**RIDGEFIELD CITY COUNCIL**
**MEETING AGENDA**

**Thursday, May 7, 2026**
**RACC - Columbia Assembly Room**
**510 Pioneer Street, Ridgefield, WA 98642**

**I. STUDY SESSION - 4:00 P.M.**

1. **South 35th Avenue Corridor Extension Project - Miranda Lange, PW Infrastructure Deputy Director**

**II. ADJOURN**

# South 35th Avenue Corridor Extension Project

City Council Work Session
May 7, 2026



# Agenda

- Background and Project Schedule
- Purpose and Need
- Community Engagement Summary
- Preliminary Traffic and Environmental Findings
- Next Steps

# Background – Red & Green Alternatives



# Project Schedule

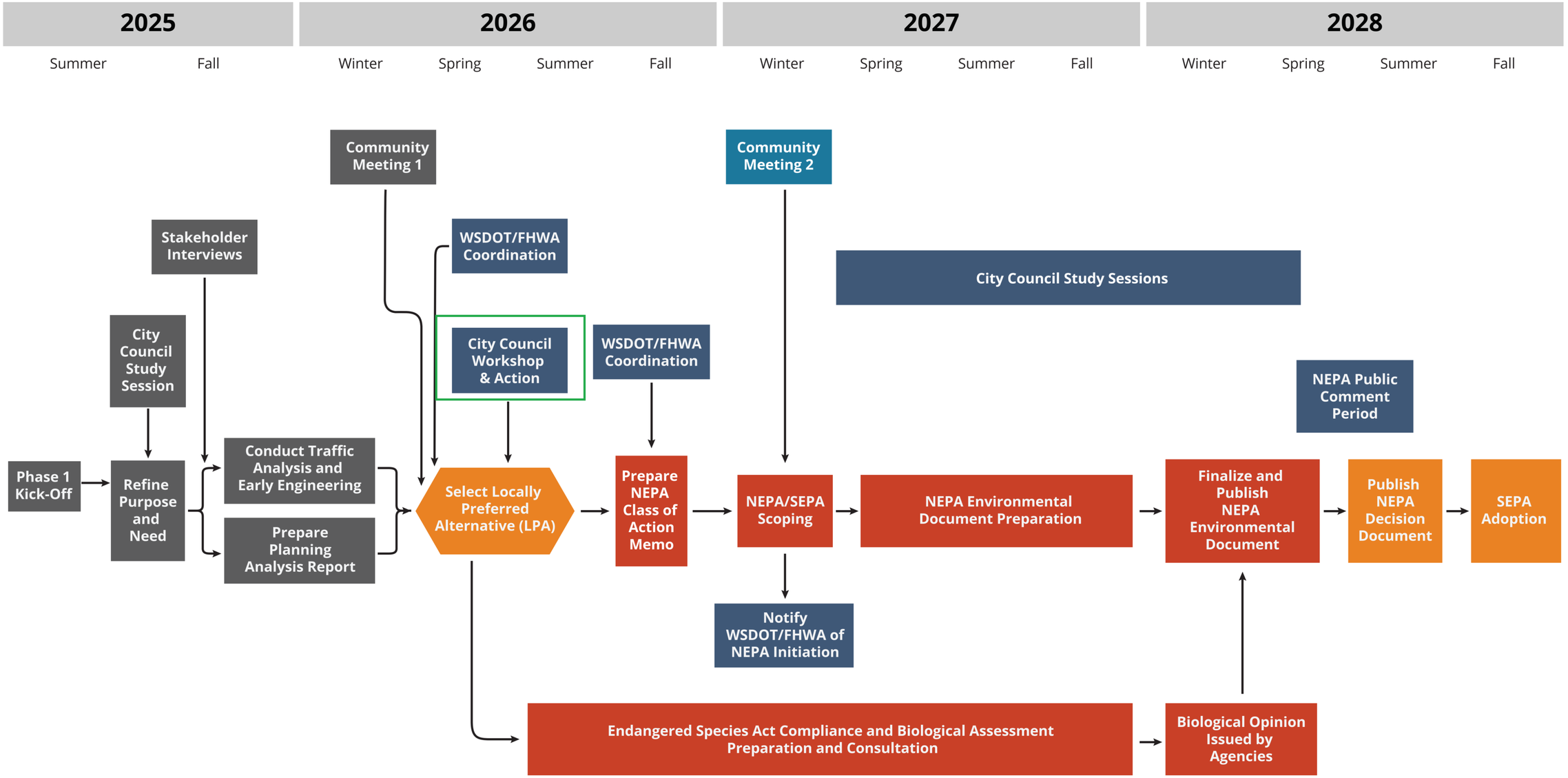


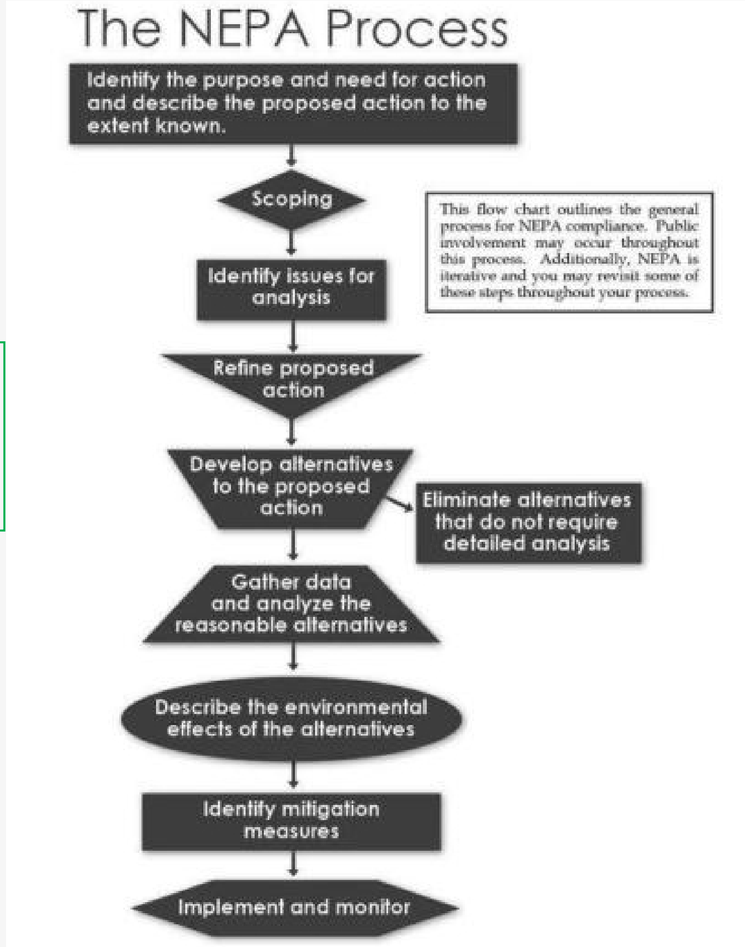

**Diagram Key**

We are here | Technical Studies and Documentation | Agency and CIty Council Coordination | Community Engagement | Decision | Completed Items

# NEPA Process Overview

- The **National Environmental Policy Act** (NEPA) requires federal agencies to assess the environmental effects of proposed actions before making decisions. NEPA is required because the City anticipates **federal funding** for this project.

- Next steps before starting the formal NEPA process include:
  - Based on preliminary traffic and environmental analysis, and community feedback to-date, **select a Locally Preferred Alternative (LPA)** to study in the NEPA documentation.
  - Working with Washington State Department of Transportation (WSDOT) and the Federal Highway Administration (FHWA) to **determine the level of NEPA review required** (class of action).
  - **Starting a scoping process** to get early input from the community, agencies, and tribes on the draft Purpose and Need, alternative, and environmental review topics to study.



# 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* ~~roadway~~ network *and to provide better community connectivity* ~~for vehicles and people~~. 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.

# Community Engagement

- **Prior Phases:**
  - *Gee Creek Plateau Sub Area 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 Feedback

- Majority of comments favored the Green Alternative and noted concerns with the potential environmental and neighborhood impacts and cost/feasibility of the Red Alternative
- Support for the Red Alternative included interest in a more direct connection to Pioneer from the western part of the subarea and concerns with the direct property impacts of the Green Alternative

Regardless of alignment preference, overall objectives included:

- Improve connectivity and access while supporting future growth
- Increase safety for all users, including traffic calming and safer crossings
- Expand pedestrian and bicycle infrastructure to support multimodal travel
- Balance transportation improvements with environmental protection and neighborhood character
- Incorporate walkability and thoughtful open space/greenspace planning

# Community Feedback

| | RED ALTERNATIVE | GREEN ALTERNATIVE |
|---|---|---|
| **PERCEIVED BENEFITS** | ➢ Extension further west offers broader community advantages.<br>➢ Creates a more direct route and may reduce traffic diversion along South 10th Avenue.<br>➢ Reiman Road lacks sidewalks and bike lanes; this may encourage new multimodal infrastructure. | ➢ Bertsinger would remain restricted for emergency access and local traffic only.<br>➢ Directly links neighborhoods and integrates with existing sidewalks and bike lanes.<br>➢ Flatter terrain allows for more intentional greenspace planning. |
| **COMMUNITY CONCERNS** | ➢ Limited integration with current sidewalks and bike lanes<br>➢ Significant environmental constraints, including unstable terrain, stream crossings, wetlands, open spaces, and trails.<br>➢ Higher infrastructure costs.<br>➢ Alignment would deviate from the original development vision.<br>➢ Impacts to view corridor for Ridgefield Heights residents.<br>➢ Concerns that it may not adequately address long-term traffic needs. | ➢ Safety risks to Cedar Ridge neighborhood.<br>➢ Higher traffic speeds due to sloped terrain and straight alignment.<br>➢ Could lead to future development east of 35th and impacts to desired natural setting.<br>➢ Impacts to local wildlife, wetlands, noise, pollution, and air quality during construction.<br>➢ Would cross private property, affecting individual property owners and residents. |

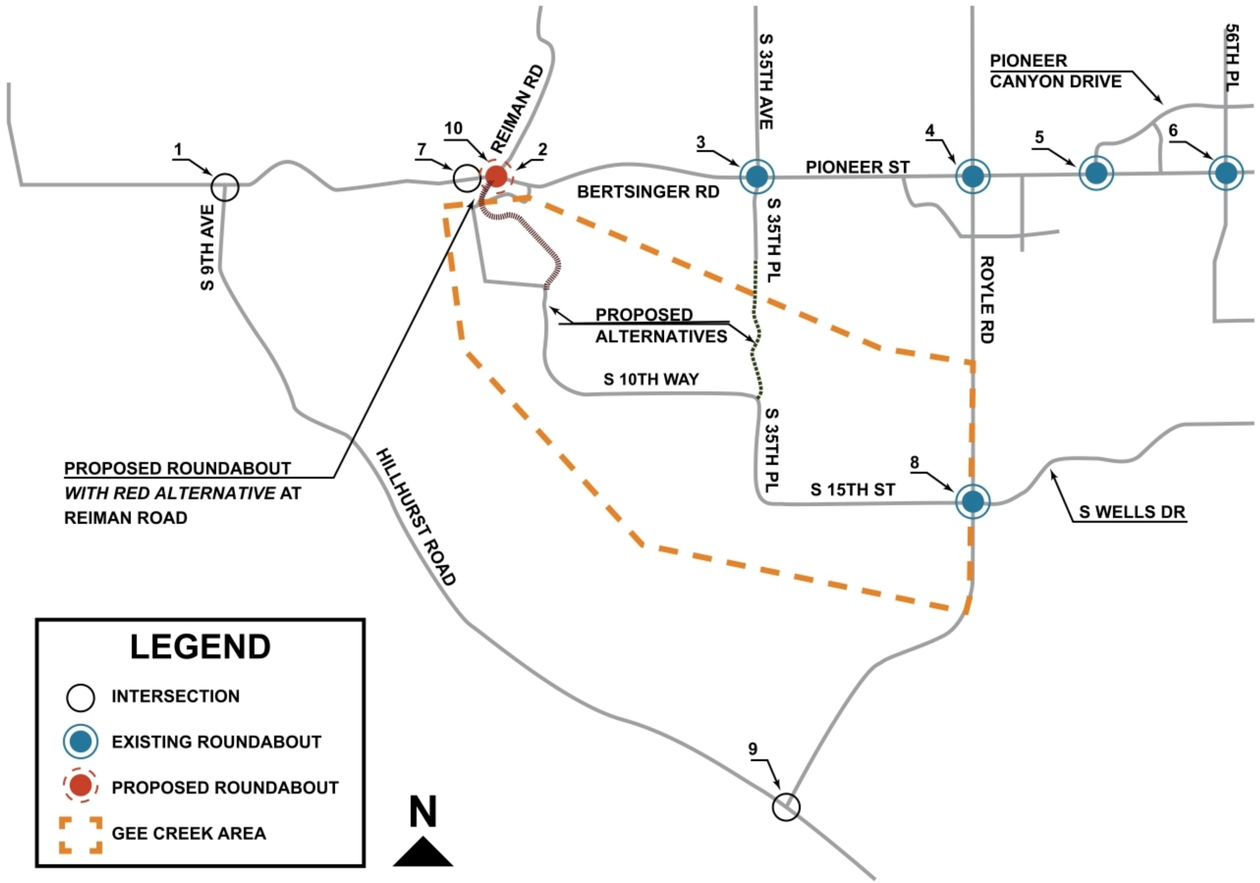
# Preliminary Traffic Analysis

- Evaluated current and 2040 conditions for No-Build and Build Alternatives

- Key Assumptions:
  - Red Alternative rebuilds a portion of Bertsinger Rd and includes a single-lane roundabout at the Reiman Rd/Bertsinger Rd/ Pioneer St intersection
  - Green Alternative continues to restrict Bertsinger Road to emergency/local-only access

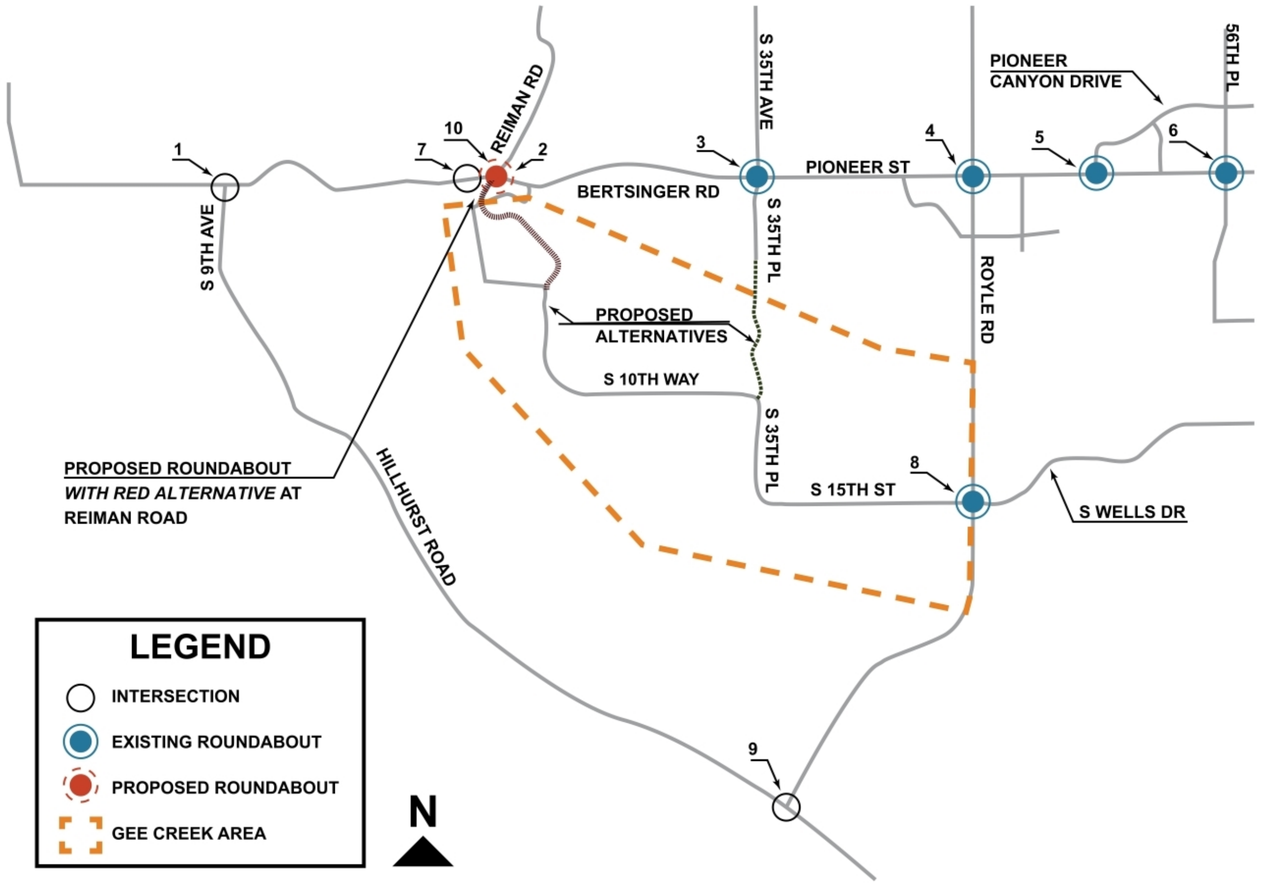
- All study intersections would operate at acceptable level of service standards, except Royle Rd / Pioneer St, which experiences increased delays under all scenarios

- Green Alternative would provide minor or negligible operational changes; Red Alternative would substantially improve operations at Reiman Rd / Pioneer St



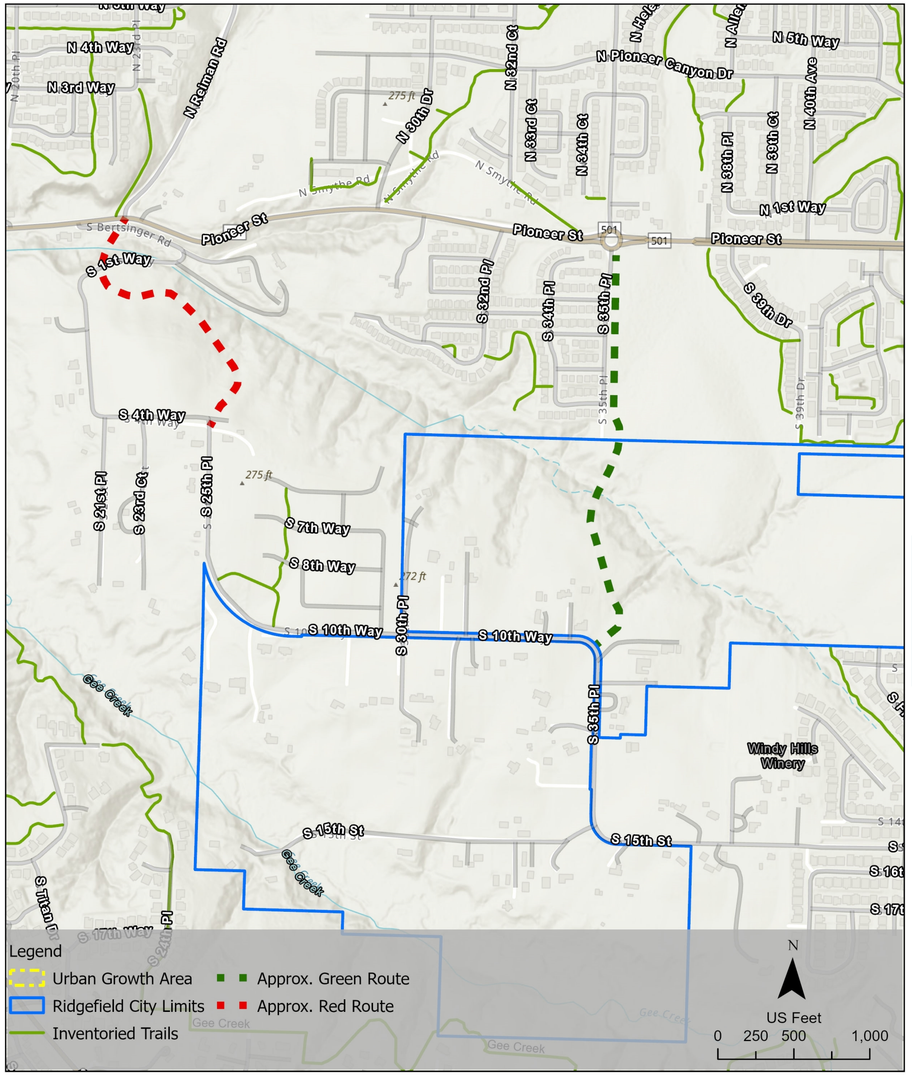
# Preliminary Traffic Analysis, cont.

- Proposed Red Alternative roundabout at Reiman Road/Pioneer Street intersection is projected to reduce five-year collisions from 7 to 2 at the intersection
- **Red Alternative would more effectively address existing traffic conditions by diverting east-bound trips from S 10th Way**
- **Green Alternative would serve a larger portion of the Gee Creek Plateau and better support future development access**
- If feasible, a combined Green + Red Build Alternative would provide the greatest long-term benefit for mobility and connectivity



# Pre-NEPA Analysis – Land Use and Parks

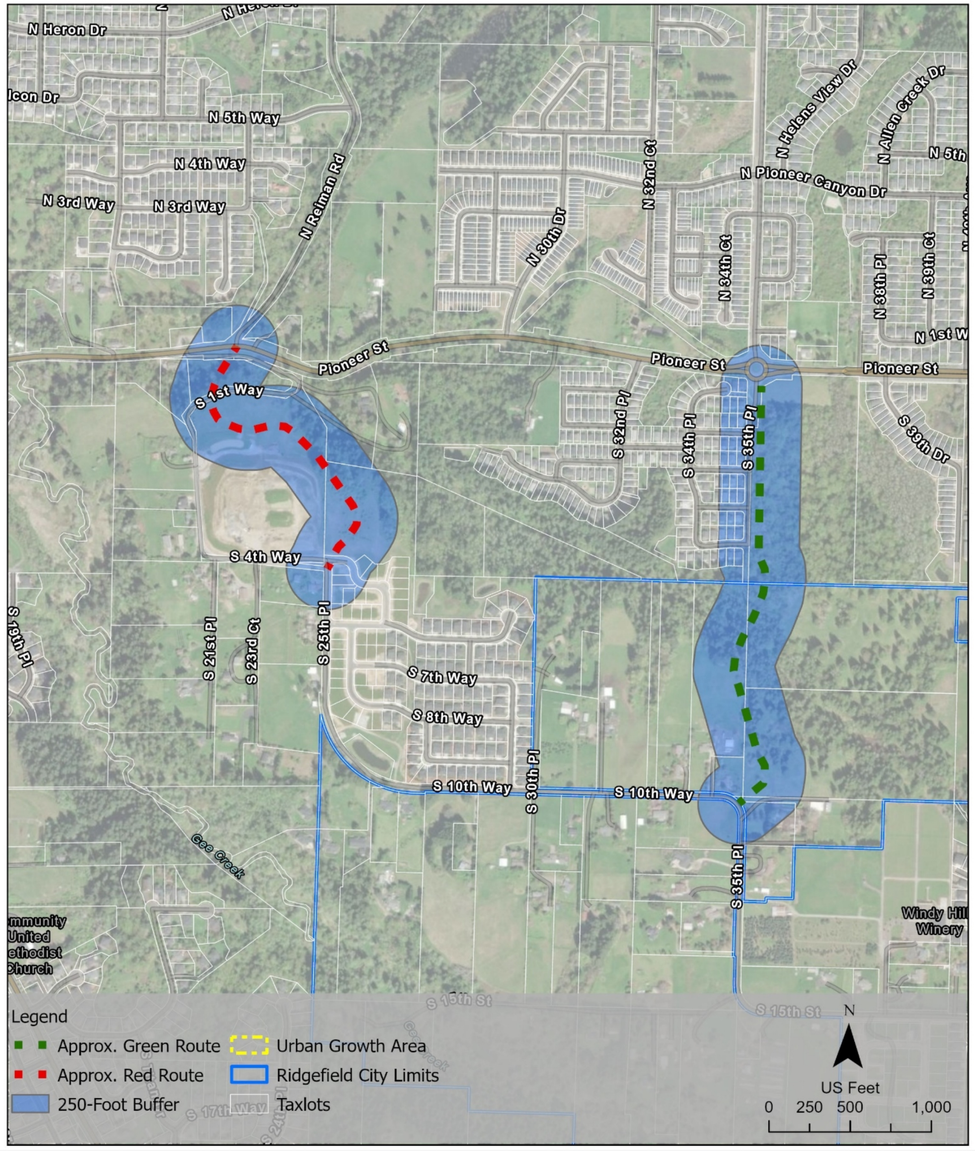
| Red Alternative | Green Alternative |
|---|---|
| • Designated Urban Low Density and Urban Medium Density Residential<br>• Would require less conversion of residential land to ROW compared to the Green Alternative<br>• No direct impacts to existing parks<br>• Improves access to local trail network, including direct access to two existing trails | • Includes areas outside city limits, which are likely to be annexed and rezoned<br>• Designated Urban Low Density<br>• Conversion of residential land to public ROW is slightly greater than the Red Alternative<br>• Within a 0.5-mile walkshed of Cedar Ridge open space<br>• Improves access to local trail network |



# Pre-NEPA Analysis – Noise

| Red Alternative | Green Alternative |
|---|---|
| • Impacts to ~30 residential properties;<br>• Increased noise levels for trail usage | • Impacts to ~47 residential properties<br>• Increased noise levels for trail usage |

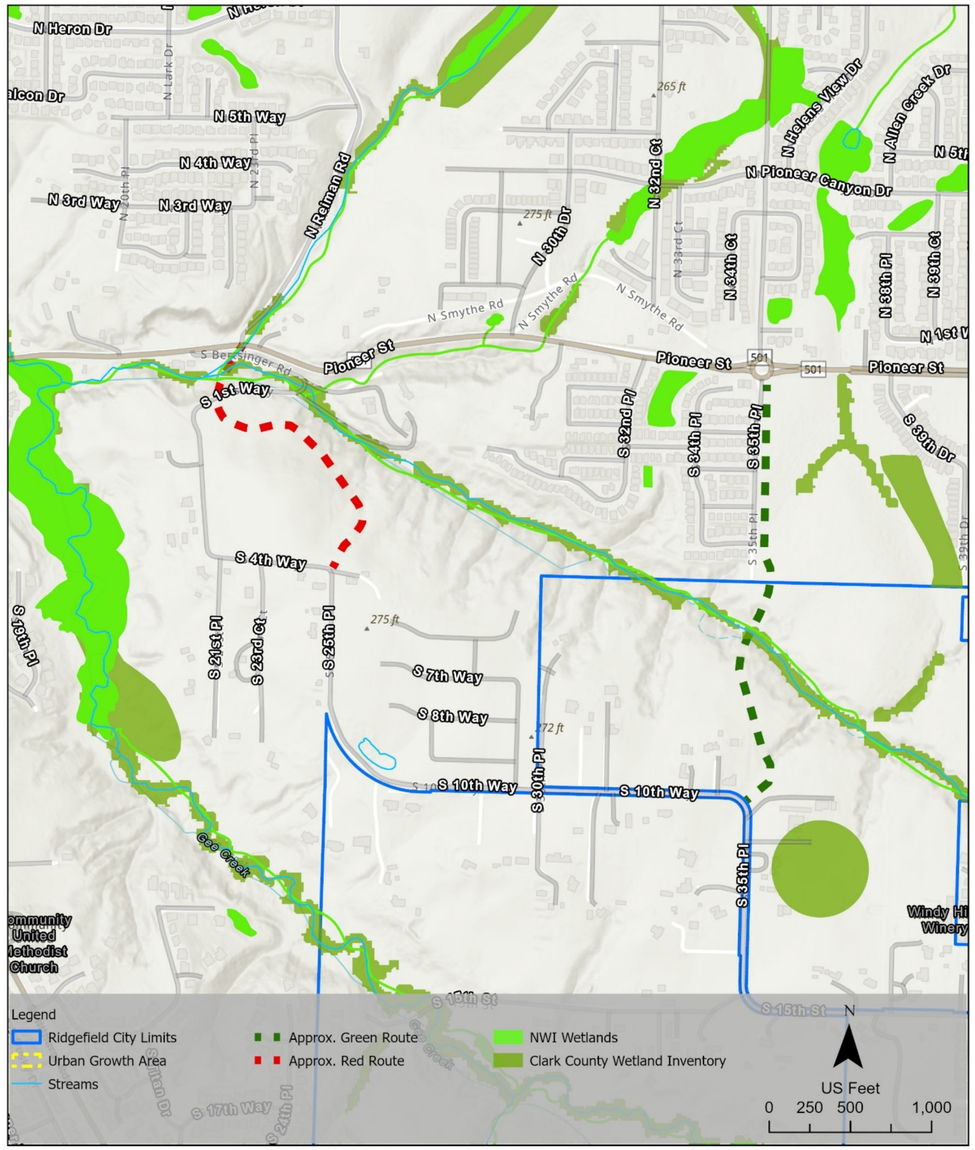
- For either alternative the predominate noise receptors are residential units. Use of existing trails and parks may also be exposed to typical traffic noise.
- Either alternative would require compliance with WSDOT and federal noise abatement criteria.



# Pre-NEPA Analysis – Wetlands and Waters

| Red Alternative | Green Alternative |
|---|---|
| • Requires ~0.3 acres of wetland mitigation<br>• Riverine wetlands identified adjacent to stream<br>• Prior studies identified Category II and III wetlands near the Red Alternative, which typically require 100-foot buffers under Ridgefield code | • Requires ~0.2 acres of wetland mitigation<br>• Riverine wetlands identified adjacent to stream<br>• Additional potential wetlands east of S 10th Way/NW 259th Street and S 35th Place |

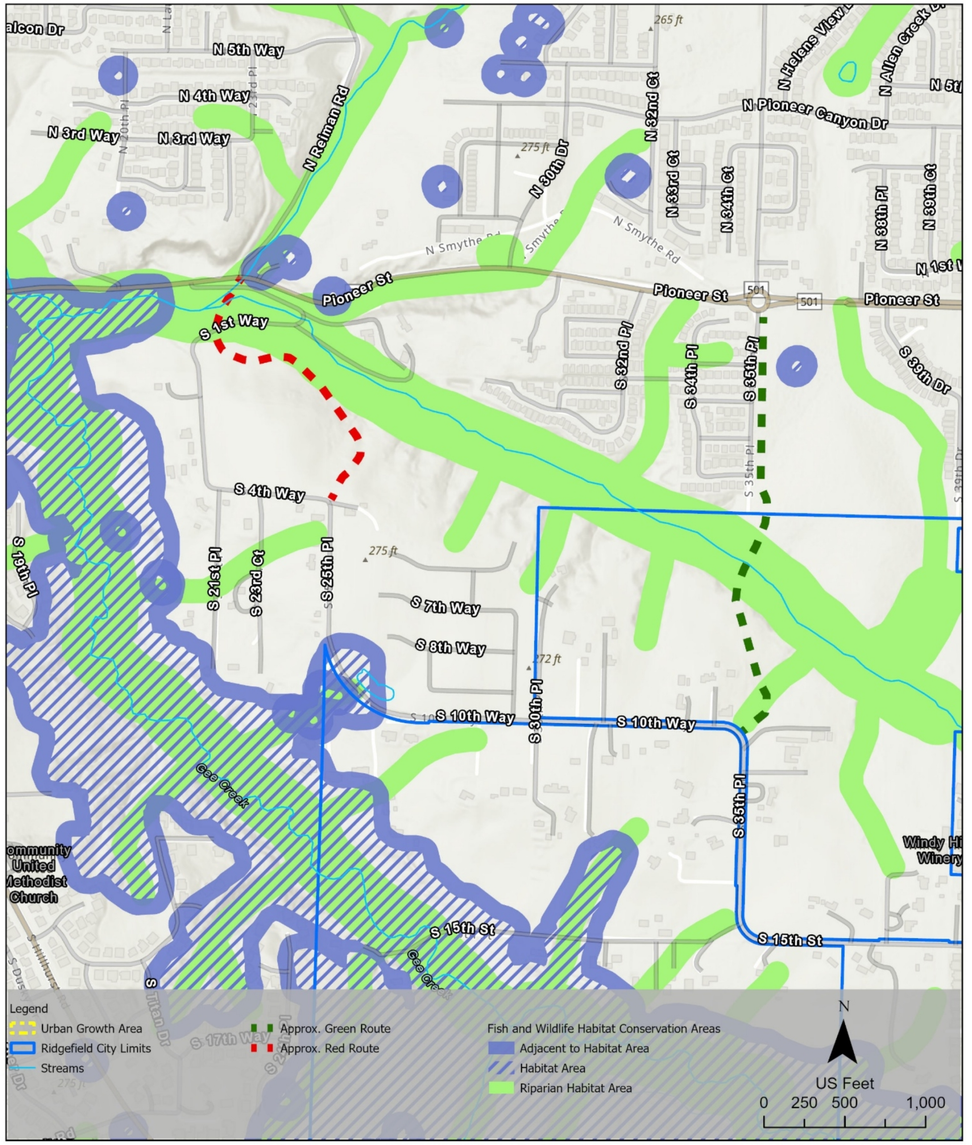
- Wetland delineation and mitigation will occur after the LPA is selected, consistent with regulatory requirements.



# Pre-NEPA Analysis –Habitat

| Red Alternative | Green Alternative |
|---|---|
| • Potential presence of two priority bat species<br>• Potential impacts to Oak Woodland and mature forest area<br>• Potential impacts to Steelhead and Coho salmon (Coho salmon is a threatened species) | • Potential presence of two priority bat species<br>• Potential impacts to mature forest area |

- A habitat assessment will be completed after LPA selection, and any unavoidable impacts will be mitigated per state and local regulations.



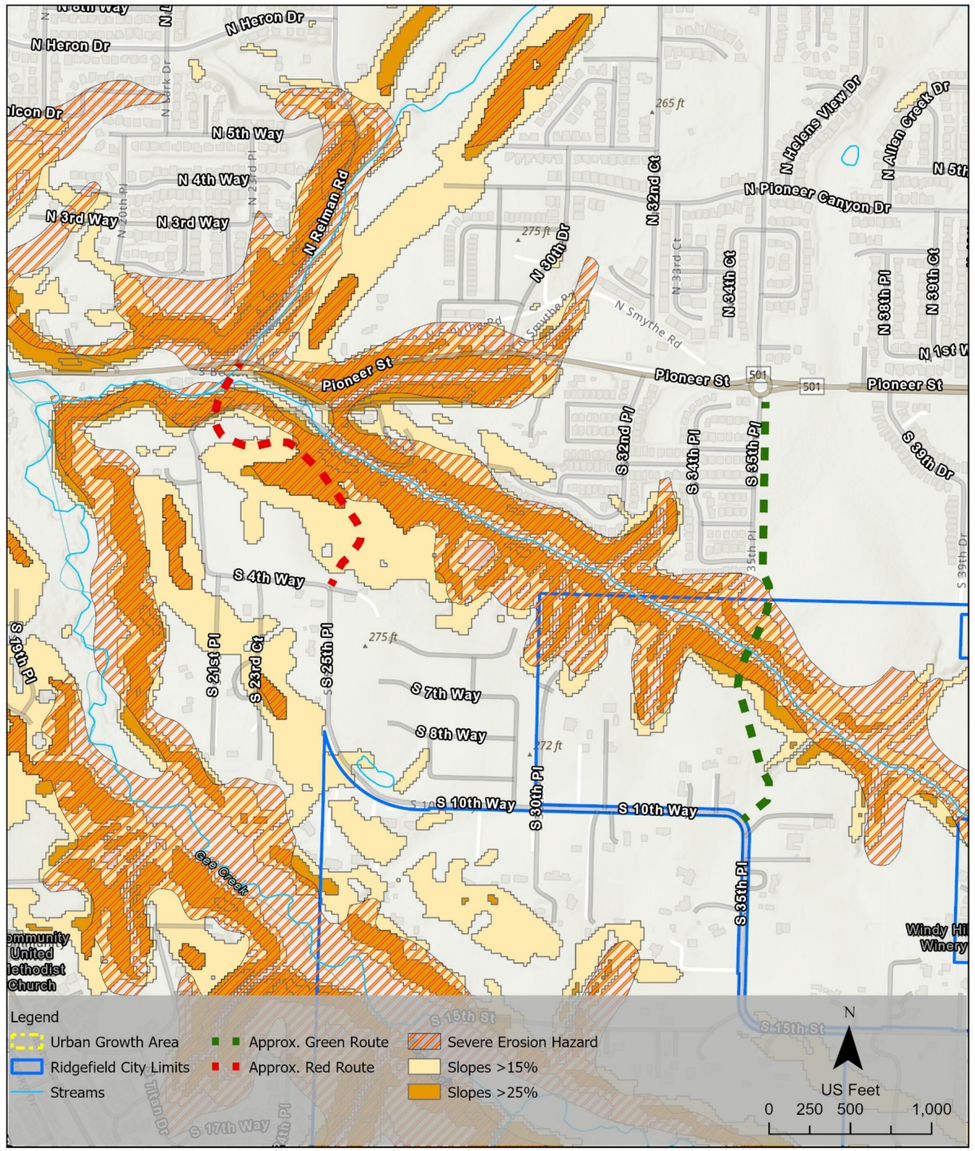
# Pre-NEPA Analysis – Floodplain

| Red Alternative | Green Alternative |
|---|---|
| • Part of the corridor is within a FEMA mapped floodway; would be subject to floodplain permitting consistent with RMC 18.750<br>• Route would cross stream with a dual-culvert | • Minimal flood risk and no mapped floodplains<br>• Route would cross stream with a single-culvert |



# Pre-NEPA Analysis – Geotechnical Conditions

| Red Alternative | Green Alternative |
|---|---|
| • Alignment will cross through a steep ravine<br>• Groundwater may be present at variable depths<br>• Low risk of liquefaction<br>• Steep slopes will likely require more retaining walls along the ravine compared to the Green Alternative | • Alignment will cross through a steep ravine<br>• Groundwater may be present at variable depths<br>• Low risk of liquefaction<br>• Perpendicular approach to the ravine may allow for less risk to stability of existing slopes and require fewer retaining walls |



# Pre-NEPA Analysis – Cultural Resources

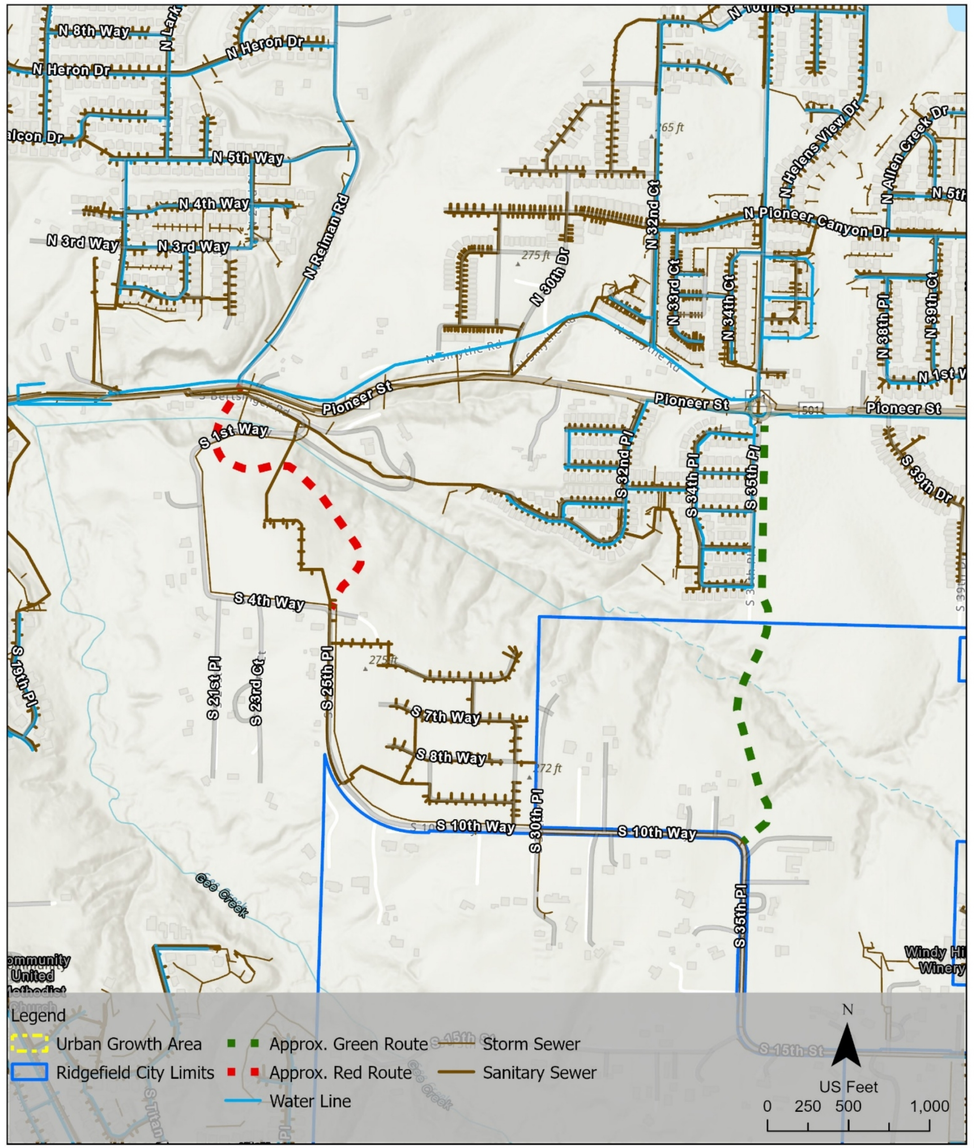
| Red Alternative | Green Alternative |
| --- | --- |
| • Moderate to high probability of archaeological resources at southern terminus<br>• Impacts to one property that is likely eligible for listing | • Moderate to high probability of archaeological resources at southern terminus<br>• No historic property impacts |
| • After LPA selection, Section 106 review will be required, including documentation of historic resources within the APE and evaluation for NRHP eligibility.<br>• Any identified archaeological resources would be recorded with DAHP, and project effects would be assessed and mitigated following state and federal requirements. | |



# Pre-NEPA Analysis – Utilities

| Red Alternative | Green Alternative |
|---|---|
| • Conflicts with planned sewer system, including pump station and sewer lines to serve Ridgefield Heights | • No known conflicts with existing or planned utility system |

- Planning will focus on minimizing service interruptions during design and construction.
- Early coordination with local agencies and affected property owners will be critical to address concerns.



# Pre-NEPA Analysis – Purpose and Need

| Red Alternative | Green Alternative |
|---|---|
| • Meets purpose and need by constructing a new north-south connection between the Gee Creek Plateau and Pioneer Street that provides the greatest relief to the existing transportation conditions in the Gee Creek Plateau<br>• Constructs new roadway and improves existing intersection that would meet adopted City standards and include Complete Streets elements<br>• Provides greater system benefits, including improved operations and minor reductions in vehicle delay<br>• Supports long-term growth and would result in comparatively fewer impacts to existing and future property owners<br>• More impacts to critical areas which would require mitigation<br>• 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<br>• Constructs new roadway and expands existing roadway to meet adopted City standards and include Complete Streets elements<br>• Maintains safe and efficient operations but provides limited to negligible operational benefits at study intersection<br>• Supports long-term growth but would require more conversion of residential land and result in impacts to more existing property owners<br>• Less impacts to critical areas which would require mitigation<br>• Favored by majority of community members that have been involved in outreach activities |

# 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.?

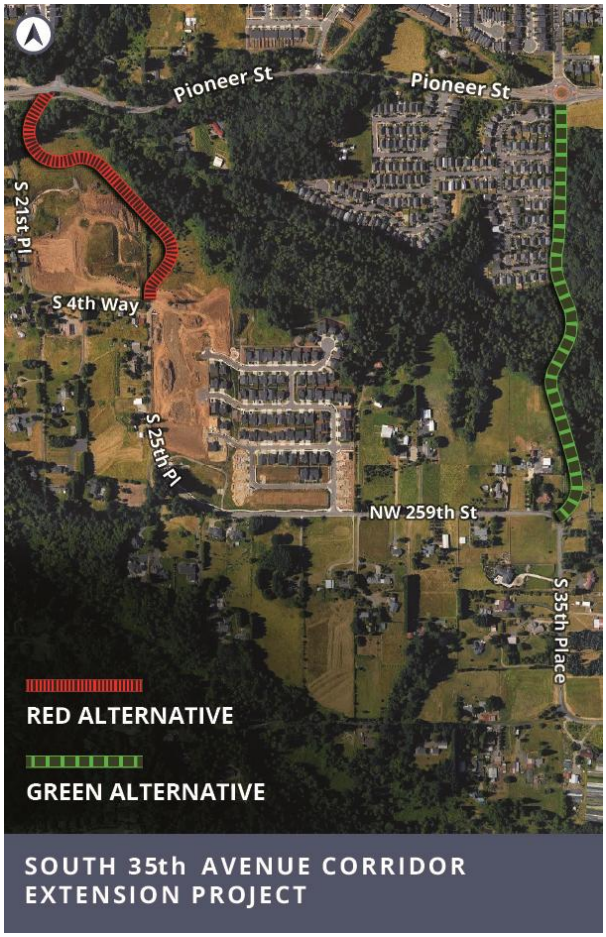
# Next Steps

- City Council Work Session & Public Hearing to formally select LPA
- Prepare NEPA class-of-action to determine environmental analysis required
- Initiate ESA compliance and Biological Opinion
- Prepare for NEPA scoping

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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**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.

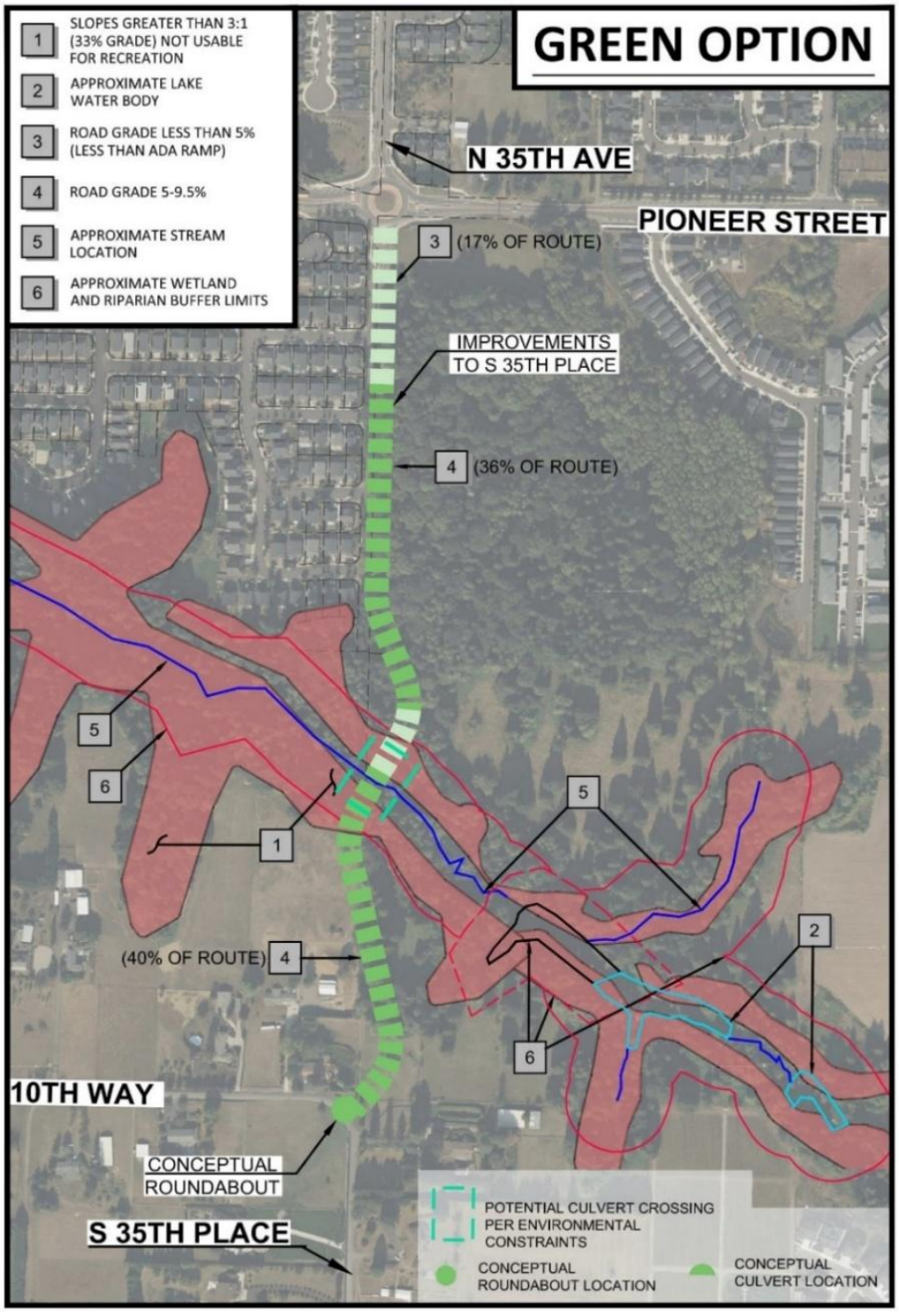
**Figure 1. Project Vicinity**



**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.

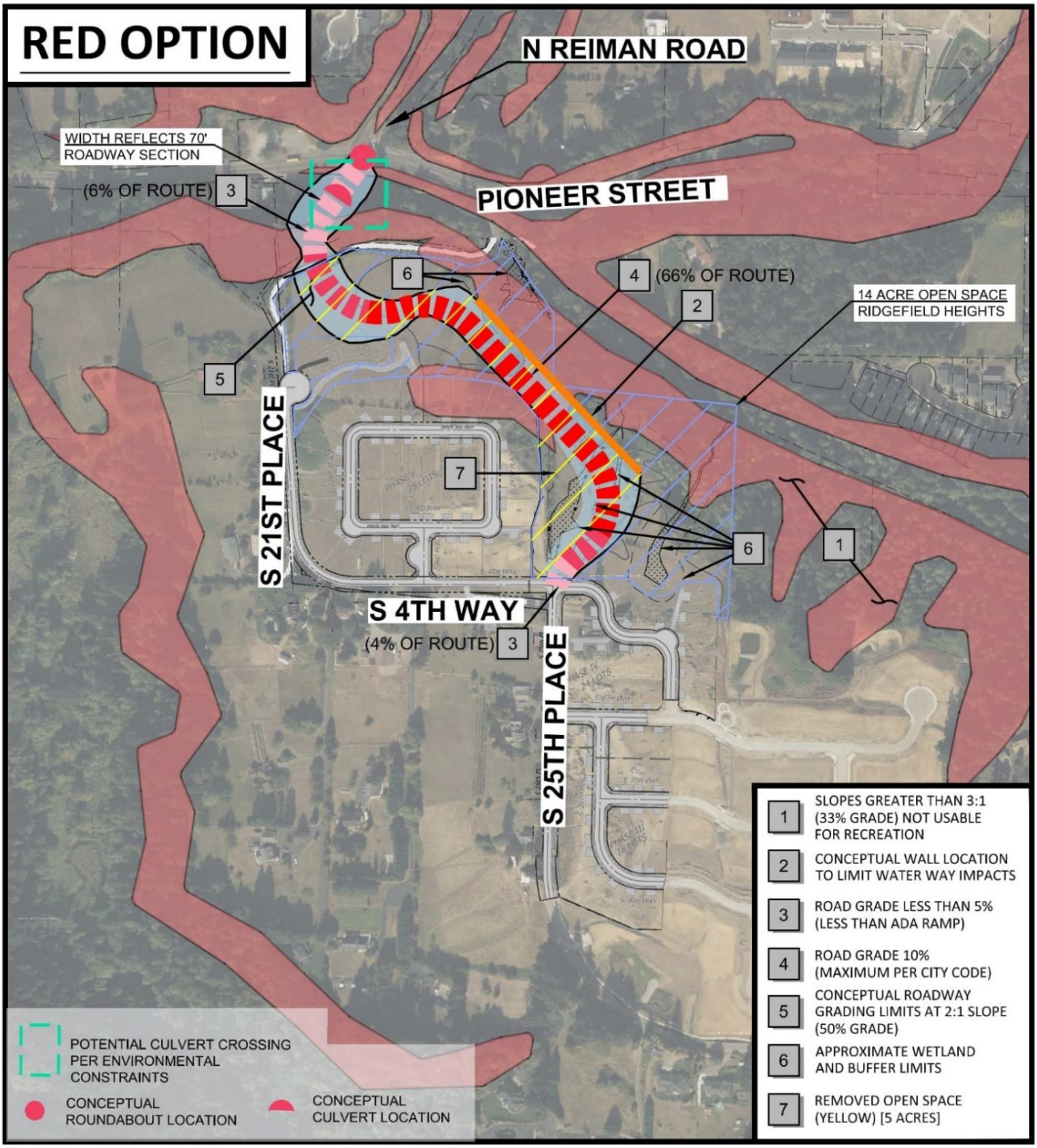
**Figure 2. Green Alternative Study Area**



**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.<br>• Creates a more direct route and may reduce traffic diversion along South 10th Avenue.<br>• Reiman Road lacks sidewalks and bike lanes; Red Alternative may encourage new multimodal infrastructure. | • Majority of comments favored the Green Alternative<br>• Provides a third access to Pioneer Street; Bertsinger would remain restricted to emergency access and local traffic only.<br>• Directly links neighborhoods and integrates with existing sidewalks and bike lanes.<br>• Flatter terrain allows for more intentional greenspace planning. |
| Community Concerns | • Limited integration with current sidewalks and bike lanes.<br>• Significant environmental constraints, including unstable terrain, stream crossings, wetlands, open spaces, and trails.<br>• Higher infrastructure costs.<br>• Alignment would deviate from the original development vision.<br>• Impacts to view corridor for Ridgefield Heights residents.<br>• Concerns that it may not adequately address long-term traffic needs. | • Safety risks to children in Cedar Ridge neighborhood.<br>• Higher traffic speeds due to sloped terrain and straight alignment.<br>• Could lead to future development east of 35th and impacts to the desired natural setting.<br>• Impacts on local wildlife, wetlands, noise, pollution, and air quality during construction.<br>• 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 action[1], 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*

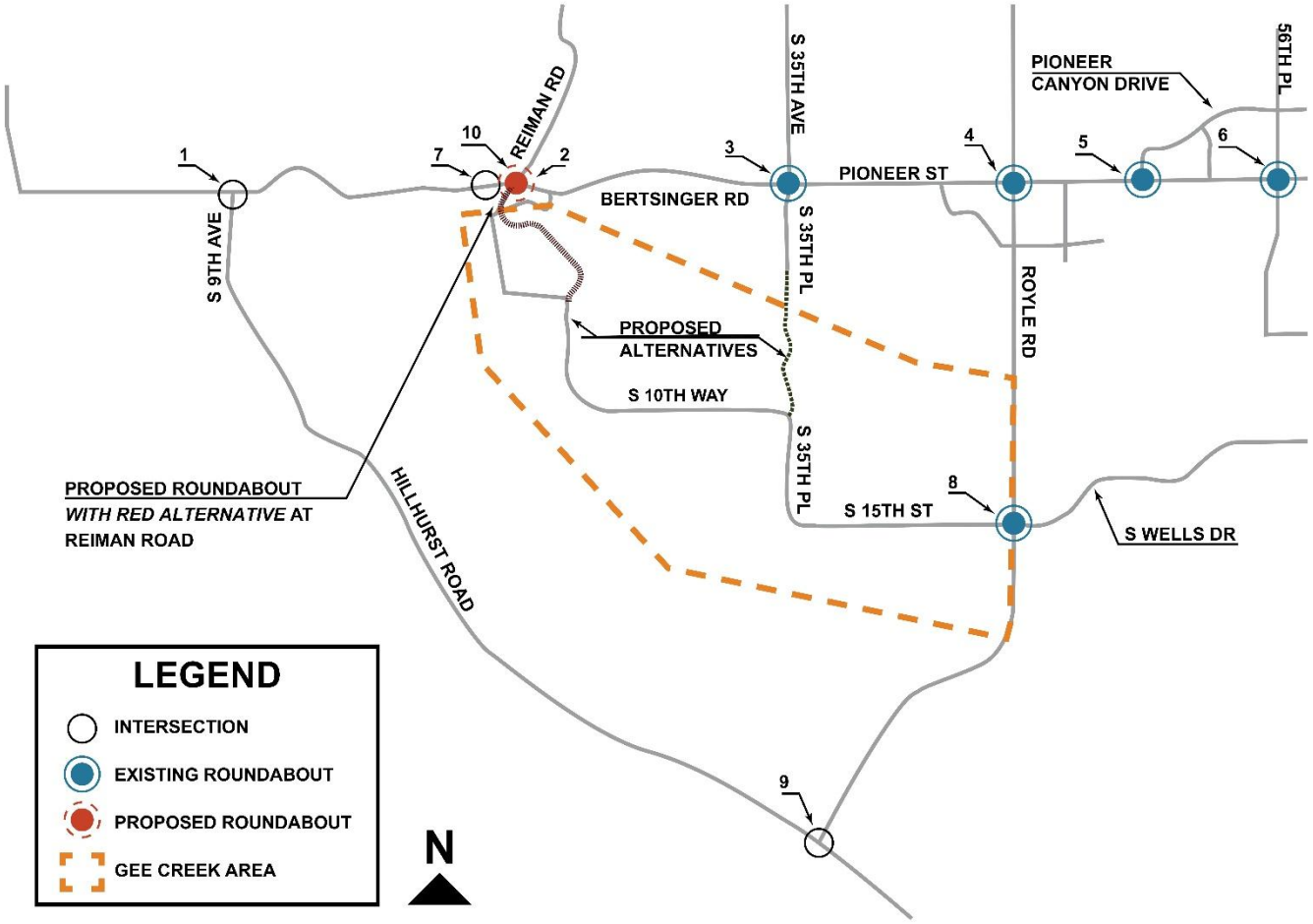
Apex conducted a preliminary transportation analysis to assess the current and future conditions, as well as multimodal impacts, for each alternative. The study examined existing vehicle, bicycle, and pedestrian facilities along the proposed corridors, and projected 2040 conditions with and without (No-Build) 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 Street[2]

[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.

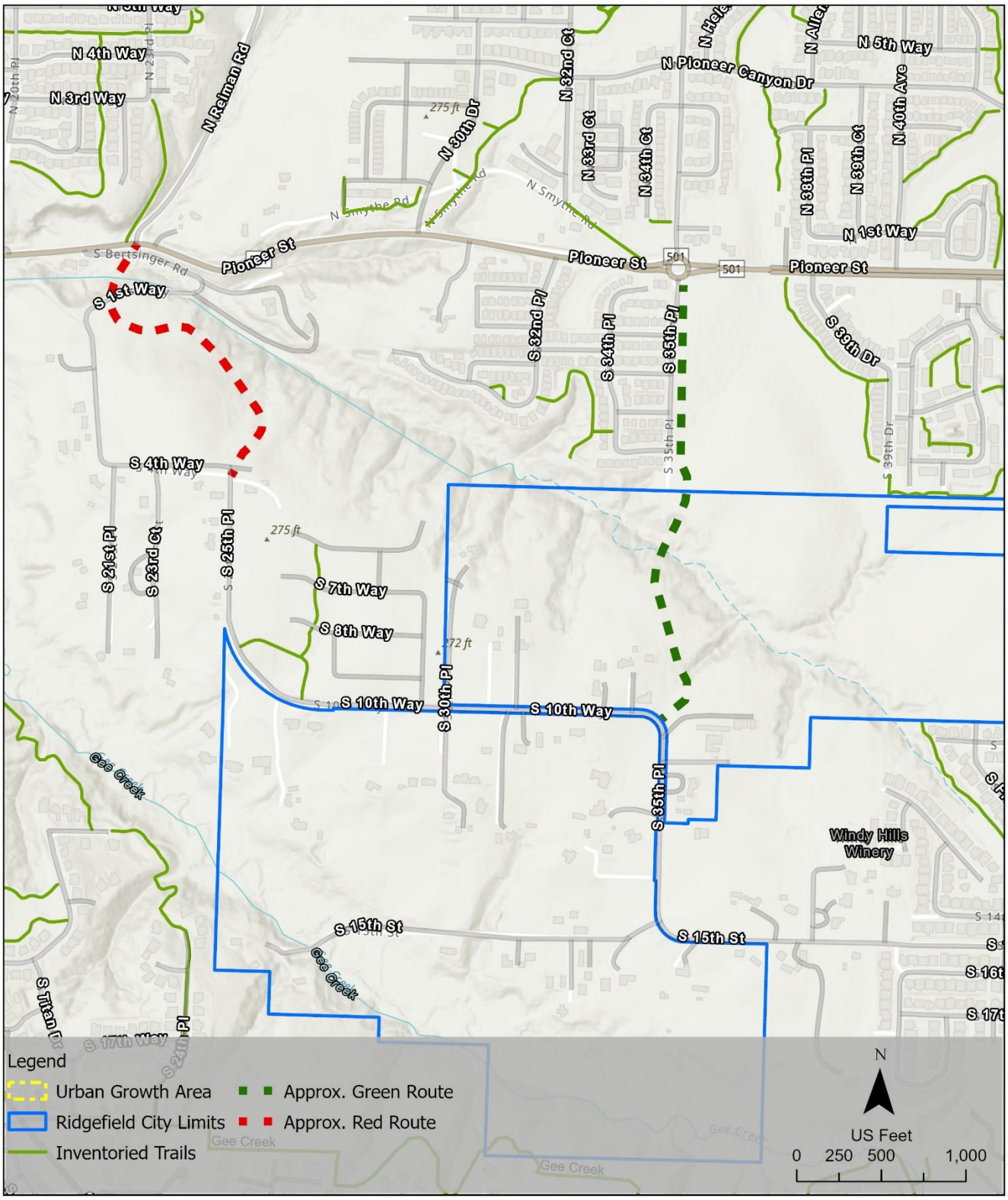
The entirety of the Red Alternative corridor is within Ridgefield city limits. The Red Alternative is entirely designated UL. No changes to the land use designations are proposed within the Red Alternative corridor related to the comprehensive plan's preferred land use alternative. Table 2 below summarizes 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<br>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<br>Commercial uses, including temporary sales offices, model homes, farm stands, and agricultural market<br>Public facilities, including school, parks or trails, limited infrastructure and public facilities<br>Other uses subject to conditional use reviews | Green Alternative |
| Urban Low Density Residential<br>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<br>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<br>Some limited uses, including EV infrastructure, daycare facilities<br>Public facilities, including parks or trails, limited infrastructure and public facilities<br>Other uses subject to conditional use reviews | Green Alternative<br>Red Alternative |
| Urban Medium Density Residential<br>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<br>Residential uses permitted at maximum density of 16 units per acre<br>Some limited uses, including EV infrastructure, daycare facilities<br>Public facilities, including parks or trails, limited infrastructure and public facilities<br>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

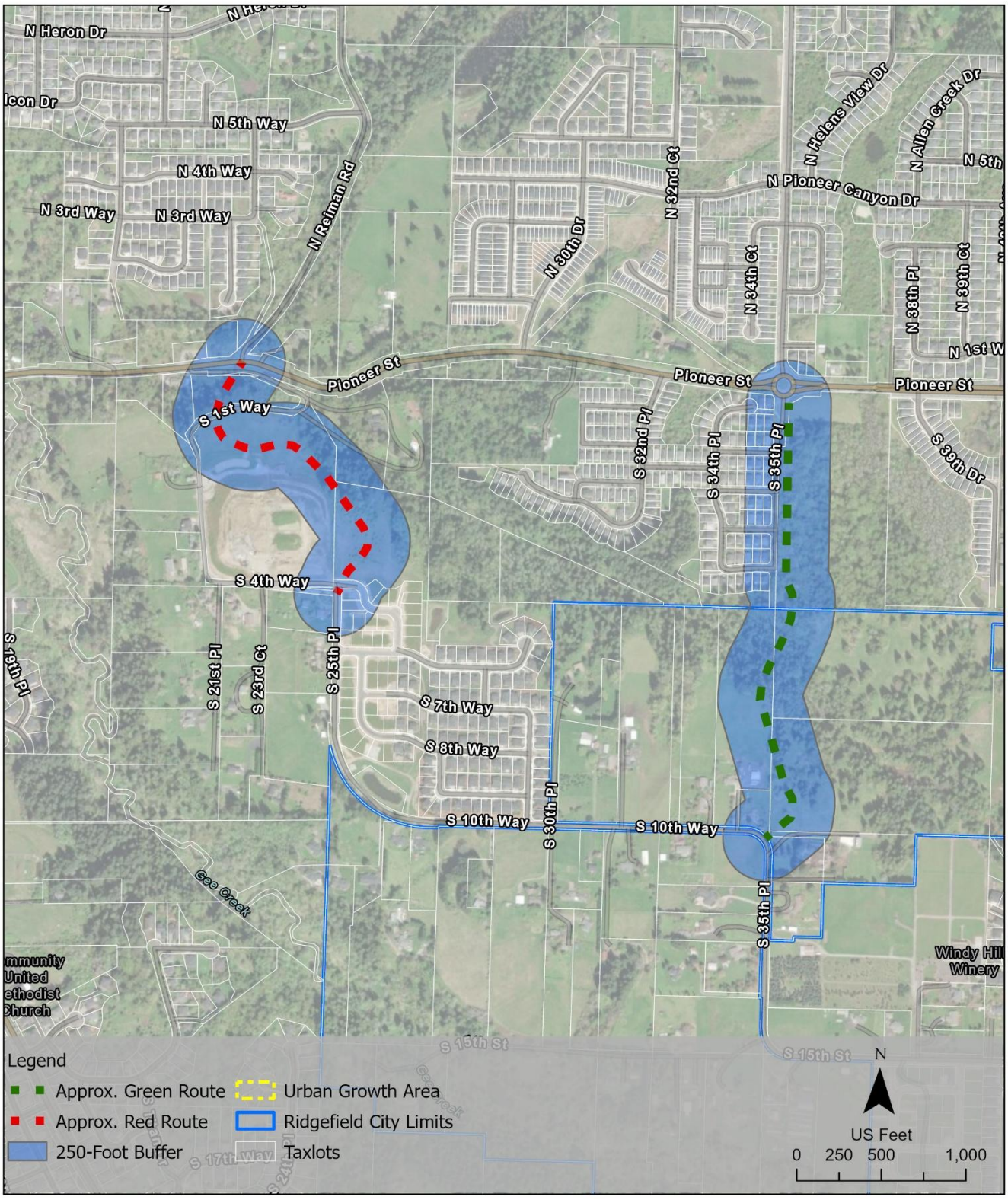
Noise impacts are identified when "predicted traffic noise levels approach or exceed the Noise Abatement Criteria, or when the predicted traffic noise levels in the design year will substantially exceed the existing condition noise levels."[3] This project meets the definition of a Type I project as 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 dBA[4] 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.

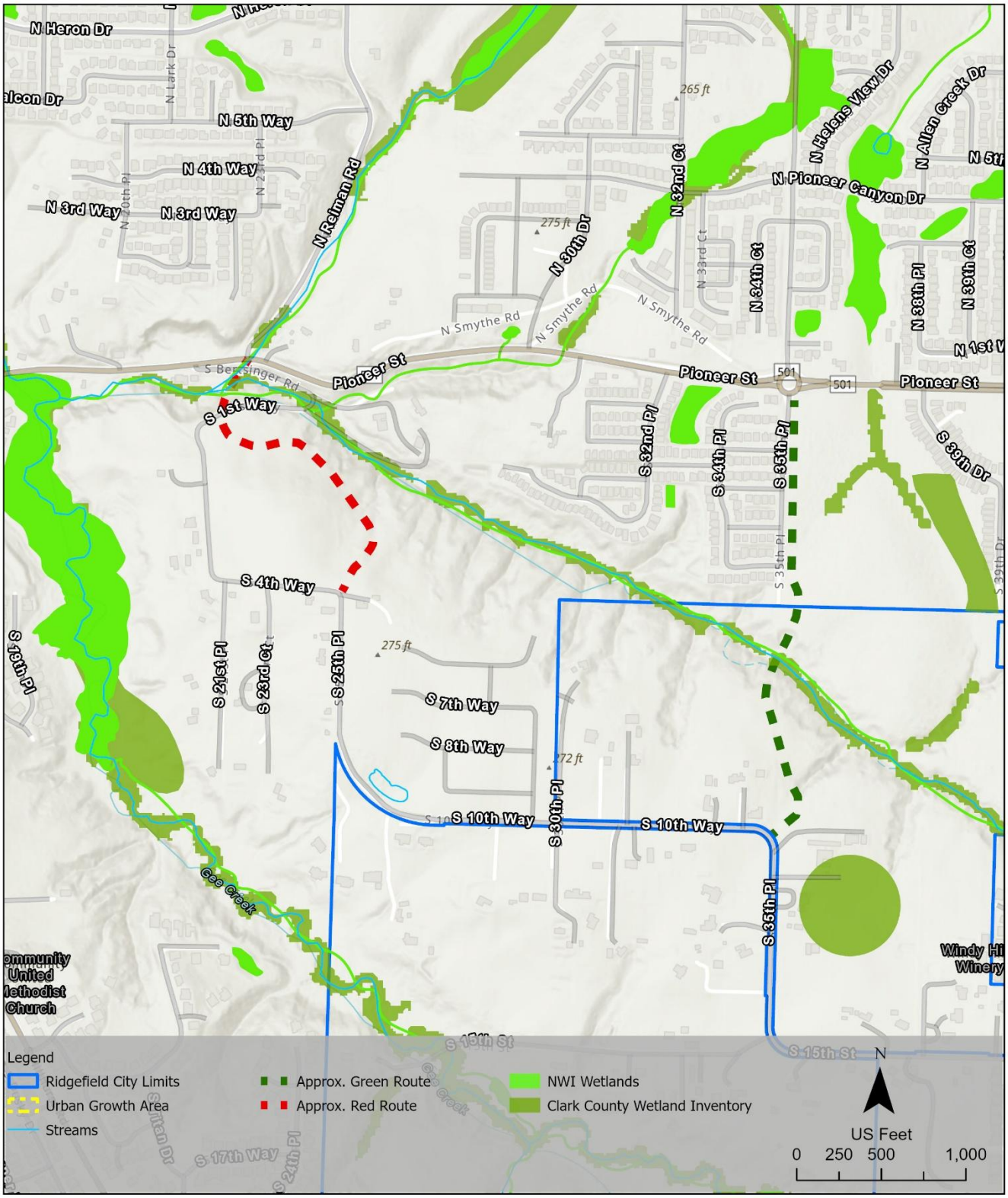
## 2.4 CRITICAL AREAS

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 identity 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).

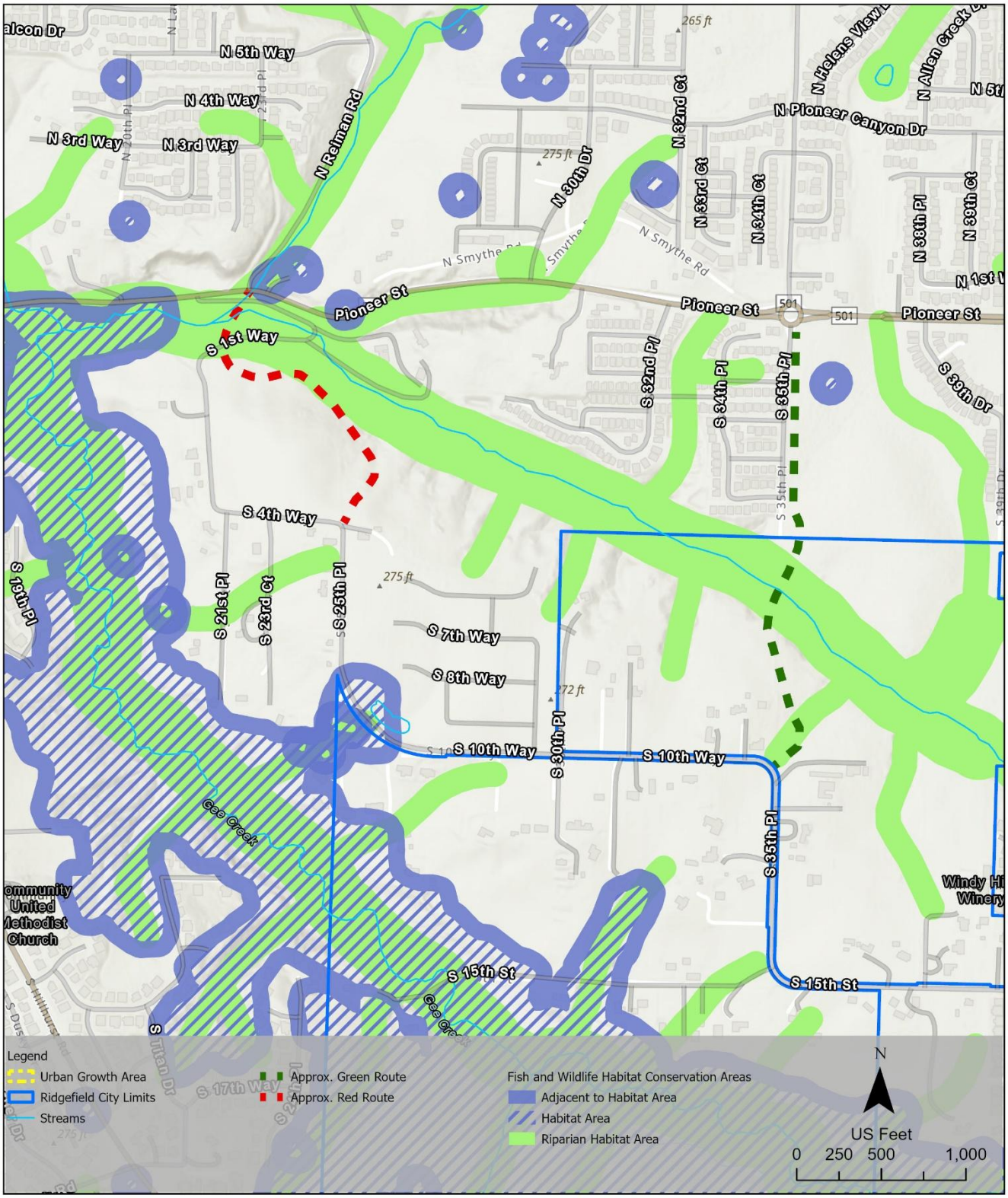
Two priority wildlife bat species are indicated as potentially present near both the Green and Red Alternatives: little brown bat (*Myotis lucifugus*) and Yuma myotis (*Myotis Yumanensis*). No bats were observed during an initial site visit in 2024, but it should be noted that they would not likely be 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.

**Figure 8. Fish and Wildlife Habitat Areas**



### 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 diocia*) (ELS, 2007).

### 2.4.4 CRITICAL AQUIFER RECHARGE AREAS

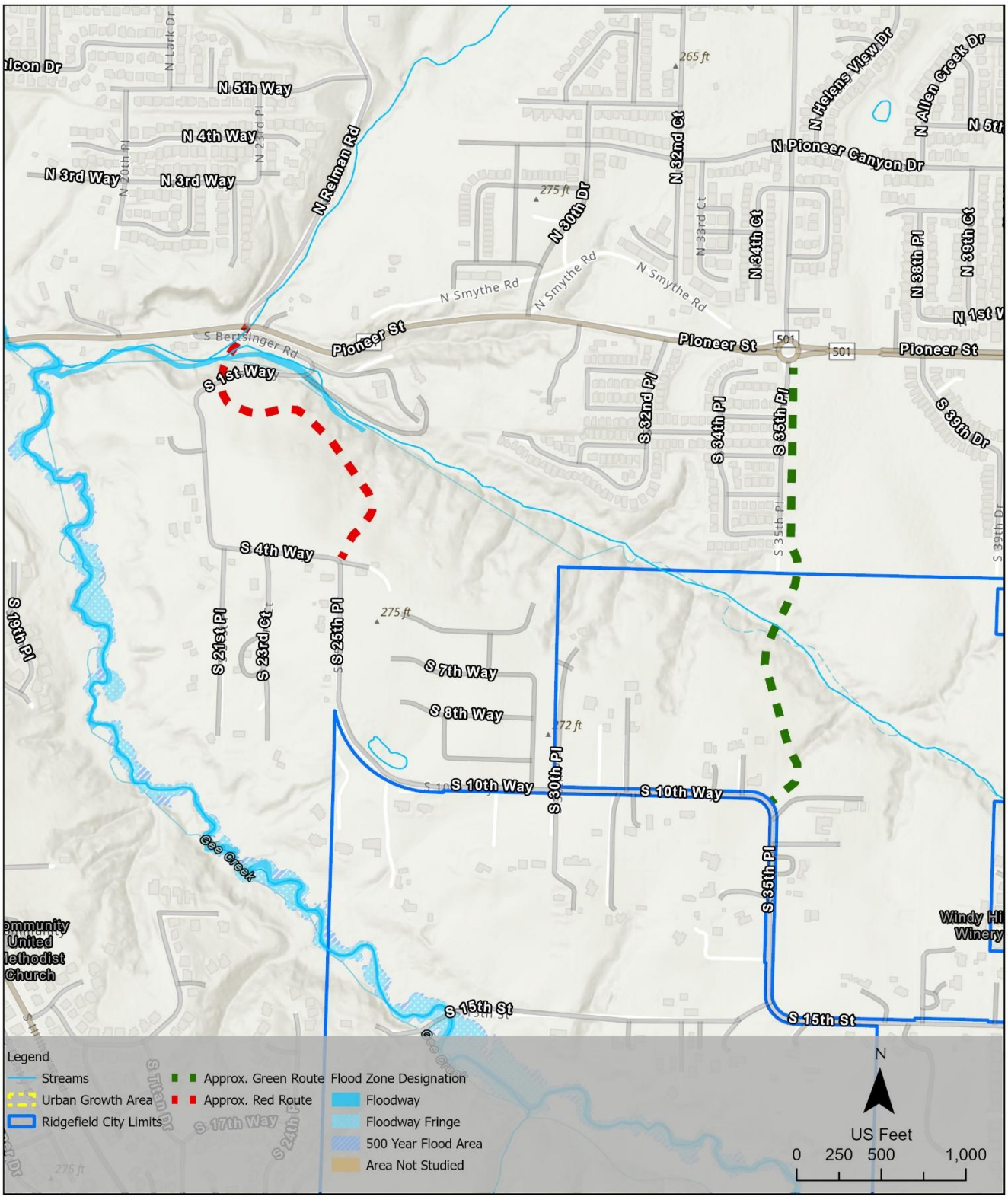
Both project areas are within a Category II CARA. CARAs are intended to prevent the degradation of, and where possible the enhancement of, the quality of groundwater. The area outside city limits along the Green Alternative is within a CARA-designated area by the county. There are no activities prohibited 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

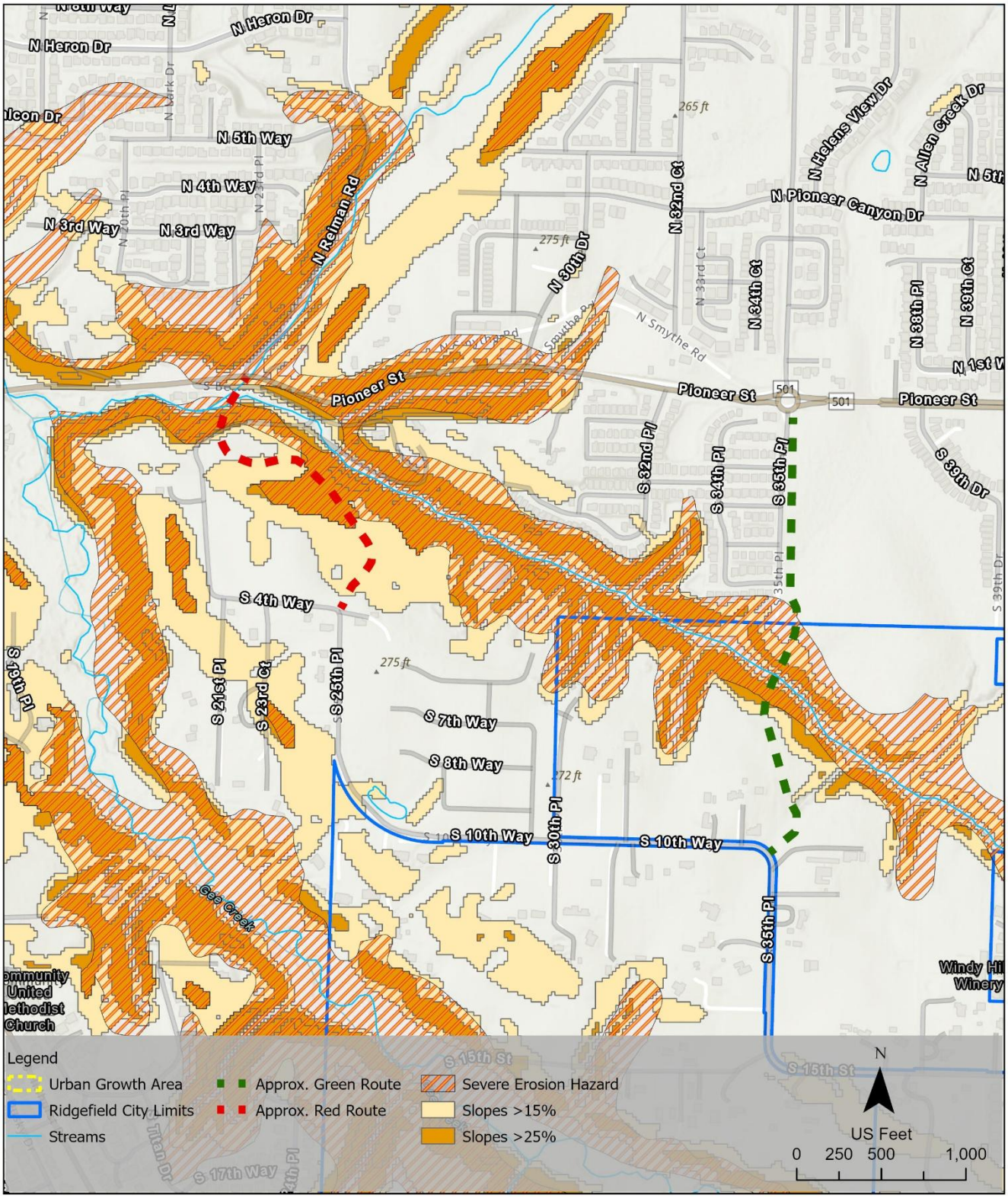
Both alignments are located within the northern Portland-Vancouver Basin and feature varied elevation changes, with slopes primarily descending along north- and south-facing Gee Creek tributaries. The geology is shaped by tectonic activity of the Cascadia Subduction Zone, resulting in a landscape governed 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 |
| | 20 S 30th Place | 213788000 | 1972 | Likely Not Eligible |
| Red | 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).

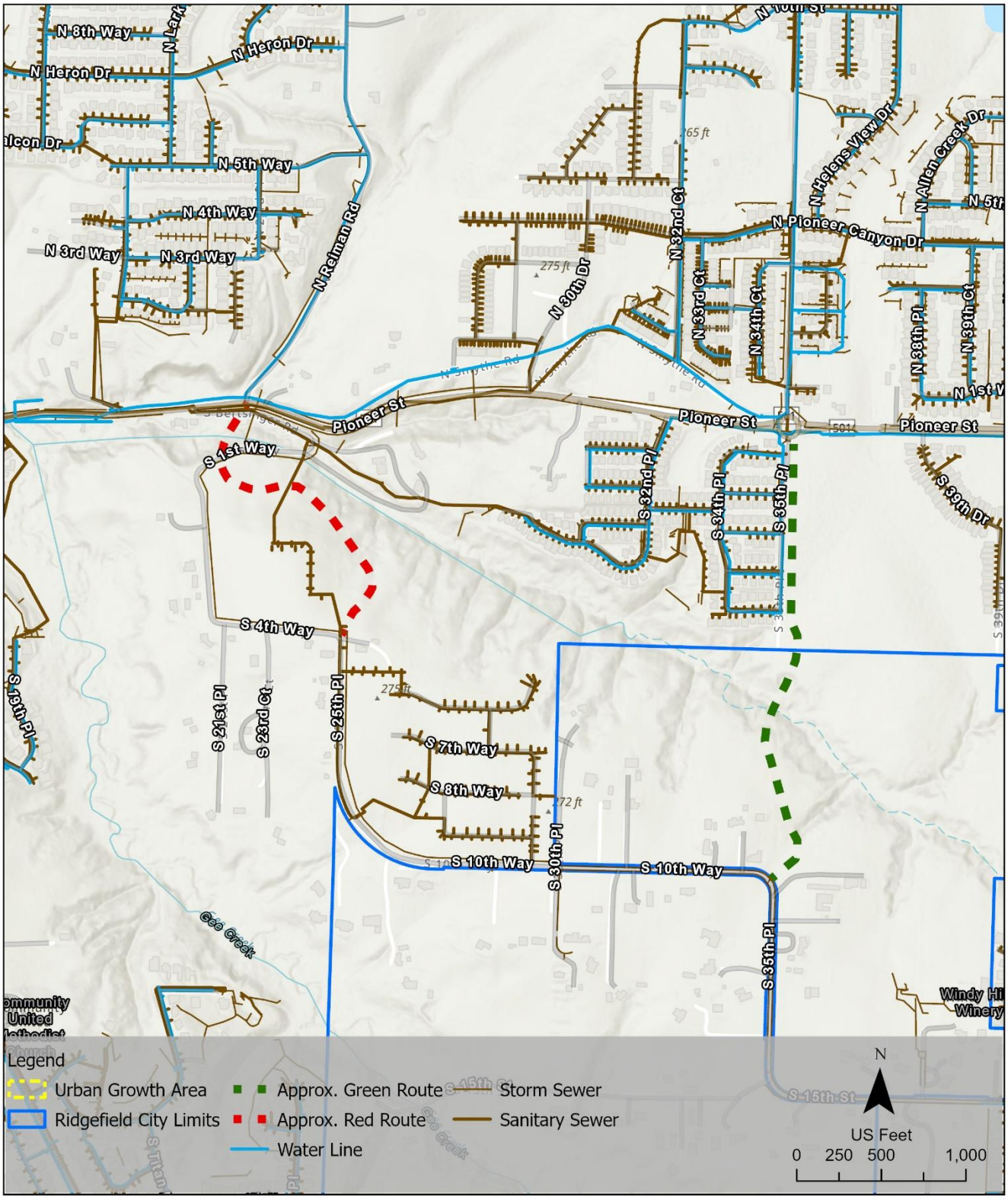
# 2.7 PUBLIC UTILITIES

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*

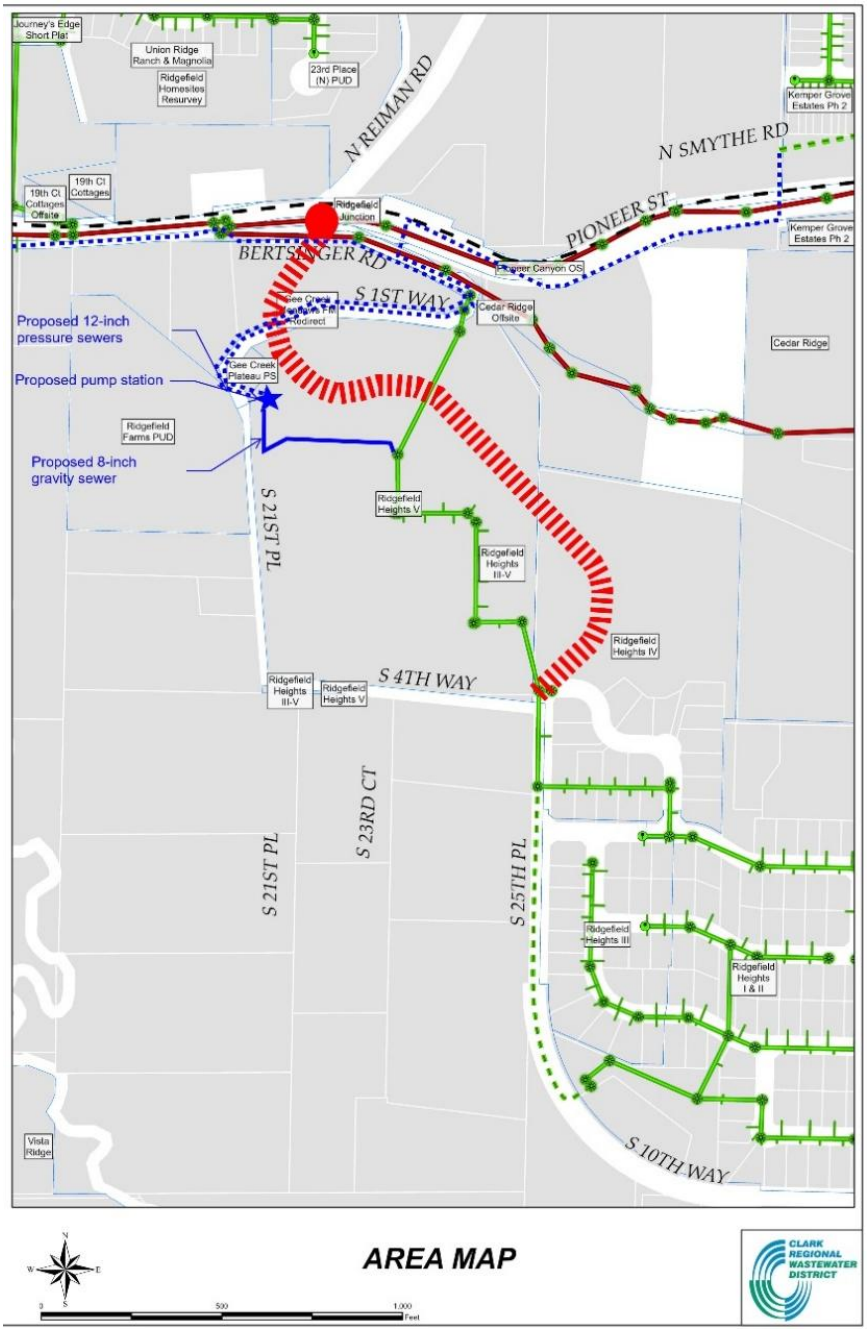
Water, sewer, and stormwater services are provided by the City. Electricity and gas are provided by Clark Public Utilities and Northwest Natural Gas, respectively. Water, sewer, and stormwater lines along the Green Alternative corridor align with the current road system, as shown in Figure 11 below. 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<br>• Constructs new roadway and improves existing intersection to meet adopted City standards and include Complete Streets elements<br>• Provides greater system benefits, including improved operations and minor reductions in vehicle delay<br>• Supports long-term growth and would result in comparatively fewer impacts to existing and future property owners<br>• More impacts to critical areas which would require mitigation<br>• 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<br>• Constructs new roadway and expands existing roadway to meet adopted City standards and include Complete Streets elements<br>• Maintains safe and efficient operations but provides limited to negligible operational benefits at study intersections<br>• Supports long-term growth, but would require more conversion of residential land and results in impacts to more existing property owners<br>• Less impacts to critical areas which would require mitigation<br>• Favored by majority of community members that have been involved in outreach activities |
| Transportation Analysis | • Supports future transportation demand<br>• Reduces collision rate at Reiman Road / Pioneer Street intersections<br>• Provides minor delay reductions; does not introduce new operational delays<br>• Better addresses existing traffic within the Gee Creek Plateau | • Supports future transportation demand<br>• Provides minimal to negligible delay reductions; does not introduce new operational delays<br>• 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<br>• No changes to land use designations proposed<br>• Would require less conversion of residential land to ROW compared to the Green Alternative<br>• No impacts to existing parks<br>• 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<br>• Designated Urban Low Density<br>• Conversion of residential land to public ROW is slightly greater than the Red Alternative<br>• Within a 0.5-mile walkshed of Cedar Ridge open space<br>• Improves access to local trail network |
| Noise | • Impacts to ~30 residential properties<br>• Increased noise levels for trail usage | • Impacts to ~47 existing residential properties<br>• Increased noise levels for trail usage |
| Geotechnical Analysis | • Alignment will cross through a steep ravine<br>• Groundwater may be present at variable depths<br>• Low risk of liquefaction<br>• Steep slopes will likely require more retaining walls along the ravine compared to the Green Alternative | • Alignment will cross through a steep ravine<br>• Groundwater may be present at variable depths<br>• Low risk of liquefaction<br>• 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<br>• Potential impacts to Oak Woodland, mature forest area, and sensitive bat habitat<br>• Potential impacts to Steelhead and Coho salmon; Coho salmon is a threatened species<br>• 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)<br>• Potential impacts to mature forest area and sensitive bat habitat<br>• Minimal flood risk and no mapped floodplains |

| | | |
|---|---|---|
| Cultural Resources | • Moderate to high probability of archaeological resources at southern terminus<br>• Impacts to one property that is likely eligible for listing: 213504000 | • Moderate to high probability of archaeological resources at southern terminus<br>• 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 |

# REFERENCES


Archaeological Investigations Northwest, Inc. (AINW). February 16, 2024. 35th Avenue Extension Project Memo, Report No. 5154.

Clark County Geographic Information Services. MapsOnline. Clark County, Washington. Available online at <https://gis.clark.wa.gov/mapsonline/index.cfm>

Ecological Land Services, Inc. (ELS). April 2007. Kemper Property Site Wetland Delineation Report.

Ecological Land Services, Inc. (ELS). 2015.

Federal Emergency Management Agency (FEMA). 2024. FEMA Flood Map Service Center. Accessed October 14, 2025. Available online at https://msc.fema.gov/portal/search?AddressQuery=Ridgefield%2C%20Washington.

PBS Engineering and Environmental (PBS). May 29, 2024. Preliminary Critical Areas Assessment, South 35th Avenue Extension Project.

Washington Department of Fish and Wildlife (WDFW). 2025a. Priority Habitat and Species List. Available online at <https://wdfw.wa.gov/species-habitats/at-risk/phs/list>.

Washington Department of Fish and Wildlife (WDFW). 2025b. Priority Habitats and Species on the Web. Accessed October 8, 2025. Available online at <https://geodataservices.wdfw.wa.gov/hp/phs/>.

Washington State Department of Natural Resources (DNR). 2025. Forest Practices Application Mapping Tool. Accessed October 16, 2025. Available online at < https://dnr.wa.gov/forest-regulation/forest-practices-application-review-system-fpars>.

Washington State Department of Transportation (WSDOT). 2020. 2020 Traffic Noise Policy and Procedures. Available online at https://wsdot.wa.gov/sites/default/files/2021-10/ENV-ANE-NoisePolicy2020.pdf.

# 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 Alterative 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*

[redacted]











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.

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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.<br><br>Note: *This issue can be resolved by:*<br>• *Making minor upgrades to the existing Bertsinger / S 1st / S 21st Corridor,*<br>• *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.* |
| Leverages existing roundabout at 35th and Pioneer and existing sections of S 35th. | Legal risks due to land appropriation needs. |
| Grades are acceptable, reducing pedestrian/vehicle safety risks, particularly in inclement weather | |
| Lower risks:<br>• Lower cost<br>• Lower schedule risk<br>• Great probability of project completion<br>• Far lower Geotech risks<br>• 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. | |
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**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. |

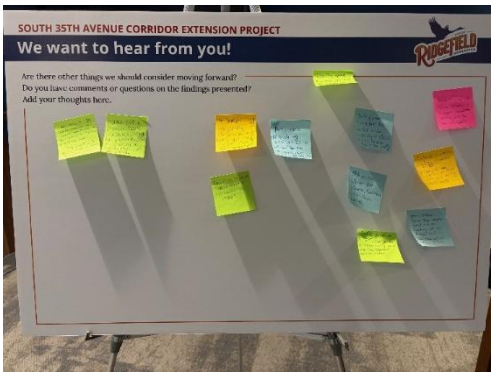
# Open House Summary



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. 25$^{th}$ 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 21$^{st}$ 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.*

Community Open House and Online Engagement Comments

| 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 safter 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 |

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| 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 est 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 raveen 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 |

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| 4/10/2026 | **Pros**<br>Adheres to City's transportation plan for a north-south connector via 35th.<br>The Green option replaces the need for the Red option (or at least delays it a generation)<br>Leverages existing roundabout at 35th and Pioneer and existing sections of S 35th.<br>Benefits for overall traffic flow through Ridgefield, particularly reducing volumes through the Pioneer/Royle intersection:<br>•By 2030, the planned S. 11th overpass across I 5 will help relieve pressure on the Pioneer/I 5 interchange.<br>•The Green alignment allows two way travel between the following areas without routing vehicles through the Pioneer/Royle intersection:<br>·Neighborhoods north of Pioneer and west of 35th<br>·Royle Road and the future S. 11th overpass<br>Grades are acceptable, reducing pedestrian/vehicle safety risks, particularly in inclement weather<br>Lower risks:<br>•Lower cost<br>•Far lower Geotech risks<br>•Lower environmental risks<br>•Lower project schedule risk (primarily due to potential Geotech risks)<br>•HIgher probability of project completion (potential Geotech and other risks have the potential to derail the project)<br>Retains historic Bertsinger Road route – potentially the last original road from Ridgefield's rural heritage.<br>Potential to reduce traffic on Pioneer at Reiman Road for traffic to/from I-5 and areas in Ridgefield to the east.<br>Protects open public spaces through the beautiful area around Bertsinger Road.<br><br>**Cons**<br>Longer access to downtown Ridgefield from western end of Gee Creek Plateau.<br>Note: This issue can be resolved by:<br>•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.<br>•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**<br>Shorter access to downtown Ridgefield from western end of Gee Creek Plateau<br>Potential to reduce traffic along S 259th<br><br>**Cons**<br>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.<br>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.<br>Higher project risks:<br>•Higher cost<br>•Higher schedule risk<br>•Greater risk of project completion<br>•Higher Geotech risks<br>Higher environmental risks<br>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.<br>Steeper grades which create pedestrian and vehicle safety risks, particularly in inclement weather.<br>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.<br>Consumes open public space and footpaths in and around the Ridgefield Heights/ S 1st/Bertsinger area.<br>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 | **Additional Cons**<br>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."<br>•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.<br>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:<br>•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.<br>•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.<br>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.<br>•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.<br>•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.<br>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.<br>•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 safet to get to downtown Ridgefield? There are too many yound 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 downotwn 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 Ican'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) |

Community Open House and Online Engagement Comments

| | | |
|---|---|---|
| 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 visitied the neighborhood along the green road, I encourage you to do so.<br><br>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.<br><br>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.<br><br>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.<br><br>And I hope the city understands just because their 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 was no profit for you 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 Ridgefield 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.<br><br>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.<br><br>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.<br><br>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.<br>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.<br>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<br><br>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.<br><br>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.<br><br>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.<br><br>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) |

Community Open House and Online Engagement Comments

| | | |
|---|---|---|
| 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

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## 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.

## EXCUTIVE 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.

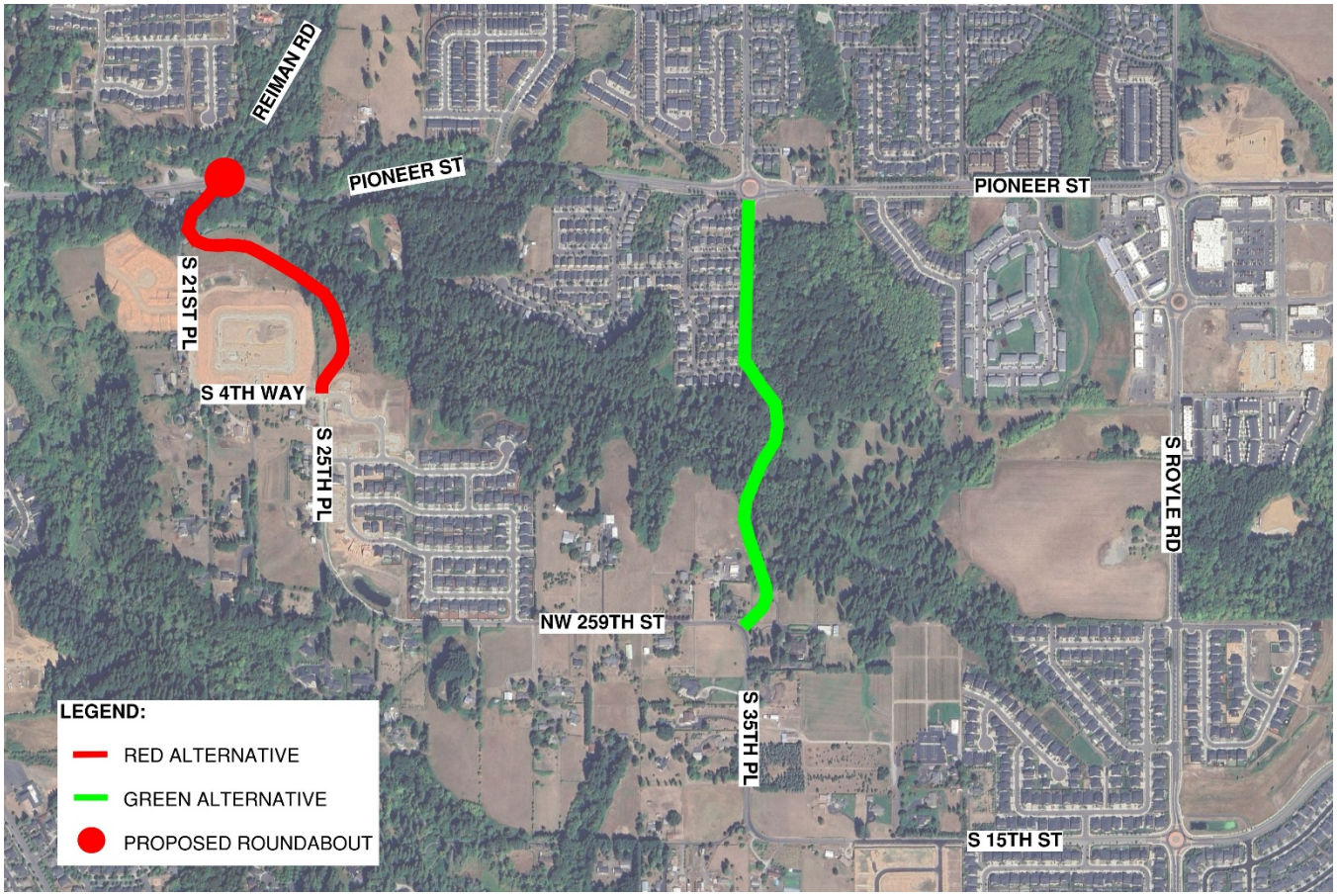



**Exhibit 1. Red and Green Alternatives Map**

## 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.

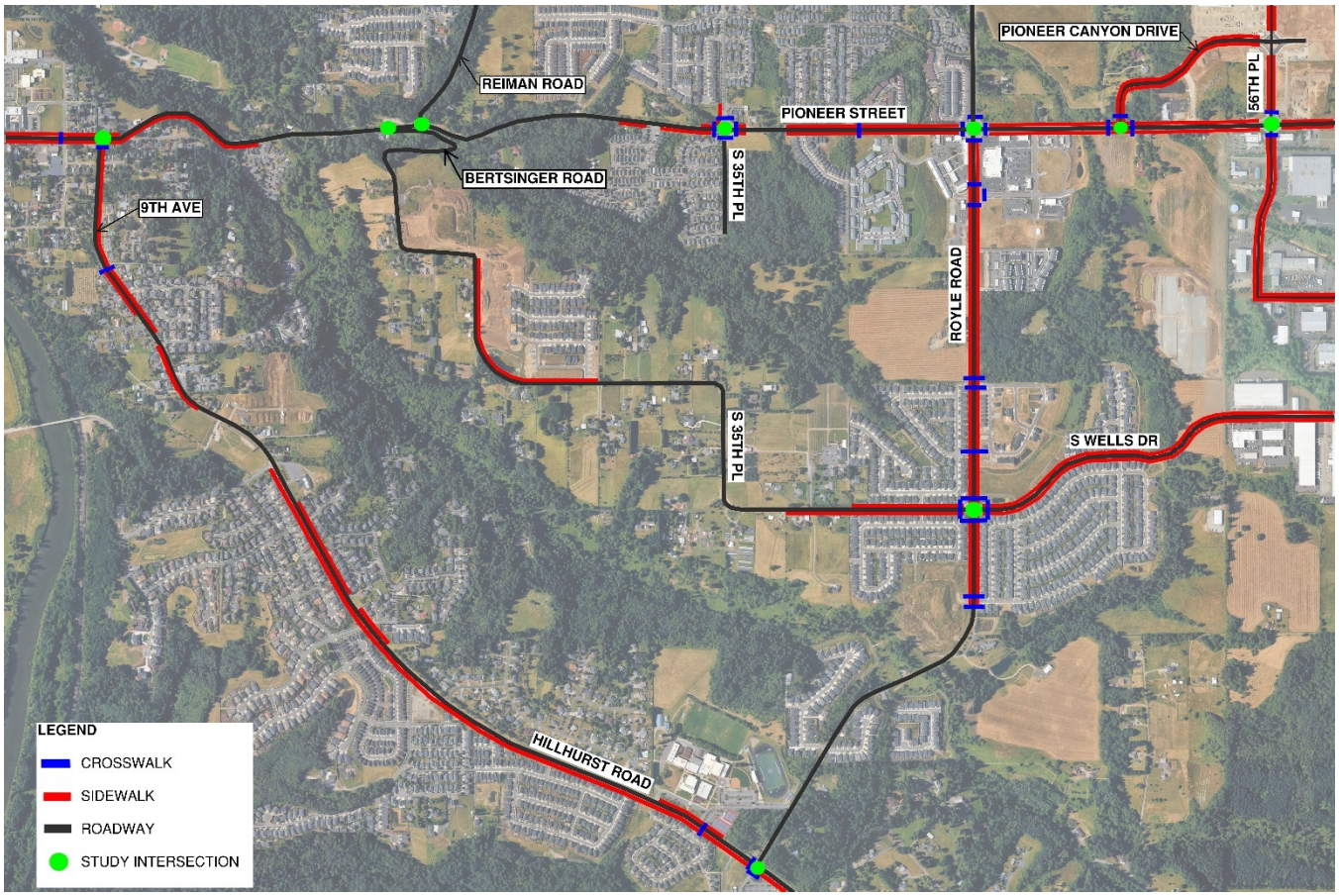



**Exhibit 2. Crosswalk and Sidewalk Locations**

## 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.

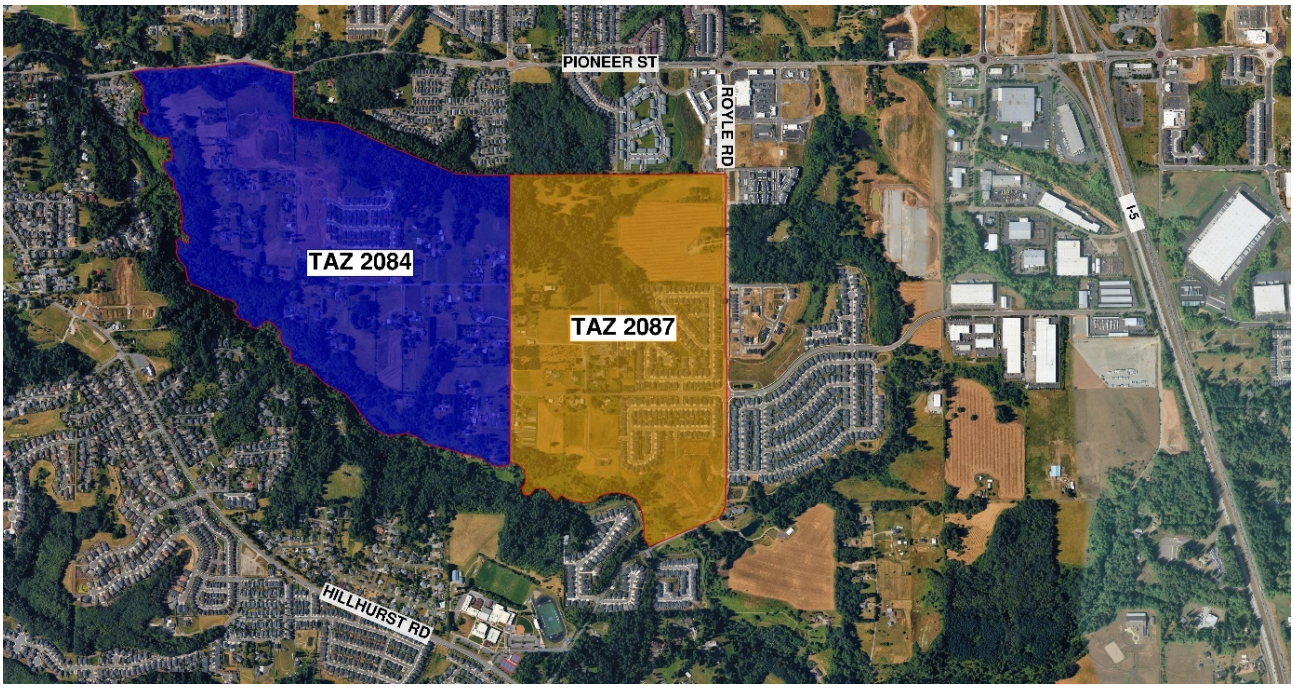



**Exhibit 3. TAZ Locations**

**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 City[2] 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 0.9[4].

**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 765[6]. 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 | Collison 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

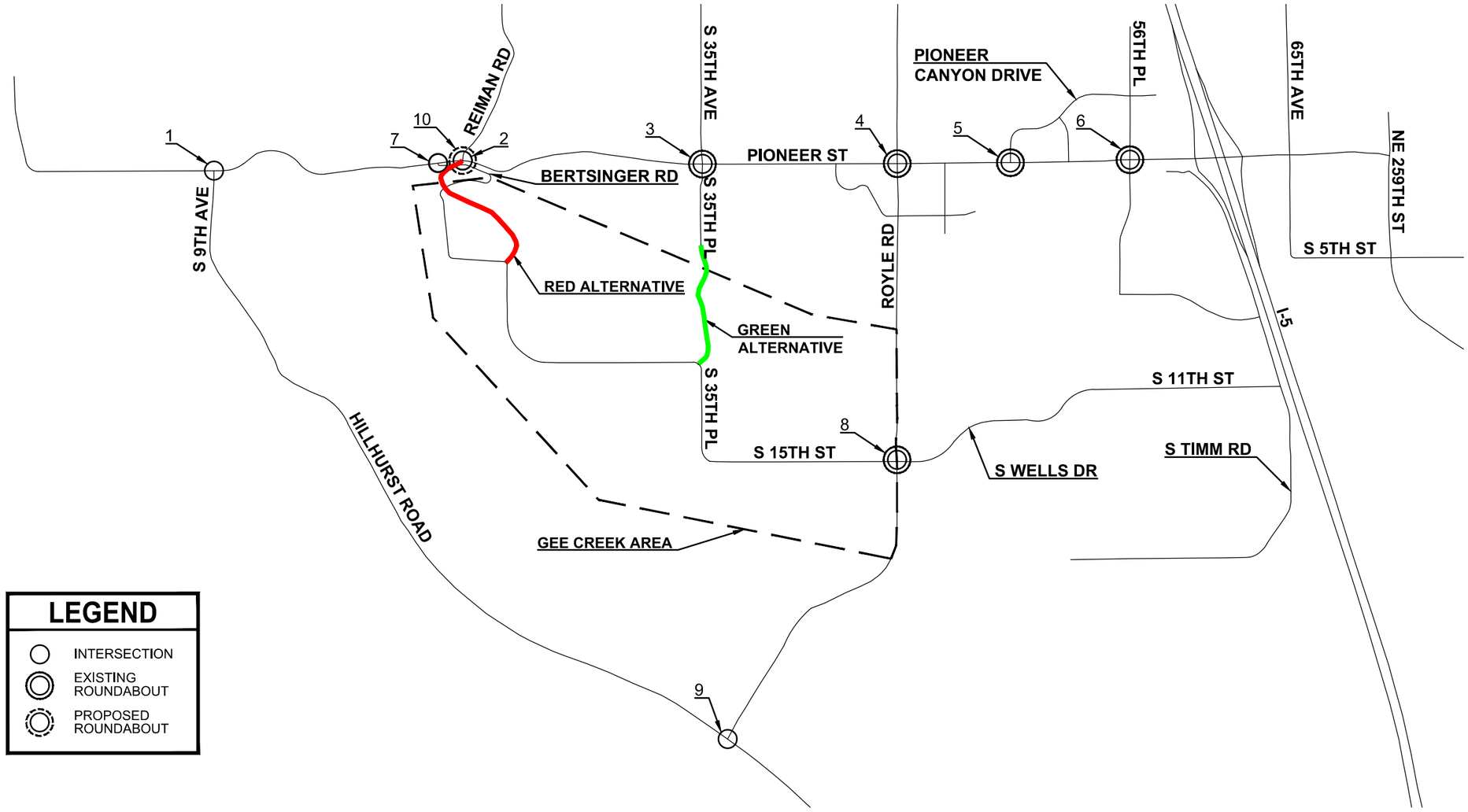
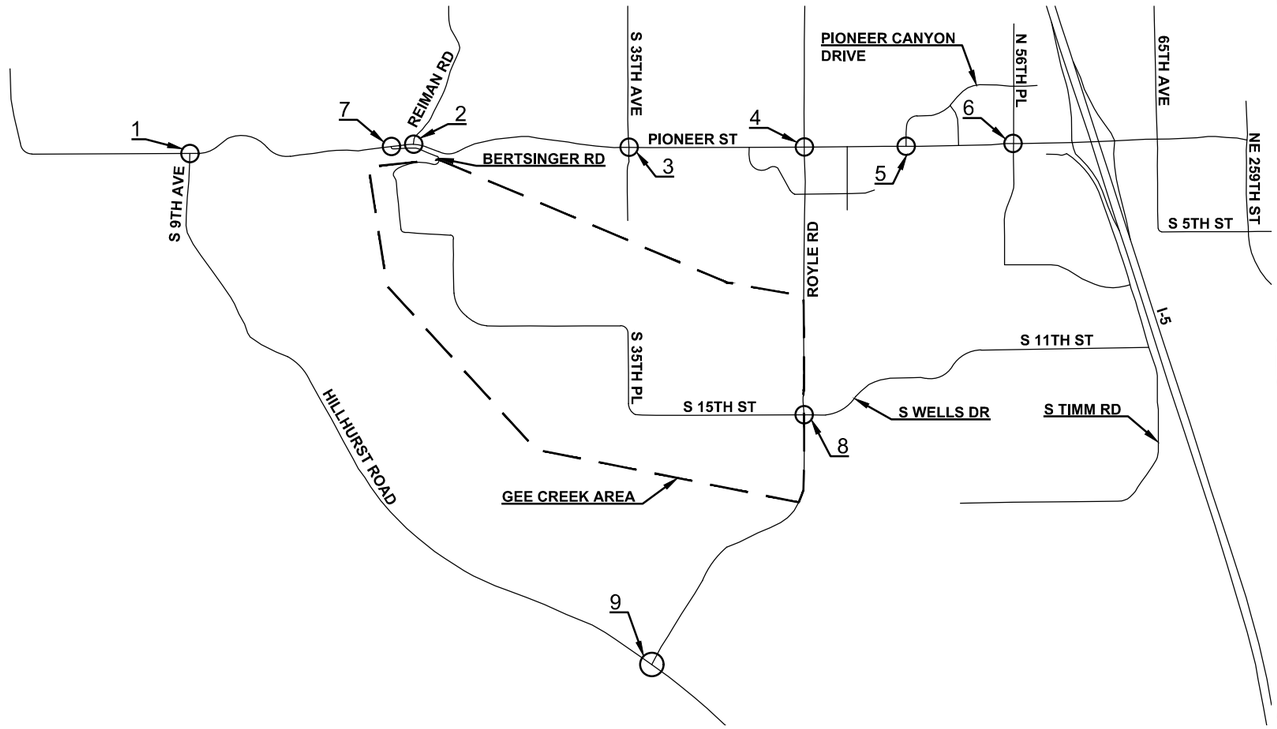
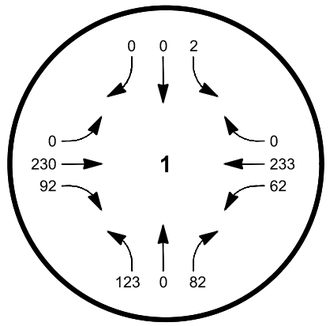



FIGURE 1

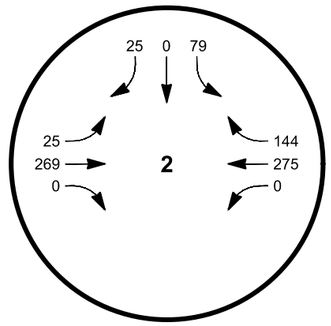
# Vicinity Map & Study Intersections

## 35th Ave Gee Creek Plateau

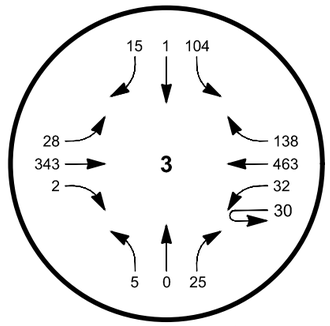


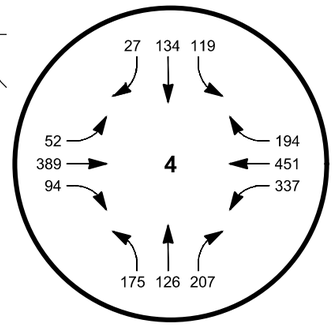

9th Avenue /
Pioneer Street



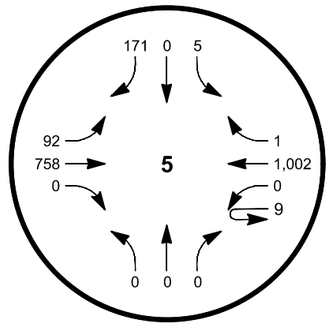

Reiman Road /
Pioneer Street



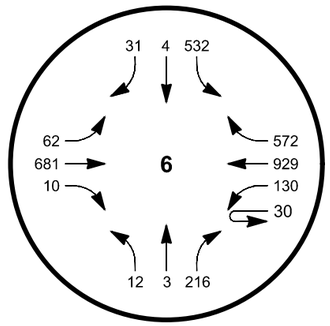

35th Avenue /
Pioneer Street



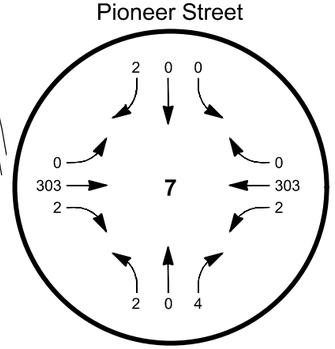

Royle Road /
Pioneer Street



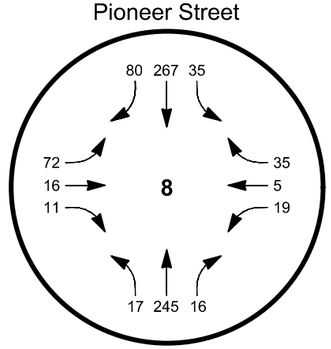

Pioneer Canyon Drive /
Pioneer Street



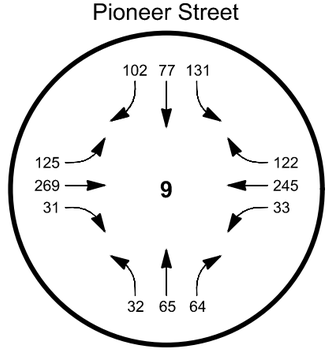

56th Place /
Pioneer Street




Bertsinger Road /
Pioneer Street




Royle Road /
S Wells Drive




Hillhurst Road /
Royle Road

**LEGEND**

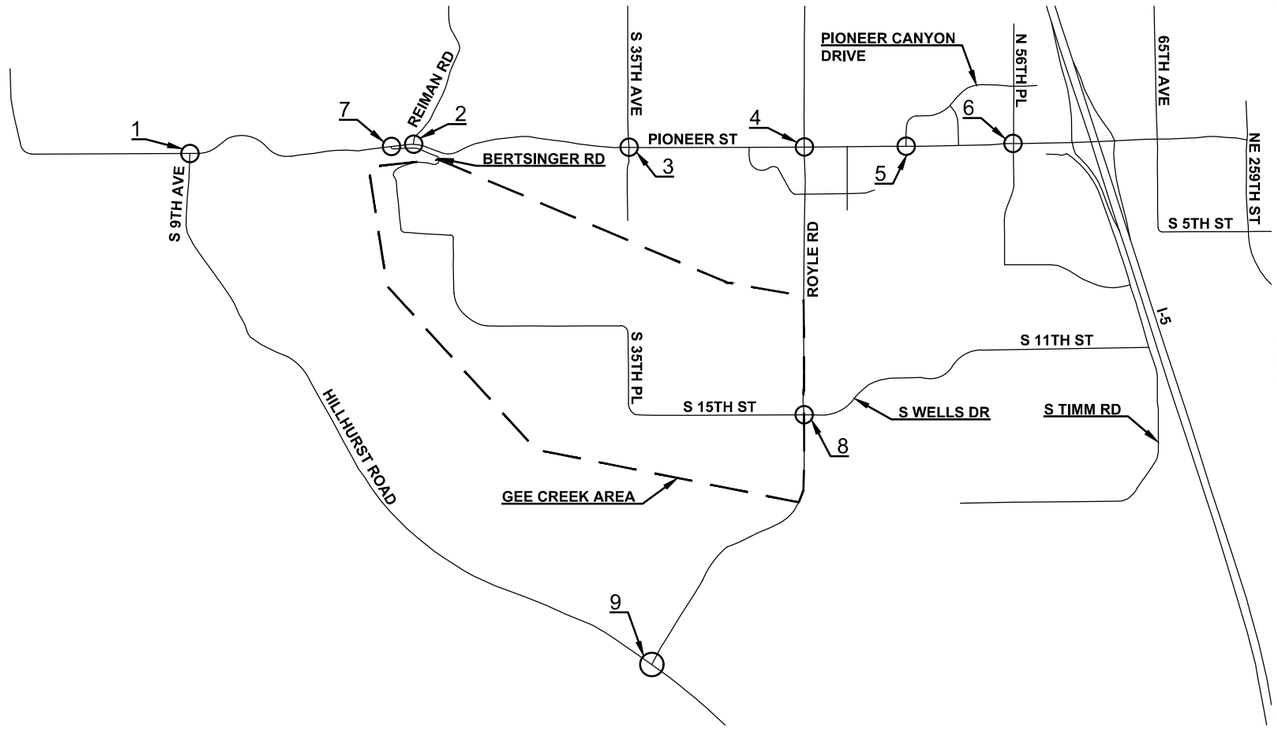
| | |
|---|---|
| ○ | INTERSECTION |
| XXX | PM PEAK HOUR |

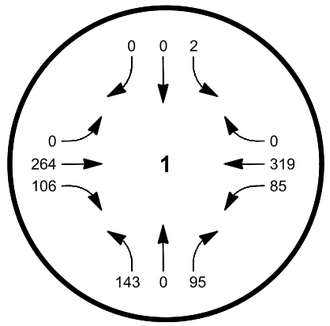
NTS

FIGURE 2

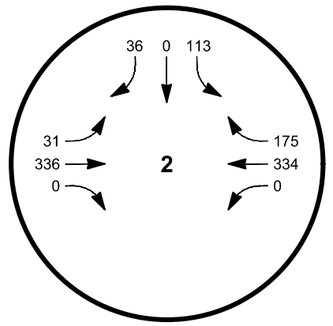
# 2025 Existing Volumes

## 35th Ave Gee Creek Plateau

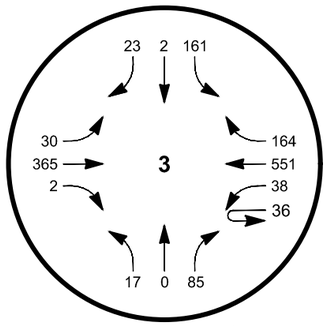


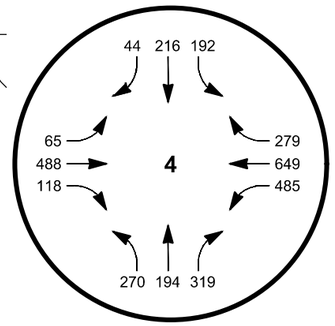

9th Avenue /
Pioneer Street



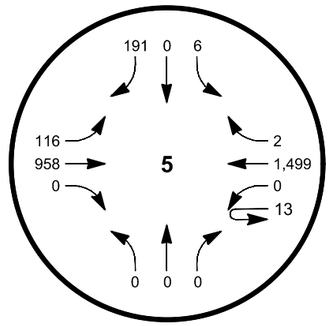

Reiman Road /
Pioneer Street



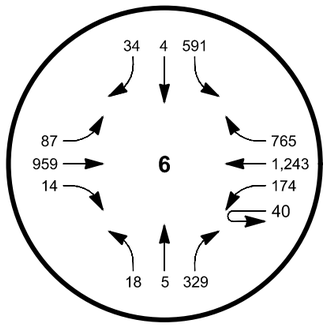

35th Avenue /
Pioneer Street



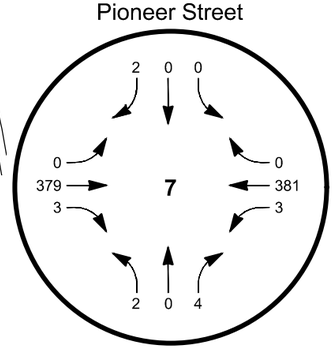

Royle Road /
Pioneer Street



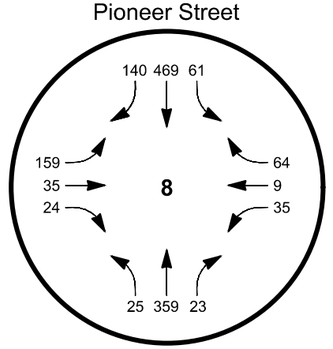

Pioneer Canyon Drive /
Pioneer Street



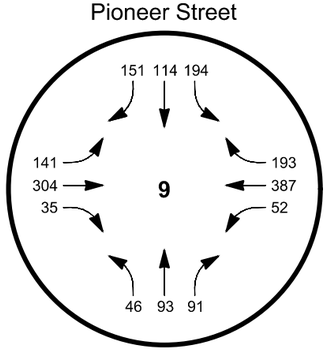

56th Place /
Pioneer Street




Bertsinger Road /
Pioneer Street




Royle Road /
S Wells Drive




Hillhurst Road /
Royle Road

**LEGEND**

| | |
|---|---|
| ○ | INTERSECTION |
| XXX | PM PEAK HOUR |

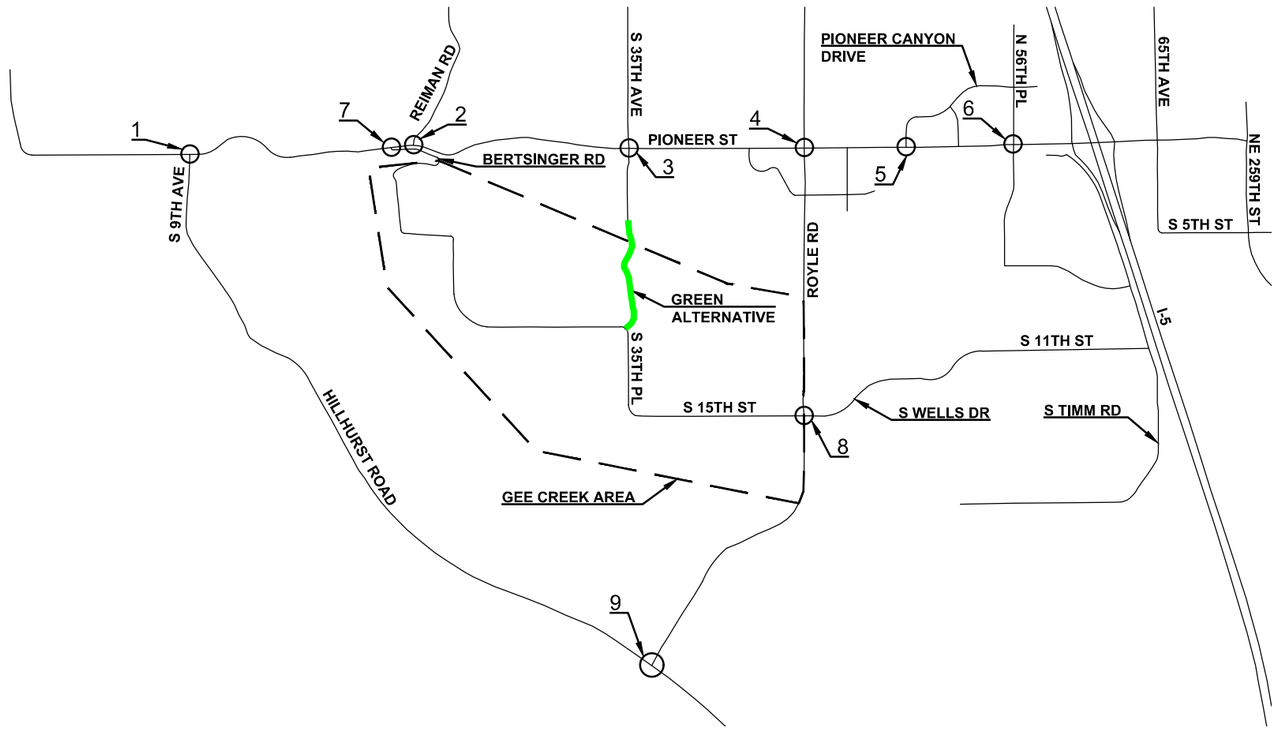
N

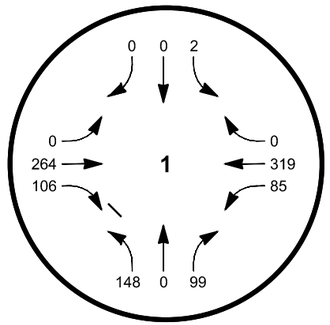
NTS

FIGURE 3

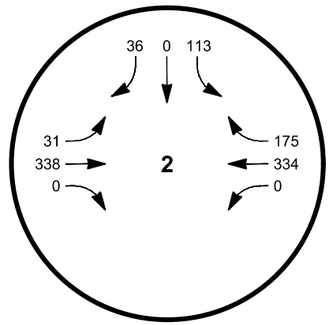
# 2040 No-Build Volumes

## 35th Ave Gee Creek Plateau

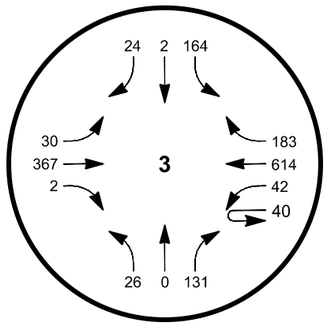


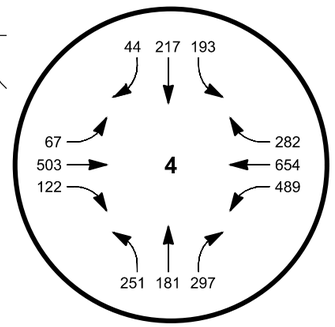

9th Avenue /
Pioneer Street



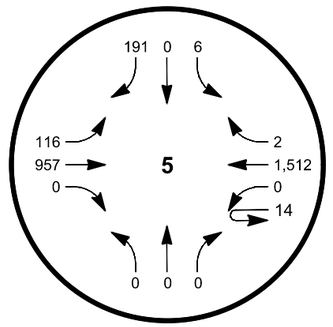

Reiman Road /
Pioneer Street



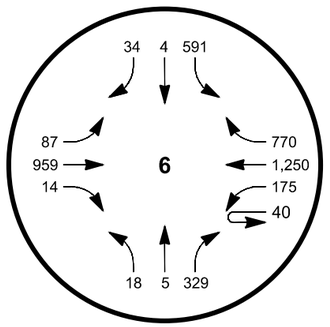

35th Avenue /
Pioneer Street



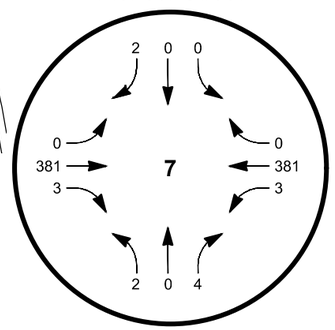

Royle Road /
Pioneer Street



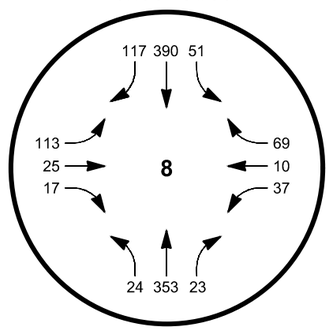

Pioneer Canyon Drive /
Pioneer Street



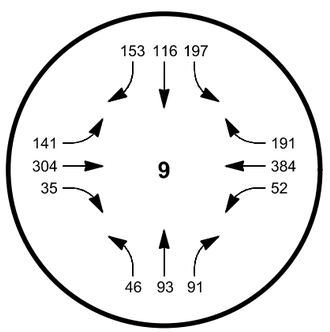

56th Place /
Pioneer Street




Bertsinger Road /
Pioneer Street




Royle Road /
S Wells Drive




Hillhurst Road /
Royle Road

**LEGEND**

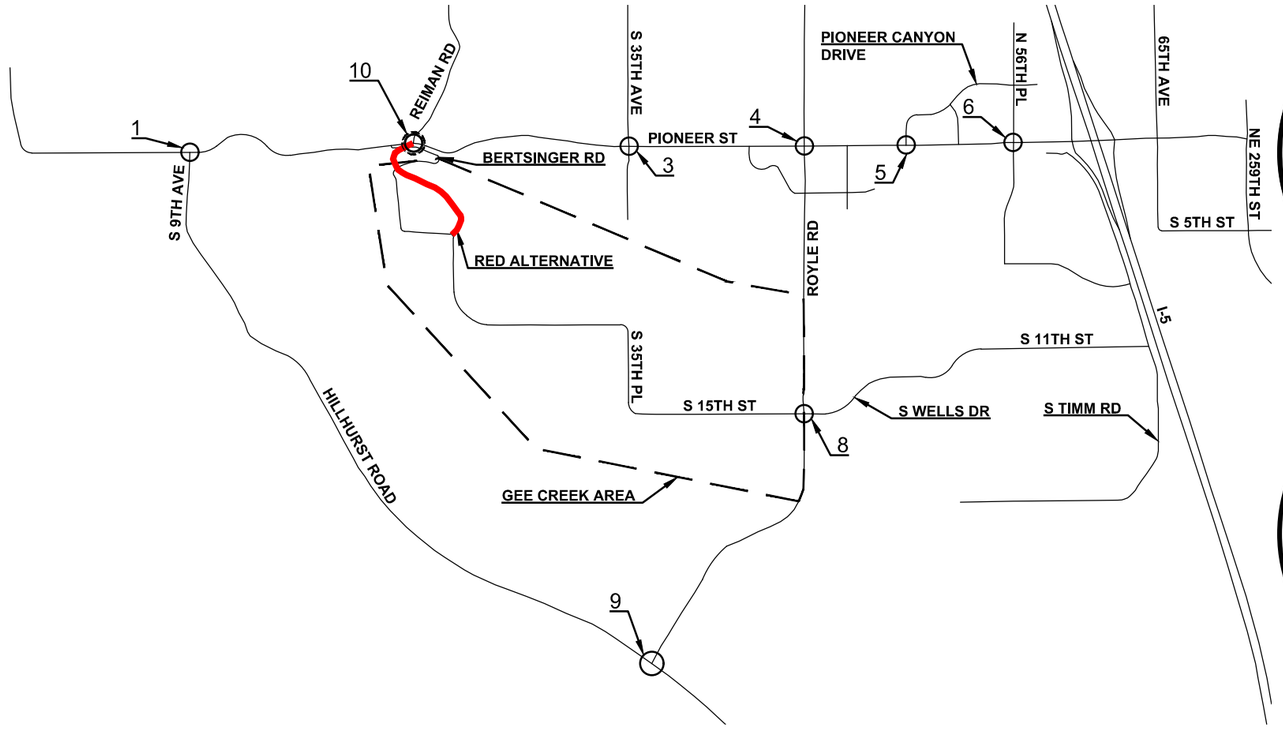
| | |
|---|---|
| ○ | INTERSECTION |
| XXX | PM PEAK HOUR |

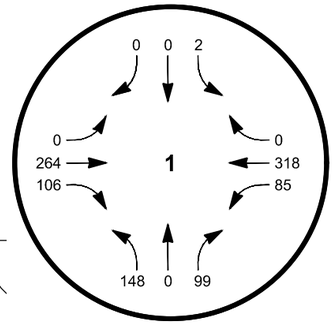
NTS

FIGURE 4

# 2040 Build Volumes - Green Alternative

## 35th Ave Gee Creek Plateau

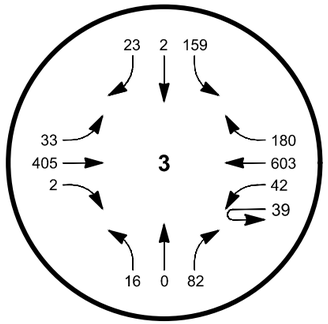


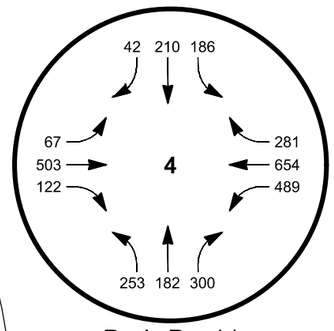

9th Avenue /
Pioneer Street

Intersection does not exist

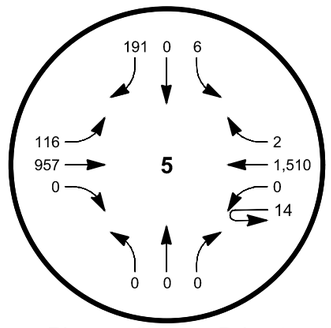
Reiman Road /
Pioneer Street



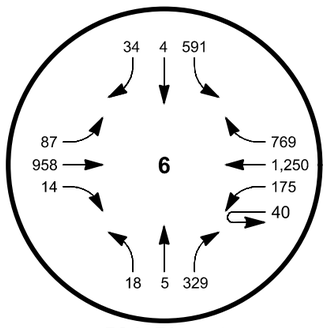

35th Avenue /
Pioneer Street




Royle Road /
Pioneer Street



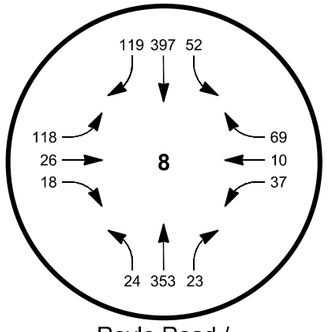

Pioneer Canyon Drive /
Pioneer Street



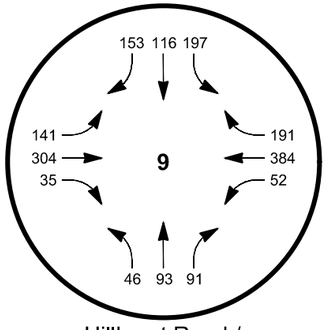

56th Place /
Pioneer Street

Intersection does not exist

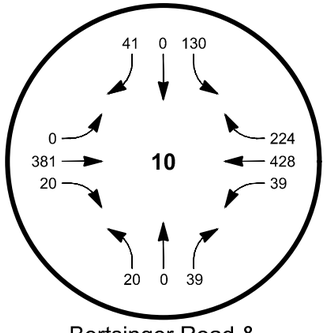
Bertsinger Road /
Pioneer Street




Royle Road /
S Wells Drive




Hillhurst Road /
Royle Road




Bertsinger Road &
Reiman Road /
Pioneer Street

**LEGEND**

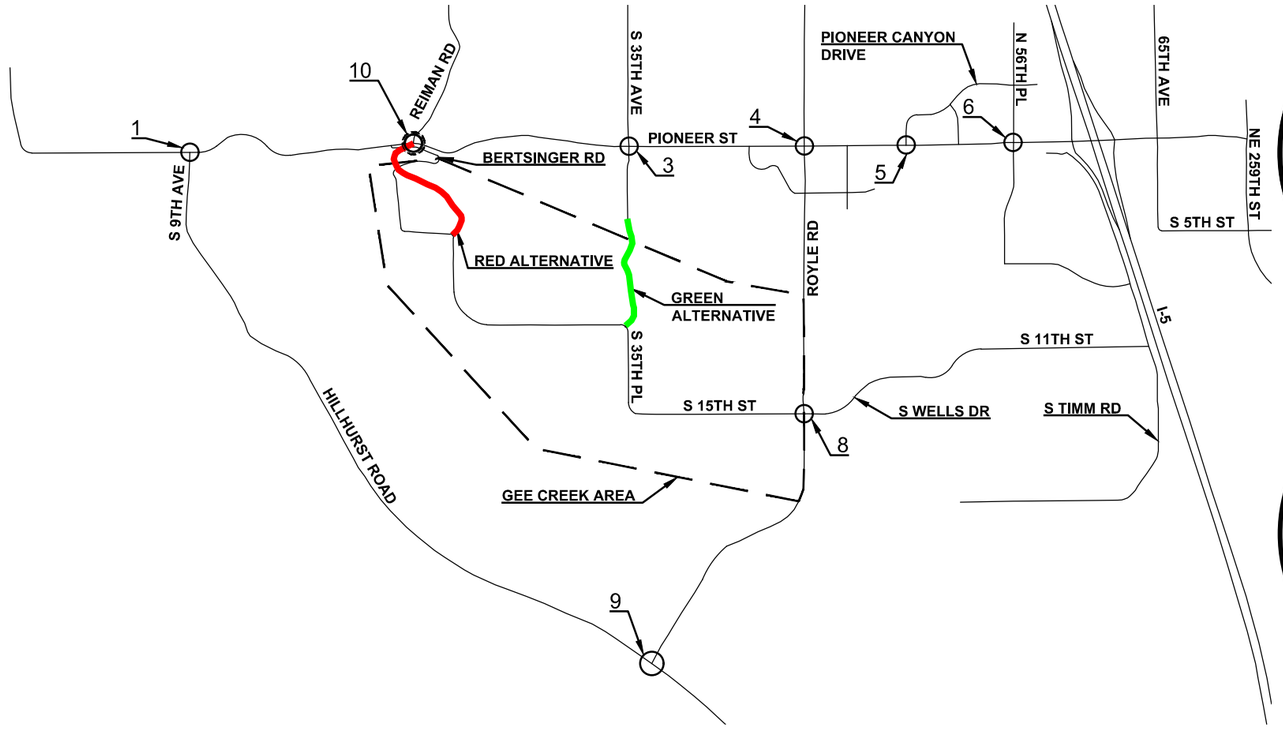
- INTERSECTION
- PROPOSED ROUNDABOUT
- XXX PM PEAK HOUR

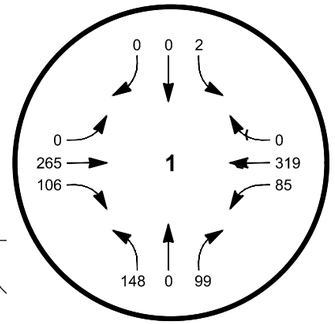
NTS

FIGURE 5

# 2040 Build Volumes - Red Alternative

## 35th Ave Gee Creek Plateau

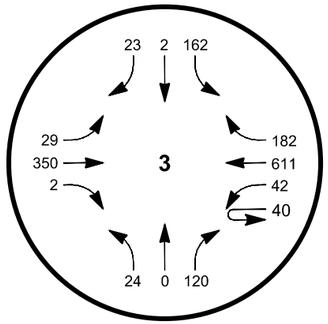


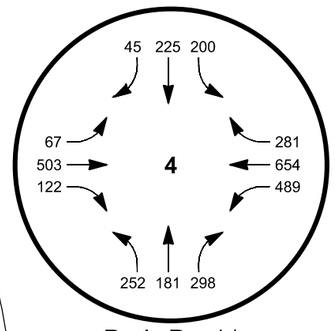

9th Avenue /
Pioneer Street

Intersection does not exist

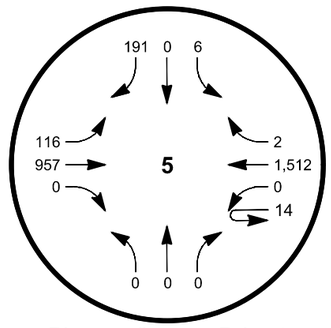
Reiman Road /
Pioneer Street



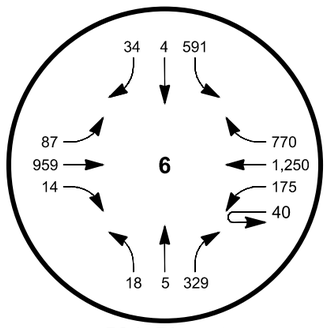

35th Avenue /
Pioneer Street




Royle Road /
Pioneer Street



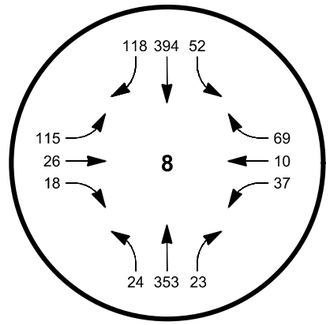

Pioneer Canyon Drive /
Pioneer Street



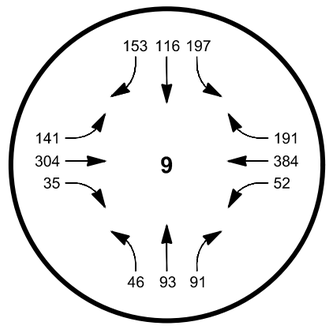

56th Place /
Pioneer Street

Intersection does not exist

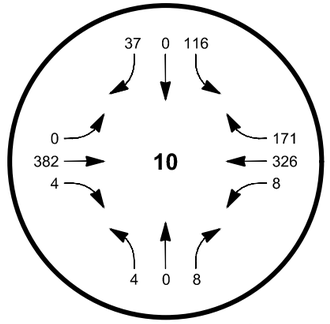
Bertsinger Road /
Pioneer Street




Royle Road /
S Wells Drive




Hillhurst Road /
Royle Road




Bertsinger Road &
Reiman Road /
Pioneer Street

**LEGEND**

- INTERSECTION
- PROPOSED ROUNDABOUT
- XXX PM PEAK HOUR

NTS

FIGURE 6

# 2040 Build Volumes - Red & Green Alternatives

## 35th Ave Gee Creek Plateau

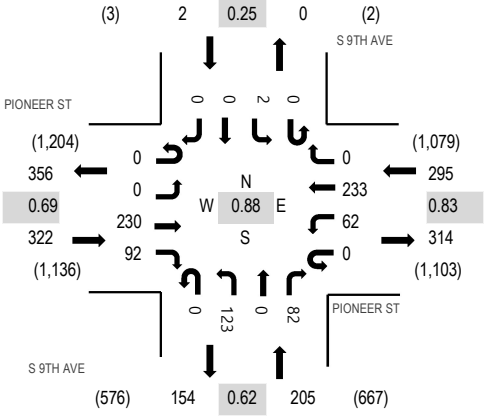
# Appendix A
## Traffic Counts

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

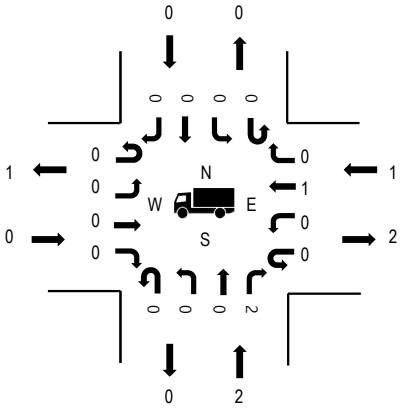
**Location:** 1 S 9TH AVE & PIONEER ST PM
**Date:** Wednesday, December 10, 2025
**Peak Hour:** 02:55 PM - 03:55 PM
**Peak 15-Minutes:** 03:40 PM - 03:55 PM

## Peak Hour

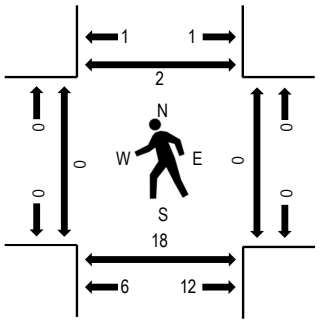
### Motorized Vehicles




### Heavy Vehicles




### Pedestrians




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 | | | | | Rolling Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | |
| 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

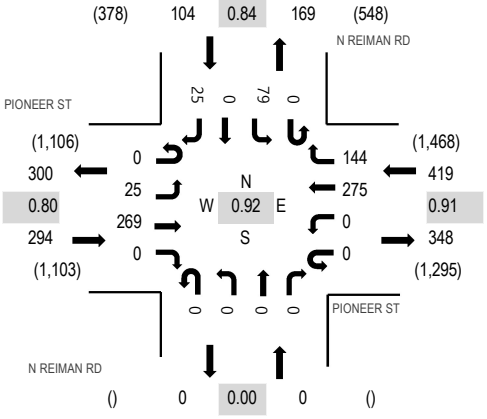
| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | 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 |

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

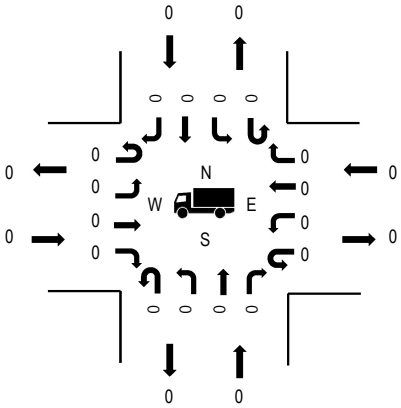
**Location:** 2 N REIMAN RD & PIONEER ST PM
**Date:** Wednesday, December 10, 2025
**Peak Hour:** 04:15 PM - 05:15 PM
**Peak 15-Minutes:** 05:00 PM - 05:15 PM

## Peak Hour

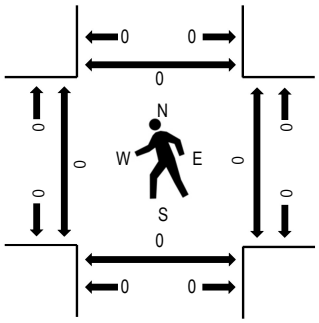
### Motorized Vehicles




### Heavy Vehicles



### Pedestrians



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 | | | | | Rolling Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | |
| 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

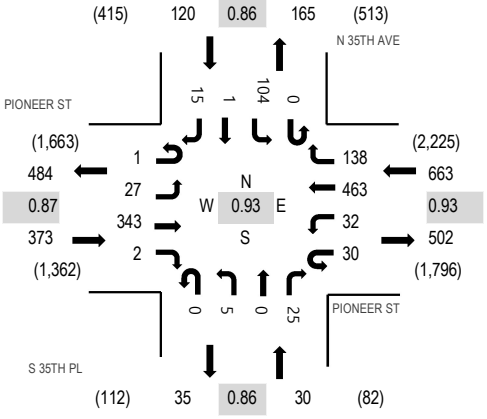
| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | 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 |

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

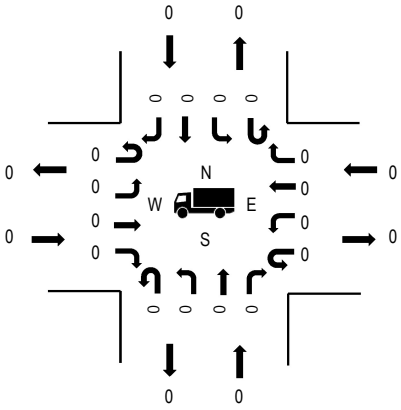
**Location:** 3 S 35TH PL & PIONEER ST PM
**Date:** Wednesday, December 10, 2025
**Peak Hour:** 04:30 PM - 05:30 PM
**Peak 15-Minutes:** 05:05 PM - 05:20 PM

## Peak Hour

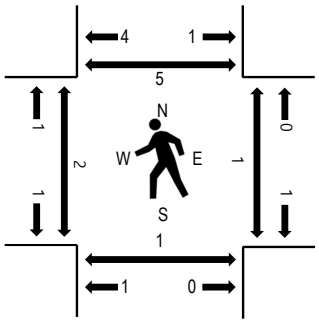
### Motorized Vehicles




### Heavy Vehicles



### Pedestrians



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 | | | | | Rolling Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | |
| 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

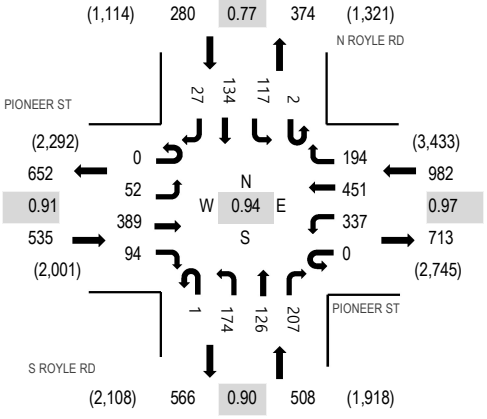
| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | 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

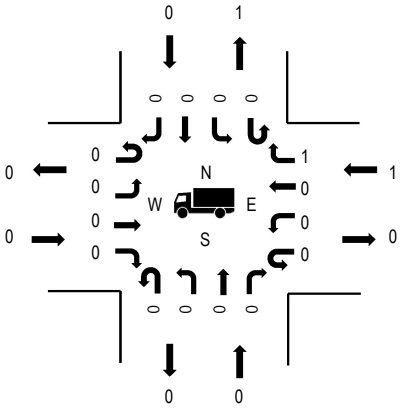
**Location:** 4 S ROYLE RD & PIONEER ST PM
**Date:** Wednesday, December 10, 2025
**Peak Hour:** 04:25 PM - 05:25 PM
**Peak 15-Minutes:** 04:25 PM - 04:40 PM

## Peak Hour

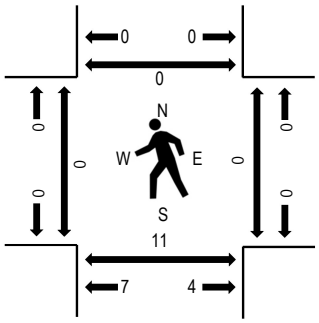
### Motorized Vehicles




### Heavy Vehicles




### Pedestrians




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 | | | | | Rolling Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | |
| 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

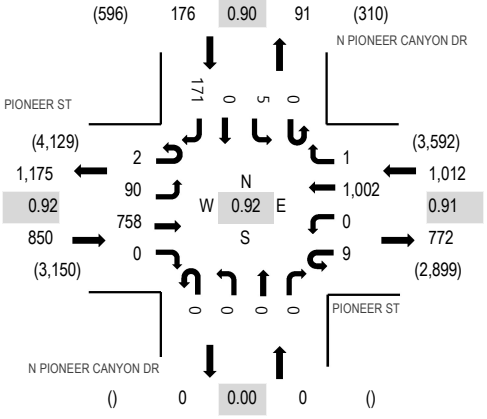
| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | 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 |

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

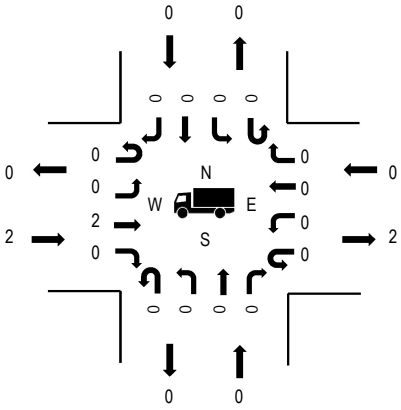
**Location:** 5 N PIONEER CANYON DR & PIONEER ST PM
**Date:** Wednesday, December 10, 2025
**Peak Hour:** 04:40 PM - 05:40 PM
**Peak 15-Minutes:** 04:55 PM - 05:10 PM

## Peak Hour

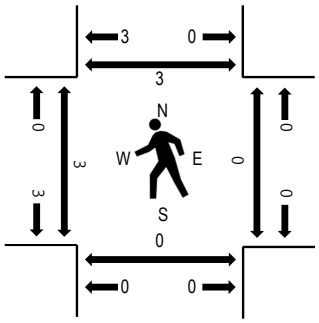
### Motorized Vehicles




### Heavy Vehicles



### Pedestrians



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

| Interval Start Time | PIONEER ST Eastbound | | | | PIONEER ST Westbound | | | | N PIONEER CANYON DR Northbound | | | | N PIONEER CANYON DR Southbound | | | | | Rolling Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | |
| 2:00 PM | 0 | 2 | 51 | 0 | 1 | 0 | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 115 | 1,566 |
| 2:05 PM | 0 | 1 | 41 | 0 | 0 | 0 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 107 | 1,582 |
| 2:10 PM | 1 | 6 | 47 | 0 | 2 | 0 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 114 | 1,631 |
| 2:15 PM | 0 | 8 | 43 | 0 | 0 | 0 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 128 | 1,677 |
| 2:20 PM | 0 | 7 | 59 | 0 | 2 | 0 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 149 | 1,696 |
| 2:25 PM | 0 | 9 | 62 | 0 | 1 | 0 | 55 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 7 | 136 | 1,699 |
| 2:30 PM | 0 | 3 | 44 | 0 | 1 | 0 | 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 134 | 1,716 |
| 2:35 PM | 0 | 6 | 51 | 0 | 1 | 0 | 62 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 130 | 1,728 |
| 2:40 PM | 0 | 3 | 66 | 0 | 1 | 0 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 125 | 1,760 |
| 2:45 PM | 0 | 7 | 63 | 0 | 1 | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 11 | 139 | 1,793 |
| 2:50 PM | 1 | 7 | 67 | 0 | 2 | 0 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 134 | 1,805 |
| 2:55 PM | 0 | 5 | 74 | 0 | 0 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 155 | 1,831 |
| 3:00 PM | 0 | 4 | 68 | 0 | 1 | 0 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 131 | 1,828 |
| 3:05 PM | 0 | 7 | 50 | 0 | 0 | 0 | 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 156 | 1,860 |
| 3:10 PM | 2 | 7 | 67 | 0 | 2 | 0 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 160 | 1,899 |
| 3:15 PM | 0 | 6 | 65 | 0 | 1 | 0 | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 147 | 1,902 |
| 3:20 PM | 0 | 7 | 48 | 0 | 2 | 0 | 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 152 | 1,920 |
| 3:25 PM | 0 | 8 | 48 | 0 | 0 | 0 | 82 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 13 | 153 | 1,942 |
| 3:30 PM | 0 | 5 | 59 | 0 | 1 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 16 | 146 | 1,939 |
| 3:35 PM | 0 | 12 | 75 | 0 | 1 | 0 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 162 | 1,942 |
| 3:40 PM | 0 | 10 | 61 | 0 | 2 | 0 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 14 | 158 | 1,936 |
| 3:45 PM | 0 | 7 | 62 | 0 | 0 | 0 | 67 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 151 | 1,946 |
| 3:50 PM | 0 | 3 | 46 | 0 | 2 | 0 | 84 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 23 | 160 | 1,960 |
| 3:55 PM | 2 | 3 | 49 | 0 | 0 | 0 | 88 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 9 | 152 | 1,951 |
| 4:00 PM | 0 | 8 | 67 | 0 | 2 | 0 | 74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 163 | 1,973 |
| 4:05 PM | 0 | 2 | 84 | 0 | 2 | 0 | 89 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 16 | 195 | 1,998 |
| 4:10 PM | 0 | 6 | 69 | 0 | 1 | 0 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 6 | 163 | 1,997 |
| 4:15 PM | 0 | 7 | 73 | 0 | 2 | 0 | 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 165 | 1,997 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 0 | 14 | 151 | 2,006 |
| 4:55 PM | 0 | 6 | 73 | 0 | 0 | 0 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 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 | 1 | 0 | 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 | 2 | 0 | 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 | 17 | 0 | 579 | 7,338 | |
| Peak Hour | 2 | 90 | 758 | 0 | 9 | 0 | 1,002 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 171 | 2,038 | |

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

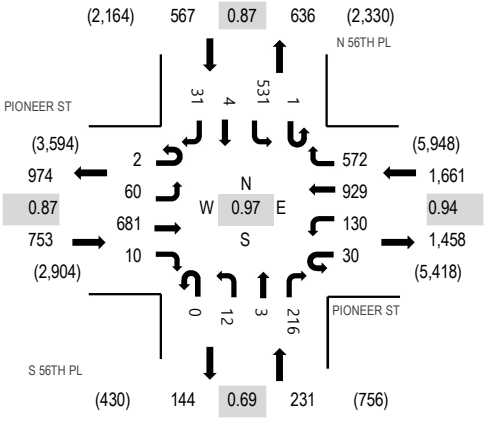
| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | 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

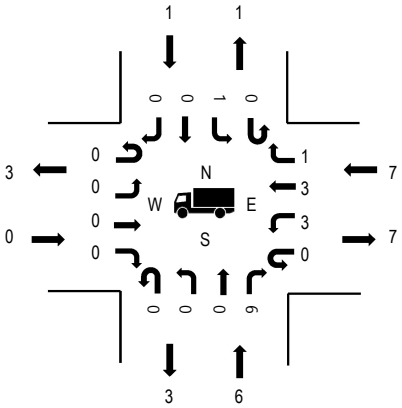
**Location:** 6 S 56TH PL & PIONEER ST PM
**Date:** Wednesday, December 10, 2025
**Peak Hour:** 03:40 PM - 04:40 PM
**Peak 15-Minutes:** 04:10 PM - 04:25 PM

## Peak Hour

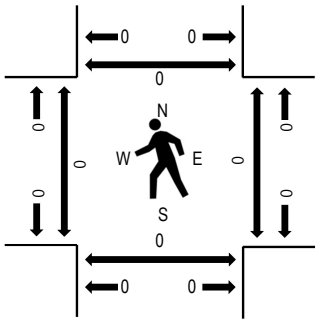
### Motorized Vehicles




### Heavy Vehicles




### Pedestrians




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 | | | | | Rolling Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | |
| 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

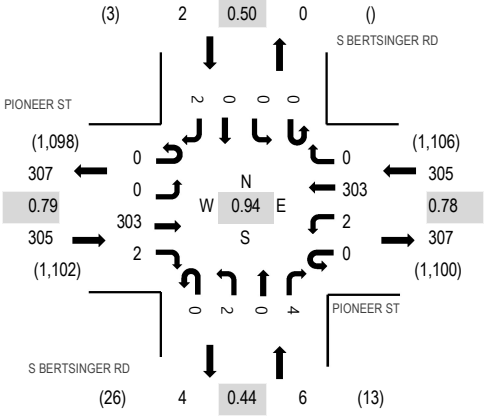
| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | 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 |

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

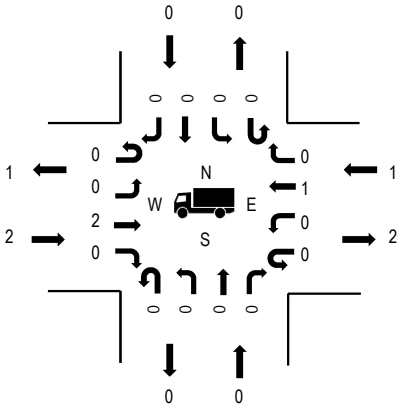
**Location:** 7 S BERTSINGER RD & PIONEER ST PM
**Date:** Wednesday, December 10, 2025
**Peak Hour:** 02:45 PM - 03:45 PM
**Peak 15-Minutes:** 02:45 PM - 03:00 PM

## Peak Hour

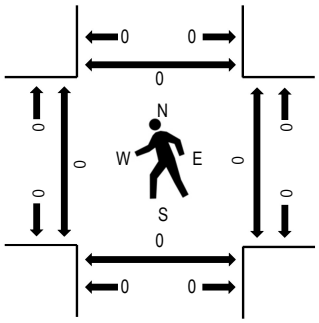
### Motorized Vehicles




### Heavy Vehicles




### Pedestrians




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 | | | | | Rolling Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | |
| 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

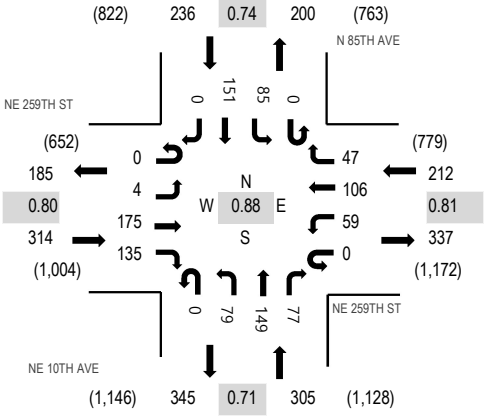
| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | 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 |

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

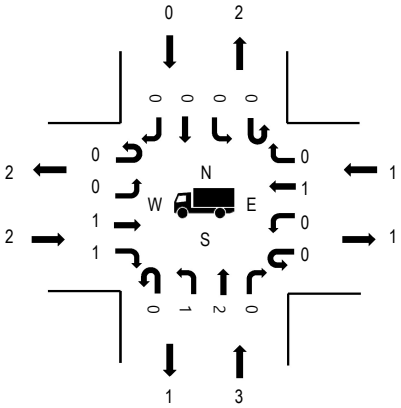
**Location:** 8 NE 10TH AVE & NE 259TH ST PM
**Date:** Wednesday, December 10, 2025
**Peak Hour:** 03:25 PM - 04:25 PM
**Peak 15-Minutes:** 04:00 PM - 04:15 PM

## Peak Hour

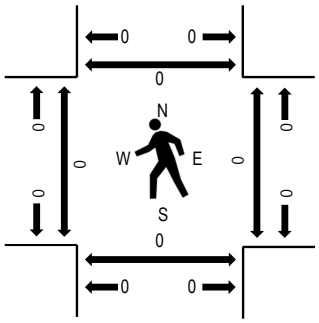
### Motorized Vehicles




### Heavy Vehicles




### Pedestrians




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 | | | | | Rolling Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | |
| 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

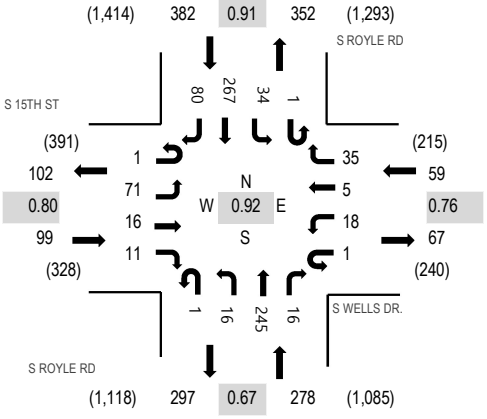
| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | 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 |

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

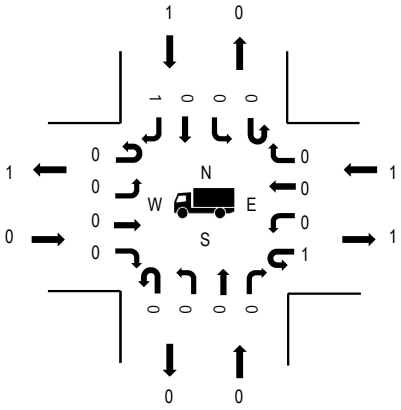
**Location:** 9 S ROYLE RD & S WELLS DR. PM
**Date:** Wednesday, December 10, 2025
**Peak Hour:** 04:20 PM - 05:20 PM
**Peak 15-Minutes:** 05:05 PM - 05:20 PM

## Peak Hour

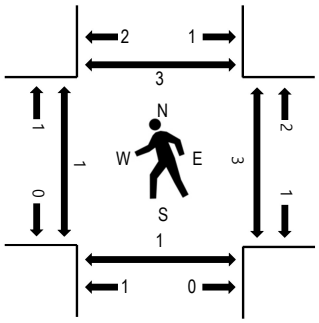
### Motorized Vehicles




### Heavy Vehicles




### Pedestrians




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 | | | | | Rolling Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | |
| 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

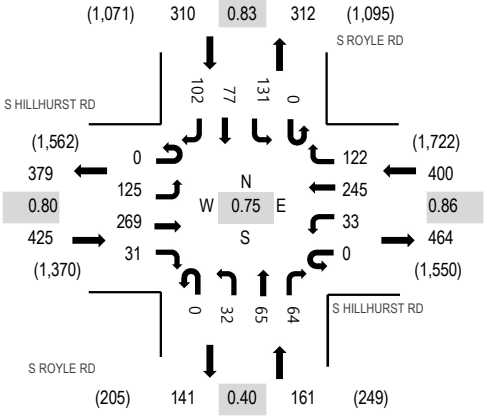
| Interval Start Time | Heavy Vehicles | | | | | Interval Start Time | Bicycles on Roadway | | | | | Interval Start Time | Pedestrians/Bicycles on Crosswalk | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EB | NB | WB | SB | Total | | EB | NB | WB | SB | Total | | 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 |

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

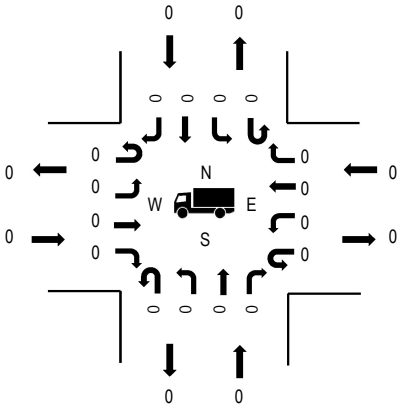
**Location:** 10 S ROYLE RD & S HILLHURST RD PM
**Date:** Wednesday, December 10, 2025
**Peak Hour:** 02:25 PM - 03:25 PM
**Peak 15-Minutes:** 02:40 PM - 02:55 PM

## Peak Hour

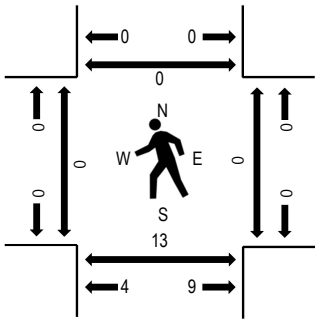
### Motorized Vehicles




### Heavy Vehicles




### Pedestrians




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 | | | | | Rolling Hour |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | |
| 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 |

| 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | 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 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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Project: \\apexcos.local\PBS_L\Projects_DVP\W\WSP002\25005550\Traffic\Documents\LOS\SIDRA\25005550_SIDRA-Analysis.sip9

# 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 veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | 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 veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | 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 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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Project: \\apexcos.local\PBS_L\Projects_DVP\W\WSP002\25005550\Traffic\Documents\LOS\SIDRA\25005550_SIDRA-Analysis.sip9

| 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 | 0 | 649 | 323 |
| Stage 1 | - | - | - | - | 323 | - |
| Stage 2 | - | - | - | - | 326 | - |
| 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 | - | - | 1236 | - | 434 | 718 |
| Stage 1 | - | - | - | - | 734 | - |
| Stage 2 | - | - | - | - | 731 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1236 | - | 433 | 718 |
| Mov Cap-2 Maneuver | - | - | - | - | 433 | - |
| Stage 1 | - | - | - | - | 734 | - |
| Stage 2 | - | - | - | - | 730 | - |

| 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | 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 | 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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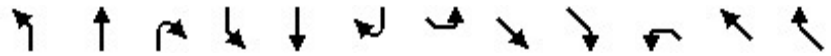

| Movement | NBL | NBT | NBR | SBL | SBT | SBR | SEL | SET | SER | NWL | NWT | NWR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 32 | 65 | 64 | 131 | 77 | 102 | 125 | 269 | 31 | 33 | 245 | 122 |
| Future Volume (veh/h) | 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 | | | 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 | 11.4 | 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 | * 16 | 22.0 | | * 24 | * 10 | 20.0 | | 20.0 |
| Max Q Clear Time (g_c+I1), s | 15.7 | 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 | 732 | 334 |
| Stage 1 | - | - | - | - | 334 | - |
| Stage 2 | - | - | - | - | 398 | - |
| 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 | - | - | - | 388 | 708 |
| Stage 1 | - | - | - | - | 725 | - |
| Stage 2 | - | - | - | - | 678 | - |
| Platoon blocked, % | | | - | - | - | |
| Mov Cap-1 Maneuver | 1225 | - | - | - | 378 | 708 |
| Mov Cap-2 Maneuver | - | - | - | - | 378 | - |
| Stage 1 | - | - | - | - | 707 | - |
| Stage 2 | - | - | - | - | 678 | - |

| 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | Eff. Stop Rate | Number of Cycles to Depart | Aver. Speed 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | Eff. Stop Rate | Number of Cycles to Depart | Aver. Speed 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 veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | 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 | 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.

| 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 | 0 | 768 | 381 |
| Stage 1 | - | - | - | - | 381 | - |
| Stage 2 | - | - | - | - | 387 | - |
| 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 | - | - | 1176 | - | 370 | 666 |
| Stage 1 | - | - | - | - | 691 | - |
| Stage 2 | - | - | - | - | 686 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1176 | - | 369 | 666 |
| Mov Cap-2 Maneuver | - | - | - | - | 369 | - |
| Stage 1 | - | - | - | - | 691 | - |
| Stage 2 | - | - | - | - | 684 | - |

| 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | Eff. Stop Rate | Number of Cycles to Depart | Aver. Speed 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.

| 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | Eff. Stop Rate | Number of Cycles to Depart | Aver. Speed 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | Eff. Stop Rate | Number of Cycles to Depart | Aver. Speed mph |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | 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 veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | 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.

| 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 | 0 | 770 | 383 |
| Stage 1 | - | - | - | - | 383 | - |
| Stage 2 | - | - | - | - | 387 | - |
| 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 | - | - | 1174 | - | 369 | 664 |
| Stage 1 | - | - | - | - | 689 | - |
| Stage 2 | - | - | - | - | 686 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1174 | - | 368 | 664 |
| Mov Cap-2 Maneuver | - | - | - | - | 368 | - |
| Stage 1 | - | - | - | - | 689 | - |
| Stage 2 | - | - | - | - | 684 | - |

| 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | Eff. Stop Rate | Number of Cycles to Depart | Aver. Speed 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.

| 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+I1), 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 veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | Eff. Stop Rate | Number of Cycles to Depart | Aver. Speed 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 veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | 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 | 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)

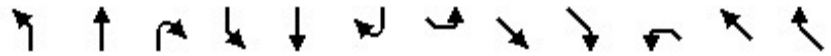
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | Eff. Stop Rate | Number of Cycles to Depart | Aver. Speed 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.



| 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+I1), 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.

# 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | Eff. Stop Rate | Number of Cycles to Depart | Aver. Speed 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 veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | Eff. Stop Rate | Number of Cycles to Depart | Aver. Speed 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 veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | 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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Organisation: APEX COMPANIES, LLC | Licence: PLUS / 1PC | Processed: Monday, April 6, 2026 3:53:11 PM
Project: \\apexcos.local\PBS_L\Projects_DVP\W\WSP002\25005550\Traffic\Documents\LOS\SIDRA\25005550_SIDRA-Analysis_April-2026.sipx

# 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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | 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.

# MOVEMENT SUMMARY

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

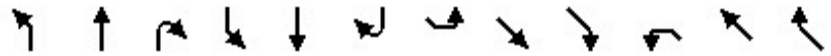
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

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 [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | Eff. Stop Rate | Number of Cycles to Depart | Aver. Speed 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.



| 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+I1), 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.

# 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**

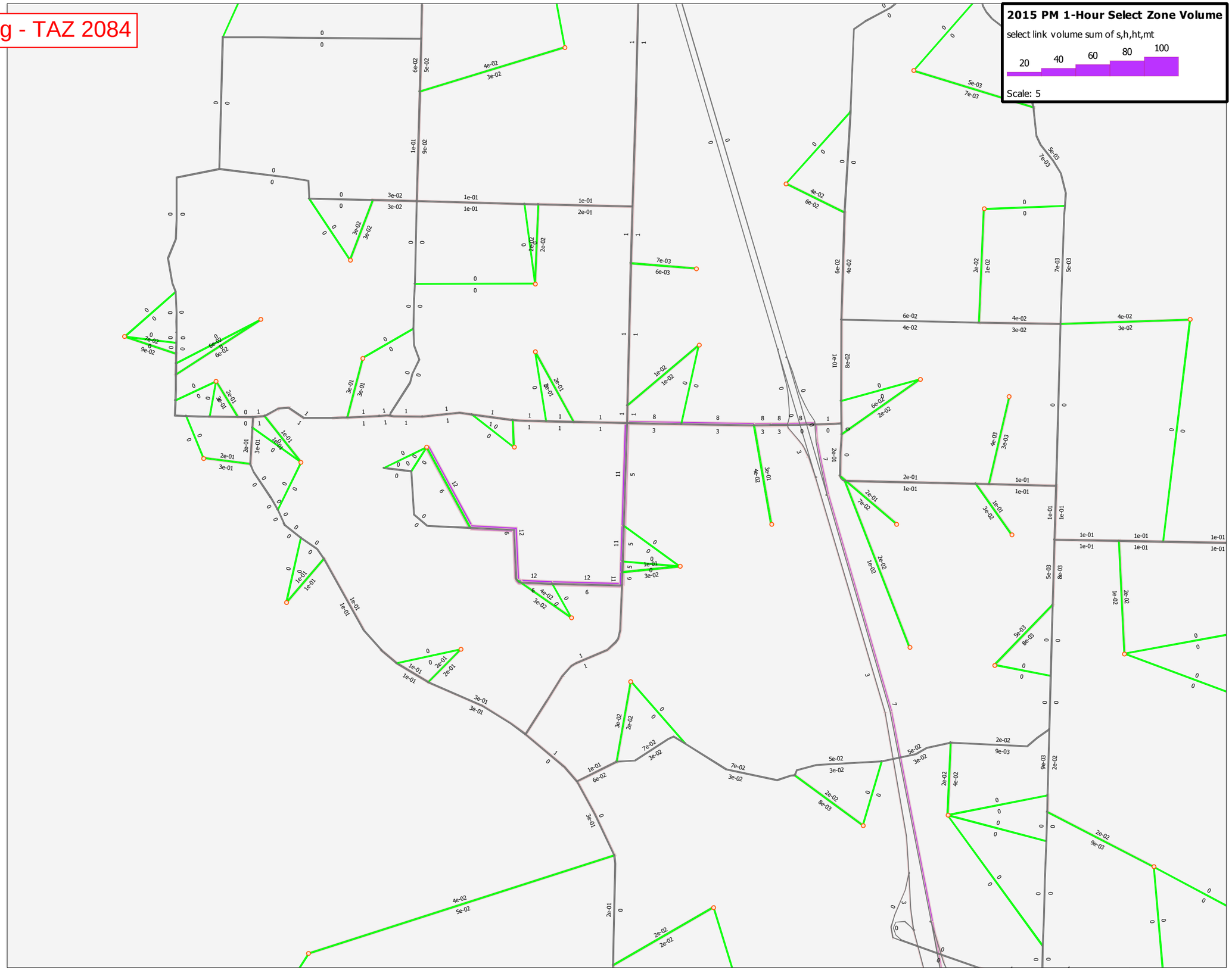
**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] ft | Prop. Queued | Eff. Stop Rate | Number of Cycles to Depart | Aver. Speed 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 |

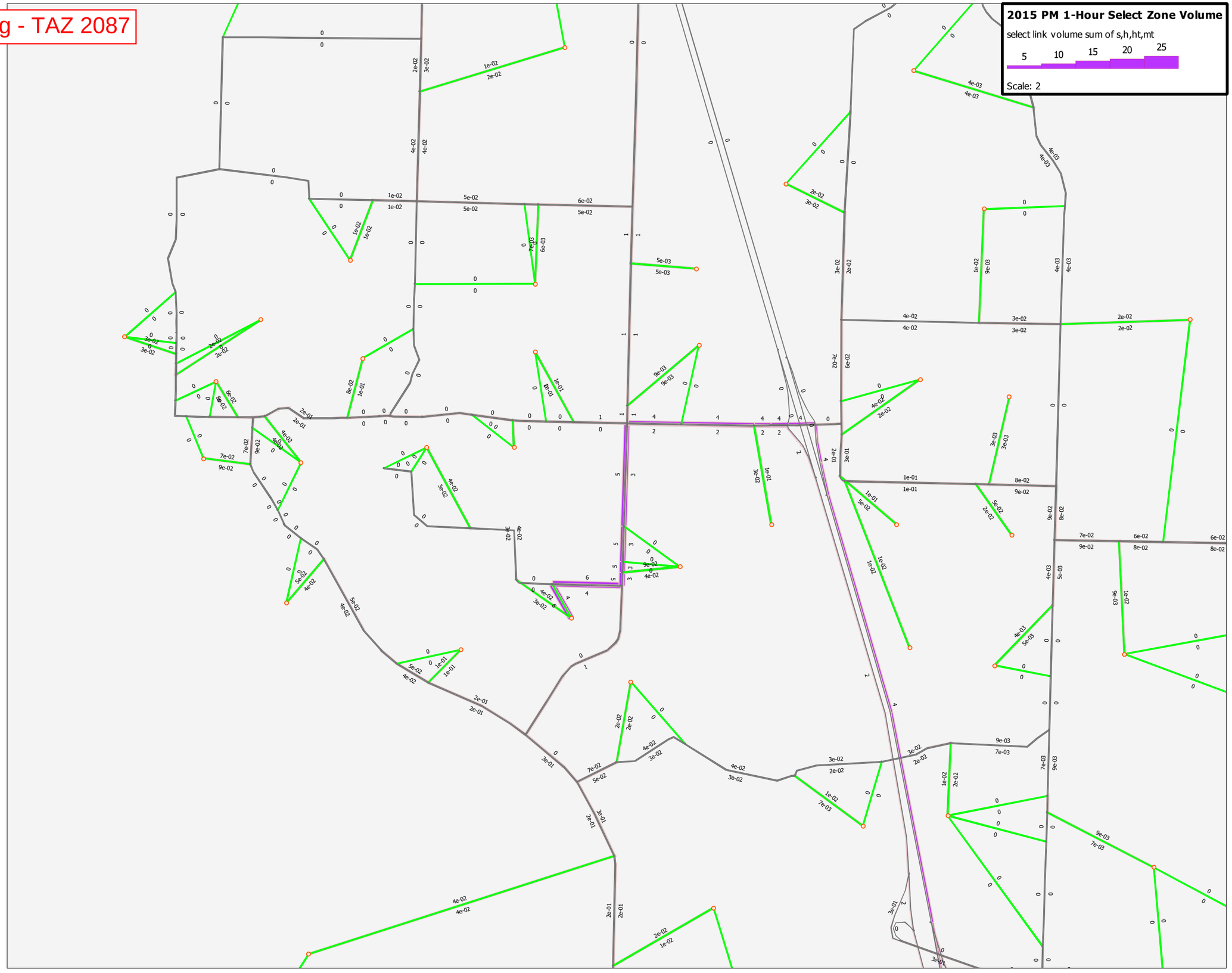
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per 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

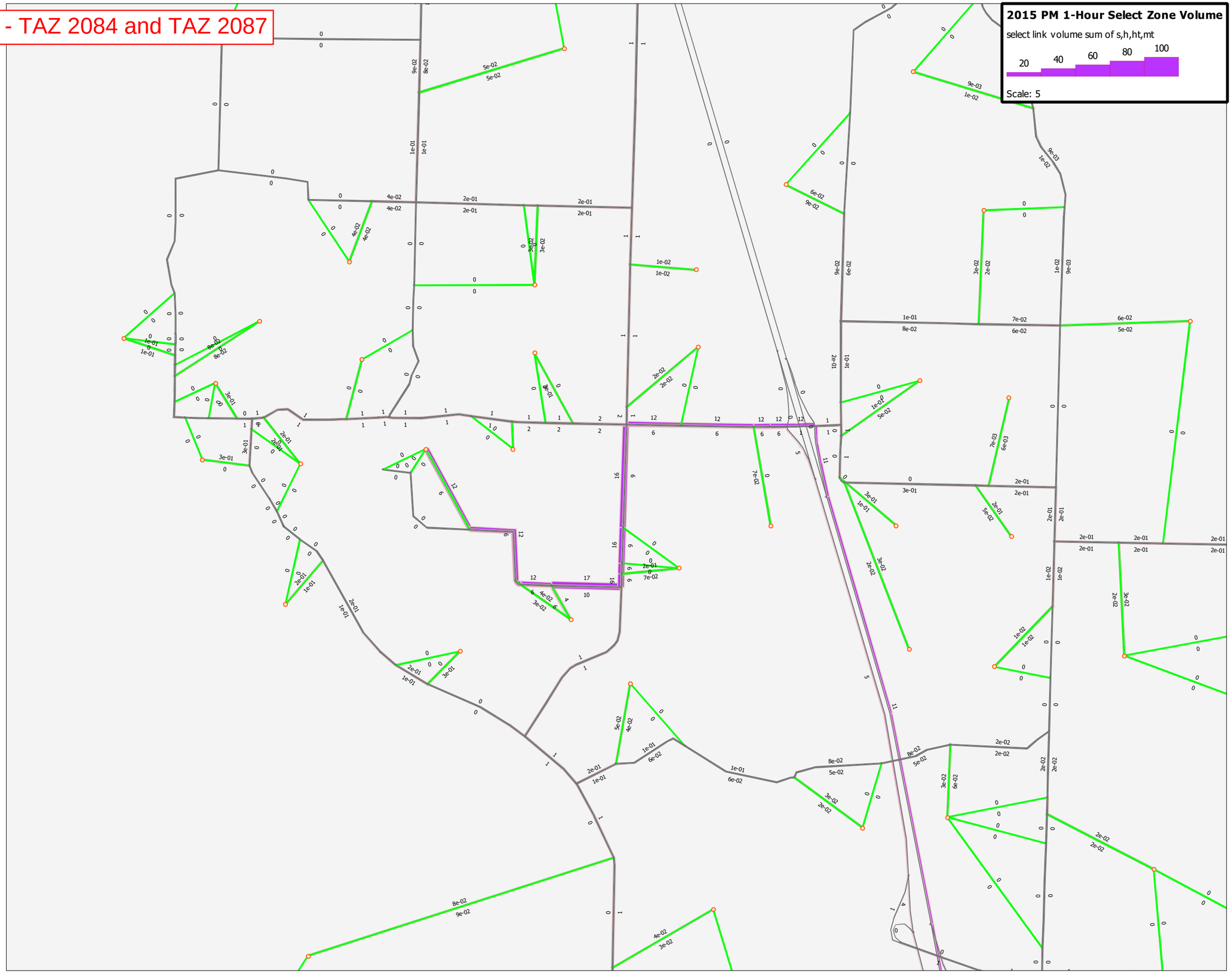
# 2015 Existing - TAZ 2084



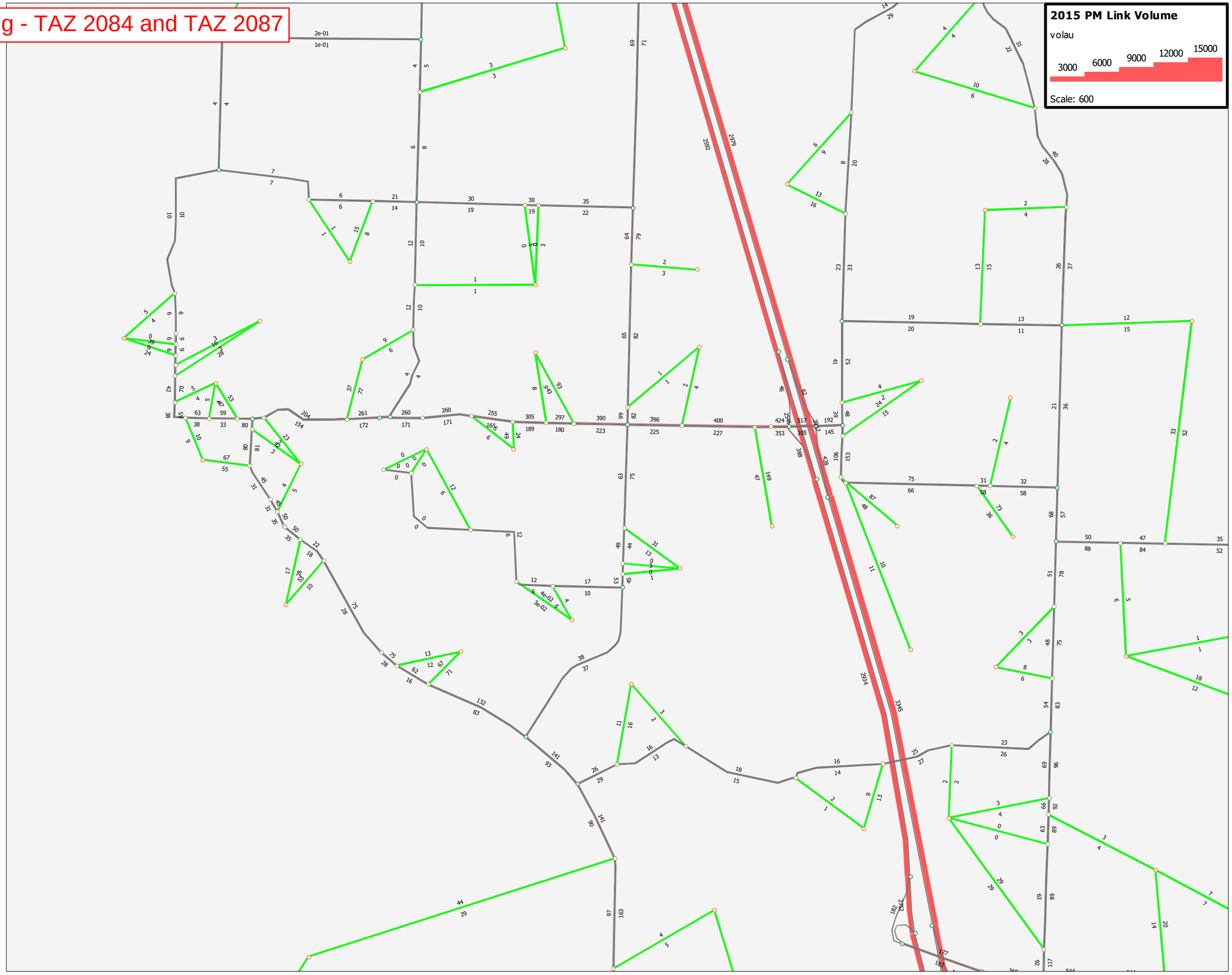
# 2015 Existing - TAZ 2087



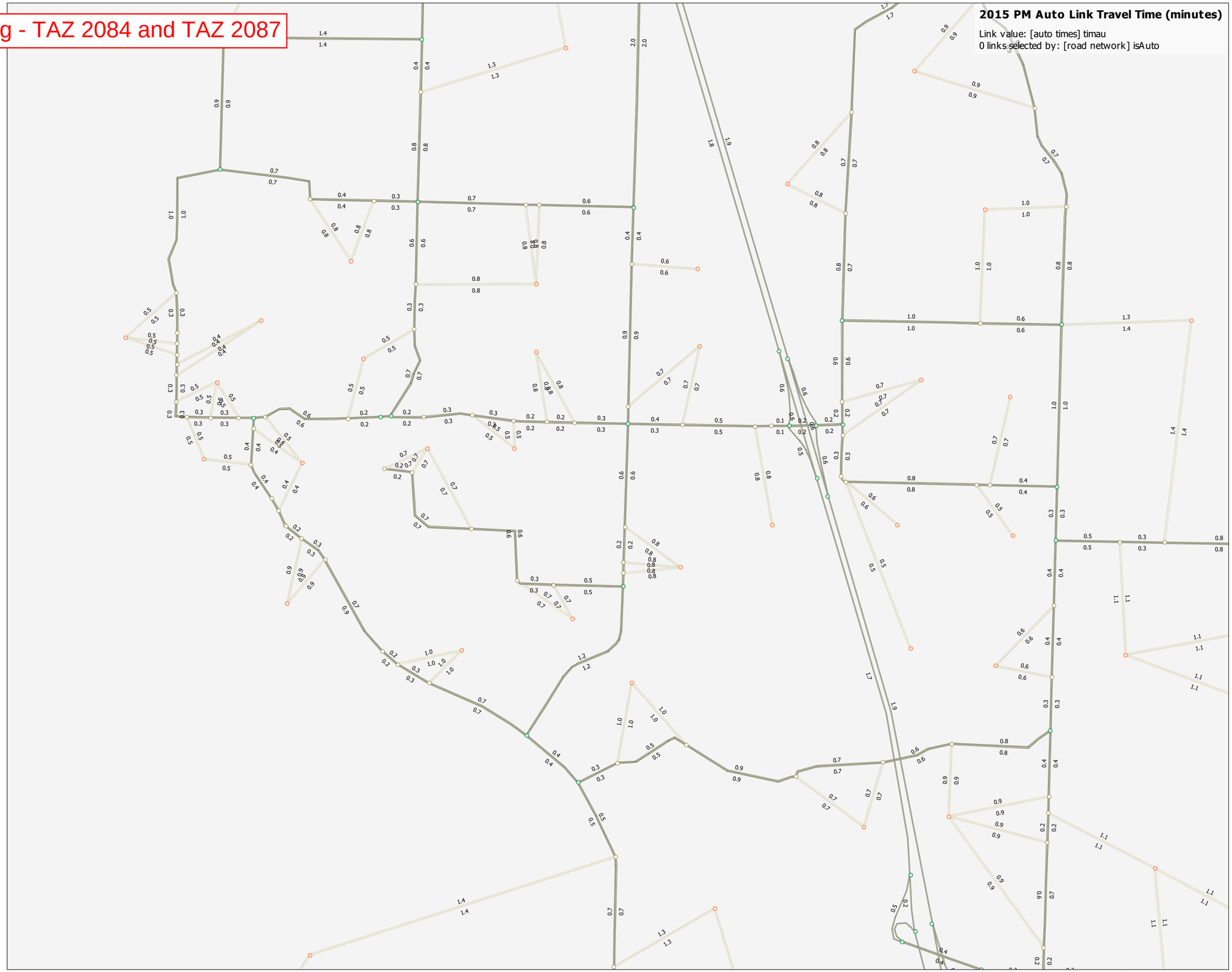
# 2015 Existing - TAZ 2084 and TAZ 2087



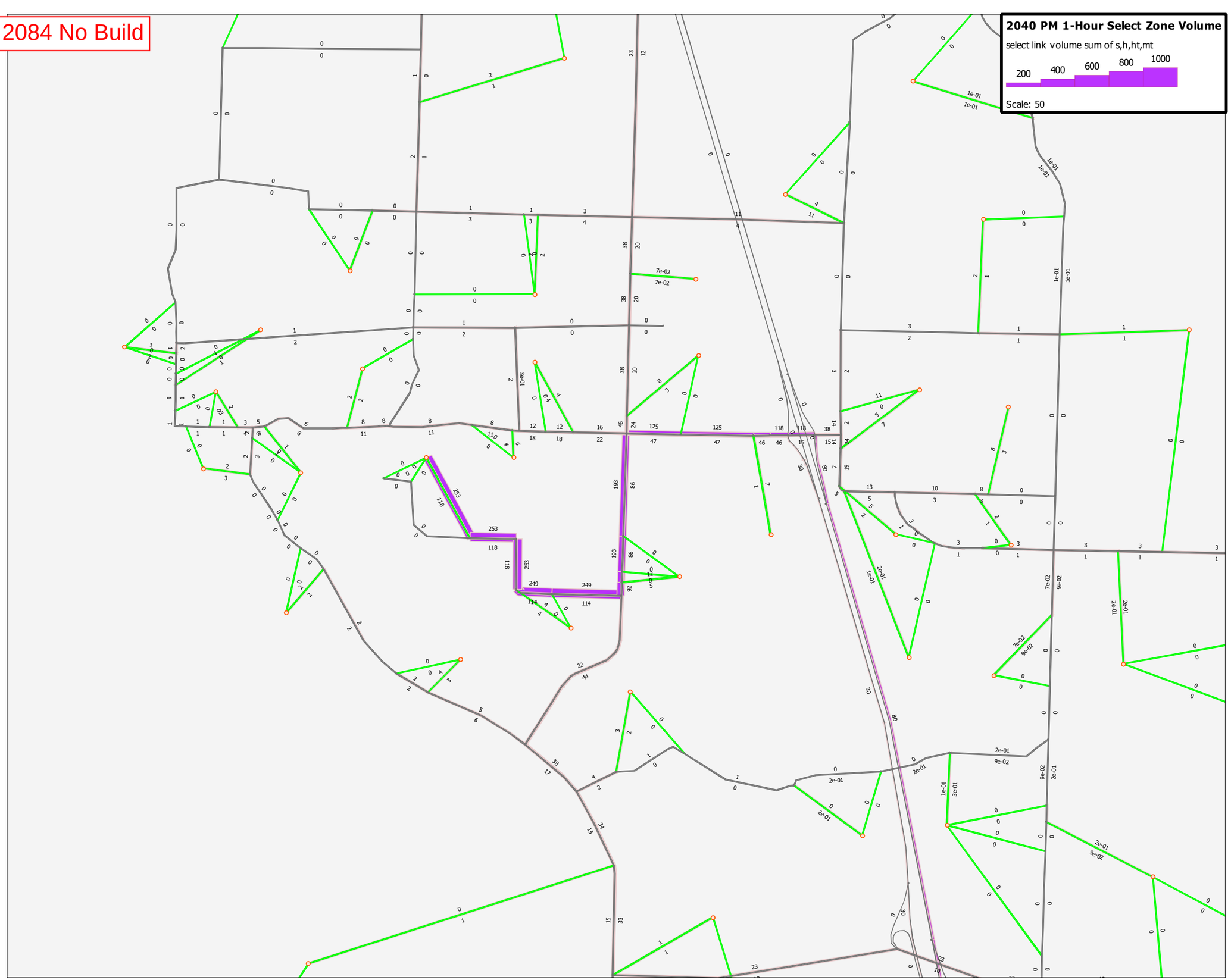
# 2015 Existing - TAZ 2084 and TAZ 2087



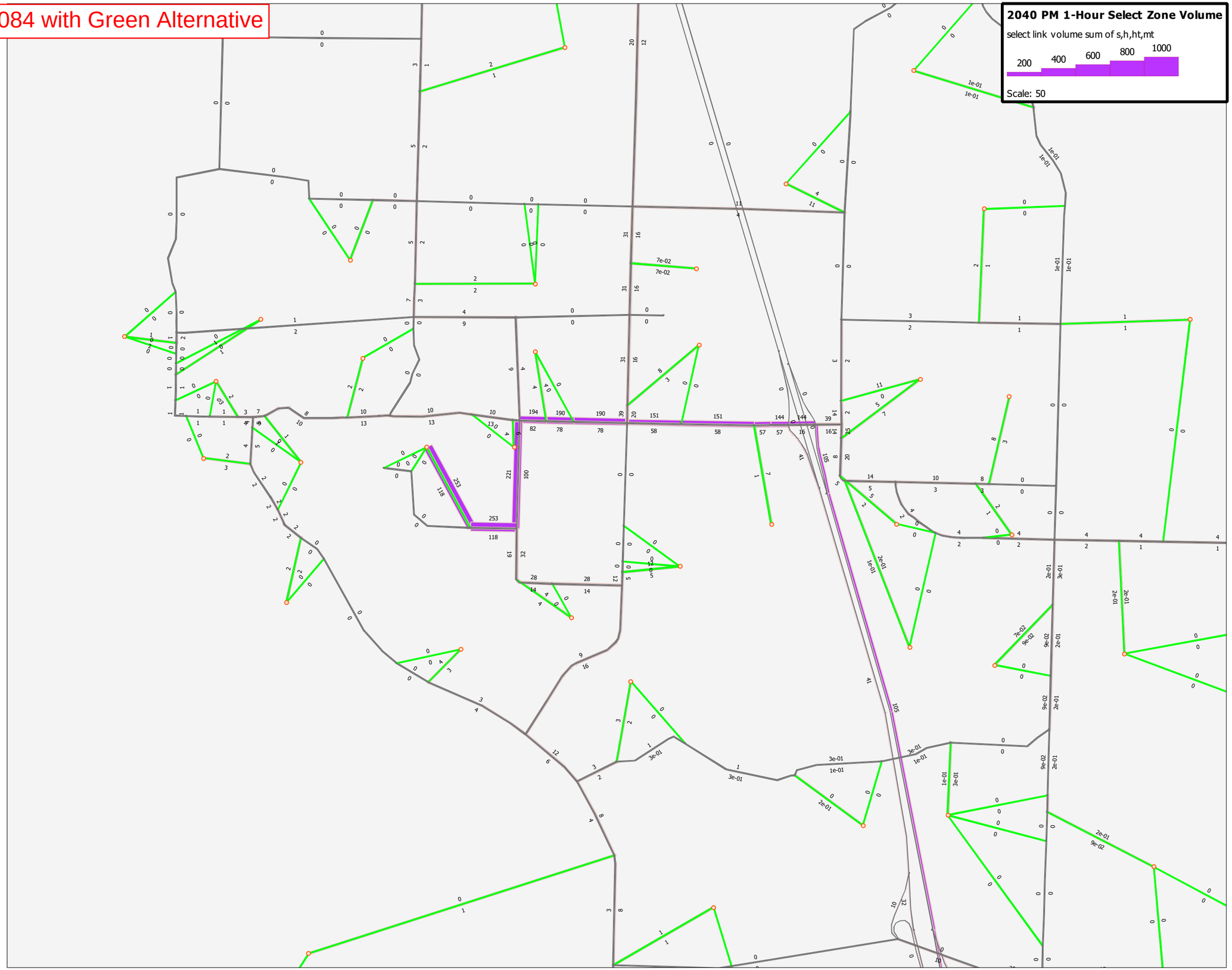
2015 Existing - TAZ 2084 and TAZ 2087



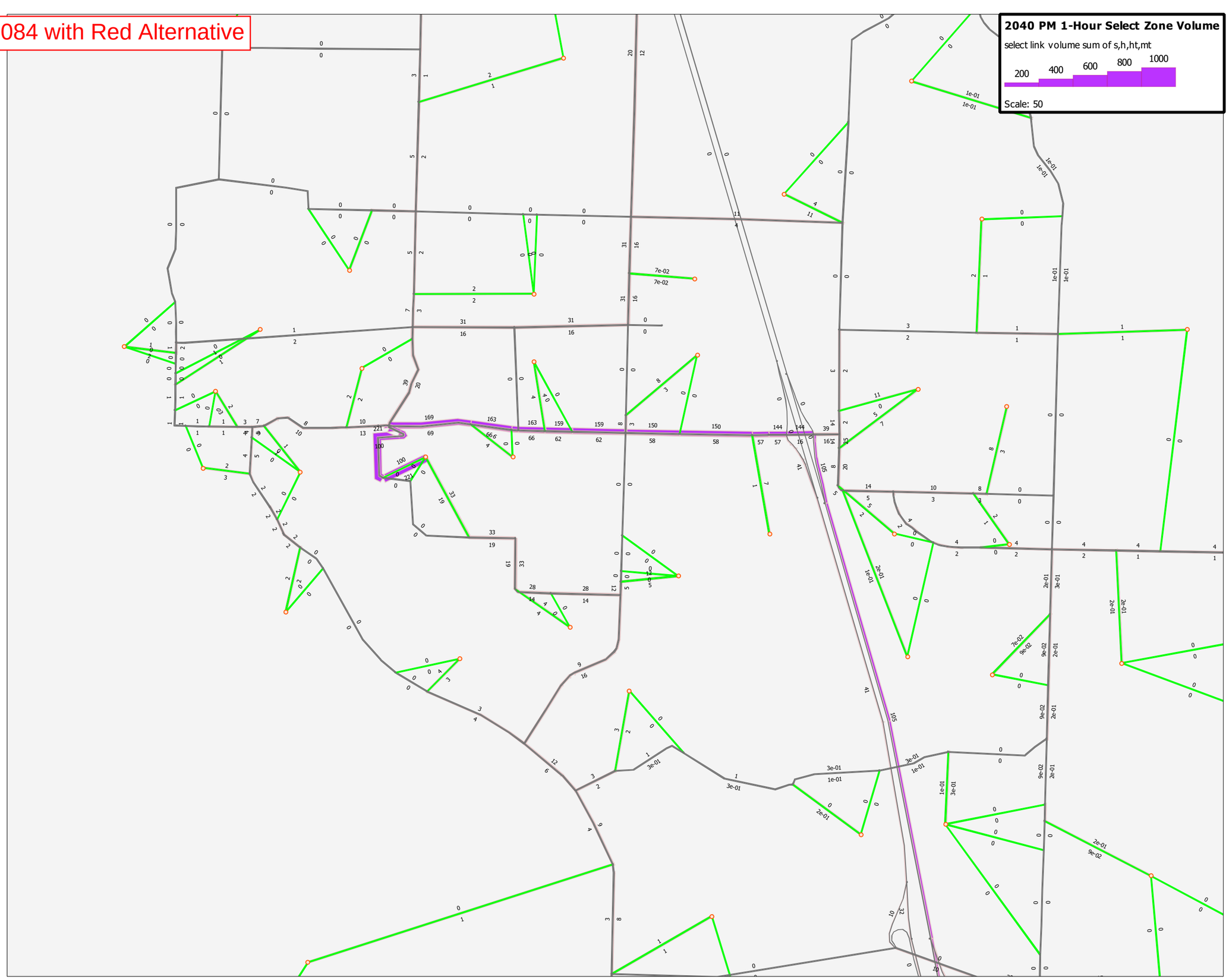
2040 - TAZ 2084 No Build



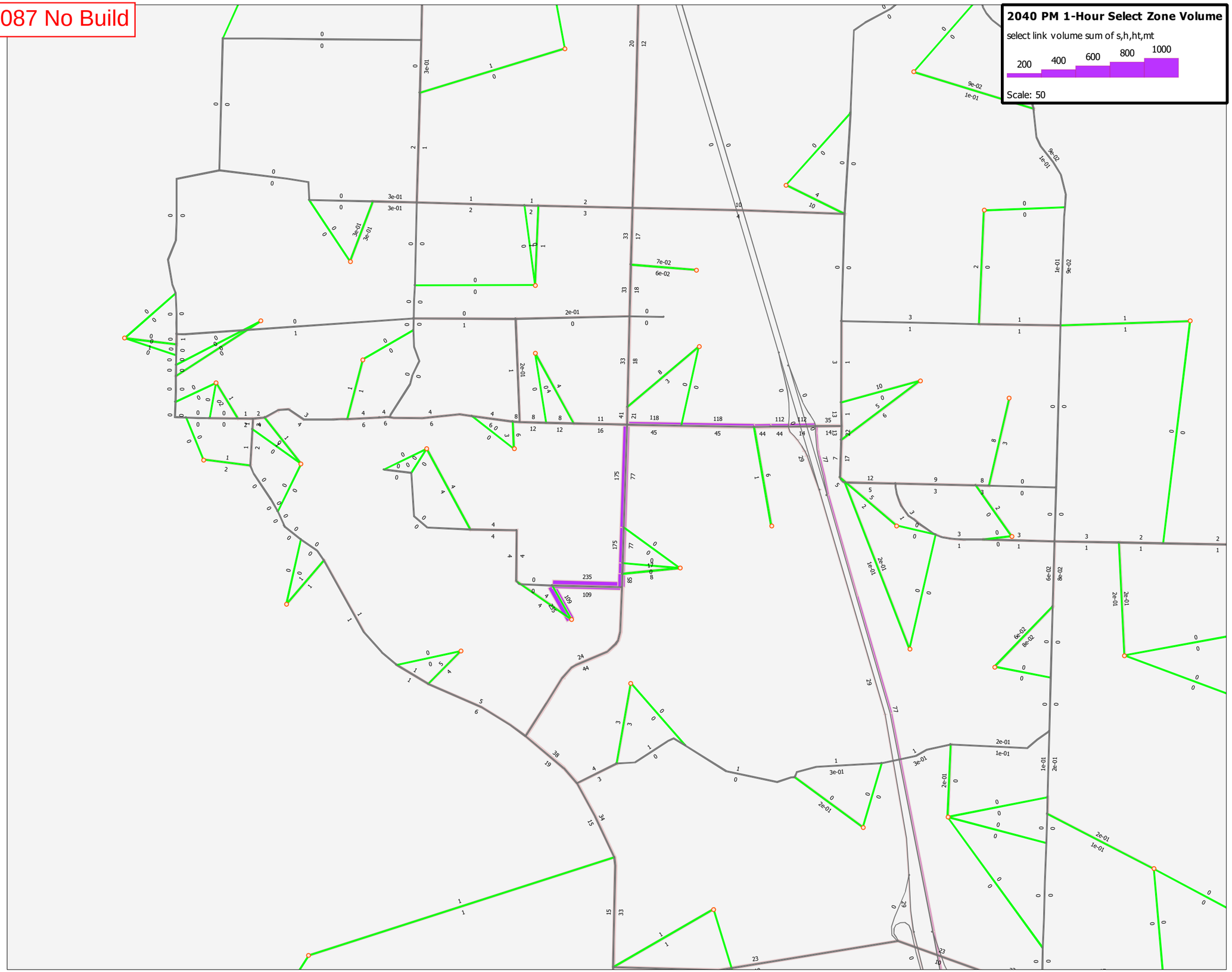
# 2040 - TAZ 2084 with Green Alternative



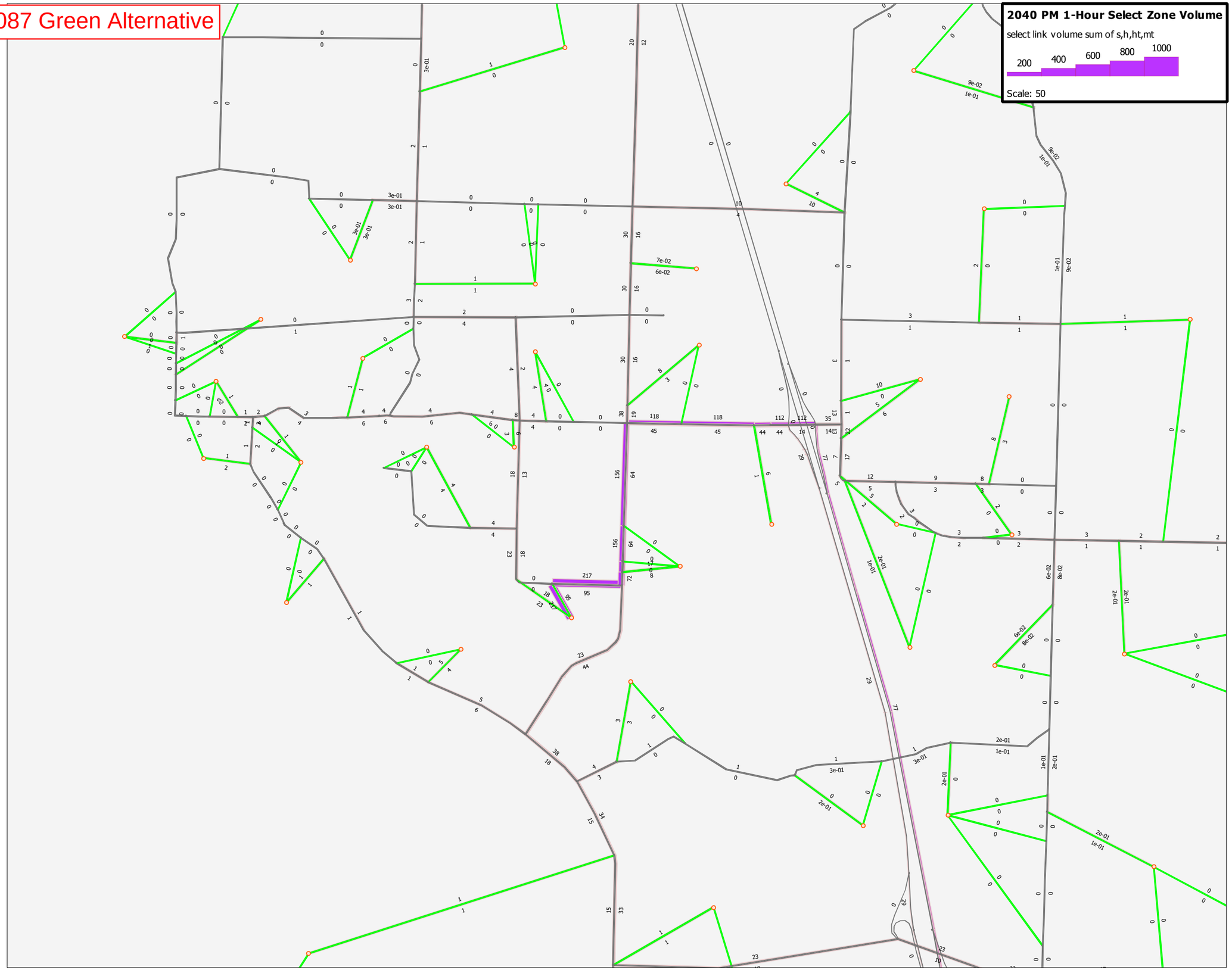
# 2040 - TAZ 2084 with Red Alternative



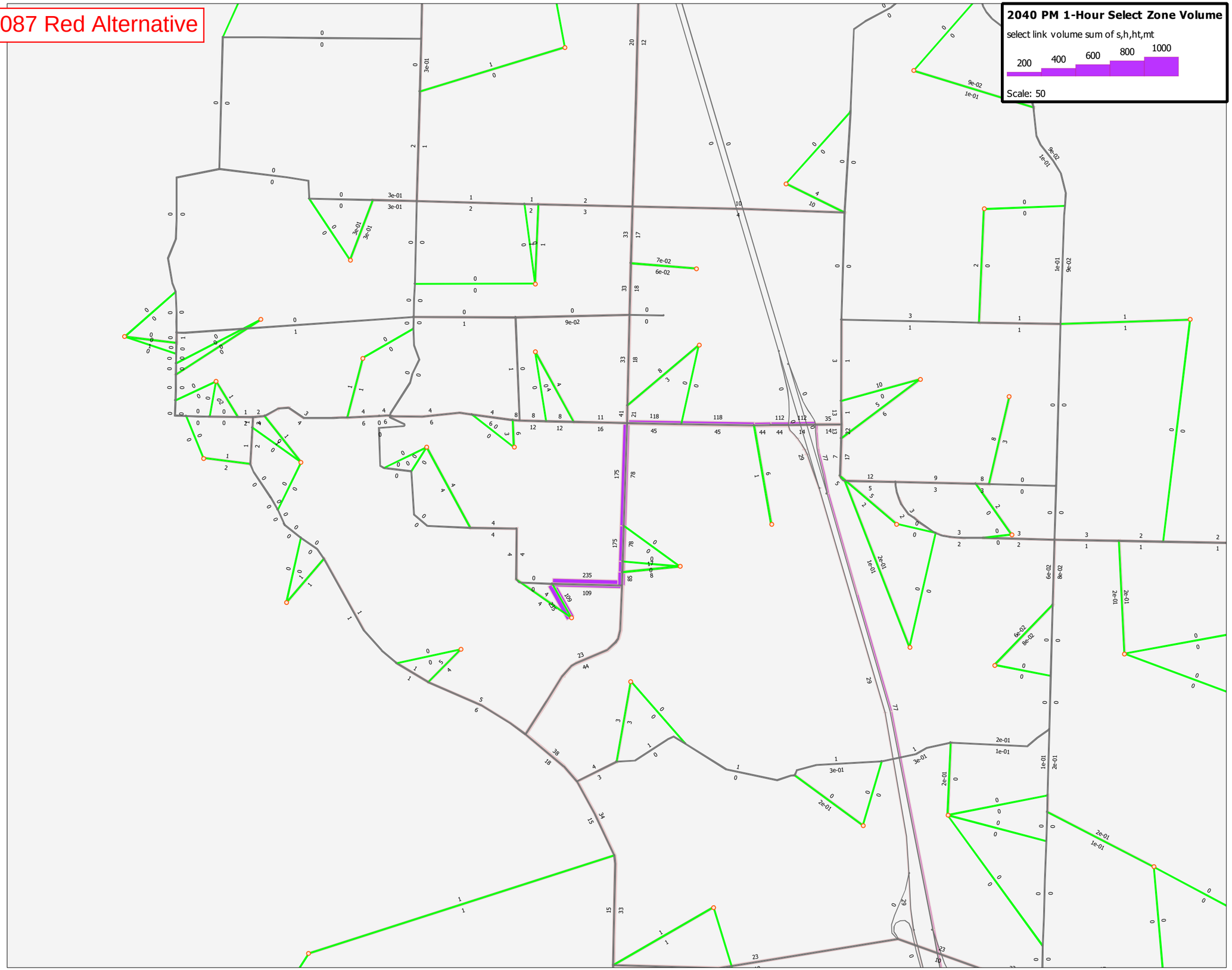
# 2040 - TAZ 2087 No Build



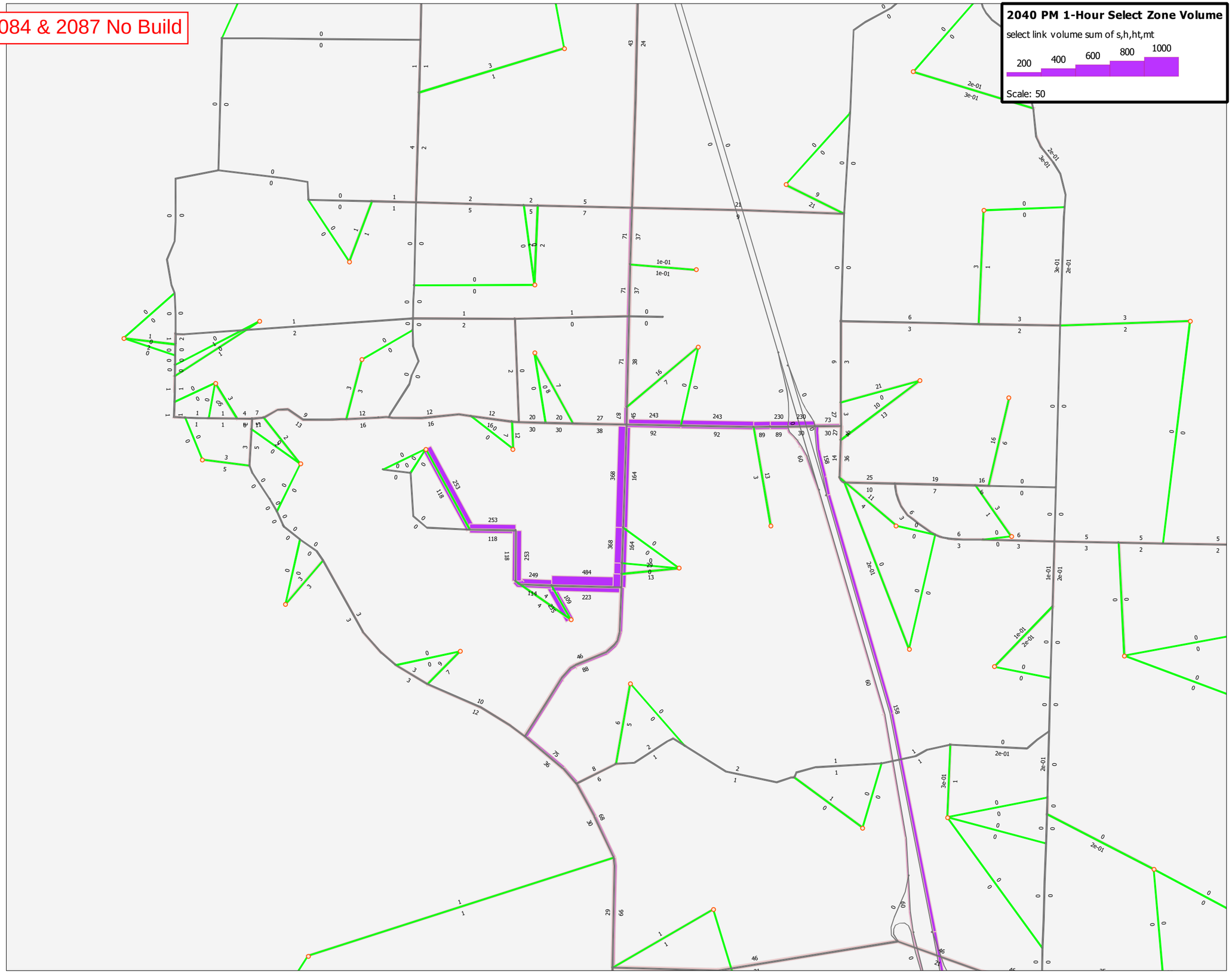
# 2040 - TAZ 2087 Green Alternative



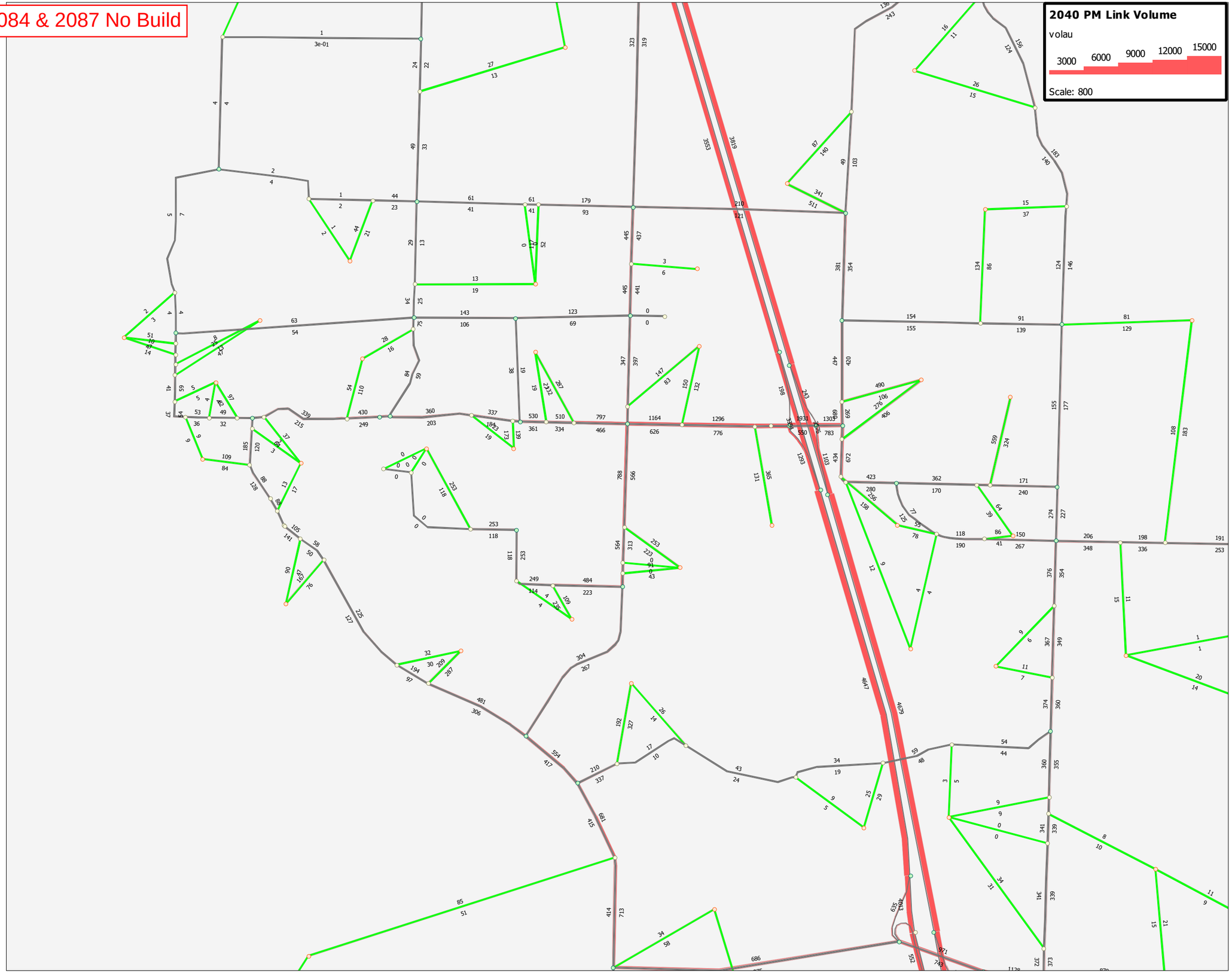
# 2040 - TAZ 2087 Red Alternative



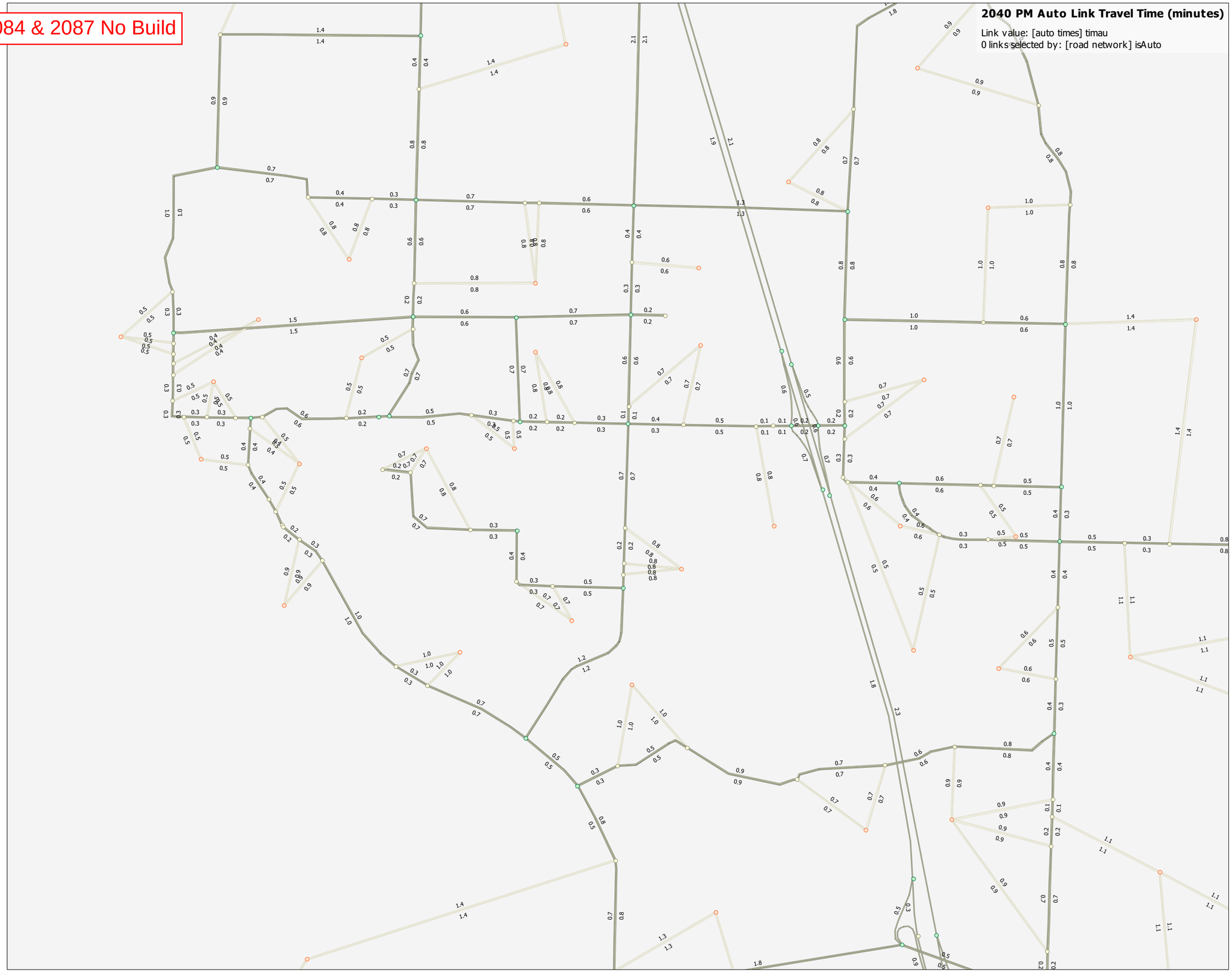
2040 - TAZ 2084 & 2087 No Build



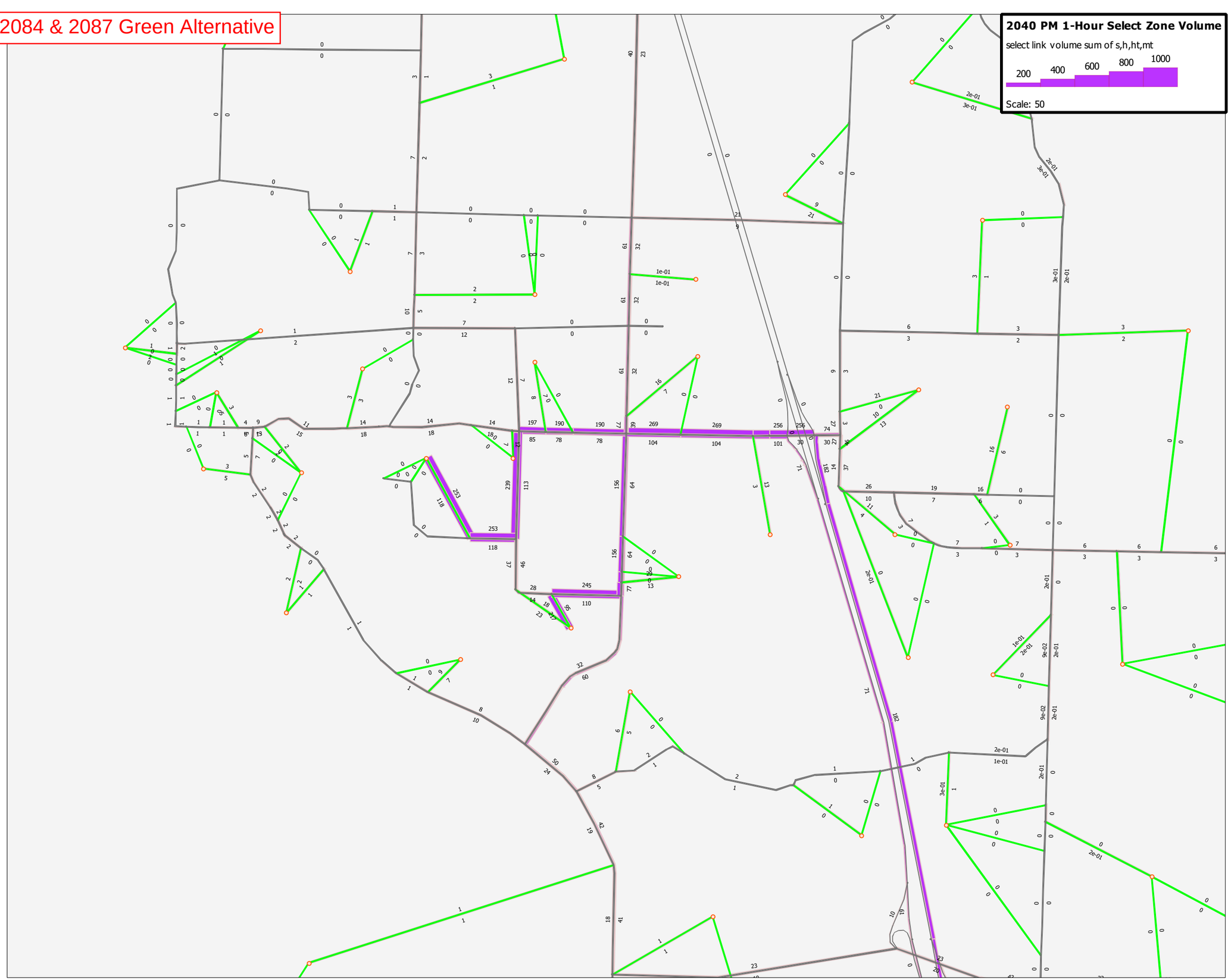
# 2040 - TAZ 2084 & 2087 No Build



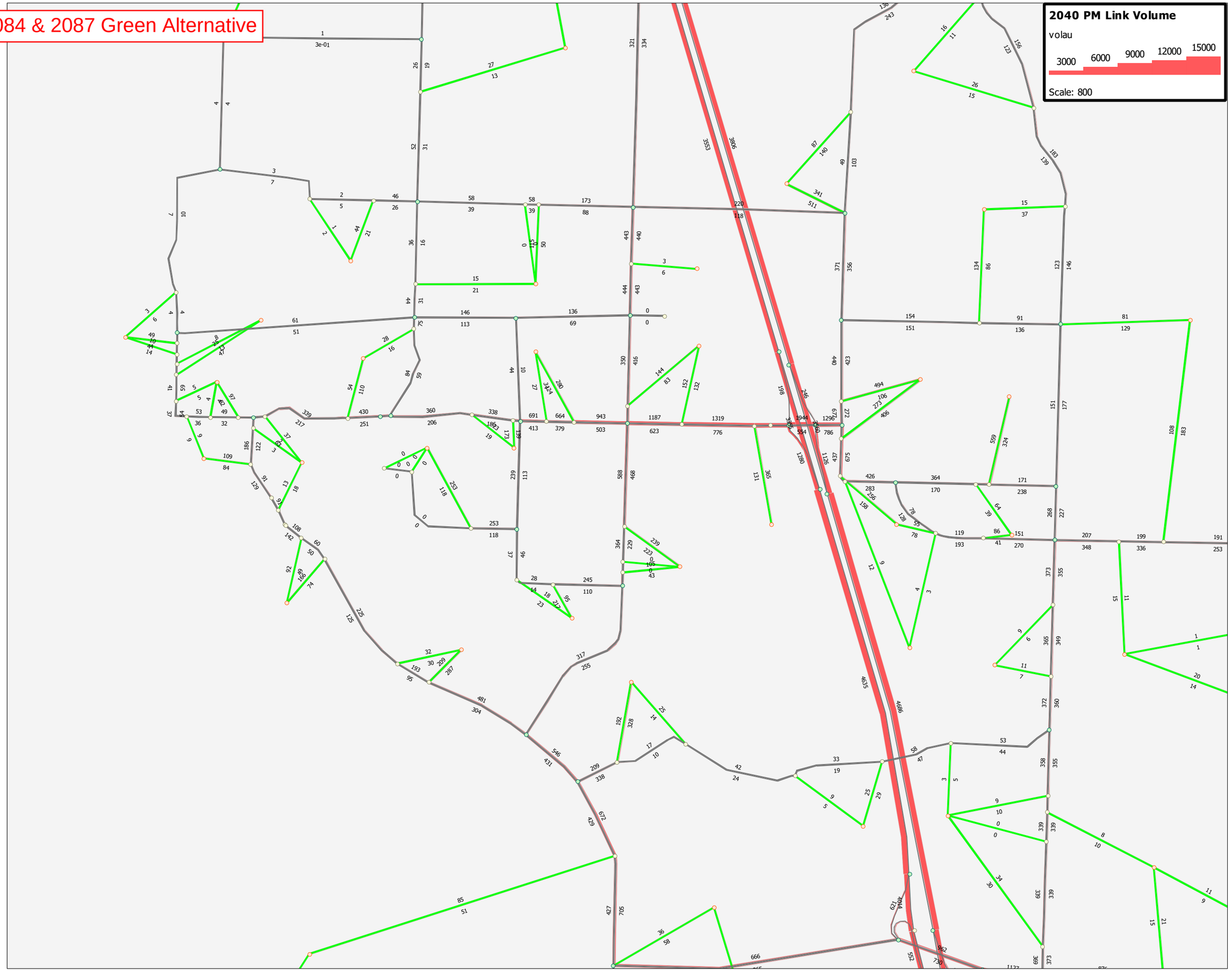
2040 - TAZ 2084 & 2087 No Build



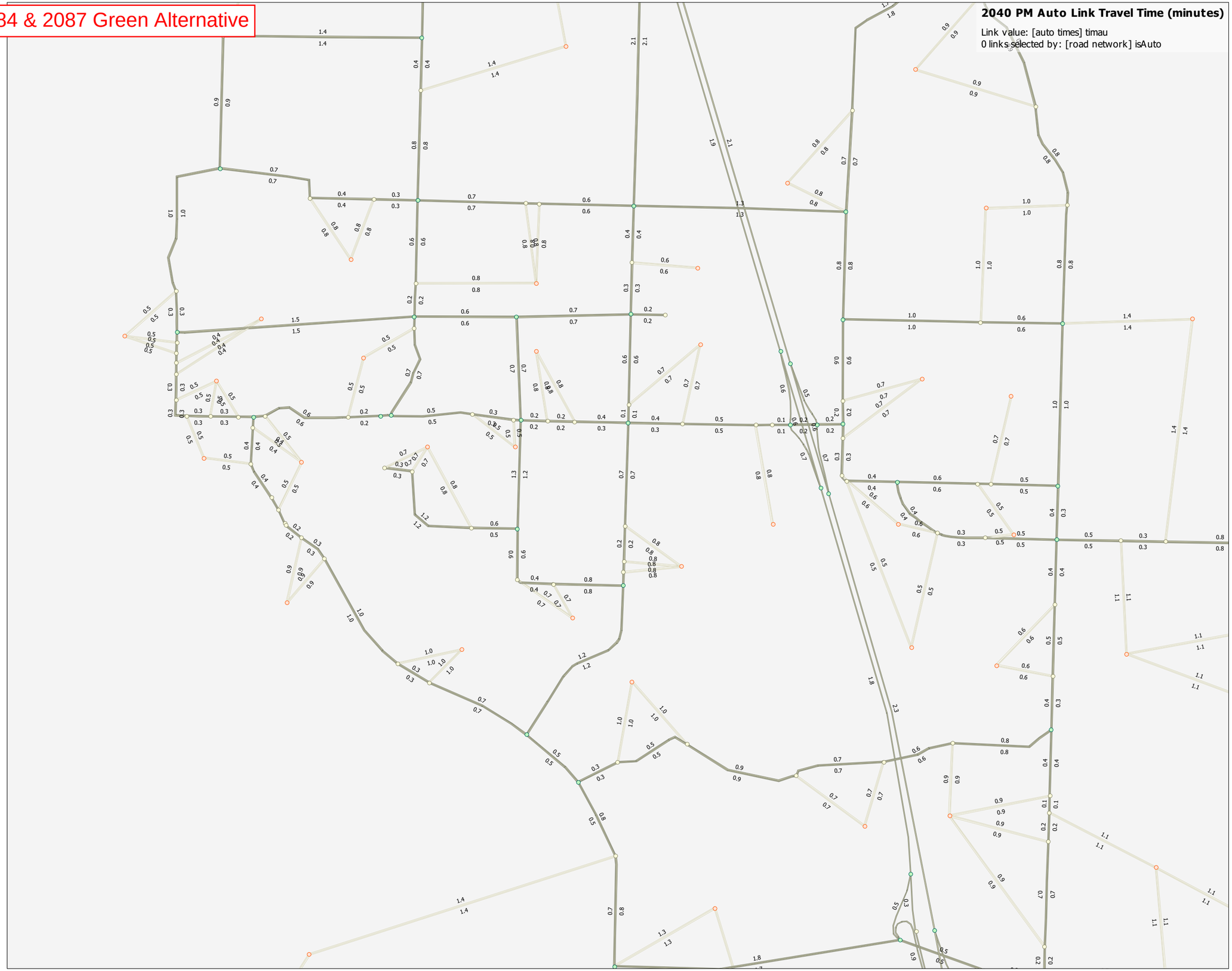
# 2040 - TAZ 2084 & 2087 Green Alternative



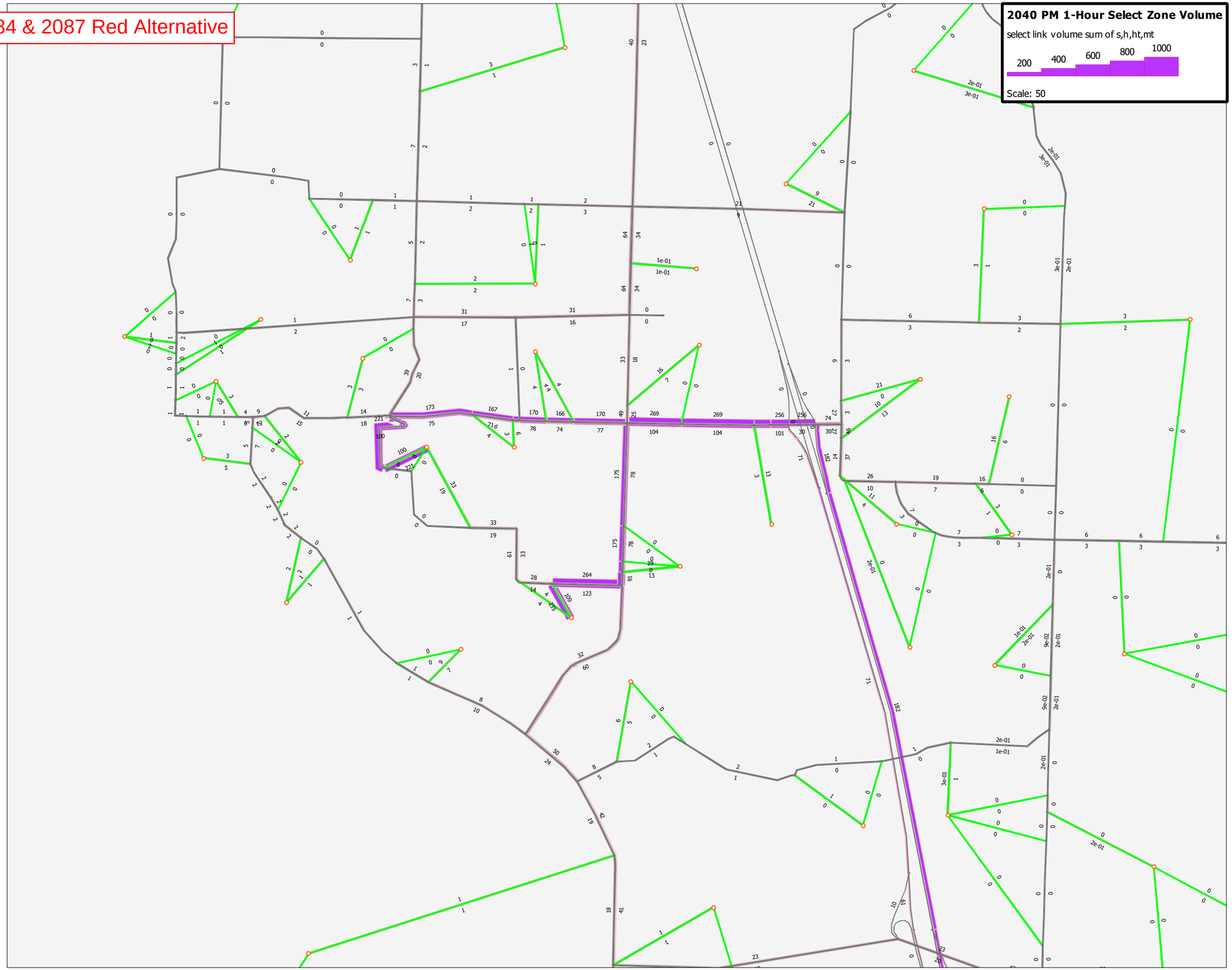
# 2040 - TAZ 2084 & 2087 Green Alternative



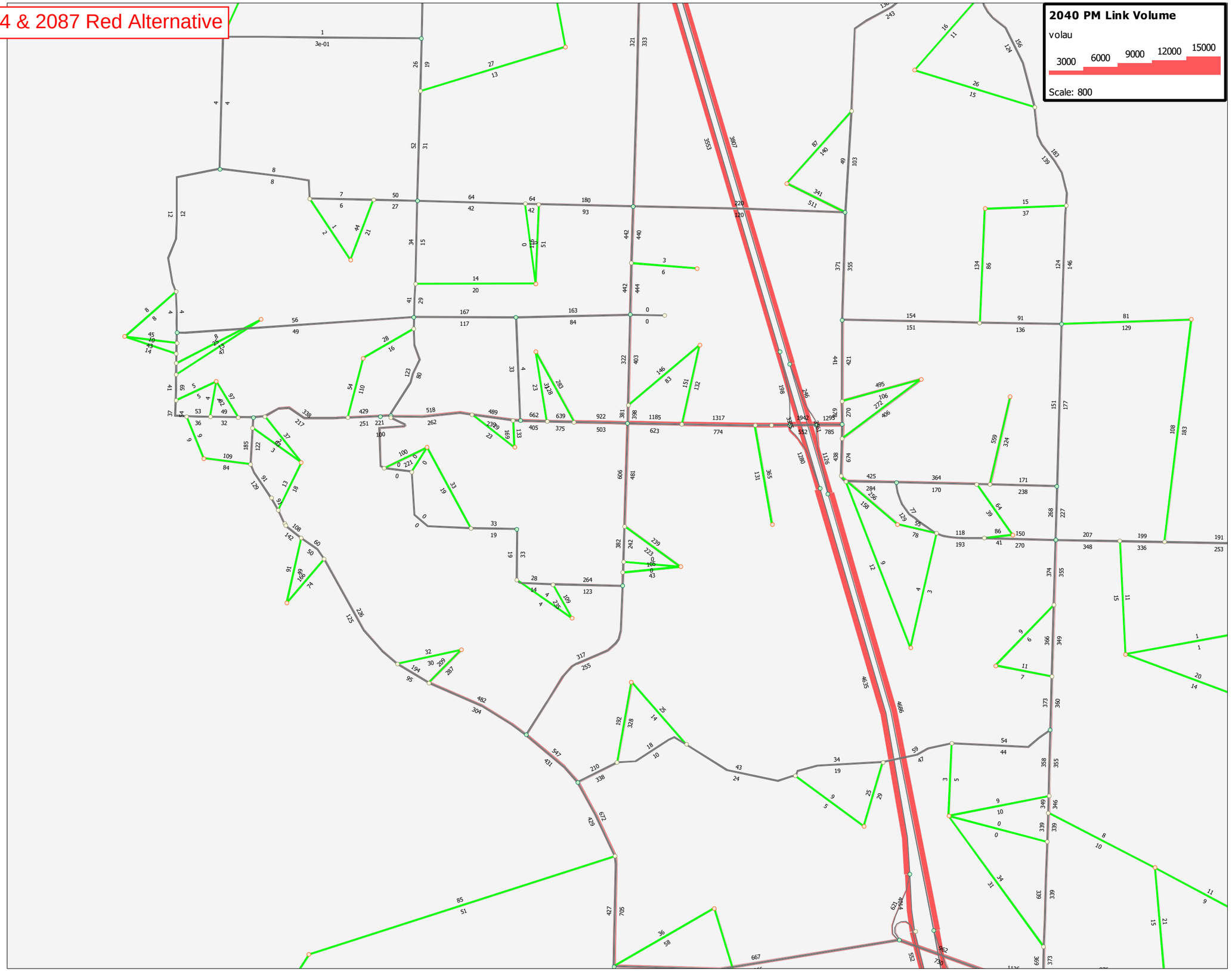
2040 - TAZ 2084 & 2087 Green Alternative



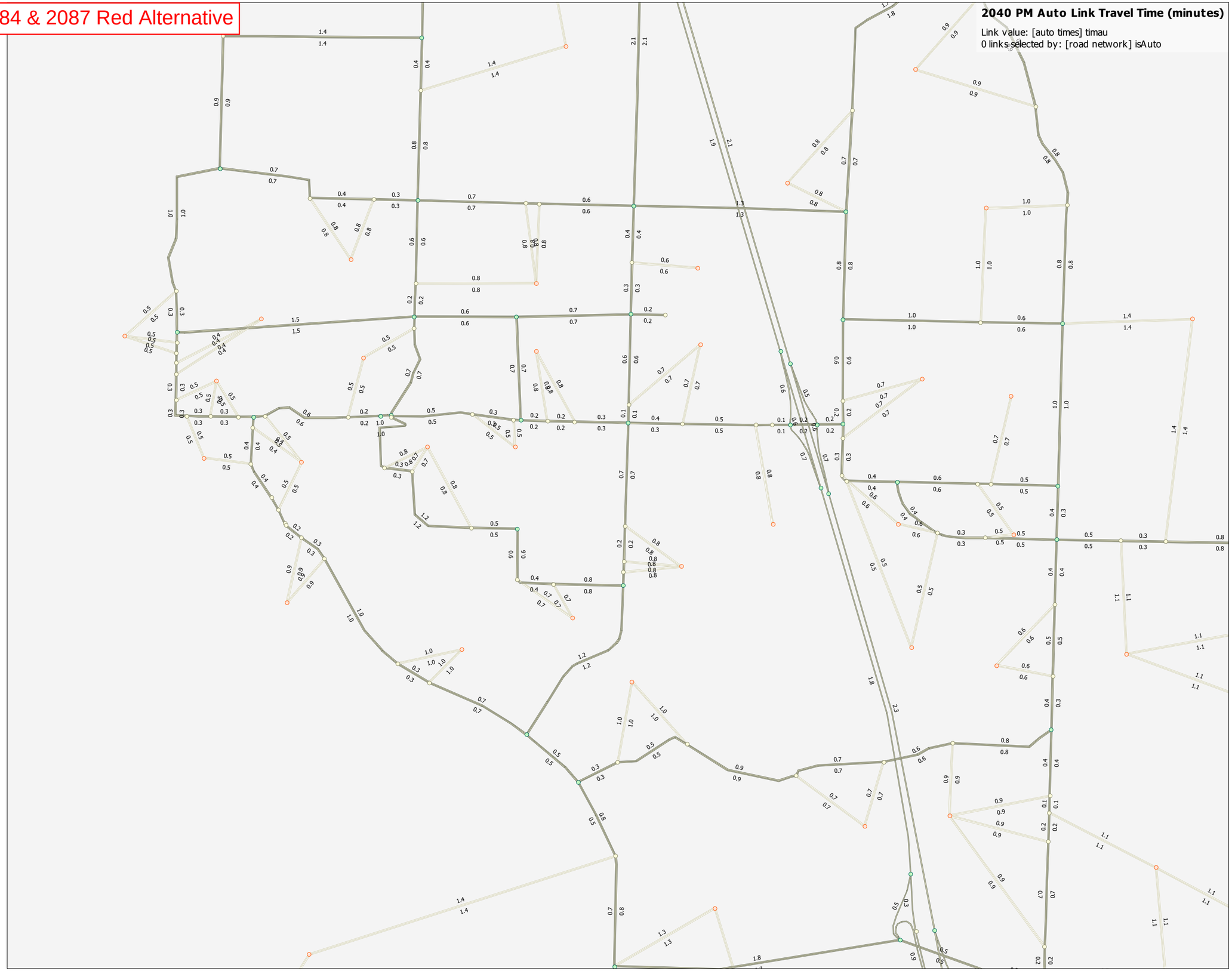
2040 - TAZ 2084 & 2087 Red Alternative



# 2040 - TAZ 2084 & 2087 Red Alternative

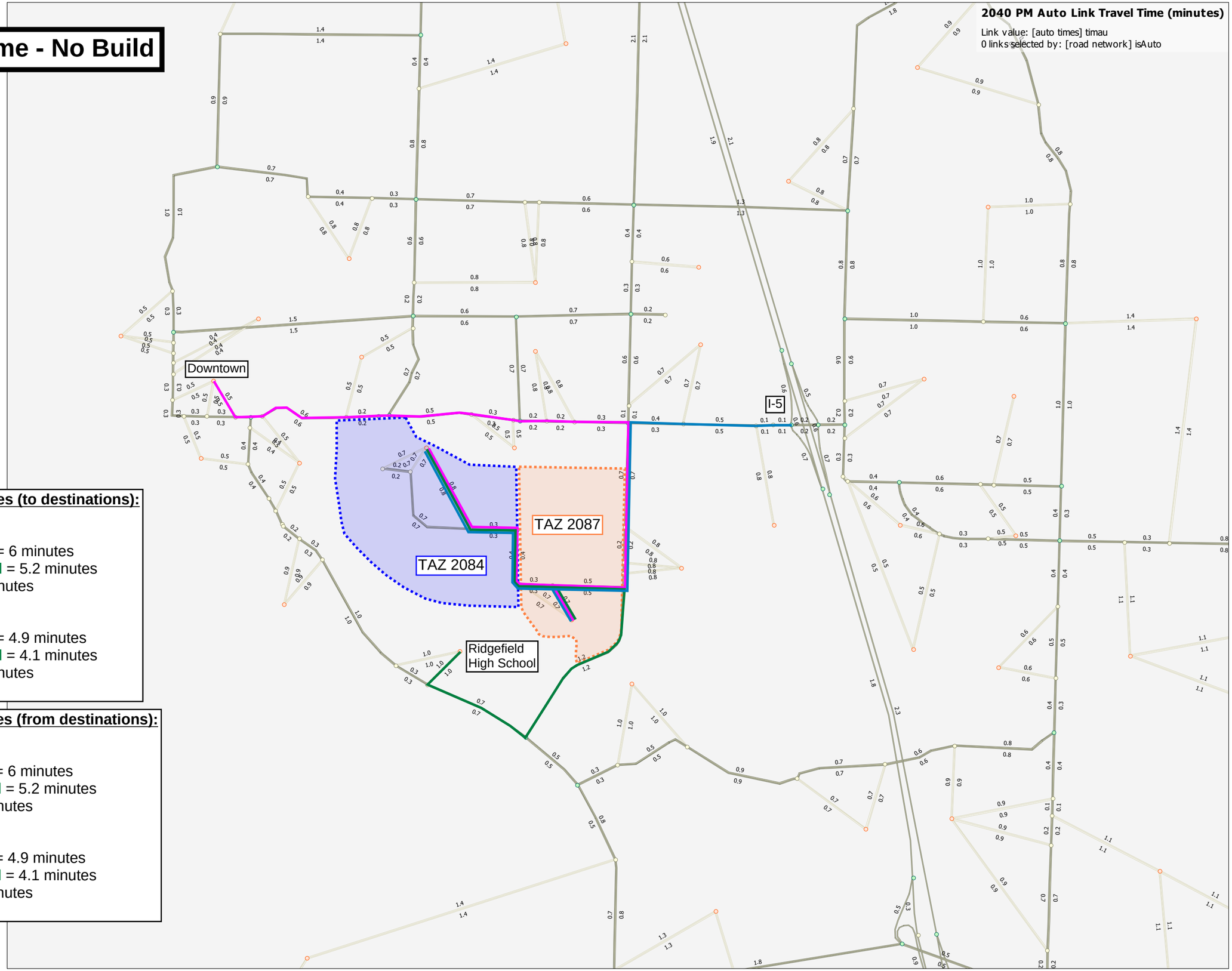


2040 - TAZ 2084 & 2087 Red Alternative



# Appendix D
## Travel Time Calculations

# Travel Time - No Build




**Travel Times (to destinations):**

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

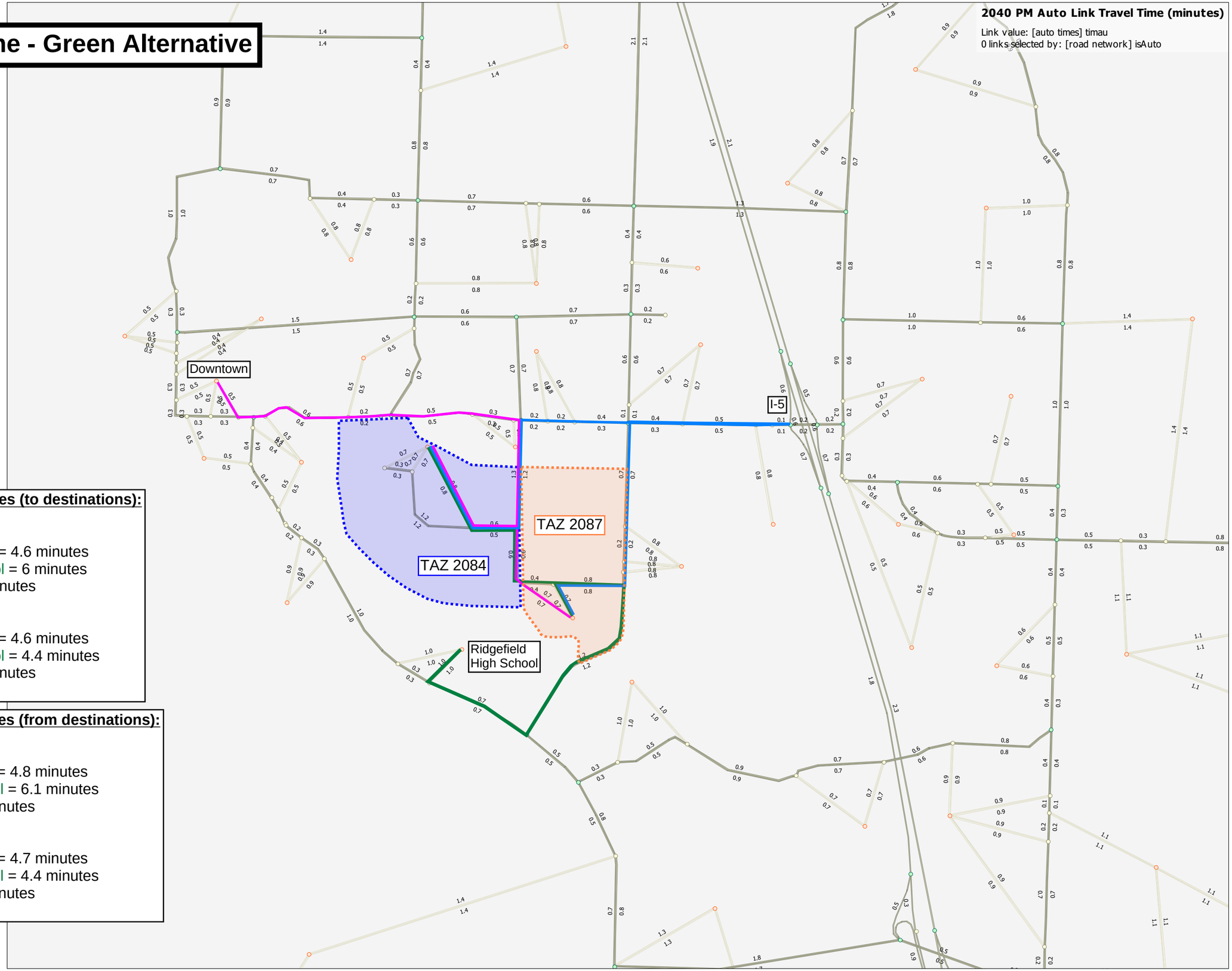
**TAZ 2087**
Downtown = 4.9 minutes
High School = 4.1 minutes
I-5 = 3.1 minutes

**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




**Travel Times (to destinations):**

**TAZ 2084**
Downtown = 4.6 minutes
High School = 6 minutes
I-5 = 4.1 minutes

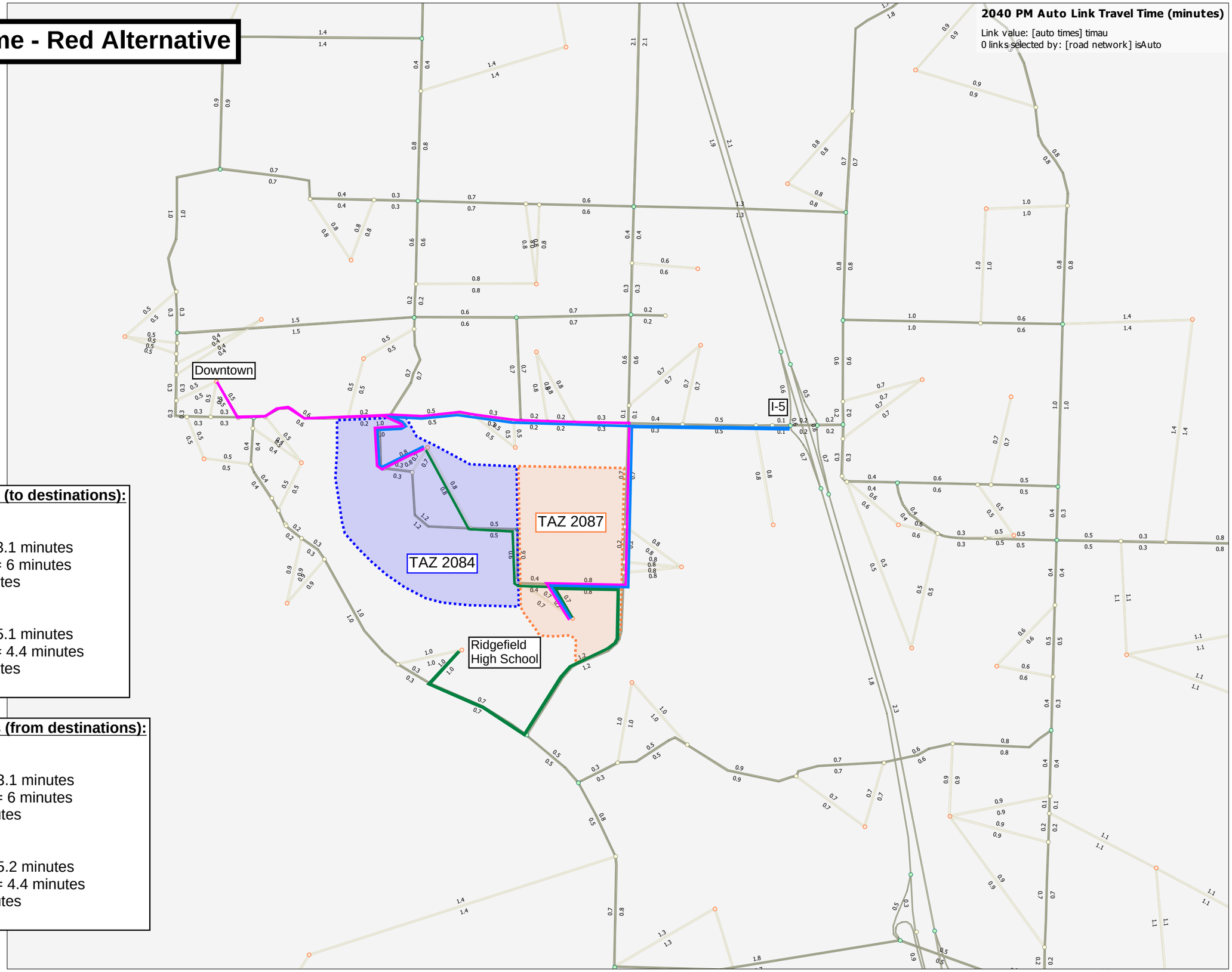
**TAZ 2087**
Downtown = 4.6 minutes
High School = 4.4 minutes
I-5 = 3.3 minutes

**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




**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

| 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<br>0 0<br>230 824 233<br>92 62<br>1 123 0 82 | 0 0 2<br>0 0<br>264 1,013 319<br>106 85<br>1 143 0 95 | 0 0 2<br>0 0<br>264 1,023 319<br>106 85<br>1 148 0 99 | 0 0 2<br>0 0<br>264 1,022 318<br>106 85<br>1 148 0 99 | 0 0 2<br>0 0<br>265 1,024 319<br>106 85<br>1 148 0 99 |
| Reiman Rd & Pioneer St | 25 0 79<br>25 144<br>269 817 275<br>0 0<br>2 0 0 0 | 36 0 113<br>31 175<br>336 1,026 334<br>0 0<br>2 0 0 0 | 36 0 113<br>31 175<br>338 1,028 334<br>0 0<br>2 0 0 0 | 41 0 130<br>DOES NOT EXIST<br>31 224<br>338 1,192 428<br>0 0<br>2 0 0 0 | 37 0 116<br>DOES NOT EXIST<br>32 171<br>344 1,026 326<br>0 0<br>2 0 0 0 |
| 35th Ave & Pioneer St | 15 1 104<br>28 138<br>343 1,156 463<br>2 32<br>30<br>3 5 0 25 | 23 2 161<br>30 164<br>365 1,475 551<br>2 38<br>36<br>3 17 0 85 | 24 2 164<br>30 183<br>367 1,626 614<br>2 42<br>40<br>3 26 0 131 | 23 2 159<br>33 180<br>405 1,585 603<br>2 42<br>39<br>3 16 0 82 | 23 2 162<br>29 182<br>350 1,587 611<br>2 42<br>40<br>3 24 0 120 |
| Royle Rd & Pioneer St | 27 134 119<br>52 194<br>389 2,305 451<br>94 337<br>4 175 126 207 | 44 216 192<br>65 279<br>488 3,318 649<br>118 485<br>4 270 194 319 | 44 217 193<br>67 282<br>503 3,298 654<br>122 489<br>4 251 181 297 | 42 210 186<br>67 281<br>503 3,289 654<br>122 489<br>4 253 182 300 | 45 225 200<br>67 281<br>503 3,319 654<br>122 489<br>4 252 181 298 |
| Pioneer Canyon Dr & Pioneer St | 171 0 5<br>92 1<br>758 2,038 1,002<br>0 0<br>9<br>5 0 0 0 | 191 0 6<br>116 1<br>958 2,785 1,499<br>0 0<br>13<br>5 0 0 0 | 191 0 6<br>116 2<br>957 2,796 1,512<br>0 0<br>14<br>5 0 0 0 | 191 0 6<br>116 2<br>957 2,795 1,510<br>0 0<br>14<br>5 0 0 0 | 191 0 6<br>116 2<br>957 2,796 1,512<br>0 0<br>14<br>5 0 0 0 |
| 56th Pl & Pioneer St | 31 4 532<br>62 572<br>681 3,212 929<br>10 130<br>30<br>6 12 3 216 | 34 4 591<br>87 765<br>959 4,265 1,243<br>14 174<br>40<br>6 18 5 329 | 34 4 591<br>87 770<br>959 4,278 1,250<br>14 175<br>40<br>6 18 5 329 | 34 4 591<br>87 769<br>958 4,276 1,250<br>14 175<br>40<br>6 18 5 329 | 34 4 591<br>87 770<br>959 4,278 1,250<br>14 175<br>40<br>6 18 5 329 |
| Bertsinger Rd & Pioneer St | 2 0 0<br>0 0<br>303 618 303<br>2 2<br>7 2 0 4 | 2 0 0<br>0 0<br>379 773 381<br>3 3<br>7 2 0 4 | 2 0 0<br>0 0<br>381 775 381<br>3 3<br>7 2 0 4 | 2 0 0<br>DOES NOT EXIST<br>0 0<br>381 938 490<br>3 3<br>7 20 0 39 | 2 0 0<br>DOES NOT EXIST<br>0 0<br>382 775 373<br>3 2<br>7 4 0 8 |
| Royle Rd & Wells Dr | 80 267 35<br>72 35<br>16 818 5<br>11 19<br>8 17 245 16 | 140 469 61<br>159 64<br>35 1,404 9<br>24 35<br>8 25 359 23 | 117 390 51<br>113 69<br>25 1,230 10<br>17 37<br>8 24 353 23 | 119 397 52<br>118 69<br>26 1,247 10<br>18 37<br>8 24 353 23 | 118 394 52<br>115 69<br>26 1,239 10<br>18 37<br>8 24 353 23 |
| Royle Rd & Hillhurst Rd | 102 77 131<br>125 122<br>269 1,296 245<br>31 33<br>9 32 65 64 | 151 114 194<br>141 193<br>304 1,801 387<br>35 52<br>9 46 93 91 | 153 116 197<br>141 191<br>304 1,803 384<br>35 52<br>9 46 93 91 | 153 116 197<br>141 191<br>304 1,803 384<br>35 52<br>9 46 93 91 | 153 116 197<br>141 191<br>304 1,803 384<br>35 52<br>9 46 93 91 |
| Bertsinger RD & Reiman Rd & Pioneer Rd | 25 0 79<br>DOES NOT EXIST<br>0 144<br>303 834 275<br>2 0<br>10 2 0 4 | 36 0 113<br>DOES NOT EXIST<br>0 175<br>379 1,046 334<br>3 0<br>10 2 0 4 | 36 0 113<br>DOES NOT EXIST<br>0 175<br>381 1,047 334<br>3 0<br>10 2 0 4 | 41 0 130<br>0 224<br>381 1,321 428<br>20 39<br>10 20 0 39 | 37 0 116<br>0 171<br>382 1,057 326<br>4 8<br>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 TRAFFICWAY | SR ONLY HISTORY / SUSPENSE IND | REPORT NUMBER | DATE | TIME | MOST SEVERE INJURY TYPE | # INJ | # FAT | # VEH | # PEDS | # BIKES | 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 | 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 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 ACCUMULATIVE ROUTE MILEPOST (ARM) | SR ONLY HISTORY / SUSPENSE IND | REPORT NUMBER | DATE | TIME | MOST SEVERE INJURY TYPE | # INJ | # FAT | # VEH | # PEDS | # BIKES | 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. #3 - 35th Place / 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 | MILEPOST | SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARMI) | SR ONLY HISTORY / SUSPENSE IND | REPORT NUMBER | DATE | TIME | MOST SEVERE INJURY TYPE | # INJ | # FAT | # VEH | # PED | # BIKES | 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 | MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1) | MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| State Route | Clark | Ridgefield | 501 | 18.55 | 11.37 | Yes | EA11768 | 02/05/2020 | 02:11 | No Apparent Injury | 0 | 0 | 1 | 0 | 0 | Passenger Car | | Circulating Roundabout | Not stated | Negotiating a Curve | | North | South | | | Operating Recklessly or Aggressively | |
| State Route | Clark | Ridgefield | 501 | 18.55 | 11.37 | Yes | EA09765 | 01/28/2020 | 06:30 | No Apparent Injury | 0 | 0 | 2 | 0 | 0 | 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 Grant RW to Vehicle | None |
| State Route | Clark | Ridgefield | 501 | 18.56 | 11.38 | Yes | EC18610 | 02/06/2022 | 21:19 | No Apparent Injury | 0 | 0 | 1 | 0 | 0 | Pickup,Panel Truck or Vanette under 10,000 lb | | Exiting Roundabout | Street Light Pole or Base | Negotiating a Curve | | North | South | | | Exceeding Reas. Safe Speed | |
| State Route | Clark | Ridgefield | 501 | 18.56 | 11.38 | Yes | EC98457 | 10/24/2022 | 16:57 | No Apparent Injury | 0 | 0 | 2 | 0 | 0 | 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 |

OFFICER REPORTED CRASHES THAT OCCURRED ON ALL ROADS IN CLARK COUNTY

**Int. #6 - 56th Place / 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 TRAFFICWAY | DIST FROM REF POINT | M I or FT | COMP DIR FROM REF POINT | REFERENCE POINT NAME | MILEPOST | SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM) | SR ONLY HISTORY / SUSPENSE IND | REPORT NUMBER | DATE | TIME | MOST SEVERE INJURY TYPE | # I N J | # F T | # P E D | # B I K E 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 | -4196 | | 93 | F | NW | S 56TH PL | | | No | EF28161 | ######## | 17:35 | No Apparent Injury | 0 | 0 | 2 | 0 | Circulating Roundabout | From same direction - one left turn - one straight | Making Left Turn | Going Straight Ahead | East | South | East | West | Improper Turn/Merge | None |
| City Street | Clark | Ridgefield | PIONEER ST | -2496 | | 134 | F | N | S 56TH PL | | | No | EF06613 | ######## | 08:00 | Unknown | 0 | 0 | 2 | 0 | Entering Roundabout | From same direction - both going straight - both moving - sideswipe | Other* | Other* | East | West | East | West | Did Not Grant RW to Vehicle | None |
| City Street | Clark | Ridgefield | PIONEER ST | | | | | N | S 56TH PL | | | No | EF04503 | ######## | 05:12 | Possible Injury | 1 | 0 | 1 | 0 | Circulating Roundabout | Traffic Island | Negotiating a Curve | | East | West | | | Exceeding Reas. Safe Speed | |
| City Street | Clark | Ridgefield | PIONEER ST | | S 56TH PL | | | | | | | No | EE73605 | ######## | 09:23 | No Apparent Injury | 0 | 0 | 2 | 0 | Circulating Roundabout | From same direction - both going straight - both moving - sideswipe | Negotiating a Curve | Negotiating a Curve | West | East | West | East | Exceeding Reas. Safe Speed | None |
| City Street | Clark | Ridgefield | PIONEER ST | | S 56TH PL | | | | | | | No | EF08453 | ######## | 15:52 | No Apparent Injury | 0 | 0 | 2 | 0 | Circulating Roundabout | From same direction - both going straight - both moving - sideswipe | Changing Lanes | Going Straight Ahead | East | West | East | West | Distractions Outside Vehicle | None |
| City Street | Clark | Ridgefield | PIONEER ST | | S 56TH PL | | | | | | | No | EF50576 | ######## | 11:17 | No Apparent Injury | 0 | 0 | 2 | 0 | Circulating Roundabout | From same direction - both going straight - both moving - rear-end | Going Straight Ahead | Slowing | East | West | East | West | Distracted by Other Occupant | None |
| City Street | Clark | Ridgefield | PIONEER ST | | S 56TH PL | | | | | | | No | EF24029 | ######## | 02:15 | Suspected Minor Injury | 1 | 0 | 1 | 0 | Entering Roundabout | Retaining Wall (concrete, rock, brick, etc.) | Going Straight Ahead | | East | West | | | Under Influence of Alcohol | |
| City Street | Clark | Ridgefield | PIONEER ST | -3996 | S 56TH PL | | | | | | | No | EF50223 | ######## | 12:47 | No Apparent Injury | 0 | 0 | 2 | 0 | Exiting Roundabout | From same direction - both going straight - both moving - sideswipe | Negotiating a Curve | Negotiating a Curve | West | East | West | East | Exceeding Reas. Safe Speed | None |
| State Route | Clark | Ridgefield | 501 | | | | | | | 19.61 | 12.43 | Yes | E004662 | ######## | 10:10 | No Apparent Injury | 0 | 0 | 2 | 0 | Exiting Roundabout | From same direction - one left turn - one straight | Making Left Turn | Going Straight Ahead | East | South | East | West | None | None |
| State Route | Clark | Ridgefield | 501 | | | | | | | 19.61 | 12.43 | Yes | EC54037 | ######## | 21:52 | Unknown | 0 | 0 | 1 | 0 | Exiting Roundabout | Metal Sign Post | Negotiating a Curve | | East | West | | | Exceeding Reas. Safe Speed | |
| State Route | Clark | Ridgefield | 501 | | | | | | | 19.61 | 12.43 | Yes | ED71918 | ######## | 14:25 | No Apparent Injury | 0 | 0 | 2 | 0 | Circulating Roundabout | From same direction - one left turn - one straight | Changing Lanes | Going Straight Ahead | East | West | East | West | Improper Turn/Merge | None |
| State Route | Clark | Ridgefield | 501 | | | | | | | 19.62 | 12.44 | Yes | EC24588 | ######## | 08:30 | No Apparent Injury | 0 | 0 | 2 | 0 | Entering Roundabout | Same direction – both turning right – both moving – sideswipe | Making Right Turn | Making Right Turn | South | East | South | East | Did Not Grant RW to Vehicle | Did Not Grant RW to Vehicle |
| State Route | Clark | Ridgefield | 501 | | | | | | | 19.62 | 12.44 | Yes | EE20296 | ######## | 22:23 | No Apparent Injury | 0 | 0 | 1 | 0 | Entering Roundabout | Traffic Island | Negotiating a Curve | | West | East | | | Under Influence of Alcohol | |
| State Route | Clark | Ridgefield | 501 | | | | | | | 19.62 | 12.44 | Yes | EA14619 | ######## | 09:00 | No Apparent Injury | 0 | 0 | 2 | 0 | Entering Roundabout | Entering at angle | Other* | Other* | West | East | East | South | Did Not Grant RW to Vehicle | None |
| State Route | Clark | Ridgefield | 501 | | | | | | | 19.62 | 12.44 | Yes | EC33538 | ######## | 08:57 | No Apparent Injury | 0 | 0 | 2 | 0 | Circulating Roundabout | From same direction - one left turn - one straight | Making Left Turn | Going Straight Ahead | East | South | East | West | Unknown Distraction | None |
| State Route | Clark | Ridgefield | 501 | | | | | | | 19.62 | 12.44 | Yes | E083689 | ######## | 13:27 | No Apparent Injury | 0 | 0 | 2 | 0 | Circulating Roundabout | From same direction - one left turn - one straight | Going Straight Ahead | Making Left Turn | East | West | East | West | None | Improper Turn/Merge |
| State Route | Clark | Ridgefield | 501 | | | | | | | 19.63 | 12.45 | Yes | ED84479 | ######## | 16:20 | No Apparent Injury | 0 | 0 | 2 | 0 | Entering Roundabout | From same direction - both going straight - both moving - sideswipe | Going Straight Ahead | Going Straight Ahead | East | West | East | West | Did Not Grant RW to Vehicle | None |
| State Route | Clark | Ridgefield | 501 | | | | | | | 19.63 | 12.45 | Yes | EE77225 | ######## | 16:29 | No Apparent Injury | 0 | 0 | 2 | 0 | Circulating Roundabout | From opposite direction - one left turn - one straight | Going Straight Ahead | Making Left Turn | East | West | West | East | None | None |
| State Route | Clark | Ridgefield | 501 | | | | | | | 19.63 | 12.45 | Yes | EA46661 | ######## | 16:34 | No Apparent Injury | 0 | 0 | 2 | 0 | Circulating Roundabout | From same direction - both going straight - both moving - sideswipe | Overtaking and Passing | Going Straight Ahead | East | West | East | West | Did Not Grant RW to Vehicle | None |
| State Route | Clark | Ridgefield | 501 | | | | | | | 19.63 | 12.45 | Yes | EA75938 | ######## | 20:23 | Unknown | 0 | 0 | 1 | 0 | Entering Roundabout | Traffic Island | Going Straight Ahead | | East | West | | | Under Influence of Alcohol | |
| State Route | Clark | Ridgefield | 501 | | | | | | | 19.63 | 12.45 | Yes | EB31000 | ######## | 15:31 | Unknown | 0 | 0 | 2 | 0 | Entering Roundabout | From same direction - both going straight - both moving - rear-end | Slowing | Going Straight Ahead | East | West | | | Unknown Distraction | |

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 | # INJ | # FAT | # VEH | # PEDS | # BIKES | 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 | 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 | # INJ | # FAT | # PEDS | # PEDS | # EIKS | 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 | NW HILLHURST RD | 23824 | S ROYLE RD | No | ED95140 | ######## | 15:08 | Possible Injury | 1 | 0 | 2 | 0 | 0 | At Intersection and Related | From opposite direction - one left turn - one straight | Making Left Turn | Going Straight Ahead | Northwest | East | Southeast | Northwest | Did Not Grant RW to Vehicle | None |
| City Street | Clark | Ridgefield | NW HILLHURST RD | 23824 | S ROYLE RD | No | EC01196 | ######## | 14:47 | Suspected Minor Injury | 1 | 0 | 2 | 0 | 0 | At Intersection and Related | From opposite direction - one left turn - one straight | Making Left Turn | Going Straight Ahead | Northeast | Southeast | Southwest | Northeast | Did Not Grant RW to Vehicle | None |
| City Street | Clark | Ridgefield | NW HILLHURST RD | 24100 | S ROYLE RD | No | EA29473 | ######## | 19:13 | No Apparent Injury | 0 | 0 | 1 | 0 | 0 | At Intersection and Related | Linear Curb | Making Left Turn | | East | South | | | Exceeding Reas. Safe Speed | |

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 raveen 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 est to 35th and back on Pioneer. For those residents closer to 35th, going south to 15th St and to Royle Rd is alreadry 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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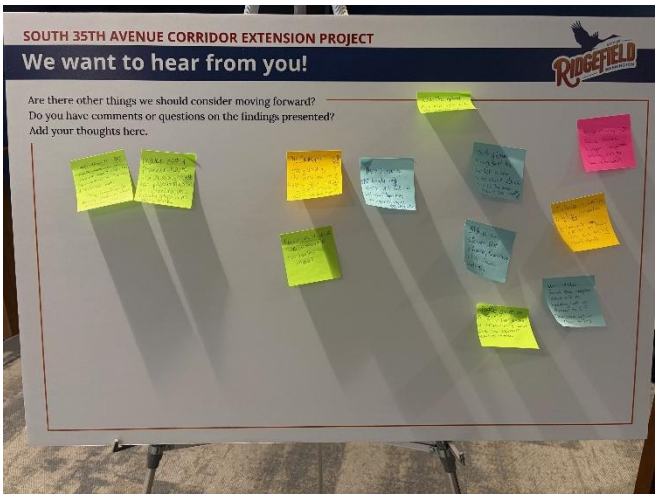
## Appendix B: Sticky Notes

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 safter 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.

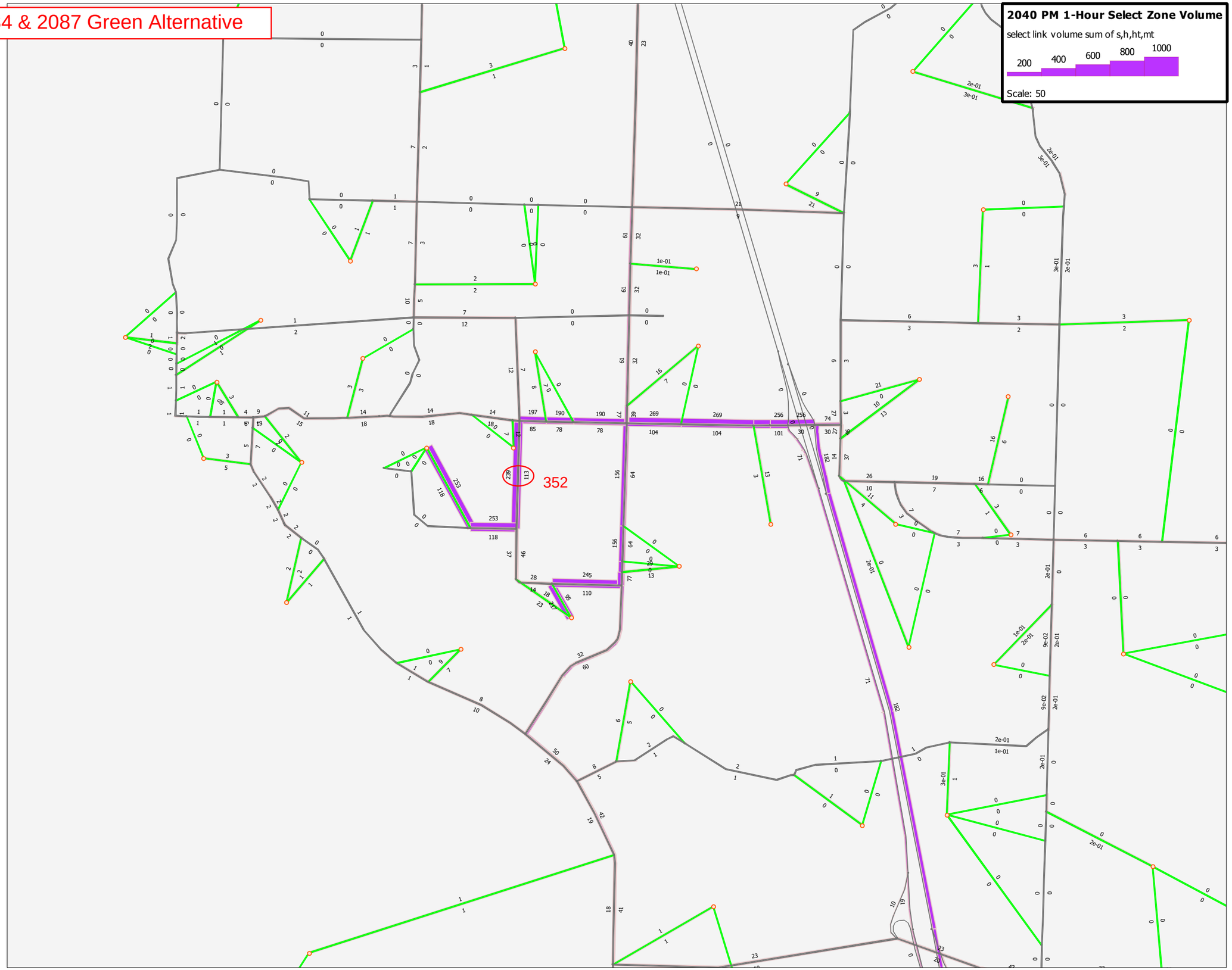



- Please recalculate red alternative residential impact.
- There is now a lovely lung walking trail in RH that may be impacted by the red alternative.
- Use the green. The red alt hits Pioneer in an already dangerous spot.
- The # of homes “impacted” by the red is way under what it actually is. Visit 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.

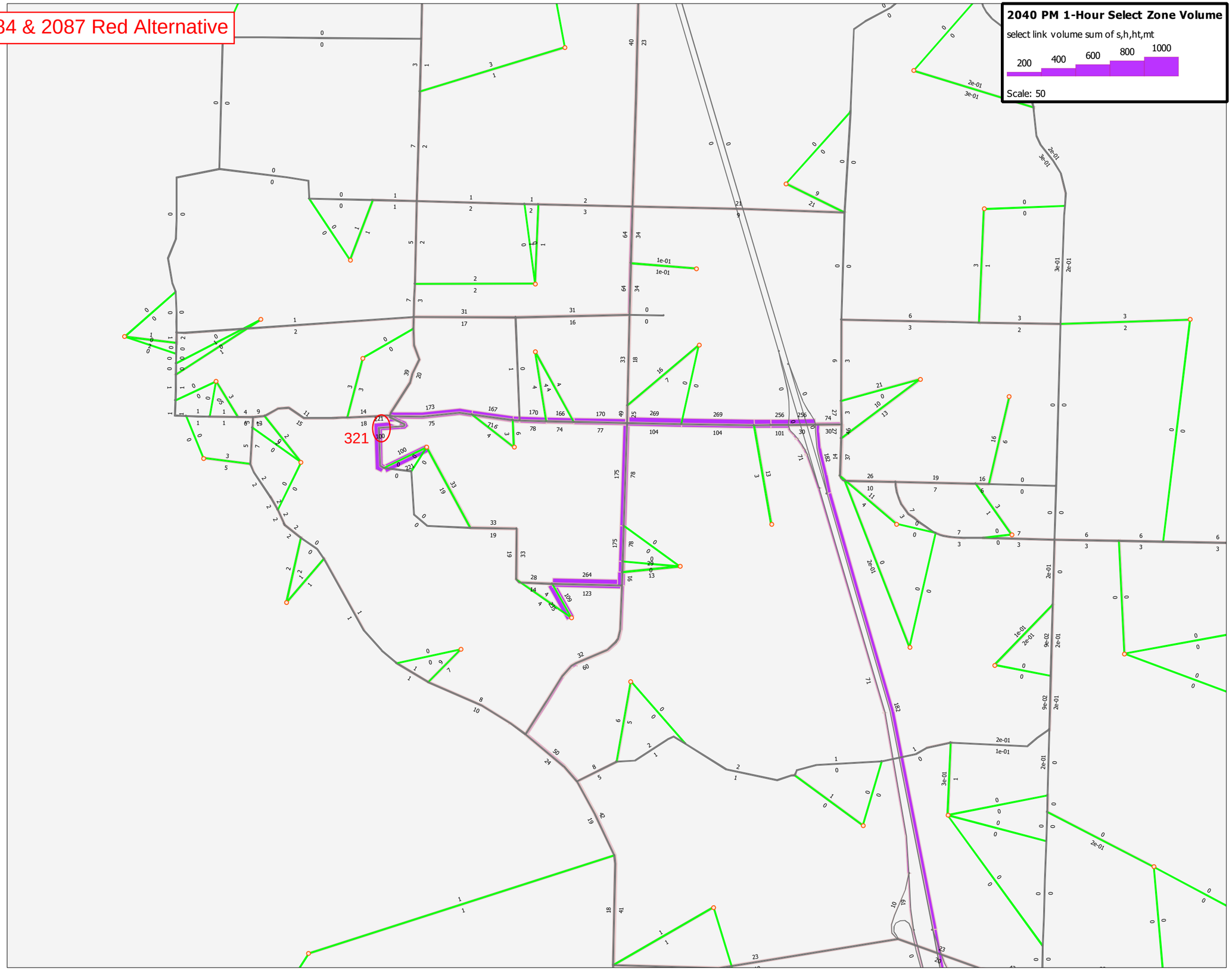
# Appendix H

## Travel Demand Models for Gee Creek Plateau Travel

# 2040 - TAZ 2084 & 2087 Green Alternative



2040 - TAZ 2084 & 2087 Red Alternative



# 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 logs[10] 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**
- **Adverse soils**
- Land subsidence
- Subsurface voids
- Hydrology and drainage
- Hazardous minerals
- **Erosion and sedimentation**
- Hydrogeology and **groundwater**
- Volcanic hazards
- Permafrost and freeze-thaw
- Seismic hazards (**liquefaction, lateral spreading, earthquake-induced landslides, ground shaking**, fault ground rupture, tsunamis, and seiches)

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://appswr.ecology.wa.gov/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 mating. 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]

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[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

- Slopes greater than eighty percent (80%), subject to rock fall during earthquake shaking
- **Areas potentially unstable as a result of rapid stream incision, stream bank erosion, and stream undercutting the toe of a slope**
- **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**
- 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.

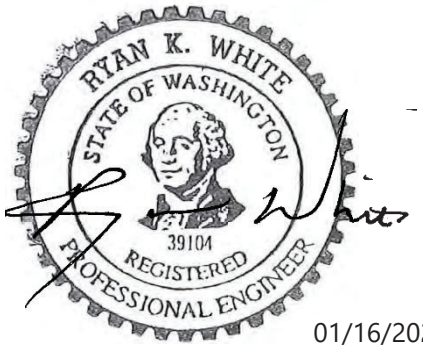
It is possible that soil, rock, or groundwater conditions could vary from nearby sites, and therefore, site-specific subsurface explorations are essential to finalize our preliminary recommendations.

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,




01/16/2026

Jack Powell, LG
Project Geologist

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

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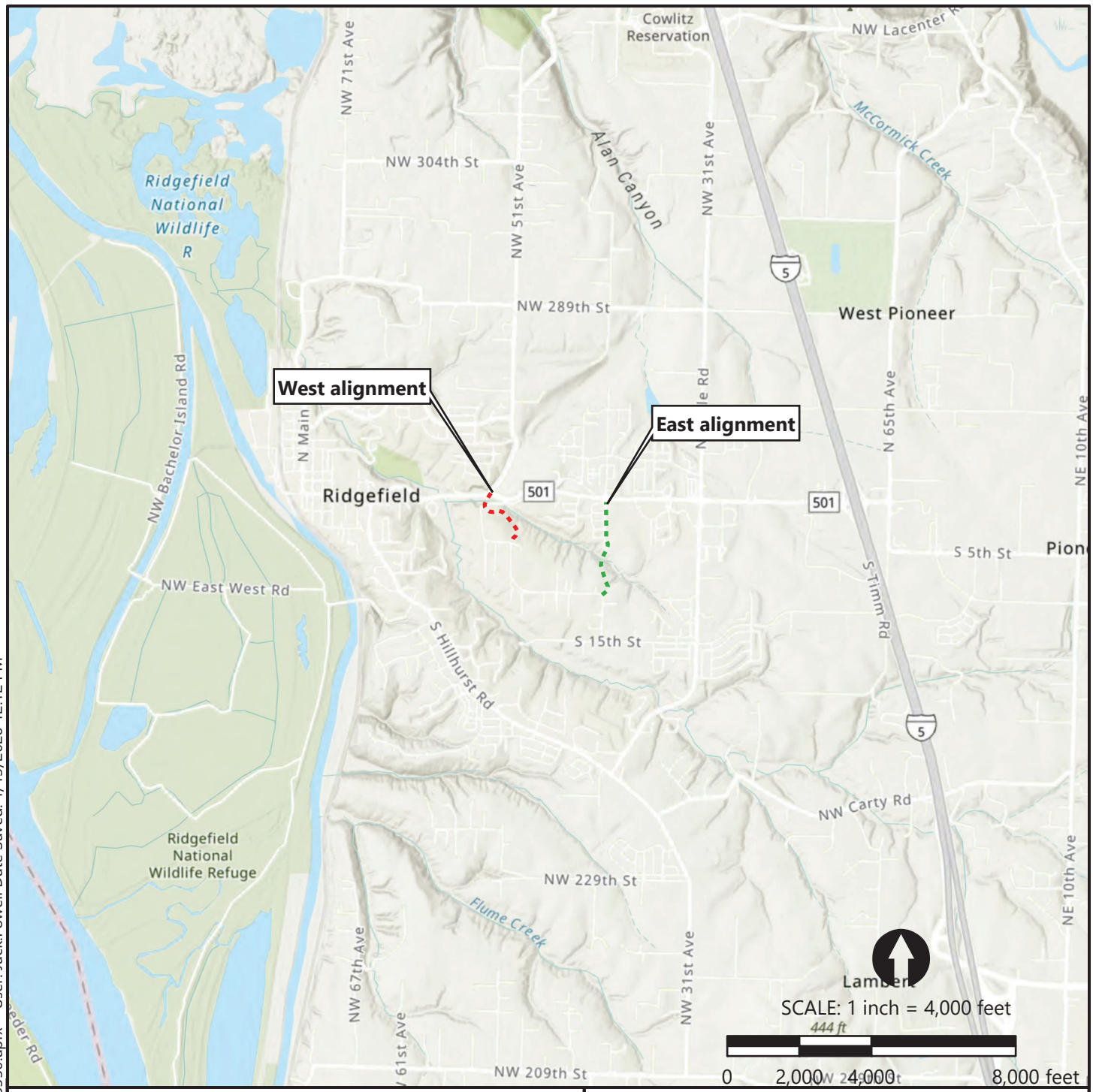
# Figures







# VICINITY MAP

35TH AVENUE EXTENSION
RIDGEFIELD, WASHINGTON

DATE: JAN 2026 · PROJECT: 25005550

APEX

FIGURE
1

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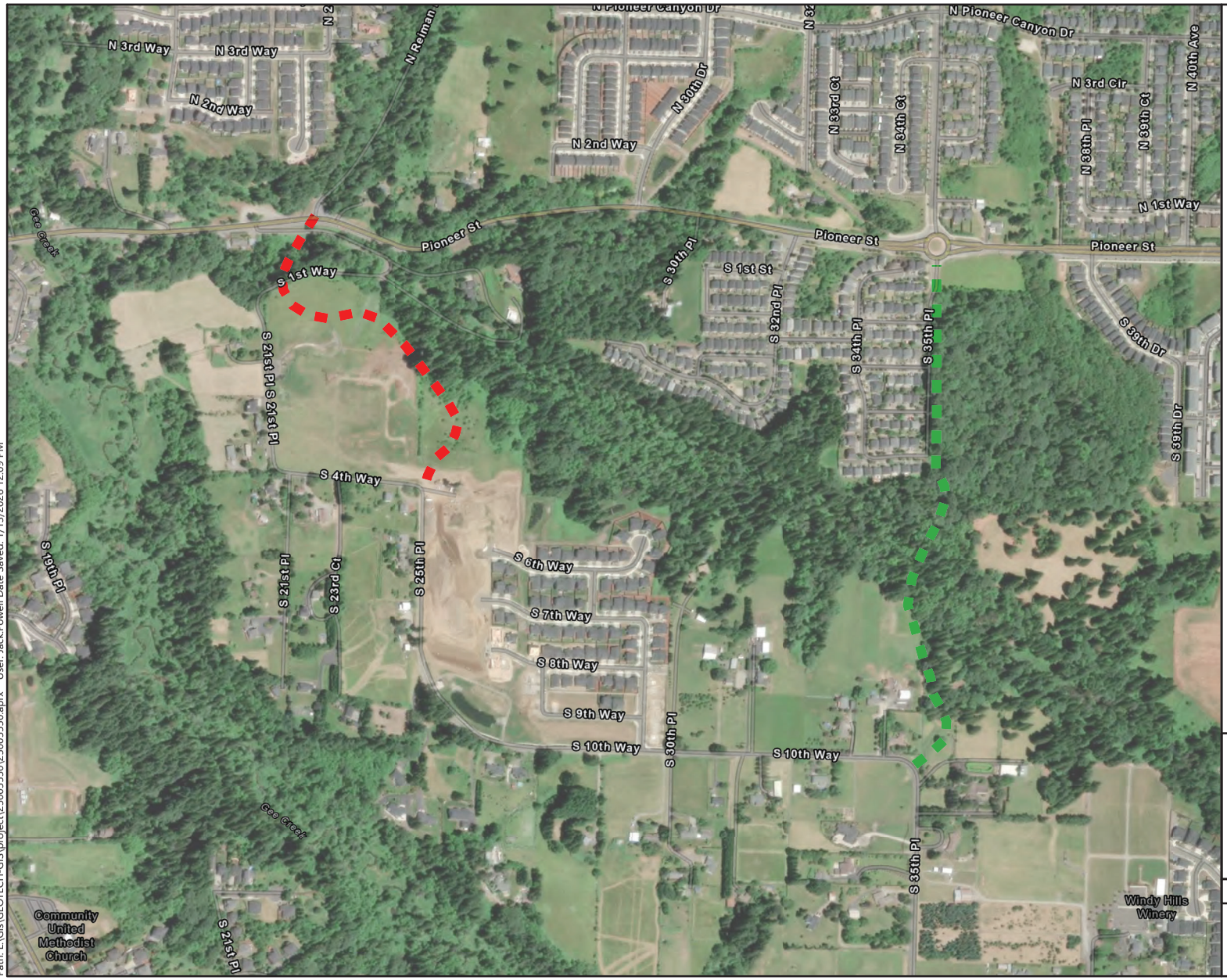


**EXPLANATION**

- 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

SCALE: 1 inch = 500 feet

0 250 500 1,000 feet

# SITE PLAN

35TH AVENUE EXTENSION
RIDGEFIELD, WASHINGTON

DATE: JAN 2026 · PROJECT: 25005550

APEX.

FIGURE 2

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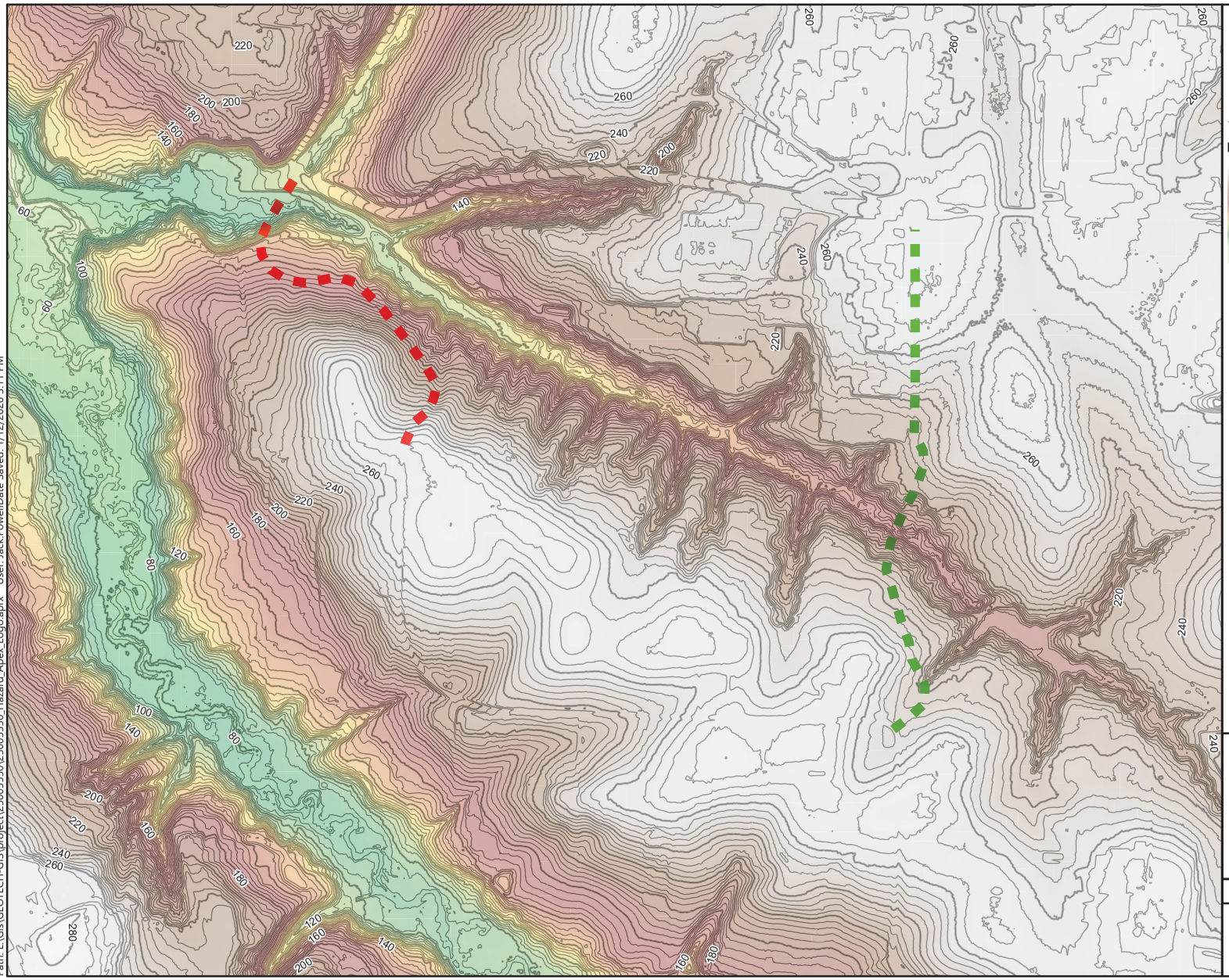


# ELEVATION MAP

## 35TH AVENUE EXTENSION

RIDGEFIELD, WASHINGTON

DATE: JAN 2026 · PROJECT: 25005550

APEX.

FIGURE 3

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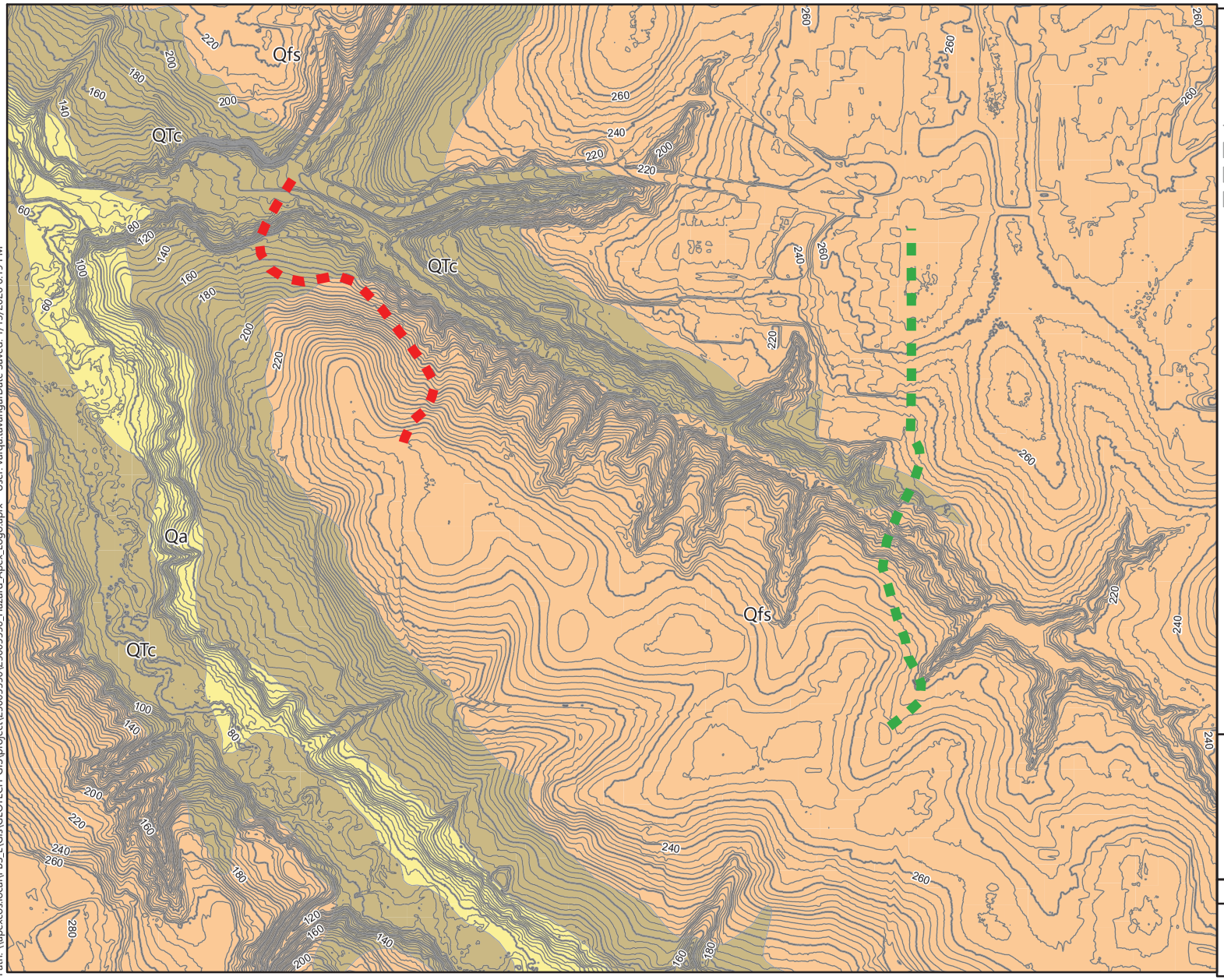


**EXPLANATION**

- West roadway alignment
- East roadway alignment
- 4ft elevation contour (NAVD 88)
- Pleistocene/Pliocene Conglomerate (QTc)
- Holcene 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

APEX.

FIGURE 4

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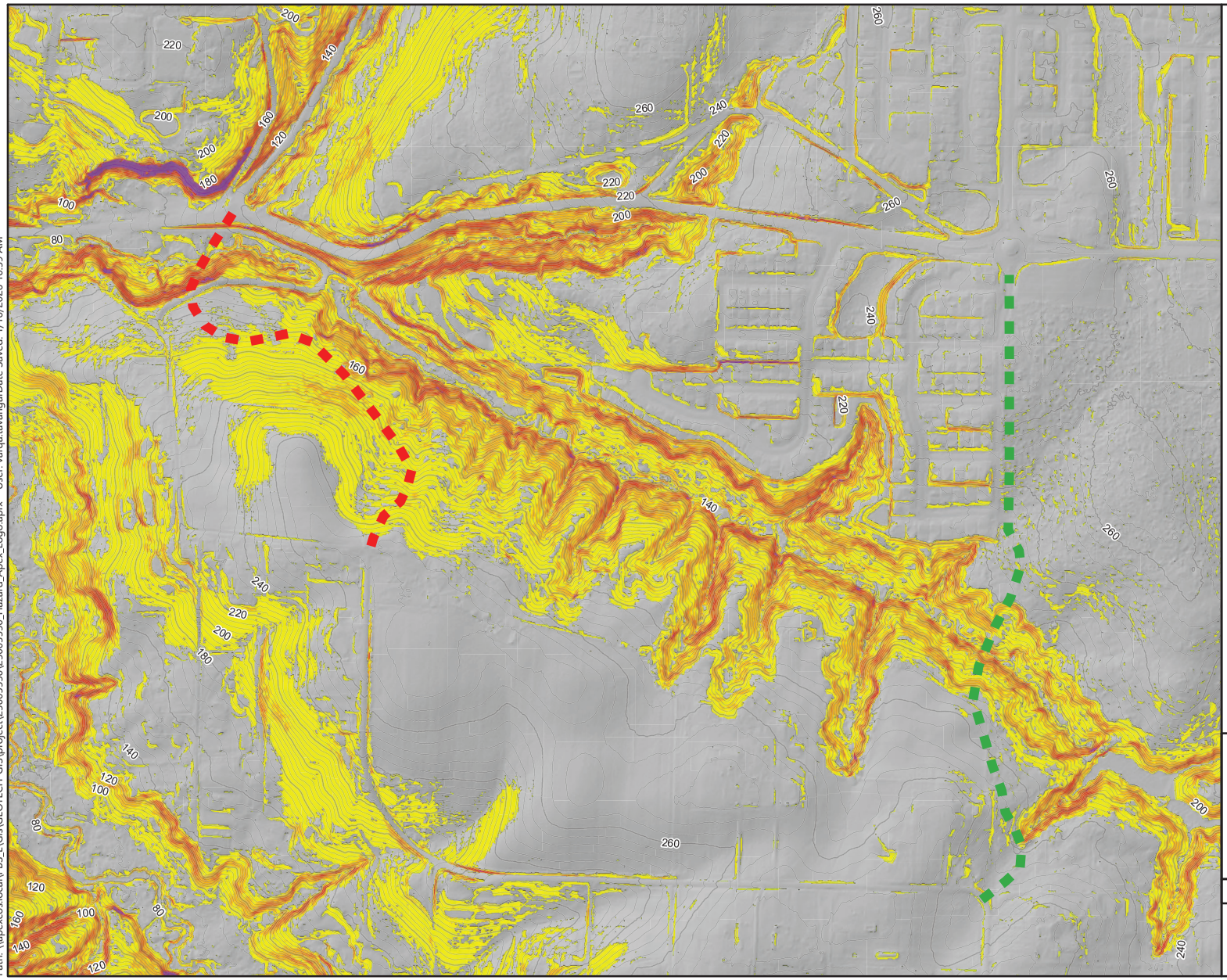
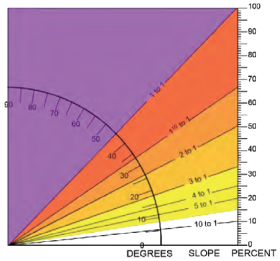



**EXPLANATION**

- 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)

SLOPE COMPARISON CHART




Notes: Contours, hillshade, and slope derived from lidar retrieved from WADNR

Coordinate System: NAD 1983 2011 StatePlane Washington South FIPS 4602 Ft US

SCALE: 1 inch = 400 feet

0 200 400 800 feet

# SLOPE MAP

## 35TH AVENUE EXTENSION
## RIDGEFIELD, WASHINGTON

DATE: JAN 2026 · PROJECT: 25005550

APEX.

FIGURE 5

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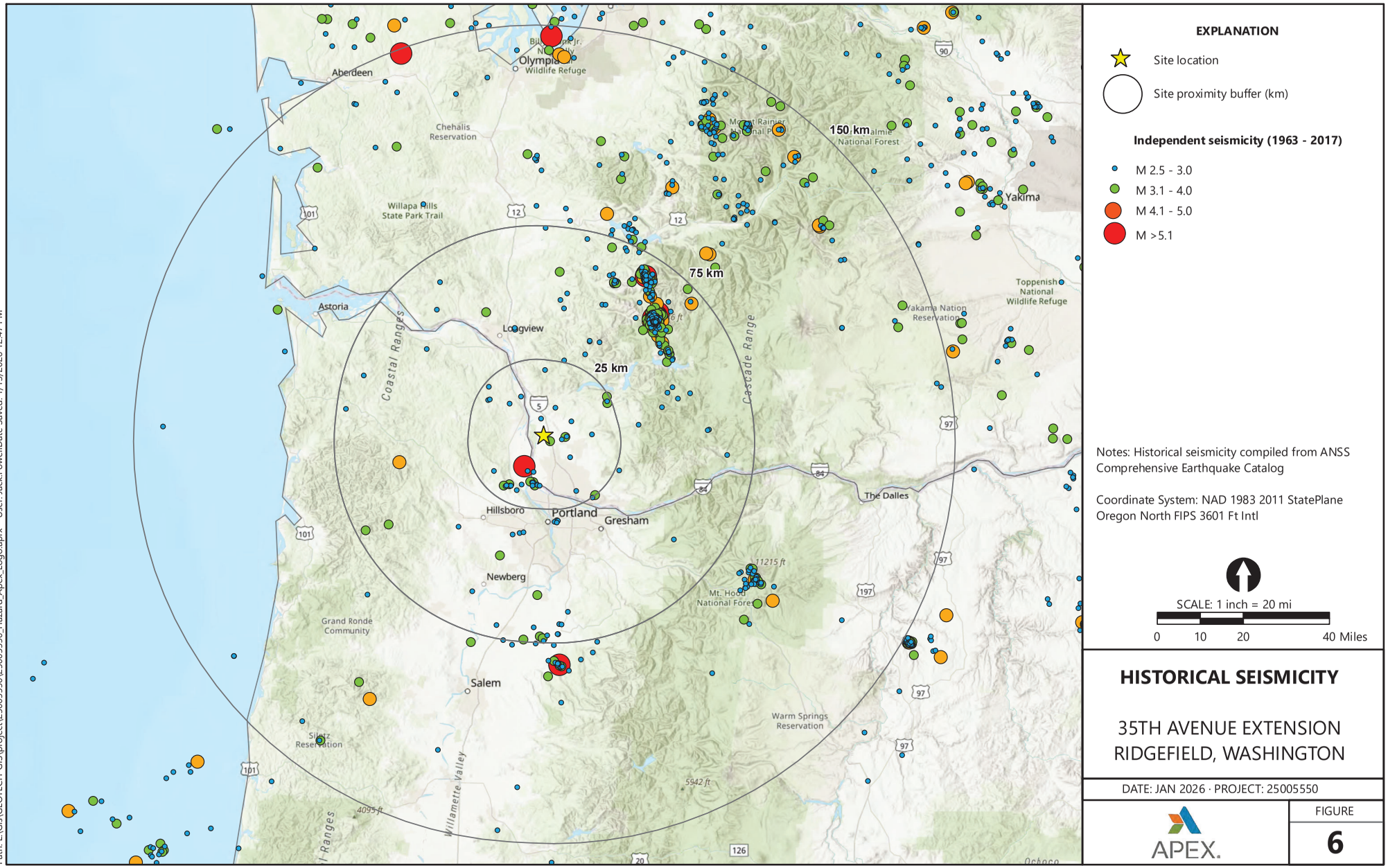


# HISTORICAL SEISMICITY

35TH AVENUE EXTENSION
RIDGEFIELD, WASHINGTON

DATE: JAN 2026 · PROJECT: 25005550

APEX.

FIGURE
6

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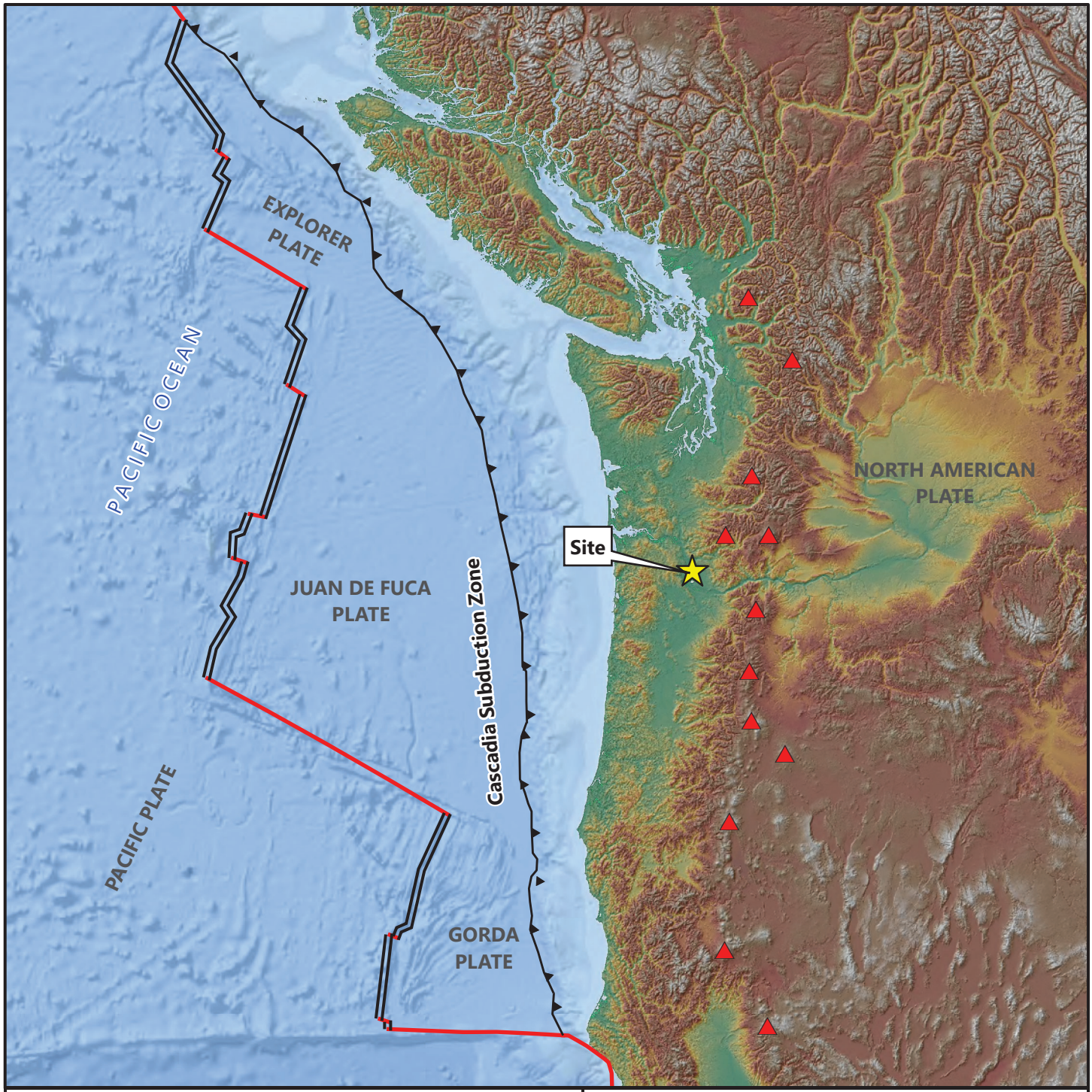


**EXPLANATION**

- 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

APEX

FIGURE
7

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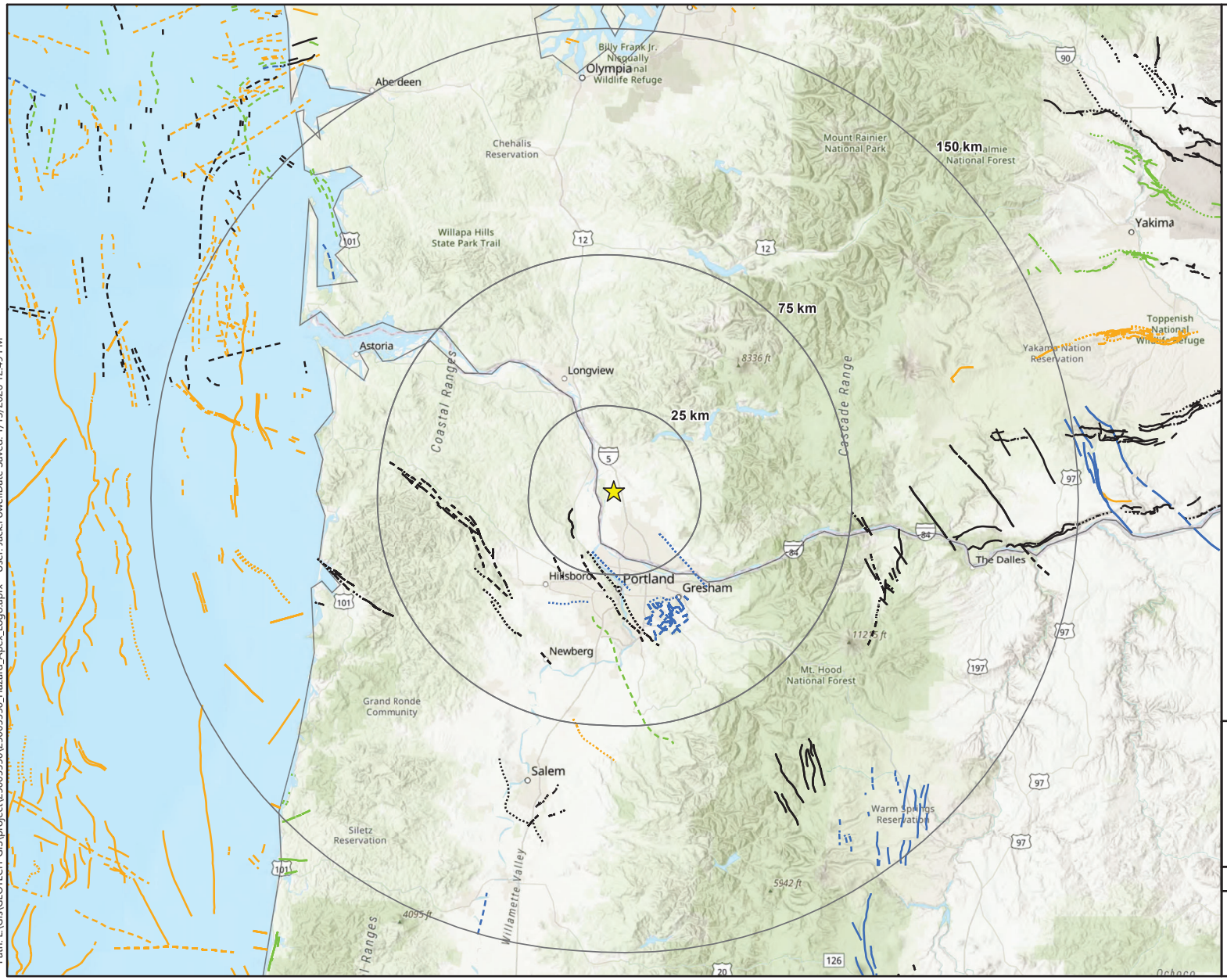


Site location

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

0 10 20 40 Miles

# REGIONAL FAULT MAP

## 35TH AVENUE EXTENSION

RIDGEFIELD, WASHINGTON

DATE: JAN 2026 · PROJECT: 25005550

APEX.

FIGURE

8

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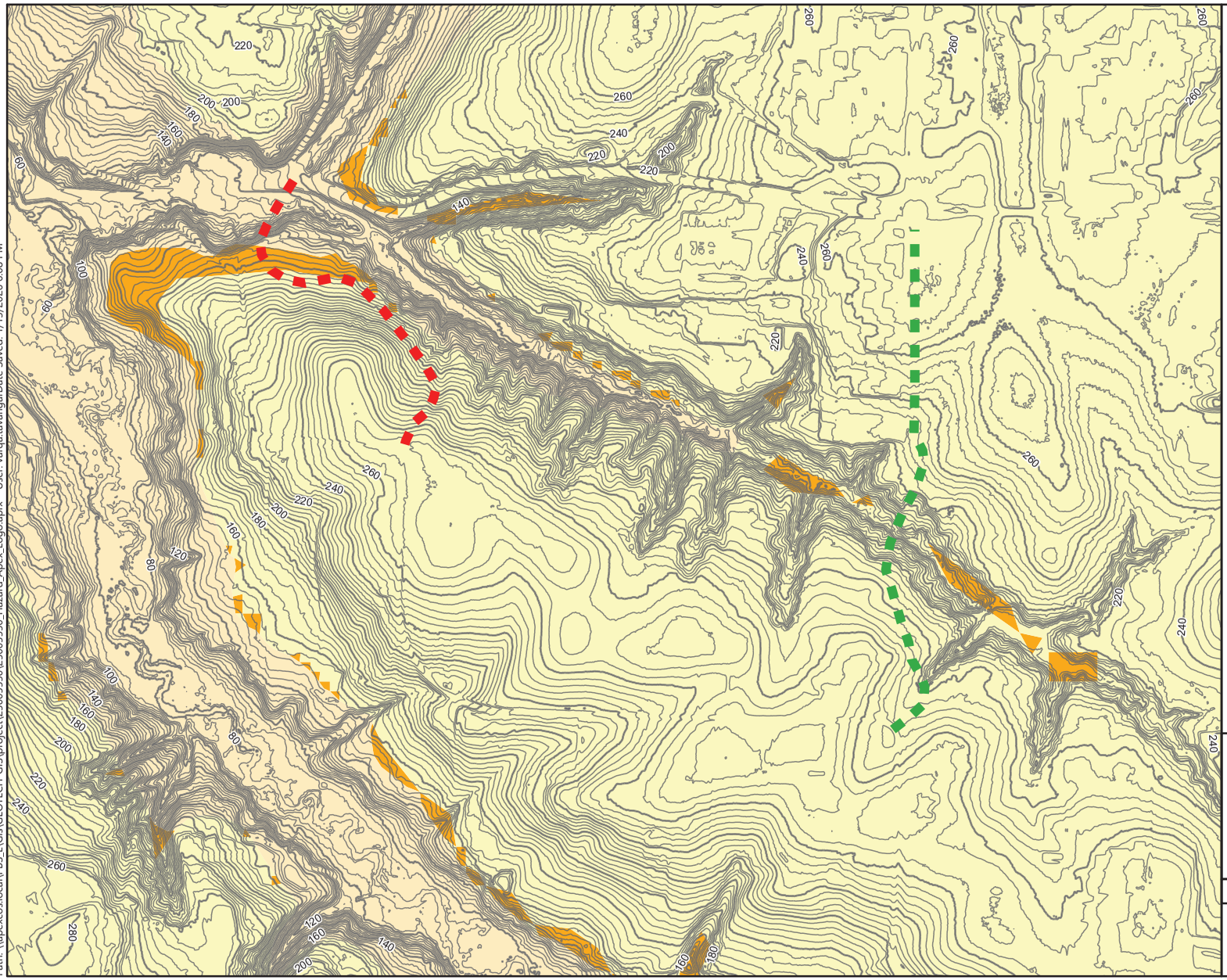


**EXPLANATION**

- 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

SCALE: 1 inch = 500 feet

0 250 500 1,000 feet

# LIQUEFACTION MAP

35TH AVENUE EXTENSION
RIDGEFIELD, WASHINGTON

DATE: JAN 2026 · PROJECT: 25005550

APEX.

FIGURE
9

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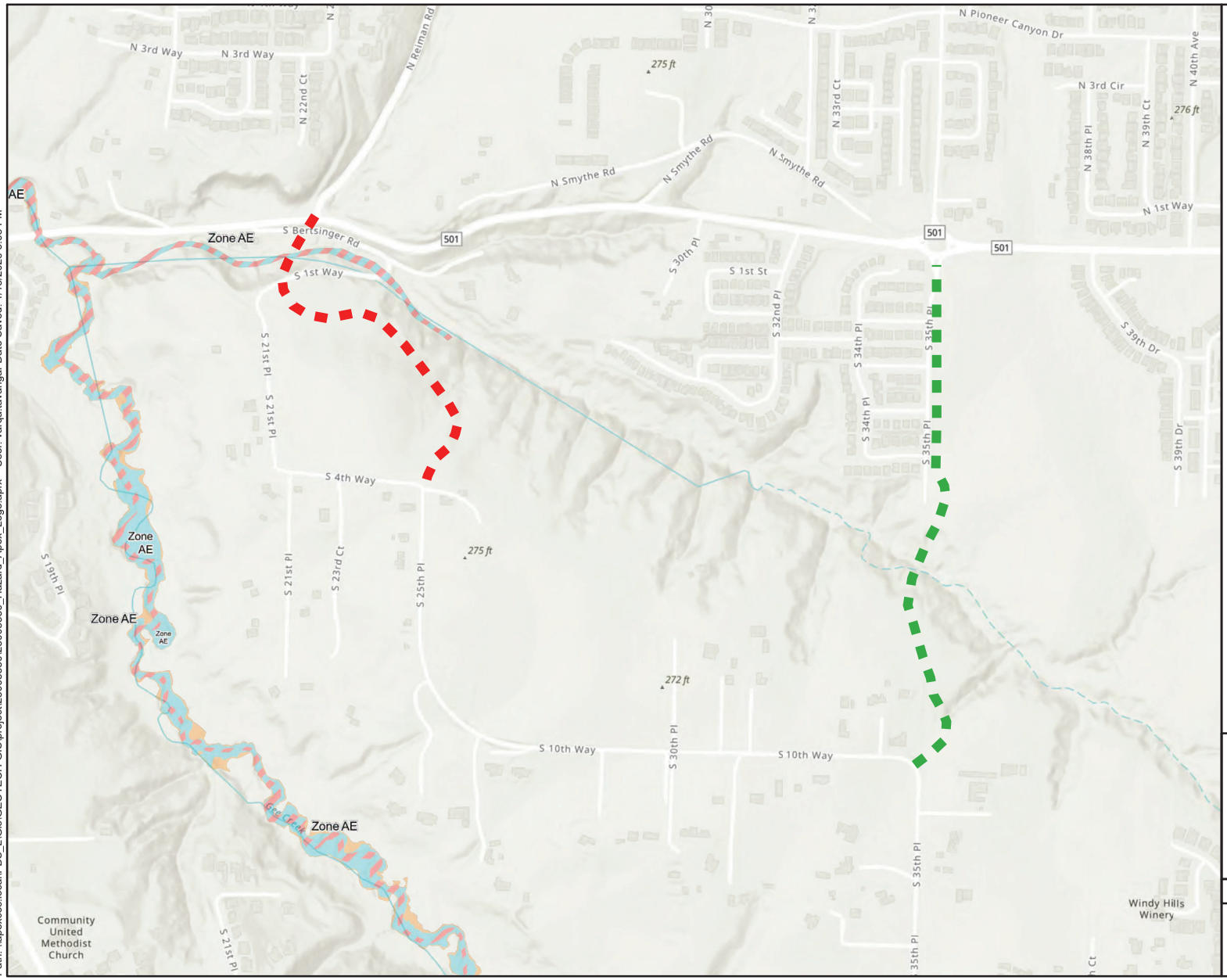


**EXPLANATION**

- 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

SCALE: 1 inch = 500 feet

0 250 500 1,000 feet

# FLOODPLAIN MAP

## 35TH AVENUE EXTENSION
## RIDGEFIELD, WASHINGTON

DATE: JAN 2026· PROJECT: 25005550

APEX.

FIGURE
10

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