'-55'	Yes
S 15th Street	Partial	6 feet	Yes	30'	No
S 35th Place	No	NA	Yes	40'	NA
NW 259th Street	Yes	6 feet	No	NA	No
S 9th Avenue / S Hillhurst Road	Yes	6 feet	Yes	25'-60'	No
Reiman Road	No	NA	No	NA	No
N Pioneer Canyon Drive	Yes	9 feet	Yes	30-50'	No
N 56th Place	Yes	7 feet	Yes	45'-60'	No
S Bertsinger Road	No	NA	No	NA	No

NA: not applicable

Exhibit 2 below shows the locations of crosswalks and sidewalks around the study area roadways.

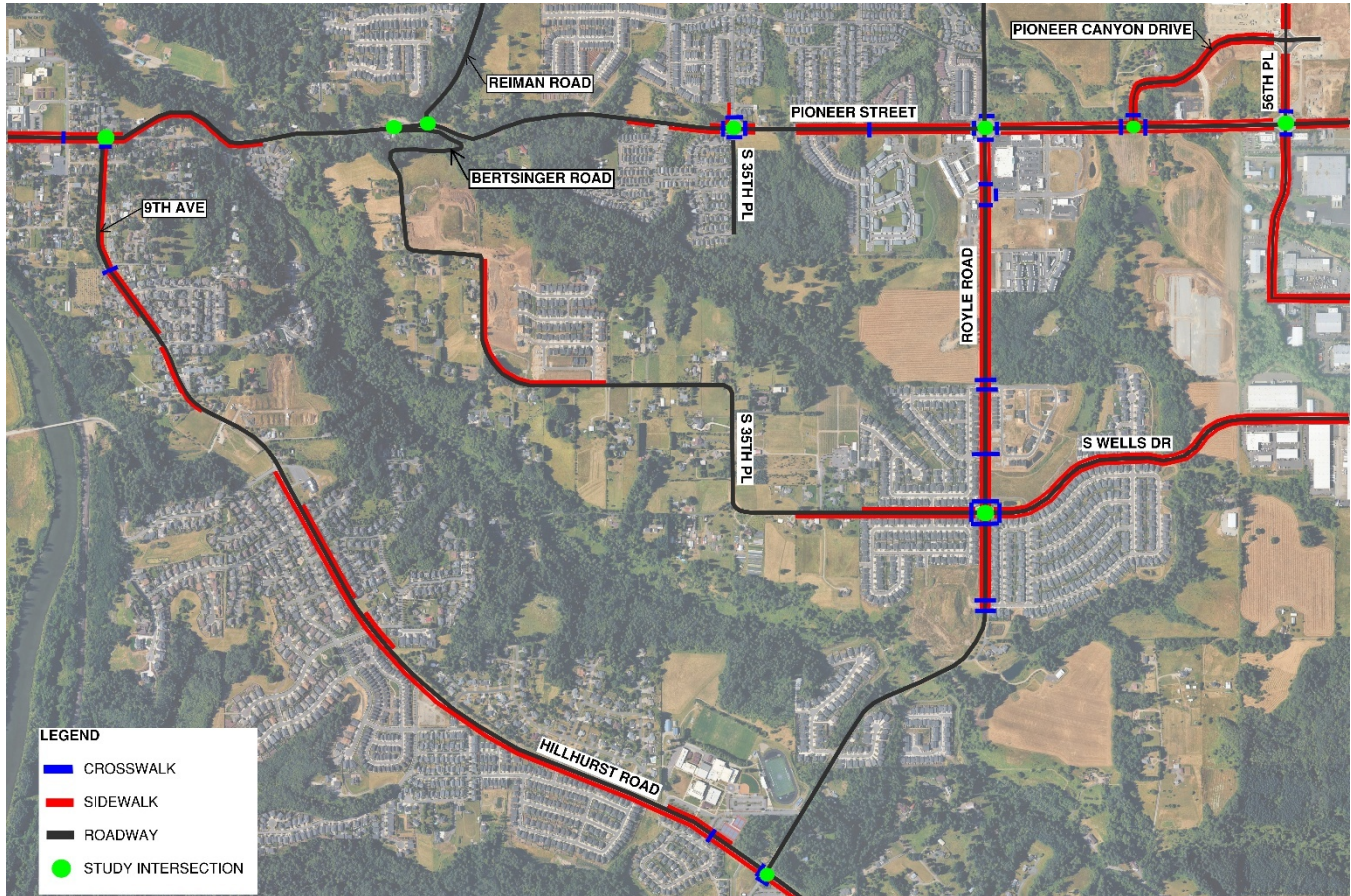


Exhibit 2. Crosswalk and Sidewalk Locations

REGIONAL TRAVEL DEMAND MODEL

The Regional Transportation Council (RTC) travel demand models were used to evaluate existing and future traffic volumes and travel patterns for the Gee Creek Plateau area. The analysis relied on the 2015 base year model to represent existing conditions and the 2040 forecast models to evaluate 2040 No-Build and Build scenarios, including the Green Alternative, Red Alternative, and a combined condition with both alternatives. These models were reviewed for the PM peak hour, with a focus on traffic analysis zones (TAZs) 2084 and 2087.

Select link volumes, travel times, and select zone assignment outputs were requested for both the No-Build and Build scenarios and subsequently used in post-processing traffic volumes to evaluate project-related traffic conditions and the regional travel impacts of the proposed 35th Avenue extension. The 2040 forecast models provide a basis for comparing future travel times with and without the Green Alternative. The RTC select and combined zone model outputs are provided in Appendix C for reference and Exhibit 3 below illustrates the locations of TAZs 2084 and 2087.

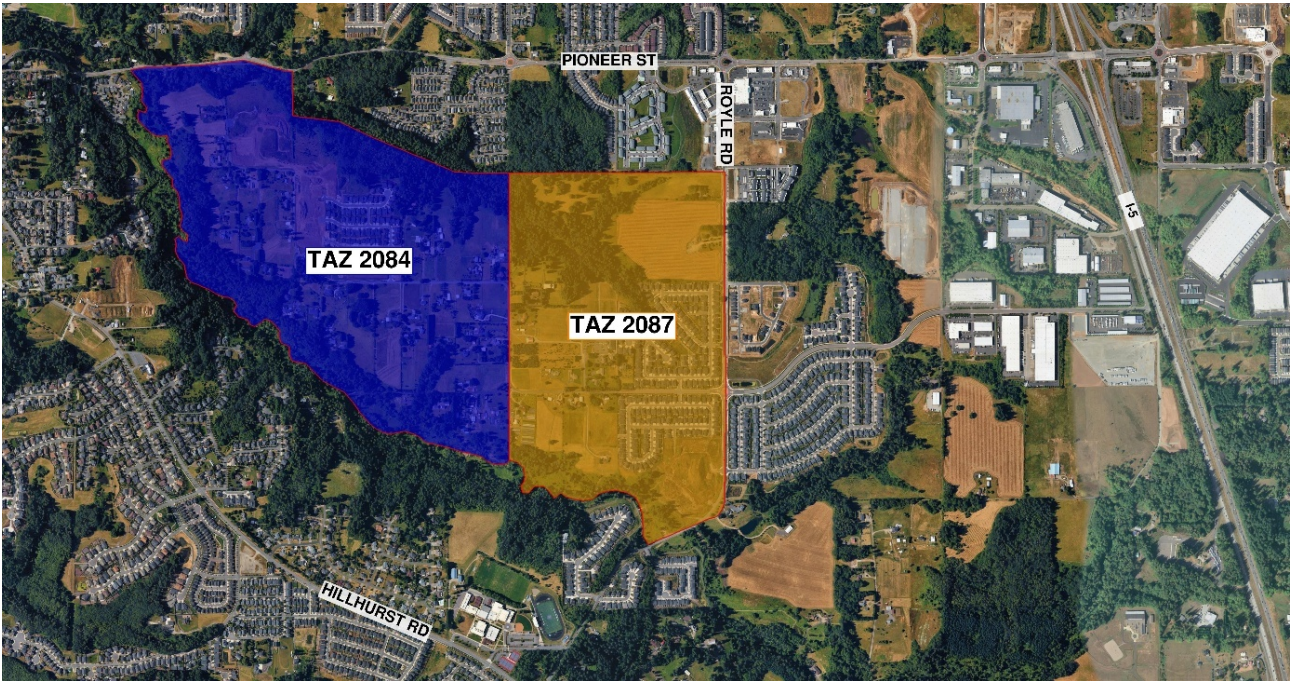


Exhibit 3. TAZ Locations

Travel Times to Desired Destination

This section summarizes forecasted changes in average travel times between two key TAZs within the study area and selected community destinations, including downtown Ridgefield, Ridgefield High School, and I-5. Travel time modeling was provided by RTC. Travel times were evaluated for the 2040 No-Build and 2040 Green and Red Alternative Build scenarios to assess how network changes may influence accessibility. See Table 3 and Table 4 for travel times to and from the selected destinations presented in minutes and Appendix D for travel time calculations.

The Red Alternative was not included in the travel time analysis because it is not expected to affect route choice or travel time decisions. The regional travel demand model already recognizes Bertsinger Road and the roundabout would not substantially change network connectivity or modeled travel paths.

Table 3. Travel Time for TAZ 2084

Desired Destination	Travel Time (minutes)—TO Destination			Travel Time (minutes)—FROM Destination		
	2040 No Build	2040 Green Alternative Build	2040 Red Alternative Build	2040 No Build	2040 Green Alternative Build	2040 Red Alternative Build
Downtown Ridgefield	6.0	4.6	3.1	6.0	4.8	3.1
Ridgefield High School	5.2	6.0	6.0	5.2	6.1	6.0
I-5	4.2	4.1	4.2	4.3	4.5	4.5

Table 4. Travel Time for TAZ 2087

Desired Destination	Travel Time (minutes)—To Destination			Travel Time (minutes)—From Destination		
	2040 No Build	2040 Green Alternative Build	2040 Red Alternative Build	2040 No Build	2040 Green Alternative Build	2040 Red Alternative Build
Downtown Ridgefield	4.9	4.6	5.1	4.9	4.7	5.2
Ridgefield High School	4.1	4.4	4.4	4.1	4.4	4.4
I-5	3.1	3.3	3.3	3.2	3.4	3.6

A summary of travel time findings comparing the 2040 No build against the 2040 Green and Red Alternative Builds is provided below for each TAZ.

TAZ 2084:

- Large decrease in travel time to and from downtown Ridgefield (greater than a 1-minute difference between the 2040 No-Build, 2040 Green Alternative Build, and the 2040 Red Alternative Build conditions)
- Small increase in travel time to and from Ridgefield High School (less than a 1-minute difference between the 2040 No-Build, 2040 Green Alternative Build, and the 2040 Red Alternative Build conditions)
- Negligible change in travel time to and from I-5 (less than a 0.5-minute difference between the 2040 No-Build, 2040 Green Alternative Build, and the 2040 Red Alternative Build conditions)

TAZ 2087:

- Negligible change in travel time to and from downtown Ridgefield (less than a 0.5-minute difference between the 2040 No-Build, 2040 Green Alternative Build, and the 2040 Red Alternative Build conditions)
- Negligible increase in travel time to and from Ridgefield High School (less than a 0.5-minute difference between the 2040 No-Build, 2040 Green Alternative Build, and the 2040 Red Alternative Build conditions)
- Negligible increase in travel time to and from I-5 (less than a 0.50-minute difference between the 2040 No-Build, 2040 Green Alternative Build, and the 2040 Red Alternative Build conditions)

INTERSECTION OPERATION ANALYSES

Operations Description

Traffic operations are assessed in terms of Level of Service (LOS), a concept developed by transportation engineers to qualify the level of operation of intersections and roadways (*Highway Capacity Manual* (HCM)¹. LOS measures are classified in grades "A" through "F," indicating a range of operation, with LOS "A" signifying the best level of operation and LOS "F" representing the worst level.

LOS at unsignalized intersections is quantified in terms of average delay per vehicle. LOS "A" reflects full freedom of operation for a driver, while LOS "F" represents operational failure.

¹ Transportation Research Board, National Research Council. (2016). *Highway Capacity Manual* (HCM), 6th Edition.

The volume-to-capacity (v/c) ratio quantifies the portion of the theoretical capacity consumed by traffic demand volume. A v/c ratio of zero (0.00) reflects none of the capacity is consumed and all the capacity is fully available. A v/c ratio of one (1.00) reflects all the capacity is consumed and represents operational failure. The v/c ratio can be calculated for an intersection approach lane or for a signalized intersection as a whole, with the latter calculation aggregating the v/c ratios of the critical movements.

Operation Standards

The City² considers LOS “D” in the peak hour the minimum acceptable operation, except LOS “E” is considered acceptable at unsignalized intersections that do not meet signal warrants or where a signal is not desired.

Washington State Department of Transportation (WSDOT)³ considers LOS “E” in the peak hour the minimum acceptable operation along Pioneer Street (State Route, or SR 501), NE 219th Street (SR 502), and their intersections. At roundabouts, WSDOT recommends a maximum v/c ratio of 0.9⁴.

Analysis Methodology

The project’s traffic impacts were estimated to determine the changes in traffic conditions. To make these determinations, the following were employed:

- The individual PM peak hour volumes were analyzed for 2025, 2040 No-Build, 2040 Green Alternative, 2040 Red Alternative, and 2040 Combined Green and Red Alternative Build scenarios.
- The peak hour factor (PHF) for the overall intersection, as calculated from the 2025 count data, was applied to the 2025 Existing Conditions analysis scenario. For the 2040 scenarios, the PHF was increased to 1.00 to reflect the uncertainty of long-range (over 10 years) future traffic volume forecasts and the gradual smoothing of traffic peaks that typically occurs with increasing volumes (WSDOT *Traffic Analysis Guide*).⁵
- A minimum heavy vehicle percentage (HV%) of 2% was assumed for each movement for the existing 2025 scenario. The HV% calculated from the count data was applied if it was greater than 2%. For the 2040 scenario, the HV% was set to 2% for each movement as a conservative and uniform method.
- At signalized intersections:
 - Signal timing and phasing was provided by Clark County for the Royle Road / Hillhurst Road intersection.
- The LOS for all signalized and stop-controlled intersections was calculated with Trafficware’s Synchro software, Version 11, based on HCM 6th Edition methodologies. The HCM thresholds for LOS letter grades are linked to average delay, which is measured in seconds per vehicle (s/v), and to the v/c ratio when it exceeds 1.00.
- Intersection results are reported differently depending on the control type.

² City of Ridgefield. (2016). *City of Ridgefield Urban Area Comprehensive Plan 2016 Update*, Chapter 8.1.4.

³ Washington State Department of Transportation (WSDOT). (2010, January 1). *Level of Service Standards for Washington State Highways*, for Clark County.

⁴ WSDOT. (2021, March). “WSDOT Sidra Policy Settings.”

⁵ WSDOT. (2019, February). *Traffic Analysis Guide*.

- Two-way-stop-controlled (TWSC) intersection results report the critical movement LOS, delay, and critical approach v/c ratio.
- All-way-stop-controlled (AWSC), signalized, and roundabout intersection results report the overall intersection LOS and delay as well as the critical lane v/c ratio.

LOS calculation reports for the study area intersections are provided in Appendix B. The key analysis findings are listed in the following tables.

Existing Traffic Volumes

Turning movement counts were gathered for the weekday PM (2:00 to 6:00 pm) peak hour by REKOR on December 10, 2025, at the following list of studied intersections. Copies of the count data are provided in Appendix A.

1. S 9th Avenue / Pioneer Street
2. Reiman Road / Pioneer Street
3. 35th Place / Pioneer Street
4. Royle Road / Pioneer Street
5. Pioneer Canyon Drive / Pioneer Street
6. 56th Place / Pioneer Street
7. Bertsinger Road / Pioneer Street
8. Royle Road / S Wells Drive
9. Royle Road / Hillhurst Road

Future Traffic Volumes

The future 2040 No-Build and Build volumes were estimated by post-processing the RTC travel demand model link volumes using the process outlined in the National Cooperative Highway Research Program (NCHRP) Report 765⁶. Copies of the post-processed volumes using the NCHRP method are provided in Appendix E.

Operations Analyses

The following sections evaluate operational conditions during the weekday PM peak hour. Analysis is first presented for the 2025 Existing Conditions scenario, followed by the 2040 No-Build scenario. The 2040 Build scenarios are then summarized, including conditions with the Green Alternative, Red Alternative, and the combined alternatives.

The following directional abbreviations are used within the LOS tables:

- EB: eastbound
- NB: northbound
- SB: southbound
- WB: westbound
- SBL: southbound left

⁶ Horowitz, Alan, Creasy, Tom, Pendyala, Ram, and Chen, Mei. (2014). "Model Output Refinements" in *Analytical Travel Forecasting Approaches for Project-Level Planning in Design*. National Academics of Sciences, Engineering, and Medicine. Washington, DC: The National Academies Press.

2025 Existing Conditions and 2040 No-Build

Table 5 presents the LOS for each studied intersection for the 2025 Existing conditions scenario and the 2040 No-Build scenario during the PM peak hour. See Appendix B for the LOS reports. See Figure 2 for 2025 Existing Volumes and Figure 3 for 2040 No-Build volumes.

Table 5. Summary of LOS for PM Peak Hour 2025 Existing and 2040 No-Build Conditions

Int. #	Intersection	Traffic Control ^a	2025 Existing			2040 No-Build		
			LOS	Delay (s/v)	v/c (lane)	LOS	Delay (s/v)	v/c (lane)
1	9th Avenue / Pioneer Street	AWSC	B	12.6	0.50 (EB)	B	14.0	0.59 (WB)
2	Reiman Road / Pioneer Street	TWSC	B	14.2	0.20 (SBL)	C	16.5	0.30 (SBL)
3	N 35th Avenue / Pioneer Street	RAB	A	6.6	0.56 (WB)	A	7.3	0.63 (WB)
4	Royle Road / Pioneer Street	RAB	A	9.4	0.47 (SB)	B	17.5	1.02 (SB)
5	Pioneer Canyon Drive / Pioneer Street	RAB	A	5.0	0.39 (WB)	A	5.2	0.54 (WB)
6	56th Place / Pioneer Street	RAB	B	8.7	0.60 (WB)	B	11.6	0.81 (WB)
7	Bertsinger Road / Pioneer Street	TWSC	B	11.2	0.01 (NB)	B	11.9	0.01 (NB)
8	Royle Road / S Wells Drive	RAB	A	7.7	0.33 (SB)	A	8.6	0.55 (SB)
9	Hillhurst Road / Royle Road	Signal	B	18.1	0.56 (SBL)	B	18.8	0.59 (SBL)

Bold font indicates intersection or critical movement exceeds the acceptable standard and/or operates over capacity.

^a Existing control at the time of analysis. RAB = roundabout. Signal = traffic signal.

As shown in Table 5, all studied intersections operate at an acceptable LOS and v/c ratio in the 2025 Existing and 2040 No-Build conditions during the PM peak hour, with the exception of the Royle Road and Pioneer Street intersection in the 2040 No-Build scenario. This intersection exceeds WSDOT's recommended maximum v/c ratio of 0.90, likely due to high westbound left-turn and through volumes.

2040 Build

Table 6 presents the LOS for each studied intersection for the 2040 Build during the PM peak hour. The table includes the Green Alternative, Red Alternative, and a combination of both alternatives. See Figure 4 for 2040 Build Green Alternative volumes, Figure 5 for 2040 Build Red Alternative volumes, and Figure 6 for the combined Build Red & Green Alternative volumes.

Table 6. Summary of LOS for PM Peak Hour 2040 Build Conditions

Int. #	Intersection	Traffic Control ^a	Green Alternative			Red Alternative			Both Alternatives		
			LOS	Delay (s/v)	v/c (lane)	LOS	Delay (s/v)	v/c (lane)	LOS	Delay (s/v)	v/c (lane)
1	9th Avenue / Pioneer Street	AWSC	B	14.1	0.59 (WB)	B	14.4	0.59 (WB)	B	14.2	0.59 (WB)
2	Reiman Road / Pioneer Street	TWSC	C	16.6	0.30 (SBL)	See Intersection #10			See Intersection #10		
3	N 35th Avenue / Pioneer Street	RAB	A	7.6	0.70 (WB)	A	7.3	0.69 (WB)	A	7.5	0.70 (WB)
4	Royle Road / Pioneer Street	RAB	B	16.7	1.00 (SB)	B	15.6	0.96 (SB)	B	18.2	1.03 (SB)
5	Pioneer Canyon Drive / Pioneer Street	RAB	A	5.3	0.55 (WB)	A	5.3	0.54 (WB)	A	5.3	0.55 (WB)
6	56th Place / Pioneer Street	RAB	B	11.6	0.81 (SB)	B	11.6	0.81 (SB)	B	11.6	0.81 (SB)
7	Bertsinger Road / Pioneer Street	TWSC	B	12.0	0.01 (NB)	See Intersection #10			See Intersection #10		
8	Royle Road / S Wells Drive	RAB	A	8.2	0.46 (SB)	A	8.2	0.47 (SB)	A	8.2	0.46 (SB)
9	Hillhurst Road / Royle Road	Signal	B	18.9	0.59 (SBL)	B	18.9	0.59 (SBL)	B	18.9	0.59 (SBL)
10	Bertsinger Road & Reiman Road / Pioneer Street	RAB	Does Not Exist			A	6.5	0.54 (WB)	A	6.0	0.39 (WB)

Bold font indicates intersection or critical movement exceeds the acceptable standard and/or operates over capacity.

^a Existing control at the time of analysis. RAB = roundabout. Signal = traffic signal.

As shown in Table 6, all study intersections are projected to operate at acceptable levels of service (LOS) under the 2040 Build scenarios, with the exception of the Royle Road and Pioneer Street intersection. Under all 2040 Build conditions, increased delay at this location is anticipated due to high westbound left-turn and through volumes circulating within the roundabout.

COLLISION ANALYSIS

Collision data from the study area was obtained from WSDOT for the five-year period spanning from January 2020 through December 2024. This collision analysis assumes that a collision rate less than the critical collision rate of 1.00 collisions per million entering vehicles (MEV) for the intersection is typically considered to be within acceptable parameters. A collision rate above the critical rate is worthy of further examination. To calculate the collision rate, the PM peak hour total entering volumes from the existing turning movement counts were multiplied by 10 to provide an approximation of the average daily traffic (ADT).

The detailed collision data, the calculations of the critical rates, and the calculations of the collision rates are provided in Appendix F. Table 7 presents the results of the collision analysis.

Table 7. Collision Analysis for Study Intersections (January 2020 through December 2024)

Int. #	Intersection	Collision Type					Total Collisions	Collision Rate
		Angle	Sideswipe	Rear-end	Object	Unknown		
1	9th Avenue / Pioneer Street	--	1	--	--	--	1	0.07
2	Reiman Road / Pioneer Street	4	--	--	--	--	4	0.27
3	N 35th Avenue / Pioneer Street	1	--	1	1	1 ^a	4	0.19
4	Royle Road / Pioneer Street	--	--	--	--	--	0	0.00
5	Pioneer Canyon Drive / Pioneer Street	NA ^b						
6	56th Place / Pioneer Street	1	13	2	5	--	21	0.36
7	Bertsinger Road / Pioneer Street	--	--	--	--	--	0	0.00
8	Royle Road / S Wells Drive	--	--	--	1	--	1	0.07
9	Royle Road / Hillhurst Road	--	2	--	1	--	3	0.13

"--" indicates no collisions reported. NA: not applicable

^a Collision occurred while circulating within the roundabout; the collision type was not stated.

^b Intersection was constructed in 2025; therefore, no collision data is currently available.

As shown in Table 7, all calculated collision rates are lower than 1.00.

Findings: A pattern of sideswipes and fixed-object collisions was identified at the 56th Place and Pioneer Street intersection. The majority of the sideswipe and left-turn collisions occurred when drivers failed to yield the right-of-way to vehicles already circulating within the roundabout or executing improper turning movements. Many of the fixed-object collisions were associated with driver impairment due to alcohol use or excessive speed.

Collisions Analysis – Red Alternative Conversion of Reiman Road / Pioneer Street to Single-Lane Roundabout

Part of the proposed Red Alternative is the reconstruction of Reiman Road / Pioneer Street from a three-leg two-way stop-controlled intersection to a four-leg single-lane roundabout. In an effort to estimate the safety effects of this change, a crash modification factor was used to estimate the change in collision rate and number of collisions for the changed intersection. For the purposes of this work, future 2040 forecast volumes at the intersection were used as a basis for comparison to the existing collisions analysis.

The existing intersection ADT for Reiman Road / Pioneer Street was estimated to be 8,170 based on PM peak hour turning movement counts. Utilizing a similar methodology for the 2040 forecast volumes, the expected 2040 ADT for Reiman Road / Pioneer Street is estimated to be 13,220.

The established collision rate of the Reiman Road / Pioneer Street intersection is 0.27 collisions per MEV, as shown in Table 7. We will assume that the collision rate remains constant into the future without the Red Alternative. Without the Red Alternative, the conservative estimate of collisions over a five-year period based on the 2040 ADT is 7 collisions, 3 greater than the total collisions shown in Table 7.

In order to determine the estimated collision rate of the Reiman Road / Pioneer Street intersection with the Red Alternative, a crash modification factor (CMF) is multiplied with the current collision rate. The CMF used for this purpose was identified from the Safety Performance for Intersection Control Evaluation (SPICE) Tool from the National Cooperative Highway Research Program (NCHRP) Report 1087. A CMF of 0.22 was identified based on a one-lane, suburban, "Minor Road Stop" converting to a roundabout. CMFs differentiating between total collision types and fatal and injury types were both a value of 0.22 in this conversion scenario.

The new Red Alternative collision estimate is the previous conservative 2040 collision estimate of 7 collisions, multiplied by the identified CMF of 0.22. This Red Alternative collision estimate is rounded up to 2 collisions, 5 less than the no Red Alternative collisions estimate and 2 less than the current collisions estimate. The Red Alternative collision rate is reduced from 0.27 collisions per MEV to 0.08 collisions per MEV based on the estimated reduced collisions.

Findings: A Red Alternative conversion of the Reiman Road / Pioneer Street intersection from a three-leg two-way stop-controlled intersection to a four-leg single-lane roundabout is estimated to reduce the 2040 estimated five-year collisions from 7 to 2 collisions. The collision rate is estimated to be reduced from 0.27 collisions per MEV to 0.08 collisions per MEV.

OPEN HOUSE COMMENTS

On March 9, 2026, a community Open House was held to present preliminary traffic and environmental findings for the Red and Green Alternatives. See Appendix G for the Open House #1 Meeting Summary. The February 27, 2026 draft of this report (Draft Report) has been updated to address comments received during the open house.

The Draft Report addressed traffic impacts at arterial roadway intersections in the vicinity of the Gee Creek Plateau. The scope of the report has since been expanded to address traffic circulation within the Gee Creek Plateau. Feasibility, environmental and redundant comments are not addressed in this report. The following is a list of traffic circulation comments addressed in this report:

1. "The Green Alternative is closer to the anticipated growth areas...making it more effective solution to relieving current and future traffic concerns."
2. "The Green Alternative is preferred and noted that it is consistent with the City's transportation plans."
3. "The Red Alternative noted that it would provide a more direct and convenient connection for Ridgefield Heights residents, improving access to Pioneer Street, downtown, and emergency services while reducing the need to travel out of the neighborhood to reach key routes."

4. "There was clear interest in incorporating safety and traffic-calming measures, such as speed management and improved pedestrian crossings, regardless of which alternative is selected."
5. "Bertsinger Road is a lovely, pastoral drive, but we feel it is unsafe for a larger population. It has always been somewhat dangerous, but more cars increase the likelihood of an accident. Our family thinks it makes logical sense to provide an outlet for the Heights neighborhood NEARER to the Heights houses themselves."
6. "For people near 25th Pl it would make it much easier to not just get on Pioneer, but especially to go downtown without going east to 35th and back on Pioneer. For those residents closer to 35th, going south to 15th St and to Royle Rd is already an easy acceptable route."

Follow-Up to Open House Comments

The following responses are numbered to correspond to the Open House comments. The evaluation is primarily qualitative analysis (engineering judgement) rather than quantitative analysis (calculations). Additional transportation modeling from RTC was requested and reviewed; however, modeling of local and collector roadways within the Gee Creek Plateau is not as precise as the volumes shown on the output plots. The volumes should be interpreted as order of magnitude volumes and trends.

1. The Green Alternative is closer to the undeveloped area; however, the 2040 transportation model does not show significantly more trips using the Green Alternative compared to the Red Alternative. The Gee Creek Plateau area east of 35th Avenue appears to route to Royle Road rather than back to 35th Avenue. The area west of 35th Avenue uses either the Red or Green Alternative approximately the same. There are less than 10% more trips using the Green Alternative over the Red Alternative. Appendix H contains the updated 2040 travel demand models.
2. The Green Alternative is consistent with the City's transportation element of the Comprehensive Plan; however, both the both Red and Green Alternatives meet the 2025 Comprehensive Plan transportation policies TR-8 (Transportation circulation and system connectivity), TR-9 (Livable streets), and TR-10 (Neighborhood streets).
3. The Red Alternative provides a more direct route to the Ridgefield Heights neighborhood. In the short term, this would reduce traffic using 10th Street, 35th Place and 15th Street to access Royle Road. It also provides better access to downtown, although this is a relatively modest trip destination. The Red and Green Alternatives provide approximately equal emergency vehicle access time to Ridgefield Heights via Pioneer Street from the fire station east of I-5. The Green Alternative provides a shorter emergency vehicle travel time route to the undeveloped area.
4. The Red Alternative best addresses existing traffic from Ridgefield Heights along the east-west corridor of the Gee Creek Plateau. If the Green Alternative is implemented, it would reduce existing traffic east of 35th Avenue.
5. The Red Alternative would address the safety concerns at the Bertsinger Road and Pioneer Street intersection. This is currently a low-volume intersection (21 trips entering in the PM peak hour) and is intended to remain low volume under either alternative.
6. The Red Alternative provides a more direct route to downtown; however, the additional travel time associated with the Green Alternative is relatively minor.

CONCLUSION

This analysis indicates that both the Green and Red Alternatives would support continued transportation growth around the Gee Creek Plateau area, with the most substantial operational benefits occurring at the Reiman Road/Pioneer Street intersection. The Green Alternative results in minor or negligible improvements at the study intersections. The Red Alternative significantly improves operations at Reiman Road/Pioneer Street intersection through the implementation of a single-lane roundabout, with only minor or negligible changes at the studied intersections along the arterial network surrounding the Gee Creek Plateau.

When compared directly, the Red Alternative generally results in minor delay reduction and v/c improvements at the Royle Road / Pioneer Street and re-configured Reiman Road & Bertsinger Road / Pioneer Street study intersections. The Green Alternative does not provide any tangible operational benefits over the Red Alternative. Overall, neither alternative is projected to introduce significant operational delay or benefit to the surrounding roadway network.

A pattern of sideswipes and fixed-object collisions was identified at the 56th Place and Pioneer Street intersection. The majority of the sideswipe and left-turn collisions occurred when drivers failed to yield the right-of-way to vehicles already circulating within the roundabout or executing improper turning movements. Many of the fixed-object collisions were associated with driver impairment due to alcohol use or excessive speed.

A Red Alternative conversion of the Reiman Road / Pioneer Street intersection from a three-leg two-way stop-controlled intersection to a four-leg single-lane roundabout is estimated to reduce the 2040 estimated five-year collisions from 7 to 2 collisions. The collision rate is estimated to be reduced from 0.27 collisions per MEV to 0.08 collisions per MEV.

Based on closer proximity to the center of the Gee Creek Plateau, the Green Alternative provides the greatest service area within the Gee Creek Plateau for future development if only one of the Red or Green Alternatives are implemented.

The Red Alternative provides the greatest relief of existing traffic impacts through the Gee Creek Plateau by diverting traffic destined to Pioneer Street and the Interstate 5 (I-5) interchange. The Red Alternative also replaces Bertsinger Road, which previously provided access to the Gee Creek Plateau.

For an area the size of the Gee Creek Plateau, both the Green and Red Alternatives should be considered to meet collector roadway spacing of approximately one-half mile. A combination of the Red and Green Alternatives supports Comprehensive Plan Policies TR-8 (Transportation circulation and system connectivity), TR-9 (Livable streets), and TR-10 (Neighborhood streets).

Assuming neither alternative has a fatal feasibility constraint, the Red Alternative better addresses existing traffic within the Gee Creek Plateau, while the Green Alternative serves a larger area. A combination of both alternatives would provide a more complete roadway network.

Attachments: Figure 1. Vicinity Map & Study Intersections
Figure 2. 2025 Existing Volumes
Figure 3. 2040 No-Build Volumes
Figure 4. 2040 Build Volumes – Green Alternative
Figure 5. 2040 Build Volumes – Red Alternative
Figure 6. 2040 Build Volumes – Red & Green Alternatives
Appendix A. Traffic Counts
Appendix B. Level of Service Reports
Appendix C. Travel Demand Models
Appendix D. Travel Time Calculations
Appendix E. Volume Calculations
Appendix F. Collision Data
Appendix G. Open House #1 Meeting Summary
Appendix H. Travel Demand Models for Gee Creek Plateau Travel

cc: Cory Kratovil (Apex)

ERS/JAM:PJM:tl

Figures

Figure 1: Vicinity Map & Study Intersections

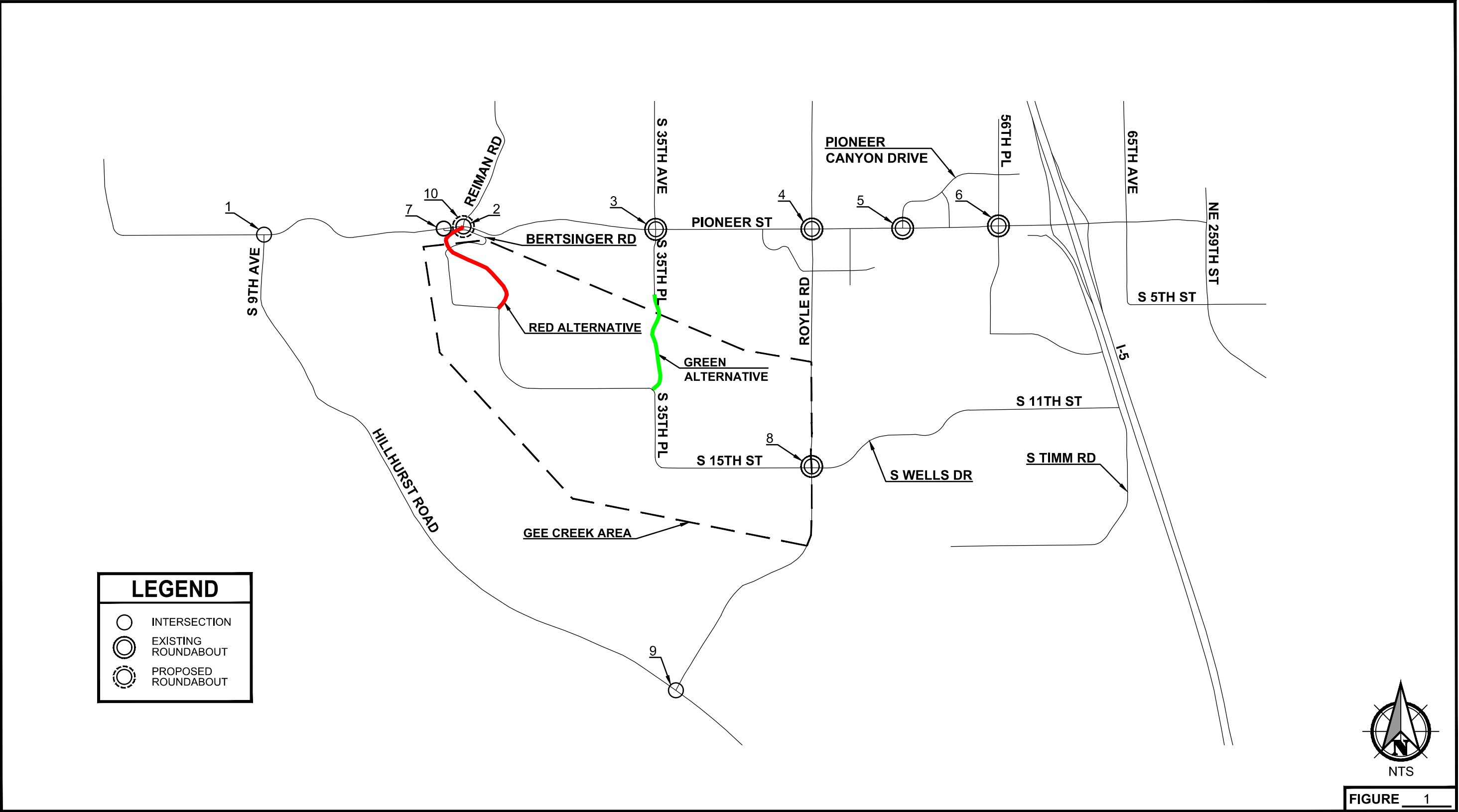
Figure 2: 2025 Existing Volumes

Figure 3: 2040 No-Build Volumes

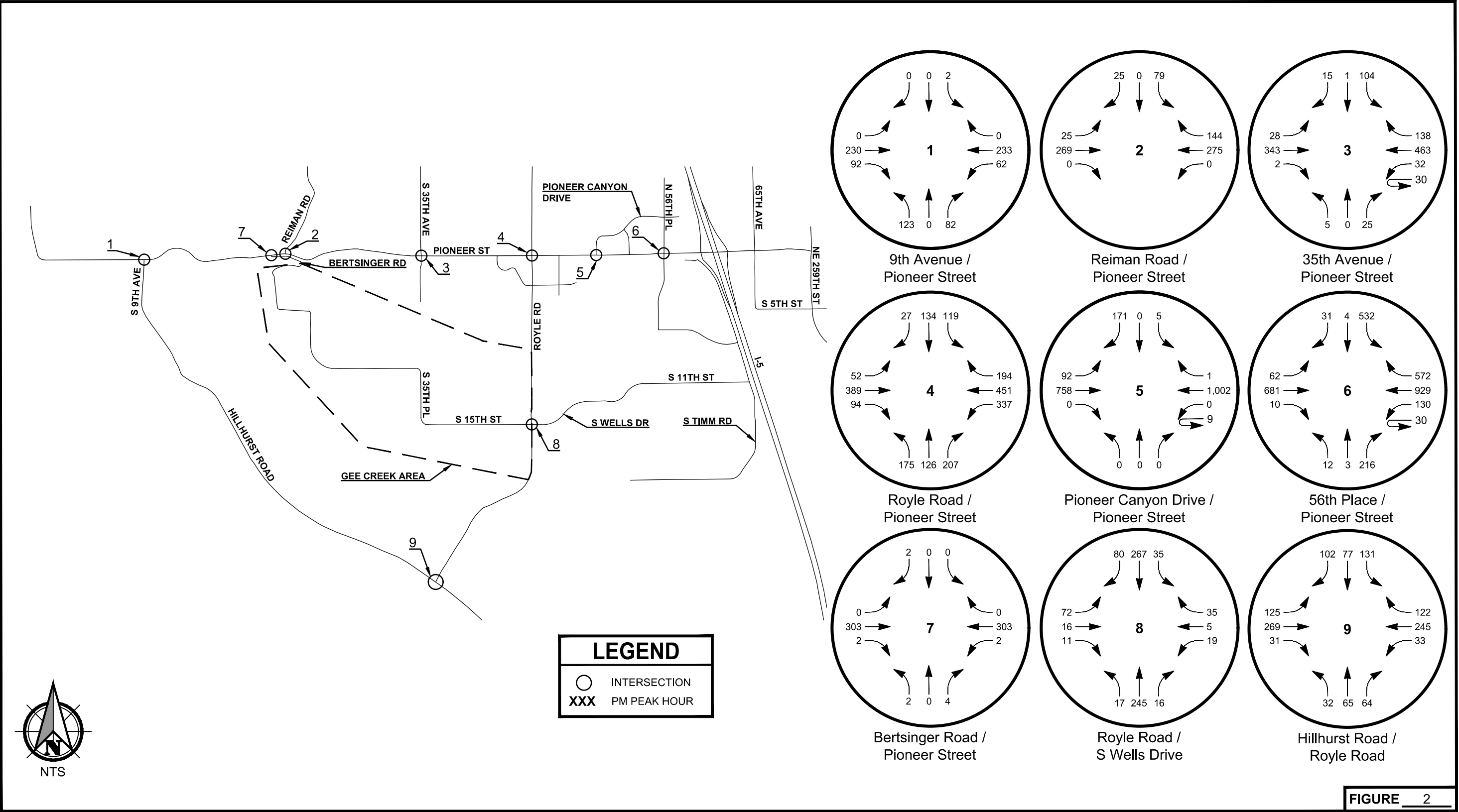
Figure 4: 2040 Build Volumes – Green Alternative

Figure 5: 2040 Build Volumes – Red Alternative

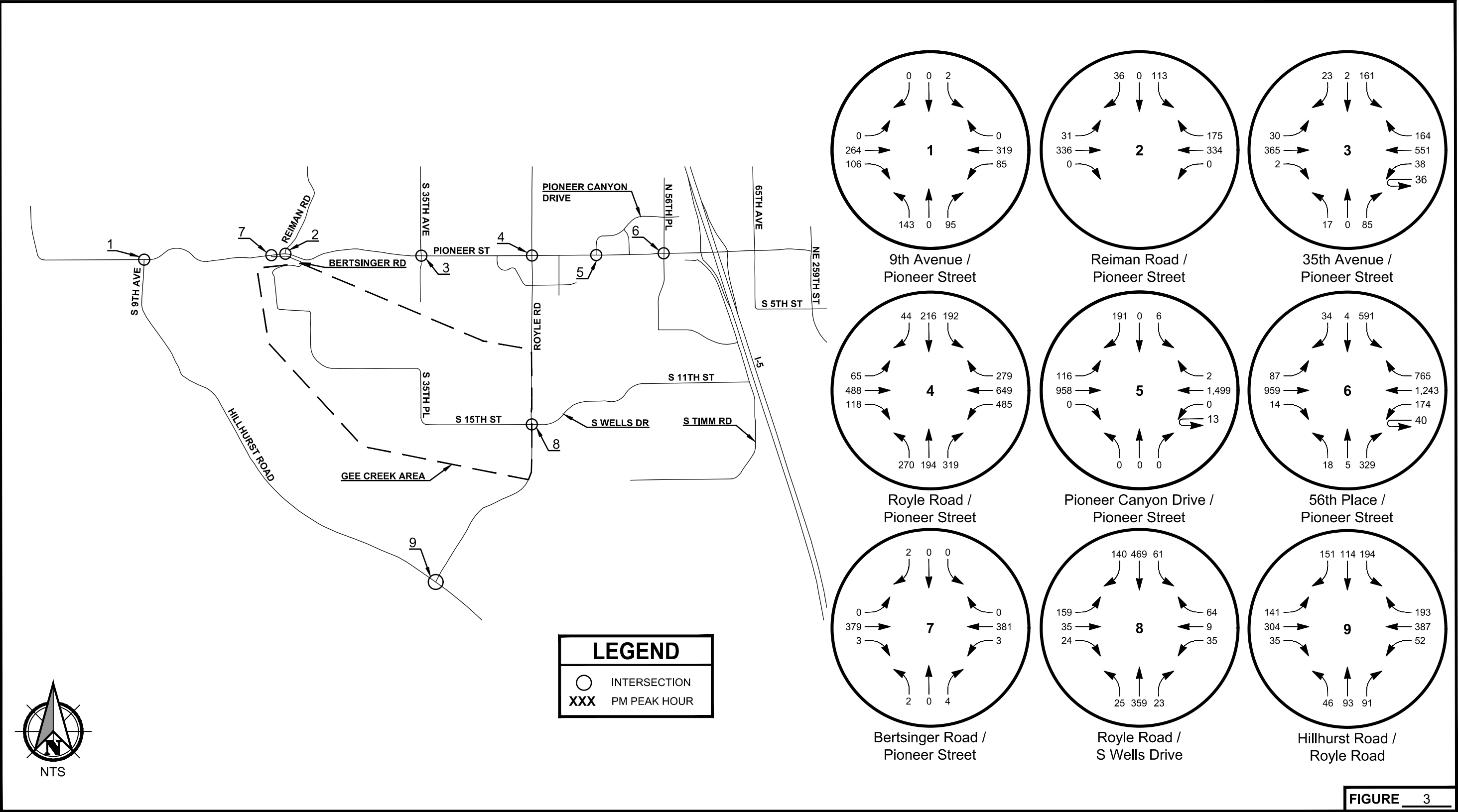
Figure 6: 2040 Build Volumes – Red & Green Alternatives



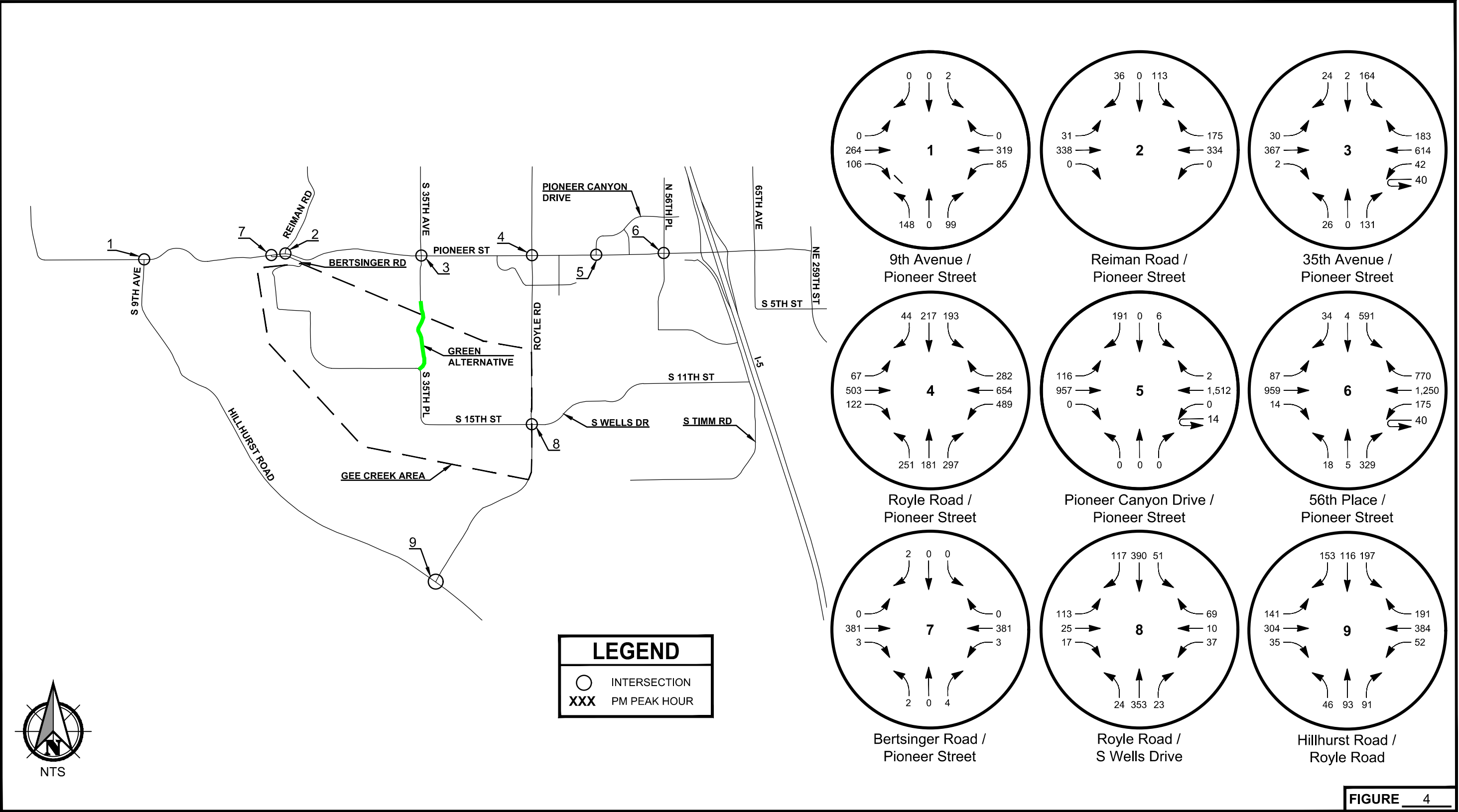
Vicinity Map & Study Intersections
35th Ave Gee Creek Plateau



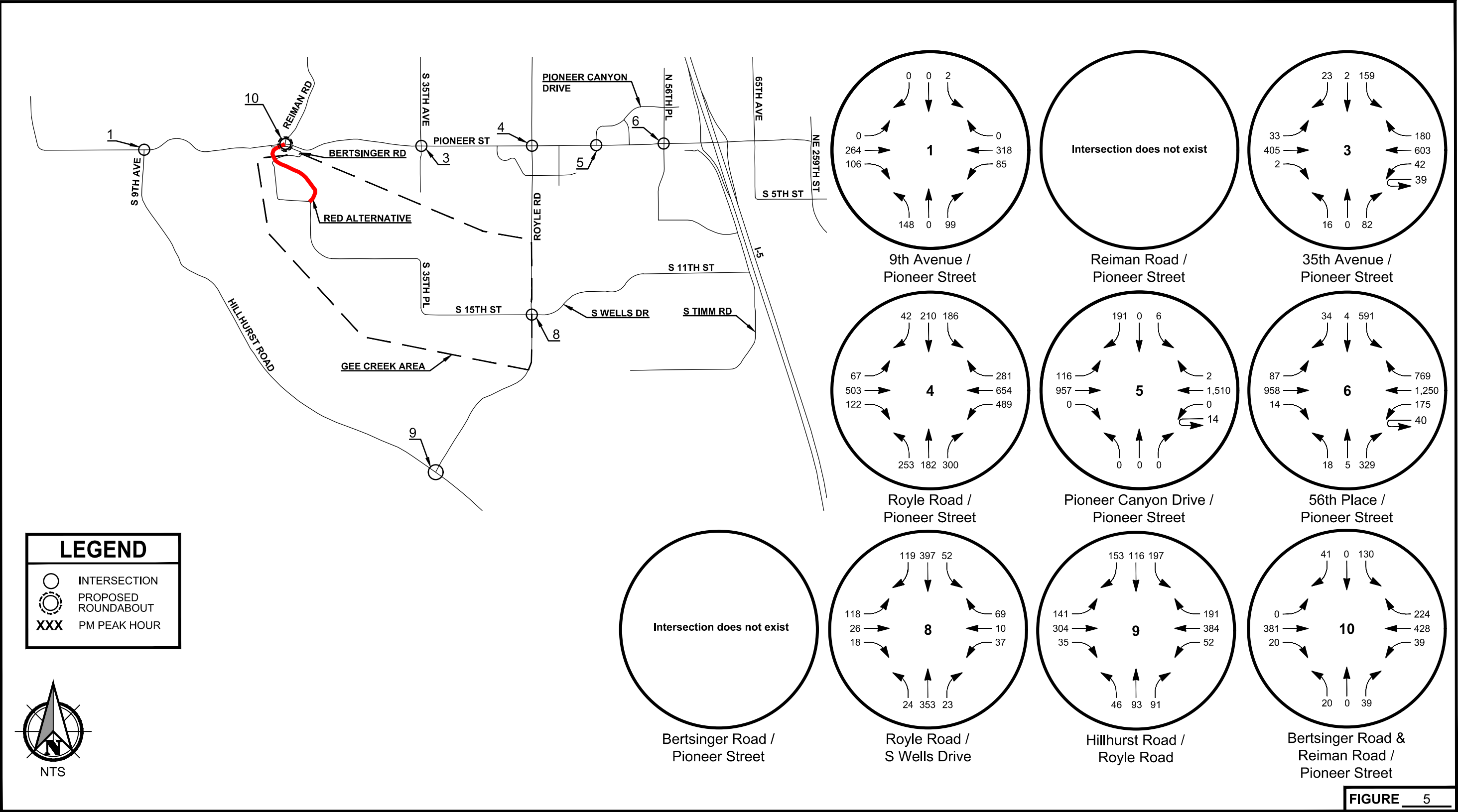
2025 Existing Volumes
35th Ave Gee Creek Plateau



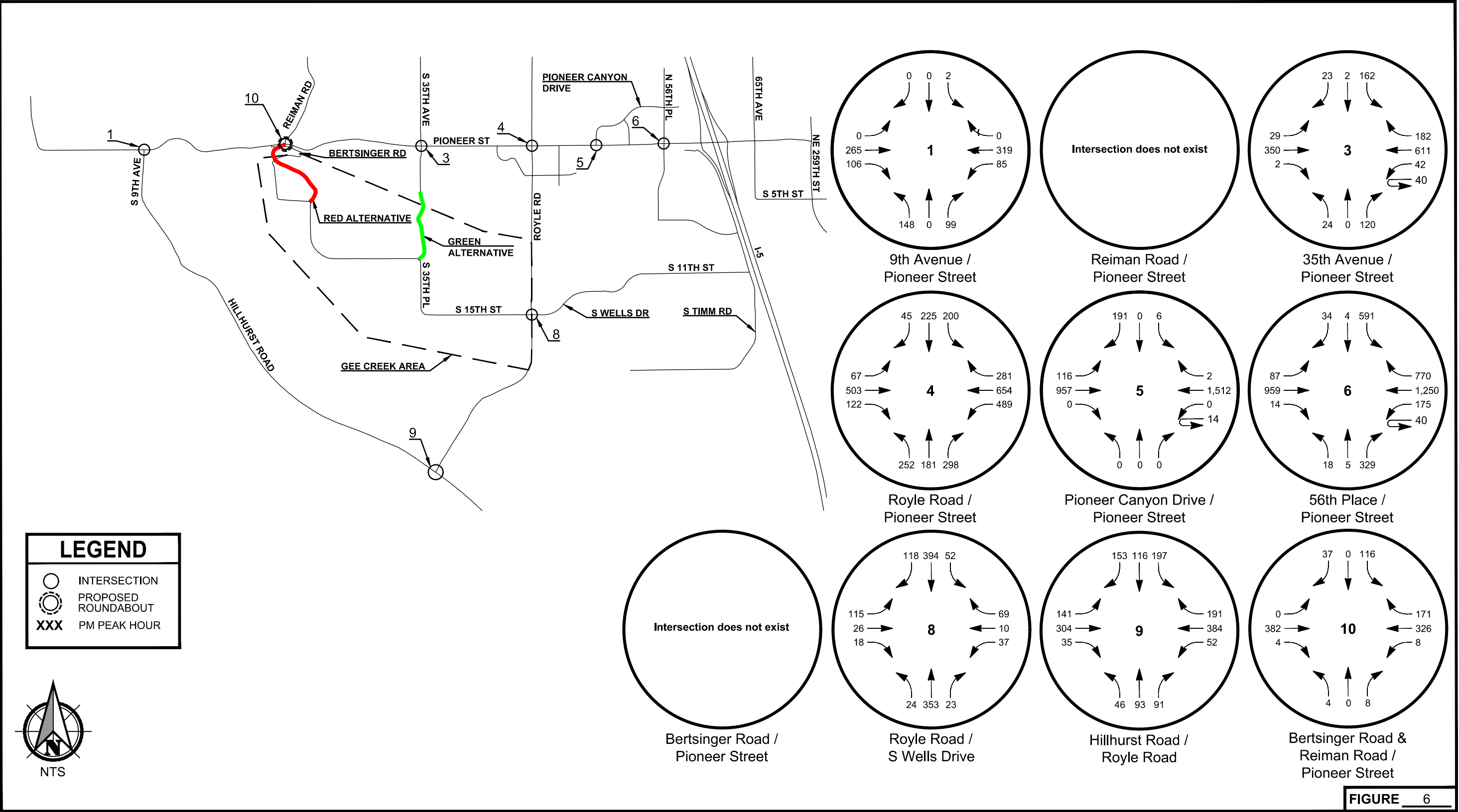
2040 No-Build Volumes
35th Ave Gee Creek Plateau



2040 Build Volumes - Green Alternative
35th Ave Gee Creek Plateau



2040 Build Volumes - Red Alternative
35th Ave Gee Creek Plateau



2040 Build Volumes - Red & Green Alternatives
35th Ave Gee Creek Plateau

Appendix A

Traffic Counts



ALL TRAFFIC DATA SERVICES

(303) 216-2439

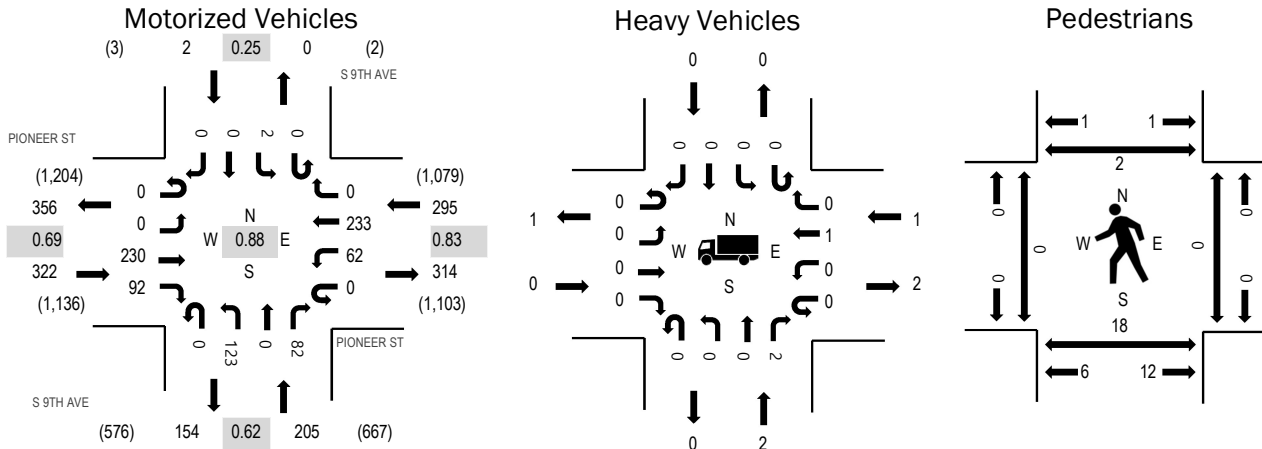
www.alltrafficdata.net

Location: 1 S 9TH AVE & PIONEER ST PM

Date: Wednesday, December 10, 2025

Peak Hour: 02:55 PM - 03:55 PM

Peak 15-Minutes: 03:40 PM - 03:55 PM

Peak Hour

Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.69
WB	0.3%	0.83
NB	1.0%	0.62
SB	0.0%	0.25
All	0.4%	0.88

Traffic Counts - Motorized Vehicles

Interval Start Time	PIONEER ST Eastbound				PIONEER ST Westbound				S 9TH AVE Northbound				S 9TH AVE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
2:00 PM	0	0	9	9	0	5	16	0	0	7	0	5	0	0	1	0	52	662
2:05 PM	0	0	11	7	0	4	21	0	0	5	0	2	0	0	0	0	50	674
2:10 PM	0	0	19	7	0	2	9	0	0	4	0	4	0	0	0	0	45	686
2:15 PM	0	0	15	8	0	5	11	0	0	8	0	2	0	0	0	0	49	698
2:20 PM	0	0	13	7	0	5	15	0	0	5	0	7	0	0	0	0	52	717
2:25 PM	0	0	17	6	0	5	16	0	0	6	0	2	0	0	0	0	52	730
2:30 PM	0	0	17	7	0	5	10	0	0	4	0	4	0	0	0	0	47	741
2:35 PM	0	0	11	4	0	9	12	0	0	4	0	4	0	0	0	0	44	764
2:40 PM	0	0	16	4	0	5	20	0	0	8	0	0	0	0	0	0	53	794
2:45 PM	0	0	20	4	0	11	15	0	0	10	0	22	0	0	0	0	82	818
2:50 PM	0	0	12	2	0	4	16	0	0	16	0	20	0	0	0	0	70	810
2:55 PM	0	0	7	7	0	7	11	0	0	10	0	24	0	0	0	0	66	824
3:00 PM	0	0	13	5	0	4	20	0	0	14	0	8	0	0	0	0	64	805
3:05 PM	0	0	13	1	0	7	22	0	0	12	0	7	0	0	0	0	62	808
3:10 PM	0	0	17	4	0	3	20	0	0	10	0	3	0	0	0	0	57	808
3:15 PM	0	0	12	5	0	4	22	0	0	17	0	6	0	2	0	0	68	821
3:20 PM	0	0	13	4	0	2	31	0	0	10	0	5	0	0	0	0	65	814
3:25 PM	0	0	10	3	0	6	28	0	0	10	0	6	0	0	0	0	63	813
3:30 PM	0	0	23	5	0	7	19	0	0	12	0	4	0	0	0	0	70	817
3:35 PM	0	0	26	8	0	6	19	0	0	9	0	6	0	0	0	0	74	795
3:40 PM	0	0	33	11	0	3	17	0	0	7	0	6	0	0	0	0	77	788
3:45 PM	0	0	27	23	0	6	7	0	0	9	0	2	0	0	0	0	74	763
3:50 PM	0	0	36	16	0	7	17	0	0	3	0	5	0	0	0	0	84	752
3:55 PM	0	0	20	1	0	3	12	0	0	6	0	5	0	0	0	0	47	737
4:00 PM	0	1	23	13	0	6	7	0	0	11	0	6	0	0	0	0	67	758
4:05 PM	0	0	28	7	0	5	15	0	0	5	0	2	0	0	0	0	62	756
4:10 PM	0	0	18	11	0	4	20	0	0	11	0	6	0	0	0	0	70	755
4:15 PM	0	0	19	6	0	5	16	0	0	8	0	7	0	0	0	0	61	764

4:20 PM	0	0	15	5	0	8	22	0	0	10	0	4	0	0	0	0	64	753
4:25 PM	0	0	22	6	0	4	19	0	0	9	0	7	0	0	0	0	67	750
4:30 PM	0	0	14	5	0	2	16	0	0	3	0	8	0	0	0	0	48	732
4:35 PM	0	0	19	11	0	4	18	0	0	11	0	4	0	0	0	0	67	745
4:40 PM	0	0	13	4	0	6	17	0	0	7	0	5	0	0	0	0	52	722
4:45 PM	0	0	14	8	0	6	18	0	0	11	0	6	0	0	0	0	63	716
4:50 PM	0	0	20	4	0	5	27	0	0	5	0	8	0	0	0	0	69	701
4:55 PM	0	0	25	6	0	5	18	0	0	8	0	6	0	0	0	0	68	675
5:00 PM	0	0	24	13	0	4	17	0	0	3	0	4	0	0	0	0	65	660
5:05 PM	0	0	16	9	0	6	21	0	0	7	0	2	0	0	0	0	61	
5:10 PM	0	0	23	8	0	8	20	0	0	10	1	9	0	0	0	0	79	
5:15 PM	0	0	12	6	0	5	11	0	0	6	0	10	0	0	0	0	50	
5:20 PM	0	0	16	5	0	4	20	0	0	8	0	8	0	0	0	0	61	
5:25 PM	0	0	16	2	0	7	17	0	0	2	0	5	0	0	0	0	49	
5:30 PM	0	0	15	4	0	7	20	0	0	12	0	3	0	0	0	0	61	
5:35 PM	0	0	11	4	0	10	15	0	0	2	0	2	0	0	0	0	44	
5:40 PM	0	0	18	4	0	6	12	0	0	5	0	1	0	0	0	0	46	
5:45 PM	0	0	11	6	0	7	13	0	0	8	0	3	0	0	0	0	48	
5:50 PM	0	0	10	4	0	6	16	0	0	6	0	1	0	0	0	0	43	
5:55 PM	0	0	6	8	0	3	20	0	0	9	0	7	0	0	0	0	53	
Count Total	0	1	818	317	0	258	821	0	0	383	1	283	0	2	1	0	2,885	
Peak Hour	0	0	230	92	0	62	233	0	0	123	0	82	0	2	0	0	824	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	1	1
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	0	1	0	0	1	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	0	0	0	0	2:40 PM	0	1	0	0	1	2:40 PM	0	0	0	0	0
2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	0	1	0	0	1	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0	3:00 PM	0	1	0	0	1
3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0	3:10 PM	0	1	0	0	1
3:15 PM	0	1	0	0	1	3:15 PM	0	0	0	0	0	3:15 PM	0	1	0	1	2
3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0	3:20 PM	0	4	0	0	4
3:25 PM	0	0	1	0	1	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0	3:30 PM	1	0	0	0	1	3:30 PM	0	0	0	0	0
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	1	0	0	1
3:40 PM	0	0	0	0	0	3:40 PM	1	0	0	0	1	3:40 PM	0	9	0	1	10
3:45 PM	0	0	0	0	0	3:45 PM	1	0	0	0	1	3:45 PM	0	1	0	0	1
3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	2	0	0	2
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	2	2
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	3	0	0	3
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	2	0	0	2
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	3	0	0	3
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	0	3	1	0	4	Count Total	3	1	0	0	4	Count Total	0	28	0	5	33
Peak Hour	0	2	1	0	3	Peak Hour	3	0	0	0	3	Peak Hour	0	18	0	2	20



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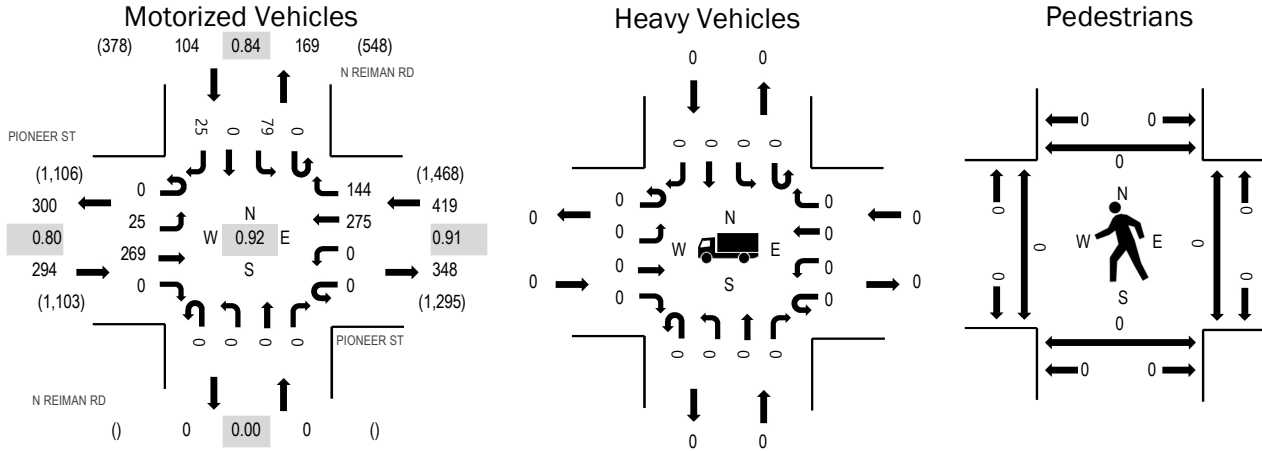
www.alltrafficdata.net

Location: 2 N REIMAN RD & PIONEER ST PM

Date: Wednesday, December 10, 2025

Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour

Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.80
WB	0.0%	0.91
NB	0.0%	0.00
SB	0.0%	0.84
All	0.0%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	PIONEER ST Eastbound				PIONEER ST Westbound				N REIMAN RD Northbound				N REIMAN RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
2:00 PM	0	1	16	0	0	0	25	5	0	0	0	0	0	1	0	0	48	638
2:05 PM	0	0	11	0	0	0	19	2	0	0	0	0	0	6	0	4	42	655
2:10 PM	0	3	19	0	0	0	12	5	0	0	0	0	0	7	0	2	48	674
2:15 PM	0	0	13	0	0	0	13	8	0	0	0	0	0	7	0	1	42	688
2:20 PM	0	0	21	0	0	0	16	7	0	0	0	0	0	6	0	3	53	711
2:25 PM	0	1	21	0	0	0	19	5	0	0	0	0	0	7	0	3	56	715
2:30 PM	0	0	21	0	0	0	15	4	0	0	0	0	0	6	0	0	46	732
2:35 PM	0	2	16	0	0	0	24	5	0	0	0	0	0	6	0	0	53	747
2:40 PM	0	1	16	0	0	0	26	6	0	0	0	0	0	7	0	0	56	763
2:45 PM	0	3	29	0	0	0	23	8	0	0	0	0	0	5	0	3	71	780
2:50 PM	0	6	32	0	0	0	22	7	0	0	0	0	0	3	0	2	72	772
2:55 PM	0	9	14	0	0	0	19	7	0	0	0	0	0	1	0	1	51	776
3:00 PM	0	5	24	0	0	0	22	6	0	0	0	0	0	6	0	2	65	796
3:05 PM	0	3	13	0	0	0	25	11	0	0	0	0	0	6	0	3	61	782
3:10 PM	0	1	25	0	0	0	22	10	0	0	0	0	0	3	0	1	62	785
3:15 PM	0	1	18	0	0	0	29	5	0	0	0	0	0	10	0	2	65	795
3:20 PM	0	1	14	0	0	0	26	10	0	0	0	0	0	5	0	1	57	796
3:25 PM	0	0	16	0	0	0	34	12	0	0	0	0	0	5	0	6	73	807
3:30 PM	0	2	21	0	0	0	20	13	0	0	0	0	0	4	0	1	61	805
3:35 PM	0	4	24	0	0	0	21	7	0	0	0	0	0	11	0	2	69	802
3:40 PM	0	4	38	0	0	0	17	7	0	0	0	0	0	7	0	0	73	805
3:45 PM	0	2	28	0	0	0	14	7	0	0	0	0	0	6	0	6	63	793
3:50 PM	0	0	37	0	0	0	19	11	0	0	0	0	0	5	0	4	76	786
3:55 PM	0	4	31	0	0	0	17	10	0	0	0	0	0	9	0	0	71	786
4:00 PM	0	1	25	0	0	0	12	7	0	0	0	0	0	5	0	1	51	781
4:05 PM	0	0	24	0	0	0	22	8	0	0	0	0	0	9	0	1	64	805
4:10 PM	0	3	27	0	0	0	20	15	0	0	0	0	0	7	0	0	72	814
4:15 PM	0	1	19	0	0	0	23	14	0	0	0	0	0	6	0	3	66	817

4:20 PM	0	5	20	0	0	0	19	14	0	0	0	0	0	5	0	5	68	815
4:25 PM	0	1	22	0	0	0	22	22	0	0	0	0	0	3	0	1	71	803
4:30 PM	0	2	25	0	0	0	19	7	0	0	0	0	0	5	0	0	58	805
4:35 PM	0	1	24	0	0	0	22	12	0	0	0	0	0	10	0	3	72	808
4:40 PM	0	2	18	0	0	0	23	12	0	0	0	0	0	4	0	2	61	801
4:45 PM	0	2	15	0	0	0	21	10	0	0	0	0	0	7	0	1	56	786
4:50 PM	0	0	27	0	0	0	34	5	0	0	0	0	0	8	0	2	76	780
4:55 PM	0	2	22	0	0	0	19	11	0	0	0	0	0	7	0	5	66	750
5:00 PM	0	5	27	0	0	0	24	12	0	0	0	0	0	7	0	0	75	734
5:05 PM	0	0	22	0	0	0	25	16	0	0	0	0	0	8	0	2	73	
5:10 PM	0	4	28	0	0	0	24	9	0	0	0	0	0	9	0	1	75	
5:15 PM	0	3	24	0	0	0	22	11	0	0	0	0	0	4	0	0	64	
5:20 PM	0	5	13	0	0	0	18	14	0	0	0	0	0	5	0	1	56	
5:25 PM	0	2	25	0	0	0	28	12	0	0	0	0	0	5	0	1	73	
5:30 PM	0	0	16	0	0	0	21	16	0	0	0	0	0	6	0	2	61	
5:35 PM	0	0	19	0	0	0	27	13	0	0	0	0	0	4	0	2	65	
5:40 PM	0	0	14	0	0	0	13	9	0	0	0	0	0	7	0	3	46	
5:45 PM	0	2	13	0	0	0	16	9	0	0	0	0	0	7	0	3	50	
5:50 PM	0	0	11	0	0	0	22	8	0	0	0	0	0	4	0	1	46	
5:55 PM	0	2	9	0	0	0	21	8	0	0	0	0	0	7	0	3	50	
Count Total	0	96	1,007	0	0	0	1,016	452	0	0	0	0	0	288	0	90	2,949	
Peak Hour	0	25	269	0	0	0	275	144	0	0	0	0	0	79	0	25	817	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	1	0	1	0	2	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	1	0	0	0	1	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	1	0	0	0	1	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	0	0	1	0	1	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	1	1	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	3	0	2	0	5	Count Total	0	0	0	1	1	Count Total	0	0	0	0	0
Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



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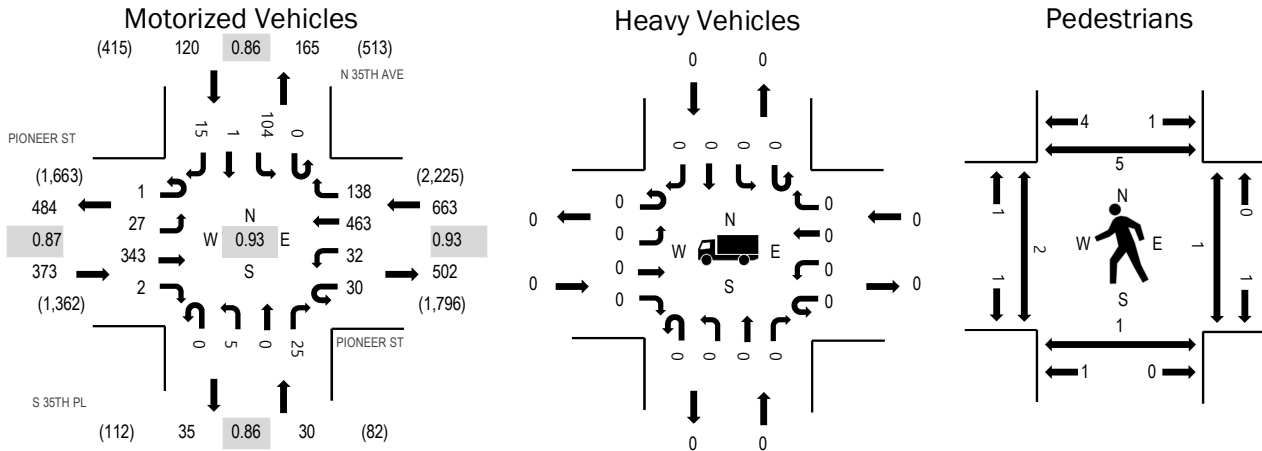
www.alltrafficdata.net

Location: 3 S 35TH PL & PIONEER ST PM

Date: Wednesday, December 10, 2025

Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:05 PM - 05:20 PM

Peak Hour

Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.87
WB	0.0%	0.93
NB	0.0%	0.86
SB	0.0%	0.86
All	0.0%	0.93

Traffic Counts - Motorized Vehicles

Interval Start Time	PIONEER ST Eastbound				PIONEER ST Westbound				S 35TH PL Northbound				N 35TH AVE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
2:00 PM	0	0	12	0	2	0	25	2	0	0	0	2	0	5	0	0	48	840
2:05 PM	0	0	21	0	1	2	24	7	0	0	0	2	0	5	1	0	63	858
2:10 PM	0	2	21	0	3	0	17	3	0	0	0	0	0	7	0	0	53	881
2:15 PM	1	1	19	0	4	1	29	8	0	0	0	0	0	3	0	0	66	911
2:20 PM	0	2	27	1	3	2	22	5	0	0	0	2	0	7	0	2	73	923
2:25 PM	0	1	26	0	4	0	20	2	0	0	0	0	0	11	0	0	64	927
2:30 PM	0	1	24	0	1	1	29	7	0	0	0	0	0	9	0	1	73	947
2:35 PM	0	2	24	0	7	4	28	7	0	0	0	1	0	10	1	2	86	962
2:40 PM	0	0	28	0	3	0	32	6	0	0	0	1	0	5	0	1	76	957
2:45 PM	0	1	33	0	1	0	34	8	0	1	0	2	0	3	0	1	84	972
2:50 PM	1	2	37	0	3	1	25	7	0	0	0	3	0	6	0	0	85	967
2:55 PM	0	0	16	1	1	1	29	11	0	1	0	0	0	8	0	1	69	980
3:00 PM	0	3	21	0	1	1	27	5	0	0	0	0	0	6	0	2	66	1,006
3:05 PM	0	2	27	0	6	2	32	10	0	0	0	2	0	1	0	4	86	1,031
3:10 PM	1	1	27	0	3	1	31	9	0	0	0	3	0	4	0	3	83	1,039
3:15 PM	0	1	26	0	4	1	33	5	0	0	0	0	0	5	0	3	78	1,060
3:20 PM	0	1	17	0	0	2	39	8	0	0	0	3	0	3	0	4	77	1,069
3:25 PM	0	3	20	0	2	2	40	6	0	2	0	2	0	7	0	0	84	1,083
3:30 PM	0	0	25	0	2	3	36	9	0	0	0	1	0	11	0	1	88	1,089
3:35 PM	0	1	31	0	3	1	27	7	0	0	0	1	0	9	0	1	81	1,098
3:40 PM	0	5	38	1	2	5	25	7	0	0	0	0	0	6	1	1	91	1,115
3:45 PM	0	6	34	1	2	2	24	4	0	0	0	2	0	3	0	1	79	1,117
3:50 PM	0	6	29	1	1	3	34	15	0	0	0	0	0	9	0	0	98	1,128
3:55 PM	0	5	38	0	0	3	34	10	0	0	0	3	0	2	0	0	95	1,142
4:00 PM	0	3	34	0	4	3	29	6	0	0	0	3	0	7	1	1	91	1,136
4:05 PM	0	1	30	0	4	0	38	8	0	0	0	1	0	10	1	1	94	1,144
4:10 PM	0	2	37	3	1	1	40	8	0	0	0	1	0	10	0	1	104	1,165
4:15 PM	1	2	26	0	4	1	36	9	0	0	0	1	0	7	0	0	87	1,163

4:20 PM	0	0	28	0	2	1	40	8	0	0	0	4	0	7	1	0	91	1,177
4:25 PM	0	2	19	0	4	3	47	5	0	0	0	0	0	9	0	1	90	1,169
4:30 PM	0	0	35	0	2	2	30	15	0	0	0	0	0	12	0	1	97	1,186
4:35 PM	0	2	34	0	2	0	44	7	0	1	0	3	0	5	0	0	98	1,182
4:40 PM	0	0	27	0	1	5	32	14	0	1	0	2	0	9	0	2	93	1,171
4:45 PM	0	3	18	1	0	1	39	16	0	0	0	2	0	8	0	2	90	1,151
4:50 PM	0	3	33	0	7	3	37	16	0	1	0	1	0	10	0	1	112	1,147
4:55 PM	0	2	35	0	3	1	32	9	0	0	0	2	0	4	0	1	89	1,112
5:00 PM	0	2	29	0	2	4	38	12	0	0	0	0	0	9	0	3	99	1,102
5:05 PM	0	1	29	0	3	5	56	6	0	0	0	4	0	9	0	2	115	
5:10 PM	0	3	28	1	4	3	38	10	0	1	0	3	0	10	0	1	102	
5:15 PM	1	5	36	0	1	0	38	10	0	0	0	1	0	8	1	0	101	
5:20 PM	0	5	10	0	4	3	33	10	0	1	0	2	0	14	0	1	83	
5:25 PM	0	1	29	0	1	5	46	13	0	0	0	5	0	6	0	1	107	
5:30 PM	0	3	18	0	1	4	41	10	0	0	0	1	0	13	0	2	93	
5:35 PM	0	2	26	0	0	4	33	9	0	0	1	1	0	9	0	2	87	
5:40 PM	0	0	22	0	0	2	28	14	0	0	0	1	0	5	0	1	73	
5:45 PM	1	2	23	0	1	1	32	15	0	0	0	1	0	8	0	2	86	
5:50 PM	0	1	14	0	4	3	33	11	0	0	0	0	0	10	0	1	77	
5:55 PM	0	1	13	0	3	2	37	11	0	0	0	3	0	9	0	0	79	
Count Total	6	92	1,254	10	117	95	1,593	420	0	9	1	72	0	353	7	55	4,084	
Peak Hour	1	27	343	2	30	32	463	138	0	5	0	25	0	104	1	15	1,186	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0	2:10 PM	0	1	0	0	1
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	1	0	1	0	2	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	1	0	0	0	1	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0	3:10 PM	1	0	0	0	1
3:15 PM	1	0	0	0	1	3:15 PM	0	0	0	0	0	3:15 PM	1	0	0	0	1
3:20 PM	0	0	1	0	1	3:20 PM	0	1	0	0	1	3:20 PM	0	0	0	0	0
3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0	3:25 PM	2	0	0	0	2
3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0	3:30 PM	1	0	0	0	1
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0	3:45 PM	1	0	0	0	1	3:45 PM	0	0	0	0	0
3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	0	0	0	0	3:55 PM	1	0	0	0	1	3:55 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	1	0	0	0	1
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	1	0	1	2
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	1	1	4:45 PM	1	0	0	1	2
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	1	0	0	1	2
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	1	0	1
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	1	0	0	1	2
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	1	1
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	1	1
Count Total	3	0	2	0	5	Count Total	2	1	0	1	4	Count Total	9	2	1	6	18
Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	1	1	Peak Hour	3	1	1	5	10



ALL TRAFFIC DATA SERVICES

(303) 216-2439

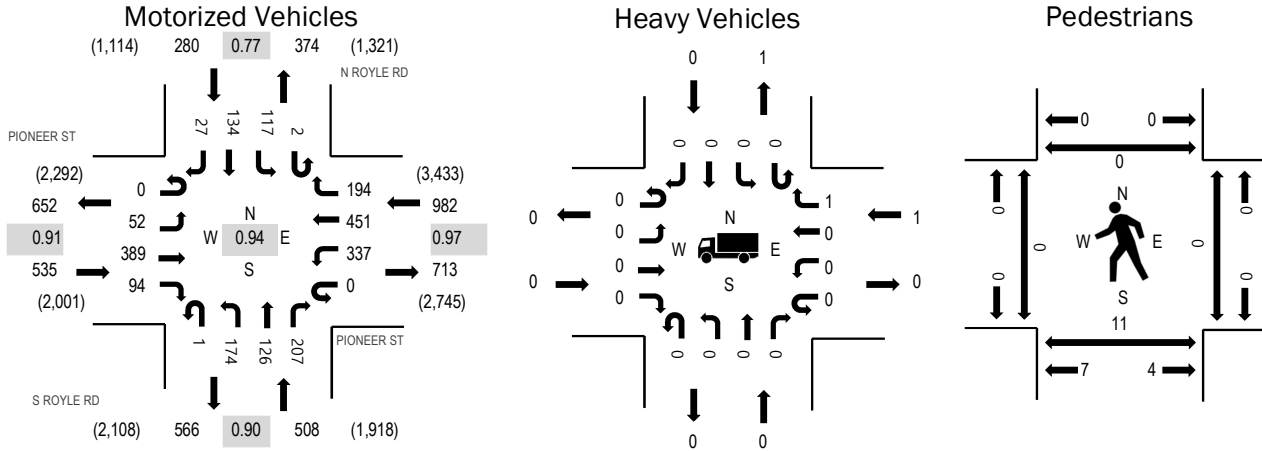
www.alltrafficdata.net

Location: 4 S ROYLE RD & PIONEER ST PM

Date: Wednesday, December 10, 2025

Peak Hour: 04:25 PM - 05:25 PM

Peak 15-Minutes: 04:25 PM - 04:40 PM

Peak Hour

Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.91
WB	0.1%	0.97
NB	0.0%	0.90
SB	0.0%	0.77
All	0.0%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	PIONEER ST Eastbound				PIONEER ST Westbound				S ROYLE RD Northbound				N ROYLE RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
2:00 PM	0	7	22	8	0	22	28	7	0	8	14	14	0	6	5	2	143	1,957
2:05 PM	0	0	36	11	0	19	25	9	0	10	5	14	0	4	12	1	146	1,970
2:10 PM	0	3	26	8	0	21	27	17	0	8	8	14	0	15	25	0	172	1,990
2:15 PM	0	3	24	9	0	20	21	12	0	11	4	18	0	15	25	1	163	1,977
2:20 PM	0	0	29	7	0	24	18	9	0	6	8	13	0	16	12	0	142	1,970
2:25 PM	0	0	20	7	0	32	25	18	0	8	13	13	0	12	15	1	164	1,991
2:30 PM	0	0	24	8	0	21	28	11	1	10	7	18	0	15	7	5	155	1,987
2:35 PM	0	1	32	4	0	25	30	13	0	16	6	16	0	9	9	3	164	2,007
2:40 PM	0	1	26	5	0	25	31	11	0	13	9	20	0	11	13	1	166	2,032
2:45 PM	0	5	28	6	0	26	28	9	0	13	16	14	0	10	9	4	168	2,047
2:50 PM	0	3	34	9	0	26	19	13	1	17	13	27	0	16	15	3	196	2,065
2:55 PM	0	3	30	7	0	20	28	18	0	20	16	16	0	7	12	1	178	2,038
3:00 PM	0	6	23	4	0	21	30	8	0	14	11	17	0	11	9	2	156	2,030
3:05 PM	0	3	35	4	0	23	28	12	0	8	12	13	1	16	10	1	166	2,061
3:10 PM	0	4	33	12	0	14	28	15	0	13	12	17	0	6	2	3	159	2,076
3:15 PM	0	4	25	6	0	22	29	7	0	14	9	16	0	10	13	1	156	2,108
3:20 PM	0	3	39	5	0	23	36	12	0	6	11	14	0	9	4	1	163	2,141
3:25 PM	0	5	19	7	0	25	26	16	0	12	18	15	0	6	7	4	160	2,150
3:30 PM	0	4	37	4	0	30	28	12	1	9	11	19	0	8	10	2	175	2,205
3:35 PM	0	7	41	7	0	24	26	18	0	24	13	10	0	7	9	3	189	2,236
3:40 PM	0	4	39	14	0	24	27	17	0	10	12	14	0	10	9	1	181	2,236
3:45 PM	0	1	33	11	0	20	37	15	0	6	10	22	0	21	9	1	186	2,240
3:50 PM	0	2	30	16	0	19	26	18	0	13	11	12	0	13	5	4	169	2,244
3:55 PM	0	1	31	15	0	20	36	12	1	15	11	14	0	7	7	0	170	2,244
4:00 PM	0	7	26	10	0	30	30	19	0	14	8	20	0	13	8	2	187	2,270
4:05 PM	0	2	35	8	0	26	31	13	0	12	8	19	0	15	7	5	181	2,262
4:10 PM	0	4	43	7	0	22	33	13	0	20	11	14	0	12	8	4	191	2,275
4:15 PM	0	4	29	13	0	24	43	12	0	12	11	19	0	13	8	1	189	2,274

4:20 PM	0	0	32	9	0	17	40	13	0	19	12	12	0	7	9	2	172	2,289
4:25 PM	0	7	31	9	0	33	41	20	0	17	15	19	0	4	14	5	215	2,305
4:30 PM	0	5	32	8	0	25	34	19	0	22	10	19	1	13	15	3	206	2,248
4:35 PM	0	6	33	8	0	28	40	15	0	11	13	18	0	7	9	1	189	2,210
4:40 PM	0	6	37	3	0	25	29	8	0	11	18	23	0	14	9	2	185	2,184
4:45 PM	0	6	36	8	0	28	43	17	0	13	6	12	0	11	9	1	190	2,183
4:50 PM	0	2	38	8	0	27	37	13	0	12	6	15	0	2	8	1	169	2,199
4:55 PM	0	2	36	5	0	30	43	13	0	12	7	20	1	9	15	3	196	2,215
5:00 PM	0	9	25	8	0	25	37	12	0	17	14	14	0	6	6	6	179	2,209
5:05 PM	0	1	28	5	0	32	39	19	0	15	11	19	0	14	10	1	194	
5:10 PM	0	4	31	10	0	26	36	15	0	22	7	13	0	12	13	1	190	
5:15 PM	0	2	39	12	0	30	34	24	1	14	8	10	0	15	14	1	204	
5:20 PM	0	2	23	10	0	28	38	19	0	8	11	25	0	10	12	2	188	
5:25 PM	0	4	26	8	0	27	33	11	0	11	12	8	0	4	14	0	158	
5:30 PM	0	0	19	7	0	30	45	15	0	8	7	12	0	11	12	2	168	
5:35 PM	0	0	26	7	0	31	28	13	0	10	7	18	0	12	10	1	163	
5:40 PM	0	0	32	8	0	31	31	12	0	10	10	18	0	14	14	4	184	
5:45 PM	0	1	34	8	0	31	52	15	0	12	15	18	0	7	13	0	206	
5:50 PM	0	2	25	8	0	24	47	10	0	21	9	24	0	5	6	4	185	
5:55 PM	0	3	27	12	0	27	41	11	0	13	13	15	0	12	11	5	190	
Count Total	0	149	1,459	393	0	1,203	1,570	660	5	620	509	784	3	502	507	102	8,466	
Peak Hour	0	52	389	94	0	337	451	194	1	174	126	207	2	117	134	27	2,305	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	0	1	0	0	1	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	0	2	0	2	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	1	0	0	1	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	1	0	0	0	1	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	0	1	0	0	1	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	1	0	1	0	2	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	0	1	0	1	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	0	0	1	0	1	3:00 PM	1	0	0	0	1	3:00 PM	0	3	0	0	3
3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0	3:15 PM	0	2	0	0	2
3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	0	0	1	0	1	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	0	1	0	1	3:35 PM	0	0	0	0	0	3:35 PM	0	3	0	0	3
3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	0	1	0	1	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	0	1	0	1	3:50 PM	0	0	0	0	0	3:50 PM	0	2	0	0	2
3:55 PM	0	1	1	0	2	3:55 PM	0	0	0	0	0	3:55 PM	0	1	0	0	1
4:00 PM	0	0	1	0	1	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	1	0	0	1	4:05 PM	0	0	0	0	0	4:05 PM	0	4	0	0	4
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	2	0	0	2
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	4	0	0	4
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	3	0	0	3
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	3	0	0	3
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	4	0	0	4
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	2	0	0	2
4:45 PM	0	0	1	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	1	0	0	1
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	1	0	0	1
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	2	5	12	0	19	Count Total	1	0	0	0	1	Count Total	0	35	0	0	35
Peak Hour	0	0	1	0	1	Peak Hour	0	0	0	0	0	Peak Hour	0	14	0	0	14

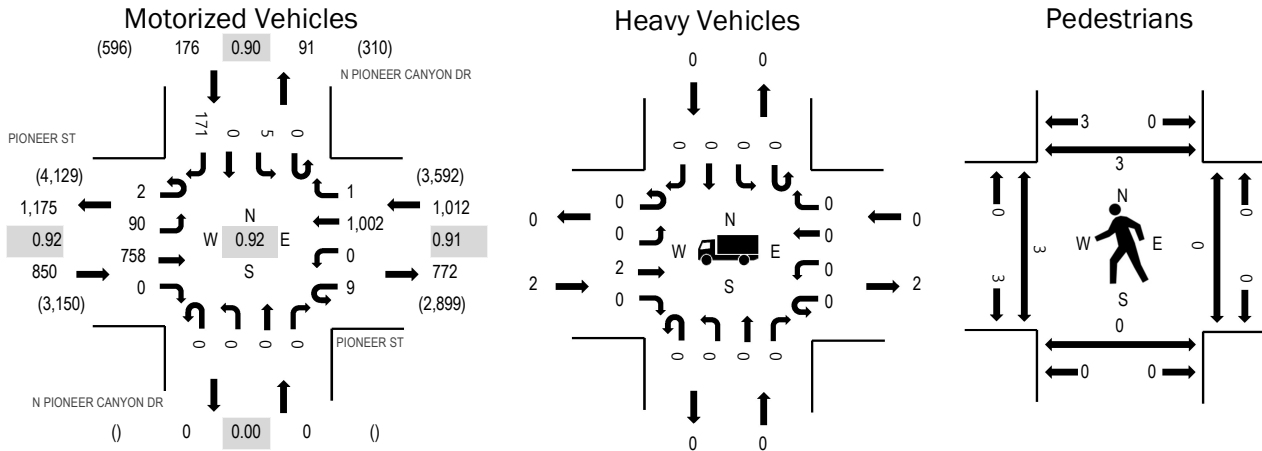
Location: 5 N PIONEER CANYON DR & PIONEER ST PM

Date: Wednesday, December 10, 2025

Peak Hour: 04:40 PM - 05:40 PM

Peak 15-Minutes: 04:55 PM - 05:10 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.2%	0.92
WB	0.0%	0.91
NB	0.0%	0.00
SB	0.0%	0.90
All	0.1%	0.92

Traffic Counts - Motorized Vehicles

[illegible]

4:20 PM	0	9	59	0	2	0	89	0	0	0	0	0	0	0	0	15	174	1,993
4:25 PM	0	5	50	0	0	0	85	0	0	0	0	0	0	0	0	10	150	2,001
4:30 PM	0	8	59	0	1	0	67	0	0	0	0	0	0	0	0	14	149	2,025
4:35 PM	0	8	54	0	1	0	79	0	0	0	0	0	0	0	0	14	156	2,035
4:40 PM	0	14	65	0	1	0	74	0	0	0	0	0	0	0	0	14	168	2,038
4:45 PM	0	6	53	0	1	0	90	0	0	0	0	0	0	0	0	15	165	2,038
4:50 PM	0	11	46	0	0	0	79	0	0	0	0	0	0	0	1	14	151	2,006
4:55 PM	0	6	73	0	0	0	80	0	0	0	0	0	0	0	1	14	174	2,012
5:00 PM	0	8	67	0	1	0	99	0	0	0	0	0	0	0	0	13	188	1,971
5:05 PM	0	6	70	0	1	0	101	0	0	0	0	0	0	0	0	16	194	
5:10 PM	0	5	76	0	0	0	66	0	0	0	0	0	0	0	1	15	163	
5:15 PM	0	8	68	0	1	0	77	0	0	0	0	0	0	0	0	7	161	
5:20 PM	1	7	66	0	1	0	91	0	0	0	0	0	0	0	0	16	182	
5:25 PM	0	7	64	0	2	0	82	0	0	0	0	0	0	0	0	19	174	
5:30 PM	1	6	50	0	1	0	87	1	0	0	0	0	0	0	0	13	159	
5:35 PM	0	6	60	0	0	0	76	0	0	0	0	0	0	0	2	15	159	
5:40 PM	0	4	65	0	1	0	87	0	0	0	0	0	0	0	0	11	168	
5:45 PM	0	3	39	0	0	0	79	0	0	0	0	0	0	0	0	12	133	
5:50 PM	1	5	50	0	2	0	90	0	0	0	0	0	0	0	0	9	157	
5:55 PM	1	7	42	0	0	0	75	0	0	0	0	0	0	0	0	8	133	
Count Total	10	305	2,835	0	47	0	3,540	5	0	0	0	0	0	0	17	0	579	7,338
Peak Hour	2	90	758	0	9	0	1,002	1	0	0	0	0	0	0	5	0	171	2,038

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	1	0	0	0	1	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	0	0	1	0	1	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	1	0	0	0	1	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	0	1	0	1	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	1	0	1	0	2	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	0	0	0	1	1	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	0	1	0	1	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	1	0	1	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	1	0	0	0	1	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	0	0	0	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	3	0	0	3	6
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	1	0	0	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	1	1
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	5	0	6	1	12	Count Total	1	0	0	0	1	Count Total	3	0	0	4	7
Peak Hour	2	0	0	0	2	Peak Hour	0	0	0	0	0	Peak Hour	3	0	0	3	6



ALL TRAFFIC DATA SERVICES

(303) 216-2439

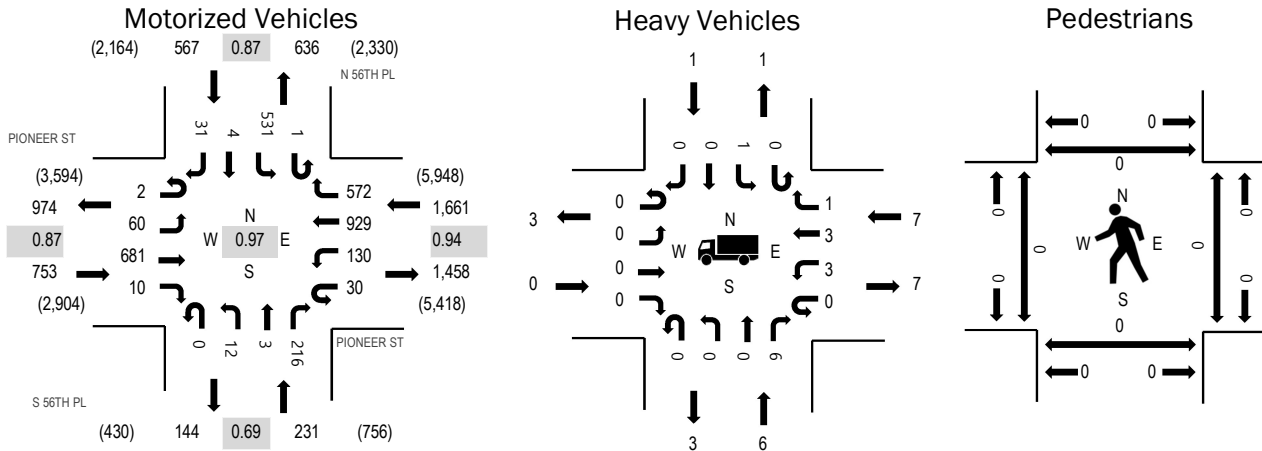
www.alltrafficdata.net

Location: 6 S 56TH PL & PIONEER ST PM

Date: Wednesday, December 10, 2025

Peak Hour: 03:40 PM - 04:40 PM

Peak 15-Minutes: 04:10 PM - 04:25 PM

Peak Hour

Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.87
WB	0.4%	0.94
NB	2.6%	0.69
SB	0.2%	0.87
All	0.4%	0.97

Traffic Counts - Motorized Vehicles

Interval Start Time	PIONEER ST Eastbound				PIONEER ST Westbound				S 56TH PL Northbound				N 56TH PL Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
2:00 PM	2	3	43	1	5	5	47	51	0	1	1	12	2	41	1	2	217	2,659
2:05 PM	0	2	38	0	4	5	49	40	0	1	1	16	0	45	1	2	204	2,682
2:10 PM	0	4	41	0	3	12	56	47	0	0	2	15	2	32	0	2	216	2,732
2:15 PM	0	5	43	0	3	10	66	40	0	0	1	8	0	34	1	2	213	2,770
2:20 PM	0	5	51	0	3	6	60	38	1	0	2	5	1	42	0	5	219	2,821
2:25 PM	0	0	52	4	1	13	57	41	0	0	0	5	1	34	0	4	212	2,828
2:30 PM	0	8	47	0	5	4	66	36	0	4	0	11	2	42	3	1	229	2,832
2:35 PM	0	5	48	1	3	3	63	45	0	2	2	10	1	40	1	2	226	2,836
2:40 PM	0	4	54	3	4	3	44	39	0	1	1	13	2	43	0	2	213	2,873
2:45 PM	2	4	58	3	4	6	54	38	0	2	3	14	0	45	1	0	234	2,926
2:50 PM	0	7	56	2	3	11	40	46	0	0	2	11	0	55	0	5	238	2,951
2:55 PM	0	12	67	1	6	5	60	36	0	1	1	15	0	31	0	3	238	2,974
3:00 PM	1	6	63	0	1	11	45	53	0	4	2	9	0	41	2	2	240	2,993
3:05 PM	2	5	45	0	0	7	80	40	0	2	2	15	0	50	0	6	254	3,018
3:10 PM	0	5	55	1	0	7	63	49	0	1	0	16	2	50	0	5	254	3,044
3:15 PM	0	5	68	1	1	11	71	42	0	0	2	11	0	49	1	2	264	3,071
3:20 PM	0	4	43	1	1	8	73	53	0	2	0	7	0	29	2	3	226	3,068
3:25 PM	1	3	46	1	1	5	79	42	0	0	0	11	0	26	0	1	216	3,130
3:30 PM	0	4	51	1	3	6	55	40	0	3	4	11	0	54	0	1	233	3,162
3:35 PM	0	6	74	2	2	7	71	41	0	2	3	18	0	37	0	0	263	3,211
3:40 PM	0	6	58	1	4	7	68	59	0	0	0	15	0	44	0	4	266	3,212
3:45 PM	0	7	54	0	3	9	74	43	0	1	0	18	0	47	2	1	259	3,181
3:50 PM	0	6	39	1	3	10	84	47	0	1	0	13	0	51	1	5	261	3,188
3:55 PM	0	3	47	1	4	10	86	45	0	1	1	6	1	49	0	3	257	3,153
4:00 PM	0	7	51	1	3	18	76	46	0	1	0	15	0	42	0	5	265	3,144
4:05 PM	0	9	79	1	2	13	77	38	0	2	0	10	0	46	0	3	280	3,186
4:10 PM	0	5	74	0	1	13	74	44	0	1	0	15	0	52	0	2	281	3,203
4:15 PM	1	3	67	1	2	10	73	56	0	1	0	15	0	31	0	1	261	3,171

4:20 PM	0	3	61	2	2	12	90	53	0	1	0	14	0	47	1	2	288	3,165
4:25 PM	1	2	43	0	1	14	80	51	0	0	1	17	0	36	0	2	248	3,133
4:30 PM	0	7	54	2	1	6	70	49	0	1	0	34	0	55	0	3	282	3,123
4:35 PM	0	2	54	0	4	8	77	41	0	2	1	44	0	31	0	0	264	3,102
4:40 PM	1	5	51	1	6	11	59	30	0	2	3	17	0	45	0	4	235	3,082
4:45 PM	0	4	57	0	3	9	97	40	0	0	0	16	0	39	1	0	266	3,080
4:50 PM	0	2	45	0	2	8	61	35	0	2	1	11	0	55	0	4	226	3,013
4:55 PM	1	4	64	0	1	12	79	47	0	1	0	9	0	29	0	1	248	3,023
5:00 PM	0	4	71	0	3	4	104	51	0	1	1	26	0	36	1	5	307	2,976
5:05 PM	0	4	67	1	3	4	85	46	0	2	4	34	0	41	0	6	297	
5:10 PM	0	7	71	1	3	4	60	38	0	3	0	23	0	34	0	5	249	
5:15 PM	0	3	67	0	4	4	82	35	0	2	3	12	0	42	0	1	255	
5:20 PM	0	4	64	0	4	9	84	36	0	1	2	5	0	42	1	4	256	
5:25 PM	0	0	65	0	1	3	76	43	0	2	1	5	0	41	0	1	238	
5:30 PM	0	0	51	0	4	5	92	47	0	0	1	12	0	46	0	3	261	
5:35 PM	0	6	57	0	3	7	67	34	0	2	2	6	0	58	0	2	244	
5:40 PM	0	9	58	0	3	4	85	32	0	0	2	6	0	32	0	2	233	
5:45 PM	0	0	39	0	3	6	79	32	0	1	1	4	0	31	1	2	199	
5:50 PM	0	4	47	0	6	2	83	40	0	1	0	5	0	42	0	6	236	
5:55 PM	0	4	42	0	4	6	74	29	0	1	2	1	0	37	0	1	201	
Count Total	12	217	2,640	35	136	373	3,395	2,044	1	59	55	641	14	2,001	21	128	11,772	
Peak Hour	2	60	681	10	30	130	929	572	0	12	3	216	1	531	4	31	3,212	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	0	1	0	0	1	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	1	0	0	1	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	1	1	0	0	2	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	1	0	0	1
2:35 PM	0	0	1	0	1	2:35 PM	0	0	0	0	0	2:35 PM	1	0	0	1	2
2:40 PM	0	0	1	0	1	2:40 PM	0	0	0	0	0	2:40 PM	0	1	0	0	1
2:45 PM	0	1	1	0	2	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	0	0	1	0	1	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	1	0	1	1	3	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	2	2
3:05 PM	0	0	1	0	1	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	0	1	1	2	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	0	0	1	0	1	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	1	0	2	0	3	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	0	1	0	0	1	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	1	0	0	0	1	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	0	1	0	1	2	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	1	2	0	3	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	0	1	0	1	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	0	2	1	0	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	1	1	0	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	1	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	1	0	0	0	1	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	1	0	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	2	0	0	2	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	1	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	0	1	0	2	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	1	0	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	1	0	1	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	1	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	1	0	0	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	6	14	20	4	44	Count Total	1	0	0	0	1	Count Total	1	2	0	3	6
Peak Hour	0	6	7	1	14	Peak Hour	1	0	0	0	1	Peak Hour	0	0	0	0	0



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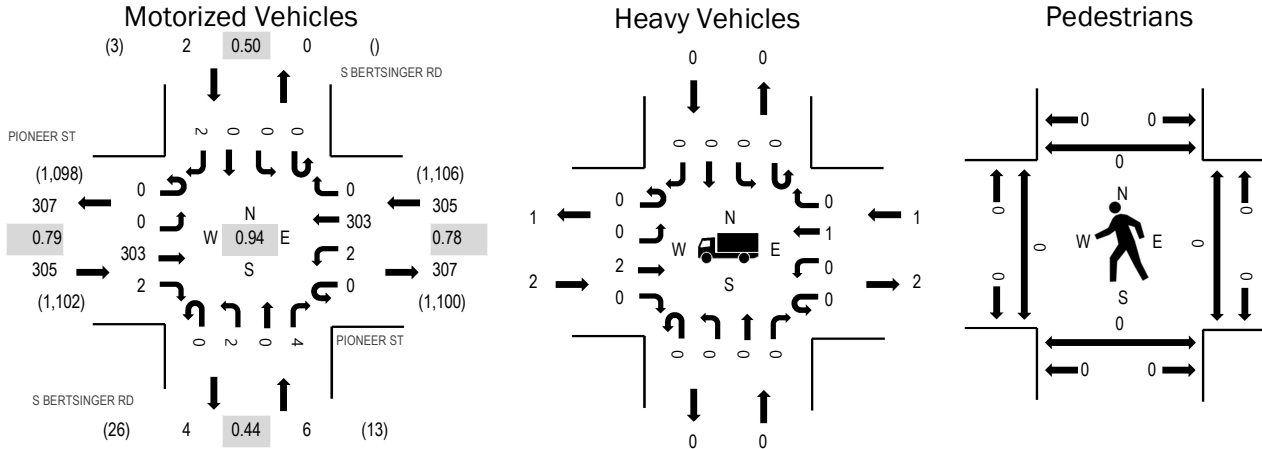
Location: 7 S BERTSINGER RD & PIONEER ST PM

Date: Wednesday, December 10, 2025

Peak Hour: 02:45 PM - 03:45 PM

Peak 15-Minutes: 02:45 PM - 03:00 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.7%	0.79
WB	0.3%	0.78
NB	0.0%	0.44
SB	0.0%	0.50
All	0.5%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	PIONEER ST Eastbound				PIONEER ST Westbound				S BERTSINGER RD Northbound				S BERTSINGER RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
2:00 PM	0	0	16	0	1	1	25	0	0	0	0	0	0	0	0	0	43	508
2:05 PM	0	0	11	0	0	1	22	0	0	0	0	0	0	0	0	0	34	520
2:10 PM	0	0	22	0	0	1	11	0	0	0	0	0	0	0	0	0	34	530
2:15 PM	0	0	13	0	0	0	15	0	0	0	0	0	0	0	0	0	28	545
2:20 PM	0	0	21	0	0	0	20	0	0	0	0	0	0	0	0	0	41	566
2:25 PM	0	0	22	0	0	0	20	0	0	0	0	0	0	0	0	1	43	568
2:30 PM	0	0	21	0	0	3	13	0	0	0	0	0	0	0	0	0	37	582
2:35 PM	0	0	17	0	0	0	23	0	0	1	0	0	0	0	0	0	41	588
2:40 PM	0	0	17	0	0	1	25	0	0	0	0	0	0	0	0	0	43	599
2:45 PM	0	0	31	0	0	0	26	0	0	1	0	0	0	0	0	0	58	618
2:50 PM	0	0	39	2	0	2	21	0	0	0	0	0	0	0	0	0	64	606
2:55 PM	0	0	23	0	0	0	18	0	0	1	0	0	0	0	0	0	42	603
3:00 PM	0	0	27	0	0	0	26	0	0	0	0	2	0	0	0	0	55	612
3:05 PM	0	0	15	0	0	0	28	0	0	0	0	1	0	0	0	0	44	598
3:10 PM	0	0	26	0	0	0	22	0	0	0	0	0	0	0	0	1	49	602
3:15 PM	0	0	17	0	0	0	32	0	0	0	0	0	0	0	0	0	49	601
3:20 PM	0	0	15	0	0	0	27	0	0	0	0	1	0	0	0	0	43	600
3:25 PM	0	0	16	0	0	0	41	0	0	0	0	0	0	0	0	0	57	610
3:30 PM	0	0	22	0	0	0	20	0	0	0	0	0	0	0	0	1	43	600
3:35 PM	0	0	28	0	0	0	24	0	0	0	0	0	0	0	0	0	52	601
3:40 PM	0	0	44	0	0	0	18	0	0	0	0	0	0	0	0	0	62	600
3:45 PM	0	0	29	0	0	0	17	0	0	0	0	0	0	0	0	0	46	583
3:50 PM	0	0	38	0	0	0	23	0	0	0	0	0	0	0	0	0	61	576
3:55 PM	0	0	34	0	0	0	17	0	0	0	0	0	0	0	0	0	51	581
4:00 PM	0	0	26	1	0	0	14	0	0	0	0	0	0	0	0	0	41	580
4:05 PM	0	0	25	0	0	0	23	0	0	0	0	0	0	0	0	0	48	591
4:10 PM	0	0	28	0	0	0	20	0	0	0	0	0	0	0	0	0	48	594
4:15 PM	0	0	21	1	0	2	24	0	0	0	0	0	0	0	0	0	48	603

4:20 PM	0	0	25	1	0	0	27	0	0	0	0	0	0	0	0	0	53	602
4:25 PM	0	0	24	0	0	0	23	0	0	0	0	0	0	0	0	0	47	587
4:30 PM	0	0	26	0	0	0	18	0	0	0	0	0	0	0	0	0	44	594
4:35 PM	0	0	25	1	0	1	24	0	0	0	0	0	0	0	0	0	51	591
4:40 PM	0	0	19	0	0	0	26	0	0	0	0	0	0	0	0	0	45	587
4:45 PM	0	0	18	0	0	0	21	0	0	0	0	0	0	0	0	0	39	573
4:50 PM	0	0	28	0	0	1	36	0	0	0	0	1	0	0	0	0	66	569
4:55 PM	0	0	24	2	0	0	24	0	0	0	0	0	0	0	0	0	50	539
5:00 PM	0	0	29	0	1	1	21	0	0	0	0	0	0	0	0	0	52	524
5:05 PM	0	0	22	0	0	0	29	0	0	0	0	0	0	0	0	0	51	
5:10 PM	0	0	31	0	0	0	25	0	0	0	0	1	0	0	0	0	57	
5:15 PM	0	0	26	0	0	0	21	0	0	0	0	0	0	0	0	0	47	
5:20 PM	0	0	20	0	0	0	17	0	0	1	0	0	0	0	0	0	38	
5:25 PM	0	0	24	0	0	0	29	0	0	0	0	1	0	0	0	0	54	
5:30 PM	0	0	18	0	0	0	23	0	0	0	0	0	0	0	0	0	41	
5:35 PM	0	0	17	1	0	0	29	0	0	0	0	0	0	0	0	0	47	
5:40 PM	0	0	14	1	0	0	16	0	0	0	0	0	0	0	0	0	31	
5:45 PM	0	0	15	1	0	0	18	0	0	1	0	0	0	0	0	0	35	
5:50 PM	0	0	12	1	0	0	23	0	0	0	0	0	0	0	0	0	36	
5:55 PM	0	0	9	0	0	0	25	0	0	0	0	1	0	0	0	0	35	
Count Total	0	0	1,090	12	2	14	1,090	0	0	5	0	8	0	0	0	3	2,224	
Peak Hour	0	0	303	2	0	2	303	0	0	2	0	4	0	0	0	2	618	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	1	0	0	0	1	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	1	0	0	0	1	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	1	0	0	0	1	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	0	0	1	0	1	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0	4:00 PM	0	0	1	0	1	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	3	0	1	0	4	Count Total	0	0	1	0	1	Count Total	0	0	0	0	0
Peak Hour	2	0	1	0	3	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



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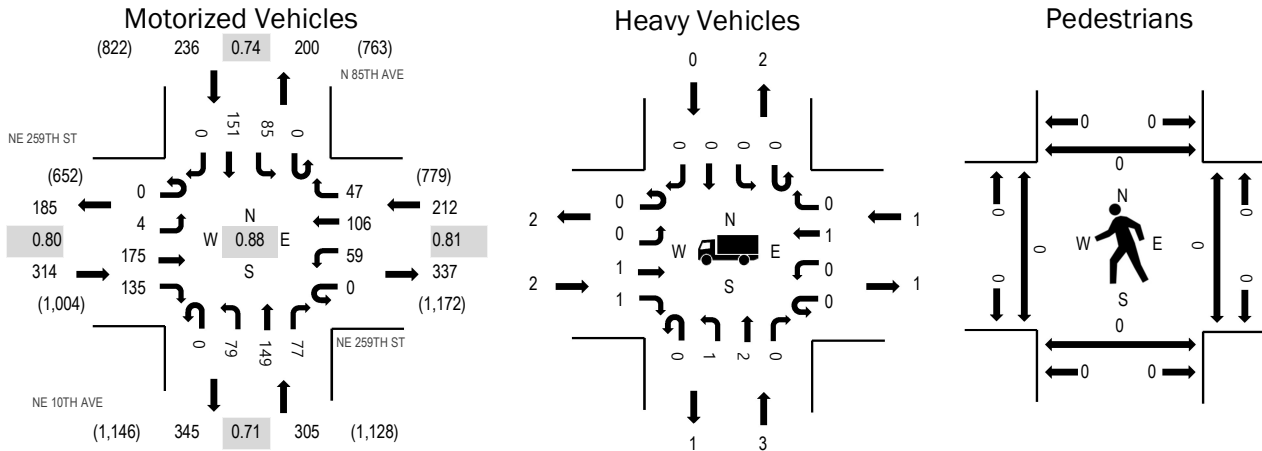
www.alltrafficdata.net

Location: 8 NE 10TH AVE & NE 259TH ST PM

Date: Wednesday, December 10, 2025

Peak Hour: 03:25 PM - 04:25 PM

Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour

Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.6%	0.80
WB	0.5%	0.81
NB	1.0%	0.71
SB	0.0%	0.74
All	0.6%	0.88

Traffic Counts - Motorized Vehicles

Interval Start Time	NE 259TH ST Eastbound				NE 259TH ST Westbound				NE 10TH AVE Northbound				N 85TH AVE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
2:00 PM	0	1	7	11	0	2	8	3	0	3	16	5	0	6	12	0	74	853
2:05 PM	0	0	8	4	0	4	7	3	0	3	15	1	0	4	8	0	57	873
2:10 PM	0	0	13	6	0	3	8	3	0	2	10	5	0	3	14	1	68	892
2:15 PM	0	1	7	6	0	3	4	5	0	11	12	3	0	5	10	0	67	919
2:20 PM	0	0	9	3	0	3	4	2	0	6	16	4	0	2	7	0	56	945
2:25 PM	0	0	15	6	0	4	12	3	0	3	10	2	0	4	10	2	71	961
2:30 PM	0	0	4	11	0	1	9	2	0	3	8	3	0	4	11	1	57	968
2:35 PM	0	0	8	8	0	3	5	3	0	9	14	3	0	2	21	0	76	1,004
2:40 PM	0	0	4	4	0	3	5	1	0	11	13	6	0	3	13	1	64	1,031
2:45 PM	0	0	10	5	0	0	11	5	0	8	12	10	0	7	8	0	76	1,047
2:50 PM	0	1	7	7	0	4	11	6	0	7	19	14	0	5	6	0	87	1,062
2:55 PM	0	1	11	9	0	3	11	9	0	7	20	20	0	2	7	0	100	1,050
3:00 PM	0	1	14	12	0	5	9	4	0	6	11	17	0	7	8	0	94	1,028
3:05 PM	0	0	9	10	0	6	8	1	0	6	5	13	0	4	14	0	76	1,029
3:10 PM	0	1	11	12	0	13	11	8	0	4	9	11	0	4	11	0	95	1,056
3:15 PM	0	1	13	10	0	10	11	8	0	7	14	6	0	2	10	1	93	1,065
3:20 PM	0	0	11	8	0	7	5	4	0	8	4	10	0	7	8	0	72	1,063
3:25 PM	0	0	9	10	0	8	7	4	0	8	5	8	0	6	13	0	78	1,067
3:30 PM	0	0	13	13	0	5	14	4	0	5	9	5	0	9	16	0	93	1,063
3:35 PM	0	0	15	16	0	7	6	6	0	4	11	7	0	6	25	0	103	1,045
3:40 PM	0	1	12	11	0	4	5	4	0	5	10	5	0	6	17	0	80	1,017
3:45 PM	0	0	7	9	0	7	11	4	0	8	22	6	0	3	14	0	91	1,009
3:50 PM	0	0	9	8	0	4	9	1	0	8	11	6	0	8	11	0	75	1,003
3:55 PM	0	0	14	10	0	3	5	4	0	11	16	2	0	7	6	0	78	1,004
4:00 PM	0	2	14	15	0	4	10	6	0	10	10	7	0	9	8	0	95	989
4:05 PM	0	0	20	18	0	4	15	1	0	3	19	10	0	8	5	0	103	995
4:10 PM	0	0	26	9	0	5	5	7	0	2	16	6	0	11	17	0	104	996
4:15 PM	0	1	22	6	0	3	11	3	0	9	11	10	0	8	7	0	91	975

4:20 PM	0	0	14	10	0	5	8	3	0	6	9	5	0	4	12	0	76	948
4:25 PM	0	0	12	7	0	6	3	4	0	5	10	8	0	12	7	0	74	977
4:30 PM	0	0	8	16	0	4	7	3	0	4	9	3	0	11	10	0	75	960
4:35 PM	0	0	19	6	0	3	3	1	0	6	10	4	0	12	11	0	75	938
4:40 PM	0	0	13	6	0	1	8	4	0	5	9	7	0	8	11	0	72	925
4:45 PM	0	0	22	8	0	4	10	2	0	3	11	4	0	8	13	0	85	920
4:50 PM	0	0	6	11	0	2	12	6	0	7	7	1	0	12	12	0	76	901
4:55 PM	0	1	19	9	0	3	9	0	0	4	4	1	0	4	9	0	63	877
5:00 PM	0	0	13	23	0	4	15	8	0	6	7	3	0	9	13	0	101	863
5:05 PM	0	0	16	10	0	5	3	3	0	8	15	4	0	15	25	0	104	
5:10 PM	0	0	8	6	0	3	2	10	0	1	16	11	0	7	19	0	83	
5:15 PM	0	1	11	5	0	6	10	3	0	0	9	9	0	5	5	0	64	
5:20 PM	0	1	20	6	0	6	8	5	0	4	22	10	0	10	13	0	105	
5:25 PM	0	0	9	2	0	4	4	6	0	5	13	3	0	2	9	0	57	
5:30 PM	0	0	7	4	0	2	9	5	0	3	9	5	0	3	6	0	53	
5:35 PM	0	0	14	10	0	1	5	4	0	4	8	4	0	4	8	0	62	
5:40 PM	0	0	17	9	0	5	8	0	0	6	10	5	0	4	3	0	67	
5:45 PM	0	0	9	6	0	7	7	5	0	4	14	5	0	2	7	0	66	
5:50 PM	0	0	4	5	0	1	6	4	0	5	9	6	0	6	6	0	52	
5:55 PM	0	0	8	3	0	6	4	5	0	5	5	3	0	5	5	0	49	
Count Total	0	14	571	419	0	206	378	195	0	268	554	306	0	295	521	6	3,733	
Peak Hour	0	4	175	135	0	59	106	47	0	79	149	77	0	85	151	0	1,067	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	2	1	0	0	3	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	1	0	0	1	2:10 PM	1	0	0	0	1	2:10 PM	0	0	0	0	0
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	0	2	0	0	2	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	1	0	1	0	2	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	1	0	0	0	1	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	1	0	0	0	1	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	1	2	0	0	3	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	0	2	0	0	2	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:05 PM	0	1	0	0	1	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	0	2	0	0	2	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	1	0	0	1	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	1	0	0	0	1	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	1	0	1	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	1	0	0	0	1	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	0	1	0	2	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	2	0	2
4:45 PM	1	1	0	0	2	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	1	0	0	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	0	0	0	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	1	0	0	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	1	0	0	0	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	1	0	0	0	1	5:40 PM	0	0	0	0	0	5:40 PM	0	2	0	0	2
5:45 PM	1	1	0	0	2	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	14	16	3	0	33	Count Total	1	0	0	0	1	Count Total	0	2	2	0	4
Peak Hour	2	3	1	0	6	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



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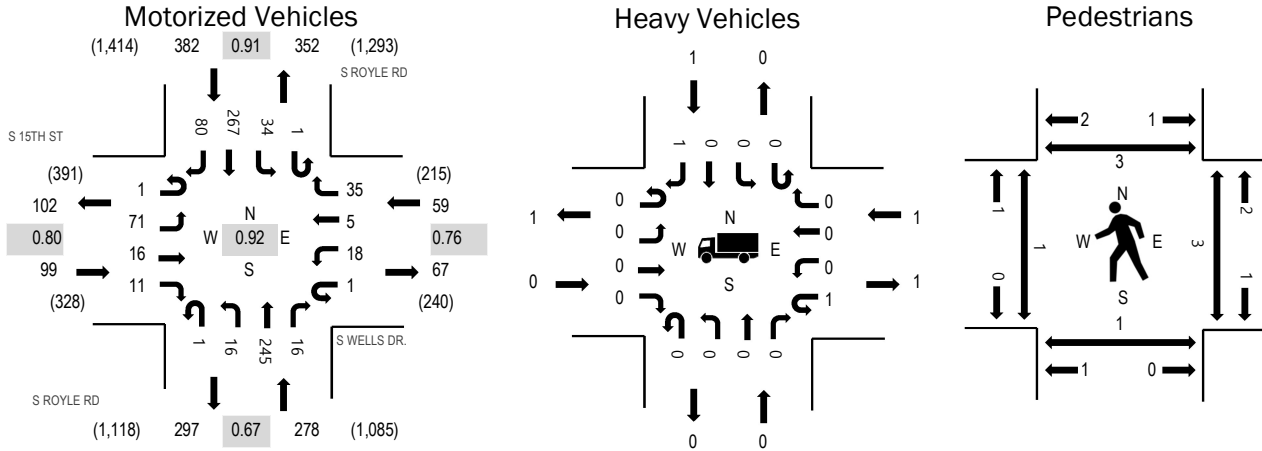
www.alltrafficdata.net

Location: 9 S ROYLE RD & S WELLS DR. PM

Date: Wednesday, December 10, 2025

Peak Hour: 04:20 PM - 05:20 PM

Peak 15-Minutes: 05:05 PM - 05:20 PM

Peak Hour

Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.80
WB	1.7%	0.76
NB	0.0%	0.67
SB	0.3%	0.91
All	0.2%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	S 15TH ST Eastbound				S WELLS DR. Westbound				S ROYLE RD Northbound				S ROYLE RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
2:00 PM	0	2	3	0	0	1	1	0	0	1	13	1	0	2	21	4	49	760
2:05 PM	0	4	0	2	1	0	1	0	0	3	19	4	0	2	23	8	67	794
2:10 PM	0	3	1	2	0	2	2	1	0	3	14	1	0	4	22	11	66	788
2:15 PM	0	3	1	2	0	1	0	2	0	2	15	1	0	2	45	5	79	779
2:20 PM	0	9	4	2	1	4	0	1	0	0	9	1	1	2	19	10	63	762
2:25 PM	0	2	0	3	0	1	0	0	0	1	5	0	0	3	21	6	42	744
2:30 PM	0	3	0	1	0	2	0	0	0	1	15	2	0	3	23	4	54	757
2:35 PM	0	5	0	6	0	1	2	4	0	4	18	1	0	3	13	5	62	763
2:40 PM	0	3	2	1	0	1	0	2	0	0	28	1	0	1	16	4	59	756
2:45 PM	0	6	0	3	0	1	0	2	1	3	37	4	0	2	12	2	73	759
2:50 PM	0	4	0	2	0	2	0	4	1	2	33	3	0	4	14	2	71	744
2:55 PM	0	2	2	0	0	1	2	6	0	3	36	2	0	4	11	6	75	729
3:00 PM	0	9	2	4	0	1	1	5	0	3	27	1	0	5	19	6	83	712
3:05 PM	0	8	0	0	0	2	0	1	0	3	20	1	0	2	15	9	61	704
3:10 PM	0	7	1	1	0	2	0	6	0	0	16	2	0	2	16	4	57	717
3:15 PM	0	8	2	1	0	1	1	2	0	1	16	1	0	2	20	7	62	732
3:20 PM	0	3	0	1	0	1	0	2	0	0	18	0	0	2	17	1	45	736
3:25 PM	0	3	1	2	0	2	0	4	0	1	22	0	0	1	12	7	55	764
3:30 PM	0	2	0	1	0	2	1	5	0	0	20	4	0	3	17	5	60	774
3:35 PM	0	3	1	3	0	1	0	5	0	1	16	1	0	0	15	9	55	779
3:40 PM	0	2	1	1	0	3	0	1	0	1	24	1	0	4	18	6	62	785
3:45 PM	0	4	0	0	0	1	0	1	0	1	26	2	0	4	12	7	58	798
3:50 PM	0	2	0	0	0	2	0	2	0	1	17	1	0	4	20	7	56	800
3:55 PM	0	6	0	1	0	0	1	3	0	4	14	0	0	4	17	8	58	799
4:00 PM	0	8	1	4	0	1	2	2	0	1	17	0	0	3	24	12	75	813
4:05 PM	0	3	0	1	0	0	0	1	0	3	26	2	0	1	31	6	74	807
4:10 PM	0	5	1	1	0	1	0	5	1	3	22	1	0	5	25	2	72	801
4:15 PM	0	6	1	1	0	1	3	3	0	2	20	1	0	2	21	5	66	813

4:20 PM	0	7	1	0	0	0	0	4	0	1	22	2	0	3	27	6	73	818
4:25 PM	1	2	0	0	0	0	0	3	0	0	21	2	0	3	24	9	65	814
4:30 PM	0	6	1	1	0	0	0	4	0	0	19	0	0	4	16	14	65	810
4:35 PM	0	8	1	0	0	3	1	2	0	2	16	1	0	5	16	6	61	799
4:40 PM	0	2	2	2	0	2	0	2	1	3	29	1	0	2	24	5	75	794
4:45 PM	0	6	2	0	0	1	1	3	0	2	17	1	0	7	16	4	60	778
4:50 PM	0	3	0	1	0	0	0	5	0	0	12	2	0	2	23	7	55	773
4:55 PM	0	6	1	2	1	2	1	2	0	2	16	2	0	4	26	7	72	767
5:00 PM	0	10	2	1	0	3	2	4	0	1	21	1	0	1	15	8	69	757
5:05 PM	0	10	2	1	0	5	0	2	0	2	14	1	0	0	27	4	68	
5:10 PM	0	7	2	3	0	1	0	4	0	1	33	1	0	2	25	5	84	
5:15 PM	0	4	2	0	0	1	0	0	0	2	25	2	1	1	28	5	71	
5:20 PM	0	1	0	0	0	0	0	5	0	1	22	0	0	3	30	7	69	
5:25 PM	0	4	0	1	0	2	1	2	0	2	18	0	1	2	23	5	61	
5:30 PM	0	1	1	0	0	0	0	1	0	1	17	3	0	2	22	6	54	
5:35 PM	0	2	0	1	0	2	0	0	0	3	18	2	0	4	20	4	56	
5:40 PM	0	6	0	0	0	1	2	4	0	1	20	0	0	3	16	6	59	
5:45 PM	0	5	0	2	0	3	0	3	0	0	8	2	0	5	24	3	55	
5:50 PM	0	2	0	2	0	0	0	1	0	1	11	0	1	3	21	7	49	
5:55 PM	0	4	0	2	0	0	0	2	0	1	23	0	0	2	23	5	62	
Count Total	1	221	41	65	3	64	25	123	4	74	945	62	4	134	985	291	3,042	
Peak Hour	1	71	16	11	1	18	5	35	1	16	245	16	1	34	267	80	818	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	2:00 PM	1	1	0	0	2
2:05 PM	0	0	1	0	1	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	2	0	0	2
2:20 PM	0	0	1	0	1	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	1	1
2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0	2:50 PM	0	1	0	1	2
2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	1	1
3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	0	0	1	1	3:10 PM	0	0	0	0	0	3:10 PM	0	1	0	0	1
3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0	3:20 PM	0	0	2	0	2
3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	2	0	0	2
3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	1	1
3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0	3:55 PM	0	0	1	0	1
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	1	1
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	1	0	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	1	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	1	0	1
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	1	1	2
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	1	1	1	0	3
4:55 PM	0	0	1	0	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	2	2
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	1	0	0	0	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	2	0	2
Count Total	1	1	3	2	7	Count Total	0	0	0	0	0	Count Total	2	8	8	8	26
Peak Hour	0	0	1	1	2	Peak Hour	0	0	0	0	0	Peak Hour	1	1	3	3	8



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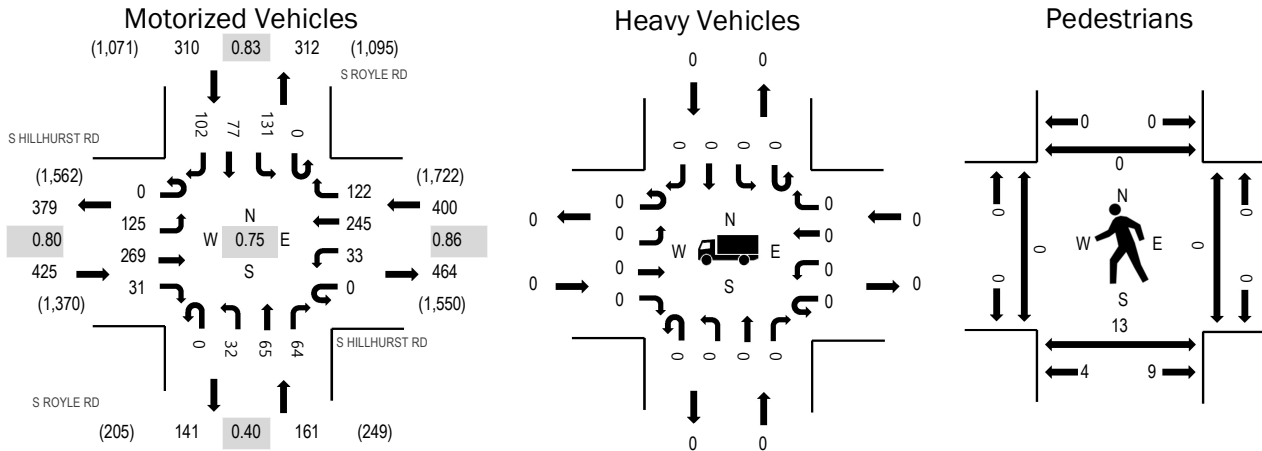
Location: 10 S ROYLE RD & S HILLHURST RD PM

Date: Wednesday, December 10, 2025

Peak Hour: 02:25 PM - 03:25 PM

Peak 15-Minutes: 02:40 PM - 02:55 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.80
WB	0.0%	0.86
NB	0.0%	0.40
SB	0.0%	0.83
All	0.0%	0.75

Traffic Counts - Motorized Vehicles

Interval Start Time	S HILLHURST RD Eastbound				S HILLHURST RD Westbound				S ROYLE RD Northbound				S ROYLE RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
2:00 PM	0	11	20	0	0	3	10	7	0	0	1	0	0	14	0	10	76	1,242
2:05 PM	0	14	16	0	0	0	9	10	0	2	1	0	0	9	0	6	67	1,282
2:10 PM	0	8	7	0	0	0	18	15	0	0	0	1	0	14	3	11	77	1,276
2:15 PM	0	1	10	0	0	1	19	5	0	0	0	0	0	31	2	6	75	1,291
2:20 PM	0	6	24	1	0	3	15	6	0	0	1	0	0	18	2	7	83	1,288
2:25 PM	0	5	23	3	0	4	20	5	0	1	1	0	0	16	4	7	89	1,296
2:30 PM	0	5	18	7	0	9	16	15	0	0	0	1	0	8	3	7	89	1,273
2:35 PM	0	5	20	6	0	6	33	13	0	2	3	3	0	12	3	10	116	1,254
2:40 PM	0	7	19	1	0	7	30	19	0	11	12	7	0	12	15	9	149	1,198
2:45 PM	0	15	28	4	0	2	27	8	0	3	16	10	0	6	18	6	143	1,146
2:50 PM	0	13	27	1	0	0	14	9	0	3	17	21	0	0	18	19	142	1,073
2:55 PM	0	19	22	1	0	1	21	14	0	5	4	12	0	27	7	3	136	1,011
3:00 PM	0	20	26	4	0	1	21	7	0	2	7	2	0	10	5	11	116	954
3:05 PM	0	8	20	0	0	1	13	3	0	1	4	1	0	6	0	4	61	929
3:10 PM	0	11	27	2	0	1	17	4	0	1	1	2	0	16	0	10	92	948
3:15 PM	0	5	21	1	0	1	8	8	0	2	0	4	0	12	3	7	72	950
3:20 PM	0	12	18	1	0	0	25	17	0	1	0	1	0	6	1	9	91	974
3:25 PM	0	10	10	0	0	1	24	8	0	0	0	1	0	8	0	4	66	965
3:30 PM	0	8	12	0	0	0	18	14	0	1	0	1	0	11	0	5	70	1,008
3:35 PM	0	6	12	0	0	0	16	10	0	1	0	0	0	8	0	7	60	1,024
3:40 PM	0	10	18	2	0	0	30	21	0	0	0	1	0	7	0	8	97	1,062
3:45 PM	0	11	15	0	0	0	17	9	0	0	0	1	0	9	0	8	70	1,070
3:50 PM	0	6	22	1	0	1	18	17	0	0	0	1	0	2	1	11	80	1,061
3:55 PM	0	9	14	0	0	1	28	9	0	2	0	0	0	9	0	7	79	1,045
4:00 PM	0	7	11	1	0	0	28	21	0	1	1	2	0	13	1	5	91	1,037
4:05 PM	0	12	16	0	0	1	11	14	0	1	4	0	0	10	1	10	80	1,055
4:10 PM	0	7	12	0	0	1	21	19	0	0	0	1	0	17	1	15	94	1,096
4:15 PM	0	8	18	1	0	0	31	17	0	0	1	0	0	12	0	8	96	1,145

4:20 PM	0	8	16	0	0	0	21	12	0	0	2	0	0	14	0	9	82	1,188
4:25 PM	0	8	21	0	0	1	32	18	0	0	1	1	0	15	3	9	109	1,178
4:30 PM	0	8	14	0	0	0	28	11	0	0	1	1	0	12	0	11	86	1,150
4:35 PM	0	5	27	0	0	2	27	18	0	1	0	2	0	8	2	6	98	1,151
4:40 PM	0	7	21	0	0	1	36	21	0	0	0	1	0	12	0	6	105	1,136
4:45 PM	0	7	10	0	0	1	19	10	0	0	1	1	0	8	0	4	61	1,100
4:50 PM	0	6	17	1	0	1	21	5	0	0	0	0	0	7	2	4	64	1,114
4:55 PM	0	2	13	1	0	2	26	5	0	0	2	2	0	14	1	3	71	1,142
5:00 PM	0	4	36	0	0	1	26	9	0	3	3	5	0	10	1	11	109	1,179
5:05 PM	0	11	38	0	0	1	30	13	0	3	3	0	0	13	1	8	121	
5:10 PM	0	14	49	1	0	2	27	18	0	2	0	3	0	13	0	14	143	
5:15 PM	0	17	30	0	0	1	34	19	0	0	0	9	0	18	1	10	139	
5:20 PM	0	11	13	0	0	0	19	5	0	2	0	0	0	11	0	11	72	
5:25 PM	0	5	13	1	0	0	27	17	0	0	0	0	0	9	0	9	81	
5:30 PM	0	9	11	0	0	0	23	17	0	0	0	2	0	11	1	13	87	
5:35 PM	0	8	11	0	0	0	22	22	0	0	0	0	0	6	0	14	83	
5:40 PM	0	8	9	0	0	2	21	8	0	2	1	0	0	8	1	9	69	
5:45 PM	0	8	7	0	0	1	28	9	0	0	0	3	0	9	0	10	75	
5:50 PM	0	10	13	0	0	0	37	4	0	0	1	1	0	11	1	14	92	
5:55 PM	0	20	19	0	0	0	29	5	0	2	1	0	0	20	1	11	108	
Count Total	0	435	894	41	0	61	1,091	570	0	55	90	104	0	552	103	416	4,412	
Peak Hour	0	125	269	31	0	33	245	122	0	32	65	64	0	131	77	102	1,296	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	2:00 PM	0	2	0	0	2
2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0	2:05 PM	0	1	0	0	1
2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	0	0	2:10 PM	0	1	0	0	1
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0	2:45 PM	0	6	0	0	6
2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0	2:50 PM	0	1	0	0	1
2:55 PM	0	0	0	0	0	2:55 PM	1	0	0	0	1	2:55 PM	0	0	0	0	0
3:00 PM	0	0	0	0	0	3:00 PM	0	0	1	0	1	3:00 PM	0	2	0	0	2
3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0	3:05 PM	0	2	0	0	2
3:10 PM	0	0	0	0	0	3:10 PM	1	0	0	0	1	3:10 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0	3:15 PM	0	1	0	0	1
3:20 PM	0	0	0	0	0	3:20 PM	0	0	1	0	1	3:20 PM	0	3	0	0	3
3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0	3:25 PM	0	1	0	0	1
3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0	3:30 PM	0	1	0	0	1
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	1	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	1	0	0	1
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	1	0	0	1
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	2	0	0	2
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	1	1	0	2
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	2	0	0	2
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	2	0	2
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	1	0	1
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	4	0	0	4
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	3	0	0	3
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	2	0	0	2
5:15 PM	0	0	0	0	0	5:15 PM	2	0	0	0	2	5:15 PM	0	1	0	0	1
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	1	0	0	1
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	2	0	0	2
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	1	0	0	1
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	1	0	0	1
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	0	0	1	0	1	Count Total	4	0	2	0	6	Count Total	0	43	4	0	47
Peak Hour	0	0	0	0	0	Peak Hour	2	0	2	0	4	Peak Hour	0	15	0	0	15

Appendix B

Level of Service Reports

Intersection

Intersection Delay, s/veh **12.6**

Intersection LOS **B**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	230	92	62	233	0	123	0	82	2	0	0
Future Vol, veh/h	0	230	92	62	233	0	123	0	82	2	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	261	105	70	265	0	140	0	93	2	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.8	12.9	11.7	9.5
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	60%	0%	21%	100%
Vol Thru, %	0%	71%	79%	0%
Vol Right, %	40%	29%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	205	322	295	2
LT Vol	123	0	62	2
Through Vol	0	230	233	0
RT Vol	82	92	0	0
Lane Flow Rate	233	366	335	2
Geometry Grp	1	1	1	1
Degree of Util (X)	0.359	0.503	0.48	0.004
Departure Headway (Hd)	5.543	4.948	5.156	6.38
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	648	732	701	559
Service Time	3.579	2.948	3.187	4.435
HCM Lane V/C Ratio	0.36	0.5	0.478	0.004
HCM Control Delay	11.7	12.8	12.9	9.5
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	1.6	2.9	2.6	0

HCM 6th TWSC
2: Pioneer St & Reiman Rd

01/23/2026

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	269	275	144	79	25
Future Vol, veh/h	25	269	275	144	79	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	150	-	-	275	100	0
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	27	292	299	157	86	27

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	299	0	0 645 299
Stage 1	-	-	- 299 -
Stage 2	-	-	- 346 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1262	-	- 437 741
Stage 1	-	-	- 752 -
Stage 2	-	-	- 716 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1262	-	- 428 741
Mov Cap-2 Maneuver	-	-	- 428 -
Stage 1	-	-	- 736 -
Stage 2	-	-	- 716 -

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1262	-	-	-	428	741
HCM Lane V/C Ratio	0.022	-	-	-	0.201	0.037
HCM Control Delay (s)	7.9	-	-	-	15.5	10
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7	0.1

MOVEMENT SUMMARY

 Site: 3 [3. N 35th Avenue & Pioneer Street (Site Folder: PM 2025 Existing Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

2026 Existing Project PM Volumes

Site Category: NA

Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] ft				mph
South: S 35th Place															
3	L2	All MCs	5	2.0	5	2.0	0.039	14.9	LOS B	0.2	4.8	0.55	0.67	0.55	37.2
8	T1	All MCs	1	2.0	1	2.0	0.039	9.0	LOS A	0.2	4.8	0.55	0.67	0.55	41.9
18	R2	All MCs	27	2.0	27	2.0	0.039	8.5	LOS A	0.2	4.8	0.55	0.67	0.55	39.0
Approach			33	2.0	33	2.0	0.039	9.6	LOS A	0.2	4.8	0.55	0.67	0.55	38.8
East: Pioneer Street															
1u	U	All MCs	32	2.0	32	2.0	0.559	12.5	LOS B	4.8	120.8	0.25	0.45	0.25	36.1
1	L2	All MCs	34	2.0	34	2.0	0.559	11.1	LOS B	4.8	120.8	0.25	0.45	0.25	39.5
6	T1	All MCs	498	2.0	498	2.0	0.559	5.1	LOS A	4.8	120.8	0.25	0.45	0.25	36.9
16	R2	All MCs	148	2.0	148	2.0	0.559	5.0	LOS A	4.8	120.8	0.25	0.45	0.25	40.0
Approach			713	2.0	713	2.0	0.559	5.7	LOS A	4.8	120.8	0.25	0.45	0.25	37.6
North: N 35th Avenue															
7	L2	All MCs	112	2.0	112	2.0	0.153	15.3	LOS B	0.8	20.1	0.60	0.73	0.60	35.9
4	T1	All MCs	1	2.0	1	2.0	0.153	9.5	LOS A	0.8	20.1	0.60	0.73	0.60	38.8
14	R2	All MCs	16	2.0	16	2.0	0.153	9.0	LOS A	0.8	20.1	0.60	0.73	0.60	35.3
Approach			129	2.0	129	2.0	0.153	14.5	LOS B	0.8	20.1	0.60	0.73	0.60	35.8
West: Pioneer Street															
5	L2	All MCs	30	2.0	30	2.0	0.355	10.8	LOS B	2.1	53.7	0.42	0.47	0.42	37.4
2	T1	All MCs	369	2.0	369	2.0	0.355	4.9	LOS A	2.1	53.7	0.42	0.47	0.42	36.3
12	R2	All MCs	2	2.0	2	2.0	0.355	4.9	LOS A	2.1	53.7	0.42	0.47	0.42	37.9
Approach			401	2.0	401	2.0	0.355	5.3	LOS A	2.1	53.7	0.42	0.47	0.42	36.4
All Vehicles			1276	2.0	1276	2.0	0.559	6.6	LOS A	4.8	120.8	0.35	0.49	0.35	37.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 **Site: 4 [4. Royle Road & Pioneer Street (Site Folder: PM 2025 Existing Project)]**

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

2026 Existing Project PM Volumes

Site Category: NA

Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
South: S Royle Road															
3	L2	All MCs	186	2.0	186	2.0	0.327	14.5	LOS B	1.5	36.9	0.54	0.72	0.54	36.0
8	T1	All MCs	134	2.0	134	2.0	0.327	7.8	LOS A	1.5	36.9	0.54	0.72	0.54	40.4
18	R2	All MCs	220	2.0	220	2.0	0.260	8.0	LOS A	1.1	27.0	0.53	0.70	0.53	39.8
Approach			540	2.0	540	2.0	0.327	10.2	LOS B	1.5	36.9	0.54	0.71	0.54	38.5
East: Pioneer Street															
1	L2	All MCs	359	2.0	359	2.0	0.458	13.4	LOS B	3.1	77.6	0.63	0.68	0.63	36.3
6	T1	All MCs	480	2.0	480	2.0	0.458	6.3	LOS A	3.2	81.8	0.62	0.60	0.62	35.8
16	R2	All MCs	206	2.0	206	2.0	0.458	6.5	LOS A	3.2	81.8	0.61	0.58	0.61	39.2
Approach			1045	2.0	1045	2.0	0.458	8.8	LOS A	3.2	81.8	0.62	0.62	0.62	36.6
North: N Royle Road															
7	L2	All MCs	127	2.0	127	2.0	0.468	17.6	LOS B	2.4	61.3	0.72	0.89	0.85	36.4
4	T1	All MCs	143	2.0	143	2.0	0.468	10.9	LOS B	2.4	61.3	0.72	0.89	0.85	39.5
14	R2	All MCs	29	2.0	29	2.0	0.468	10.6	LOS B	2.4	61.3	0.72	0.89	0.85	35.8
Approach			298	2.0	298	2.0	0.468	13.7	LOS B	2.4	61.3	0.72	0.89	0.85	37.7
West: Pioneer Street															
5	L2	All MCs	55	2.0	55	2.0	0.301	13.6	LOS B	1.8	46.0	0.70	0.67	0.70	36.1
2	T1	All MCs	414	2.0	414	2.0	0.301	6.6	LOS A	2.0	50.0	0.69	0.64	0.69	35.6
12	R2	All MCs	100	2.0	100	2.0	0.301	6.8	LOS A	2.0	50.0	0.69	0.62	0.69	37.4
Approach			569	2.0	569	2.0	0.301	7.3	LOS A	2.0	50.0	0.69	0.64	0.69	35.9
All Vehicles			2452	2.0	2452	2.0	0.468	9.4	LOS A	3.2	81.8	0.63	0.68	0.65	37.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 Site: 5 [5. N Pioneer Canyon Drive & Pioneer Street (Site Folder: PM 2025 Existing Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

2026 Existing Project PM Volumes

Site Category: NA

Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
East: Pioneer Street															
1u	U	All MCs	10	2.0	10	2.0	0.388	13.1	LOS B	2.3	57.9	0.29	0.42	0.29	36.5
6	T1	All MCs	1089	2.0	1089	2.0	0.388	4.9	LOS A	2.3	58.2	0.28	0.42	0.28	37.5
16	R2	All MCs	1	2.0	1	2.0	0.388	5.1	LOS A	2.3	58.2	0.27	0.41	0.27	40.6
Approach			1100	2.0	1100	2.0	0.388	5.0	LOS A	2.3	58.2	0.28	0.42	0.28	37.5
North: Pioneer Canyon Dr															
7	L2	All MCs	5	2.0	5	2.0	0.277	16.2	LOS B	1.0	26.1	0.60	0.80	0.60	38.6
14	R2	All MCs	186	2.0	186	2.0	0.277	9.2	LOS A	1.0	26.1	0.60	0.80	0.60	37.9
Approach			191	2.0	191	2.0	0.277	9.4	LOS A	1.0	26.1	0.60	0.80	0.60	37.9
West: Pioneer Street															
5	L2	All MCs	100	2.0	100	2.0	0.307	10.0	LOS B	1.7	44.1	0.10	0.42	0.10	38.4
2	T1	All MCs	824	2.0	824	2.0	0.307	3.4	LOS A	1.7	44.3	0.09	0.37	0.09	37.8
Approach			924	2.0	924	2.0	0.307	4.1	LOS A	1.7	44.3	0.09	0.37	0.09	37.9
All Vehicles			2215	2.0	2215	2.0	0.388	5.0	LOS A	2.3	58.2	0.23	0.43	0.23	37.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 Site: 6 [6. 56th Place & Pioneer Street (Site Folder: PM 2025 Existing Project)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

2026 Existing Project PM Volumes

Site Category: NA

Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]	ft			mph
South: S 56th Place															
3	L2	All MCs	12	2.0	12	2.0	0.175	16.3	LOS B	0.7	17.3	0.65	0.83	0.65	36.8
8	T1	All MCs	3	2.0	3	2.0	0.175	9.7	LOS A	0.7	17.3	0.65	0.83	0.65	41.6
18	R2	All MCs	223	2.0	223	2.0	0.175	9.1	LOS A	0.7	18.5	0.65	0.81	0.65	39.0
Approach			238	2.0	238	2.0	0.175	9.5	LOS A	0.7	18.5	0.65	0.82	0.65	38.9
East: Pioneer Street															
1u	U	All MCs	31	2.0	31	2.0	0.602	13.2	LOS B	5.8	147.2	0.41	0.47	0.41	35.5
1	L2	All MCs	134	2.0	134	2.0	0.602	11.7	LOS B	5.8	147.2	0.41	0.47	0.41	38.7
6	T1	All MCs	958	2.0	958	2.0	0.602	5.0	LOS A	5.9	149.3	0.41	0.47	0.41	36.6
16	R2	All MCs	590	2.0	590	2.0	0.602	5.2	LOS A	5.9	149.3	0.39	0.45	0.39	40.2
Approach			1712	2.0	1712	2.0	0.602	5.7	LOS A	5.9	149.3	0.40	0.46	0.40	37.9
North: N 56th Place															
7	L2	All MCs	548	2.0	548	2.0	0.408	17.4	LOS B	2.2	55.2	0.72	0.88	0.81	34.8
4	T1	All MCs	4	2.0	4	2.0	0.408	10.3	LOS B	2.2	55.2	0.72	0.87	0.81	38.1
14	R2	All MCs	32	2.0	32	2.0	0.408	10.2	LOS B	2.2	55.2	0.72	0.87	0.81	34.6
Approach			585	2.0	585	2.0	0.408	16.9	LOS B	2.2	55.2	0.72	0.88	0.81	34.9
West: Pioneer Street															
5	L2	All MCs	64	2.0	64	2.0	0.453	15.5	LOS B	3.3	84.1	0.82	0.76	0.89	35.6
2	T1	All MCs	702	2.0	702	2.0	0.453	8.1	LOS A	3.5	89.6	0.82	0.72	0.87	35.1
12	R2	All MCs	10	2.0	10	2.0	0.453	8.1	LOS A	3.5	89.6	0.82	0.70	0.85	36.8
Approach			776	2.0	776	2.0	0.453	8.8	LOS A	3.5	89.6	0.82	0.73	0.87	35.1
All Vehicles			3311	2.0	3311	2.0	0.602	8.7	LOS A	5.9	149.3	0.57	0.62	0.60	36.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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HCM 6th TWSC
7: Bertsinger Rd & Pioneer St

01/23/2026

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	303	2	2	303	2	4
Future Vol, veh/h	303	2	2	303	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	322	2	2	322	2	4

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	324
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1236
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1236
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.1	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	589	-	-	1236	-
HCM Lane V/C Ratio	0.011	-	-	0.002	-
HCM Control Delay (s)	11.2	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

MOVEMENT SUMMARY

 **Site: 8 [8. S Royle Road & S Wells Drive (Site Folder: PM 2025 Existing Project)]**

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

2026 Existing Project PM Volumes

Site Category: NA

Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
South: S Royle Road															
3	L2	All MCs	18	2.0	18	2.0	0.261	12.8	LOS B	1.4	35.7	0.33	0.53	0.33	37.8
8	T1	All MCs	266	2.0	266	2.0	0.261	7.3	LOS A	1.4	35.7	0.33	0.53	0.33	42.6
18	R2	All MCs	17	2.0	17	2.0	0.261	6.8	LOS A	1.4	35.7	0.33	0.53	0.33	39.6
Approach			302	2.0	302	2.0	0.261	7.6	LOS A	1.4	35.7	0.33	0.53	0.33	42.1
East: S Wells Drive															
1	L2	All MCs	21	2.0	21	2.0	0.066	12.3	LOS B	0.3	7.7	0.45	0.63	0.45	38.3
6	T1	All MCs	5	2.0	5	2.0	0.066	6.6	LOS A	0.3	7.7	0.45	0.63	0.45	35.8
16	R2	All MCs	38	2.0	38	2.0	0.066	6.4	LOS A	0.3	7.7	0.45	0.63	0.45	38.7
Approach			64	2.0	64	2.0	0.066	8.3	LOS A	0.3	7.7	0.45	0.63	0.45	38.3
North: S Royle Road															
7	L2	All MCs	38	2.0	38	2.0	0.333	12.3	LOS B	2.0	49.6	0.20	0.52	0.20	39.5
4	T1	All MCs	290	2.0	290	2.0	0.333	6.8	LOS A	2.0	49.6	0.20	0.52	0.20	43.2
14	R2	All MCs	87	2.0	87	2.0	0.333	6.3	LOS A	2.0	49.6	0.20	0.52	0.20	38.7
Approach			415	2.0	415	2.0	0.333	7.2	LOS A	2.0	49.6	0.20	0.52	0.20	41.8
West: S 15th Street															
5	L2	All MCs	78	2.0	78	2.0	0.109	11.3	LOS B	0.5	12.9	0.45	0.65	0.45	35.6
2	T1	All MCs	17	2.0	17	2.0	0.109	5.7	LOS A	0.5	12.9	0.45	0.65	0.45	34.5
12	R2	All MCs	12	2.0	12	2.0	0.109	5.6	LOS A	0.5	12.9	0.45	0.65	0.45	35.9
Approach			108	2.0	108	2.0	0.109	9.7	LOS A	0.5	12.9	0.45	0.65	0.45	35.4
All Vehicles			889	2.0	889	2.0	0.333	7.7	LOS A	2.0	49.6	0.29	0.54	0.29	40.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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HCM 6th Signalized Intersection Summary

9 : Hillhurst Rd & Royle Rd

01/23/2026



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	32	65	64	131	77	102	125	269	31	33	245	122
Future Volume (veh/h)	32	65	64	131	77	102	125	269	31	33	245	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	87	85	175	103	136	167	359	41	44	327	163
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	224	219	312	189	249	519	783	89	495	811	687
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.08	0.48	0.48	0.04	0.43	0.43
Sat Flow, veh/h	1141	869	849	1213	731	965	1781	1648	188	1781	1870	1585
Grp Volume(v), veh/h	43	0	172	175	0	239	167	0	400	44	327	163
Grp Sat Flow(s),veh/h/ln	1141	0	1718	1213	0	1697	1781	0	1836	1781	1870	1585
Q Serve(g_s), s	2.5	0.0	6.0	10.1	0.0	8.9	3.7	0.0	10.7	1.0	8.8	4.7
Cycle Q Clear(g_c), s	11.3	0.0	6.0	16.2	0.0	8.9	3.7	0.0	10.7	1.0	8.8	4.7
Prop In Lane	1.00		0.49	1.00		0.57	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	255	0	444	312	0	438	519	0	873	495	811	687
V/C Ratio(X)	0.17	0.00	0.39	0.56	0.00	0.55	0.32	0.00	0.46	0.09	0.40	0.24
Avail Cap(c_a), veh/h	272	0	471	397	0	558	627	0	873	667	811	687
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	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.3	0.0	22.3	29.0	0.0	23.4	10.3	0.0	12.9	10.8	14.2	13.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.6	0.0	0.4	0.1	0.0	1.7	0.0	1.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.4	2.8	0.0	3.4	1.3	0.0	4.3	0.3	3.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	0.0	22.5	29.6	0.0	23.8	10.4	0.0	14.6	10.8	15.7	13.9
LnGrp LOS	C	A	C	C	A	C	B	A	B	B	B	B
Approach Vol, veh/h	215				414		567				534	
Approach Delay, s/veh	23.7				26.2		13.4				14.7	
Approach LOS	C				C		B				B	
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	14	37.3	24.4		8.4	40.3	24.4					
Change Period (Y+Rc), s	5.8	5.6	* 5.5		* 5.4	5.6	5.5					
Max Green Setting (Gmax), s	10	22.0	* 24		* 10	20.0	20.0					
Max Q Clear Time (g_c+1.5I), s	10.8	10.8	18.2		3.0	12.7	13.3					
Green Ext Time (p_c), s	0.1	1.2	0.7		0.0	0.9	0.4					

Intersection Summary

HCM 6th Ctrl Delay	18.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh

14

Intersection LOS

B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	264	106	85	319	0	143	0	95	2	0	0
Future Vol, veh/h	0	264	106	85	319	0	143	0	95	2	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	264	106	85	319	0	143	0	95	2	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.5	15.4	12.3	9.7
HCM LOS	B	C	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	60%	0%	21%	100%
Vol Thru, %	0%	71%	79%	0%
Vol Right, %	40%	29%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	238	370	404	2
LT Vol	143	0	85	2
Through Vol	0	264	319	0
RT Vol	95	106	0	0
Lane Flow Rate	238	370	404	2
Geometry Grp	1	1	1	1
Degree of Util (X)	0.379	0.52	0.585	0.004
Departure Headway (Hd)	5.736	5.063	5.216	6.641
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	626	710	691	537
Service Time	3.775	3.096	3.247	4.704
HCM Lane V/C Ratio	0.38	0.521	0.585	0.004
HCM Control Delay	12.3	13.5	15.4	9.7
HCM Lane LOS	B	B	C	A
HCM 95th-tile Q	1.8	3	3.8	0

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	336	334	175	113	36
Future Vol, veh/h	31	336	334	175	113	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	150	-	-	275	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	336	334	175	113	36

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	334	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1225	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1225	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	16.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1225	-	-	-	378	708
HCM Lane V/C Ratio	0.025	-	-	-	0.299	0.051
HCM Control Delay (s)	8	-	-	-	18.5	10.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2	0.2

MOVEMENT SUMMARY

 **Site: [3n] 3. N 35th Avenue & Pioneer Street (PM 2040 No Build)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 No Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] ft				mph
South: S 35th Place															
3	L2	All MCs	17	2.0	17	2.0	0.126	15.4	LOS B	0.7	16.7	0.61	0.70	0.61	36.8
8	T1	All MCs	1	2.0	1	2.0	0.126	9.5	LOS A	0.7	16.7	0.61	0.70	0.61	41.5
18	R2	All MCs	85	2.0	85	2.0	0.126	9.1	LOS A	0.7	16.7	0.61	0.70	0.61	38.6
Approach			103	2.0	103	2.0	0.126	10.2	LOS B	0.7	16.7	0.61	0.70	0.61	38.3
East: Pioneer Street															
1u	U	All MCs	36	2.0	36	2.0	0.625	12.7	LOS B	5.9	149.8	0.32	0.45	0.32	35.9
1	L2	All MCs	38	2.0	38	2.0	0.625	11.3	LOS B	5.9	149.8	0.32	0.45	0.32	39.2
6	T1	All MCs	551	2.0	551	2.0	0.625	5.3	LOS A	5.9	149.8	0.32	0.45	0.32	36.7
16	R2	All MCs	164	2.0	164	2.0	0.625	5.1	LOS A	5.9	149.8	0.32	0.45	0.32	39.7
Approach			789	2.0	789	2.0	0.625	5.9	LOS A	5.9	149.8	0.32	0.45	0.32	37.4
North: N 35th Avenue															
7	L2	All MCs	161	2.0	161	2.0	0.238	16.1	LOS B	1.3	33.9	0.67	0.75	0.67	35.5
4	T1	All MCs	2	2.0	2	2.0	0.238	10.2	LOS B	1.3	33.9	0.67	0.75	0.67	38.3
14	R2	All MCs	23	2.0	23	2.0	0.238	9.8	LOS A	1.3	33.9	0.67	0.75	0.67	34.9
Approach			186	2.0	186	2.0	0.238	15.3	LOS B	1.3	33.9	0.67	0.75	0.67	35.4
West: Pioneer Street															
5	L2	All MCs	30	2.0	30	2.0	0.371	11.2	LOS B	2.3	57.3	0.49	0.51	0.49	37.2
2	T1	All MCs	365	2.0	365	2.0	0.371	5.2	LOS A	2.3	57.3	0.49	0.51	0.49	36.1
12	R2	All MCs	2	2.0	2	2.0	0.371	5.3	LOS A	2.3	57.3	0.49	0.51	0.49	37.6
Approach			397	2.0	397	2.0	0.371	5.7	LOS A	2.3	57.3	0.49	0.51	0.49	36.2
All Vehicles			1475	2.0	1475	2.0	0.625	7.3	LOS A	5.9	149.8	0.43	0.52	0.43	36.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY



Site: [4n] 4. Royle Road & Pioneer Street (PM 2040 No Build)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 No Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
South: S Royle Road															
3	L2	All MCs	270	2.0	270	2.0	0.527	15.9	LOS B	3.2	80.9	0.71	0.82	0.81	35.4
8	T1	All MCs	194	2.0	194	2.0	0.527	9.2	LOS A	3.2	80.9	0.71	0.82	0.81	39.6
18	R2	All MCs	319	2.0	319	2.0	0.427	9.1	LOS A	2.2	54.9	0.67	0.79	0.73	39.3
Approach			783	2.0	783	2.0	0.527	11.5	LOS B	3.2	80.9	0.69	0.81	0.77	37.9
East: Pioneer Street															
1	L2	All MCs	485	2.0	485	2.0	0.719	18.5	LOS B	8.3	211.9	0.91	0.88	1.20	33.7
6	T1	All MCs	649	2.0	649	2.0	0.719	10.7	LOS B	8.9	226.8	0.91	0.84	1.16	33.5
16	R2	All MCs	279	2.0	279	2.0	0.719	10.7	LOS B	8.9	226.8	0.90	0.83	1.15	36.5
Approach			1413	2.0	1413	2.0	0.719	13.4	LOS B	8.9	226.8	0.91	0.85	1.17	34.1
North: N Royle Road															
7	L2	All MCs	192	2.0	192	2.0	1.015	53.1	LOS F	15.5	394.1	1.00	1.50	3.07	23.6
4	T1	All MCs	216	2.0	216	2.0	1.015	46.4	LOS F	15.5	394.1	1.00	1.50	3.07	24.8
14	R2	All MCs	44	2.0	44	2.0	1.015	46.1	LOS F	15.5	394.1	1.00	1.50	3.07	23.3
Approach			452	2.0	452	2.0	1.015	49.2	LOS D	15.5	394.1	1.00	1.50	3.07	24.1
West: Pioneer Street															
5	L2	All MCs	65	2.0	65	2.0	0.485	18.8	LOS B	3.9	98.6	0.91	0.85	1.08	33.7
2	T1	All MCs	488	2.0	488	2.0	0.485	11.2	LOS B	4.3	109.7	0.92	0.83	1.07	33.6
12	R2	All MCs	118	2.0	118	2.0	0.485	10.8	LOS B	4.3	109.7	0.94	0.80	1.06	35.6
Approach			671	2.0	671	2.0	0.485	11.9	LOS B	4.3	109.7	0.93	0.83	1.07	34.0
All Vehicles			3319	2.0	3319	2.0	1.015	17.5	LOS B	15.5	394.1	0.87	0.93	1.32	33.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [5n] 5. N Pioneer Canyon Drive & Pioneer Street (PM 2040 No Build)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 No Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh Dist] veh ft		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
East: Pioneer Street															
1u	U	All MCs	13	2.0	13	2.0	0.539	13.4	LOS B	3.9	99.3	0.38	0.44	0.38	36.1
6	T1	All MCs	1499	2.0	1499	2.0	0.539	5.1	LOS A	3.9	99.8	0.37	0.44	0.37	37.1
16	R2	All MCs	1	2.0	1	2.0	0.539	5.3	LOS A	3.9	99.8	0.36	0.43	0.36	40.2
Approach			1513	2.0	1513	2.0	0.539	5.2	LOS A	3.9	99.8	0.37	0.44	0.37	37.1
North: Pioneer Canyon Dr															
7	L2	All MCs	6	2.0	6	2.0	0.353	18.1	LOS B	1.5	38.4	0.71	0.89	0.80	37.4
14	R2	All MCs	191	2.0	191	2.0	0.353	11.1	LOS B	1.5	38.4	0.71	0.89	0.80	36.7
Approach			197	2.0	197	2.0	0.353	11.3	LOS B	1.5	38.4	0.71	0.89	0.80	36.7
West: Pioneer Street															
5	L2	All MCs	116	2.0	116	2.0	0.358	10.1	LOS B	2.2	55.8	0.12	0.42	0.12	38.3
2	T1	All MCs	958	2.0	958	2.0	0.358	3.5	LOS A	2.2	56.0	0.11	0.37	0.11	37.7
Approach			1074	2.0	1074	2.0	0.358	4.2	LOS A	2.2	56.0	0.11	0.37	0.11	37.8
All Vehicles			2784	2.0	2784	2.0	0.539	5.2	LOS A	3.9	99.8	0.30	0.44	0.30	37.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY



Site: [6n] 6. 56th Place & Pioneer Street (PM 2040 No Build)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 No Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] ft				mph
South: S 56th Place															
3	L2	All MCs	18	2.0	18	2.0	0.339	18.6	LOS B	1.5	39.0	0.78	0.93	0.85	35.5
8	T1	All MCs	5	2.0	5	2.0	0.339	11.9	LOS B	1.5	39.0	0.78	0.93	0.85	39.9
18	R2	All MCs	329	2.0	329	2.0	0.339	11.0	LOS B	1.7	42.9	0.79	0.90	0.85	37.9
Approach			352	2.0	352	2.0	0.339	11.4	LOS B	1.7	42.9	0.79	0.90	0.85	37.8
East: Pioneer Street															
1u	U	All MCs	40	2.0	40	2.0	0.806	14.0	LOS B	11.8	299.7	0.74	0.52	0.74	34.5
1	L2	All MCs	174	2.0	174	2.0	0.806	12.5	LOS B	11.8	299.7	0.74	0.52	0.74	37.5
6	T1	All MCs	1243	2.0	1243	2.0	0.806	5.7	LOS A	12.2	309.1	0.73	0.52	0.73	35.6
16	R2	All MCs	765	2.0	765	2.0	0.806	5.8	LOS A	12.2	309.1	0.69	0.52	0.69	39.1
Approach			2222	2.0	2222	2.0	0.806	6.4	LOS A	12.2	309.1	0.72	0.52	0.72	36.8
North: N 56th Place															
7	L2	All MCs	591	2.0	591	2.0	0.654	23.9	LOS C	4.9	125.5	0.91	1.03	1.29	31.8
4	T1	All MCs	4	2.0	4	2.0	0.654	16.4	LOS B	4.9	125.5	0.93	1.02	1.30	34.6
14	R2	All MCs	34	2.0	34	2.0	0.654	16.3	LOS B	4.9	125.5	0.93	1.02	1.30	31.7
Approach			629	2.0	629	2.0	0.654	23.4	LOS C	4.9	125.5	0.92	1.03	1.29	31.8
West: Pioneer Street															
5	L2	All MCs	87	2.0	87	2.0	0.702	22.6	LOS C	7.8	199.0	0.98	1.00	1.44	32.1
2	T1	All MCs	959	2.0	959	2.0	0.702	14.8	LOS B	8.9	226.3	0.99	0.98	1.43	31.9
12	R2	All MCs	14	2.0	14	2.0	0.702	14.4	LOS B	8.9	226.3	1.00	0.97	1.43	33.5
Approach			1060	2.0	1060	2.0	0.702	15.4	LOS B	8.9	226.3	0.99	0.98	1.43	32.0
All Vehicles			4263	2.0	4263	2.0	0.806	11.6	LOS B	12.2	309.1	0.82	0.74	0.99	34.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

HCM 6th TWSC
7: Bertsinger Rd & Pioneer St

04/06/2026

Intersection

Int Delay, s/veh 0.1

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	379	3	3	381	2	4
Future Vol, veh/h	379	3	3	381	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	379	3	3	381	2	4

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	382
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1176
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1176
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.1	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	525	-	-	1176	-
HCM Lane V/C Ratio	0.011	-	-	0.003	-
HCM Control Delay (s)	11.9	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

MOVEMENT SUMMARY

 **Site: [8n] 8. S Royle Road & S Wells Drive (PM 2040 No Build)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 No Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]	ft			mph
South: S Royle Road															
3	L2	All MCs	25	2.0	25	2.0	0.394	13.6	LOS B	2.5	62.2	0.52	0.59	0.52	37.1
8	T1	All MCs	359	2.0	359	2.0	0.394	8.2	LOS A	2.5	62.2	0.52	0.59	0.52	41.7
18	R2	All MCs	23	2.0	23	2.0	0.394	7.7	LOS A	2.5	62.2	0.52	0.59	0.52	38.9
Approach			407	2.0	407	2.0	0.394	8.5	LOS A	2.5	62.2	0.52	0.59	0.52	41.2
East: S Wells Drive															
1	L2	All MCs	35	2.0	35	2.0	0.131	13.5	LOS B	0.7	17.2	0.59	0.68	0.59	37.6
6	T1	All MCs	9	2.0	9	2.0	0.131	7.8	LOS A	0.7	17.2	0.59	0.68	0.59	35.3
16	R2	All MCs	64	2.0	64	2.0	0.131	7.6	LOS A	0.7	17.2	0.59	0.68	0.59	38.1
Approach			108	2.0	108	2.0	0.131	9.5	LOS A	0.7	17.2	0.59	0.68	0.59	37.7
North: S Royle Road															
7	L2	All MCs	61	2.0	61	2.0	0.551	12.6	LOS B	4.5	114.1	0.35	0.51	0.35	39.0
4	T1	All MCs	469	2.0	469	2.0	0.551	7.1	LOS A	4.5	114.1	0.35	0.51	0.35	42.5
14	R2	All MCs	140	2.0	140	2.0	0.551	6.7	LOS A	4.5	114.1	0.35	0.51	0.35	38.2
Approach			670	2.0	670	2.0	0.551	7.5	LOS A	4.5	114.1	0.35	0.51	0.35	41.2
West: S 15th Street															
5	L2	All MCs	159	2.0	159	2.0	0.267	13.0	LOS B	1.5	37.8	0.65	0.72	0.65	34.7
2	T1	All MCs	35	2.0	35	2.0	0.267	7.4	LOS A	1.5	37.8	0.65	0.72	0.65	33.7
12	R2	All MCs	24	2.0	24	2.0	0.267	7.4	LOS A	1.5	37.8	0.65	0.72	0.65	35.1
Approach			218	2.0	218	2.0	0.267	11.5	LOS B	1.5	37.8	0.65	0.72	0.65	34.6
All Vehicles			1403	2.0	1403	2.0	0.551	8.6	LOS A	4.5	114.1	0.46	0.58	0.46	39.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

HCM 6th Signalized Intersection Summary

9: Hillhurst Rd & Royle Rd

04/06/2026

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	46	93	91	194	114	151	141	304	35	52	387	193
Future Volume (veh/h)	46	93	91	194	114	151	141	304	35	52	387	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	93	91	194	114	151	141	304	35	52	387	193
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	242	237	329	203	269	446	742	85	518	789	669
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.07	0.45	0.45	0.04	0.42	0.42
Sat Flow, veh/h	1114	868	849	1200	730	967	1781	1647	190	1781	1870	1585
Grp Volume(v), veh/h	46	0	184	194	0	265	141	0	339	52	387	193
Grp Sat Flow(s),veh/h/ln	1114	0	1717	1200	0	1696	1781	0	1836	1781	1870	1585
Q Serve(g_s), s	2.7	0.0	6.3	11.4	0.0	9.8	3.2	0.0	9.1	1.2	11.0	5.9
Cycle Q Clear(g_c), s	12.4	0.0	6.3	17.7	0.0	9.8	3.2	0.0	9.1	1.2	11.0	5.9
Prop In Lane	1.00		0.49	1.00		0.57	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	260	0	478	329	0	473	446	0	828	518	789	669
V/C Ratio(X)	0.18	0.00	0.38	0.59	0.00	0.56	0.32	0.00	0.41	0.10	0.49	0.29
Avail Cap(c_a), veh/h	260	0	478	389	0	558	569	0	828	683	789	669
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	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	0.0	21.3	28.4	0.0	22.5	11.3	0.0	13.5	11.1	15.4	13.9
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.6	0.0	0.4	0.1	0.0	1.5	0.0	2.2	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(50%),veh/ln	0.7	0.0	2.5	3.1	0.0	3.7	1.1	0.0	3.7	0.4	4.7	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	0.0	21.5	29.1	0.0	22.9	11.5	0.0	15.0	11.1	17.6	15.0
LnGrp LOS	C	A	C	C	A	C	B	A	B	B	B	B
Approach Vol, veh/h		230			459			480			632	
Approach Delay, s/veh		22.8			25.5			14.0			16.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	36.4		25.8	8.7	38.5		25.8				
Change Period (Y+Rc), s	* 5.8	5.6		* 5.5	* 5.4	5.6		5.5				
Max Green Setting (Gmax), s	* 10	22.0		* 24	* 10	20.0		20.0				
Max Q Clear Time (g_c+I1), s	5.2	13.0		19.7	3.2	11.1		14.4				
Green Ext Time (p_c), s	0.1	1.3		0.6	0.0	0.8		0.4				

Intersection Summary

HCM 6th Ctrl Delay 18.8

HCM 6th LOS B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh **14.1**

Intersection LOS **B**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	264	106	85	319	0	148	0	99	2	0	0
Future Vol, veh/h	0	264	106	85	319	0	148	0	99	2	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	264	106	85	319	0	148	0	99	2	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.6	15.6	12.5	9.8
HCM LOS	B	C	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	60%	0%	21%	100%
Vol Thru, %	0%	71%	79%	0%
Vol Right, %	40%	29%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	247	370	404	2
LT Vol	148	0	85	2
Through Vol	0	264	319	0
RT Vol	99	106	0	0
Lane Flow Rate	247	370	404	2
Geometry Grp	1	1	1	1
Degree of Util (X)	0.394	0.524	0.589	0.004
Departure Headway (Hd)	5.744	5.097	5.249	6.675
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	625	707	687	534
Service Time	3.787	3.133	3.284	4.744
HCM Lane V/C Ratio	0.395	0.523	0.588	0.004
HCM Control Delay	12.5	13.6	15.6	9.8
HCM Lane LOS	B	B	C	A
HCM 95th-tile Q	1.9	3.1	3.9	0

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	338	334	175	113	36
Future Vol, veh/h	31	338	334	175	113	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	150	-	-	275	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	338	334	175	113	36
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	334	0	-	0	734	334
Stage 1	-	-	-	-	334	-
Stage 2	-	-	-	-	400	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1225	-	-	-	387	708
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	677	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1225	-	-	-	377	708
Mov Cap-2 Maneuver	-	-	-	-	377	-
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	677	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.7	0		16.6		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1225	-	-	-	377	708
HCM Lane V/C Ratio	0.025	-	-	-	0.3	0.051
HCM Control Delay (s)	8	-	-	-	18.6	10.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2	0.2

MOVEMENT SUMMARY

 **Site: [3g] 3. N 35th Avenue & Pioneer Street (PM 2040 Green Alternative)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]	ft			mph
South: S 35th Place															
3	L2	All MCs	26	2.0	26	2.0	0.195	15.7	LOS B	1.1	27.0	0.64	0.71	0.64	36.7
8	T1	All MCs	1	2.0	1	2.0	0.195	9.8	LOS A	1.1	27.0	0.64	0.71	0.64	41.3
18	R2	All MCs	131	2.0	131	2.0	0.195	9.4	LOS A	1.1	27.0	0.64	0.71	0.64	38.5
Approach			158	2.0	158	2.0	0.195	10.4	LOS B	1.1	27.0	0.64	0.71	0.64	38.2
East: Pioneer Street															
1u	U	All MCs	40	2.0	40	2.0	0.702	12.9	LOS B	7.8	197.5	0.42	0.46	0.42	35.6
1	L2	All MCs	42	2.0	42	2.0	0.702	11.5	LOS B	7.8	197.5	0.42	0.46	0.42	38.9
6	T1	All MCs	614	2.0	614	2.0	0.702	5.5	LOS A	7.8	197.5	0.42	0.46	0.42	36.4
16	R2	All MCs	183	2.0	183	2.0	0.702	5.3	LOS A	7.8	197.5	0.42	0.46	0.42	39.4
Approach			879	2.0	879	2.0	0.702	6.1	LOS A	7.8	197.5	0.42	0.46	0.42	37.0
North: N 35th Avenue															
7	L2	All MCs	164	2.0	164	2.0	0.267	16.9	LOS B	1.6	40.3	0.74	0.77	0.74	35.1
4	T1	All MCs	2	2.0	2	2.0	0.267	11.0	LOS B	1.6	40.3	0.74	0.77	0.74	37.8
14	R2	All MCs	24	2.0	24	2.0	0.267	10.6	LOS B	1.6	40.3	0.74	0.77	0.74	34.5
Approach			190	2.0	190	2.0	0.267	16.0	LOS B	1.6	40.3	0.74	0.77	0.74	35.0
West: Pioneer Street															
5	L2	All MCs	30	2.0	30	2.0	0.376	11.3	LOS B	2.3	58.9	0.50	0.52	0.50	37.1
2	T1	All MCs	367	2.0	367	2.0	0.376	5.3	LOS A	2.3	58.9	0.50	0.52	0.50	36.0
12	R2	All MCs	2	2.0	2	2.0	0.376	5.4	LOS A	2.3	58.9	0.50	0.52	0.50	37.6
Approach			399	2.0	399	2.0	0.376	5.8	LOS A	2.3	58.9	0.50	0.52	0.50	36.1
All Vehicles			1626	2.0	1626	2.0	0.702	7.6	LOS A	7.8	197.5	0.50	0.53	0.50	36.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [4g] 4. Royle Road & Pioneer Street (PM 2040 Green Alternative)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist]				mph
			veh/h	%	veh/h	%	v/c	sec			ft				
South: S Royle Road															
3	L2	All MCs	251	2.0	251	2.0	0.496	15.7	LOS B	2.9	73.3	0.70	0.81	0.78	35.4
8	T1	All MCs	181	2.0	181	2.0	0.496	9.1	LOS A	2.9	73.3	0.70	0.81	0.78	39.6
18	R2	All MCs	297	2.0	297	2.0	0.403	9.0	LOS A	2.0	50.4	0.66	0.79	0.71	39.3
Approach			729	2.0	729	2.0	0.496	11.3	LOS B	2.9	73.3	0.68	0.80	0.75	37.9
East: Pioneer Street															
1	L2	All MCs	489	2.0	489	2.0	0.702	17.7	LOS B	7.9	200.2	0.88	0.85	1.13	34.1
6	T1	All MCs	654	2.0	654	2.0	0.702	10.0	LOS B	8.4	212.3	0.88	0.81	1.09	33.9
16	R2	All MCs	282	2.0	282	2.0	0.702	10.0	LOS A	8.4	212.3	0.87	0.80	1.08	36.9
Approach			1425	2.0	1425	2.0	0.702	12.6	LOS B	8.4	212.3	0.88	0.82	1.10	34.5
North: N Royle Road															
7	L2	All MCs	193	2.0	193	2.0	0.996	48.3	LOS E	14.3	362.1	1.00	1.45	2.85	24.5
4	T1	All MCs	217	2.0	217	2.0	0.996	41.6	LOS E	14.3	362.1	1.00	1.45	2.85	25.9
14	R2	All MCs	44	2.0	44	2.0	0.996	41.3	LOS E	14.3	362.1	1.00	1.45	2.85	24.3
Approach			454	2.0	454	2.0	0.996	44.4	LOS D	14.3	362.1	1.00	1.45	2.85	25.2
West: Pioneer Street															
5	L2	All MCs	67	2.0	67	2.0	0.500	19.3	LOS B	4.1	104.5	0.92	0.87	1.11	33.5
2	T1	All MCs	503	2.0	503	2.0	0.500	11.7	LOS B	4.6	116.7	0.93	0.84	1.10	33.4
12	R2	All MCs	122	2.0	122	2.0	0.500	11.3	LOS B	4.6	116.7	0.94	0.82	1.09	35.4
Approach			692	2.0	692	2.0	0.500	12.4	LOS B	4.6	116.7	0.93	0.84	1.10	33.7
All Vehicles			3300	2.0	3300	2.0	0.996	16.7	LOS B	14.3	362.1	0.86	0.91	1.27	33.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [5g] 5. N Pioneer Canyon Drive & Pioneer Street (PM 2040**
Green Alternative)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes
Site Category: NA
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh Dist] veh ft		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
East: Pioneer Street															
1u	U	All MCs	14	2.0	14	2.0	0.545	13.4	LOS B	4.0	101.3	0.39	0.45	0.39	36.1
6	T1	All MCs	1512	2.0	1512	2.0	0.545	5.1	LOS A	4.0	101.7	0.37	0.44	0.37	37.1
16	R2	All MCs	2	2.0	2	2.0	0.545	5.3	LOS A	4.0	101.7	0.36	0.43	0.36	40.2
Approach			1528	2.0	1528	2.0	0.545	5.2	LOS A	4.0	101.7	0.38	0.44	0.38	37.1
North: Pioneer Canyon Dr															
7	L2	All MCs	6	2.0	6	2.0	0.356	18.2	LOS B	1.5	38.9	0.72	0.90	0.81	37.3
14	R2	All MCs	191	2.0	191	2.0	0.356	11.2	LOS B	1.5	38.9	0.72	0.90	0.81	36.6
Approach			197	2.0	197	2.0	0.356	11.4	LOS B	1.5	38.9	0.72	0.90	0.81	36.7
West: Pioneer Street															
5	L2	All MCs	116	2.0	116	2.0	0.358	10.1	LOS B	2.2	55.9	0.12	0.42	0.12	38.3
2	T1	All MCs	957	2.0	957	2.0	0.358	3.5	LOS A	2.2	56.2	0.12	0.37	0.12	37.7
Approach			1073	2.0	1073	2.0	0.358	4.2	LOS A	2.2	56.2	0.12	0.37	0.12	37.8
All Vehicles			2798	2.0	2798	2.0	0.545	5.3	LOS A	4.0	101.7	0.30	0.45	0.31	37.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 **Site: [6g] 6. 56th Place & Pioneer Street (PM 2040 Green Alternative)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh Dist] veh ft		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
South: S 56th Place															
3	L2	All MCs	18	2.0	18	2.0	0.339	18.6	LOS B	1.5	39.0	0.78	0.93	0.85	35.5
8	T1	All MCs	5	2.0	5	2.0	0.339	11.9	LOS B	1.5	39.0	0.78	0.93	0.85	39.9
18	R2	All MCs	329	2.0	329	2.0	0.339	11.0	LOS B	1.7	43.0	0.79	0.90	0.85	37.9
Approach			352	2.0	352	2.0	0.339	11.4	LOS B	1.7	43.0	0.79	0.90	0.85	37.8
East: Pioneer Street															
1u	U	All MCs	40	2.0	40	2.0	0.811	14.0	LOS B	12.0	305.5	0.75	0.53	0.75	34.5
1	L2	All MCs	175	2.0	175	2.0	0.811	12.5	LOS B	12.0	305.5	0.75	0.53	0.75	37.5
6	T1	All MCs	1250	2.0	1250	2.0	0.811	5.7	LOS A	12.4	315.8	0.73	0.52	0.73	35.6
16	R2	All MCs	770	2.0	770	2.0	0.811	5.8	LOS A	12.4	315.8	0.70	0.52	0.70	39.1
Approach			2235	2.0	2235	2.0	0.811	6.5	LOS A	12.4	315.8	0.73	0.52	0.73	36.8
North: N 56th Place															
7	L2	All MCs	591	2.0	591	2.0	0.662	24.2	LOS C	5.1	128.4	0.92	1.03	1.31	31.7
4	T1	All MCs	4	2.0	4	2.0	0.662	16.7	LOS B	5.1	128.4	0.93	1.02	1.32	34.5
14	R2	All MCs	34	2.0	34	2.0	0.662	16.6	LOS B	5.1	128.4	0.93	1.02	1.32	31.6
Approach			629	2.0	629	2.0	0.662	23.7	LOS C	5.1	128.4	0.92	1.03	1.31	31.7
West: Pioneer Street															
5	L2	All MCs	87	2.0	87	2.0	0.703	22.7	LOS C	7.9	199.8	0.98	1.00	1.45	32.0
2	T1	All MCs	959	2.0	959	2.0	0.703	14.8	LOS B	9.0	227.3	0.99	0.99	1.44	31.9
12	R2	All MCs	14	2.0	14	2.0	0.703	14.5	LOS B	9.0	227.3	1.00	0.98	1.43	33.5
Approach			1060	2.0	1060	2.0	0.703	15.5	LOS B	9.0	227.3	0.99	0.99	1.44	31.9
All Vehicles			4276	2.0	4276	2.0	0.811	11.6	LOS B	12.4	315.8	0.83	0.74	1.00	34.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

HCM 6th TWSC
7: Bertsinger Rd & Pioneer St

04/06/2026

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	381	3	3	381	2	4
Future Vol, veh/h	381	3	3	381	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	381	3	3	381	2	4

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	384
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1174
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1174
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.1	12
HCM LOS			B

Minor Lane/Major Mvmt	NWLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	524	-	-	1174	-
HCM Lane V/C Ratio	0.011	-	-	0.003	-
HCM Control Delay (s)	12	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

MOVEMENT SUMMARY

 **Site: [8g] 8. S Royle Road & S Wells Drive (PM 2040 Green Alternative)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]	ft			mph
South: S Royle Road															
3	L2	All MCs	24	2.0	24	2.0	0.365	13.2	LOS B	2.2	55.7	0.44	0.56	0.44	37.4
8	T1	All MCs	353	2.0	353	2.0	0.365	7.7	LOS A	2.2	55.7	0.44	0.56	0.44	42.1
18	R2	All MCs	23	2.0	23	2.0	0.365	7.2	LOS A	2.2	55.7	0.44	0.56	0.44	39.2
Approach			400	2.0	400	2.0	0.365	8.0	LOS A	2.2	55.7	0.44	0.56	0.44	41.6
East: S Wells Drive															
1	L2	All MCs	37	2.0	37	2.0	0.134	13.1	LOS B	0.7	17.2	0.56	0.67	0.56	37.9
6	T1	All MCs	10	2.0	10	2.0	0.134	7.5	LOS A	0.7	17.2	0.56	0.67	0.56	35.5
16	R2	All MCs	69	2.0	69	2.0	0.134	7.3	LOS A	0.7	17.2	0.56	0.67	0.56	38.3
Approach			116	2.0	116	2.0	0.134	9.2	LOS A	0.7	17.2	0.56	0.67	0.56	37.9
North: S Royle Road															
7	L2	All MCs	51	2.0	51	2.0	0.459	12.6	LOS B	3.2	82.3	0.31	0.52	0.31	39.1
4	T1	All MCs	390	2.0	390	2.0	0.459	7.1	LOS A	3.2	82.3	0.31	0.52	0.31	42.7
14	R2	All MCs	117	2.0	117	2.0	0.459	6.6	LOS A	3.2	82.3	0.31	0.52	0.31	38.3
Approach			558	2.0	558	2.0	0.459	7.5	LOS A	3.2	82.3	0.31	0.52	0.31	41.4
West: S 15th Street															
5	L2	All MCs	113	2.0	113	2.0	0.176	12.2	LOS B	0.9	22.8	0.56	0.69	0.56	35.1
2	T1	All MCs	25	2.0	25	2.0	0.176	6.6	LOS A	0.9	22.8	0.56	0.69	0.56	34.1
12	R2	All MCs	17	2.0	17	2.0	0.176	6.5	LOS A	0.9	22.8	0.56	0.69	0.56	35.5
Approach			155	2.0	155	2.0	0.176	10.6	LOS B	0.9	22.8	0.56	0.69	0.56	35.0
All Vehicles			1229	2.0	1229	2.0	0.459	8.2	LOS A	3.2	82.3	0.40	0.56	0.40	40.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

HCM 6th Signalized Intersection Summary

9: Hillhurst Rd & Royle Rd

04/06/2026

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	46	93	91	197	116	153	141	304	35	52	384	191
Future Volume (veh/h)	46	93	91	197	116	153	141	304	35	52	384	191
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	93	91	197	116	153	141	304	35	52	384	191
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	244	238	332	205	271	446	739	85	515	785	665
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.07	0.45	0.45	0.04	0.42	0.42
Sat Flow, veh/h	1110	868	849	1200	732	965	1781	1647	190	1781	1870	1585
Grp Volume(v), veh/h	46	0	184	197	0	269	141	0	339	52	384	191
Grp Sat Flow(s),veh/h/ln	1110	0	1717	1200	0	1697	1781	0	1836	1781	1870	1585
Q Serve(g_s), s	2.7	0.0	6.3	11.6	0.0	9.9	3.2	0.0	9.1	1.2	10.9	5.8
Cycle Q Clear(g_c), s	12.6	0.0	6.3	17.9	0.0	9.9	3.2	0.0	9.1	1.2	10.9	5.8
Prop In Lane	1.00		0.49	1.00		0.57	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	260	0	482	332	0	476	446	0	824	515	785	665
V/C Ratio(X)	0.18	0.00	0.38	0.59	0.00	0.56	0.32	0.00	0.41	0.10	0.49	0.29
Avail Cap(c_a), veh/h	260	0	482	390	0	558	569	0	824	680	785	665
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	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	0.0	21.2	28.3	0.0	22.4	11.4	0.0	13.6	11.1	15.5	14.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.7	0.0	0.4	0.1	0.0	1.5	0.0	2.2	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(50%),veh/ln	0.7	0.0	2.5	3.2	0.0	3.7	1.1	0.0	3.7	0.4	4.7	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	0.0	21.3	29.1	0.0	22.8	11.5	0.0	15.1	11.2	17.6	15.1
LnGrp LOS	C	A	C	C	A	C	B	A	B	B	B	B
Approach Vol, veh/h	230				466				480		627	
Approach Delay, s/veh	22.7				25.5				14.1		16.3	
Approach LOS	C				C				B		B	
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	10.8	36.2	26.0		8.7	38.4	26.0					
Change Period (Y+Rc), s	* 5.8	5.6	* 5.5		* 5.4	5.6	5.5					
Max Green Setting (Gmax), s	* 10	22.0	* 24		* 10	20.0	20.0					
Max Q Clear Time (g_c+l1), s	5.2	12.9	19.9		3.2	11.1	14.6					
Green Ext Time (p_c), s	0.1	1.3	0.6		0.0	0.8	0.4					

Intersection Summary

HCM 6th Ctrl Delay **18.9**

HCM 6th LOS **B**

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh **14.1**

Intersection LOS **B**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	264	106	85	318	0	148	0	99	2	0	0
Future Vol, veh/h	0	264	106	85	318	0	148	0	99	2	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	264	106	85	318	0	148	0	99	2	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.6	15.5	12.5	9.8
HCM LOS	B	C	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	60%	0%	21%	100%
Vol Thru, %	0%	71%	79%	0%
Vol Right, %	40%	29%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	247	370	403	2
LT Vol	148	0	85	2
Through Vol	0	264	318	0
RT Vol	99	106	0	0
Lane Flow Rate	247	370	403	2
Geometry Grp	1	1	1	1
Degree of Util (X)	0.394	0.524	0.588	0.004
Departure Headway (Hd)	5.742	5.096	5.249	6.673
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	625	707	689	534
Service Time	3.785	3.132	3.284	4.742
HCM Lane V/C Ratio	0.395	0.523	0.585	0.004
HCM Control Delay	12.5	13.6	15.5	9.8
HCM Lane LOS	B	B	C	A
HCM 95th-tile Q	1.9	3.1	3.9	0

MOVEMENT SUMMARY

 **Site: [3r] 3. N 35th Avenue & Pioneer Street (PM 2040 Red Alternative)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh Dist] veh ft		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
South: S 35th Place															
3	L2	All MCs	16	2.0	16	2.0	0.127	15.8	LOS B	0.7	17.2	0.64	0.71	0.64	36.6
8	T1	All MCs	1	2.0	1	2.0	0.127	9.9	LOS A	0.7	17.2	0.64	0.71	0.64	41.3
18	R2	All MCs	82	2.0	82	2.0	0.127	9.4	LOS A	0.7	17.2	0.64	0.71	0.64	38.4
Approach			99	2.0	99	2.0	0.127	10.5	LOS B	0.7	17.2	0.64	0.71	0.64	38.1
East: Pioneer Street															
1u	U	All MCs	39	2.0	39	2.0	0.686	12.8	LOS B	7.5	189.9	0.38	0.45	0.38	35.7
1	L2	All MCs	42	2.0	42	2.0	0.686	11.4	LOS B	7.5	189.9	0.38	0.45	0.38	39.0
6	T1	All MCs	603	2.0	603	2.0	0.686	5.4	LOS A	7.5	189.9	0.38	0.45	0.38	36.5
16	R2	All MCs	180	2.0	180	2.0	0.686	5.2	LOS A	7.5	189.9	0.38	0.45	0.38	39.5
Approach			864	2.0	864	2.0	0.686	6.0	LOS A	7.5	189.9	0.38	0.45	0.38	37.2
North: N 35th Avenue															
7	L2	All MCs	159	2.0	159	2.0	0.251	16.6	LOS B	1.5	37.1	0.72	0.77	0.72	35.2
4	T1	All MCs	2	2.0	2	2.0	0.251	10.8	LOS B	1.5	37.1	0.72	0.77	0.72	38.0
14	R2	All MCs	23	2.0	23	2.0	0.251	10.3	LOS B	1.5	37.1	0.72	0.77	0.72	34.6
Approach			184	2.0	184	2.0	0.251	15.8	LOS B	1.5	37.1	0.72	0.77	0.72	35.1
West: Pioneer Street															
5	L2	All MCs	33	2.0	33	2.0	0.413	11.3	LOS B	2.6	66.7	0.52	0.52	0.52	37.1
2	T1	All MCs	405	2.0	405	2.0	0.413	5.3	LOS A	2.6	66.7	0.52	0.52	0.52	36.0
12	R2	All MCs	2	2.0	2	2.0	0.413	5.4	LOS A	2.6	66.7	0.52	0.52	0.52	37.5
Approach			440	2.0	440	2.0	0.413	5.8	LOS A	2.6	66.7	0.52	0.52	0.52	36.1
All Vehicles			1587	2.0	1587	2.0	0.686	7.3	LOS A	7.5	189.9	0.47	0.52	0.47	36.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [4r] 4. Royle Road & Pioneer Street (PM 2040 Red Alternative)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]	ft			mph
South: S Royle Road															
3	L2	All MCs	253	2.0	253	2.0	0.497	15.7	LOS B	2.9	73.5	0.70	0.81	0.78	35.4
8	T1	All MCs	182	2.0	182	2.0	0.497	9.1	LOS A	2.9	73.5	0.70	0.81	0.78	39.7
18	R2	All MCs	300	2.0	300	2.0	0.404	9.0	LOS A	2.0	50.6	0.66	0.78	0.71	39.4
Approach			735	2.0	735	2.0	0.497	11.3	LOS B	2.9	73.5	0.68	0.80	0.75	38.0
East: Pioneer Street															
1	L2	All MCs	489	2.0	489	2.0	0.704	17.8	LOS B	7.9	201.1	0.89	0.86	1.14	34.1
6	T1	All MCs	654	2.0	654	2.0	0.704	10.1	LOS B	8.4	213.4	0.88	0.81	1.10	33.8
16	R2	All MCs	281	2.0	281	2.0	0.704	10.0	LOS B	8.4	213.4	0.88	0.80	1.08	36.9
Approach			1424	2.0	1424	2.0	0.704	12.7	LOS B	8.4	213.4	0.88	0.83	1.11	34.5
North: N Royle Road															
7	L2	All MCs	186	2.0	186	2.0	0.963	41.7	LOS E	11.8	300.9	0.98	1.35	2.47	26.4
4	T1	All MCs	210	2.0	210	2.0	0.963	35.0	LOS E	11.8	300.9	0.98	1.35	2.47	28.0
14	R2	All MCs	42	2.0	42	2.0	0.963	34.7	LOS E	11.8	300.9	0.98	1.35	2.47	26.1
Approach			438	2.0	438	2.0	0.963	37.8	LOS D	11.8	300.9	0.98	1.35	2.47	27.1
West: Pioneer Street															
5	L2	All MCs	67	2.0	67	2.0	0.494	18.9	LOS B	4.0	102.0	0.91	0.86	1.09	33.7
2	T1	All MCs	503	2.0	503	2.0	0.494	11.3	LOS B	4.5	113.5	0.92	0.83	1.08	33.6
12	R2	All MCs	122	2.0	122	2.0	0.494	10.9	LOS B	4.5	113.5	0.94	0.81	1.07	35.5
Approach			692	2.0	692	2.0	0.494	12.0	LOS B	4.5	113.5	0.93	0.83	1.08	33.9
All Vehicles			3289	2.0	3289	2.0	0.963	15.6	LOS B	11.8	300.9	0.86	0.89	1.20	33.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [5r] 5. N Pioneer Canyon Drive & Pioneer Street (PM 2040 Red Alternative)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes
Site Category: NA
Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh Dist] veh ft		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
East: Pioneer Street															
1u	U	All MCs	14	2.0	14	2.0	0.544	13.4	LOS B	4.0	101.0	0.39	0.45	0.39	36.1
6	T1	All MCs	1510	2.0	1510	2.0	0.544	5.1	LOS A	4.0	101.5	0.37	0.44	0.37	37.1
16	R2	All MCs	2	2.0	2	2.0	0.544	5.3	LOS A	4.0	101.5	0.36	0.43	0.36	40.2
Approach			1526	2.0	1526	2.0	0.544	5.2	LOS A	4.0	101.5	0.37	0.44	0.37	37.1
North: Pioneer Canyon Dr															
7	L2	All MCs	6	2.0	6	2.0	0.356	18.2	LOS B	1.5	38.8	0.72	0.90	0.80	37.3
14	R2	All MCs	191	2.0	191	2.0	0.356	11.2	LOS B	1.5	38.8	0.72	0.90	0.80	36.6
Approach			197	2.0	197	2.0	0.356	11.4	LOS B	1.5	38.8	0.72	0.90	0.80	36.7
West: Pioneer Street															
5	L2	All MCs	116	2.0	116	2.0	0.358	10.1	LOS B	2.2	55.9	0.12	0.42	0.12	38.3
2	T1	All MCs	957	2.0	957	2.0	0.358	3.5	LOS A	2.2	56.2	0.12	0.37	0.12	37.7
Approach			1073	2.0	1073	2.0	0.358	4.2	LOS A	2.2	56.2	0.12	0.37	0.12	37.8
All Vehicles			2796	2.0	2796	2.0	0.544	5.3	LOS A	4.0	101.5	0.30	0.45	0.31	37.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 **Site: [6r] 6. 56th Place & Pioneer Street (PM 2040 Red Alternative)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
South: S 56th Place															
3	L2	All MCs	18	2.0	18	2.0	0.339	18.6	LOS B	1.5	39.0	0.78	0.93	0.85	35.5
8	T1	All MCs	5	2.0	5	2.0	0.339	11.9	LOS B	1.5	39.0	0.78	0.93	0.85	39.9
18	R2	All MCs	329	2.0	329	2.0	0.339	11.0	LOS B	1.7	42.9	0.79	0.90	0.85	37.9
Approach			352	2.0	352	2.0	0.339	11.4	LOS B	1.7	42.9	0.79	0.90	0.85	37.8
East: Pioneer Street															
1u	U	All MCs	40	2.0	40	2.0	0.810	14.0	LOS B	12.0	305.0	0.75	0.53	0.75	34.5
1	L2	All MCs	175	2.0	175	2.0	0.810	12.5	LOS B	12.0	305.0	0.75	0.53	0.75	37.5
6	T1	All MCs	1250	2.0	1250	2.0	0.810	5.7	LOS A	12.4	315.3	0.73	0.52	0.73	35.6
16	R2	All MCs	769	2.0	769	2.0	0.810	5.8	LOS A	12.4	315.3	0.70	0.52	0.70	39.1
Approach			2234	2.0	2234	2.0	0.810	6.5	LOS A	12.4	315.3	0.72	0.52	0.72	36.8
North: N 56th Place															
7	L2	All MCs	591	2.0	591	2.0	0.662	24.2	LOS C	5.0	128.2	0.92	1.03	1.30	31.7
4	T1	All MCs	4	2.0	4	2.0	0.662	16.7	LOS B	5.0	128.2	0.93	1.02	1.31	34.5
14	R2	All MCs	34	2.0	34	2.0	0.662	16.6	LOS B	5.0	128.2	0.93	1.02	1.31	31.6
Approach			629	2.0	629	2.0	0.662	23.7	LOS C	5.0	128.2	0.92	1.03	1.31	31.7
West: Pioneer Street															
5	L2	All MCs	87	2.0	87	2.0	0.702	22.6	LOS C	7.8	199.4	0.98	1.00	1.44	32.0
2	T1	All MCs	958	2.0	958	2.0	0.702	14.8	LOS B	8.9	226.8	0.99	0.98	1.43	31.9
12	R2	All MCs	14	2.0	14	2.0	0.702	14.5	LOS B	8.9	226.8	1.00	0.97	1.43	33.5
Approach			1059	2.0	1059	2.0	0.702	15.4	LOS B	8.9	226.8	0.99	0.99	1.43	31.9
All Vehicles			4274	2.0	4274	2.0	0.810	11.6	LOS B	12.4	315.3	0.82	0.74	1.00	34.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [8r] 8. S Royle Road & S Wells Drive (PM 2040 Red Alternative)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	ft				mph
South: S Royle Road															
3	L2	All MCs	24	2.0	24	2.0	0.367	13.2	LOS B	2.2	56.2	0.45	0.56	0.45	37.3
8	T1	All MCs	353	2.0	353	2.0	0.367	7.8	LOS A	2.2	56.2	0.45	0.56	0.45	42.0
18	R2	All MCs	23	2.0	23	2.0	0.367	7.3	LOS A	2.2	56.2	0.45	0.56	0.45	39.2
Approach			400	2.0	400	2.0	0.367	8.1	LOS A	2.2	56.2	0.45	0.56	0.45	41.5
East: S Wells Drive															
1	L2	All MCs	37	2.0	37	2.0	0.134	13.2	LOS B	0.7	17.3	0.56	0.67	0.56	37.9
6	T1	All MCs	10	2.0	10	2.0	0.134	7.5	LOS A	0.7	17.3	0.56	0.67	0.56	35.4
16	R2	All MCs	69	2.0	69	2.0	0.134	7.3	LOS A	0.7	17.3	0.56	0.67	0.56	38.3
Approach			116	2.0	116	2.0	0.134	9.2	LOS A	0.7	17.3	0.56	0.67	0.56	37.9
North: S Royle Road															
7	L2	All MCs	52	2.0	52	2.0	0.468	12.6	LOS B	3.3	84.8	0.31	0.52	0.31	39.1
4	T1	All MCs	397	2.0	397	2.0	0.468	7.1	LOS A	3.3	84.8	0.31	0.52	0.31	42.7
14	R2	All MCs	119	2.0	119	2.0	0.468	6.6	LOS A	3.3	84.8	0.31	0.52	0.31	38.3
Approach			568	2.0	568	2.0	0.468	7.5	LOS A	3.3	84.8	0.31	0.52	0.31	41.3
West: S 15th Street															
5	L2	All MCs	118	2.0	118	2.0	0.185	12.2	LOS B	1.0	24.2	0.57	0.69	0.57	35.1
2	T1	All MCs	26	2.0	26	2.0	0.185	6.6	LOS A	1.0	24.2	0.57	0.69	0.57	34.1
12	R2	All MCs	18	2.0	18	2.0	0.185	6.6	LOS A	1.0	24.2	0.57	0.69	0.57	35.5
Approach			162	2.0	162	2.0	0.185	10.7	LOS B	1.0	24.2	0.57	0.69	0.57	35.0
All Vehicles			1246	2.0	1246	2.0	0.468	8.2	LOS A	3.3	84.8	0.41	0.57	0.41	40.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

HCM 6th Signalized Intersection Summary

9: Hillhurst Rd & Royle Rd

04/06/2026



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	46	93	91	197	116	153	141	304	35	52	384	191
Future Volume (veh/h)	46	93	91	197	116	153	141	304	35	52	384	191
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	93	91	197	116	153	141	304	35	52	384	191
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	244	238	332	205	271	446	739	85	515	785	665
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.07	0.45	0.45	0.04	0.42	0.42
Sat Flow, veh/h	1110	868	849	1200	732	965	1781	1647	190	1781	1870	1585
Grp Volume(v), veh/h	46	0	184	197	0	269	141	0	339	52	384	191
Grp Sat Flow(s),veh/h/ln	1110	0	1717	1200	0	1697	1781	0	1836	1781	1870	1585
Q Serve(g_s), s	2.7	0.0	6.3	11.6	0.0	9.9	3.2	0.0	9.1	1.2	10.9	5.8
Cycle Q Clear(g_c), s	12.6	0.0	6.3	17.9	0.0	9.9	3.2	0.0	9.1	1.2	10.9	5.8
Prop In Lane	1.00		0.49	1.00		0.57	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	260	0	482	332	0	476	446	0	824	515	785	665
V/C Ratio(X)	0.18	0.00	0.38	0.59	0.00	0.56	0.32	0.00	0.41	0.10	0.49	0.29
Avail Cap(c_a), veh/h	260	0	482	390	0	558	569	0	824	680	785	665
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	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	0.0	21.2	28.3	0.0	22.4	11.4	0.0	13.6	11.1	15.5	14.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.7	0.0	0.4	0.1	0.0	1.5	0.0	2.2	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(50%),veh/ln	0.7	0.0	2.5	3.2	0.0	3.7	1.1	0.0	3.7	0.4	4.7	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	0.0	21.3	29.1	0.0	22.8	11.5	0.0	15.1	11.2	17.6	15.1
LnGrp LOS	C	A	C	C	A	C	B	A	B	B	B	B
Approach Vol, veh/h	230		466			480			627			
Approach Delay, s/veh	22.7		25.5			14.1			16.3			
Approach LOS	C		C			B			B			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	0.8	36.2	26.0		8.7	38.4	26.0					
Change Period (Y+Rc), s	5.8	5.6	* 5.5		* 5.4	5.6	5.5					
Max Green Setting (Gmax), s	10	22.0	* 24		* 10	20.0	20.0					
Max Q Clear Time (g_c+1.5I), s	15.2	12.9	19.9		3.2	11.1	14.6					
Green Ext Time (p_c), s	0.1	1.3	0.6		0.0	0.8	0.4					

Intersection Summary

HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

MOVEMENT SUMMARY

 **Site: [10r] 10. Bertsinger Road & Reiman Road & Pioneer Street (PM 2040 Red Alternative)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
South: Bertsinger Road															
3	L2	All MCs	20	2.0	20	2.0	0.070	14.5	LOS B	0.3	8.7	0.55	0.69	0.55	36.6
8	T1	All MCs	1	2.0	1	2.0	0.070	9.1	LOS A	0.3	8.7	0.55	0.69	0.55	41.1
18	R2	All MCs	39	2.0	39	2.0	0.070	8.6	LOS A	0.3	8.7	0.55	0.69	0.55	38.3
Approach			60	2.0	60	2.0	0.070	10.6	LOS B	0.3	8.7	0.55	0.69	0.55	37.8
East: Pioneer Street															
1	L2	All MCs	39	2.0	39	2.0	0.544	10.8	LOS B	4.8	122.8	0.20	0.45	0.20	39.9
6	T1	All MCs	428	2.0	428	2.0	0.544	5.1	LOS A	4.8	122.8	0.20	0.45	0.20	37.2
16	R2	All MCs	224	2.0	224	2.0	0.544	4.9	LOS A	4.8	122.8	0.20	0.45	0.20	40.3
Approach			691	2.0	691	2.0	0.544	5.4	LOS A	4.8	122.8	0.20	0.45	0.20	38.3
North: Reiman Road															
7	L2	All MCs	130	2.0	130	2.0	0.194	14.7	LOS B	1.0	25.0	0.56	0.72	0.56	36.4
4	T1	All MCs	1	2.0	1	2.0	0.194	9.2	LOS A	1.0	25.0	0.56	0.72	0.56	39.4
14	R2	All MCs	41	2.0	41	2.0	0.194	8.7	LOS A	1.0	25.0	0.56	0.72	0.56	35.8
Approach			172	2.0	172	2.0	0.194	13.2	LOS B	1.0	25.0	0.56	0.72	0.56	36.3
West: Pioneer Street															
5	L2	All MCs	1	2.0	1	2.0	0.361	10.7	LOS B	2.2	55.5	0.42	0.47	0.42	37.5
2	T1	All MCs	381	2.0	381	2.0	0.361	5.1	LOS A	2.2	55.5	0.42	0.47	0.42	36.3
12	R2	All MCs	20	2.0	20	2.0	0.361	5.0	LOS A	2.2	55.5	0.42	0.47	0.42	37.9
Approach			402	2.0	402	2.0	0.361	5.1	LOS A	2.2	55.5	0.42	0.47	0.42	36.4
All Vehicles			1325	2.0	1325	2.0	0.544	6.5	LOS A	4.8	122.8	0.33	0.50	0.33	37.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Intersection

Intersection Delay, s/veh **14.2**

Intersection LOS **B**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	265	106	85	319	0	148	0	99	2	0	0
Future Vol, veh/h	0	265	106	85	319	0	148	0	99	2	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	265	106	85	319	0	148	0	99	2	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.7	15.6	12.5	9.8
HCM LOS	B	C	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	60%	0%	21%	100%
Vol Thru, %	0%	71%	79%	0%
Vol Right, %	40%	29%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	247	371	404	2
LT Vol	148	0	85	2
Through Vol	0	265	319	0
RT Vol	99	106	0	0
Lane Flow Rate	247	371	404	2
Geometry Grp	1	1	1	1
Degree of Util (X)	0.394	0.525	0.589	0.004
Departure Headway (Hd)	5.745	5.097	5.25	6.677
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	625	709	687	534
Service Time	3.788	3.133	3.285	4.746
HCM Lane V/C Ratio	0.395	0.523	0.588	0.004
HCM Control Delay	12.5	13.7	15.6	9.8
HCM Lane LOS	B	B	C	A
HCM 95th-tile Q	1.9	3.1	3.9	0

MOVEMENT SUMMARY

 **Site: [3b] 3. N 35th Avenue & Pioneer Street (PM 2040 Red & Green Alternative BUILD)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh Dist] veh ft		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
South: S 35th Place															
3	L2	All MCs	24	2.0	24	2.0	0.176	15.5	LOS B	0.9	23.9	0.62	0.70	0.62	36.8
8	T1	All MCs	1	2.0	1	2.0	0.176	9.6	LOS A	0.9	23.9	0.62	0.70	0.62	41.4
18	R2	All MCs	120	2.0	120	2.0	0.176	9.2	LOS A	0.9	23.9	0.62	0.70	0.62	38.6
Approach			145	2.0	145	2.0	0.176	10.2	LOS B	0.9	23.9	0.62	0.70	0.62	38.3
East: Pioneer Street															
1u	U	All MCs	40	2.0	40	2.0	0.696	12.9	LOS B	7.6	193.7	0.40	0.45	0.40	35.6
1	L2	All MCs	42	2.0	42	2.0	0.696	11.5	LOS B	7.6	193.7	0.40	0.45	0.40	38.9
6	T1	All MCs	611	2.0	611	2.0	0.696	5.4	LOS A	7.6	193.7	0.40	0.45	0.40	36.4
16	R2	All MCs	182	2.0	182	2.0	0.696	5.3	LOS A	7.6	193.7	0.40	0.45	0.40	39.4
Approach			875	2.0	875	2.0	0.696	6.0	LOS A	7.6	193.7	0.40	0.45	0.40	37.1
North: N 35th Avenue															
7	L2	All MCs	162	2.0	162	2.0	0.260	16.8	LOS B	1.5	39.0	0.73	0.77	0.73	35.1
4	T1	All MCs	2	2.0	2	2.0	0.260	10.9	LOS B	1.5	39.0	0.73	0.77	0.73	37.9
14	R2	All MCs	23	2.0	23	2.0	0.260	10.5	LOS B	1.5	39.0	0.73	0.77	0.73	34.5
Approach			187	2.0	187	2.0	0.260	16.0	LOS B	1.5	39.0	0.73	0.77	0.73	35.0
West: Pioneer Street															
5	L2	All MCs	29	2.0	29	2.0	0.359	11.2	LOS B	2.2	55.1	0.49	0.51	0.49	37.2
2	T1	All MCs	350	2.0	350	2.0	0.359	5.3	LOS A	2.2	55.1	0.49	0.51	0.49	36.0
12	R2	All MCs	2	2.0	2	2.0	0.359	5.3	LOS A	2.2	55.1	0.49	0.51	0.49	37.6
Approach			381	2.0	381	2.0	0.359	5.7	LOS A	2.2	55.1	0.49	0.51	0.49	36.1
All Vehicles			1588	2.0	1588	2.0	0.696	7.5	LOS A	7.6	193.7	0.48	0.53	0.48	36.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [4b] 4. Royle Road & Pioneer Street (PM 2040 Red & Green Alternative BUILD)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]	ft			mph
South: S Royle Road															
3	L2	All MCs	252	2.0	252	2.0	0.499	15.8	LOS B	2.9	74.0	0.70	0.81	0.79	35.4
8	T1	All MCs	181	2.0	181	2.0	0.499	9.1	LOS A	2.9	74.0	0.70	0.81	0.79	39.6
18	R2	All MCs	298	2.0	298	2.0	0.405	9.0	LOS A	2.0	50.9	0.67	0.79	0.71	39.3
Approach			731	2.0	731	2.0	0.499	11.4	LOS B	2.9	74.0	0.69	0.80	0.76	37.9
East: Pioneer Street															
1	L2	All MCs	489	2.0	489	2.0	0.703	17.7	LOS B	7.9	200.6	0.89	0.85	1.13	34.1
6	T1	All MCs	654	2.0	654	2.0	0.703	10.0	LOS B	8.4	212.8	0.88	0.81	1.09	33.8
16	R2	All MCs	281	2.0	281	2.0	0.703	10.0	LOS A	8.4	212.8	0.88	0.80	1.08	36.9
Approach			1424	2.0	1424	2.0	0.703	12.7	LOS B	8.4	212.8	0.88	0.82	1.10	34.5
North: N Royle Road															
7	L2	All MCs	200	2.0	200	2.0	1.033	57.4	LOS F	17.3	438.8	1.00	1.56	3.33	22.8
4	T1	All MCs	225	2.0	225	2.0	1.033	50.8	LOS F	17.3	438.8	1.00	1.56	3.33	24.0
14	R2	All MCs	45	2.0	45	2.0	1.033	50.5	LOS F	17.3	438.8	1.00	1.56	3.33	22.6
Approach			470	2.0	470	2.0	1.033	53.6	LOS D	17.3	438.8	1.00	1.56	3.33	23.4
West: Pioneer Street															
5	L2	All MCs	67	2.0	67	2.0	0.505	19.5	LOS B	4.2	105.9	0.92	0.87	1.12	33.4
2	T1	All MCs	503	2.0	503	2.0	0.505	11.9	LOS B	4.7	118.6	0.94	0.85	1.11	33.3
12	R2	All MCs	122	2.0	122	2.0	0.505	11.5	LOS B	4.7	118.6	0.95	0.83	1.10	35.3
Approach			692	2.0	692	2.0	0.505	12.6	LOS B	4.7	118.6	0.94	0.85	1.11	33.6
All Vehicles			3317	2.0	3317	2.0	1.033	18.2	LOS B	17.3	438.8	0.87	0.93	1.35	32.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [5b] 5. N Pioneer Canyon Drive & Pioneer Street (PM 2040 Red & Green Alternative BUILD)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh Dist] veh ft		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed mph
East: Pioneer Street															
1u	U	All MCs	14	2.0	14	2.0	0.545	13.4	LOS B	4.0	101.3	0.39	0.45	0.39	36.1
6	T1	All MCs	1512	2.0	1512	2.0	0.545	5.1	LOS A	4.0	101.7	0.37	0.44	0.37	37.1
16	R2	All MCs	2	2.0	2	2.0	0.545	5.3	LOS A	4.0	101.7	0.36	0.43	0.36	40.2
Approach			1528	2.0	1528	2.0	0.545	5.2	LOS A	4.0	101.7	0.38	0.44	0.38	37.1
North: Pioneer Canyon Dr															
7	L2	All MCs	6	2.0	6	2.0	0.356	18.2	LOS B	1.5	38.9	0.72	0.90	0.81	37.3
14	R2	All MCs	191	2.0	191	2.0	0.356	11.2	LOS B	1.5	38.9	0.72	0.90	0.81	36.6
Approach			197	2.0	197	2.0	0.356	11.4	LOS B	1.5	38.9	0.72	0.90	0.81	36.7
West: Pioneer Street															
5	L2	All MCs	116	2.0	116	2.0	0.358	10.1	LOS B	2.2	55.9	0.12	0.42	0.12	38.3
2	T1	All MCs	957	2.0	957	2.0	0.358	3.5	LOS A	2.2	56.2	0.12	0.37	0.12	37.7
Approach			1073	2.0	1073	2.0	0.358	4.2	LOS A	2.2	56.2	0.12	0.37	0.12	37.8
All Vehicles			2798	2.0	2798	2.0	0.545	5.3	LOS A	4.0	101.7	0.30	0.45	0.31	37.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 **Site: [6b] 6. 56th Place & Pioneer Street (PM 2040 Red & Green Alternative BUILD)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] ft				mph
South: S 56th Place															
3	L2	All MCs	18	2.0	18	2.0	0.339	18.6	LOS B	1.5	39.0	0.78	0.93	0.85	35.5
8	T1	All MCs	5	2.0	5	2.0	0.339	11.9	LOS B	1.5	39.0	0.78	0.93	0.85	39.9
18	R2	All MCs	329	2.0	329	2.0	0.339	11.0	LOS B	1.7	43.0	0.79	0.90	0.85	37.9
Approach			352	2.0	352	2.0	0.339	11.4	LOS B	1.7	43.0	0.79	0.90	0.85	37.8
East: Pioneer Street															
1u	U	All MCs	40	2.0	40	2.0	0.811	14.0	LOS B	12.0	305.5	0.75	0.53	0.75	34.5
1	L2	All MCs	175	2.0	175	2.0	0.811	12.5	LOS B	12.0	305.5	0.75	0.53	0.75	37.5
6	T1	All MCs	1250	2.0	1250	2.0	0.811	5.7	LOS A	12.4	315.8	0.73	0.52	0.73	35.6
16	R2	All MCs	770	2.0	770	2.0	0.811	5.8	LOS A	12.4	315.8	0.70	0.52	0.70	39.1
Approach			2235	2.0	2235	2.0	0.811	6.5	LOS A	12.4	315.8	0.73	0.52	0.73	36.8
North: N 56th Place															
7	L2	All MCs	591	2.0	591	2.0	0.662	24.2	LOS C	5.1	128.4	0.92	1.03	1.31	31.7
4	T1	All MCs	4	2.0	4	2.0	0.662	16.7	LOS B	5.1	128.4	0.93	1.02	1.32	34.5
14	R2	All MCs	34	2.0	34	2.0	0.662	16.6	LOS B	5.1	128.4	0.93	1.02	1.32	31.6
Approach			629	2.0	629	2.0	0.662	23.7	LOS C	5.1	128.4	0.92	1.03	1.31	31.7
West: Pioneer Street															
5	L2	All MCs	87	2.0	87	2.0	0.703	22.7	LOS C	7.9	199.8	0.98	1.00	1.45	32.0
2	T1	All MCs	959	2.0	959	2.0	0.703	14.8	LOS B	9.0	227.3	0.99	0.99	1.44	31.9
12	R2	All MCs	14	2.0	14	2.0	0.703	14.5	LOS B	9.0	227.3	1.00	0.98	1.43	33.5
Approach			1060	2.0	1060	2.0	0.703	15.5	LOS B	9.0	227.3	0.99	0.99	1.44	31.9
All Vehicles			4276	2.0	4276	2.0	0.811	11.6	LOS B	12.4	315.8	0.83	0.74	1.00	34.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [8b] 8. S Royle Road & S Wells Drive (PM 2040 Red & Green Alternative BUILD)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]	ft			mph
South: S Royle Road															
3	L2	All MCs	24	2.0	24	2.0	0.366	13.2	LOS B	2.2	56.0	0.44	0.56	0.44	37.3
8	T1	All MCs	353	2.0	353	2.0	0.366	7.7	LOS A	2.2	56.0	0.44	0.56	0.44	42.0
18	R2	All MCs	23	2.0	23	2.0	0.366	7.3	LOS A	2.2	56.0	0.44	0.56	0.44	39.2
Approach			400	2.0	400	2.0	0.366	8.0	LOS A	2.2	56.0	0.44	0.56	0.44	41.6
East: S Wells Drive															
1	L2	All MCs	37	2.0	37	2.0	0.134	13.1	LOS B	0.7	17.2	0.56	0.67	0.56	37.9
6	T1	All MCs	10	2.0	10	2.0	0.134	7.5	LOS A	0.7	17.2	0.56	0.67	0.56	35.4
16	R2	All MCs	69	2.0	69	2.0	0.134	7.3	LOS A	0.7	17.2	0.56	0.67	0.56	38.3
Approach			116	2.0	116	2.0	0.134	9.2	LOS A	0.7	17.2	0.56	0.67	0.56	37.9
North: S Royle Road															
7	L2	All MCs	52	2.0	52	2.0	0.464	12.6	LOS B	3.3	83.8	0.31	0.52	0.31	39.1
4	T1	All MCs	394	2.0	394	2.0	0.464	7.1	LOS A	3.3	83.8	0.31	0.52	0.31	42.7
14	R2	All MCs	118	2.0	118	2.0	0.464	6.6	LOS A	3.3	83.8	0.31	0.52	0.31	38.3
Approach			564	2.0	564	2.0	0.464	7.5	LOS A	3.3	83.8	0.31	0.52	0.31	41.3
West: S 15th Street															
5	L2	All MCs	115	2.0	115	2.0	0.181	12.2	LOS B	0.9	23.6	0.56	0.69	0.56	35.1
2	T1	All MCs	26	2.0	26	2.0	0.181	6.6	LOS A	0.9	23.6	0.56	0.69	0.56	34.1
12	R2	All MCs	18	2.0	18	2.0	0.181	6.6	LOS A	0.9	23.6	0.56	0.69	0.56	35.5
Approach			159	2.0	159	2.0	0.181	10.7	LOS B	0.9	23.6	0.56	0.69	0.56	35.0
All Vehicles			1239	2.0	1239	2.0	0.464	8.2	LOS A	3.3	83.8	0.41	0.57	0.41	40.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

HCM 6th Signalized Intersection Summary

9: Hillhurst Rd & Royle Rd

04/06/2026



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	46	93	91	197	116	153	141	304	35	52	384	191
Future Volume (veh/h)	46	93	91	197	116	153	141	304	35	52	384	191
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	93	91	197	116	153	141	304	35	52	384	191
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	244	238	332	205	271	446	739	85	515	785	665
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.07	0.45	0.45	0.04	0.42	0.42
Sat Flow, veh/h	1110	868	849	1200	732	965	1781	1647	190	1781	1870	1585
Grp Volume(v), veh/h	46	0	184	197	0	269	141	0	339	52	384	191
Grp Sat Flow(s),veh/h/ln	1110	0	1717	1200	0	1697	1781	0	1836	1781	1870	1585
Q Serve(g_s), s	2.7	0.0	6.3	11.6	0.0	9.9	3.2	0.0	9.1	1.2	10.9	5.8
Cycle Q Clear(g_c), s	12.6	0.0	6.3	17.9	0.0	9.9	3.2	0.0	9.1	1.2	10.9	5.8
Prop In Lane	1.00		0.49	1.00		0.57	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	260	0	482	332	0	476	446	0	824	515	785	665
V/C Ratio(X)	0.18	0.00	0.38	0.59	0.00	0.56	0.32	0.00	0.41	0.10	0.49	0.29
Avail Cap(c_a), veh/h	260	0	482	390	0	558	569	0	824	680	785	665
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	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	0.0	21.2	28.3	0.0	22.4	11.4	0.0	13.6	11.1	15.5	14.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.7	0.0	0.4	0.1	0.0	1.5	0.0	2.2	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(50%),veh/ln	0.7	0.0	2.5	3.2	0.0	3.7	1.1	0.0	3.7	0.4	4.7	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	0.0	21.3	29.1	0.0	22.8	11.5	0.0	15.1	11.2	17.6	15.1
LnGrp LOS	C	A	C	C	A	C	B	A	B	B	B	B
Approach Vol, veh/h	230			466			480			627		
Approach Delay, s/veh	22.7			25.5			14.1			16.3		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	0.8	36.2	26.0		8.7	38.4	26.0					
Change Period (Y+Rc), s	5.8	5.6	* 5.5		* 5.4	5.6	5.5					
Max Green Setting (Gmax), s	10	22.0	* 24		* 10	20.0	20.0					
Max Q Clear Time (g_c+1.5I), s	15.2	12.9	19.9		3.2	11.1	14.6					
Green Ext Time (p_c), s	0.1	1.3	0.6		0.0	0.8	0.4					

Intersection Summary

HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

MOVEMENT SUMMARY

 **Site: [10b] 10. Bertsinger Road & Reiman Road & Pioneer Street (PM 2040 Red & Green Alternative BUILD)**

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

2040 35th Ave Build PM Volumes

Site Category: NA

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
South: Bertsinger Road															
3	L2	All MCs	4	2.0	4	2.0	0.015	14.3	LOS B	0.1	1.8	0.52	0.64	0.52	36.8
8	T1	All MCs	1	2.0	1	2.0	0.015	8.8	LOS A	0.1	1.8	0.52	0.64	0.52	41.3
18	R2	All MCs	8	2.0	8	2.0	0.015	8.3	LOS A	0.1	1.8	0.52	0.64	0.52	38.5
Approach			13	2.0	13	2.0	0.015	10.2	LOS B	0.1	1.8	0.52	0.64	0.52	38.2
East: Pioneer Street															
1	L2	All MCs	8	2.0	8	2.0	0.391	10.6	LOS B	2.7	68.0	0.07	0.45	0.07	40.5
6	T1	All MCs	326	2.0	326	2.0	0.391	5.0	LOS A	2.7	68.0	0.07	0.45	0.07	37.7
16	R2	All MCs	171	2.0	171	2.0	0.391	4.8	LOS A	2.7	68.0	0.07	0.45	0.07	41.0
Approach			505	2.0	505	2.0	0.391	5.0	LOS A	2.7	68.0	0.07	0.45	0.07	38.8
North: Reiman Road															
7	L2	All MCs	116	2.0	116	2.0	0.154	13.7	LOS B	0.7	18.2	0.44	0.69	0.44	36.9
4	T1	All MCs	1	2.0	1	2.0	0.154	8.2	LOS A	0.7	18.2	0.44	0.69	0.44	40.0
14	R2	All MCs	37	2.0	37	2.0	0.154	7.7	LOS A	0.7	18.2	0.44	0.69	0.44	36.2
Approach			154	2.0	154	2.0	0.154	12.2	LOS B	0.7	18.2	0.44	0.69	0.44	36.7
West: Pioneer Street															
5	L2	All MCs	1	2.0	1	2.0	0.335	10.4	LOS B	2.0	50.5	0.35	0.43	0.35	37.8
2	T1	All MCs	382	2.0	382	2.0	0.335	4.8	LOS A	2.0	50.5	0.35	0.43	0.35	36.6
12	R2	All MCs	4	2.0	4	2.0	0.335	4.7	LOS A	2.0	50.5	0.35	0.43	0.35	38.2
Approach			387	2.0	387	2.0	0.335	4.8	LOS A	2.0	50.5	0.35	0.43	0.35	36.6
All Vehicles			1059	2.0	1059	2.0	0.391	6.0	LOS A	2.7	68.0	0.23	0.48	0.23	37.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Intersection and Approach LOS values are based on average delay for all movements (v/c not used).

Roundabout Capacity Model: SIDRA HCM.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

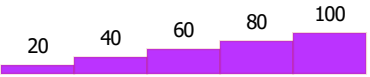
Appendix C

Travel Demand Model

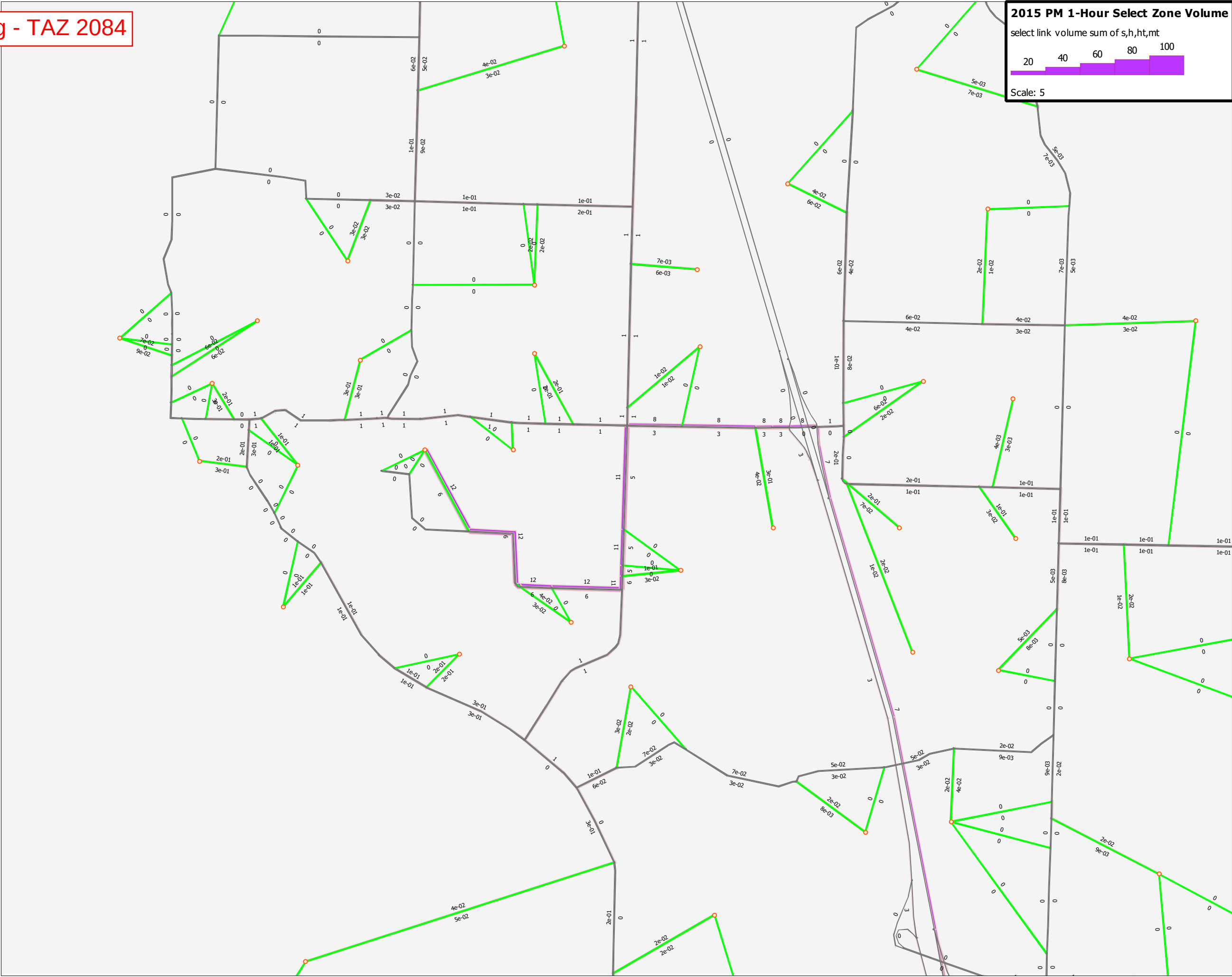
2015 Existing - TAZ 2084

2015 PM 1-Hour Select Zone Volume

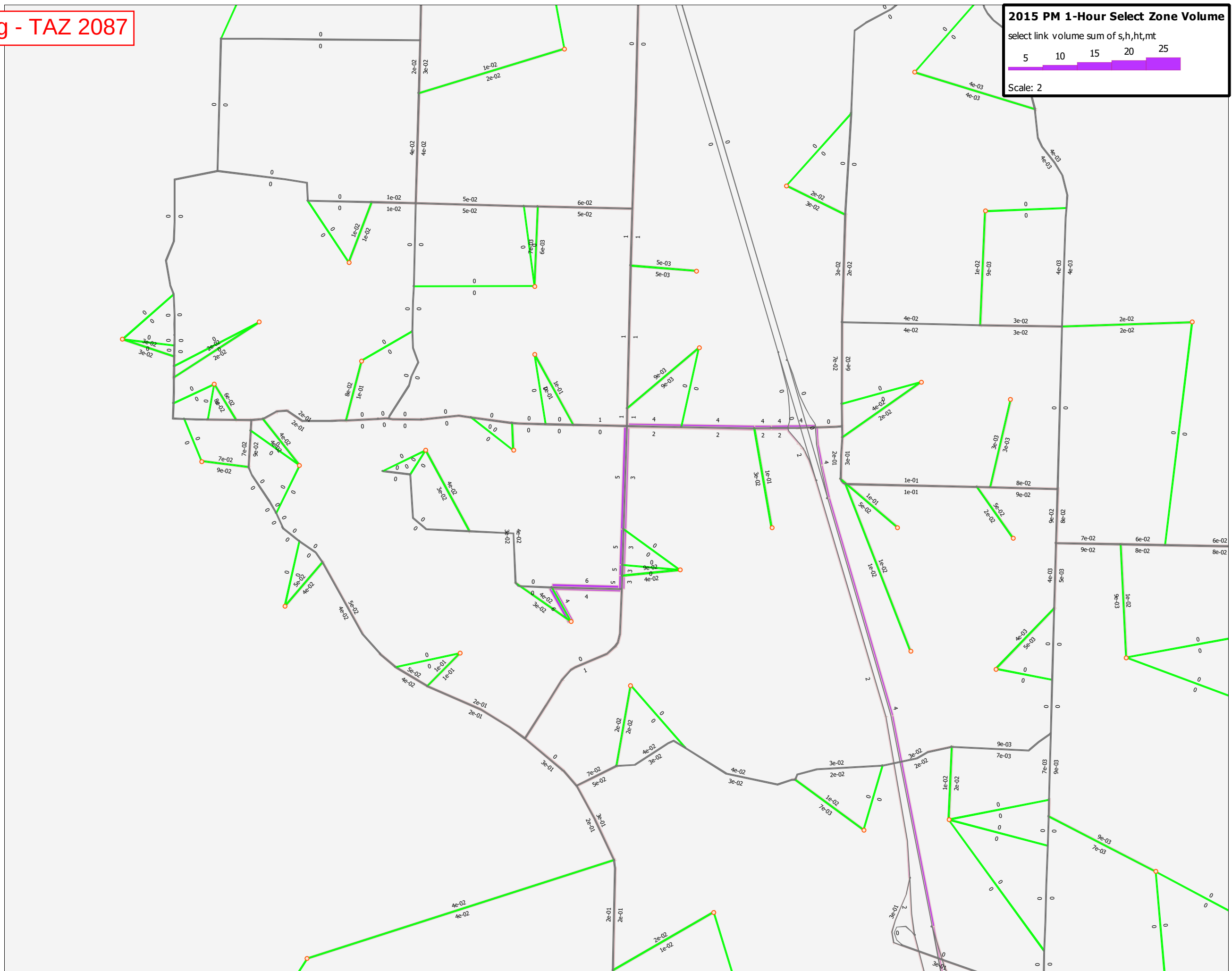
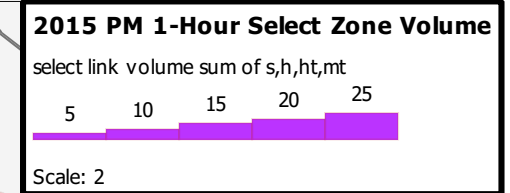
select link volume sum of s,h,ht,mt



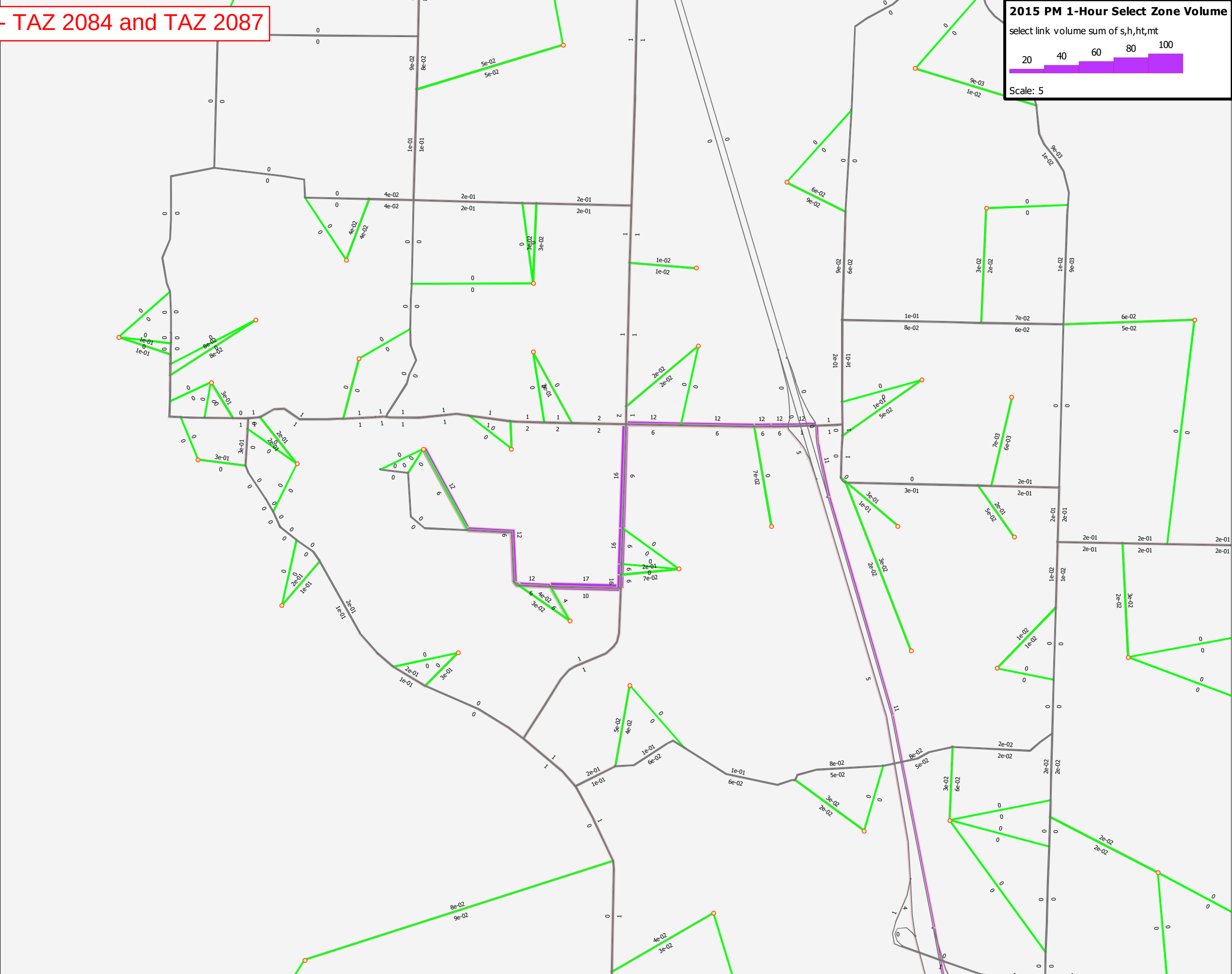
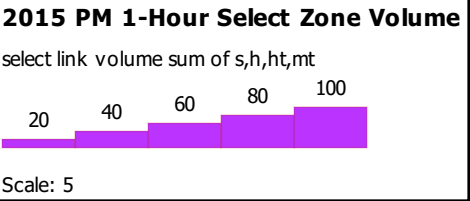
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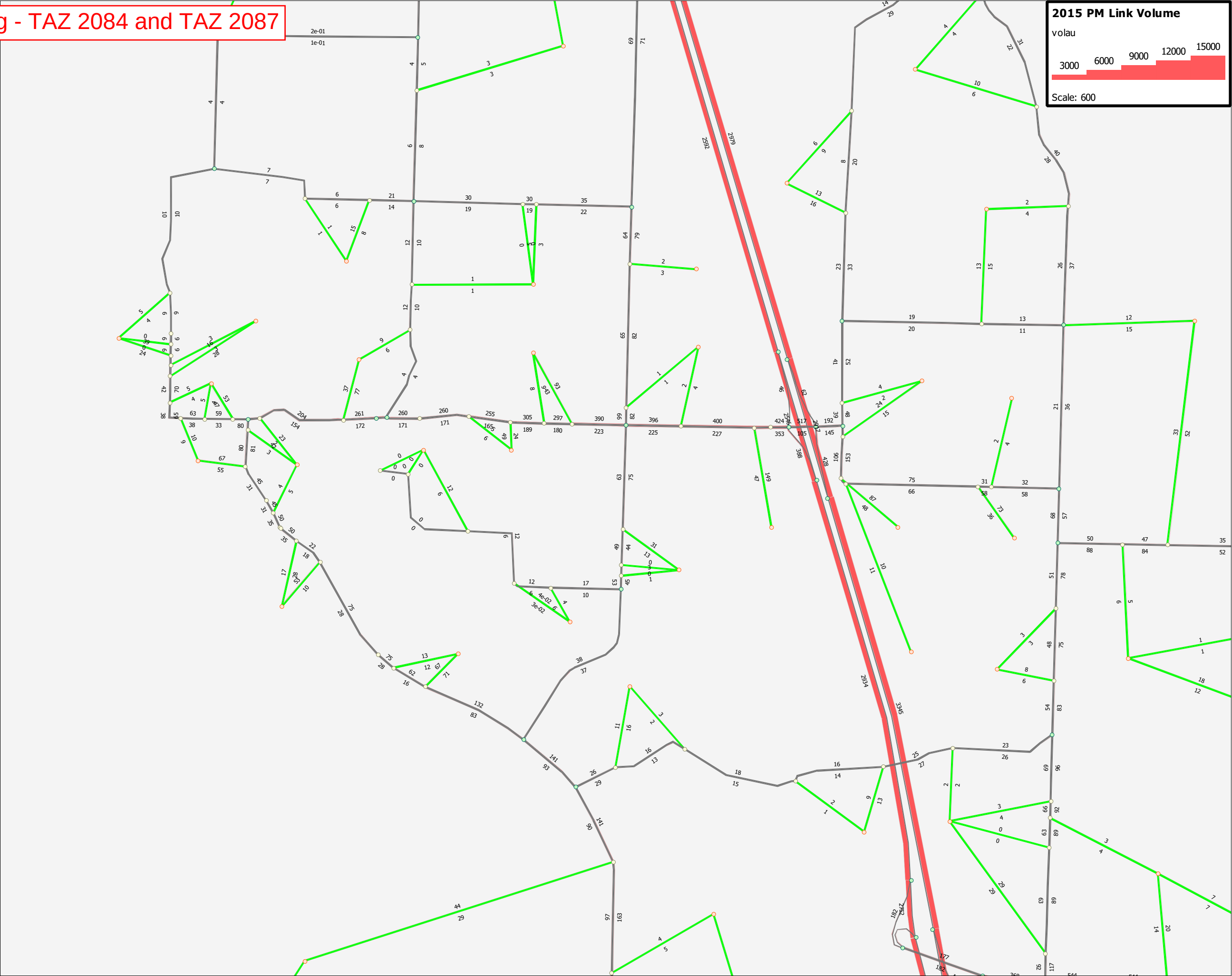
2015 Existing - TAZ 2087



2015 Existing - TAZ 2084 and TAZ 2087



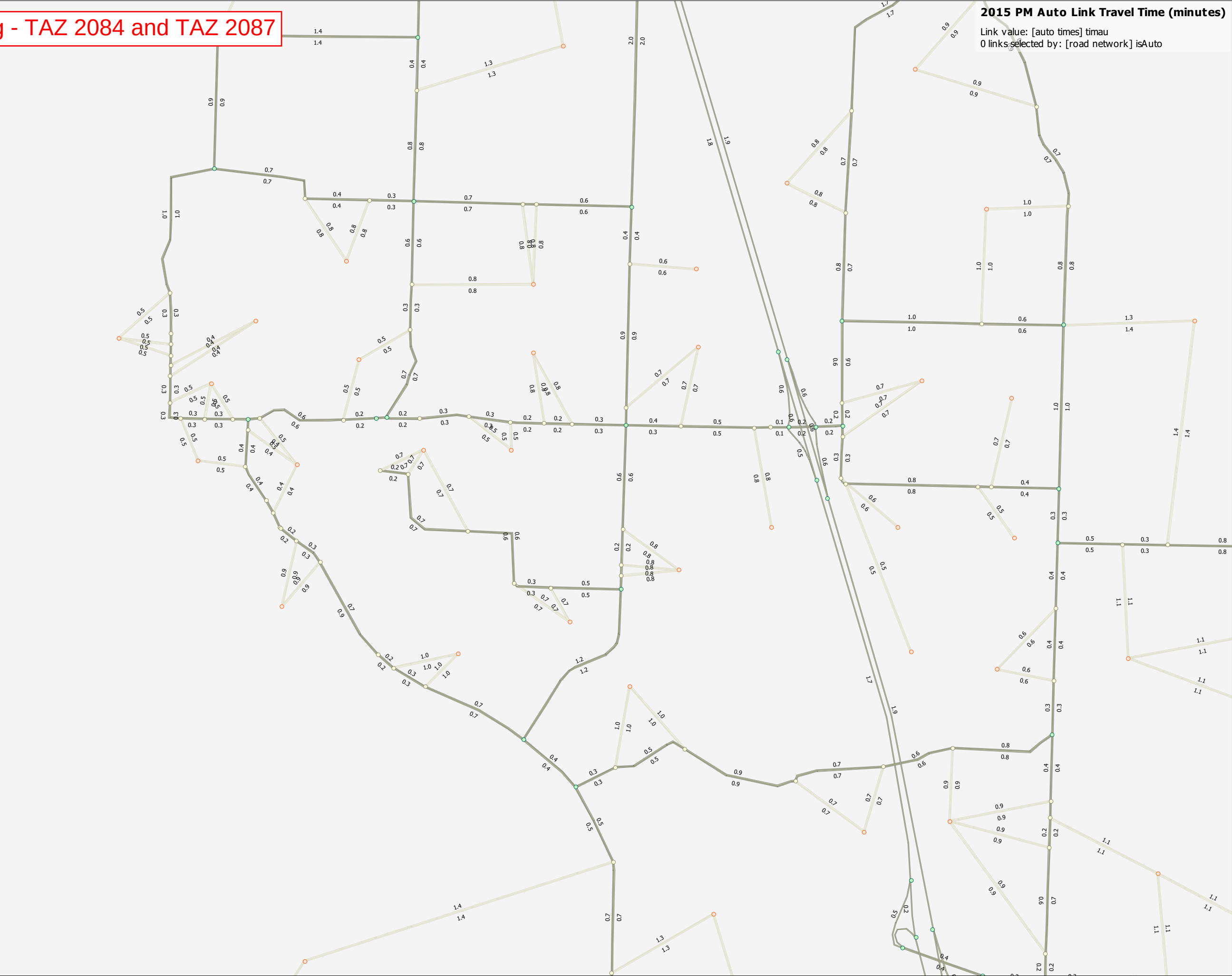
2015 Existing - TAZ 2084 and TAZ 2087

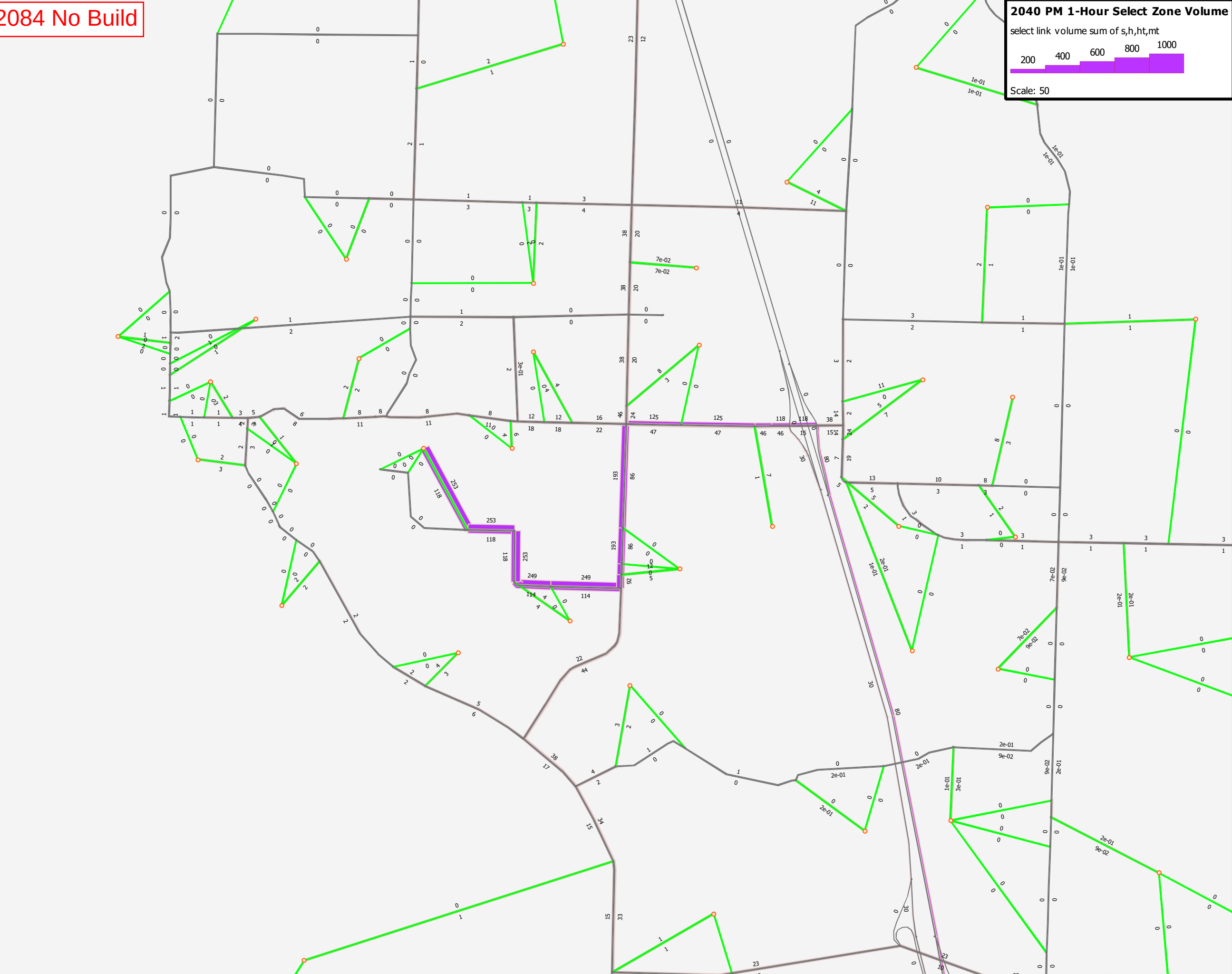


2015 Existing - TAZ 2084 and TAZ 2087

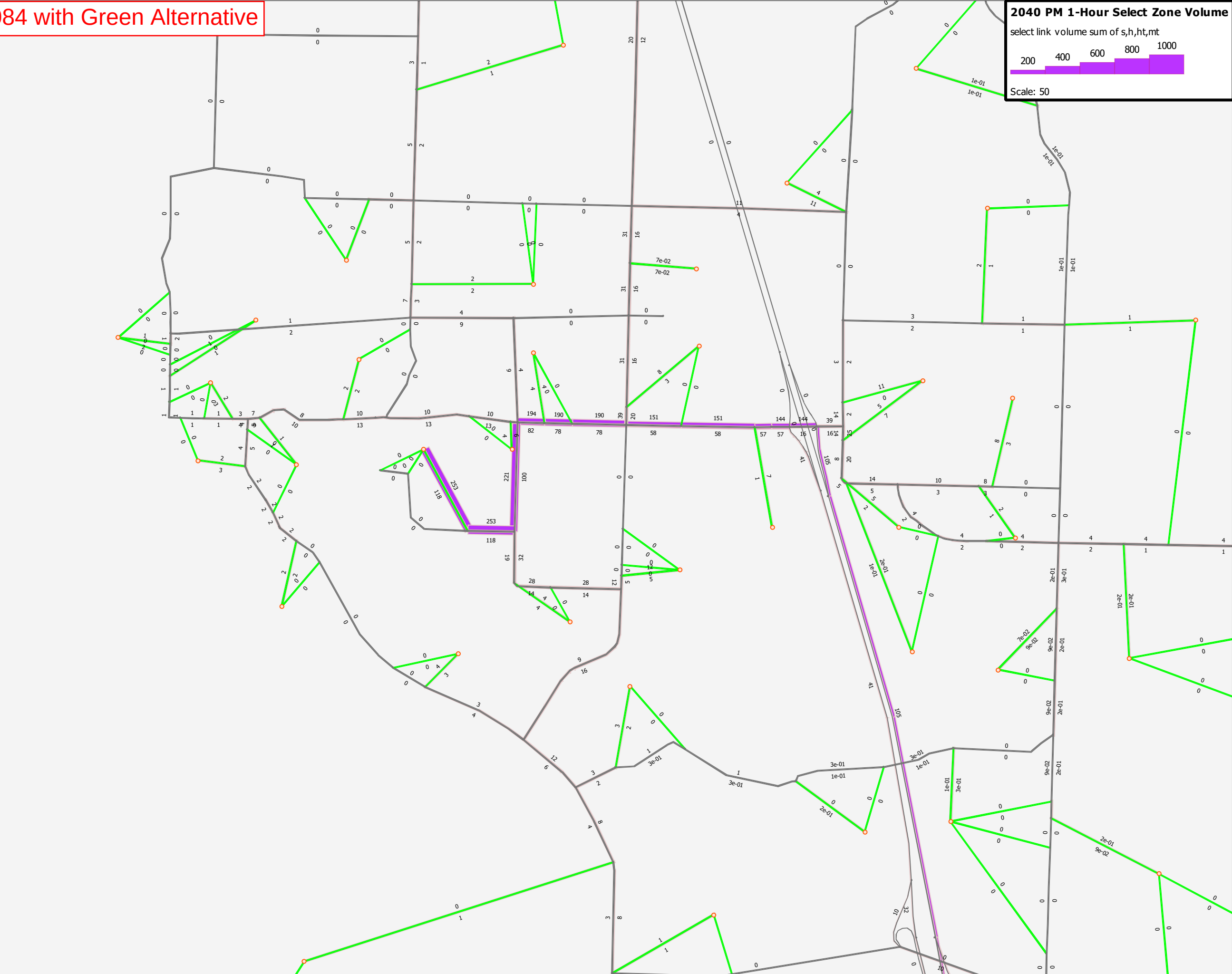
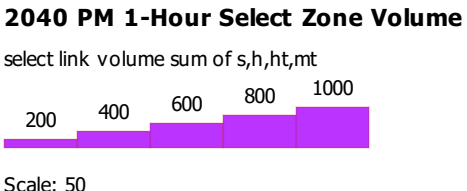
2015 PM Auto Link Travel Time (minutes)

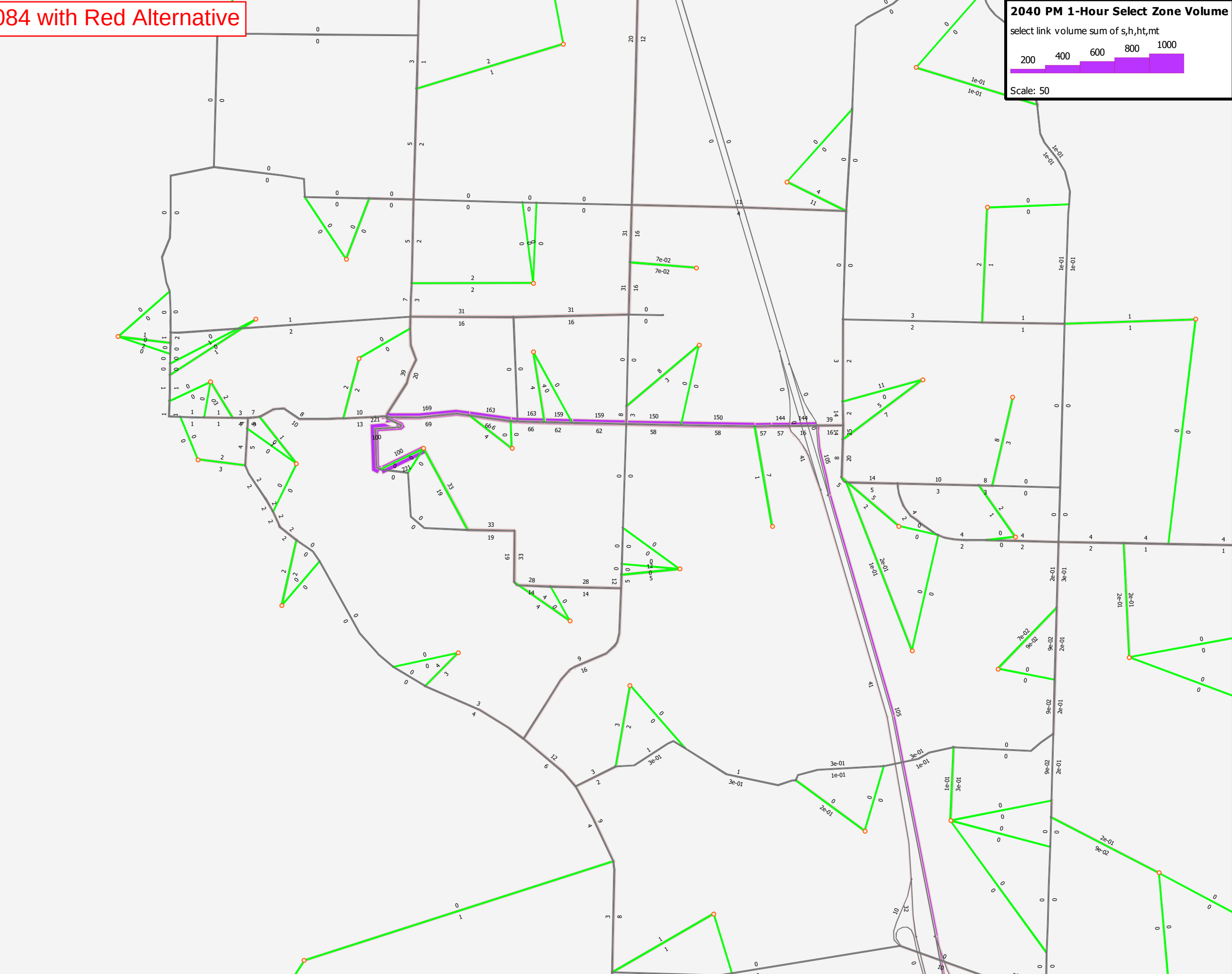
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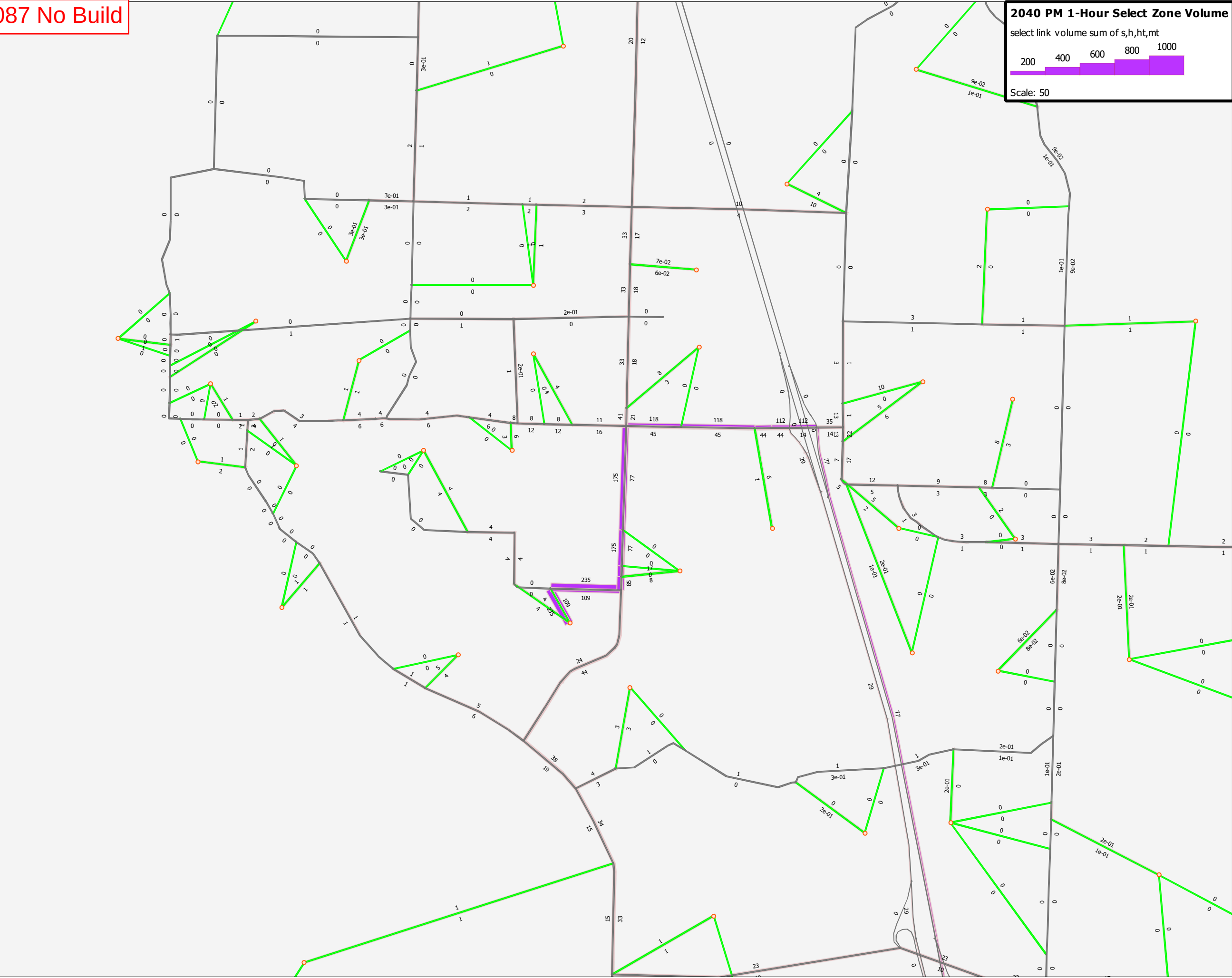


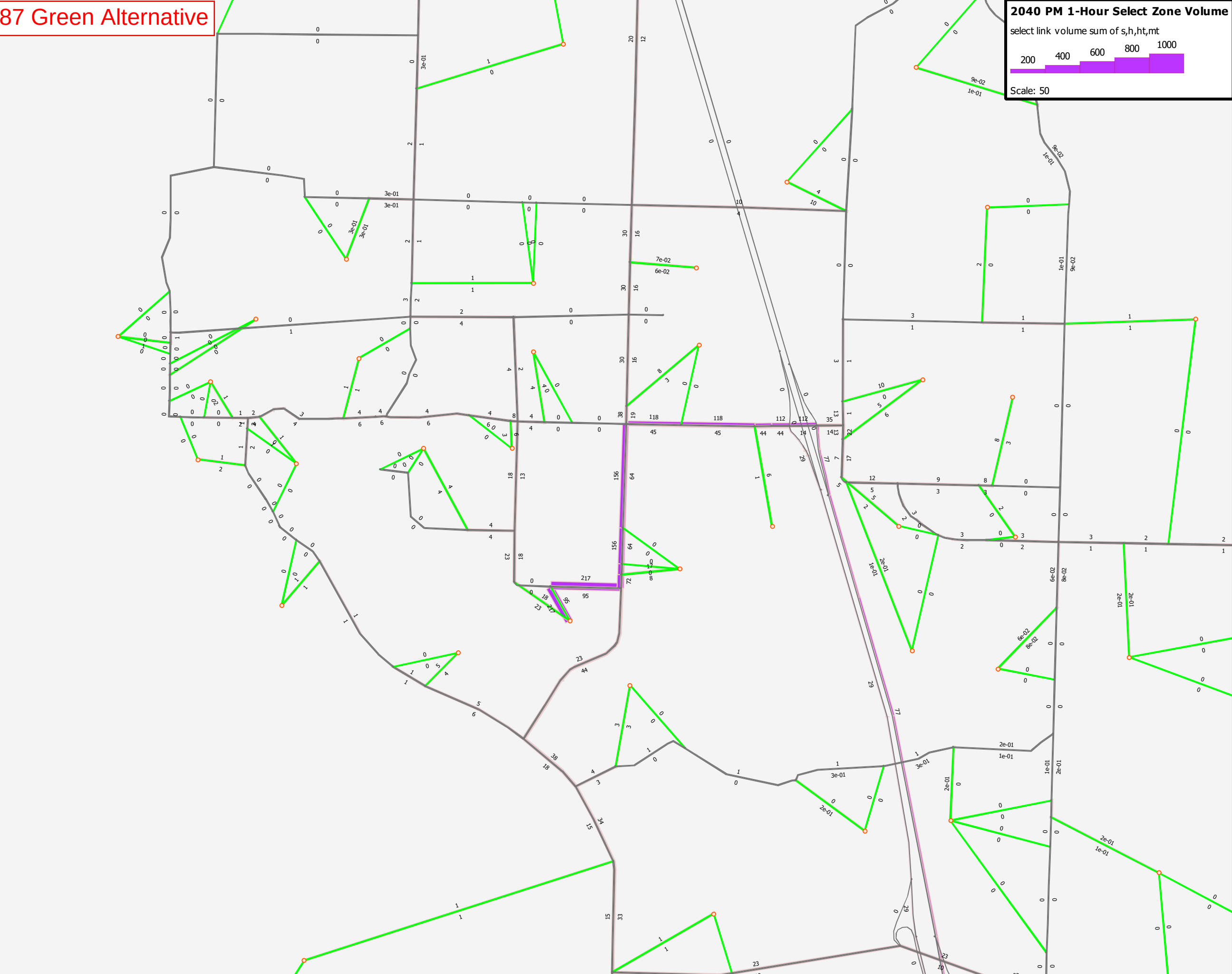


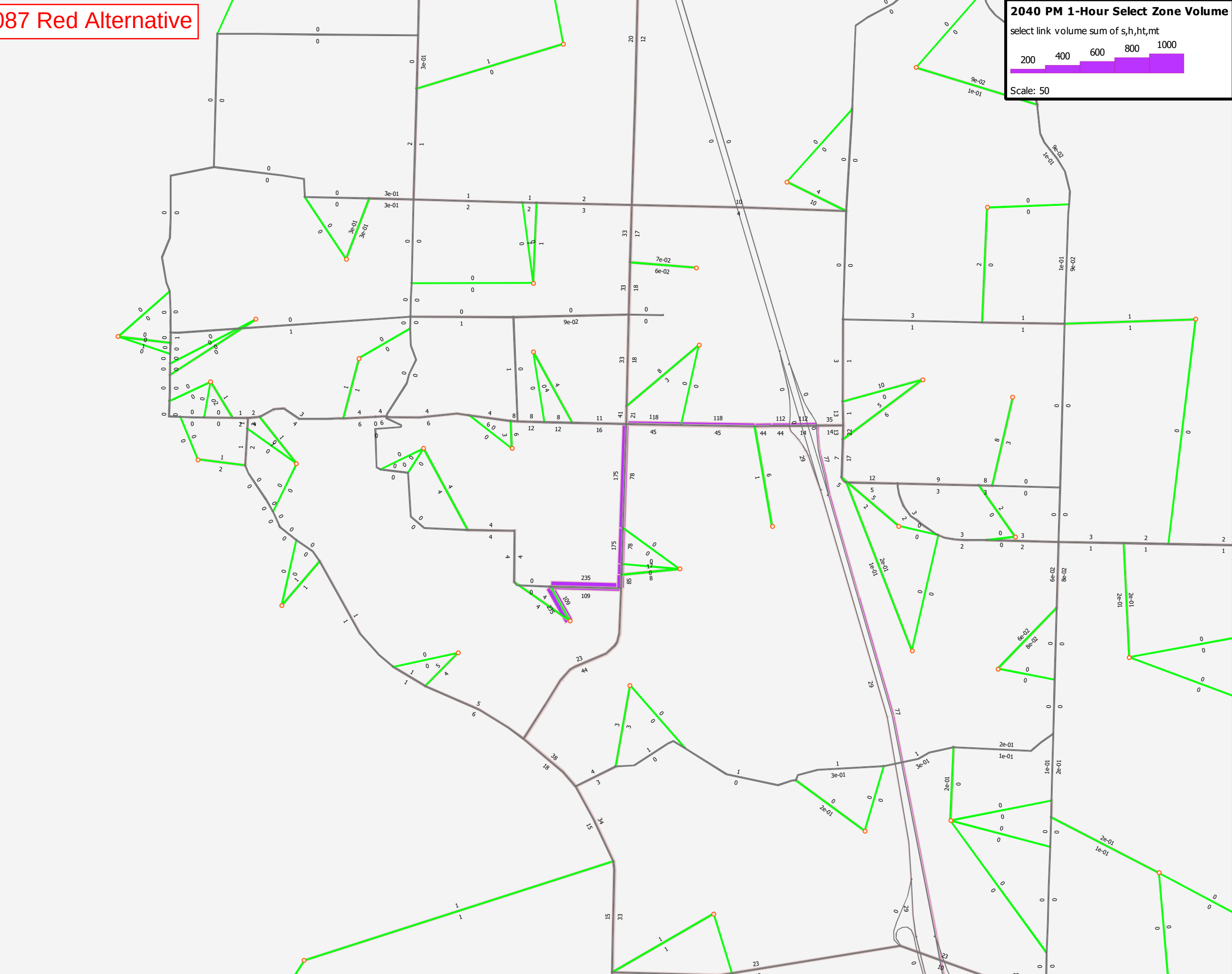
2040 - TAZ 2084 with Green Alternative



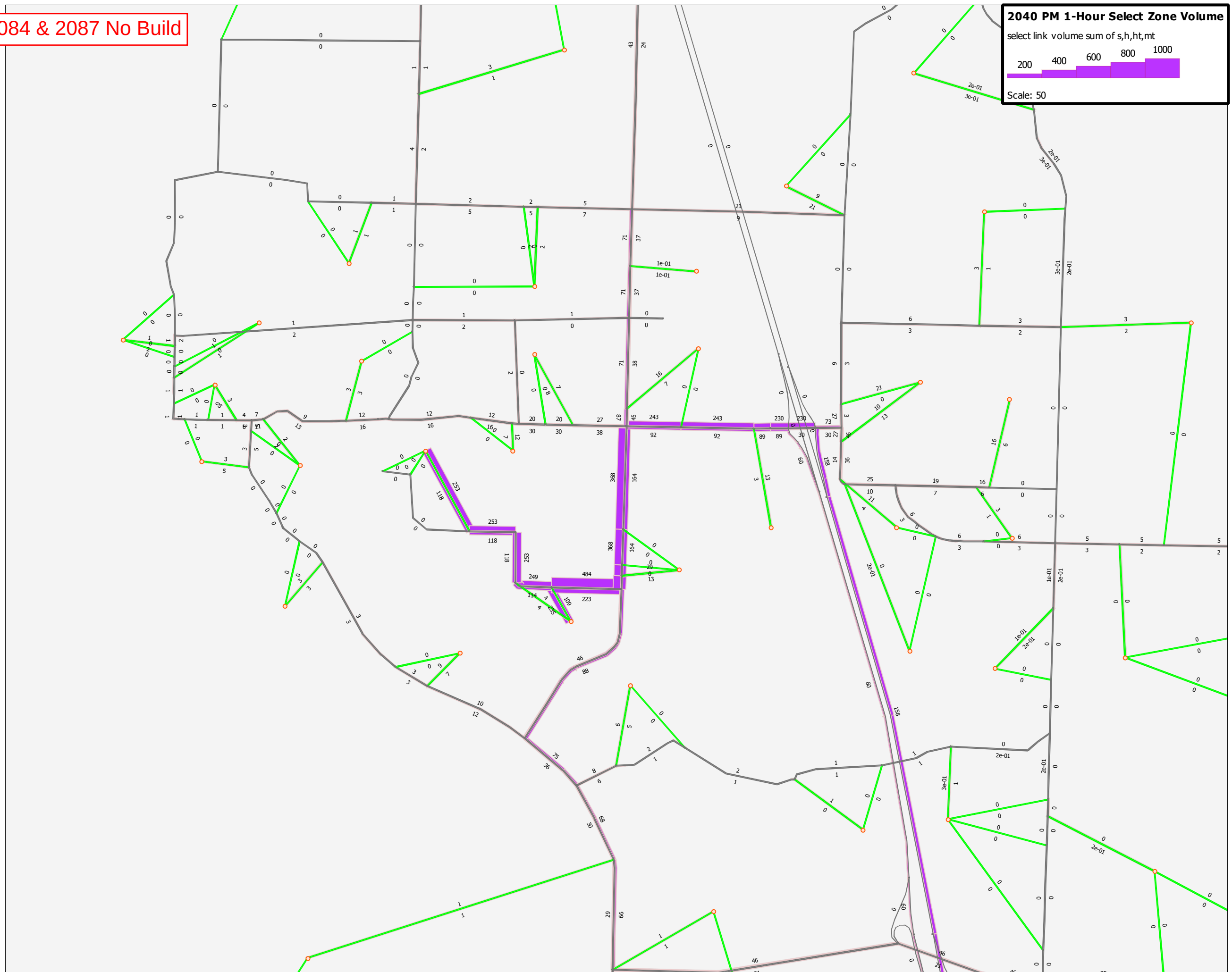
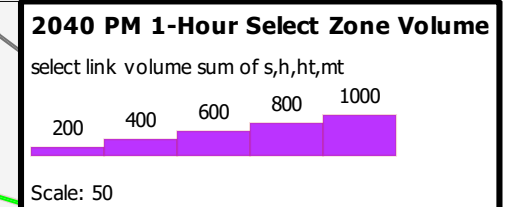


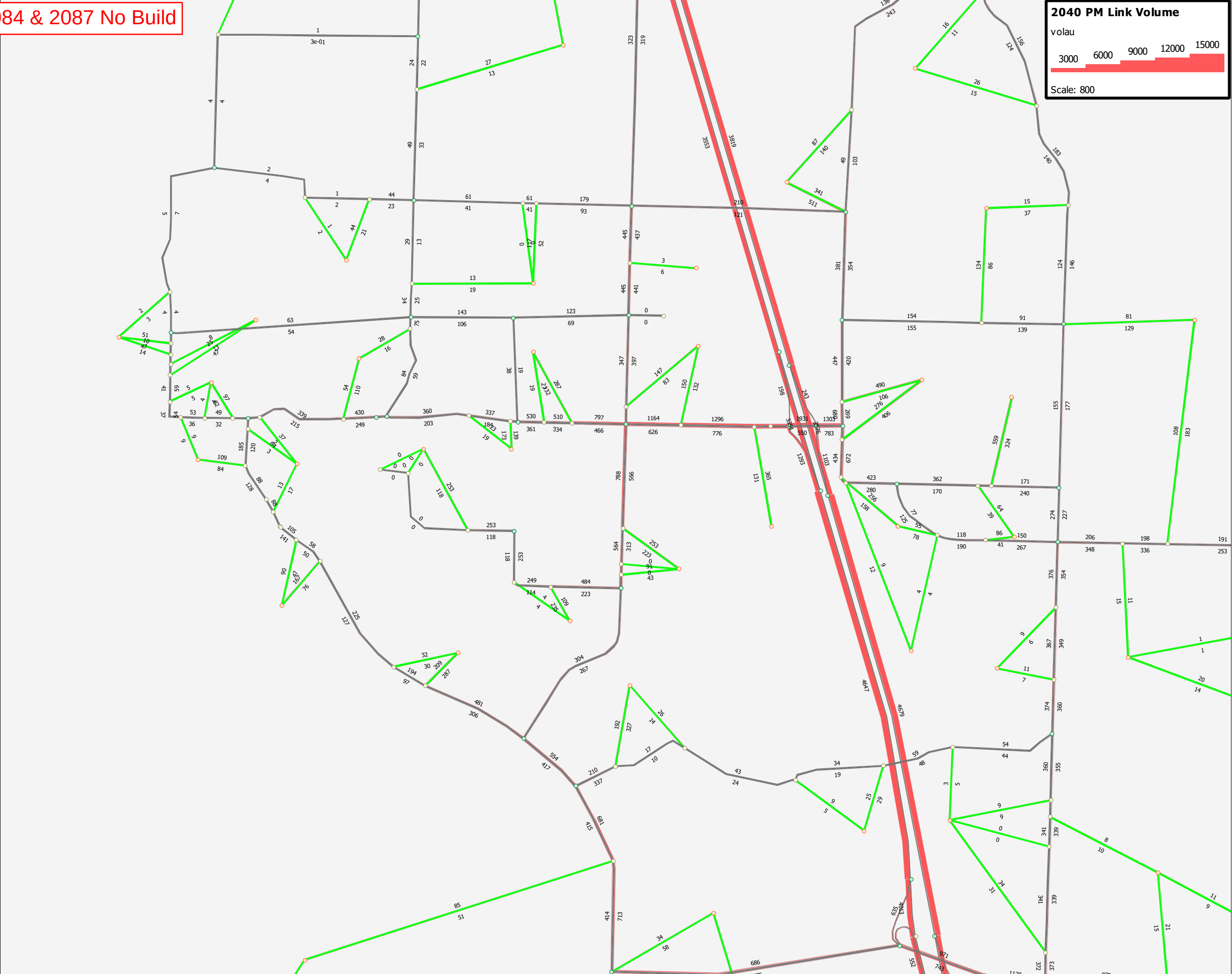




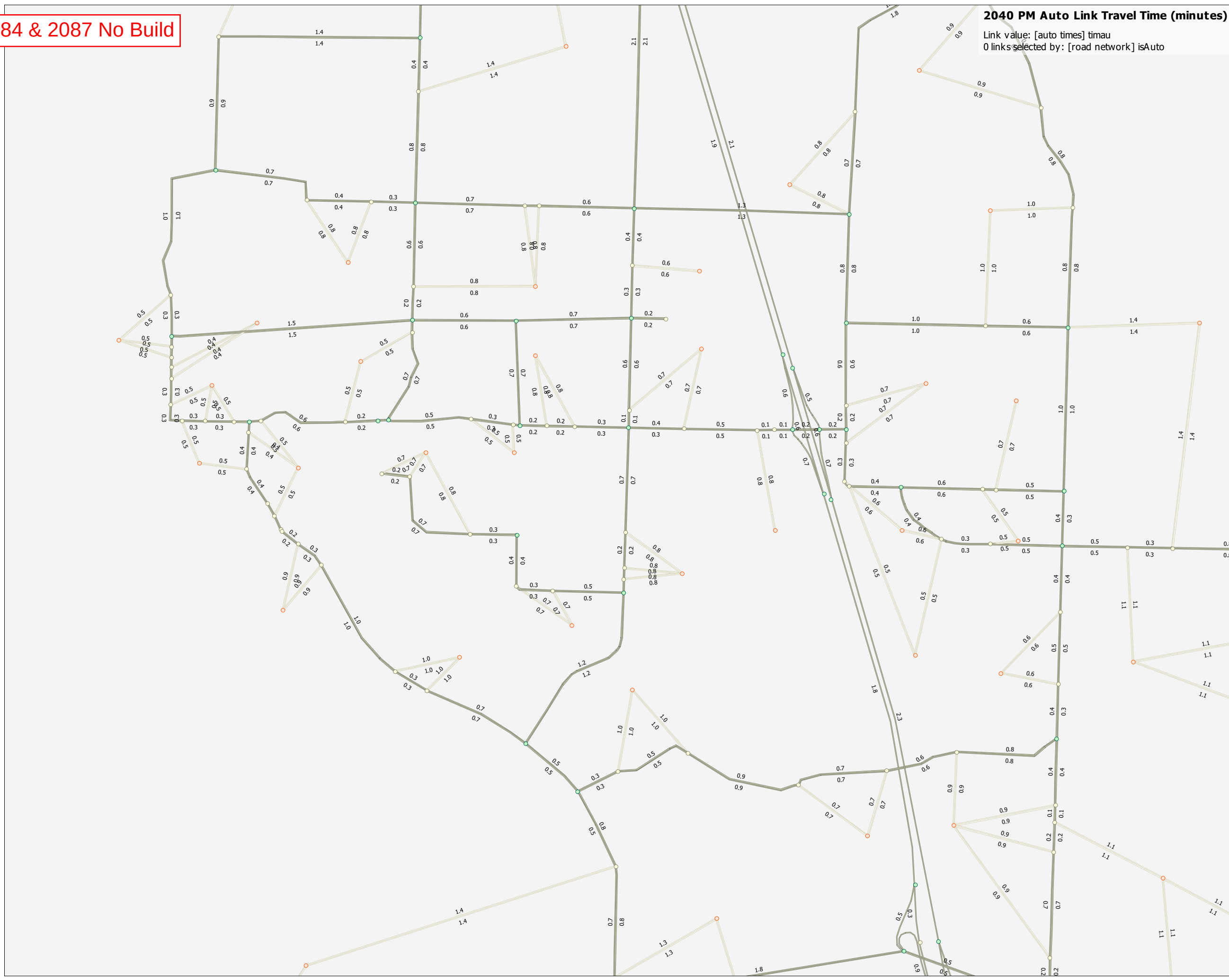


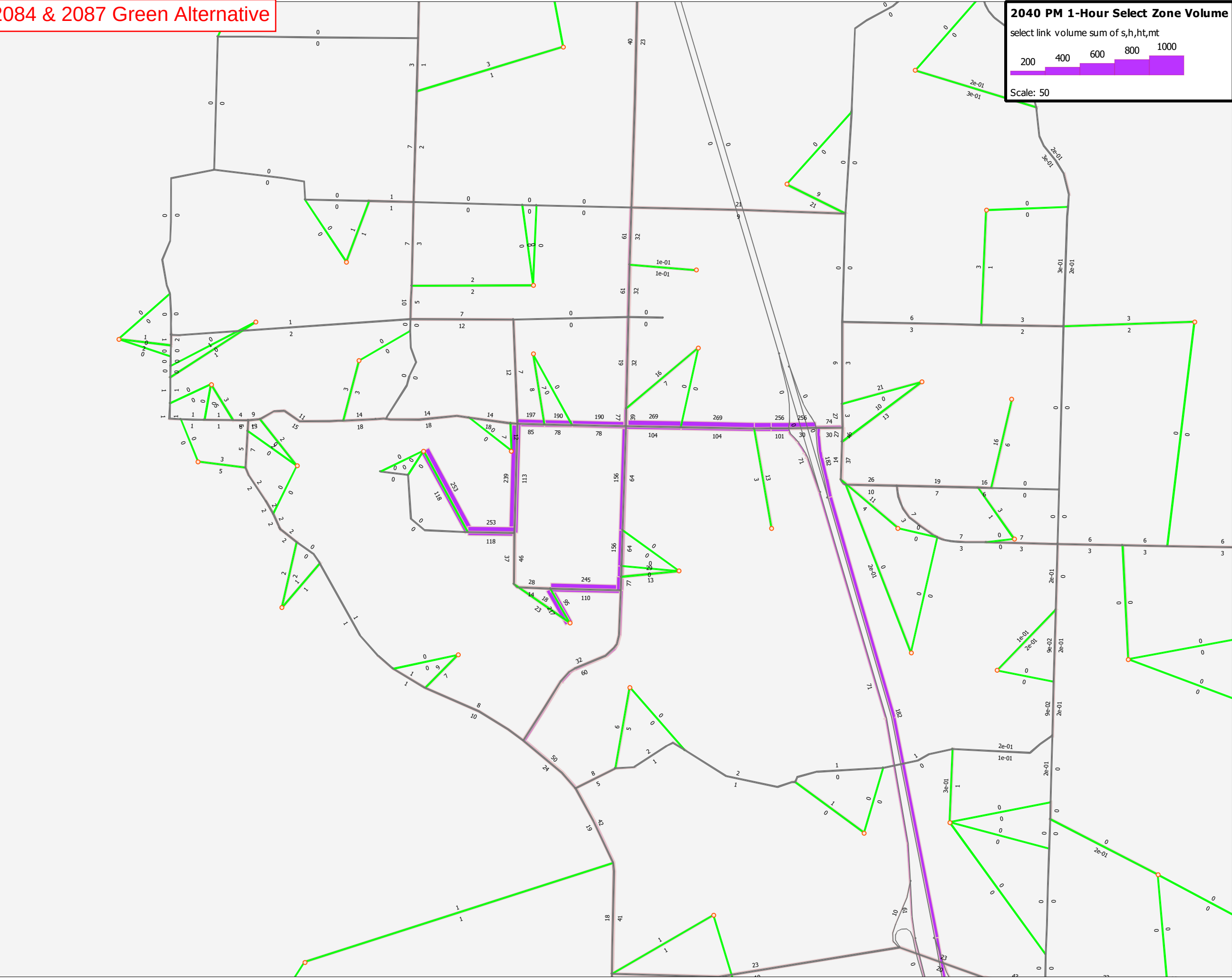
2040 - TAZ 2084 & 2087 No Build

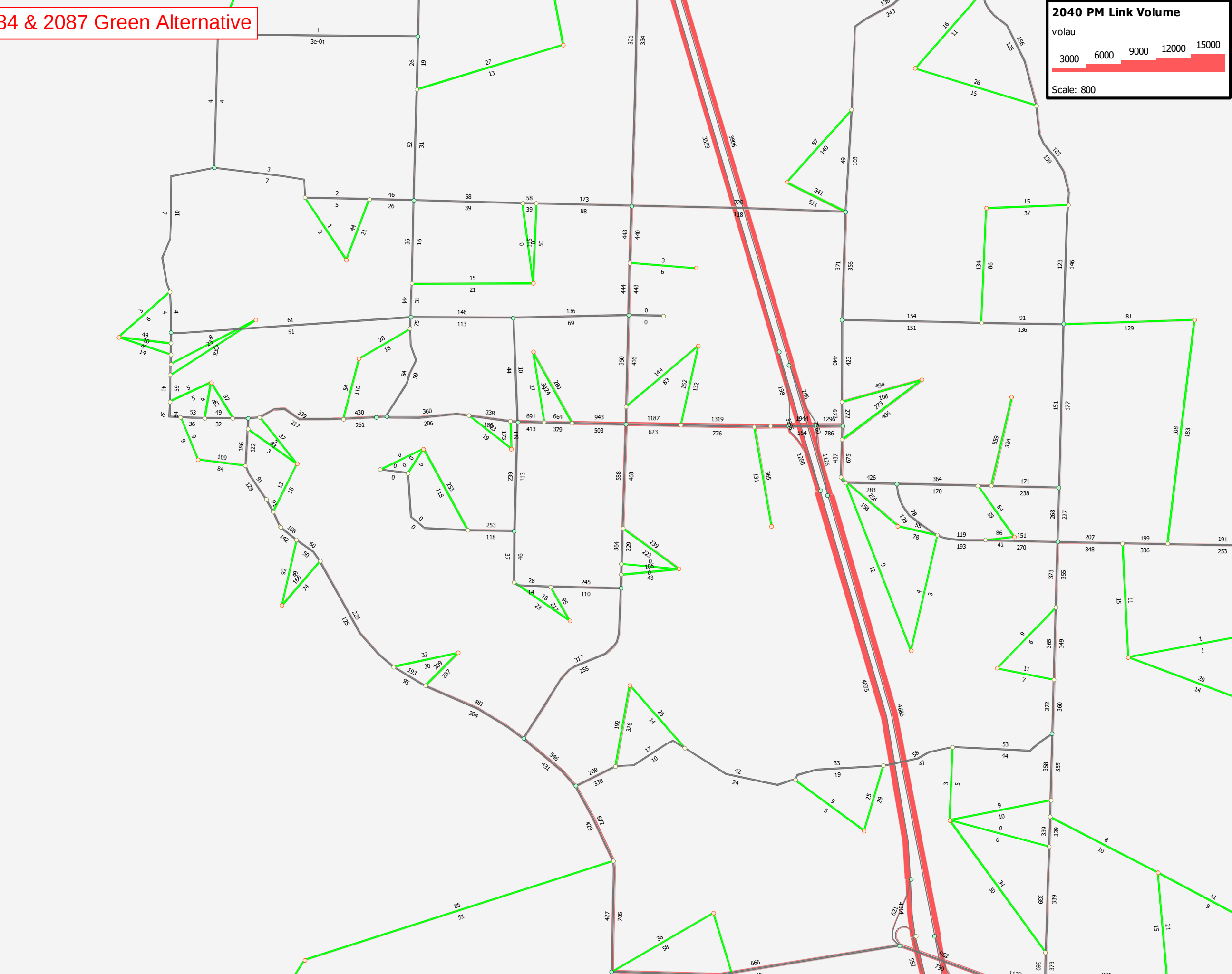
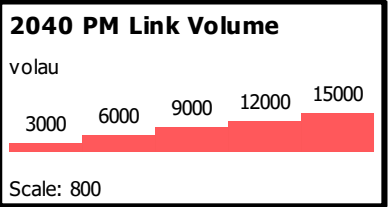


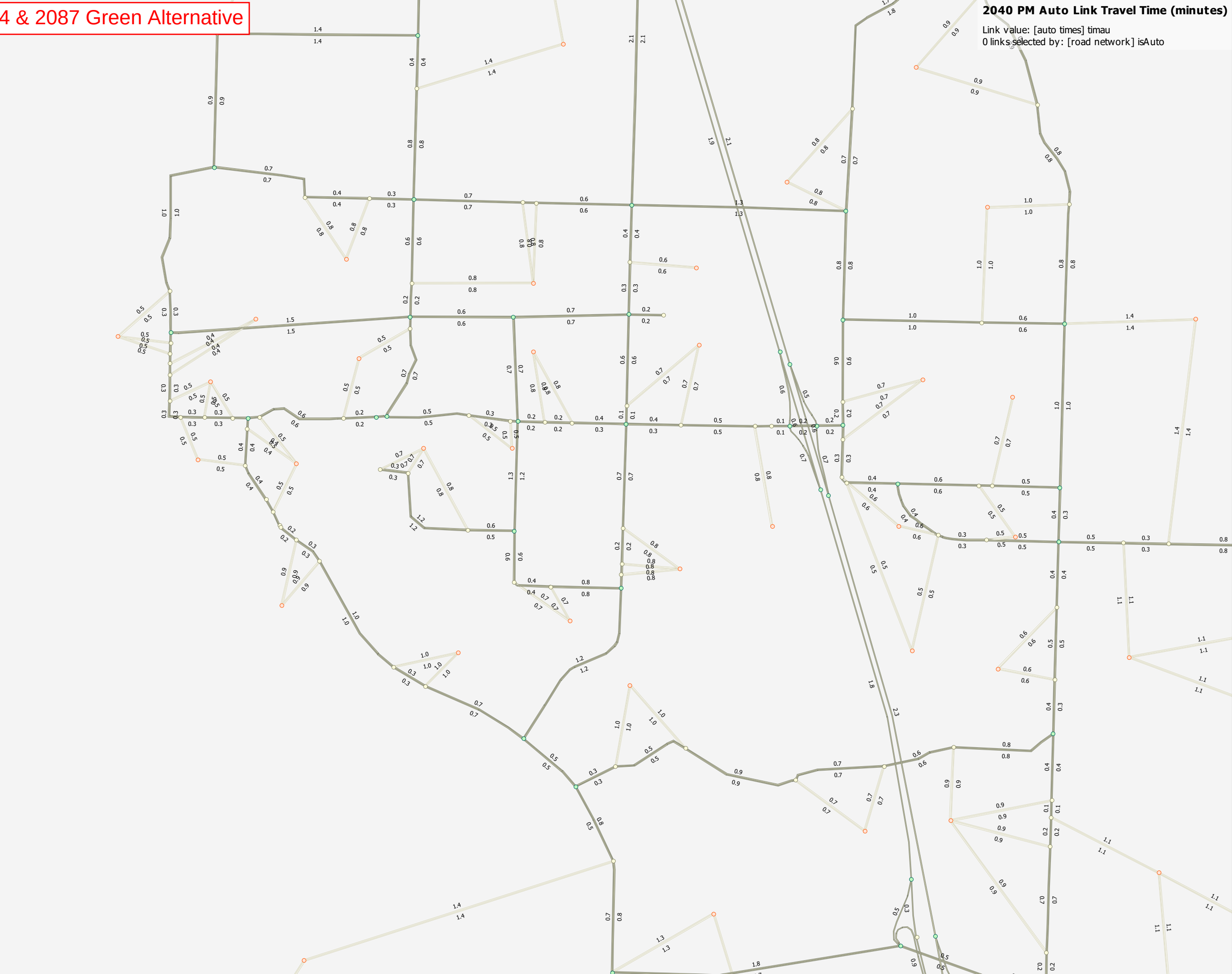


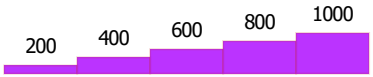
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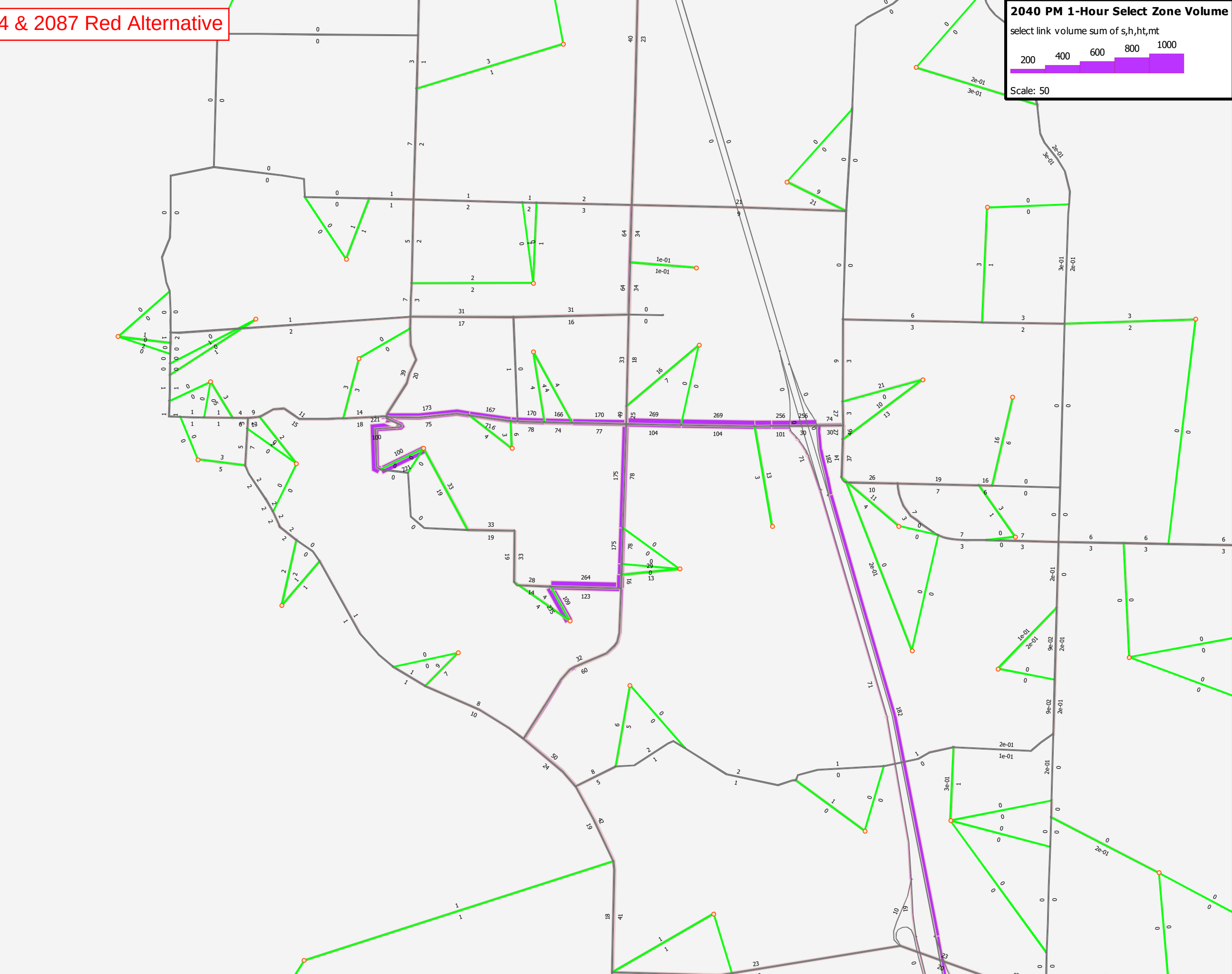


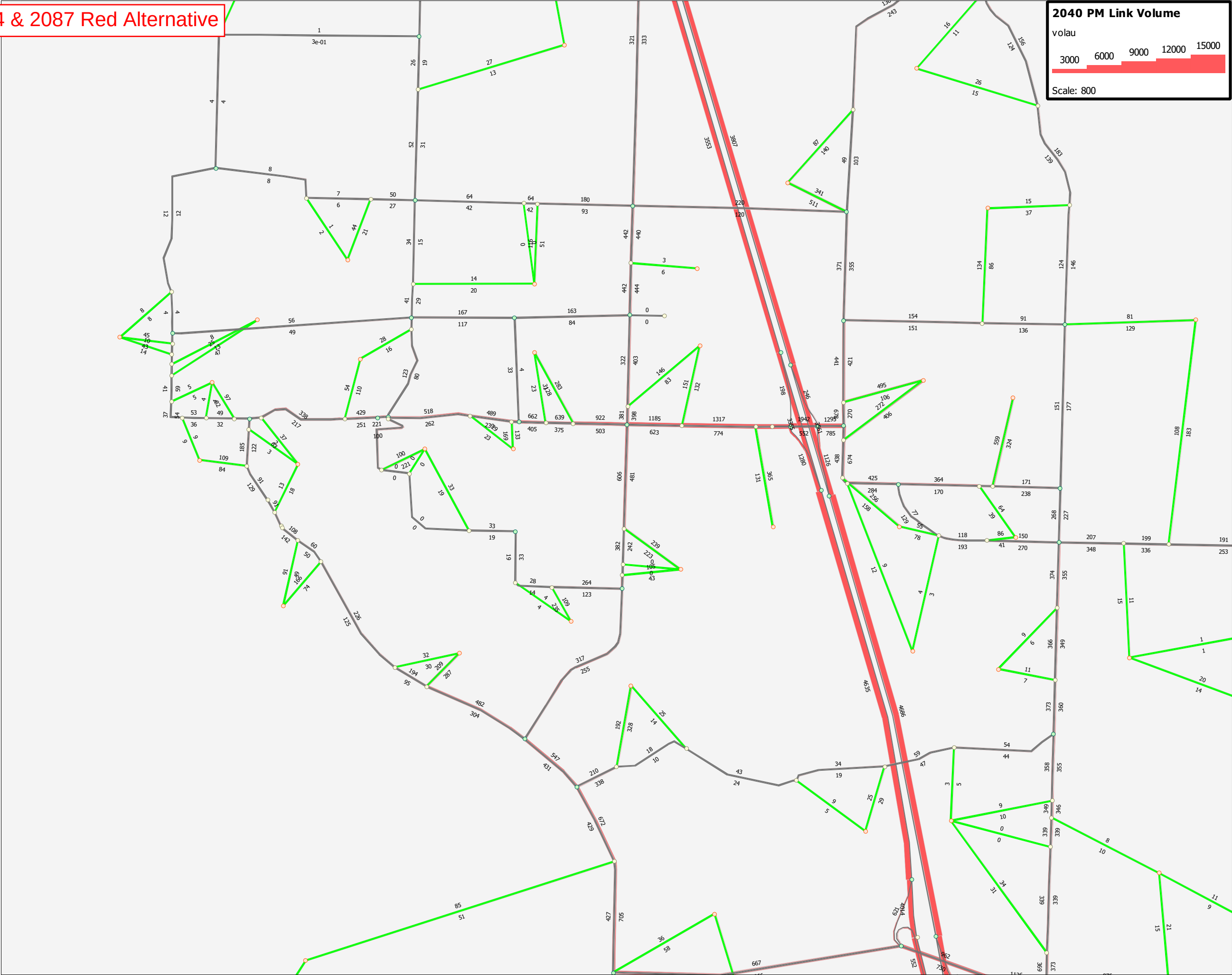
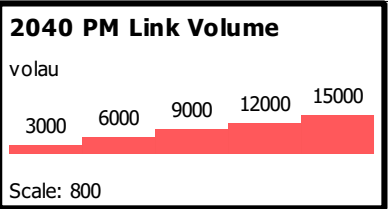




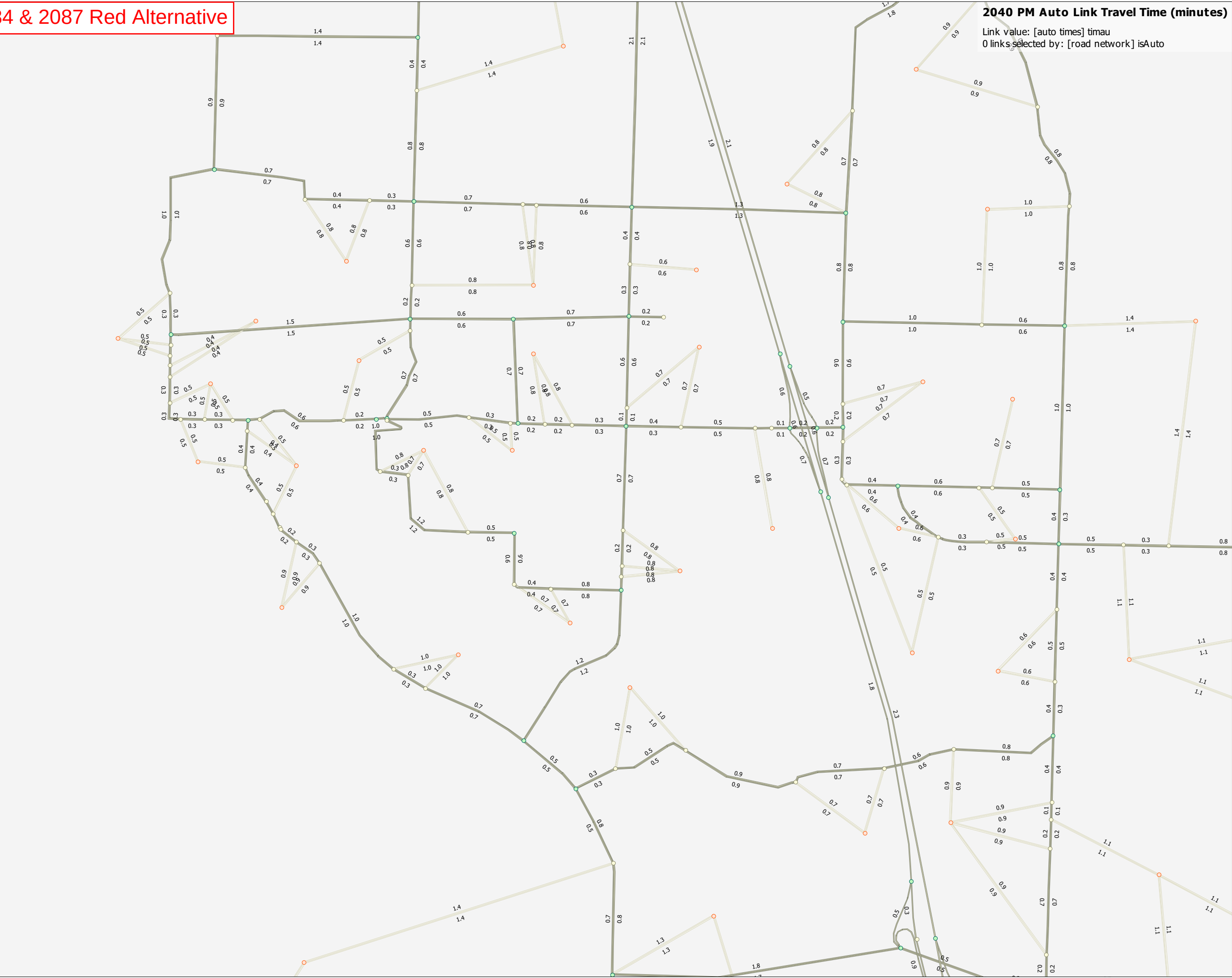


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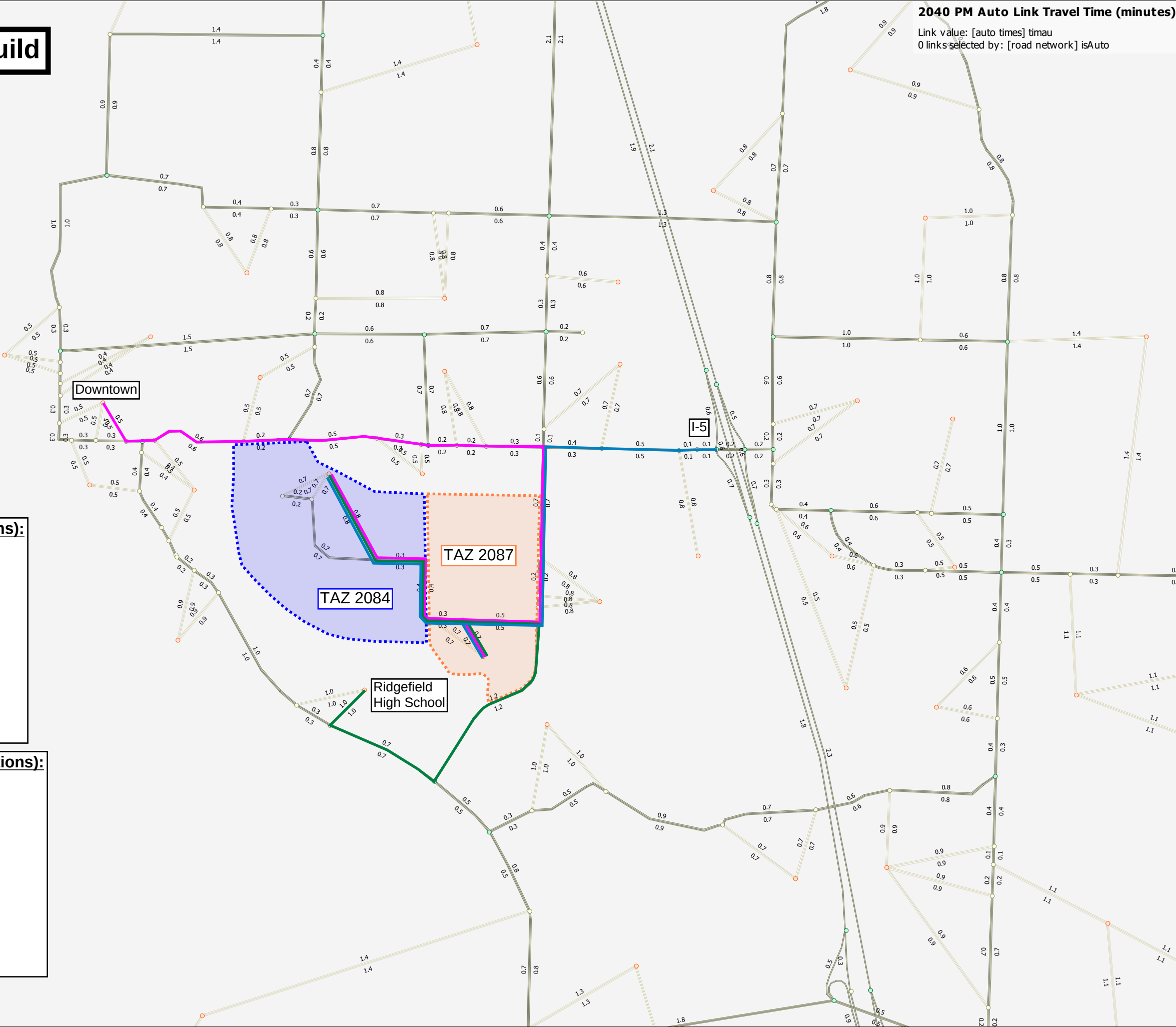
Appendix D

Travel Time Calculations

Travel Time - No Build

2040 PM Auto Link Travel Time (minutes)

Link value: [auto times] timau
0 links selected by: [road network] isAuto



Travel Times (to destinations):

TAZ 2084
Downtown = 6 minutes
High School = 5.2 minutes
I-5 = 4.2 minutes

TAZ 2087
Downtown = 4.9 minutes
High School = 4.1 minutes
I-5 = 3.1 minutes

Travel Times (from destinations):

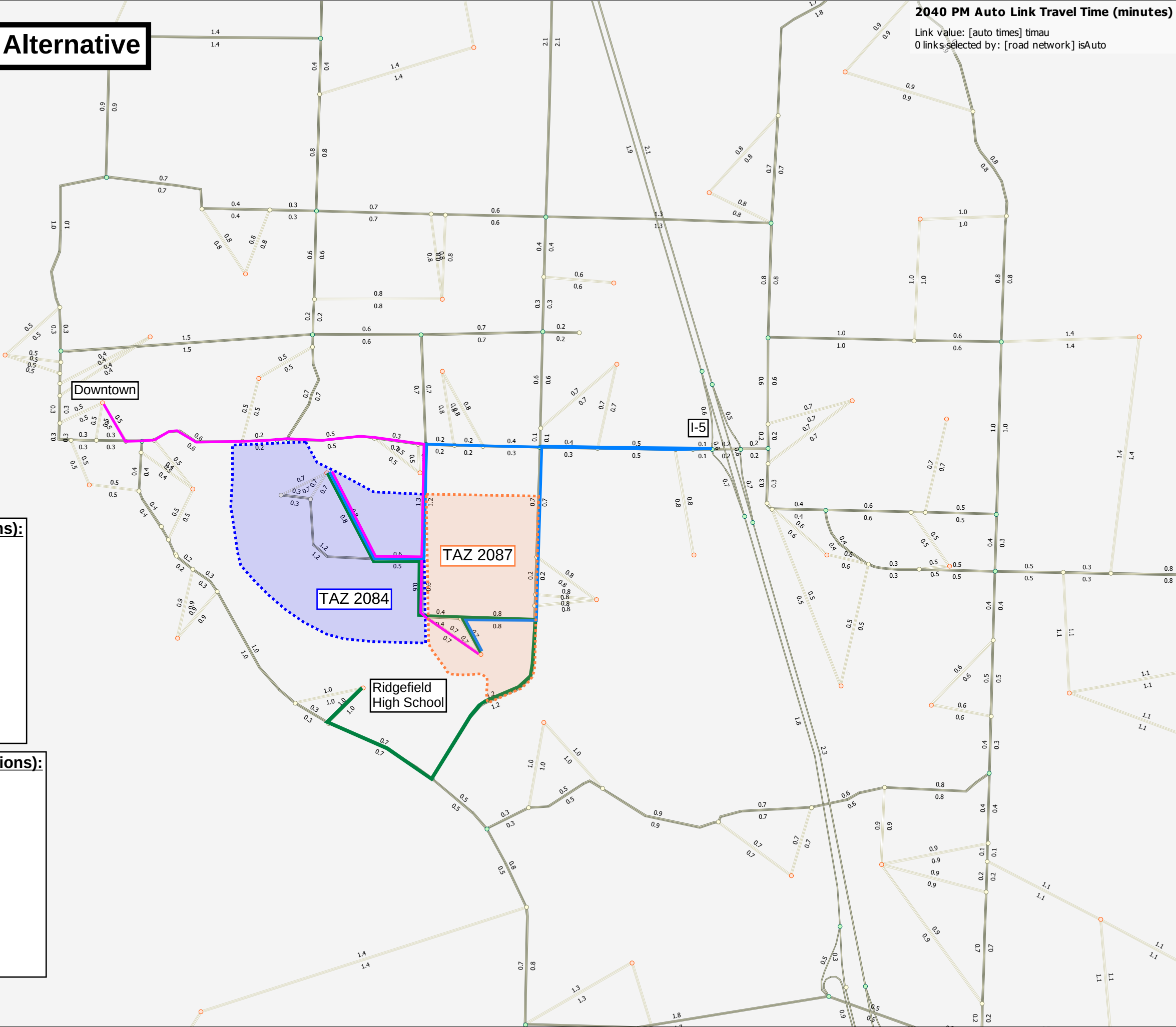
TAZ 2084
Downtown = 6 minutes
High School = 5.2 minutes
I-5 = 4.3 minutes

TAZ 2087
Downtown = 4.9 minutes
High School = 4.1 minutes
I-5 = 3.2 minutes

Travel Time - Green Alternative

2040 PM Auto Link Travel Time (minutes)

Link value: [auto times] timau
0 links selected by: [road network] isAuto



Travel Times (to destinations):

TAZ 2084

Downtown = 4.6 minutes
High School = 6 minutes
I-5 = 4.1 minutes

TAZ 2087

Downtown = 4.6 minutes
High School = 4.4 minutes
I-5 = 3.3 minutes

Travel Times (from destinations):

TAZ 2084

Downtown = 4.8 minutes
High School = 6.1 minutes
I-5 = 4.5 minutes

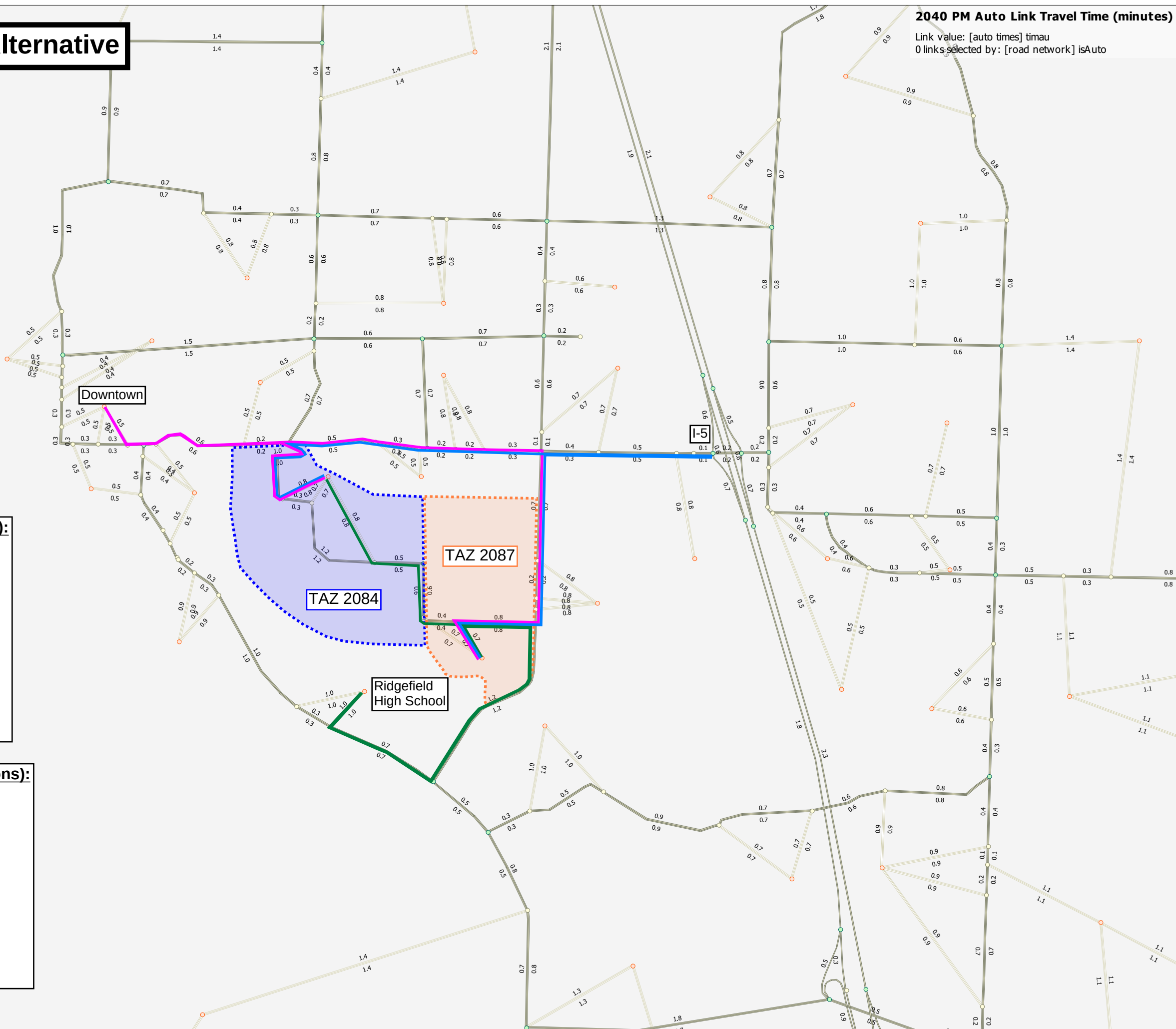
TAZ 2087

Downtown = 4.7 minutes
High School = 4.4 minutes
I-5 = 3.4 minutes

Travel Time - Red Alternative

2040 PM Auto Link Travel Time (minutes)

Link value: [auto times] timau
0 links selected by: [road network] isAuto



Travel Times (to destinations):

TAZ 2084
Downtown = 3.1 minutes
High School = 6 minutes
I-5 = 4.2 minutes

TAZ 2087
Downtown = 5.1 minutes
High School = 4.4 minutes
I-5 = 3.3 minutes

Travel Times (from destinations):

TAZ 2084
Downtown = 3.1 minutes
High School = 6 minutes
I-5 = 4.5 minutes

TAZ 2087
Downtown = 5.2 minutes
High School = 4.4 minutes
I-5 = 3.6 minutes

Appendix E

Volume Calculations

Traffic Volume Summary

PM	2025 Existing Volumes	2040 Volumes - No Build	2040 Volumes - Green Alternative	2040 Volumes - Red Alternative	2040 Volumes - Red & Green Alternative BUILD
9th Ave & Pioneer St	0 0 2 0 230 92 824 0 233 62 1 123 0 82	0 0 2 0 264 106 1,013 0 319 85 1 143 0 95	0 0 2 0 264 106 1,023 0 319 85 1 148 0 99	0 0 2 0 264 106 1,022 0 318 85 1 148 0 99	0 0 2 0 265 106 1,024 0 319 85 1 148 0 99
Reiman Rd & Pioneer St	25 0 79 25 269 0 817 144 275 0 2 0 0 0	36 0 113 31 336 0 1,026 175 334 0 2 0 0 0	36 0 113 31 338 0 1,028 175 334 0 2 0 0 0	DOES NOT EXIST 31 338 0 1,192 224 428 0 2 0 0 0	DOES NOT EXIST 32 344 0 1,026 171 326 0 2 0 0 0
35th Ave & Pioneer St	15 1 104 28 343 2 1,156 138 463 32 30 3 5 0 25	23 2 161 30 365 2 1,475 164 551 38 36 3 17 0 85	24 2 164 30 367 2 1,626 183 614 42 40 3 26 0 131	23 2 159 33 405 2 1,585 180 603 42 39 3 16 0 82	23 2 162 29 350 2 1,587 182 611 42 40 3 24 0 120
Royle Rd & Pioneer St	27 134 119 52 389 94 2,305 194 451 337 4 175 126 207	44 216 192 65 488 118 3,318 279 649 485 4 270 194 319	44 217 193 67 503 122 3,298 282 654 489 4 251 181 297	42 210 186 67 503 122 3,289 281 654 489 4 253 182 300	45 225 200 67 503 122 3,319 281 654 489 4 252 181 298
Pioneer Canyon Dr & Pioneer St	171 0 5 92 758 0 2,038 1 1,002 0 9 5 0 0 0	191 0 6 116 958 0 2,785 1 1,499 0 13 5 0 0 0	191 0 6 116 957 0 2,796 2 1,512 0 14 5 0 0 0	191 0 6 116 957 0 2,795 2 1,510 0 14 5 0 0 0	191 0 6 116 957 0 2,796 2 1,512 0 14 5 0 0 0
56th Pl & Pioneer St	31 4 532 62 681 10 3,212 572 929 130 30 6 12 3 216	34 4 591 87 959 14 4,265 765 1,243 174 40 6 18 5 329	34 4 591 87 959 14 4,278 770 1,250 175 40 6 18 5 329	34 4 591 87 958 14 4,276 769 1,250 175 40 6 18 5 329	34 4 591 87 959 14 4,278 770 1,250 175 40 6 18 5 329
Bertsinger Rd & Pioneer St	2 0 0 0 303 2 618 0 303 2 7 2 0 4	2 0 0 0 379 3 773 0 381 3 7 2 0 4	2 0 0 0 381 3 775 0 381 3 7 2 0 4	DOES NOT EXIST 0 381 3 938 0 490 3 7 20 0 39	DOES NOT EXIST 0 382 3 775 0 373 2 7 4 0 8
Royle Rd & Wells Dr	80 267 35 72 16 11 818 35 5 19 8 17 245 16	140 469 61 159 35 24 1,404 64 9 35 8 25 359 23	117 390 51 113 25 17 1,230 69 10 37 8 24 353 23	119 397 52 118 26 18 1,247 69 10 37 8 24 353 23	118 394 52 115 26 18 1,239 69 10 37 8 24 353 23
Royle Rd & Hillhurst Rd	102 77 131 125 269 31 1,296 122 245 33 9 32 65 64	151 114 194 141 304 35 1,801 193 387 52 9 46 93 91	153 116 197 141 304 35 1,803 191 384 52 9 46 93 91	153 116 197 141 304 35 1,803 191 384 52 9 46 93 91	153 116 197 141 304 35 1,803 191 384 52 9 46 93 91
Bertsinger RD & Reiman Rd & Pioneer Rd	DOES NOT EXIST 0 303 2 834 144 275 0 10 2 0 4	DOES NOT EXIST 0 379 3 1,046 175 334 0 10 2 0 4	DOES NOT EXIST 0 381 3 1,047 175 334 0 10 2 0 4	DOES NOT EXIST 0 381 20 1,321 224 428 39 10 20 0 39	DOES NOT EXIST 0 382 4 1,057 171 326 8 10 4 0 8

Appendix F

Collision Data

OFFICER REPORTED CRASHES THAT OCCURRED ON ALL ROADS IN CLARK COUNTY
Int. #1 - 9th Avenue / Pioneer Street
01/01/2020 - 12/31/2024

Under 23 U.S. Code § 148 and 23 U.S. Code § 407, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFICWAY	SR ONLY HISTORY / SUSPENSE	IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	J T H S S	JUNCTION RELATIONSHIP	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)
City Street	Clark	Ridgefield	S 9TH AVE	57	PIONEER ST	No		EF03065	08/01/2024	16:30	No Apparent Injury	0 0 2 0 0	At Intersection and Related	Same direction -- both turning right -- both moving -- sideswipe	Making Right Turn	Making Right Turn	South	East	South	East	None	None

OFFICER REPORTED CRASHES THAT OCCURRED ON ALL ROADS IN CLARK COUNTY
Int. #2 - Reiman Road / Pioneer Street
01/01/2020 - 12/31/2024
Under 23 U.S. Code § 148 and 23 U.S. Code § 407, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or roadway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# # # # # I F V E K H A C D E J T H S S	JUNCTION RELATIONSHIP	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)
City Street	Clark	Ridgefield	PIONEER ST		N REIMAN RD		No	EE79795	#####	20:12	No Apparent Injury	0 0 2 0 0	At Intersection and Related	Entering at angle	Making Left Turn	Stopped at Signal or Stop Sign	West	North	North	Vehicle Stopped	Improper Turn/Merge	None
City Street	Clark	Ridgefield	PIONEER ST	2299	N REIMAN RD		No	EF45515	#####	13:25	No Apparent Injury	0 0 2 0 0	At Intersection and Related	Entering at angle	Making Left Turn	Negotiating a Curve	North	East	West	East	Improper Turn/Merge	None
City Street	Clark	Ridgefield	PIONEER ST	2300	N REIMAN RD		No	EE72245	#####	12:49	No Apparent Injury	0 0 2 0 0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead	North	East	East	West	Exceeding Reas. Safe Speed	None
State Route	Clark	Ridgefield	501			10.69	Yes	EA94036	#####	12:40	No Apparent Injury	0 0 2 0 0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead	South	East	West	East	Improper Turn/Merge	None

OFFICER REPORTED CRASHES THAT OCCURRED ON ALL ROADS IN CLARK COUNTY
Int. 49 - 30th Place / Pioneer Street

01/01/2020 - 12/31/2024

Under 23 U.S. Code § 440 and 23 U.S. Code § 402, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or roadway highway crossings are not subject to discovery or admission into evidence in a federal or state court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	ALLEYWAY	SR ONLY ACCUMULATIVE ROUTE MILEAGE	SR ONLY HISTORY / SUSPENSE	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY	VEHICLE 1 TYPE	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	ANY DRIVER CONTRIBUTING CIRCUMSTANCE 1. LUNNET 31	ANY DRIVER CONTRIBUTING CIRCUMSTANCE 1. LUNNET 31
State Route	Clark	Bridgeport	SR		18.35	11.87	Yes	4-11-1708	01/05/2020	02:11	No Apparent Injury	Passenger Car	Pickup Panel Truck or Vanette under 10,000 lb.	Entering Roundabout	Not stated	Negotiating a Curve	Going Straight Ahead	North	South	East	West	Operator's Inattention or Age/Inexperience	None
State Route	Clark	Bridgeport	SR		18.35	11.87	Yes	4-05-1703	01/05/2020	06:30	No Apparent Injury	Pickup Panel Truck or Vanette under 10,000 lb.	Pickup Panel Truck or Vanette under 10,000 lb.	Entering Roundabout	Entering at angle	Going Straight Ahead	Going Straight Ahead	North	South	East	West	Did Not Yield Properly to Vehicle	None
State Route	Clark	Bridgeport	SR		18.35	11.88	Yes	4-13-1803	02/05/2022	21:19	No Apparent Injury	Pickup Panel Truck or Vanette under 10,000 lb.	Pickup Panel Truck or Vanette under 10,000 lb.	Entering Roundabout	Street Light Pole or Base	Negotiating a Curve	Going Straight Ahead	North	South	East	West	Exceeding Reasonable Speed	None
State Route	Clark	Bridgeport	SR		18.35	11.88	Yes	4-07-1803	02/24/2022	16:57	No Apparent Injury	Pickup Panel Truck or Vanette under 10,000 lb.	Pickup Panel Truck or Vanette under 10,000 lb.	Entering Roundabout	From same direction - both going straight - one stopped - rear end	Stopped at Signal or Stop Sign	Going Straight Ahead	Vehicle Stopped	Vehicle Stopped	East	West	None	None

01/01/2020 - 12/31/2024

Under 23 U.S. Code § 148 and 23 U.S. Code § 407, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

[illegible]

OFFICER REPORTED CRASHES THAT OCCURRED ON ALL ROADS IN CLARK COUNTY
Int. #8 - Royle Road / S Wells Drive
01/01/2020 - 12/31/2024

Under 23 U.S. Code § 148 and 23 U.S. Code § 407, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	INTERSECTING TRAFFICWAY	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# J	# I	# P	# B	JUNCTION RELATIONSHIP	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)
City Street	Clark	Ridgefield	S ROYLE RD	S WELLS DR	No	EF32076	#####	21:30	Unknown	0	0	1	0	Entering Roundabout	Street Light Pole or Base	North	South			Other Contributing Circ Not Listed

OFFICER REPORTED CRASHES THAT OCCURRED ON ALL ROADS IN CLARK COUNTY
Int. #9 - Royle Road / Hillhurst Road
01/01/2020 - 12/31/2024
Under 23 U.S. Code § 148 and 23 U.S. Code § 407, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	12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Collision Rate Calculations at
1. 9th Avenue / Pioneer Street

Intersection: 9th Avenue / Pioneer Street Date 2/3/2026

Average Daily cars passing Through intersection

PM Peak Hour	NB	2050
Movement Counts	SB	20
	EB	3220
	WB	2950
	ADT	8240

Millions of Entering Vehicles for a five year period = 15.038

Collision Rate

Number of Collisions =	1
Number of years =	5

Collision Rate = 0.07

Collision Rate Goal: Less than 1.0 per MEV

ADT = 2025 PM Count X 10

PM Peak Hour= Approx. 10% ADT

MEV = Million Entering Vehicles

Collision Rate Calculations at
2. Reiman Road / Pioneer Street

Intersection: Reiman Road / Pioneer Street Date 2/3/2026

Average Daily cars passing Through intersection

PM Peak Hour	NB	0
Movement Counts	SB	1040
	EB	2940
	WB	4190
	ADT	8170

Millions of Entering Vehicles for a five year period = 14.91025

Collision Rate

Number of Collisions =	4
Number of years =	5

Collision Rate = 0.27

Collision Rate Goal: Less than 1.0 per MEV

ADT = 2025 PM Count X 10

PM Peak Hour= Approx. 10% ADT

MEV = Million Entering Vehicles

Collision Rate Calculations at
3. 35th Avenue / Pioneer Street

Intersection: 35th Avenue / Pioneer Street Date 2/3/2026

Average Daily cars passing Through intersection

PM Peak Hour	NB	300
Movement Counts	SB	1200
	EB	3730
	WB	6630
	ADT	11860

Millions of Entering Vehicles for a five year period = 21.6445

Collision Rate

Number of Collisions =	4
Number of years =	5

Collision Rate = 0.18

Collision Rate Goal: Less than 1.0 per MEV

ADT = 2025 PM Count X 10

PM Peak Hour= Approx. 10% ADT

MEV = Million Entering Vehicles

Collision Rate Calculations at
4. Royle Road / Pioneer Street

Intersection: Royle Road / Pioneer Street Date 2/3/2026

Average Daily cars passing Through intersection

PM Peak Hour	NB	5080
Movement Counts	SB	2800
	EB	5350
	WB	9820
	ADT	23050

Millions of Entering Vehicles for a five year period = 42.06625

Collision Rate

Number of Collisions = 0

Number of years = 5

Collision Rate = 0.00

Collision Rate Goal: Less than 1.0 per MEV

ADT = 2025 PM Count X 10

PM Peak Hour= Approx. 10% ADT

MEV = Million Entering Vehicles

Collision Rate Calculations at
5. Pioneer Canyon Drive / Pioneer Street

Intersection: Pioneer Canyon Drive / Pioneer Street Date 2/3/2026

Average Daily cars passing Through intersection

PM Peak Hour	NB	0
Movement Counts	SB	1760
	EB	8500
	WB	10120
	ADT	20380

Millions of Entering Vehicles for a five year period = 37.1935

Collision Rate

Number of Collisions =	0
Number of years =	5

Collision Rate = 0.00

Collision Rate Goal: Less than 1.0 per MEV

ADT = 2025 PM Count X 10

PM Peak Hour= Approx. 10% ADT

MEV = Million Entering Vehicles

Collision Rate Calculations at
6. 56th Place / Pioneer Street

Intersection: 56th Place / Pioneer Street Date 2/3/2026

Average Daily cars passing Through intersection

PM Peak Hour	NB	2310
Movement Counts	SB	5670
	EB	7530
	WB	16610
	ADT	32120

Millions of Entering Vehicles for a five year period = 58.619

Collision Rate

Number of Collisions = 21

Number of years = 5

Collision Rate = 0.36

Collision Rate Goal: Less than 1.0 per MEV

ADT = 2025 PM Count X 10

PM Peak Hour= Approx. 10% ADT

MEV = Million Entering Vehicles

Collision Rate Calculations at
7. Bertsinger Road / Pioneer Street

Intersection: Bertsinger Road / Pioneer Street Date 2/3/2026

Average Daily cars passing Through intersection

PM Peak Hour	NB	60
Movement Counts	SB	20
	EB	3050
	WB	3050
	ADT	6180

Millions of Entering Vehicles for a five year period = 11.2785

Collision Rate

Number of Collisions =	0
Number of years =	5

Collision Rate = 0.00

Collision Rate Goal: Less than 1.0 per MEV

ADT = 2025 PM Count X 10

PM Peak Hour= Approx. 10% ADT

MEV = Million Entering Vehicles

Collision Rate Calculations at
8. Royle Road / S Wells Drive

Intersection: Royle Road / S Wells Drive Date 2/3/2026

Average Daily cars passing Through intersection

PM Peak Hour	NB	2780
Movement Counts	SB	3820
	EB	990
	WB	590
	ADT	8180

Millions of Entering Vehicles for a five year period = 14.9285

Collision Rate

Number of Collisions = 1

Number of years = 5

Collision Rate = 0.07

Collision Rate Goal: Less than 1.0 per MEV

ADT = 2025 PM Count X 10

PM Peak Hour= Approx. 10% ADT

MEV = Million Entering Vehicles

Collision Rate Calculations at
9. Royle Road / Hillhurst Road

Intersection: Royle Road / Hillhurst Road Date 2/3/2026

Average Daily cars passing Through intersection

PM Peak Hour	NB	1610
Movement Counts	SB	3100
	EB	4250
	WB	4000
	ADT	12960

Millions of Entering Vehicles for a five year period = 23.652

Collision Rate

Number of Collisions = 3
Number of years = 5

Collision Rate = 0.13

Collision Rate Goal: Less than 1.0 per MEV

ADT = 2025 PM Count X 10

PM Peak Hour= Approx. 10% ADT

MEV = Million Entering Vehicles

Appendix G

Open House #1 Meeting Summary

Open House Summary

Date: March 9, 2026, 4:00 – 6:00 PM

Location: Ridgefield Administrative & Civic Center in Ridgefield, WA

Overview

A community open house was held to present preliminary traffic and environmental findings for the Red and Green Alternatives and to obtain community feedback. The meeting, facilitated by the City of Ridgefield and the consultant team, was attended by approximately 32 people. When community members arrived at the open house, they were invited to review the project information on a project fact sheet and poster boards displayed around the room, as well as ask questions to project staff. Community members also had the opportunity to provide feedback on sticky notes on one of the poster boards, or on comment cards. Poster boards displayed around the room summarized the project schedule, community input received to date, transportation analysis results, and key environmental considerations.



Community Feedback

Key themes from community input are summarized below. Copies of the written responses are available for reference in Appendix A and B.

Green Alternative

Community members who preferred the Green Alternative commented that it would provide a more direct connection to I-5, better align with existing roundabouts, and help reduce congestion on local streets such as Pioneer, Royle, 15th, and 10th. Participants also noted that the Green Alternative is closer to anticipated growth areas and could be implemented sooner, making it a more effective solution for relieving current and future traffic concerns. (1)

Community members preferring the Green Alternative also viewed it as the lower risk and more feasible option, while noting the Red Alternative seems to be costly, complex, and uncertain due to the geotechnical challenges.

One person commented that the Green Alternative is preferred and noted that it is consistent with the City's transportation plans. (2)

Red Alternative

Community members who preferred the Red Alternative noted that it would provide a more direct and convenient connection for Ridgefield Heights residents, improving access to Pioneer Street, downtown, and emergency services while reducing the need to travel out of the neighborhood to reach key routes.

Several community members who favored the Red Alternative also emphasized that it best addresses existing safety concerns on Bertsinger Road by reducing crash risk at known problem areas, (3) improving connections at Pioneer/Reimann, and helping prevent future safety and liability issues as traffic increases. A few participants commented that the Red Alternative would have fewer impacts to current residents and properties.

Overall Safety Concerns

Community members emphasized the need for any option to meaningfully improve existing traffic and safety issues, particularly on Royle Road and local neighborhood streets, and expressed concern about decisions based on traffic data collected during construction. There was clear interest in incorporating safety and traffic-calming measures, such as speed management and improved pedestrian crossings, regardless of which alternative is selected. (4)



Environmental Analysis and Methodology

A few community members requested a comprehensive evaluation of environmental impacts, including effects on wildlife, greenspace, and recreational trails, before identifying a preferred alternative. One resident noted that there is a new walking trail through Ridgefield Heights which may be impacted by the Red Alternative.

Several community members noted that residential impacts associated with the Red Alternative may be understated because current maps and imagery do not reflect recent home construction in Ridgefield Heights. They asked that up-to-date aerial photos be used so residential impacts can be accurately evaluated and clearly shown to the public.

One person commented that going forward, the City should focus on consistent messaging for next steps.

Questions and Responses

Community members shared the following questions and concerns during the open house; responses from the project team are also noted below.

- What was the key number of feet that was considered to be within the impacted area for noise (specifically for the red alternative)?
 - A 250-foot buffer was used to identify potentially noise-impacted properties for both the Red and Green Alternatives. This screening was based on an aerial desktop review; a more detailed noise analysis will be



completed for the LPA, including on-site measurements to better quantify potential impacts.

- How are we accounting for if the red or green alternative impacts adjacent homes if affected by both routes (i.e., S. 25th Place). Are we double counting homes or are they a wash and not accounted for?
 - *Residential impacts were evaluated separately for each alternative. Properties were not 'double counted' within a single analysis; however, the same property may appear in both alternatives' impact summaries because each alternative was assessed independently.*
- Do we have updated count of homes impacted for the imagery (aerial image and count)?
 - *Aerial imagery is based on an aerial desktop review and the latest satellite imagery available. Based on feedback provided at the open house, the number of potentially impacted homes will be updated to account for developable lots.*
- What is the quantity of traffic from 21st Pl to Bertsinger Rd?
 - *A typical PM peak hour conducted on 12/10/025 showed a peak volume of 10 trips between 21st Pl and Bertsinger Rd.*
- If the green alternative is selected how does construction timing of the roadway impacted adjacent annexations and development?
 - *Through the development review process, City staff would work with property owners and developers to identify how future development may or may not be effected by the location of the future roadway and whether or not a portion of the roadway is constructed in conjunction with development.*
- What is the long term solution for Bertsinger? The interim fix with signage is not a sufficient approach.
 - *City*

Appendix A: Comment Cards

Comments cards were available at the entrance to the open house and community members were invited to share their input on what the City should consider moving forward. Feedback from the comment cards including the following responses:

- Show an accurate and up to date representation of the existing homes in Ridgefield Heights for satellite imagery on maps. Photos do not show many homes now existing in Ridgefield Heights. Relatedly, the number of residential structures depicted on the current graphic for the red is greatly under what is actually there.
- The green alternative seems far less risky from an engineering + geotechnical standpoint. It's a shorter route, less costly and would be a far faster connection for emergency vehicles. It is less costly than the Red and favored by most Ridgefield Heights neighbors. It is called the S. 35th extension for a reason! Green please!!
- Red option offers a more direct out than the traverse of the mass of residents and all their traffic needs ie emergency, delivery.
- Green alternative is on the city's transportation plan for years. Red was not, and is now being considered due to Ridgefield Heights. Green alternative will connect areas north of Pioneer to S 15th and the new I-5 Overpass at Paar Lumber, reducing traffic through Royle/Pioneer interchange.
- The Red option or some variable is the only way to get Ridgefield out of future liability. If there is money to do both then fine, but if not, as a community we must be responsible and fix Bertsinger in whatever manner we can so that no one gets killed when merging from Bertsinger to Pioneer.
- Community Priorities. Green Alt: Concerns. Safety risks and traffic speeds can be addressed by mitigating factors identified in my email sent after last public mtg. (Peter Zwing). Impacts to local wildlife should be included as a concern for the red alternative as well. Could lead to further development... Development will happen if the land owner wants it, regardless if green alternative is built. Ridgefield Heights is a prime example of development without roads.
- The red alternative poses many uncertainties and far higher costs. The raven to be filled is huge!! Way too much earth to be moved to connect to Reimann Road + Pioneer realignment would further delay the connection which is needed now!! Development towards Costco + new community center favors connection east of S. 35th and not this red alternative. We prefer green alternative.
- Royle Rd traffic has gotten really bad. Hoping one of these options improve and don't worsen this issue.
- I think environmental impacts should be fully considered before Council picks a preferred option. Please use up-to-date photo images of the neighborhood when presenting in the future. Photos do not show many homes now existing in Ridgefield Heights. Relatedly, the # of residential structures depicted on current graphic for the red is greatly under what is actually.
- Bertsinger road is a lovely, pastoral drive, but we feel it is unsafe for a larger population. It has always been somewhat dangerous, but more cars increase the likelihood of an

accident. Our family thinks it makes logical sense to provide an outlet for the Heights neighborhood NEARER to the Heights houses themselves. (5) Thank you – Kelly Jones

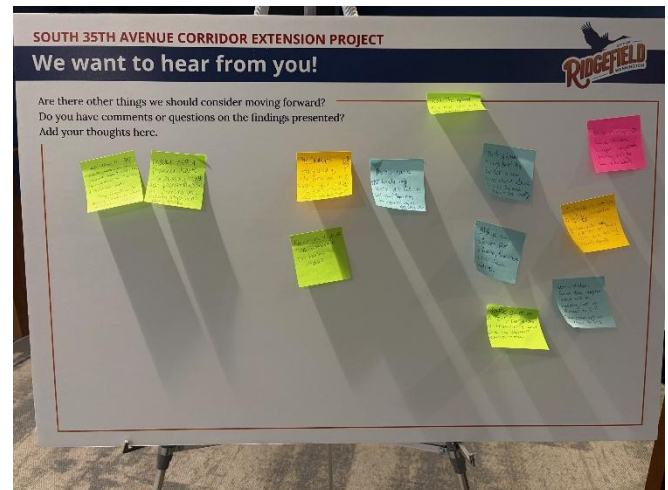
- The Green alternative has many more pros than the red alternative. Also, it appears it can be completed much sooner. This will help alleviate the traffic concerns everyone on 15th & 10th are having.
- The red alternative would have fewer impacts to current residents as well as future properties.
- Bertsinger & Pioneer will have less impact on residents and their prospective property. When S 35th goes through, speed bumps and extra safety are my concerns. An overpass preferably on S. 35th because there will be a huge impact to all the wildlife in the greenspace. I'm on 34th and I've had a river otter, deer, coyote, etc in my yard.
- The green is better. The red would require an extremely deep investigation of the physics of that route.
- Green alternative looks very similar to the McKanta connection at Pioneer. Red is a better route if the City doesn't want to be in a similar spot.
- The red alternative is the common sense selection. For people near 25th Pl it would make it much easier to not just get on Pioneer, but especially to go downtown without going east to 35th and back on Pioneer. For those residents closer to 35th, going south to 15th St and to Royle Rd is already an easy acceptable route. (6) Also emergency services would be better enhanced with the red route. Joey Burton 3287 S 10th Way

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Appendix B: Sticky Notes

Sticky notes were available to open house attendees to place onto a poster board. Community members shared the following feedback:

- Definitely the red route, because a roundabout will be constructed on Pioneer & Reiman road. Very important for safety issues on that particular corner! Thanks.
- Make 35th & Pioneer have “red flashing” lights for pedestrians and all roundabouts. Nobody stops if no lights blink.
- With the more than 200 homes being built near the red route. A safer road should be built by Reimann and helps encourage traffic to downtown and relieve Royal Rd.
- The images being used of the area are at least a year out of date. Many new unhabited homes in RH are not yet shown.
- Please recalculate red alternative residential impact.
- There is now a lovely lung walking trail in RH that may be impacted by the red alternative.
- Use the green. The red alt hits Pioneer in an already dangerous spot.
- The # of homes “impacted” by the red is way under what it actually is. Visit the area again + see Thank you!
- 35th is a cleaner shot to Pioneer, businesses + I-5. Please consider this.
- Traffic count on S 21st/Bertsinger is artificially low due to current construction.
- New development have much larger impact along red to be revised.
- 1st choice is green. (1) Better connection to I-5. (2) Connects easier to Pioneer with the existing roundabouts.
- More traffic from the neighborhood will be heading east on Pioneer to I-5. The green option is closer to I-5.



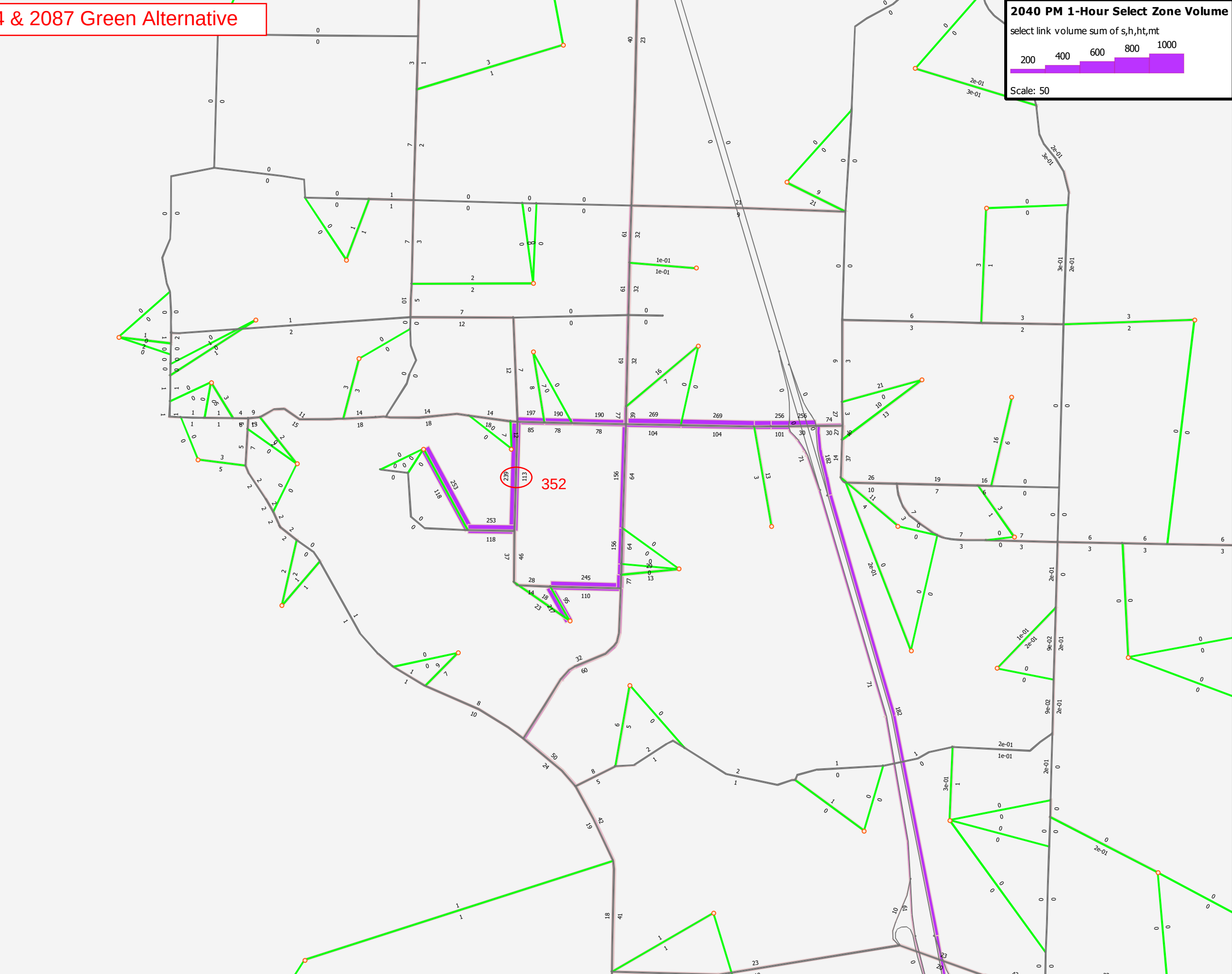
Appendix H

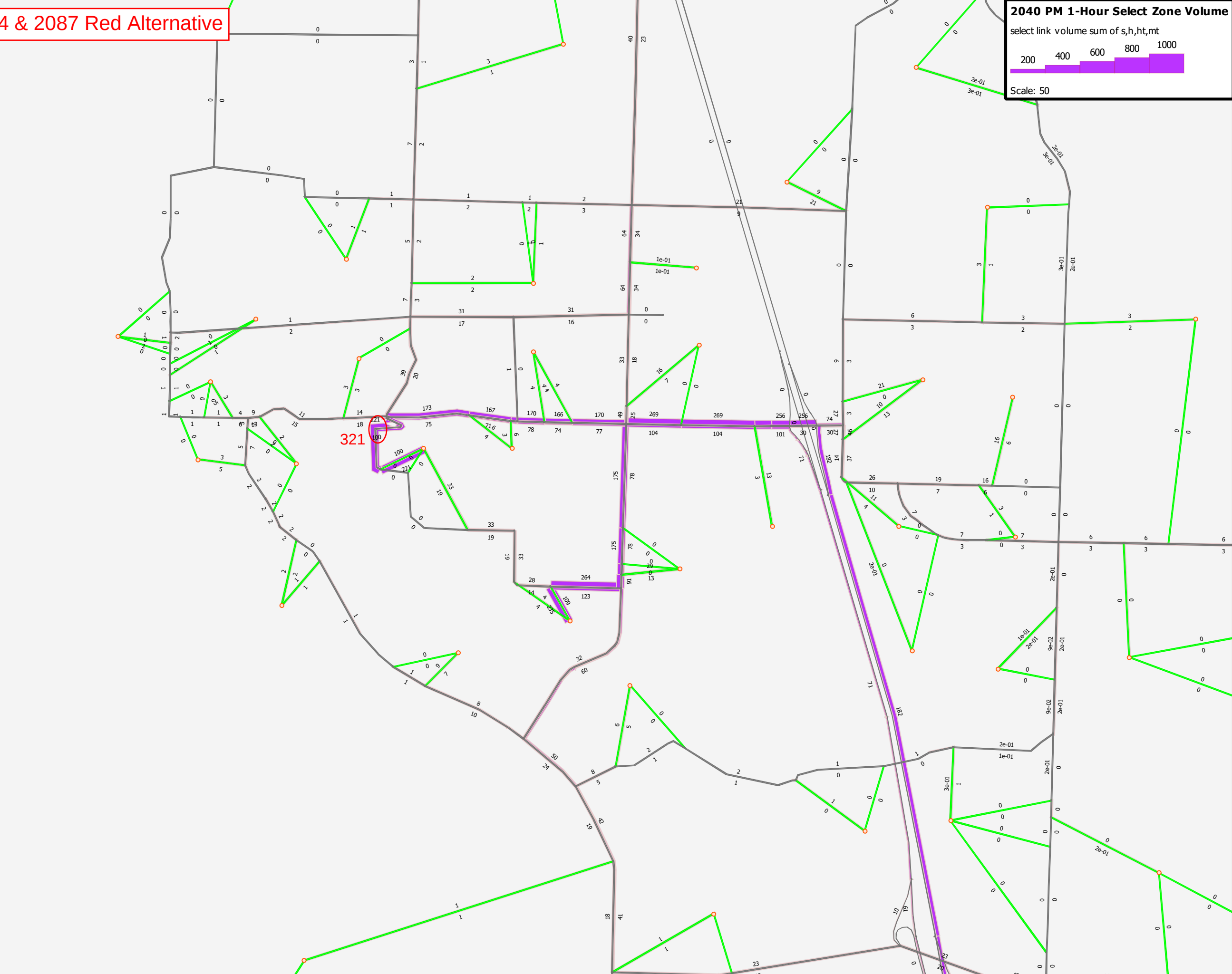
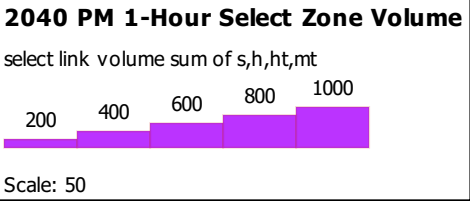
Travel Demand Models for Gee Creek Plateau Travel

2040 PM 1-Hour Select Zone Volume
select link volume sum of s,h,ht,mt

200	400	600	800	1000
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Scale: 50





APPENDIX

C GEOTECHNICAL ENGINEERING FEASIBILITY STUDY



January 16, 2026

City of Ridgefield
487 S 56th Place
Ridgefield, Washington 98642

Regarding: Geotechnical Engineering Feasibility Study
 35th Avenue Extension
 Ridgefield, Washington
 Apex Project 25005550

This letter report presents the results of the Apex Companies, LLC (Apex) geotechnical engineering feasibility study for development of a new roadway realignment at two different proposed locations in Ridgefield, Washington. The approximate site locations are shown on Figure 1, Vicinity Map. The locations of the sites in relation to existing site features are shown on Figure 2, Site Plan.

PROJECT UNDERSTANDING AND APPROACH

Apex understands the City of Ridgefield (City) is evaluating the feasibility of constructing a new roadway alignment connecting either S 35th Place or S 25th Place to Pioneer Street. These two proposed new road alignments (described as the west [red] and east [green] alignments) will need to cross an unnamed tributary of Gee Creek within an incised stream valley.

Just west of the intersection of Pioneer Street and N Reiman Road, S Bertsinger Road, originally one of the main access routes for the Gee Creek Plateau Sub Area, connects with Pioneer Street. In the late 2010s, the pace of development increased in the Ridgefield area and new subdivisions began to get permitted and constructed, including Ridgefield Heights, the Cloverhill PUD, and the Seven Wells PUD. These new subdivisions expanded and improved upon S 15th Street to S Royle Road, enhancing infrastructure and connectivity to the Gee Creek Plateau Sub Area. As more development continued to come into the City, the need to improve the roadway grid network to better facilitate the Gee Creek Plateau Sub Area became apparent, as the current infrastructure owned and maintained by the County was not sufficient with the added traffic, and would eventually become part of the City.

While planning how the Gee Creek Plateau Sub Area would be incorporated, the planners discovered the existing 16-foot-wide S Bertsinger Road, which acts as the area's main north-south access, would not be able to assist with traffic and emergency service access, leaving a disconnected S 35th Place and S 15th Street as the only access points to the area's 355 acres. The Bertsinger Road width, grades, and surrounding topography would not allow for future use from Pioneer Street, and the City had to evaluate alternatives to meet the future demands of the area.

In 2023, the City of Ridgefield contracted with PBS Engineering and Environmental to provide an engineering analysis of potential routes that could be used to meet the City's goals as well as goals of the current residents of the Gee Creek Plateau Sub Area. The evaluations considered closing S Bertsinger Road at Pioneer Street based on safety concerns and considered a preferred alternative that would best meet all the goals and needs of the stakeholders for this project.

To help the City evaluate the geotechnical-related risks associated with the two new road realignment areas, Apex completed this geotechnical engineering feasibility study. No subsurface explorations were completed as part of this study. If the project moves forward, future project phases will require subsurface exploration and analyses to develop design recommendations.

SCOPE OF WORK

Apex completed the following geotechnical scope of work.

Geologic Map and Hazard Map Review

Geologic and geologic hazard maps of the site area were reviewed for information regarding geologic conditions and hazards at or near the site.

Geotechnical Engineering Report Review

Geotechnical engineering reports available in our files were reviewed for information related to subsurface conditions and geologic and geotechnical hazards at or near the project site.

Preliminary Geotechnical Engineering Analyses

The data collected during literature research was analyzed to develop preliminary geotechnical recommendations to evaluate the geotechnical feasibility of site development.

Deliverable

This geotechnical feasibility letter report was prepared containing the results of our study, including the following information:

- Summary of geotechnical conditions in the site vicinity
- Groundwater considerations
- Discussion of geologic and geotechnical engineering hazards in the site vicinity
- Discussion of liquefaction and lateral spreading potential
- Discussion of geotechnical feasibility of site development
- Qualitative discussion of structure types and foundations
- Construction considerations

SITE CONDITIONS

Surface Description

The two proposed new roadway alignments generally extend north from S 35th Place and S 25th Place, in the south, to Pioneer Street in the north. The current west/red alignment is proposed to cross S 1st Way and S Bertsinger Road and generally connect with Pioneer Street at the intersection with N Reiman Road. The east/green alignment is proposed to connect with S 35th Place, which ties in with Pioneer Street at the exiting roundabout intersection. The alignments generally traverse residential areas, roadways, and forested areas near the unnamed tributary streams of Gee Creek.

The overall slopes within these alignments grade slightly to steeply down in places primarily within north- and south-facing slopes along the unnamed Gee Creek tributary streams, which bisect the alignments within the northern area of the west alignment and the central area of the east alignment. The west alignment has a minimum elevation of about 90 feet adjacent to the unnamed stream, while maximum elevation is about 270 feet

at the southern end of the alignment near S 25th Place. The east alignment has a minimum elevation of about 170 feet adjacent to the unnamed stream, while maximum elevation is about 270 feet at the northern end of the alignment near Pioneer Street (Figure 3, NAVD 88).

Geologic Setting

The site is located within the northern extent of the Portland-Vancouver Basin, a tectonic depression within the physiographic province of the Puget-Willamette Lowland that separates the Cascade Range from the Coast Range, and extends from the Puget Sound, Washington, to Eugene, Oregon.¹ The Puget-Willamette Lowland is situated along the Cascadia Subduction Zone (CSZ) where oceanic rocks of the Juan de Fuca Plate are subducting beneath the North American Plate, resulting in deformation and uplift of the Coast Range and volcanism in the Cascade Range. Northwest-trending faults accommodating clockwise rotation of the North American Plate are found throughout the Puget-Willamette Lowland.^{2,3}

The greater Portland Basin is underlain by Columbia River Basalt Group (CRBG) flows consisting of numerous fine-grained volcanic eruptions between approximately 17 million years ago (Ma) and 6 Ma from fissures located in eastern Oregon, eastern Washington, and western Idaho.⁴ These fissures released thousands of square kilometers of lava, inundating areas east of the Cascade Range and entering western Oregon through a Miocene gap in the Cascade Range (present day Columbia Gorge) before reaching the ocean. Magmatic compositions of the CRBG allow the flows to be subdivided into distinct formations that can be further divided into members-based geochemical, paleomagnetic, and lithological properties.

Numerous northwest-trending faults govern the topography within the basin. Uplift and down dropping of crustal blocks have created topographic high points by offsetting regional scale flood basalts and down dropping basement rocks, creating infilled depressions and sediment basins that accommodate the fluvial deposition of Miocene to Pliocene age terrestrial sedimentary rocks (commonly Troutdale Formation or Sandy River Mudstone) over the older CRBG basalt flows.⁵ Of these sedimentary deposits, the Troutdale Formation is the most widespread unit within the basin. These friable to moderately strong conglomerates, with minor interbeds of sandstone and claystone, consist of well-rounded CRBG clasts and other exotic metamorphic and plutonic clasts. Above these conglomerates, younger quaternary deposits have accumulated.

Cyclical Pleistocene age cataclysmic glacial floods deposited sediments and recarved the landscape within the Portland Basin more than 40 times over a 3,000-year timespan.⁶ As floodwaters entered the basin from the Columbia River Gorge, they slowed, depositing suspended sediments and bed loads. Topographic highpoints

¹ Yeats, R. S., Graven, E. P., Werner, K. S., Goldfinger, Chris, and Popowski, T. A. (1996). Tectonics of the Willamette Valley, Oregon, in Rogers, A. M., Walsh, T. J., Kockelman, W. J., and Priest, G. R., eds., *Assessing earthquake hazards and reducing risk in the Pacific Northwest: US Geological Survey Professional Paper 1650*, v. 1, p. 183–222.

² Brocher, T. M., Wells, R. E., Lamb, A. P., and Weaver, C. S. (2017). Evidence for distributed clockwise rotation of the crust in the northwestern United States from fault geometries and focal mechanisms. *Tectonics*, Vol. 36, No. 5, pp. 787–818.

³ US Geological Survey (USGS). (2025). Quaternary fault and fold database for the United States, accessed November 2025, from USGS website: <http://earthquake.usgs.gov/hazards/qfaults/>.

⁴ Beeson, M. H., Tolan, T. L., Madin, I. P. (1991). [Map]. *Geologic Map of the Portland Quadrangle, Multnomah and Washington Counties, Oregon, and Clark County Washington*. Oregon Department of Geology and Mineral Industries. Geologic Map Series (GMS) 75.

⁵ Evarts, R., and O'Connor, J. E. (2008). *Geologic map of the Camas quadrangle, Clark County, Washington, and Multnomah County, Oregon*. US Geological Survey, scientific investigations map 3017, scale 1:24000.

⁶ Burns, W. J., and Coe, D. E. (2012). *Missoula Floods – Inundation Extent and Primary Flood Features in the Portland Metropolitan Area*. Oregon Department of Geology and Mineral Industries, IMS-36.

within the basin deflected floodwaters and generated areas that were scoured and eroded into older sediments and bedrock. These geomorphic features dominate the modern-day landscape and are indistinguishable within the Portland Basin lidar.⁷

Local Geology

Published geologic maps of the area show the majority of the more gentle, upland areas surrounding the site are underlain primarily by fine-grained facies of the Missoula flood deposits.^{8,9} These Pleistocene sediments are described as consisting of unconsolidated, stratified clay, silt, and sand, deposited by cataclysmic floods originating from glacial Lake Missoula, which flowed down the Columbia River and flooded much of the Portland Basin area. The unit is reported to be up to 100 feet thick in the area and deposited over a relict topography of pre-food fluvial terraces and valleys. Sand grains within the unit are generally composed of quartz, muscovite, and feldspars.

Holocene alluvium, described as stratified silt, sand, and minor gravel deposited along active rivers and streams, is mapped primarily along the base of Gee Creek and the unnamed stream channel. While not directly mapped, areas of artificial fill from human development likely exist at shallow depths spread throughout the site as well.

Based on the geologic mapping, mapped along the steeper stream-adjacent slopes and underlying the surficial deposits, are likely Pleistocene or Pliocene Conglomerate. These semi-consolidated pebble- to cobble-sized gravels are described as thick bedded and poorly to moderately well sorted, with clasts most commonly consisting of CRBG, quartzite, or Cascadian volcanic rocks. The unit is reported to have an overall unit thickness of roughly 60 to 100 or more feet with interbedded sand lenses generally less than 5 feet thick (Figure 4). Beneath these gravels, geologic mapping indicates Miocene Sandy River Mudstone, described as light brown to blue-gray claystone, mudstone, sandstone, and/or pebble conglomerate.

Subsurface Conditions

Review of geotechnical test pit and boring logs¹⁰ completed adjacent to the site indicate subsurface conditions consisting of localized topsoil or surficial fill underlain by fine-grained alluvial material (interpreted as primarily Missoula flood deposits), followed by sands with gravels and cobbles (interpreted as weathered conglomerate). Where present, the fill material was described mostly as soft to medium stiff clay to silt with sand, gravel, debris and organic material, and was generally up to 9 feet thick. Underlying the fill or topsoil, native alluvial deposits were described primarily as interbedded clay and silt with sand with highly variable densities, and were anywhere from 5 to 50 feet thick. Below the alluvium, the weathered conglomerate was described as medium dense to

⁷ WADNR (2025). Washington LiDAR Portal. Washington State Department of Natural Resources, Division of Geology and Earth Resources, accessed December 2025 from website: <http://lidarportal.dnr.wa.gov/>.

⁸ Evarts, R. C., Dinterman, Phillip, and Block, Jessica (2004). Geologic Map of the Ridgefield Quadrangle, Clark and Cowlitz Counties, Washington. US Geological Survey. Scientific Investigations Map SIM-2844.

⁹ Wells, R. E., et al. (2020). [Map]. Geologic Map of the Greater Portland Metropolitan Area and Surrounding Region, Oregon and Washington. US Geological Survey. Scientific Investigations Map 3443.

¹⁰ Columbia West Engineering, Inc. (June 2023). Geotechnical Site Investigation – Quail Ridge, Ridgefield, Washington, for Mackay Sposito, Inc. (excerpts, dated June 22, 2023); Columbia West Engineering, Inc. (June 2018). Geotechnical Site Investigation – Cloverhill Subdivision Phases 3 & 4, Ridgefield, Washington, for Fortress Enterprises, Inc. (excerpts, dated June 21, 2018); Columbia West Engineering, Inc. (July 2007); Geotechnical Site Investigation – Kemper Property, Ridgefield, Washington, for Gramor Development, Inc. (excerpts, dated July 30, 2007); Redmond Geotechnical Services (October 29, 2021). Geotechnical Investigation and Geologic Hazard Evaluation Services for Proposed Ridgefield Farm PUD Residential Development Site, Ridgefield, Washington. Prepared for Mr. Andrew Nguyen.

dense clayey to silty sand with gravel and cobbles. Review of available well logs from near the site, available from the Washington State Well Report Viewer, indicated similar subsurface conditions.¹¹

Groundwater

Review of the previously mentioned geotechnical reports indicated perched groundwater at depths ranging from approximately 4 to 16 feet below the existing ground surface (bgs), with one log indicating a static groundwater depth of 40 feet bgs. Regional groundwater mapping by USGS and well logs from near the site indicated similar groundwater depths commonly ranging between 20 to 30 feet bgs, but occasionally at much greater depths, closer to 100 feet bgs.¹² Also note that water is expected to be found at the ground surface along the unnamed stream channel within the roadway alignments. Please note that groundwater levels can fluctuate during the year depending on climate, irrigation season, extended periods of precipitation, drought, and other factors.

GEOLOGIC HAZARDS

Geologic and seismic hazards are defined as those conditions associated with the geologic and seismic environment that could influence existing and/or proposed improvements. Geologic and seismic hazards that could affect the site’s development are identified below and should be considered during the planning process. Apex reviewed GIS layers within the Washington Geologic Information Portal and Clark County GIS portal, and associated reports to assess potential geologic hazards for the study area.^{13,14} In general, the geologic and seismic hazards most commonly associated with the physical and chemical characteristics of near-surface soil, rock, and groundwater include the following:

- | | | |
|--------------------------|---------------------------------------|--|
| • Slope stability | • Hydrology and drainage | • Volcanic hazards |
| • Adverse soils | • Hazardous minerals | • Permafrost and freeze-thaw |
| • Land subsidence | • Erosion and sedimentation | • Seismic hazards (liquefaction, lateral spreading, earthquake-induced landslides, ground shaking , fault ground rupture, tsunamis, and seiches) |
| • Subsurface voids | • Hydrogeology and groundwater | |

Those shown in bold above are geologic and seismic hazards that could affect the site development and should be considered in the planning process. Ground shaking is a geologic hazard at the site related to seismicity, which is discussed further in the following sections.

In general, similar soil types and slope conditions will be encountered along portions of both alignments. The risks associated with slope stability and erosion can likely be addressed with appropriate design and standard construction procedures. The seismic liquefaction hazard is limited to small portions at the bottom of some ravines. This will be evaluated on a case-by-case basis and could be mitigated with a bridge that spans those materials or by removing/replacing or improving those soils under culverts; fewer or shorter ravine crossings will result in the least geotechnical risk. The currently proposed alignments have been developed to cross the ravines directly and avoid ravines if and where possible.

¹¹ Washington State Well Report Viewer, Department of Ecology, Accessed January 2026. Well Log Records: <https://apps.wa.gov/ecology/wellconstruction/map/WCLSWebMap/>
¹² Snyder, D. T. (2008). Estimated Depth to Ground Water and Configuration of the Water Table in the Portland, Oregon Area. US Geological Survey. Scientific Investigations Report 2008-5059.
¹³ Washington State DNR (2026). [Interactive Map]. Geologic Information Portal, Department of Natural Resources: <https://dnr.wa.gov/washington-geological-survey/publications-and-data/geologic-information-portal>. Accessed January 2026.
¹⁴ Clark County. (2026). [Interactive Map]. MapsOnline. <https://gis.clark.wa.gov/mapsonline/>. Accessed January 2026.

Slope Stability

Slope stability is influenced by various factors including: (1) the geometry of the soil mass and subsurface materials, (2) the weight of materials overlying a potential failure surface, (3) the shear strength of soils along the failure surface, and (4) the hydrostatic pressure (groundwater levels) along the failure surface. The stability of a slope is expressed in terms of factor of safety (FS), which is defined as the ratio of resisting forces to driving forces. At equilibrium, the FS is equal to 1.0 and the driving forces are balanced by the resisting forces. Failure occurs when the driving forces exceed the resisting forces, i.e., FS less than 1.0. An increase in the FS above 1.0, whether by increasing the resisting forces and/or decreasing the driving forces, reflects a corresponding increase in the stability of the mass. The actual FS may differ from the calculated FS due to uncertainty in soil strengths, subsurface geometry, failure surface location and orientation, groundwater levels, and other factors that are not completely known or understood.

Review of the GIS layers within the Washington Geologic Information Portal indicates no mapped landslides are within or adjacent to the proposed roadway alignment sites. However, based on a review of the Clark County GIS Portal and USGS landslide susceptibility mapping,¹⁵ much of the site areas within the unnamed stream valley containing steeper, higher-gradient slope breaks are shown as having a moderate to high susceptibility to shallow landsliding (Figure 5). These areas of potential instability are shown as having slope gradients of generally 40 to 80% slope. The project design may incorporate cut slopes that create flatter slopes or retaining walls designed to safely support steeper slopes.

Earthquake-Induced Landslides

Earthquake-induced landslides are landslides that occur concurrently or shortly after shaking from an earthquake. They can occur within slopes that have no evidence of past landslides and can reactivate existing landslides that may appear to be in a stable state. The magnitude of the earthquake, proximity to the active fault, and the duration of shaking are the greatest factors impacting the seismic stability of slopes. A code-based Cascadia Subduction Zone (CSZ) earthquake is expected to produce very strong to severe shaking throughout Western Washington. Due to the existence of higher-gradient slope breaks within the site as shown on Figure 4, the risk of earthquake-induced landslides is present within these localized areas of steeper slopes.

Expansive Soils

Clay soils with moderate to high plasticity were encountered in some of the exploration logs reviewed. The presence of these soils could negatively affect new foundations in areas at the site if not mitigated.

Erosion

Both alignments cross existing ravines. Mapping of the severe erosion hazard is based on areas identified by the US Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) as having a moderate to severe, severe, or very severe rill and inter-rill erosion hazard. Rill erosion tends to occur on slopes, particularly steep slopes, with easily erodible soils or poor vegetation. Erosion hazard areas also include those areas with slopes greater than 15%. Most slopes adjacent and within the ravines will exceed 15%. Erosion can be limited and controlled during construction by planning work for dry conditions and implementing measures such as silt fences, hay bales, straw wattles, and erosion matting. A mapped severe erosion hazard does not significantly limit construction or preclude development in those areas.

¹⁵ US Landslide Inventory and Susceptibility Map [Interactive map and database]. USGS, February 3, 2025. <https://www.usgs.gov/tools/us-landslide-inventory-and-susceptibility-map>. Accessed January 2026.

Seismicity and Faulting

Seismic Sources

Several types of seismic sources exist in the Pacific Northwest, which are outlined below. Volcanic sources beneath the Cascade Range are not considered further in this study, as they rarely exceed about M=5.0 in size and are not considered to pose a significant ground-shaking hazard to the project site.

Historical Seismicity

Regional historical seismicity information was acquired from the Advanced National Seismic System (ANSS) Comprehensive Catalog, hosted by the Northern California Earthquake Data Center (NCEDC), and is presented on Figure 6. These data include earthquakes with magnitudes exceeding M 2.5, within a 150-km radius of the city of Ridgefield, Washington, and recorded between 1963 and 2017.¹⁶ Magnitudes within the ANSS dataset are recorded as local magnitude, surface-wave magnitude, body-wave magnitude, moment magnitude, and magnitude of completeness.

Cascadia Subduction Zone (CSZ) – Interface Earthquakes

The CSZ represents the boundary between the subducting Juan de Fuca tectonic plate and the overriding North American tectonic plate (Figure 7). Recurrence intervals for subduction zone earthquakes are based on studies of the geologic record, with studies estimating a recurrence interval between 500 to 530 years.¹⁷ Geologic evidence and written records from Japan suggest the most recent earthquake occurred in January 1700. The 1700 earthquake probably ruptured much of the approximate 620-mile (1,000 km) length of the CSZ and was estimated at moment magnitudes of MW 9.0. The horizontal distance from the edge of the CSZ megathrust is located approximately 125 miles from Ridgefield, Washington. The current US Geological Survey risk-based maximum credible earthquake for CSZ megathrust is MW 9.0±0.2.¹⁸

Intraslab Earthquakes

Intraslab earthquakes occur within the subducting slab. They are problematic in the sense that they do not have a surface expression or rupture the ground surface and their seismicity generates deformation along many faults within the slab.¹⁹ The CSZ has generated significant intraslab destructive earthquakes including the 2001 MW 6.8 Nisqually earthquake in the Puget lowland. The estimated depth to the subducting Juan de Fuca plate under Ridgefield, Washington, is approximately 28 miles (40 km) and should therefore be considered as a seismic source.²⁰

¹⁶ NCEDC (2017). Northern California Earthquake Data Center. UC Berkeley Seismological Laboratory. Dataset. doi:10.7932/NCEDC.

¹⁷ Goldfinger, C., Nelson, C. H., Morey, A. E., Johnson, J. E., Patton, J. R., Karabanov, E., ...Vallier, T. (2012). Turbidite Event History—Methods and Implications for Holocene Paleoseismicity of the Cascadia Subduction Zone. US Geological Survey. Professional Paper 1661-F.

¹⁸ US Geological Survey (USGS). (2008). Earthquake hazards program: Conterminous states probabilistic maps and data. <https://pubs.er.usgs.gov/publication/sim3325>.

¹⁹ Kirby, S., Wang, K., and Dunlop, S. (2002). The Cascadia Subduction Zone and Related Subduction Systems – Seismic Structure, Intraslab Earthquakes and Processes, and Earthquake Hazards. US Geological Survey Open File Report 02-328 and Geological Survey of Canada Open File 4350.

²⁰ Blair, J. L., McCrory, P. A., Oppenheimer, D. H., and Waldhauser, F. (2011, revised 2013). A Geo-referenced 3D model of the Juan de Fuca Slab and associated seismicity: US Geological Survey Data Series 633, v.1.2, <https://pubs.usgs.gov/ds/633/>.

Crustal Earthquakes and Faults

Review of the US Geological Survey Quaternary Fault and Fold Database indicates the site is within close proximity (less than 25 km) to Quaternary faults (Figure 8). Due to their proximity, the crustal faults are contributing seismic sources for severe ground motion and shaking within the Vancouver metropolitan area.

Table 1. Faults within the Site Vicinity

Fault Zone Name	Fault ID	Approximate Distance to Site (Surface Projection in km)
Portland Hills fault	877	13
Lacamas Lake fault	880	18
East Bank fault	876	20
Oatfield fault	875	20

Liquefaction Potential

Liquefaction is defined as a decrease in the shear resistance of loose, saturated, cohesionless soil (e.g., sand) or low plasticity silt soils, due to the buildup of excess pore pressures generated during an earthquake. This results in a temporary transformation of the soil deposit into a viscous fluid. Liquefaction can result in ground settlement, foundation bearing capacity failure, and lateral spreading of ground.

Based on a review of the Clark County GIS Portal, the proposed alignments are shown as primarily having a very low to low liquefaction hazard, with small sections within the bottom of the ravines having low to moderate liquefaction hazard (Figure 9). Site-specific geotechnical explorations and analyses are necessary to evaluate the site-specific risk of liquefaction.

Other Seismic Hazards

Other site-specific seismic hazards considered include earthquake-induced landslides, fault rupture, seiche and tsunami inundation, and earthquake shaking. Based on the gentle to moderate surface topography within the majority of the proposed alignments, the risk from landslides is generally low, but should be considered high within the localized steeper-gradient slope segments around the unnamed stream valley, as previously noted. Due to the location of the site, the risks of seiche and tsunami inundation are absent. Though faults are mapped within less than 15 kilometers of the site, no faults are mapped as crossing the site; subsequently, the risk of fault rupture at the site is low. Very strong to severe earthquake ground shaking could occur during a code-based seismic event on the CSZ and from local faults. Shaking duration during a CSZ event is expected to last for 5 to 7 minutes along the coast, decreasing inland to around 2 minutes closer to Portland and Seattle.^{21,22} Based on our current project understanding, our opinion is that effects of earthquake ground motions can be accounted for by using code-based design procedures and the code-based design response spectrum for most structure types/sizes.

²¹ Hickey, Hannah (2017). 50 Simulations of the ‘Really Big One’ Show How a 9.0 Cascadia Earthquake Could Play Out. UW News, University of Washington.
²² Oregon Department of Emergency Management: Cascadia Subduction Zone: Hazards and Preparedness. Accessed January 2026 from website: <https://www.oregon.gov/oem/hazardsprep/pages/cascadia-subduction-zone.aspx>.

Flooding

Flooding occurs when local creeks, streams, rivers, and bays are not able to transfer water away from a local area faster than the rate of accumulating water. This can occur on a local or regional scale and is highly variable based upon the configuration of individual watersheds. In the context of the Columbia River, distant upland precipitation or rapid snowmelt can have significant impact far downstream where the weather may be different. Regardless, destruction of land, infrastructure, and personal property can occur when banks, levees, and flood plains are inundated with stormwater or rapid snowmelt.

Review of available FEMA National Flood Hazard maps indicate the base of the unnamed stream valley, at the west/red alignment, is within the mapped floodway (Figure 10).

Geologically Hazardous Areas

In addition to the previously described hazard review, Apex reviewed the Clark County GIS layers and identified the following geologic hazards within the project corridors: (1) severe erosion hazard and (2) steep slope hazards. We have compiled the Clark County Code 40.430.010 hazard definitions below and used **bold** to indicate portions of the code that apply to this site based on review of Clark County GIS layers and our own interpretations and professional judgment.

1. Steep slope hazard area CCC 40.430.010 (C) (1)

- **An area where there is not a mapped or designated landslide hazard, but where there are steep slopes equal to or greater than forty percent (40%) slope.** Steep slopes, which are less than ten (10) feet in vertical height and not part of a larger steep slope system, and steep slopes created through previous legal grading activity are not regulated steep slope hazard areas. The presence of steep slope suggests that slope stability problems are possible.

2. Landslide hazard area CCC 40.430.010 (C) (2)

- **An area that, due to a combination of slope inclination, soil type, and presence of water is susceptible to landsliding in accordance with the following criteria:**
 - **Areas of previous slope failures including areas of unstable old or recent landslides**
 - **Areas with all three (3) of the following characteristics:**
 - **Slopes steeper than fifteen percent (15%),**
 - **Hillsides intersecting geologic contacts with permeable sediment overlying a low permeability sediment or bedrock, and**
 - **Any springs or groundwater seepage**
 - Slopes that are parallel or sub-parallel to planes of weakness, such as bedding planes, joint systems, and fault planes in subsurface materials.
 - **Areas mapped by:**
 - **Washington Department of Natural Resources Open File Report: Slope Stability of Clark County, 1975, as having potential instability,** historical or active landslides, or as older landslide debris, and
 - The Washington Department of Natural Resources Open File Report Geologic Map of the Vancouver Quadrangle, Washington and Oregon, 1987, as landslides

- o Slopes greater than eighty percent (80%), subject to rock fall during earthquake shaking
- o **Areas potentially unstable as a result of rapid stream incision, stream bank erosion, and stream undercutting the toe of a slope**
- o **Areas located in a canyon or on an active alluvial fan, presently or potentially subject to inundation by debris flows, debris torrents, or catastrophic flooding**
- o Areas within one hundred (100) feet of an open-pit mine sites subject to steep slope hazard or landslide hazard.

3. Seismic hazard area CCC 40.430.010 (C) (3)

- An area subject to severe risk of damage as a result of earthquake-induced soil liquefaction, ground shaking amplification, slope failure, settlement, or surface faulting. Relative seismic hazard is mapped on the NEHRP Site Class Map of Clark County, published by the Washington Department of Natural Resources.

4. Volcanic hazards area CCC 40.430.010 (C) (4)

- An area subject to possible low- and high-density pyroclastic flows as shown on the Volcanic Hazard Map of Clark County.

PRELIMINARY GEOTECHNICAL RECOMMENDATIONS

Geotechnical Design Considerations

Based on our literature and document review and experience in the area, construction of the proposed alignments appear geotechnically feasible. Most of the following will need to be considered for both alignments, although the extent of each of these that apply to each alignment will vary. For example, the west alignment traverses steep slopes before arriving at the ravine crossing, likely resulting in more—and more complicated—retaining walls. The east alignment approaches the ravine perpendicularly, which may allow the use of more conventional, engineered fill slopes, fewer retaining walls, and less risk to the stability of existing slopes.

- **Slope Stability** – Due to the need to cross through a steep ravine for both alignments, careful consideration of the alignment and site grading will be required to limit the risk of slope instability for both temporary conditions during construction and the for the final configuration. This should include consideration of existing slopes, and graded cut and fill slopes.
- **Settlement** – If a culvert down at the stream elevation is considered, fill of 30 to 40 feet over that structure could be required. Even with competent soils, fill thicknesses of that magnitude can result in settlement that may not be tolerable to the structure. Depending on magnitude of allowable/tolerable settlement, installing structures on deep foundations or improving site soils to support fill loads while limiting settlement may be necessary.
- **Groundwater** – Previous subsurface explorations reviewed during our research indicate that groundwater may be present at variable depths along the proposed alignments. Groundwater depths generally ranged from 4 to 16 feet bgs, with depths as deep as 40 feet bgs reported in the area. Depending on site grading, cuts at the top of the ravine could possibly encounter groundwater.
- **Liquefaction** – Based on review of hazard maps and previous reports completed for sites in the project area, the risk of liquefaction appears to be generally low due to the type of soils present. This does not mean potentially liquefiable soils are not present, and site-specific evaluation is required to evaluate the hazard.

- **Excavation/Bedrock** – Excavation of near-surface soils using conventional equipment is expected to be feasible at the higher elevations. However, excavation completed within the ravines or deep foundations that reach the lower elevation of the ravine may encounter conglomerate that may behave like bedrock when drilled or excavated.

The preliminary recommendations provided herein are for planning purposes only and should not be used for final design. Site-specific subsurface exploration and geotechnical analyses will be required to support the planned redevelopment.

Retaining Walls

Types of Retaining Walls

Based on our understanding of the inclination of site slopes, proposed alignments, and anticipated site grading, we anticipate the use of modular block or MSE (mechanically stabilized earth) retaining walls may not be feasible, and top-down walls, such as soldier pile and lagging with tiebacks or soil nail walls, may be required.

Modular Block/MSE

Depending on site constraints, including slope inclinations, alignment topography, and site grading, modular block or MSE retaining walls are generally the most economical.

Modular block retaining walls use interlocking, dry-stacked concrete blocks (often with geogrid reinforcement for taller walls) to create durable, flexible structures that support structures and slopes by terracing or creating level ground on slopes, offering versatility in design, cost-effectiveness, and ease of installation. These systems rely on block mass, mechanical interlock, and soil friction for stability, providing ground support without mortar or steel reinforcing. However, the mass of the block and backfill (or reinforced backfill) can be difficult to both accommodate on steep slopes and maintain required factors of safety for slope stability.

An MSE wall is a sound, flexible retaining structure constructed using layers of soil, reinforcing strips (geogrids or metal straps), and a facing (like concrete panels, or wire mesh) to create a reinforced mass of soil/gravel that supports slopes, bridge abutments, and embankments, acting as a composite gravity structure that depends on the strength of site soils and tension of the reinforcing within the soil mass for stability. Similar to modular block walls, the use of reinforced soil can result in a large mass that overloads already steep slopes, making them challenging for use on steep slopes with low to moderate strength soils.

Soldier Pile Wall (with Tiebacks)

Soldier pile walls are generally constructed using steel H-piles placed into augered holes drilled at intervals along the wall alignment. The holes are then backfilled with weak concrete. The soil in front of the wall is excavated from the top down for cut walls. As the soil is exposed, the weak concrete is chipped away and lagging is fitted between the H-piles. Lagging may be inserted behind the flanges or attached to the face of the flanges. The lagging usually consists of wood planks, steel plates, or pre-cast concrete panels. The soil is temporarily supported by arching between adjacent steel H-piles until the lagging is installed; however, soft/loose soils (and undocumented fill) common to the site vicinity typically slough into the excavation until the lagging is installed, and soil is in contact with the lagging. For fill applications, the lagging can be placed, above grade, then backfill placed up against the lagging.

Tieback soil anchors are installed to provide additional lateral resistance. They can be provided at any location along the wall, but are most commonly installed in rows after excavation reaches certain design levels. Their

location, number, and capacities are designed to provide the lateral load capacity needed to resist the applied earth pressures with a suitable factor of safety. Please note that the potential settlement of surrounding soils is highly dependent on the contractor's approach to constructing the wall, and some additional risk is thereby incurred.

These walls provide high strength that can be increased by using larger piles and larger/deeper tiebacks. They generally result in less disturbance to existing slopes when compared with modular block or MSE walls that require significant excavation to accommodate the reinforced backfill required for stability.

Soil Nail Walls

Soil nail retaining walls are a system that reinforces in-place soil and soil slopes using grouted steel bars (nails) installed in near-horizontal holes, installed on a grid at the wall face, creating a strong composite soil mass. Similar to soldier pile and lagging retaining walls, soil nail walls are typically built top-down by excavating in stages and applying a shotcrete facing with mesh to provide stability and create the wall face. Soil nail walls are frequently used to support existing and graded slopes and are conducive for construction where access is limited. In general, steeper and taller slopes would require longer and more closely spaced nails than shorter slopes.

Soil nail walls can be more economical than soldier pile walls in many applications and are generally flexible in terms of alignment, height, and inclination.

Shallow Foundations for Bridges and Culverts

Shallow foundations are more economical than deep foundations and are therefore typically considered before considering more expensive, deep foundations. Depending on the magnitude of site grading, shallow spread footings bearing on native medium-stiff to medium-dense soils (or better) may not be feasible for structure support while providing sufficient bearing resistance and limiting settlement to tolerable magnitudes. Similarly, the loads from bridges will likely exceed the capacity of shallow foundations on slopes to provide adequate bearing resistance.

As the design advances, Apex should be consulted to review the type, size, configuration, and location of proposed structures in order to refine foundation design recommendations.

Preliminary Design Bearing Pressure

Preliminary evaluations suggest that allowable bearing pressures in the range of 1,500 to 3,000 pounds per square foot (psf) may be appropriate for preliminary sizing of shallow footings, depending on soil conditions confirmed by future site-specific explorations.

Deep Foundations for Bridges and Culverts

The type, size, and length of deep foundation elements will depend on the soil and bedrock profile, as well as the structural loads and configuration of the proposed development. Based on our understanding that culverts or bridges could be implemented, and due to the anticipated loads and slope conditions, we expect that deep foundations could be required to support the planned crossing structures. We anticipate that these would likely consist of drilled deep foundations such as drilled shafts, augercast piles, or micropiles, all of which are feasible for the anticipated subsurface conditions.

Code-Based Seismic Design Criteria

Apex anticipates that the seismic design criteria for new structures associated with the planned new roadways will be established in accordance with AASHTO LRFD, WSDOT BDM, and the WSDOT GDM.²³

The seismic design parameters are primarily governed by the representative site classification, which is determined from the weighted average shear wave velocity, standard penetration resistance (SPT N-value), or undrained shear strength within the upper 100 feet of the subsurface profile.

Based on review of the Washington Department of Natural Resources Geologic Information Portal, the sites are generally mapped as Site Class C or D. However, site-specific subsurface exploration and testing will be required to confirm the actual site classification for design purposes.

CONSTRUCTION CONSIDERATIONS

Site Preparation

The site redevelopment may involve demolition of existing structures. Demolition should include removing existing pavement, utilities, etc., throughout the proposed new structure areas. Underground utility lines or other abandoned structural elements should also be removed. The voids resulting from removal of foundations or loose soil in utility lines should be backfilled with compacted structural fill. The base of these excavations should be excavated to stiff native subgrade before filling, with sides sloped at a minimum of 1H:1V (horizontal to vertical) to allow for uniform compaction. Materials generated during demolition should be transported off site or stockpiled in areas designated by the owner's representative.

Wet/Freezing Weather and Wet Soil Conditions

Construction equipment could have difficulty operating on the near-surface soils when the moisture content of the surface soil is more than a few percentage points above the optimum moisture required for compaction. Soils disturbed during site preparation activities, or unsuitable areas identified during proofrolling or probing, should be removed and replaced with compacted structural fill.

Site earthwork and subgrade preparation should not be completed during freezing conditions, except for mass excavation to the subgrade design elevations.

Protection of the subgrade is the responsibility of the contractor. Construction of granular haul roads to the project site entrance may help reduce further damage to the pavement and disturbance of site soils. The actual thickness of haul roads and staging areas should be based on the contractors' approach to site development, and the amount and type of construction traffic. The imported granular material should be placed in one lift over the prepared undisturbed subgrade and compacted using a smooth-drum, non-vibratory roller. A geotextile fabric should be used to separate the subgrade from the imported granular material in areas of repeated construction traffic. The geotextile should meet Washington State Department of Transportation (WSDOT)²⁴ standard specification (SS) Section SS 9-33.2 – Geosynthetic Properties for soil separation or stabilization. The geotextile

²³ AASHTO LRFD. (2020). Load-and-Resistance Factor Design Bridge Design Specifications. American Association of State Highway and Transportation Officials; Washington State Department of Transportation (WSDOT BDM). (2024). Bridge Design Manual (LRFD), M 23-50.24, Olympia, Washington; Washington State Department of Transportation (WSDOT GDM). (2022). Geotechnical Design Manual, M 46-3, Olympia, Washington.

²⁴ Washington State Department of Transportation (WSDOT SS). (2026). Standard Specifications for Road, Bridge, and Municipal Construction, M 41-10, Olympia, Washington..

should be installed in conformance with WSDOT SS 3-09.3 – Construction Geosynthetic (Construction Requirements) and, as applicable, WSDOT SS 3-09.3(2) – Separation or WSDOT SS 3-09.3(3) – Soil Stabilization.

Excavation

We expect near-surface soils at the site could be excavated with conventional earthwork equipment. Depending on the depth of site excavation, additional equipment may be required to advance excavations through the harder rock. For the purposes of this report, rock excavation would apply to subsurface materials that require systematic drilling and blasting or the use of a pneumatic rock hammer that cannot be excavated with a CAT 235 excavator, or equivalent, equipped with rock teeth. The project schedule and budget should include a contingency for rock excavation and increased backfill volumes. Apex should be retained to review the grading and utility plans when they are available for comparison with encountered field conditions. Additional work may be required to better define the impact on the project.

On-Site Soil

We expect that on-site soils may be generally suitable for placement as structural fill for mass grading to raise the site during moderate, dry weather when moisture contents can be maintained by air drying and/or addition of water; however, site-specific subsurface explorations are necessary to verify this.

ADDITIONAL SERVICES

If the project moves forward, Apex should be retained to complete site-specific explorations and prepare a full design-level geotechnical engineering report for final project design.

LIMITATIONS

The preliminary information in this report can be used for project planning but should not be used during design. Our services did not include site-specific explorations or design recommendations. If the project moves forward, a full design-level geotechnical engineering report, including site-specific explorations, will be required.

This geotechnical feasibility report has been prepared for the exclusive use of the addressee, and their architects and engineers, for aiding in the planning phase of design and construction of the proposed development and is not to be relied upon by other parties. It is not to be photographed, photocopied, or similarly reproduced, in total or in part, without express written consent of the client and Apex.

The preliminary opinions, comments, and conclusions presented in this report are based upon information derived from our literature review.

It is possible that soil, rock, or groundwater conditions could vary from nearby sites, and therefore, site-specific subsurface explorations are essential to finalize our preliminary recommendations.

The scope of work for this preliminary geotechnical report did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous substances in the soil, surface water, or groundwater at this site.

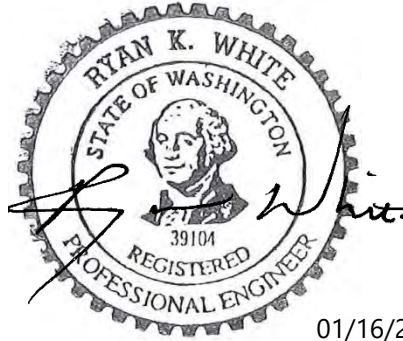
CLOSING

We trust this report meets your current needs. Please contact Ryan White at 503.417.7608 or Ryan.White@apexcos.com with any questions or comments.

Sincerely,



Jack Powell, LG
Project Geologist



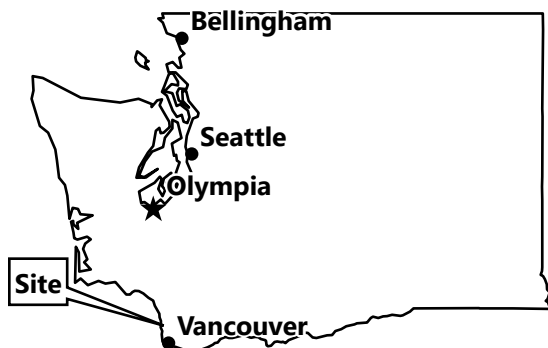
01/16/2026

Ryan White, PE, GE (OR)
Principal Geotechnical Engineer

Attachments: Figure 1. Vicinity Map
Figure 2. Site Plan
Figure 3. Elevation Map
Figure 4. Geologic Map
Figure 5. Slope Map
Figure 6. Historical Seismicity
Figure 7. Tectonic Setting of the Pacific Northwest
Figure 8. Regional Fault Map
Figure 9. Liquefaction Map
Figure 10. Floodplain Map

JP:RW:rg

Figures



35TH AVENUE EXTENSION RIDGEFIELD, WASHINGTON

DATE: JAN 2026 · PROJECT: 25005550



FIGURE

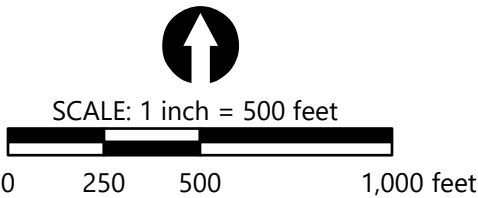
1



EXPLANATION

- Approximate western proposed roadway alignment
- Approximate eastern proposed roadway alignment

Notes: Google Earth 2024 imagery
Coordinate System: NAD 1983 2011 StatePlane
Washington South FIPS 4602 Ft US



SITE PLAN

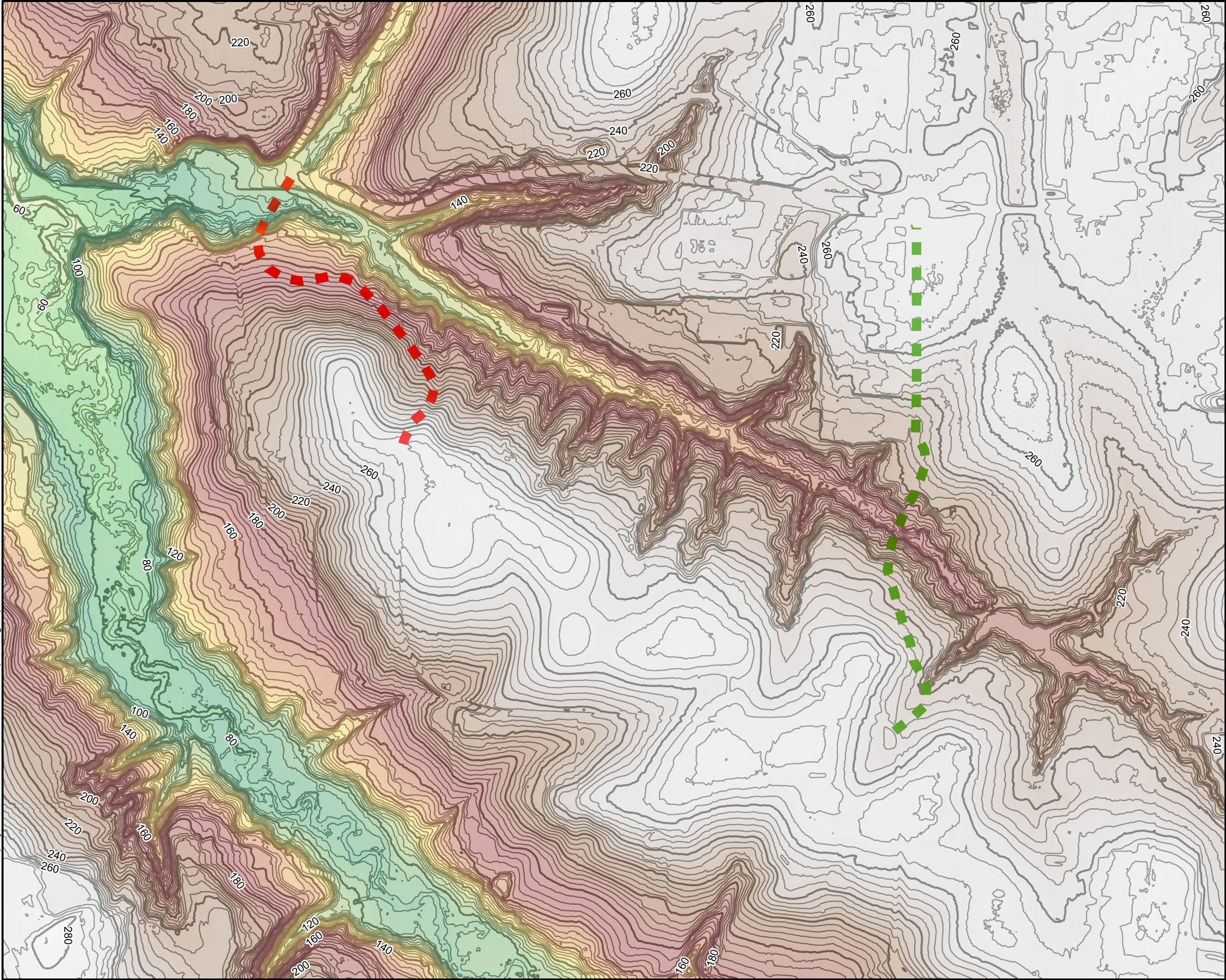
35TH AVENUE EXTENSION
RIDGEFIELD, WASHINGTON

DATE: JAN 2026 · PROJECT: 25005550



FIGURE

2



EXPLANATION

- West roadway alignment
 - East roadway alignment
 - 4ft elevation contour (NAVD 88)
 - Digital elevation model (feet, NAVD 88)
- 300
- 0

Notes: Contours, hillshade, and slope derived from lidar retrieved from WADNR Lidar Portal

Coordinate System: NAD 1983 2011 StatePlane Washington South FIPS 4602 Ft US



SCALE: 1 inch = 500 feet

0 250 500 1,000 feet

ELEVATION MAP

35TH AVENUE EXTENSION
RIDGEFIELD, WASHINGTON

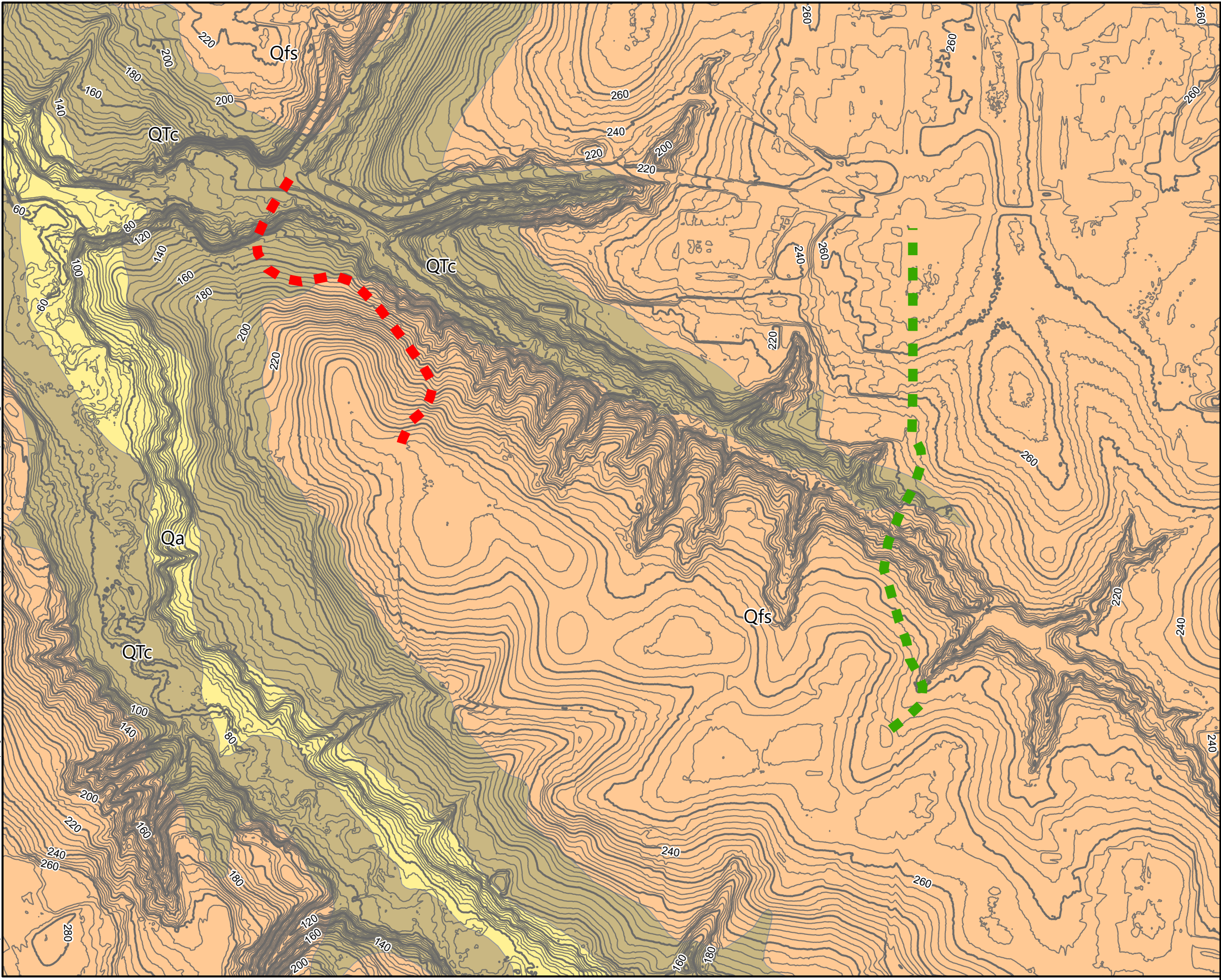
DATE: JAN 2026 · PROJECT: 25005550



FIGURE

3

Path: \\apexcos.local\PBS_L\Gis\GEOTECH-GIS\project\25005550\25005550_Hazard_Apex_Logo.aprx User: varqatavangar Date Saved: 1/13/2026 6:19 PM



EXPLANATION

- West roadway alignment
- East roadway alignment
- 4ft elevation contour (NAVD 88)
- Pleistocene/Pliocene Conglomerate (QTc)
- Holocene Alluvium (Qa)
- Pleistocene Flood Deposits (Qfs)

Notes: Contours derived from lidar DEM retrieved from WADNR

Geologic units and structures: DOGAMI Geologic Mapping or Washington Geologic Information Portal

Coordinate System: NAD 1983 2011 StatePlane Washington South FIPS 4602 Ft US



SCALE: 1 inch = 500 feet
0 250 500 1,000 feet

GEOLOGIC MAP

35TH AVENUE EXTENSION
RIDGEFIELD, WASHINGTON

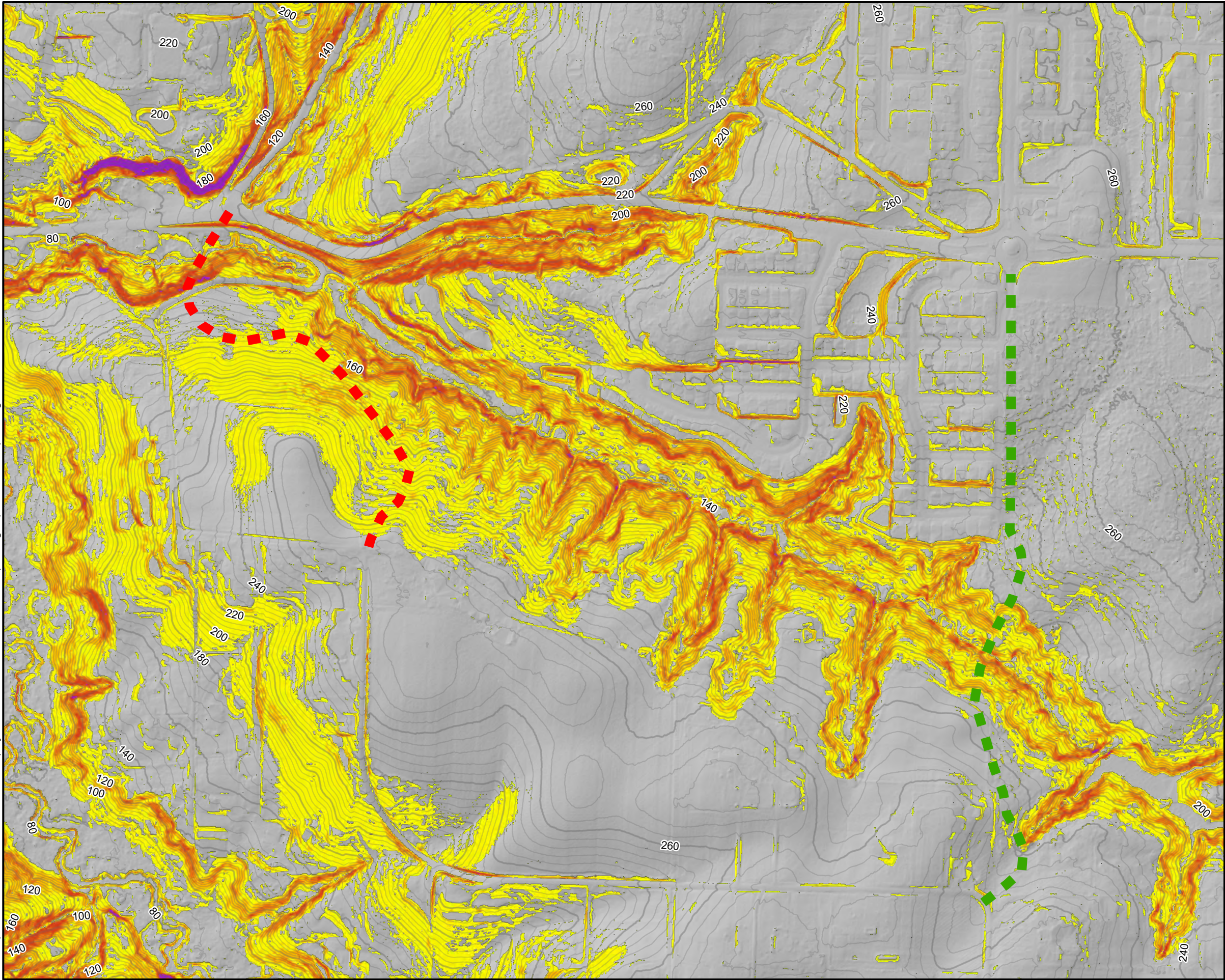
DATE: JAN 2026 · PROJECT: 25005550



FIGURE

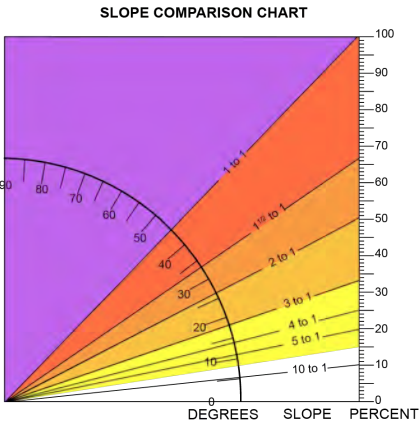
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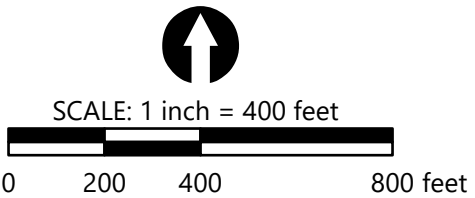
EXPLANATION

- West roadway alignment
- East roadway alignment
- 4ft elevation contour (NAVD 88)
- 15 - 33% (<3:1)
- 33 - 50% (3:1 - 2:1)
- 50 - 66.7% (2:1 - 1.5)
- 66.7 - 100% (1.5:1 - 1:1)
- >100% (1:1)



Notes: Contours, hillshade, and slope derived from lidar retrieved from WADNR

Coordinate System: NAD 1983 2011 StatePlane
Washington South FIPS 4602 Ft US



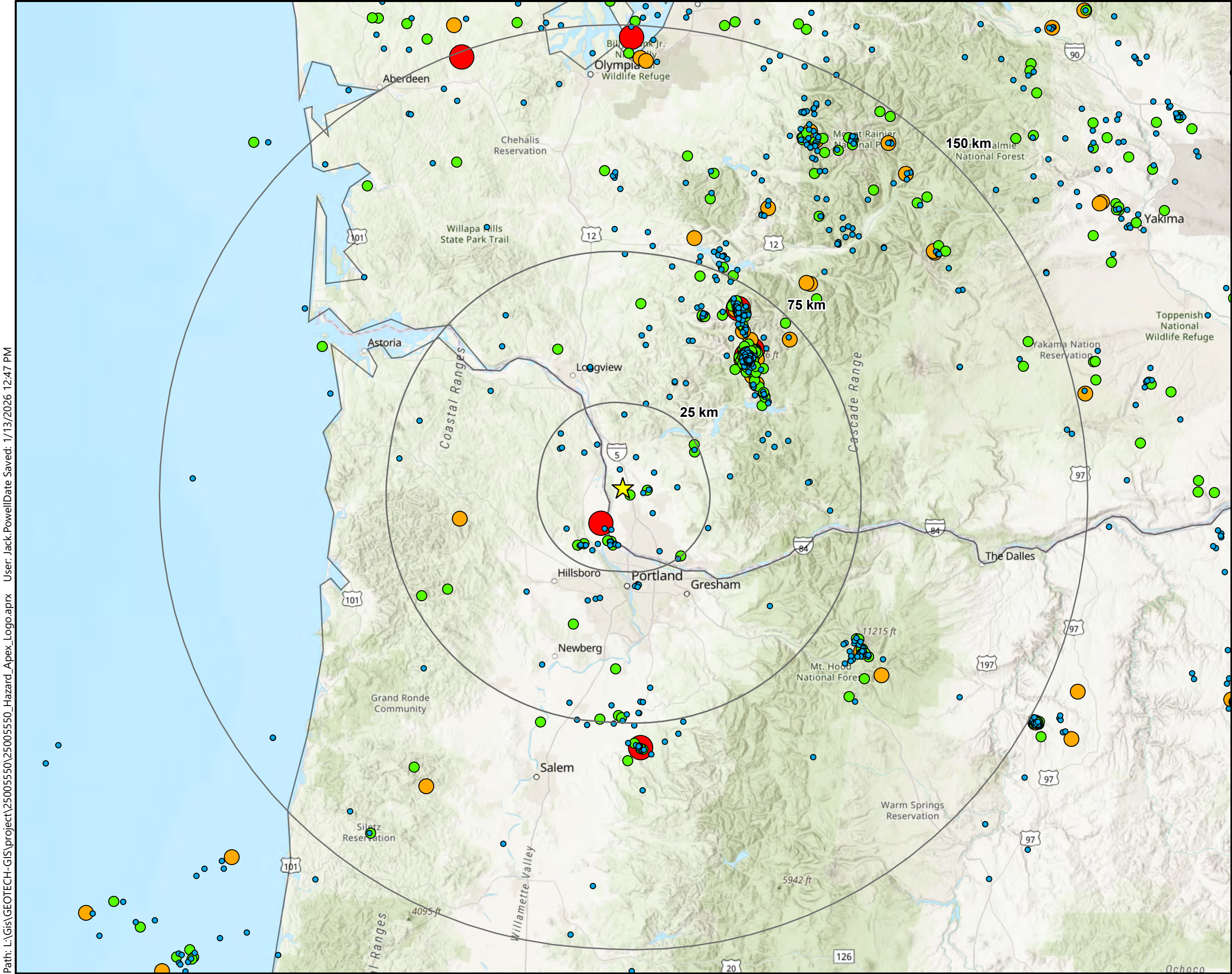
SLOPE MAP

35TH AVENUE EXTENSION
RIDGEFIELD, WASHINGTON

DATE: JAN 2026 · PROJECT: 25005550



FIGURE
5



EXPLANATION

★ Site location

○ Site proximity buffer (km)

Independent seismicity (1963 - 2017)

- M 2.5 - 3.0
- M 3.1 - 4.0
- M 4.1 - 5.0
- M > 5.1

Notes: Historical seismicity compiled from ANSS Comprehensive Earthquake Catalog

Coordinate System: NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

SCALE: 1 inch = 20 mi

0 10 20 40 Miles

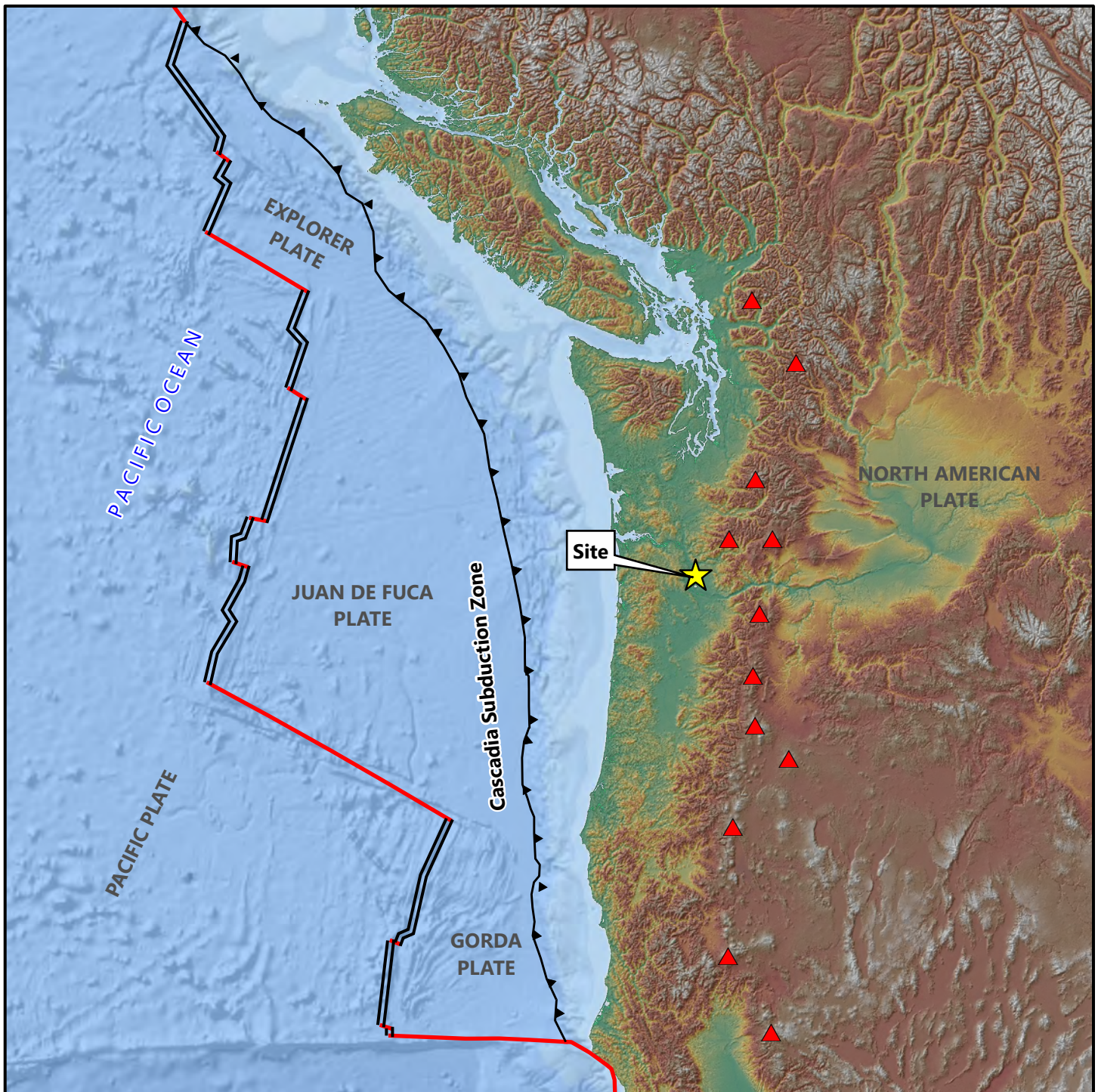
HISTORICAL SEISMICITY

**35TH AVENUE EXTENSION
RIDGEFIELD, WASHINGTON**

DATE: JAN 2026 · PROJECT: 25005550

FIGURE

6



EXPLANATION

-  Active volcano
-  Transform boundary
-  Spreading ridge
-  Thrust fault

Notes: SRTM 30-meter DEM, ESRI World Oceans Basemap, USGS Tectonic Plate Boundaries

TECTONIC SETTING OF THE PACIFIC NORTHWEST

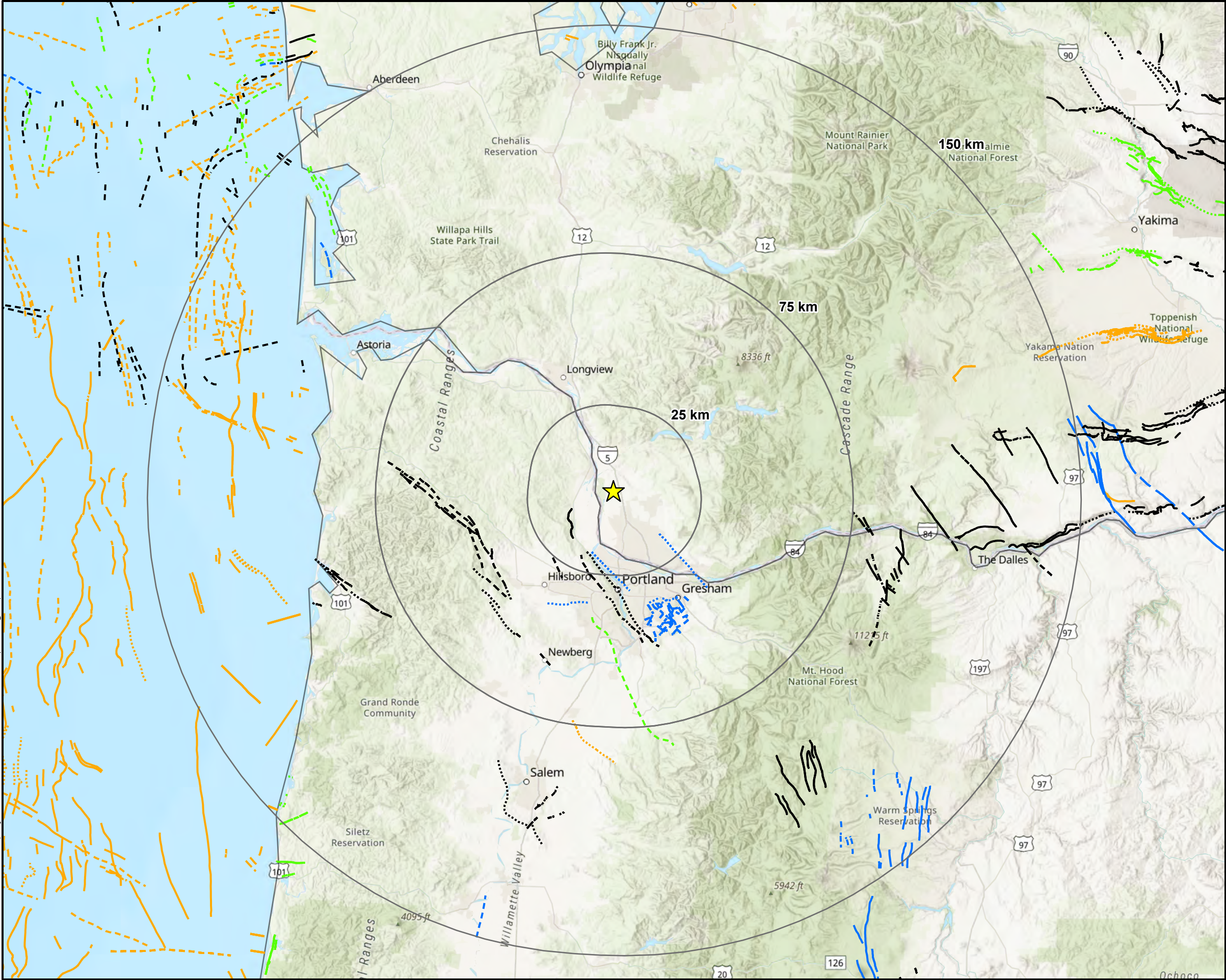
35TH AVENUE EXTENSION
RIDGEFIELD, WASHINGTON

DATE: JAN 2026 · PROJECT: 25005550



FIGURE

7



Site location

Site proximity buffer (km)

Fault trace - solid where well constrained, dashed where moderately constrained, and dotted where inferred

<15,000 years - latest Quaternary

<130,000 years - late Quaternary

<750,000 years - middle and late Quaternary

<1.6 million years - undifferentiated Quaternary

Notes: ESRI World Topographic basemap, USGS Quaternary Faults and Fold Database

Coordinate System: NAD 1983 2011 StatePlane Washington South FIPS 4602 Ft US



SCALE: 1 inch = 20 mi



REGIONAL FAULT MAP

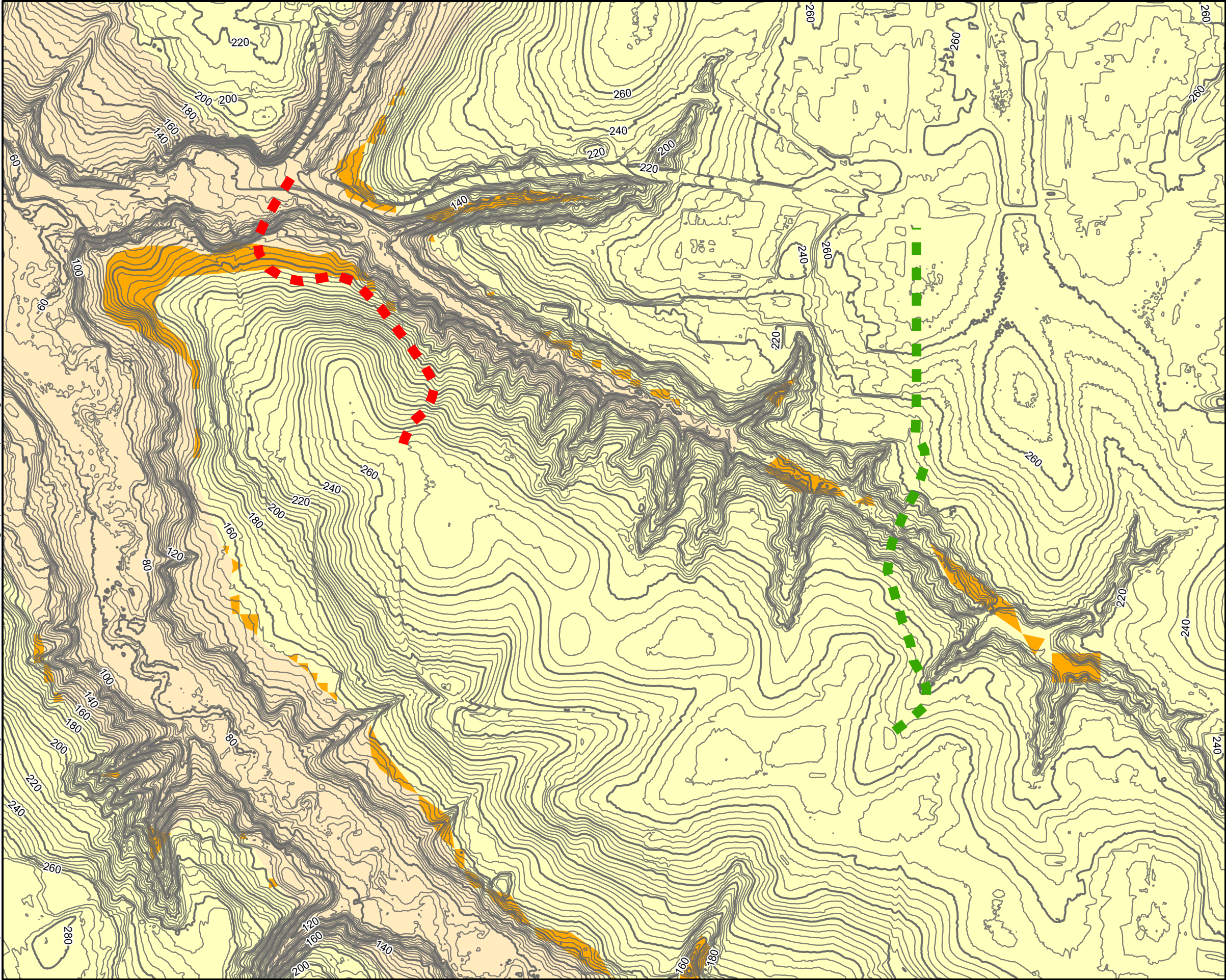
35TH AVENUE EXTENSION
RIDGEFIELD, WASHINGTON

DATE: JAN 2026 · PROJECT: 25005550



FIGURE

8



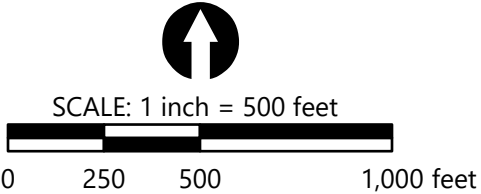
EXPLANATION

- West roadway alignment
- East roadway alignment
- 4ft elevation contour (NAVD 88)
- Low to Moderate
- Very Low to Low
- Very Low

Notes: Contours and hillshade derived from lidar DEM retrieved from WADNR

Liquefaction susceptibility layers obtained from Clark County Open Data Website

Coordinate System: NAD 1983 2011 StatePlane Washington South FIPS 4602 Ft US



LIQUEFACTION MAP

35TH AVENUE EXTENSION
RIDGEFIELD, WASHINGTON

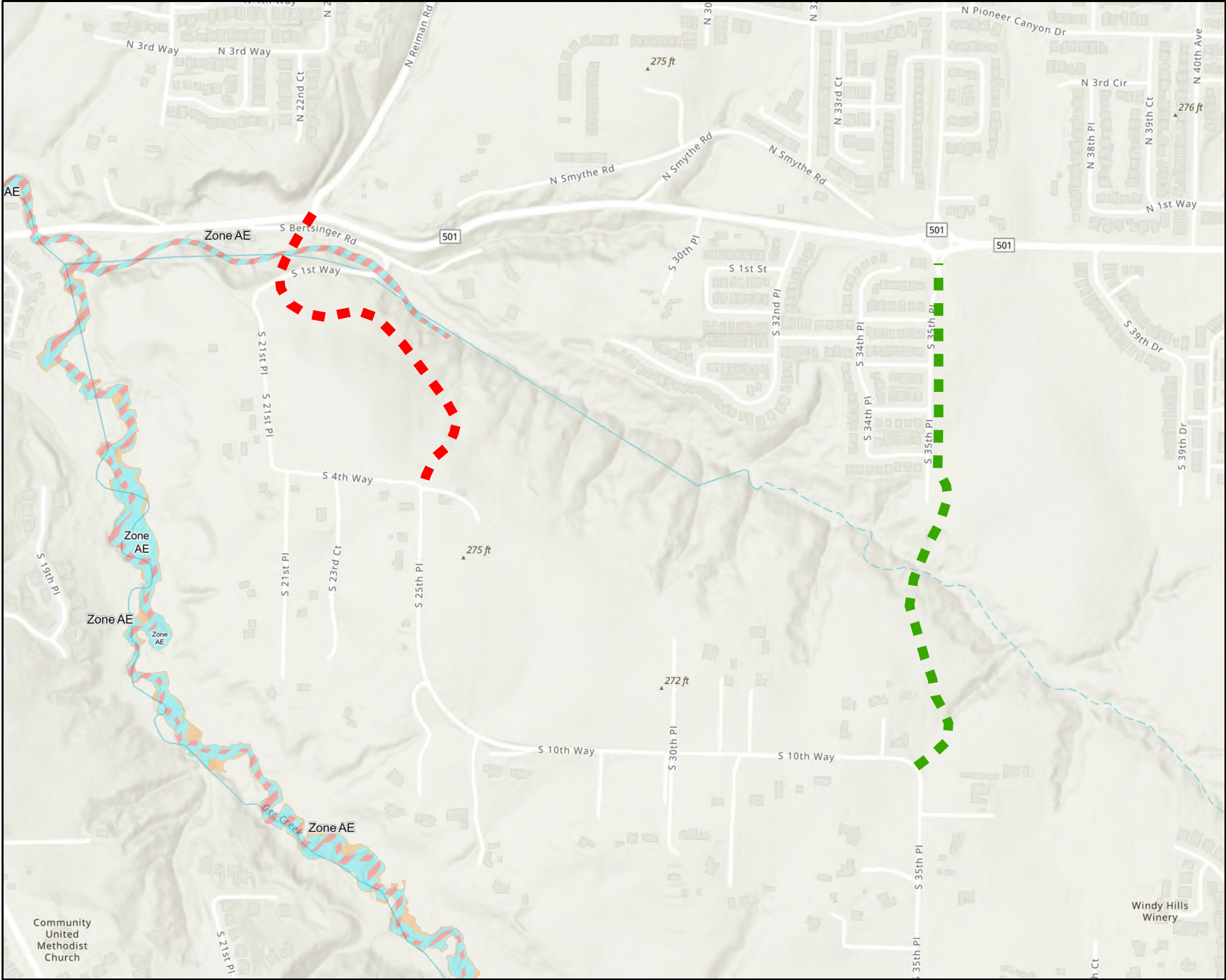
DATE: JAN 2026 · PROJECT: 25005550



FIGURE

9

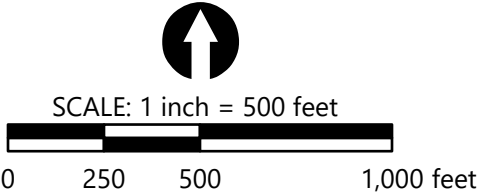
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EXPLANATION

- West roadway alignment
- East roadway alignment
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- 0.2% Annual Chance Flood Hazard

Notes:
FEMA flood hazard layers derived from FEMA's National Flood Hazard Layer (NFHL) Viewer
Coordinate System: NAD 1983 2011 StatePlane Washington South FIPS 4602 Ft US



FLOODPLAIN MAP

35TH AVENUE EXTENSION
RIDGEFIELD, WASHINGTON

DATE: JAN 2026 PROJECT: 25005550



FIGURE

10

35th Avenue Corridor Extension Project				Key	
				Highlighted cell denotes improvement over existing conditions	
				Italicized text denotes potential or known impact	
Screening Matrix - Draft				Normal text denotes no or negligible change	
This screening matrix is intended to provide a high-level summary of potential direct impacts associated with the proposed alternatives, focusing on key issues to support early project evaluation. For a more comprehensive description of impacted resources, assumptions, and study methodologies, please refer to the full Pre-NEPA/SEPA report.					
Category	Screening Criteria	Existing Condition	No Build	Red Alternative	Green Alternative
Transportation System <i>*No Build and Build Alternative counts are based on 2040 conditions</i>	Number of access and egress connections into the Gee Creek Subarea	1	1	2	2
	Number of access and egress connections for emergency access and response into the Gee Creek Subarea	2	2	3	2
	Average delay per vehicle during AM/PM peak periods at study intersections	10.4 seconds/vehicle	12.4 seconds/vehicle	11.0 seconds/vehicle	12.3 seconds/vehicle
	Total length of new or improved pedestrian, bicycle, and trail facilities	~1,055 linear feet sidewalk along S 35th Place No bike facilities	0	2,000 linear feet of 10' wide mulitmodal trail and 6' wide sidewalk	2,700 linear feet of 10' wide mulitmodal trail and 6' wide sidewalk
	Traffic operations and capacity (LOS and V/C): Does the alternative improve LOS at study intersections?	All study intersections operate at LOS B or A	No <i>Two study intersections operate at a worsened LOS</i>	Yes	No
	Predicted crashes: Does the alternative improve safety conditions based on predicted crash data?	Existing safety concerns at 56th Place / Pioneer St. intersection with documented collision history	No	Yes	No
Environmental Considerations	Wetland and water resources: Area (acres) of wetland impact and buffer encroachment	N/A	0	0.3 acres	0.2 acres
	Habitat impacts: Does the alternative affect priority habitat, sensitive species, or habitat connectivity?	N/A	No	Yes	Yes
		No new noise receptors 38 existing residential noise receptors along S 35th Place 46 existing residential noise receptors along S 1st Way, S 21st Place, and S 4th Way (assumes build-out of Ridgefield Heights devleopment). Existing residential receptors along S 21st Place and S 4th Way may experience a decrease in noise levels if traffic is divertered to a new roadway.	0	30 additional/new residential receptors above existing conditions 5 new recreational receptors	5 additional/new residential receptors above existing conditions 1 new recreational receptors <i>Note that existing residences along S 35th Place will experience an increase in noise levels</i>
	Noise: Total number of new noise receptors				
	Cultural and historic resources: Number of known or potential historic resource sites within the APE	1	0	1	0
Community Effects	Number of residential and commercial properties directly affected (acquisition, easement, or displacement)	0	0	Property acquisition will be determined as design is advanced	Property acquisition will be determined as design is advanced
	Neighborhood compatibility: Is the alternative compatible with surrounding neighborhood character and roadway scale?	N/A	Yes	Yes	Yes
	Access and cohesion: Does the alternative increase access to existing neighborhoods?	N/A	No	Yes	Yes
Feasibility	Right-of-way needs: Total area (acres) of new right-of-way required	N/A	0	2.7 acres	2.7 acres
	Construction complexity: Relative number of retaining walls and culverts	0	0	1 dual culvert <i>More complex retaining wall(s)</i>	1 culvert
	Utility conflicts: Number of known conflicts with existing or planned utilities requiring relocation	0	0	1	0
	Impacts to existing infrastructure: Number of public assets (e.g., roads) requiring reconstruction or demolition	0	0	1 intersection (Bertsinger at Pioneer)	0
Land Use Consistency	Consistency with plans and policies: Is the alternative consistent with adopted City plans and policies?	No	No	Yes	Yes
	Trails: Number of new trail connections	1 (existing)	0	2 (new connections)	1 (new connections)
	Support for future growth: Does the alternative support anticipated growth through 2045?	N/A	No	Yes	Yes



South 35th Avenue Corridor Extension Project

City Council Meeting

An aerial photograph of a town, likely in the Pacific Northwest, showing a mix of residential and commercial buildings, parking lots, and green spaces. In the background, a range of mountains is visible under a warm, orange-hued sunset sky. The image is positioned on the left side of the slide, partially overlapping the white content area.

Agenda

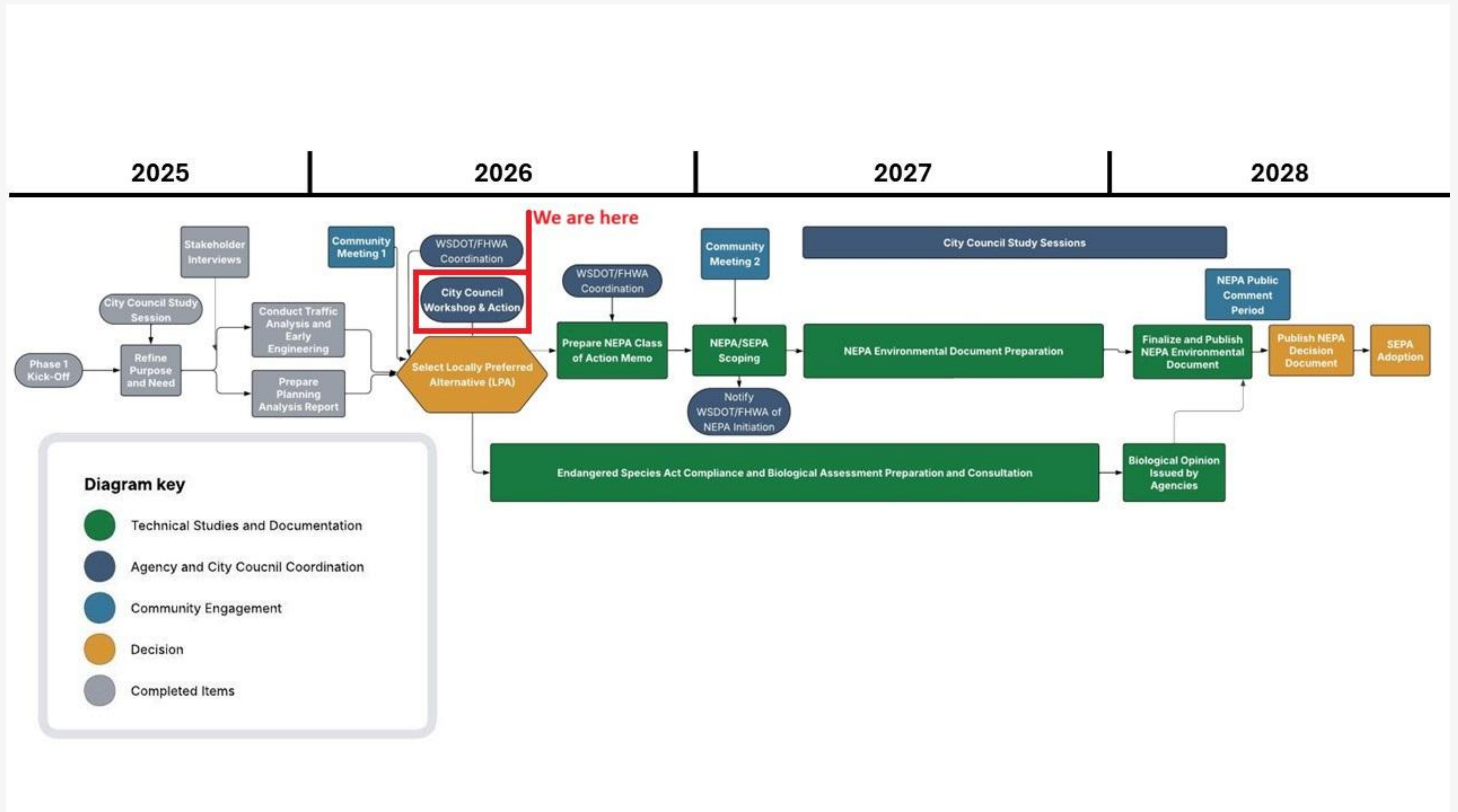
Meeting Objective: Review the preliminary traffic and environmental analyses and community input to inform selection of a Locally Preferred Alternative: Red Build, Green Build, or No Build.

- Project Schedule and General Updates
- Community Engagement and Site Visits Debrief
- Review Alternatives Screening and Preliminary Environmental Impacts
- Discussion

Background – Red & Green Alternatives



Project Schedule



Community Engagement

- **Prior Phases:**
 - *Gee Creek Plateau Subarea Plan* identified the 35th Avenue corridor as a key project to improve travel reliability and connectivity
 - Neighborhood and public meetings and stakeholder interviews provided input on alternatives analysis, which developed 5 alignment concepts
 - Council members and City staff ultimately supported moving forward with the Red and Green options
- **Current Phase:**
 - Stakeholder Interviews and neighborhood engagement included ~40 community members
 - Community Open House in early March attended by ~30 community members shared preliminary findings to gather broader public input
 - Online engagement via Ridgefield Roundtable shared open house materials and extended opportunities for input



Community and Council Feedback, cont.

- Conducted a series of site tours with City staff and Council members to review existing conditions and corridor constraints along both the Red and Green alignments. These tours provided an opportunity to observe key environmental, transportation, and neighborhood considerations in the field.
- Facilitated discussion and answered additional community and Council questions regarding:
 - **Traffic Operations:** Updated the screening matrix to include existing and projected traffic conditions, including operations at the 35th Avenue/Pioneer Street roundabout and study intersections.
 - **Traffic Forecasting:** Clarified that traffic analyses are based on projected 2040 conditions and added existing-condition data, where applicable.
 - **Noise Impacts:** Updated the screening matrix to identify and distinguish existing residential noise receptors along each corridor, new receptors introduced by each alternative, and existing receptors anticipated to experience increased noise levels
 - **Trail Impacts:** Updated trails analysis to consider existing and future trails included in Ridgefield Heights development

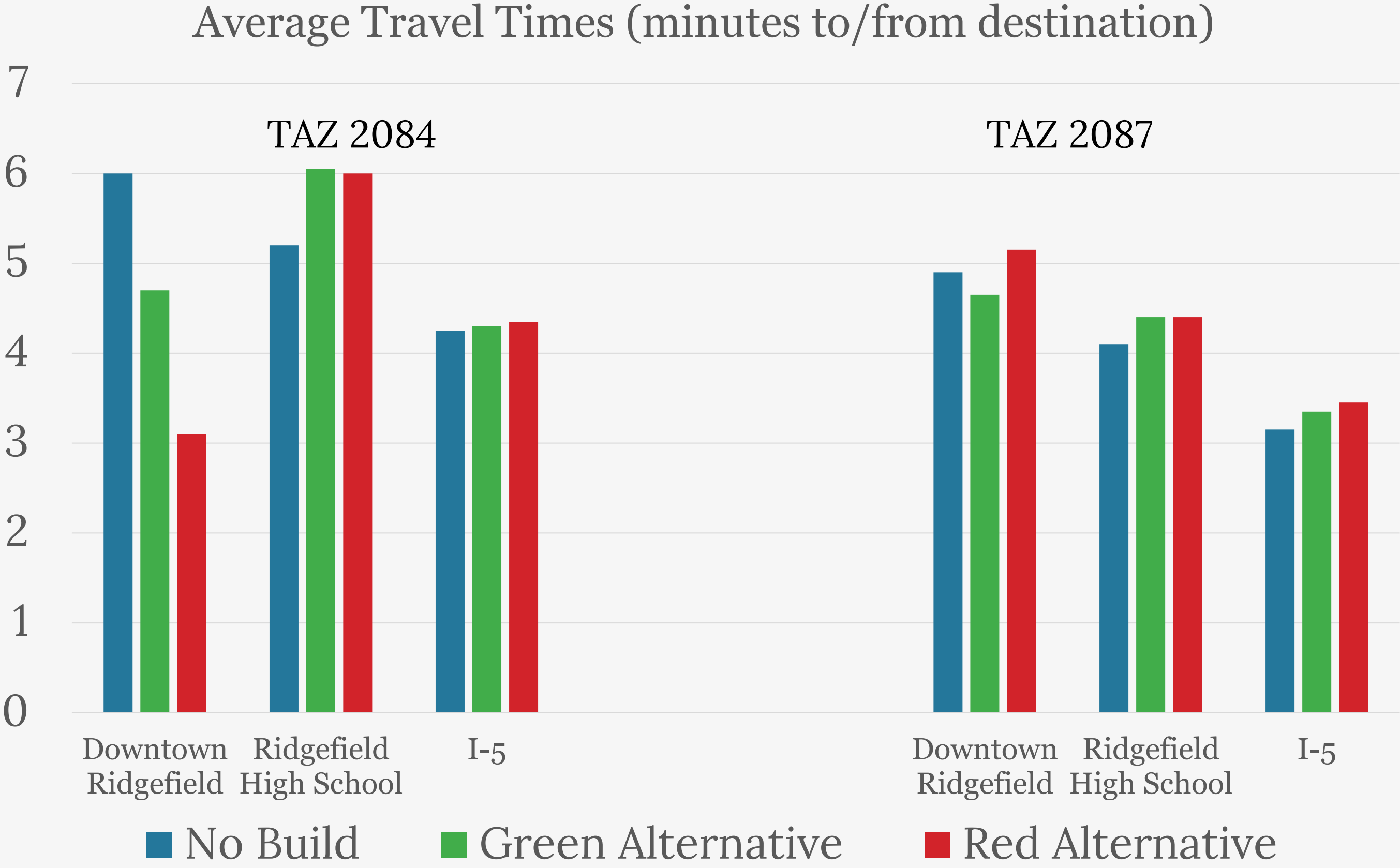
Alternatives Analysis

Key Topic	No Build	Red Alternative	Green Alternative
Wetlands	0 acres	0.3 acres	0.2 acres
Habitat Impacts	No Impact	Similar	Similar
Noise Impacts	Existing traffic noise; no new impacts	+ 30 new residential receptors above existing conditions +5 new recreational receptors	+ 5 new residential receptors above existing conditions. *Note that existing residences along S 35th Place will experience an increase in noise levels. Does not include potential new development, pending future annexation and zoning. +1 new recreational receptor
Historic Resources	No impact	1 potential historic resource in the APE	0 potential historic resources in the APE
Trail Connections and/or Conflicts	No new connections or conflicts	+2 new connections +1 conflict with existing trail	+1 new connection
Planning-Level Cost Estimation	-	\$30 – 40 million	\$25 – 35 million

Intersection Delay Times and Level of Service for 2040 PM Peak Hour

Intersection	No-Build		Red Alternative		Green Alternative	
	Delay (seconds/vehicle)	Level of Service	Delay (seconds/vehicle)	Level of Service	Delay (seconds/vehicle)	Level of Service
9 th Avenue / Pioneer Street	14.0	B	14.4	B	14.1	B
Reiman Road / Pioneer Street	16.5	C	Does not exist		16.6	C
N 35 th Avenue / Pioneer Street	7.3	A	7.3	A	7.6	A
Royle Road / Pioneer Street	17.5	B	15.6	B	16.7	B
Pioneer Canyon Drive / Pioneer Street	5.2	A	5.3	A	5.3	A
56 th Place / Pioneer Street	11.6	B	11.6	B	11.6	B
Bertsinger Road / Pioneer Street	11.9	B	Does not exist		12.0	B
Royle Road / S Wells Drive	8.6	A	8.2	A	8.2	A
Hillhurst Road / Royle Road	18.8	B	18.9	B	18.9	B
Bertsinger Road & Reiman Road / Pioneer Street	Does not exist		6.5	A	Does not exist	

Projected Traffic Times for 2040 PM Peak Hour



What We Heard

Key Community Concern	Potential Analysis to Address Concerns
Improved connectivity between neighborhoods, Pioneer Street, Royle Road, and future transportation improvements.	Evaluate pedestrian/trail connection opportunities from the Gee Creek Plateau to adjacent areas.
Concern about the lack of safe bicycle facilities on major corridors, and safer bicycle access between neighborhoods and downtown Ridgefield.	
Safer and more complete pedestrian facilities along S. 35th Avenue are needed.	
Improved connectivity between neighborhoods, Pioneer Street, Royle Road, and future transportation improvements are needed.	Evaluate connections to and within the subarea for vehicles, pedestrians, and bicyclists.
Lack of safe walking connections between neighborhoods, schools, parks, and downtown Ridgefield.	
Safety concerns for all modes were raised at existing intersections in the Gee Creek Plateau.	
Concerns that existing narrow roadway widths create safety concerns and limit two-way traffic operations.	Evaluate safety and access improvements associated with Bertsinger Road, including its role within the broader transportation network.
Safety and speeding concerns at Pioneer Street and Reiman Road.	
Increased traffic volumes on Bertsinger Road.	

Purpose and Need

The purpose of the South 35th Avenue Corridor Extension Project is to enhance connectivity and resilience between the Gee Creek Plateau Subarea and the city of Ridgefield for all transportation modes, improve the capacity and safety of transportation facilities, and balance long-term land use objectives for the area with potential impacts to current residents.

Enhance Connectivity and Resilience

A direct route between the Gee Creek Plateau Subarea and Pioneer Street is needed to address the limited options for accessing the other parts of Ridgefield on the existing transportation network and to provide better community connectivity. Creating a direct route in and out of the subarea will increase community resilience by providing an additional evacuation route for emergency responses.

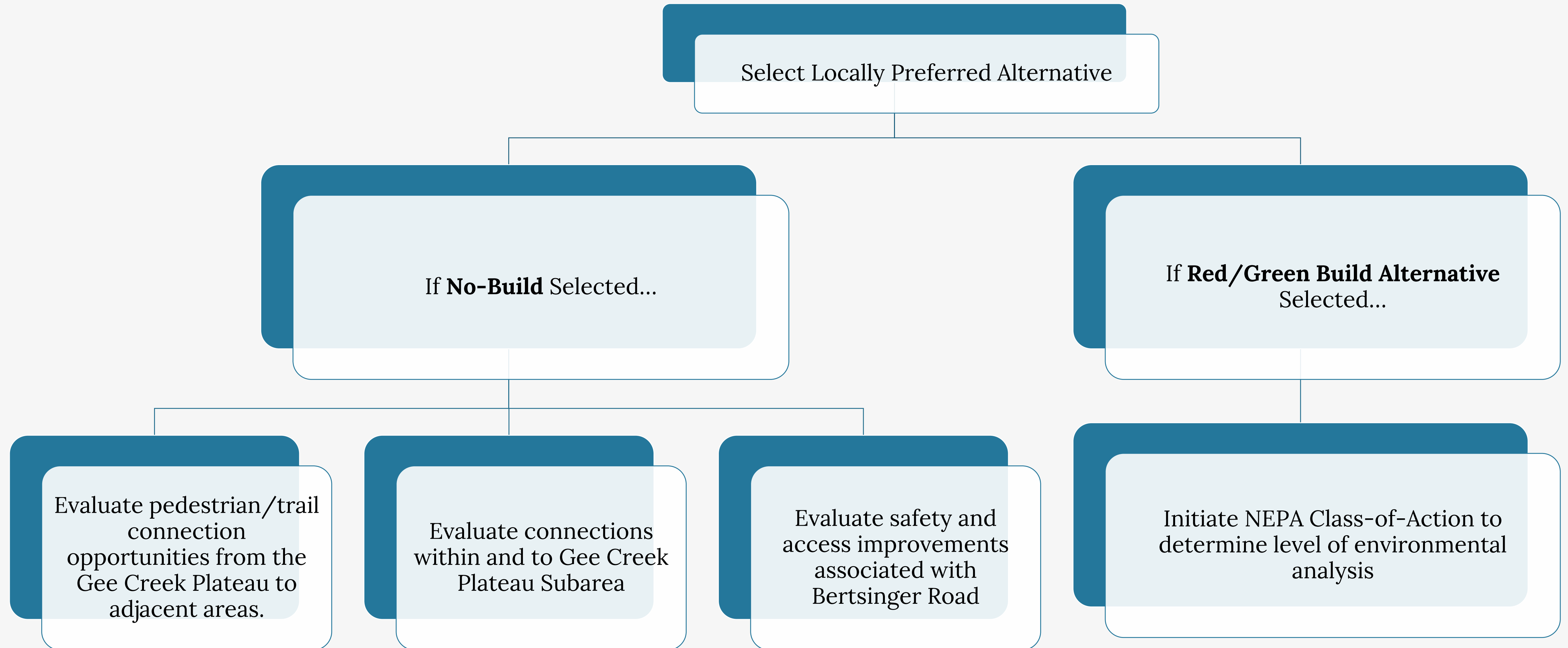
Improve Capacity and Safety

Improvements to existing transportation facilities and expanded capacity of the current transportation system are needed to ensure compliance with the City's adopted mobility standards, serve travel demand, account for the movement of both people and vehicles in compliance with the City's Complete Streets policy, and maintain safe and efficient operations as traffic volumes are anticipated to increase in the future.

Balance Long-term Land Use Objectives and Potential Impacts

The City needs to accommodate projected residential growth within the subarea by improving the transportation system. These improvements require a balanced approach to address the needs of the transportation system while avoiding or minimizing impacts to property owners and natural environments.

What Comes Next?



Discussion – Locally Preferred Alternative

- Which alternative best meets the purpose and need?
- Degree of environmental impacts of each alternative?
- Is the alternative consistent with community priorities?
- Technical factors such as the ability to implement each alternative, cost, etc.?