



# Transportation Master Plan

Draft November 2025





## Acknowledgments

A Transportation Master Plan (TMP) is a city's strategy to manage and improve its transportation system, addressing current and future needs for roadways, public transit, walking, and cycling. It considers growth, land use, and economic development to recommend projects and policies that enhance mobility, safety, and accessibility, guiding infrastructure investments for an efficient, sustainable, and connected city.

### Mayor & City Council

Kurt Ostler, Mayor  
Brittney P. Bills, City Council  
Ron Campbell, City Council  
Doug Cortney, City Council  
Kim Rodela, City Council  
Scott L. Smith, City Council

### Planning Commission

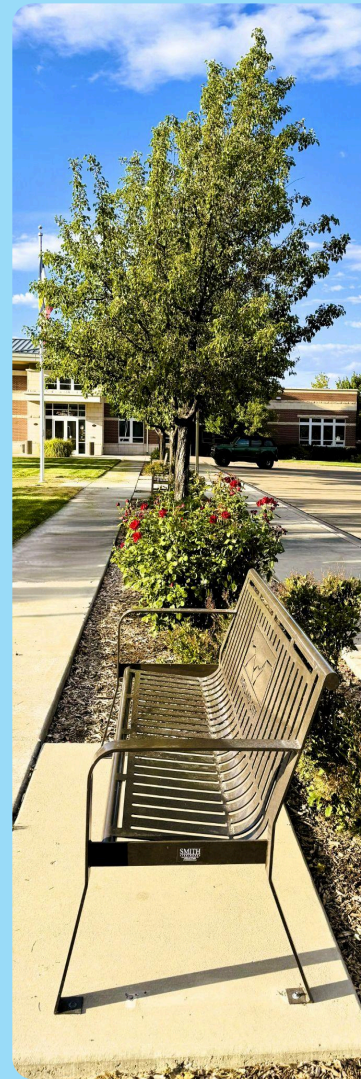
Jerry Abbott, Commissioner  
Tracy Hill, Commissioner  
Christopher Howden, Commissioner  
Claude Jones, Commissioner  
Audrey Moore, Commissioner  
Debra Maughan, Commissioner  
Trent Thayn, Commissioner  
Sherry Kramer, Commissioner Alternate  
Wesley Warren, Commissioner Alternate

### City Staff

Chris Trusty, Engineer/Public Works Director  
Jay Baughman, Community Development Director  
Rob Patterson, City Attorney, Planning & Zoning Administrator  
Erin Wells, City Administrator

### Consultant Team – Hales Engineering

Shawn Eliot, AICP, MPA  
Josh Gibbons, PE, PTOE, RSP1  
Alex Gilson, EIT  
Dallin Borrowman



## Public Participants

We extend our gratitude to the hundreds of Highland residents, community leaders, businesses, and various community organizations. Your valuable input directly shaped the TMP strategies and implementation plan.



## Explore Highland's Transportation Master Plan

CHAPTER 1	<b>INTRODUCTION</b>	<b>3</b>	CHAPTER 2	<b>ROADWAY NETWORK</b>	<b>14</b>	CHAPTER 3	<b>TRANSIT &amp; ACTIVE</b>	<b>42</b>
	Summary & Highlights	5		Function & Width	15		Public Transit	43
	Highland Demographics	7		Travel Demand	20	CHAPTER 3	Active Transportation	45
	TMP Development	10		Existing Conditions	23			
CHAPTER 4	Previous Studies	12		Future Conditions	26			
				Recommendations	32			
				Parkway Detail	41			
CHAPTER 4	<b>TRANSPORTATION MANAGEMENT</b>	<b>50</b>	APPENDIX	<b>TECHNICAL REPORTS</b>	<b>A1</b>			
	Safety Analysis	51		Intersection Analysis	A1			
	Traffic Calming	55		TIS Guidelines	A2			
	Traffic Impact Studies	55		Traffic Volume Data	A3			
				Funding Opportunities	A4			







CHAPTER  
**1**

# INTRODUCTION



## 1. Introduction

Highland City, Utah, is a thriving community nestled below the towering Wasatch Mountains, offering residents a unique blend of suburban tranquility, rural charm, and immediate access to stunning natural beauty. What began as an area rooted in agricultural pursuits, has progressively evolved into a vibrant, sought-after residential community. This transformation reflects the enduring spirit of its people, who have contributed to the development of a dynamic and cohesive community. The city's growth, marked by increasing population and development, is a testament to its desirability and is consistently mirrored in its proactive and continuous efforts to enhance and modernize its infrastructure, particularly its transportation system.

The Highland Transportation Master Plan (TMP) stands as a comprehensive blueprint for the city's future, outlining strategic investments designed to effectively manage both current and future traffic demands through 2050. This forward-thinking plan meticulously addresses several critical aspects of transportation planning:

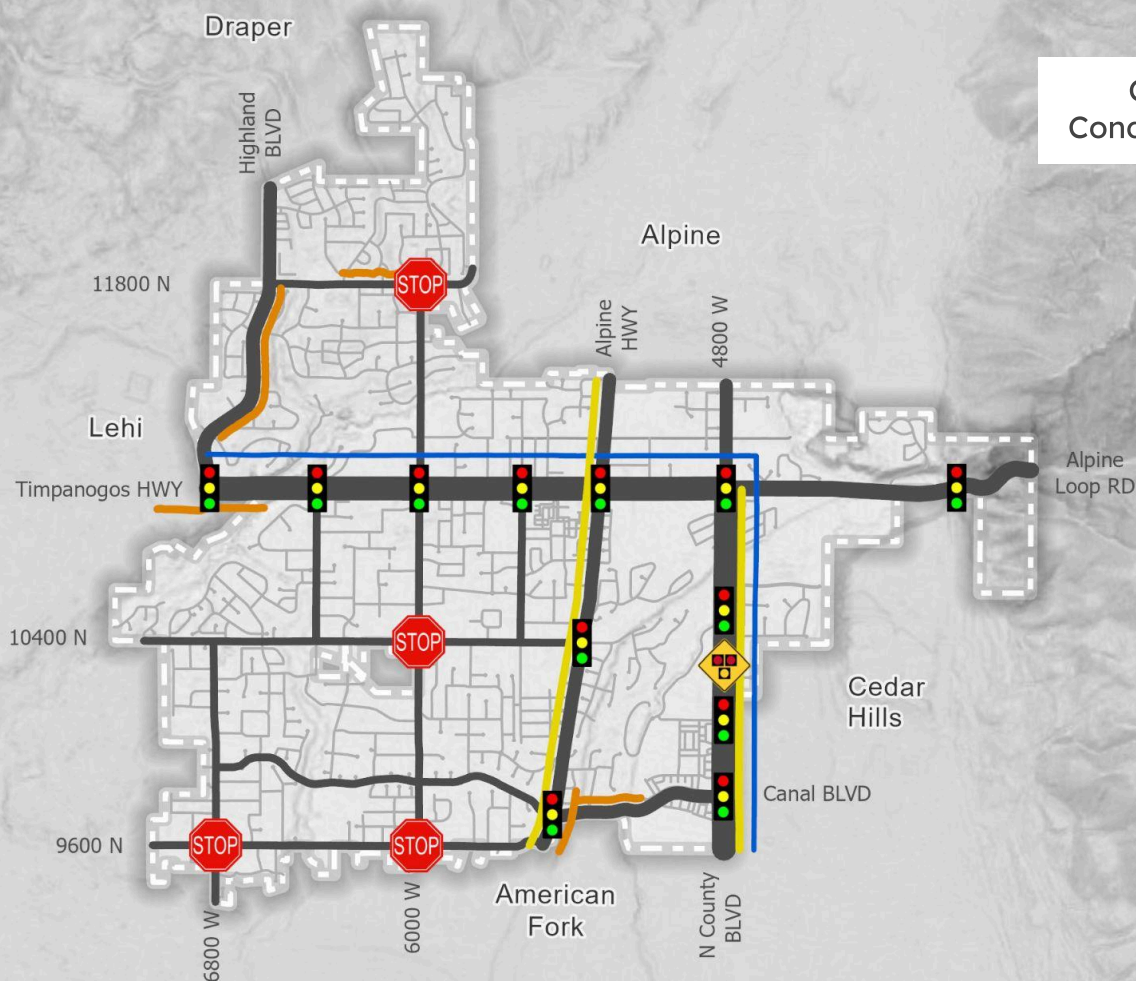
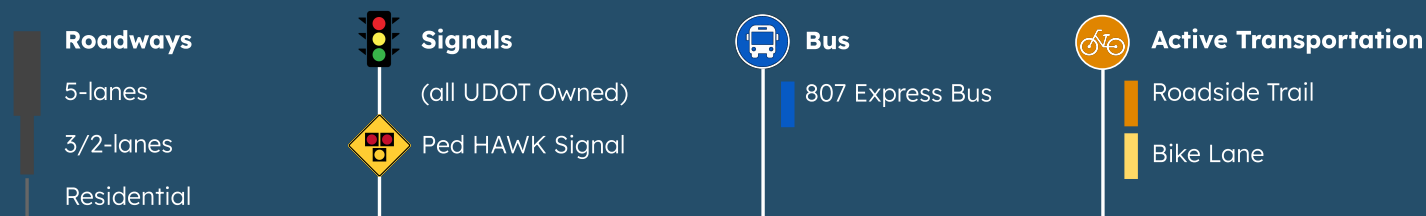
- **Functional Classification of Roadways:** The TMP classifies roads by function (arterial, collector, local) to optimize traffic flow, guide design, prioritize improvements, and allocate resources efficiently.
- **Level of Service (LOS) Standards:** The plan sets Level of Service (LOS) standards, quantitative measures of traffic flow based on speed, travel time, maneuverability, interruptions, and convenience. These standards aim to minimize congestion, improving residents' quality of life and facilitating economic activity.
- **Proposed Improvements:** The TMP proposes various improvements for roadways and intersections, such as widening roads, adding turning lanes, optimizing signal timing, and redesigning intersections to enhance safety and capacity. Each improvement is evaluated based on projected traffic volumes, safety, and contribution to the plan's objectives.
- **The plan prioritizes active transportation and acknowledges that transit will remain minimal with regional connections just outside the city.** It proposes improving multi-use trails and creating safe cycling infrastructure. These initiatives aim to improve residents' quality of life, create comfortable recreation spaces, and enhance safety.

Ultimately, the Highland Transportation Master Plan aims to create a comprehensive, resilient, and sustainable transportation network that will serve the needs of its citizens through 2050. By strategically planning for future growth and embracing diverse modes of transportation, Highland City is committed to ensuring efficient mobility, enhancing safety, and fostering a higher quality of life for all its residents.



## 1.1 Summary & Highlights

Highland City's transportation system is currently performing generally well and is projected to continue doing so. The Utah Department of Transportation (UDOT) maintains all principal arterial roads (North County Blvd, Timpanogos Hwy) and one minor arterial (Alpine Hwy) within the city. The city is responsible for the maintenance of all other minor arterials, collector roads, and local roads. Public transit, provided by the Utah Transit Authority (UTA), offers limited express bus service during morning and evening commutes, connecting to FrontRunner Commuter Rail, State Street Core Bus service, and Utah Valley University. The active transportation network is extensive, with plans for additional regional connections. Overall, Highland's transportation infrastructure is in good condition.



Current  
Conditions Map



## Recommended Improvements

With future growth, improvements are needed to keep the overall highway network acceptable congestion levels. Details of how these projects were developed or explained further within the document.

### Road Widen

4800 West (SB lane)  
6800 West (center lane)  
Timpanogos HWY  
North County BLVD



### Add Double Left Turns

Canal BLVD /  
Alpine HWY  
  
Canal BLVD /  
North County BLVD



### New Roundabout

Highland BLVD /  
11800 North  
  
6000 West/10400 North  
  
6000 West/Canal BLVD

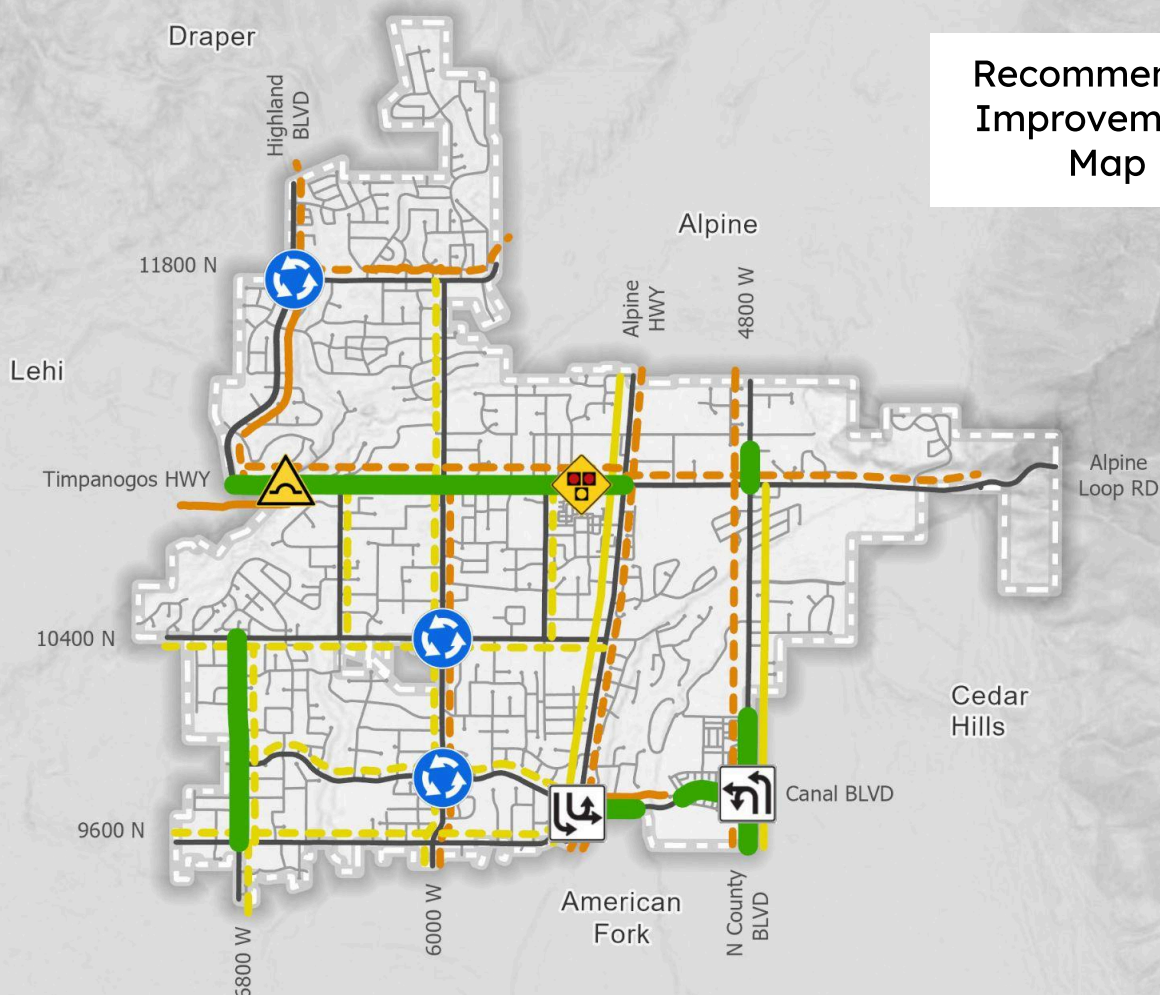


### New Active Transportation

 Ped HAWK Signal  
 Trail Tunnel  
 Roadside Trail  
 Bike Lane

( — Existing — — Future)

## Recommended Improvements Map

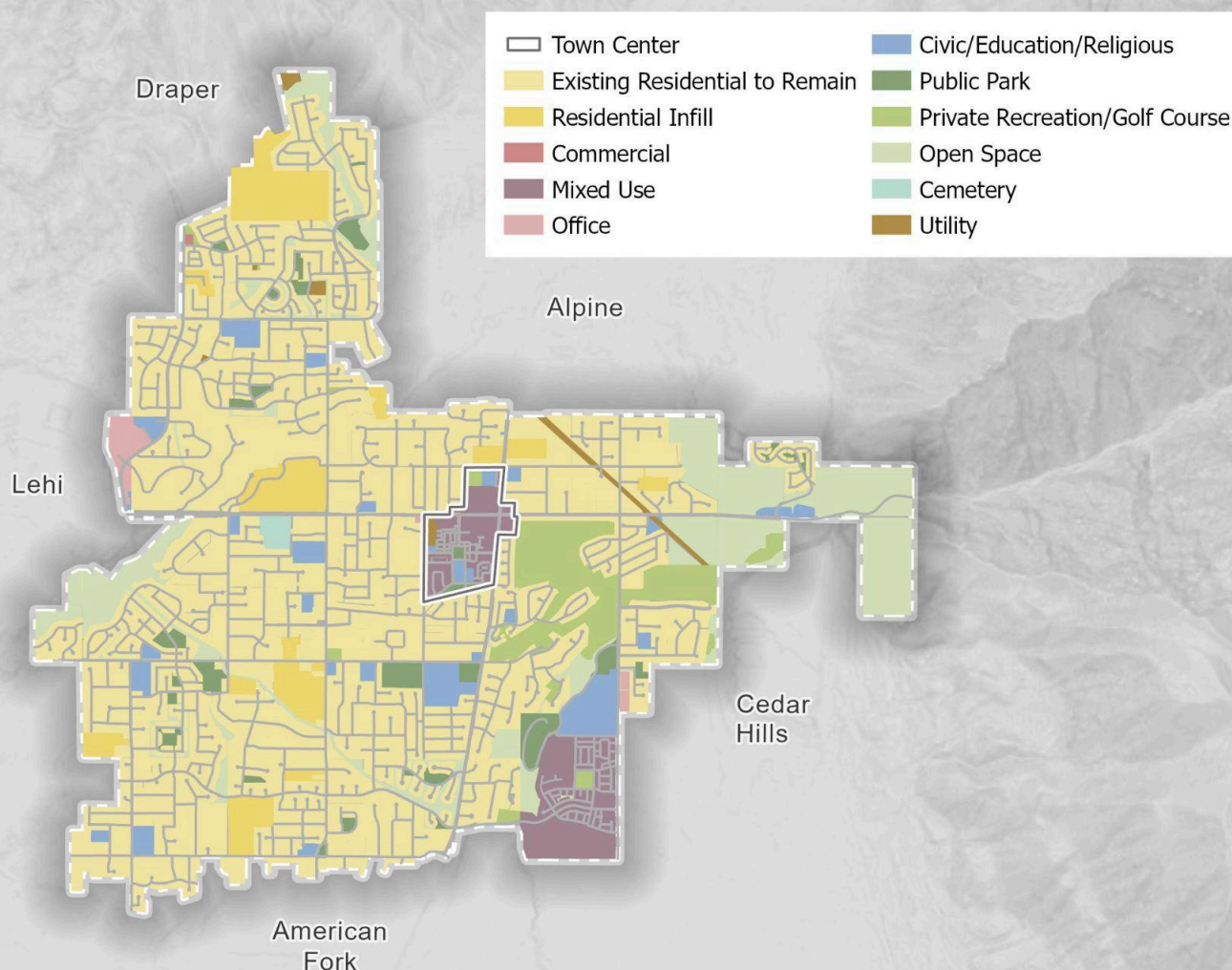


## 1.2 Highland Demographics

This section analyzes current and projected land use and demographic trends in Highland, including population characteristics like age, race, gender, income, education, and employment. These factors are essential for understanding the travel needs of Highland residents and used for the travel demand model, which forecasts traffic volumes and determines future transportation needs.

### Land Use

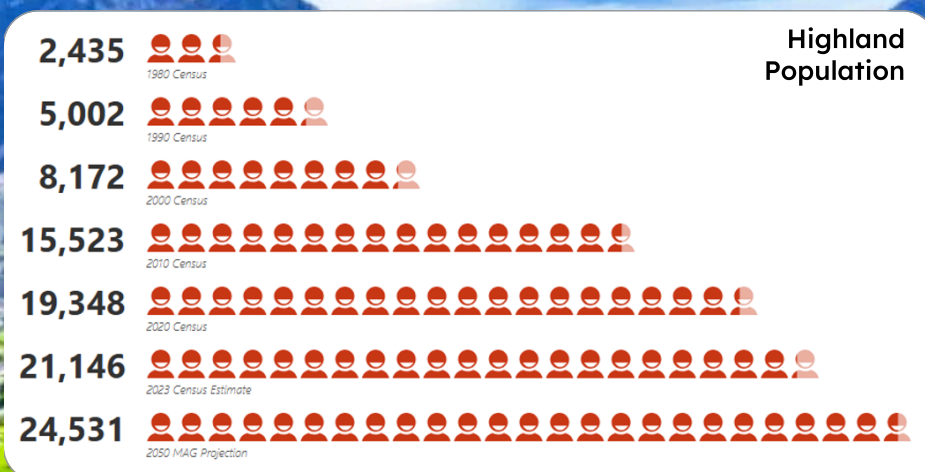
Land use development significantly influences travel demand and, consequently, the requirements for a city's transportation network. As Highland develops and redevelops, changes to its transportation infrastructure will be necessary to accommodate increased travel demand. The MAG RTP 2023-2050 projects a 42% increase in Highland households, from 4,636 in 2023 to 6,606 by 2050, as depicted in the Highland Future Land Use Map.





## Population

Highland and its neighboring communities have seen substantial population growth in recent decades, with Highland's highest numerical population increase in the 2000s. With a 2024 estimate at 21,146, growth has stabilized with 2050 projections anticipated at 24,531. Similarly, Alpine and Cedar Hills, the communities that directly impact Highland traffic, have experienced similar growth and have limited growth projections in the future. The 2023 American Community Survey census data indicated an average of 4.10 persons per household. One important note, with the higher costs associated with housing and state and national trends showing household size decreases by 2050, Highland's persons per household is anticipated to reduce to 3.71.



### Population Growth Rate

2010-20	24.6%
2021-23	9.3%
2024-50	16.0%



### Persons per Household

2024	4.10
2050	3.71



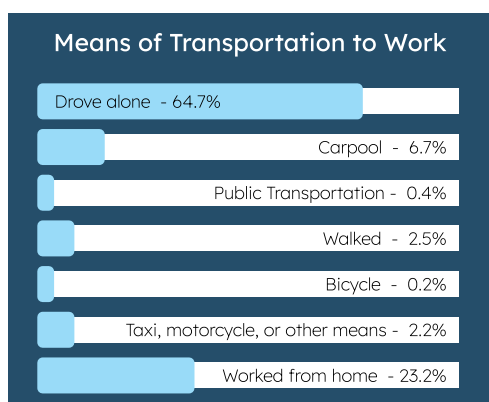
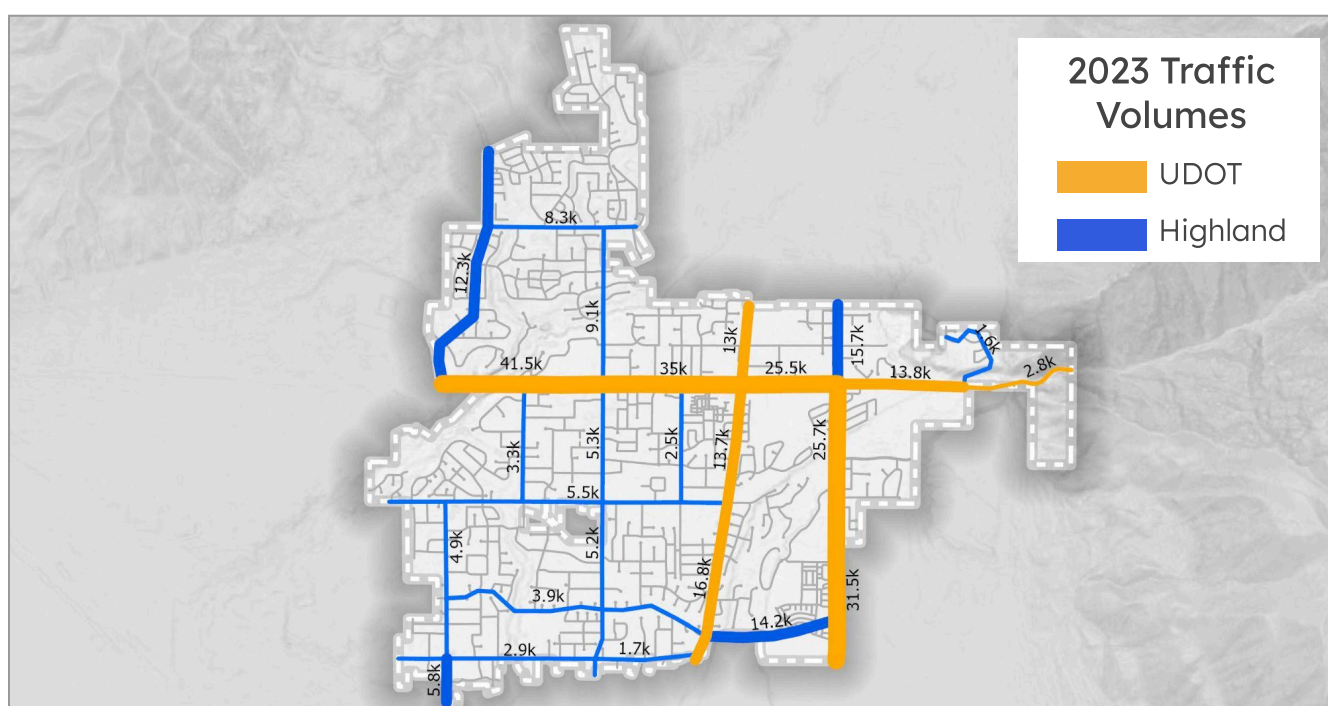
### Income

2024	\$178,622
------	-----------



## Employment and Journey to Work

Highland residents primarily use personal vehicles for commuting, with 65% driving alone and an average of three cars per household. Commute times average 22.5 minutes. Carpooling (7%), walking (2%), and public transit/bicycling are minimally used, while 23% work from home. Highland's economy is strong, with a 2.5% unemployment rate and a median household income of approximately \$178,662. The workforce is largely in professional, scientific, technical services, retail, and education, with many in management, office support, and sales, benefiting from proximity to "Silicon Slopes."



### Average Commute Time



### Unemployment Rate





## 1.3 TMP Development

To create a comprehensive vision for Highland's transportation network, ensuring both current and future needs are met, Hales Engineering led a Transportation Master Plan (TMP) project team in concurrence with the Highland General Plan update work conducted by Landmark. This involved engaging with the public, the planning commission and the city council. A summary of these initiatives follows.

### Project Team

City personnel and the consultant group formed a project team that convened regularly throughout the planning process, including a kickoff meeting, staff coordination meetings, and multiple meetings with the planning commission and the city council. This team worked concurrently with Landmark Design to develop an update to the Highland General Plan.

### Public Engagement

Highland's General Plan update involved public, stakeholder, and city official input on current concerns and future needs, including transportation. This process included public meetings, advisory committees, stakeholder interviews, resident surveys, and public workshops, crucial for developing the Transportation Master Plan. More detailed information about these outreach methods can be found in the Highland General Plan (2025). Engagement opportunities were a booth at the Highland Fling (08/03/2024), a Public Visioning Open House (09/18/2024), Advisory Committee meetings (08/12/2024, 10/30/2024), stakeholder interviews (11/12/2024), an Alternative Futures Public Workshop (11/20/2024), and a fall 2024 resident survey. Key transportation takeaways are:

Concerns about traffic enforcement, road conditions, and the network's capacity, especially with future development.

Prioritizing walking and biking, make safer and more comfortable, add better lighting on trails, complete sidewalks near schools.

A more connected and accessible transportation system to improve city-wide mobility.

A need for safety enhancements like crack repairs and clear speed limit signage.

## Planning Commission and City Council

Developing this Transportation Master Plan for Highland involved stakeholder meetings, including a city council/planning commission transportation workshop on April 8th, 2025. This workshop covered general plan elements, current and desired future conditions, and implementation strategies. Further coordination meetings with city representatives were also held to ensure the consistency and feasibility of future transportation projects outlined in this document.





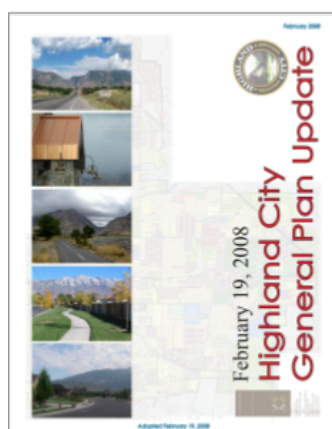
## 1.4 Previous Studies

An understanding of previous work was used to inform the work of the TMP. Multiple transportation plans, studies, and policies have been developed in the region including:



### **Alpine & Highland Active Transportation Plan (2023)**

The Alpine & Highland Active Transportation Plan is an existing regional study into the multimodal connections within Highland and Alpine cities. This Transportation Master Plan seeks to reflect this plan's regional consideration with updated and tailored specifications for each city.



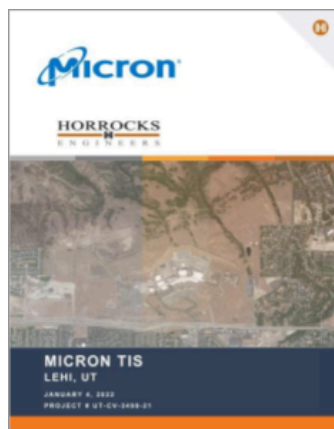
### **Highland City General Plan (2008)**

The Highland City General Plan serves as a foundational document. It is currently being updated in conjunction with this Transportation Master Plan (TMP) to integrate relevant information and adapt to the city's evolving needs, including changing growth patterns, housing, commercial development, and travel demands.



### **Highland Traffic Calming and Pedestrian Safety Manual (2023)**

The Highland Traffic Calming and Pedestrian Safety Manual captures key safety measures for road users and especially non-motorized users. This includes roadway classification, speed and severity of crash statistics, as well as multimodal safety mitigations. The safety principles from this document inform the safety considerations paired with road improvement approaches and projects listed.



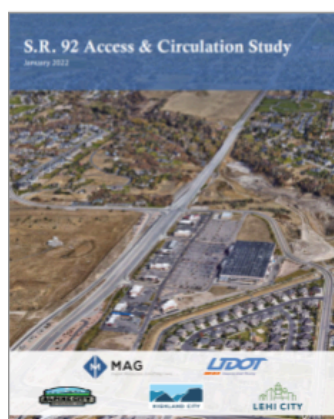
### **Micron Traffic Impact Study (2022)**

The Micron Traffic Impact Study analyzes the impact of a major residential development surrounding the former Micron Technology facility. This development is particularly important to factor into future roadway decisions because of its magnitude and the specific access points to Highland Boulevard. Expected increases in vehicle volumes and recommended mitigations from the project are factored into this Transportation Master Plan.



### **11800 North/Highland Boulevard Intersection Assessment (2024)**

The 11800 North/Highland Boulevard Intersection Assessment addresses concerns from Highland and Lehi regarding an intersection that has inherent safety concerns from the surrounding elementary school usage and fatal crash history. The study provides many general and site specific considerations for improving safety, including an added roundabout.



### **SR92 Access and Circulation Study (2022)**

UDOT, MAG, and the cities of Lehi, Highland, and Alpine commissioned a study to evaluate traffic operations and connectivity for the eastern portion of SR92 Timpanogos HWY. The study considered major intersections from Lehi Center ST to Canyon RD. Several off-corridor locations were evaluated where existing streets could be extended or connected to improve overall street network connectivity in the area. The plan recommended intersection improvements along Timpanogos HWY and the widening on Highland 4800 West/Canyon Crest RD to 5-lanes.





## CHAPTER 2

# ROADWAY NETWORK





## 2. Roadway Network

The purpose of this chapter is to discuss the characteristics and needs of the existing and future roadway networks. Recommendations for future improvements are discussed as well, based on the future land use plans and demographic projections. The analysis methodologies and models that were used are also discussed.

### 2.1 Function and Width

Functional roadway classifications identify what function roadways should perform before determining street widths, speed limits, intersection control or other design features.

#### Functional Classification

To develop the functional class system, roads are categorized into a hierarchical system and given a classification based on travel characteristics and destinations. The higher a street classification, the more mobility it provides with limited access. Lower street classifications have less mobility, but more access. The five classifications in Highland City are listed below. There are no freeways or expressways within Highland.

- **Principal Arterial:** High-mobility, high-speed roads connecting major centers, all UDOT- owned (Timpanogos HWY, North County BLVD).
- **Minor Arterial:** Complement principal arterials, connecting traffic generators for medium to short-distance travel, improving mobility (Alpine HWY UDOT-owned, Highland BLVD. city-owned).
- **Major Collector:** Supplement arterials, offering access control for shorter trips with narrower widths and lower speeds, all city-owned.
- **Minor Collector:** Facilitate low-speed traffic, offer more access and mobility than local streets, all city-owned.
- **Local Street:** Prioritize property access and low-speed traffic, designed to deter through-traffic, all city-owned (unless private).





## Typical Highway Cross-Sections

Once highways are classified, corridor widths can be developed. Corridor widths are generally correlated with future traffic volumes, housing, commercial, and employment centers, community context, and active transportation needs. Ownership, planning, and maintenance of highways within Highland are by UDOT (Timpanogos HWY SR-92, Alpine HWY SR-74, North County BLVD SR-129) or by Highland City (all other roads).

- **UDOT-owned Facilities** (currently three corridor types and one proposed):
  - **Principal Arterial 5:** 5-lanes (4 travel, 1 center turn lane), right-of-way varies, higher volumes and speeds
  - **Principal Arterial 3:** 3-lanes, ROW varies, higher volumes and speeds
  - **Minor Arterial 3:** 3-lanes, ROW varies, moderate volumes and speeds
  - **Principal Arterial 7:** proposed cross-section, 7-lanes, ROW varies, higher volumes and speeds
  - Note: This document does not detail existing and future UDOT cross-sections. Work with UDOT and Mountainland Association of Governments (MAG) will need to occur to integrate proposed changes into the regional transportation plan.
- **Highland-owned Facilities** (currently six existing corridor types, none proposed):
  - **Minor Arterial 3:** 3-lanes, 74' ROW cross-section, moderate volumes and speeds (includes a mid-block and at intersections cross-section)
  - **Major Collector:** 3-lanes, 66' ROW cross-section, moderate volumes and speeds
  - **Major Collector 2 / Minor Collector 2:** 2-lanes, 66' ROW cross-section, moderate to low volumes and speeds (same cross-section used for both corridor types)
  - **Standard Local Street:** 2-lanes, 56' ROW cross-section, low volumes and speeds
  - **Low Volume Local Street 2:** 2-lanes, 56' ROW cross-section, low volumes and speeds



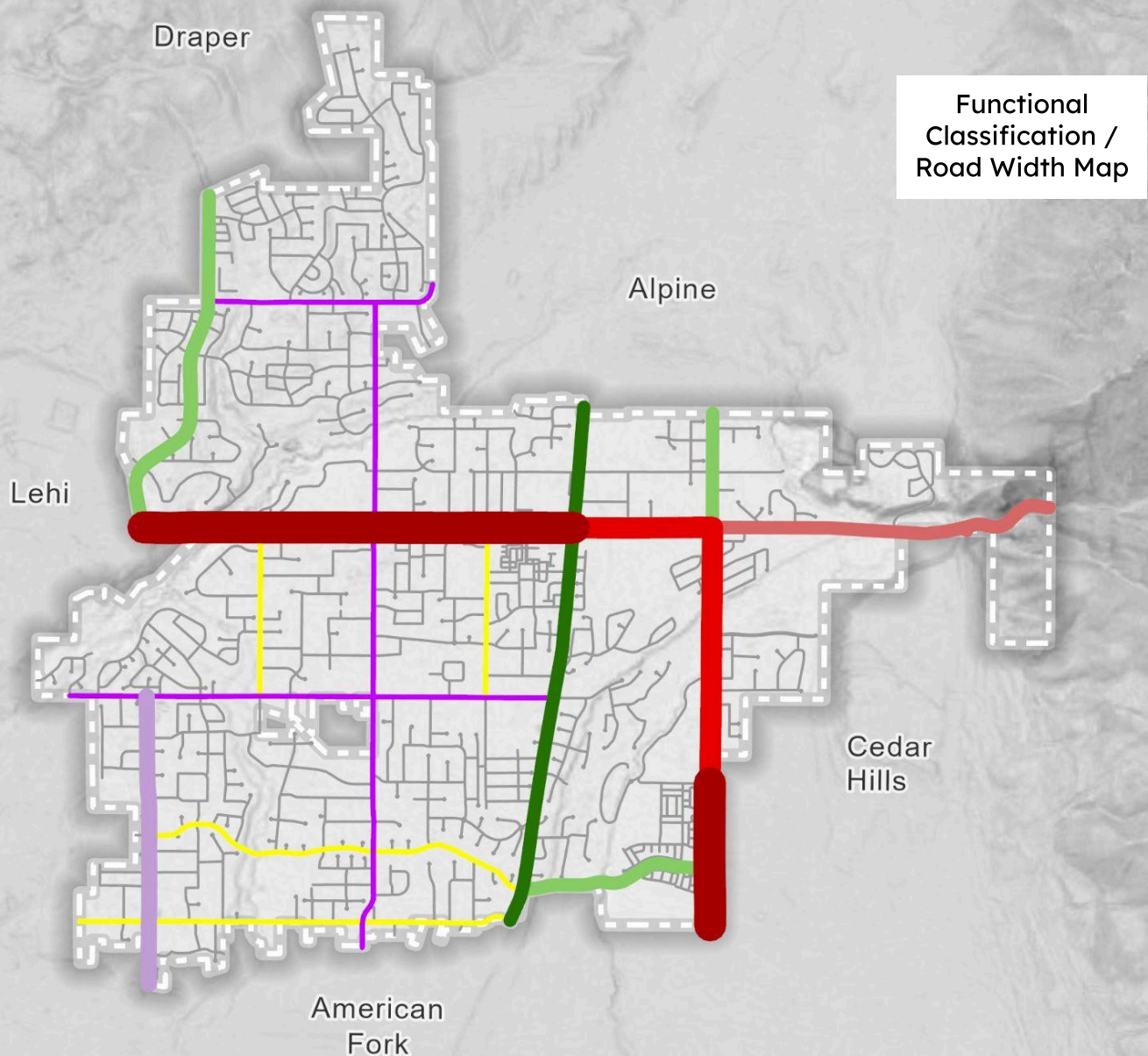
## Functional Classification and Road Widths

### UDOT Roads

- **Principal Arterial 7**  
7-lanes, ROW varies
- **Minor Arterial 3**  
3-lanes, ROW varies
- **Principal Arterial 5**  
5-lanes, ROW varies
- **Principal Arterial 3**  
3-lanes, ROW varies

### Highland Roads

- **Minor Arterial 3**  
3-lanes, ROW 74-feet
- **Minor Collector 2**  
2-lanes, ROW 66-feet
- **Major Collector 3**  
3-lanes, ROW 66-feet
- **Local Street 2**  
2-lanes, ROW 56-feet
- **Major Collector 2**  
2-lanes, ROW 66-feet



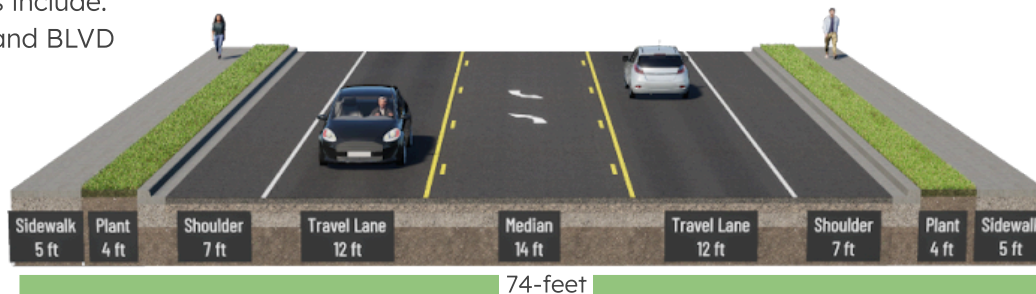


## Highland City Standard Roadway Cross-Sections

These are the standard Highland City owned roads cross-sections to be used for new development. Some current roads were built using different standards.

### Minor Arterial-3 (mid-block)

Roads include:  
Highland BLVD



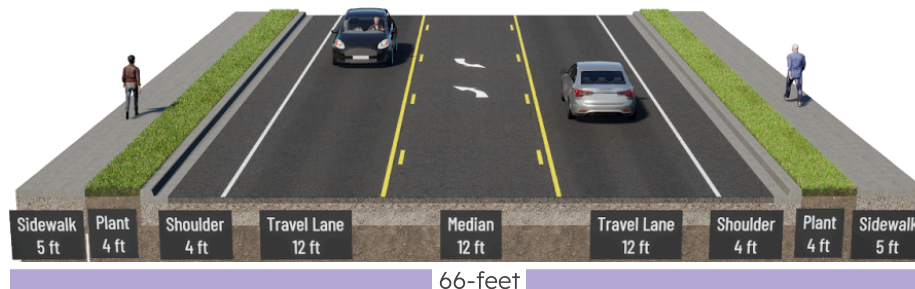
### Minor Arterial-3 (at intersections)

Roads include:  
Highland BLVD



### Major Collector-3

Roads include:  
6800 West



## Major Collector-2 Minor Collector-2

Major roads include:

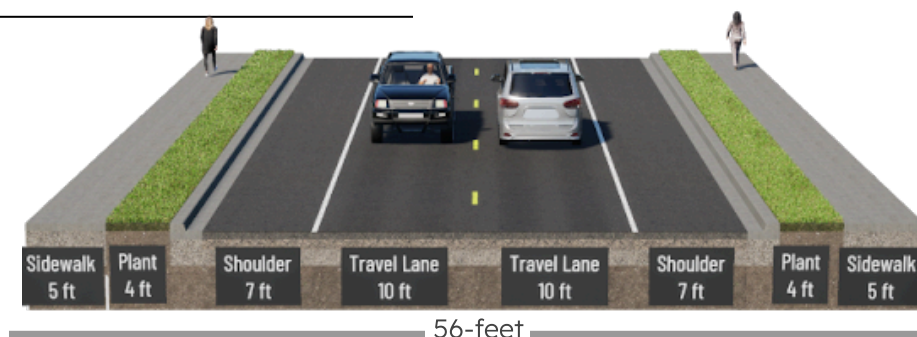
6000 West  
10400 North  
11800 North

Minor roads include:

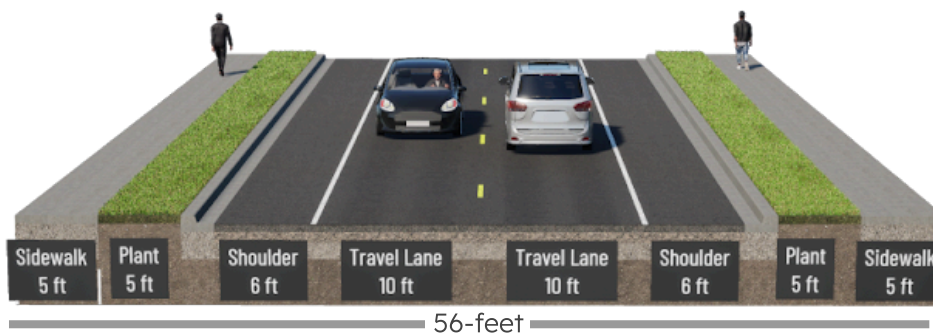
Canal BLVD (west)  
5600 West  
6400 West  
9600 South



## Standard Local-2



## Low Volume Local-2











## 2.2 Travel Demand

Understanding current travel patterns and how future local and regional growth will impact Highland City's transportation system is key for planning future transportation infrastructure. An analysis is done on existing and projected traffic volumes to ascertain the necessary improvements and expansions for the roadway network. This analysis includes defining the Level of Service (LOS) for each corridor, detailing roadway capacities, outlining the maximum vehicle volumes different road types can accommodate based on factors like lane count and signalization. A key component is the Travel Demand Model, which leverages regional data, population growth, and land-use changes to forecast future traffic volumes, calibrated against current traffic counts. Through LOS Calculation, these projected volumes are compared against roadway capacities to pinpoint segments likely to experience congestion in the future. Finally, the section presents an assessment of Existing Conditions, identifying current problem areas, and projects Future Conditions under both "no-build" (no new improvements) and "build" (with proposed improvements) scenarios to demonstrate the anticipated impact of recommended projects on alleviating congestion and enhancing overall service levels.



## Level of Service

Roadway traffic congestion is measured by Level of Service (LOS), a planning term that describes how well a roadway performs. LOS for roadway segments categorizes congestion based on the ratio of traffic volume to road capacity (V/C) ratio, with levels ranging from A (free-flow) to F (heavy congestion). This analysis calculates daily LOS for roadway segments using projected Average Daily Traffic (ADT) and considering factors like lane count and functional classification. A minimum LOS of D is acceptable, and explanations or mitigation measures are provided for roadways calculated at LOS E or F.

Levels of Service			Volume / Capacity Ratio
<b>FREE FLOW</b> Low volumes and no delays.	LOS <b>A</b>		< 0.29
<b>STABLE FLOW</b> Speeds restricted by travel conditions, minor delays.	LOS <b>B</b>		0.30 - 0.49
<b>STABLE FLOW</b> Speeds and maneuverability closely controlled because of higher volumes.	LOS <b>C</b>		0.50 - 0.74
<b>STABLE FLOW</b> Speeds considerably affected by change in operation conditions. High density traffic restricts maneuverability; volume near capacity.	LOS <b>D</b>		0.75 - 0.84
<b>UNSTABLE FLOW</b> Low speeds; considerable delay; volume at or slightly over capacity.	LOS <b>E</b>		0.85 - 0.99
<b>FORCED FLOW</b> Very low speeds; volumes exceed capacity; long delays with stop-and-go traffic.	LOS <b>F</b>		1.00 >

## Roadway Capacities

The capacities for each roadway type were identified using Transportation Research Board (TRB) Highway Capacity Manual, 7th Edition, 2022 methodologies and based on common practice in Utah. Key factors that influence the capacity of a roadway include peak hour flow and number of travel lanes.

Roadway Capacity Ranges				
Lanes	A-C	D	E	F
2	< 7,600	11,400	12,800	15,100
3	< 8,900	13,400	15,100	17,800
5	< 18,400	27,600	31,300	36,800
7	< 27,700	41,500	47,000	54,000



## Travel Demand Model

The Wasatch Front Travel Demand Model, provided by the Mountainland Association of Governments (MAG), forecasts future traffic patterns by considering population growth, land development, and employment. Hales Engineering used 2023 base year data to align anticipated growth in Highland City with existing land use plans and projected developments through 2050. The model assumes approximately 164 acres of residential infill and 54 acres of mixed-use development, contributing an estimated 472 additional households by 2050. These numbers are in line with what is proposed in the current update of the Highland General Plan, requiring no modification to the model's average daily traffic (ADT) assumptions. The MAG model also indicates that 4800 West is slated for widening to five lanes as a phase 2 project (2033-2042) in their Regional Transportation Plan.

Being a regional travel model, adjustment and calibration to the local area is needed. To accurately assess the existing conditions of Highland City's roadway network, the consultant team collected traffic data (see Appendix C for detailed count data). The team utilized data from previous projects, consisting of two-way roadway counts or turning movement counts at intersections. To derive existing conditions using the travel model, existing roadway operations were benchmarked against the MAG travel demand model's ADT using the collected counts. A calibration factor was applied to account for differences, which then adjusted base year ADTs as well as future scenarios for 2032 and 2050. Roadway capacity was determined using the Highway Control Manual 7th Edition standards based on existing lane counts. LOS was calculated from the ratio of ADT to capacity, categorizing performance into three tiers: acceptable (A-C), acceptable near threshold (D), and failing (E-F).

## Socio-economic Data

The travel demand model uses Traffic Analysis Zones (TAZ) to assign trips to the transportation network. These zones are generally the size of a Census Block Group. Each TAZ includes population, household, and employment data, both for current data and future to 2050. This data is developed using Decennial Census data and Utah State estimates and projections made by the Kem G. Gardner Institute. In comparing this data to that proposed in the upcoming Highland General Plan, no adjustments were deemed necessary to be made to the MAG socio-economic data in this plan. This data along with roadway and transit data help the travel demand model predict traffic conditions in the base and future years due to planned growth.

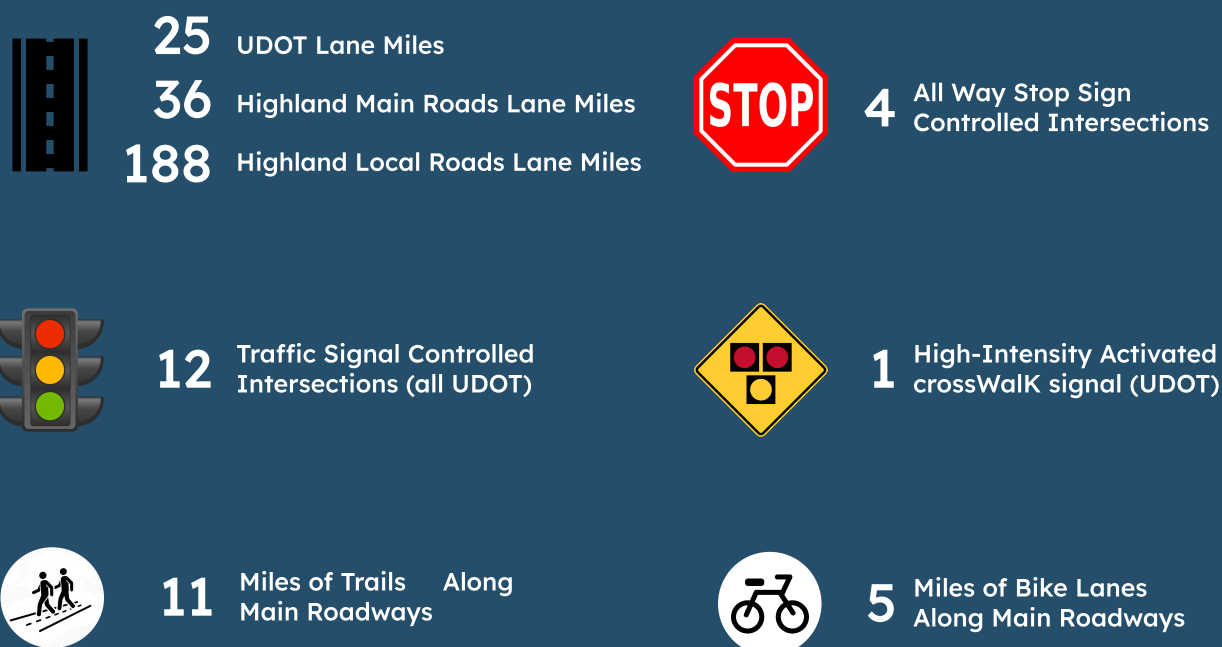
## 2.3 Existing Conditions

Existing conditions look at the current infrastructure and traffic controlled intersections, current socio-economic data for households and employment, and the latest traffic counts to inform the travel demand model in predicting a base year traffic scenario. This scenario is the basis for all future socio-economic and traffic conditions.

### Base Year Infrastructure Conditions

First an inventory of the current transportation is used to inform the travel demand model. Roadway functional types and number of lanes are used as well as intersection controls.

Currently on the main functionally classified roads in Highland City, there are:

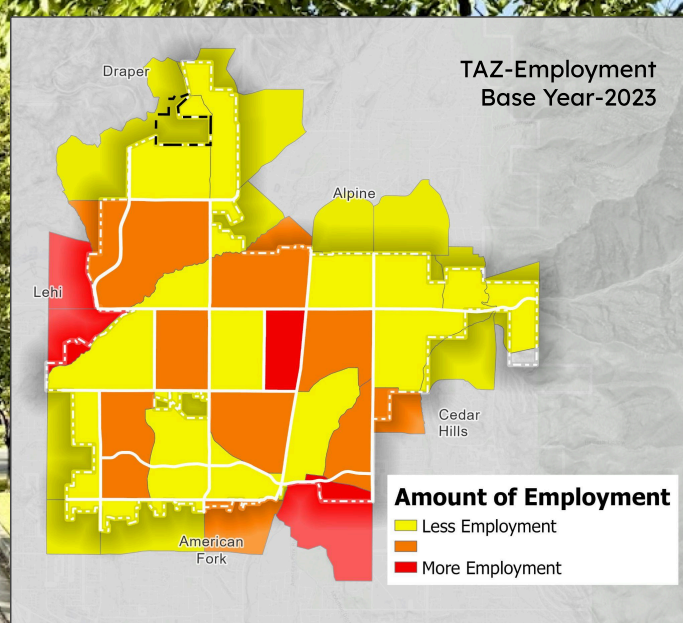
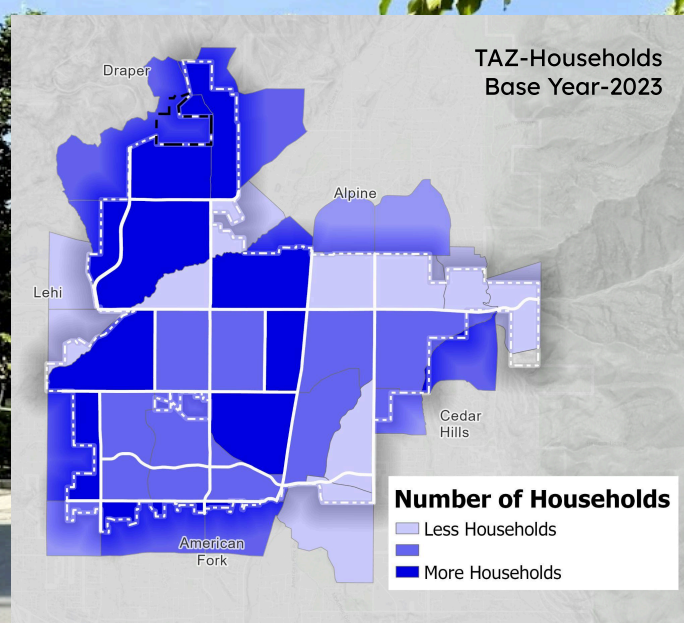




## Base Year 2023 Scenario - Socio-economic Data

Using the latest traffic and socio-economic data created in 2023, TAZ data informs the travel demand model to predict base year traffic conditions. The maps below show each TAZ zone and the level of intensity of housing and employment.

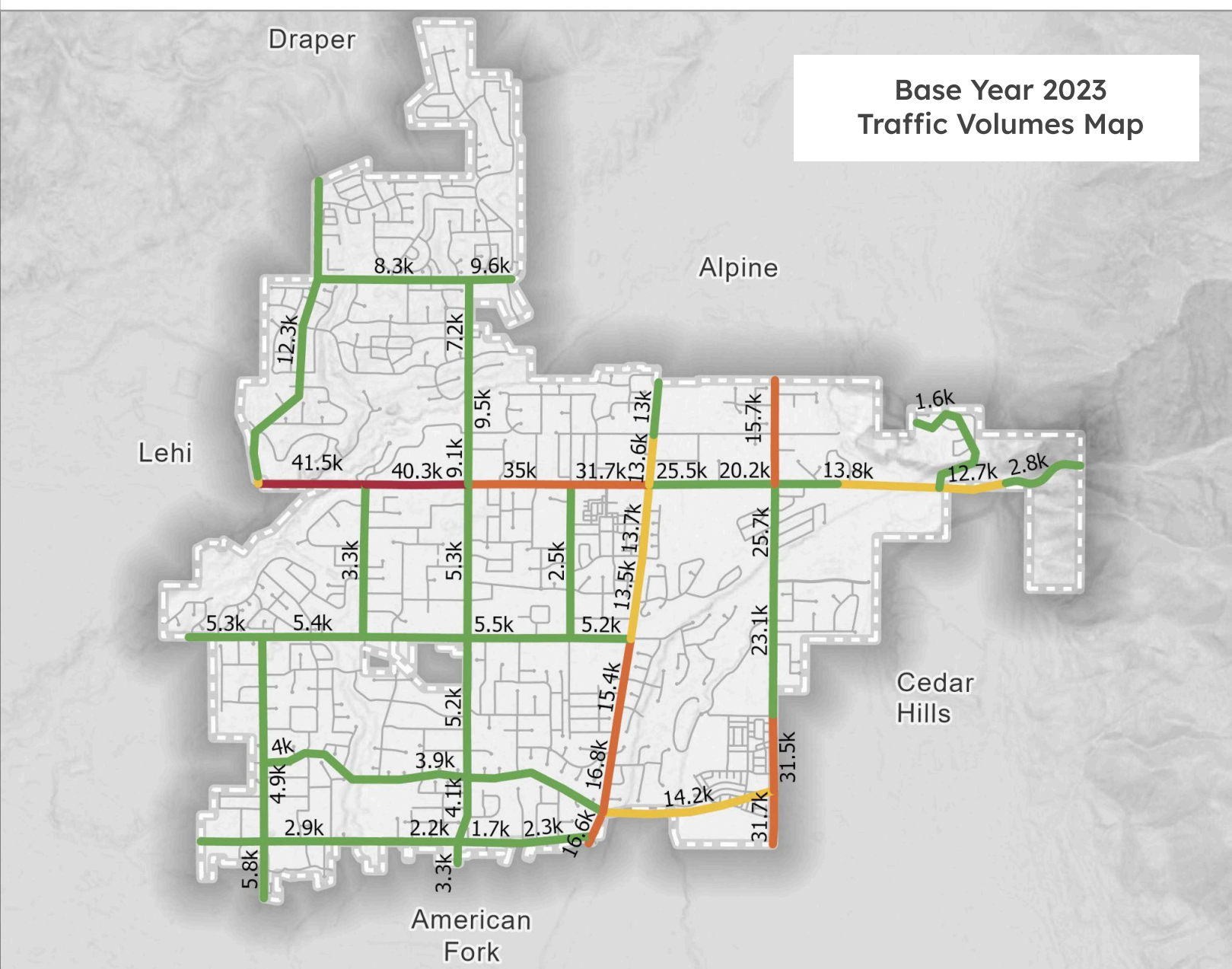
### Base Year 2023 - Socio-economic Data





## Base Year 2023 - Traffic Volumes

Based on travel model outputs and calibrated to UDOT and current traffic counts, all city roadways in Highland currently operate at an acceptable LOS D or higher, with the exception of certain roadway segments that operate at LOS E or F. These segments are short in nature and, except on 4800 West, congestion today should be considered as acceptable.





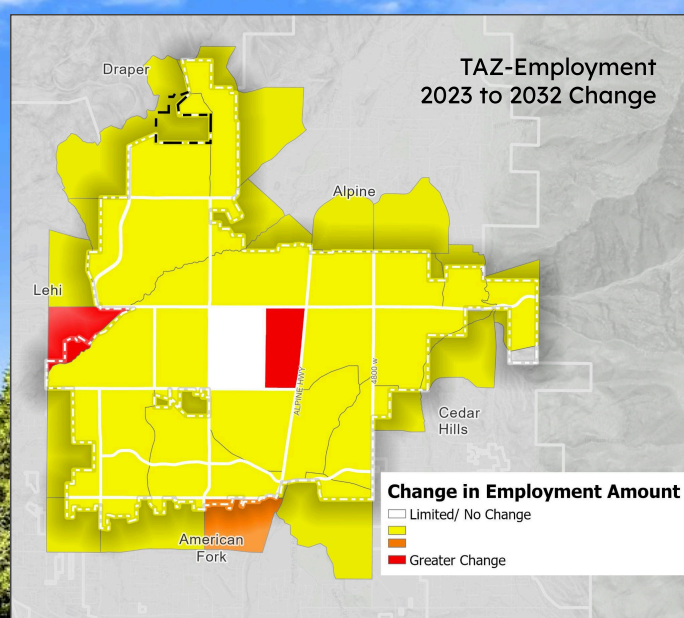
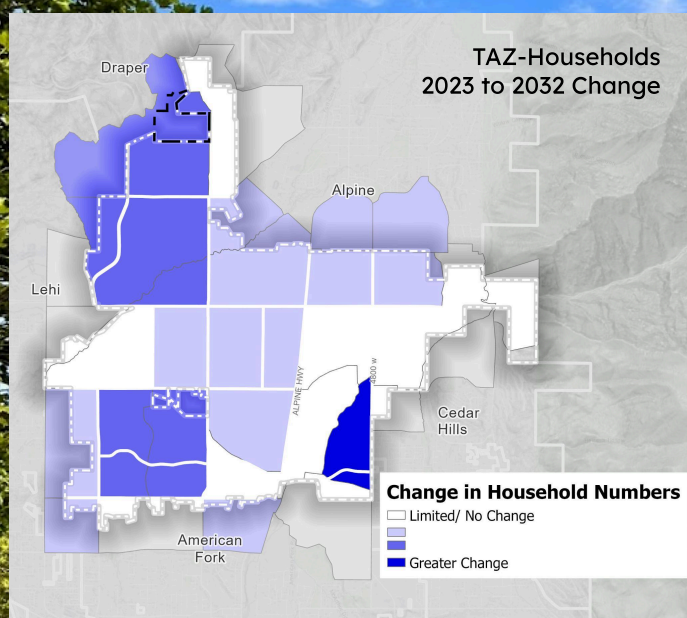
## 2.4 Future Conditions

Future conditions look at projected growth in the socio-economic data for households and employment and the latest traffic predictions to inform the traffic model in predicting a 2032 and 2050 traffic scenario. A No-build and Build scenario are run to see what impact growth has on the system with and without improvements made.

### 2032 Scenario - Socio-economic Data

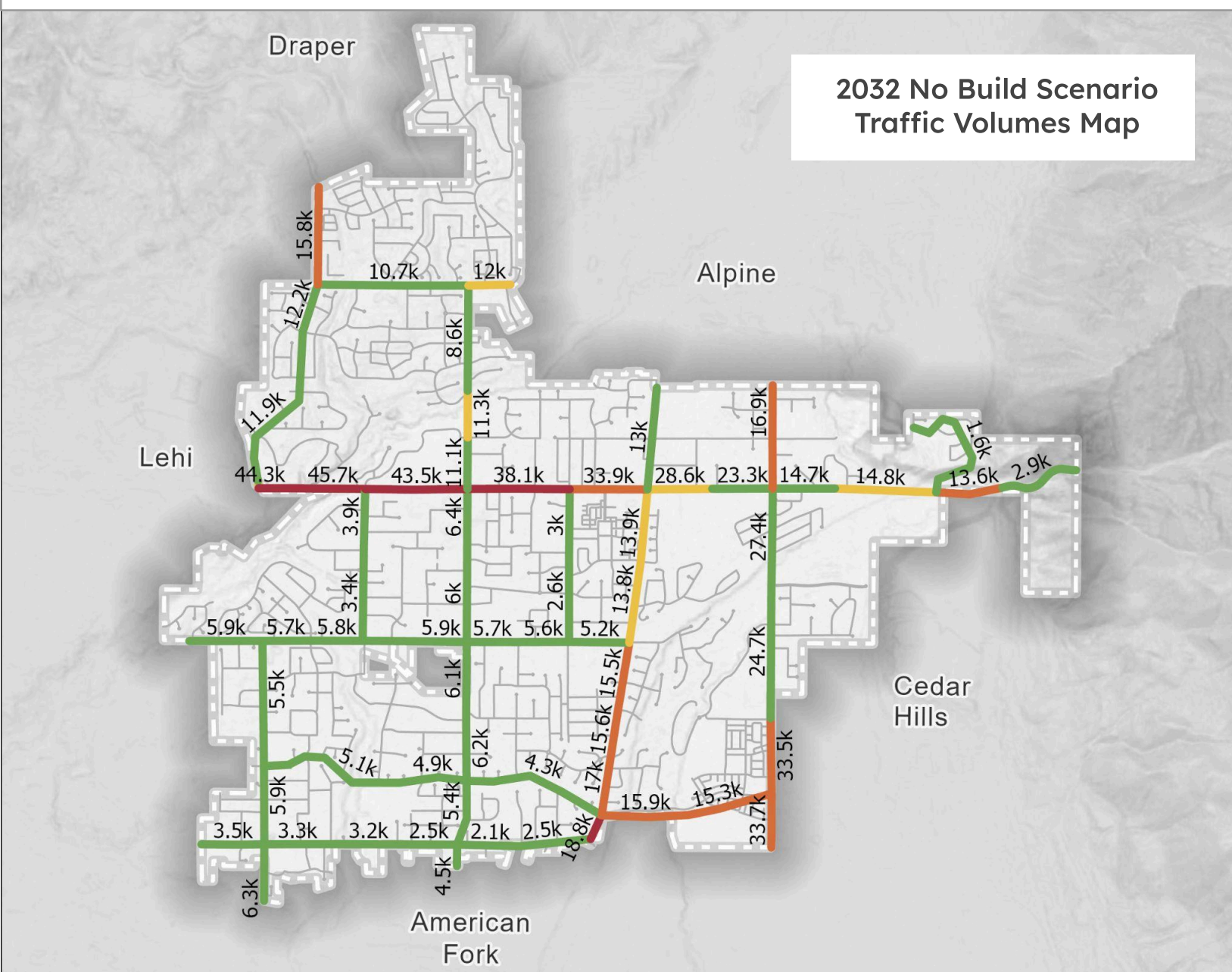
Using the latest traffic and socio-economic projections, TAZ data is used to inform the traffic model to predict 2032 No-build and Build traffic conditions.

#### 2032 Change from Base Year



## 2032 No Build Scenario - Traffic Volumes

In this scenario, population and employment growth are modeled in the year 2032. No new improvements are modeled to the transportation system. The results show which corridors will become congested, based on growth, without any improvements.





## 2032 Build Scenario - Traffic Volumes

In this scenario, population and employment growth are modeled in the year 2032 and two widening projects and three intersection projects are proposed.

### Proposed Improvements

- 4800 West; 2 SB travel lanes at Timpanogos HWY
- Canal BLVD; Dual Left Turn Lanes off of Alpine HWY and North County BLVD
- Highland BLVD/11800 North; New Roundabout
- Timpanogos HWY; Alpine HWY west into Lehi, Widen to 7-lanes

A-C

Stable Flow

D

Stable Flow  
Near Capacity

E

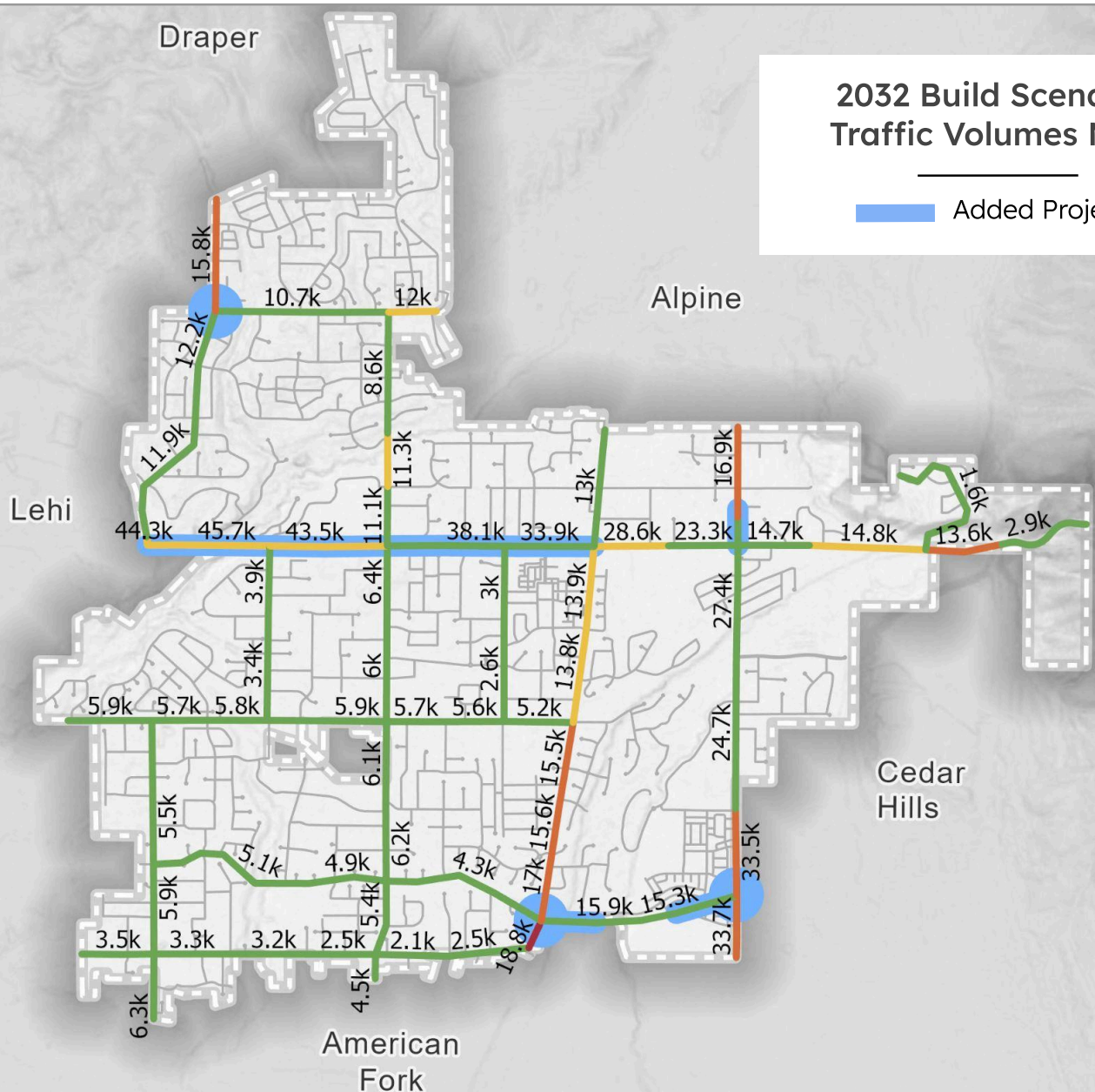
Unstable Flow  
At Capacity

F

Force Flow  
Over Capacity

## 2032 Build Scenario Traffic Volumes Map

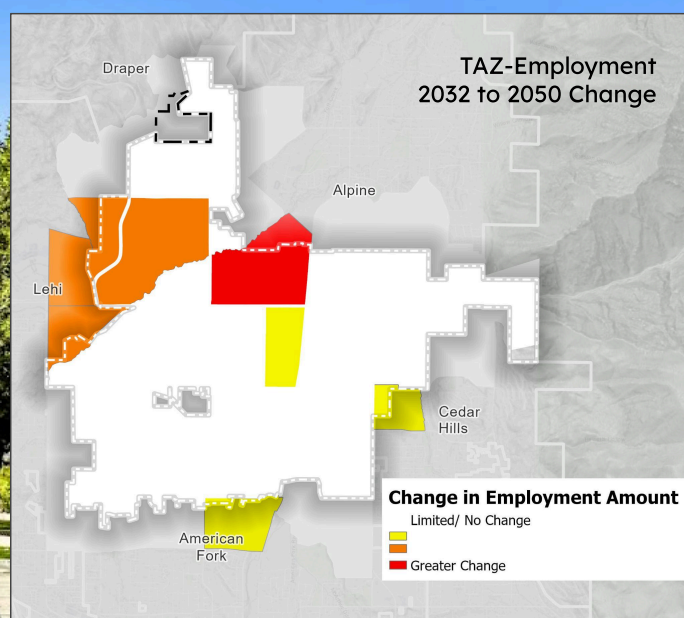
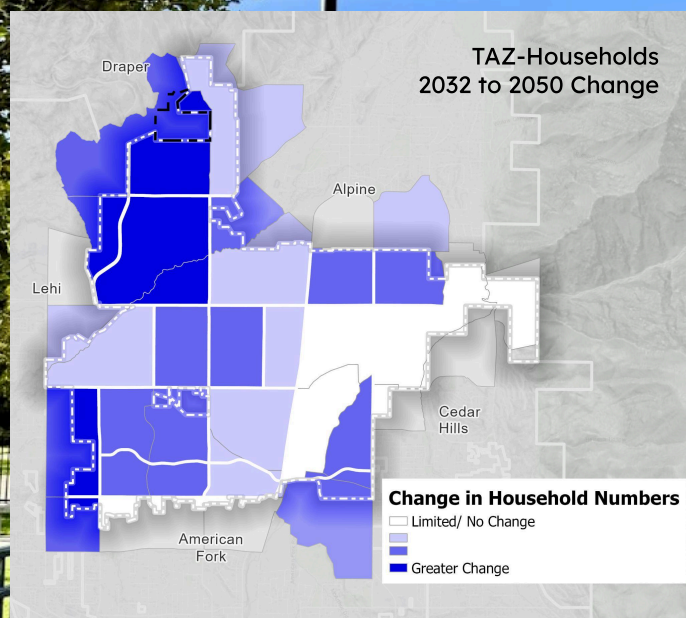
Added Project



## 2050 Scenario - Socio-economic Data

Using the latest traffic and socio-economic projections, TAZ data is used to inform the traffic model to predict 2050 No-build and Build traffic conditions.

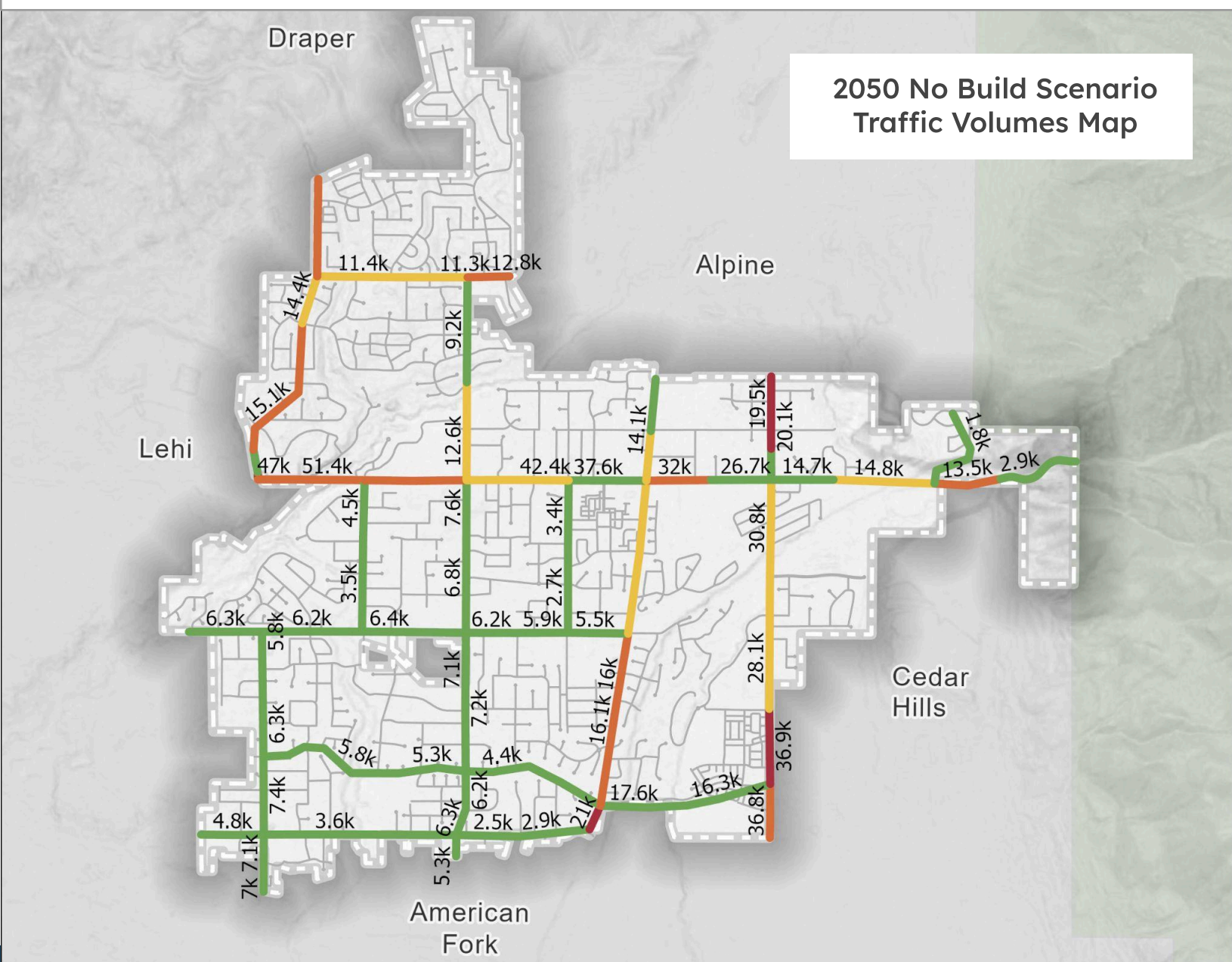
### 2050 Change from 2032 - Socio-economic Data





## 2050 No Build Scenario - Traffic Volumes

In this scenario, population and employment growth are modeled in the year 2050. Only 2032 Build Scenario projects are modeled to the transportation system. The results show which corridors will become congested, based on growth, without any improvements since 2032.



## 2050 Build Scenario - Traffic Volumes

In this scenario, population and employment growth are modeled in the year 2050 and a widening project and two intersection projects are proposed.

### Proposed Improvements

- North County BLVD; Canal BLVD south into AF, widen to 7-lanes
- 6000 West/10400 North; New Roundabout
- 6000 West/Canal BLVD; New Roundabout

A-C

Stable Flow

D

Stable Flow  
Near Capacity

E

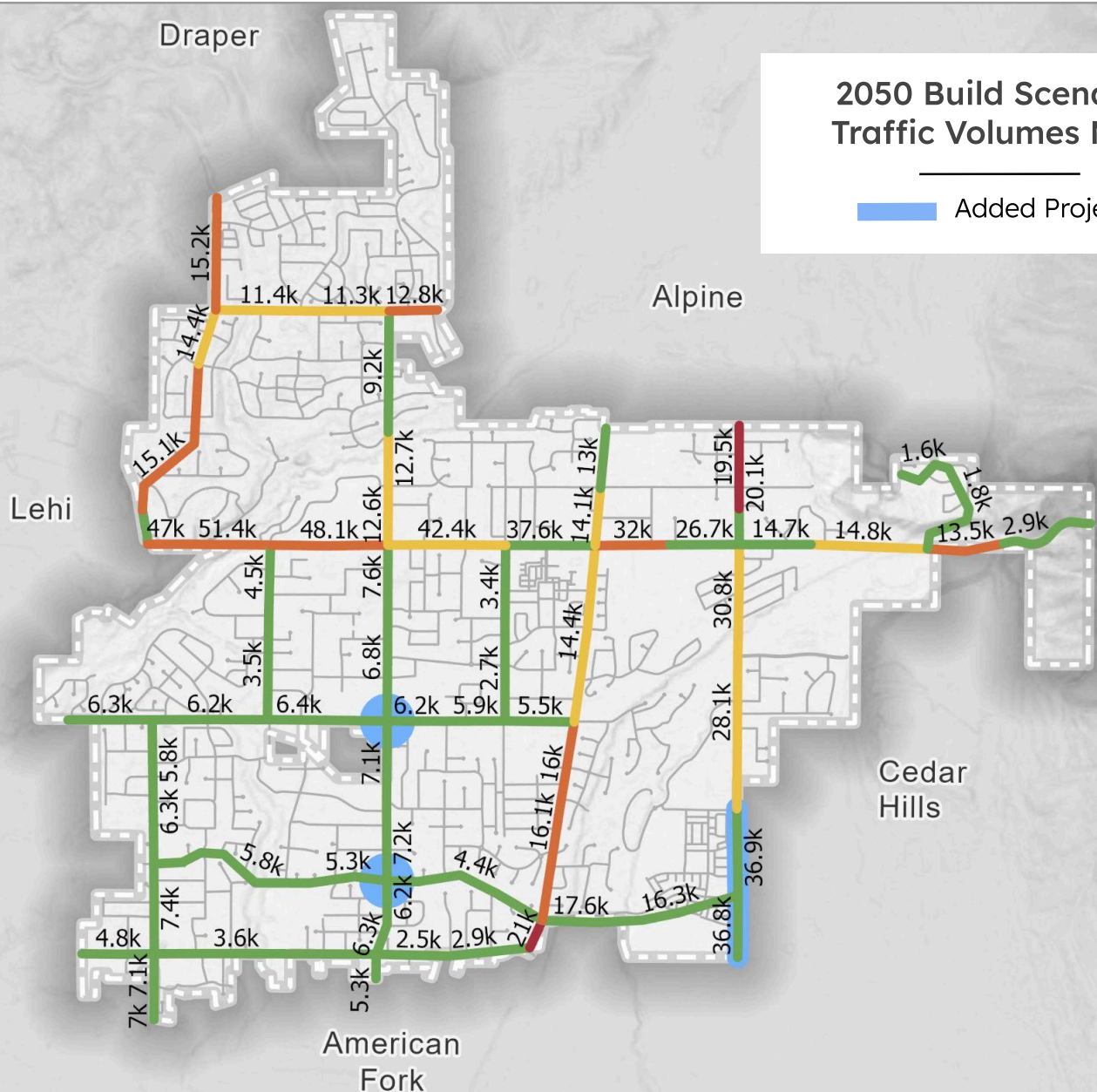
Unstable Flow  
At Capacity

F

Force Flow  
Over Capacity

## 2050 Build Scenario Traffic Volumes Map

Added Project





## 2.5 Recommendations

The proposed street network is designed for Highland City's projected build-out population of approximately 25,000, assuming the city remains a low-density residential community with primarily 1/3 to 1-acre single-family lots, consistent with current public policy. Significant shifts in land development policy towards higher densities would necessitate re-evaluation and modification of this plan. These recommendations should be continuously reviewed and updated to reflect evolving conditions and public policy. Major changes to either the transportation or land use elements of the general plan should only occur with careful consideration of their mutual impacts.



The core components of the proposed street network enhancements are outlined below. While the timing and prioritization of these recommendations will depend on various factors like growth timing and location, the paramount goal is to identify corridors to preserve adequate right-of-way for long-term capacity requirements.



Proposed projects, including road widening, road improvements that include active transportation (bike, trail) projects, and intersection enhancements, will maintain the transportation system’s health and accommodate projected growth through 2050.



## Widening Projects

These projects are proposed to address growth and deficiencies within the transportation system. These should be considered the major additions to the network.

Location	<b>North County BLVD (SR-129)</b> Cedar Hills DR into American Fork	
Proposed Improvement	Widen to 7 lanes to Cedar Hills DR south into American Fork. Replace existing sidewalk on the west side of the road with a trail along the entire corridor.	
Additional Info	<ul style="list-style-type: none"> <li>■ This UDOT owned highway is a major north/south facility within the region with many high-value destinations.</li> <li>■ Traffic projections indicate a 7-lane cross-section is warranted by 2050 from Canal BLVD southward into AF.</li> <li>■ This project is not currently in the current MAG Regional Transportation Plan.</li> <li>■ It is recommended that the city collaborate with MAG and UDOT to prioritize this project in the upcoming 2027 plan update.</li> <li>■ The Alpine &amp; Highland Active Transportation Plan (2023) shows this road having a Backbone Off-street Side/Shared Use Path, the MAG Regional Transportation Plan does not currently list a trail on this corridor.</li> </ul>	
Location	<b>Timpanogos HWY (SR-92)</b>	
Proposed Improvement	Widen to 7 lanes or extend commuter lanes from Lehi. Further study by UDOT will determine the final design. Replace sidewalk on the south side of the road with a trail.	
Additional Info	<ul style="list-style-type: none"> <li>■ This UDOT owned highway will continue to serve as Highland City’s primary east-west route, connecting northeast Utah County communities to I-15.</li> <li>■ Traffic projections indicate a need for a 7-lane facility from I-15 to Alpine HWY (six travel lanes and center turn lane).</li> <li>■ The SR-92 Access &amp; Circulation Study focused on intersections, concluding that a seven-lane cross-section is needed at major intersections. Traffic modeling suggests a 7-lane cross-section is warranted for the entire stretch.</li> <li>■ This project, previously in MAG’s Regional Transportation Plan, was excluded from the latest version. We recommend the city work with MAG and UDOT to prioritize it in the 2027 plan update.</li> </ul>	


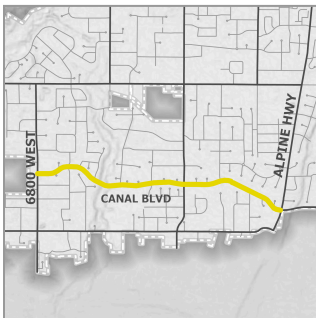


## Widening Projects continued...

Location	<b>4800 North</b> 11200 North to Timpanogos HWY	
Proposed Improvement	Add a southbound through lane approaching Timpanogos HWY, improve intersection geometry, and construct a trail.	
Additional Info	<ul style="list-style-type: none"> <li>Currently configured as a three-lane minor arterial (two lanes plus center turn lane), 4800 West experiences congestion and restricted intersection capacity at SR-92.</li> <li>A four-lane design is proposed (two southbound, one northbound, plus center turn lane) with upgraded intersection design.</li> <li>While the SR-92 Access &amp; Circulation Study (2022) and MAG Regional Transportation Plan call for a five-lane road into Alpine, Highland has opted for a four-lane approach at the intersection due to right-of-way constraints and impacts to adjacent properties.</li> <li>The project will serve as a phased solution, allowing the City to evaluate whether additional widening is necessary in the future.</li> <li>The Alpine &amp; Highland Active Transportation Plan (2023) identifies this corridor for a backbone shared-use path. The City has partnered with Alpine and MAG to provide a multi-use trail along 4800 West into Alpine.</li> </ul>	
Location	<b>6800 West</b> American Fork City Limit to 10400 North	
Proposed Improvement	Add a continuous turn lane, shoulders, curb, sidewalk (where needed), and buffered/separated bike lanes.	
Additional Info	<ul style="list-style-type: none"> <li>This three-lane major collector connects 10400 North to regional destinations in American Fork.</li> <li>The City anticipates a 74-foot cross-section with two travel lanes and a continuous turn lane.</li> <li>The Alpine &amp; Highland Active Transportation Plan (2023) calls for buffered/separated bike lanes along the corridor.</li> </ul>	

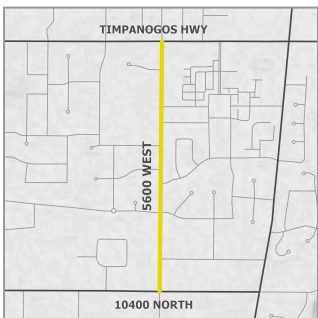
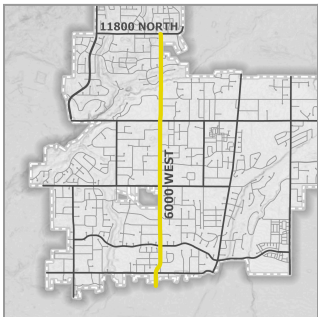

## Roadside Active Transportation Improvement Projects

These are smaller projects that include improvements including turn lanes, shoulders, curb, sidewalks, and active transportation projects associated with the corridor.


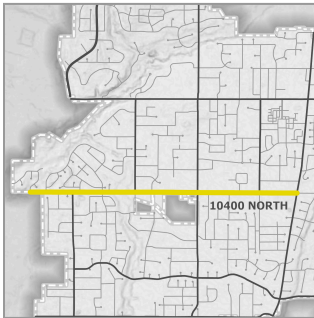
Location	<b>Alpine HWY (SR-74)</b> American Fork City Limit to Alpine City Limit	
Proposed Improvement	Construct a trail on the east side of the corridor replacing the current sidewalk.	
Additional Info	<ul style="list-style-type: none"> <li>The corridor today is near capacity but with the raised medians and limited access control, traffic flow is manageable.</li> <li>No road improvements are proposed.</li> <li>Traffic is heavier into American Fork. The AF master plan calls for widening their portion of the road to 5-lanes (4 travel, one center turn lane).</li> <li>A widening project between the American Fork City Limit and Canal BLVD to a 5-lane cross-section might later be warranted and should be revisited in future years.</li> <li>The Active Transportation Plan (2023, Project 54H) recommends bike lanes with traffic-calming benefits.</li> </ul>	
Location	<b>Canal BLVD</b> Alpine HWY to 6800 West	
Proposed Improvement	Add curb, sidewalk, storm drain, and construct a trail.	
Additional Info	<ul style="list-style-type: none"> <li>This two-lane minor collector provides an alternative east-west connection and is intended to channel traffic away from 9600 South.</li> <li>Minimal improvements are needed including curb and sidewalk in a few undeveloped areas.</li> <li>Active Transportation Plan (2023, Project 21H) identifies a backbone shared-use path along this corridor.</li> </ul>	




## Roadside Active Transportation Improvement Projects continued...

Location	<b>5600 West</b> 10400 North to Timpanogos HWY	
Proposed Improvement	Add curb, sidewalk, storm drain, shoulders, and bike lanes.	
Additional Info	<ul style="list-style-type: none"> <li>This two-lane minor collector links 11000 North to 10400 North.</li> <li>The City intends to standardize the corridor at 42 feet of pavement within a 66-foot right-of-way.</li> <li>The Active Transportation Plan (2023, Project 77H) recommends bike lanes with traffic-calming benefits.</li> </ul>	
Location	<b>6000 West</b> American Fork City Limit to 11800 North	
Proposed Improvement	Add curb, sidewalk, storm drain, shoulders, and construct a trail and possibly buffered/separated bike lanes.	
Additional Info	<ul style="list-style-type: none"> <li>This 2-lane major collector is one of the few north/south routes that connects Alpine, Highland, and American Fork.</li> <li>It is projected to continue to carry traffic volumes consistent with a collector street.</li> <li>Improvements vary along the corridor due to mixed development history.</li> <li>The corridor has schools and churches along it making active transportation a priority.</li> <li>Active Transportation Plan (2023, Project 11H) prioritizes a shared-use path or buffered/separated bike lanes.</li> <li>As a part of any active transportation project, the city should secure funding to include full curb, shoulder, and storm drain improvements.</li> </ul>	
Location	<b>6400 West</b> 10400 North to Timpanogos HWY	
Proposed Improvement	Add curb, sidewalk, storm drain, shoulders, and bike lanes.	
Additional Info	<ul style="list-style-type: none"> <li>This 2-lane minor collector connects Timpanogos HWY to 10400 North.</li> </ul>	

## Roadside Active Transportation Improvement Projects continued...

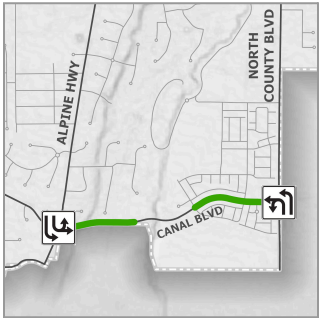
Additional Info (6400 West)	<ul style="list-style-type: none"> <li>Improvements on the road are not consistent and have been implemented with new residential development. The city intends to build the corridor to a 66-foot right-of-way.</li> <li>Improvements on the road are not consistent and have been implemented with new residential development. The City intends to build the corridor to a 66-foot right-of-way.</li> <li>Active Transportation Plan (2023, Project 25H) identifies bike lanes to enhance safety and manage speeds.</li> </ul>	
Location	<b>9600 North</b> Lehi City Limit to Alpine HWY	
Proposed Improvement	Add curb, sidewalk, storm drain, shoulders, and bike lanes.	
Additional Info	<ul style="list-style-type: none"> <li>This 2-lane minor collector connects Lehi on the west to Alpine HWY.</li> <li>Current conditions reflect a rural cross-section with multiple driveways.</li> <li>This two-lane minor collector connects Lehi on the west to SR-74.</li> <li>Current conditions reflect a rural cross-section with multiple driveways.</li> <li>The City plans for a 66-foot right-of-way with urban improvements.</li> <li>Active Transportation Plan (2023, Project 33H) calls for bike lanes.</li> </ul>	
Location	<b>10400 North</b> Lehi City Limit to Alpine HWY	
Proposed Improvement	Add curb, sidewalk, storm drain, shoulders, and construct a trail.	
Additional Info	<ul style="list-style-type: none"> <li>This major collector provides east-west access to City offices and Mountain Ridge Junior High.</li> <li>From the western city boundary to approximately 6500 West, the road has been improved with curb, gutter, and sidewalks on both sides.</li> <li>Between 6500 West and the Alpine Highway, improvements are inconsistent.</li> <li>The City intends to standardize the corridor and add left-turn lanes at key intersections.</li> <li>Active Transportation Plan (2023, Project 17H) recommends a backbone shared-use path.</li> </ul>	



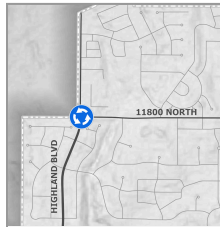

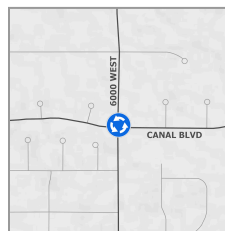
Location	<b>11800 North</b> Highland BLVD to Alpine City Limit	
Proposed Improvement	Add curb, sidewalk, storm drain (east of 6000 West), and construct a trail.	
Additional Info	<ul style="list-style-type: none"> <li>■ This 2-lane major collector connects Alpine to the east and will link to Lehi on the west.</li> <li>■ Planned improvements include sidewalks east of 6000 West, a roundabout at Highland BLVD, and a new westward extension into Lehi.</li> <li>■ Active Transportation Plan (2023, Project 3AH) identifies the corridor as a priority backbone shared-use path.</li> <li>■ Some portions of the trail are complete, most of the corridor has meandering sidewalks.</li> </ul>	

## Intersection Improvement Projects

These are stand-alone intersection improvements. An important factor in determining the capacity of the transportation system is type of intersection control providing access and safe roadway operations.

Location	<b>Canal BLVD at Alpine HWY and Canal BLVD at North County BLVD</b>	
Proposed Improvement	Add double left turns at Alpine HWY and North County BLVD, add receiving lanes on Canal BLVD, and preserve the current trail.	
Additional Info	<ul style="list-style-type: none"> <li>■ This 3-lane minor arterial corridor provides an east-west connection between the Alpine HWY and the commercial uses and high school on North County BLVD.</li> <li>■ Due to limited spacing of other east/west corridors in the area, this corridor carries heavier loads of regional traffic.</li> <li>■ Left turn movements at the intersections by 2050 warrant double left turn lanes which will require widening on Canal BLVD for receiving lanes.</li> <li>■ Generally, widening the entire corridor is warranted, but due to limited right of way and the impacts to adjacent properties, a hybrid solution is proposed.</li> <li>■ Proposed is a cross-section with two travel lanes at the intersections to receive the double left turns tapering down to one lane mid-corridor.</li> <li>■ See Appendix A for detailed analysis of these intersections</li> </ul>	

## Intersection Improvement Projects continued...

Location	<b>Highland BLVD / 11800 North</b>	
Proposed Improvement	Intersection warrants traffic control with a roundabout being the recommended solution to improve flow, set placemaking, and provide traffic calming.	
Location	<b>6000 West / 10400 North</b>	
Proposed Improvement	Add a roundabout to improve traffic flow, set placemaking, and provide traffic calming.	
Location	<b>6000 West / Canal BLVD</b>	
Proposed Improvement	Add a roundabout to improve traffic flow, set placemaking, and provide traffic calming.	





## Recommended Improvements

With future growth, improvements are needed to keep the overall highway network acceptable congestion levels. Details of how these projects were developed or explained further within the document.

### Road Widen

4800 West (SB lane)  
6800 West (turn lane)  
Timpanogos HWY  
North County BLVD



### Double Left Turns

Canal BLVD /  
Alpine HWY  
  
Canal BLVD /  
North County BLVD



### New Roundabout

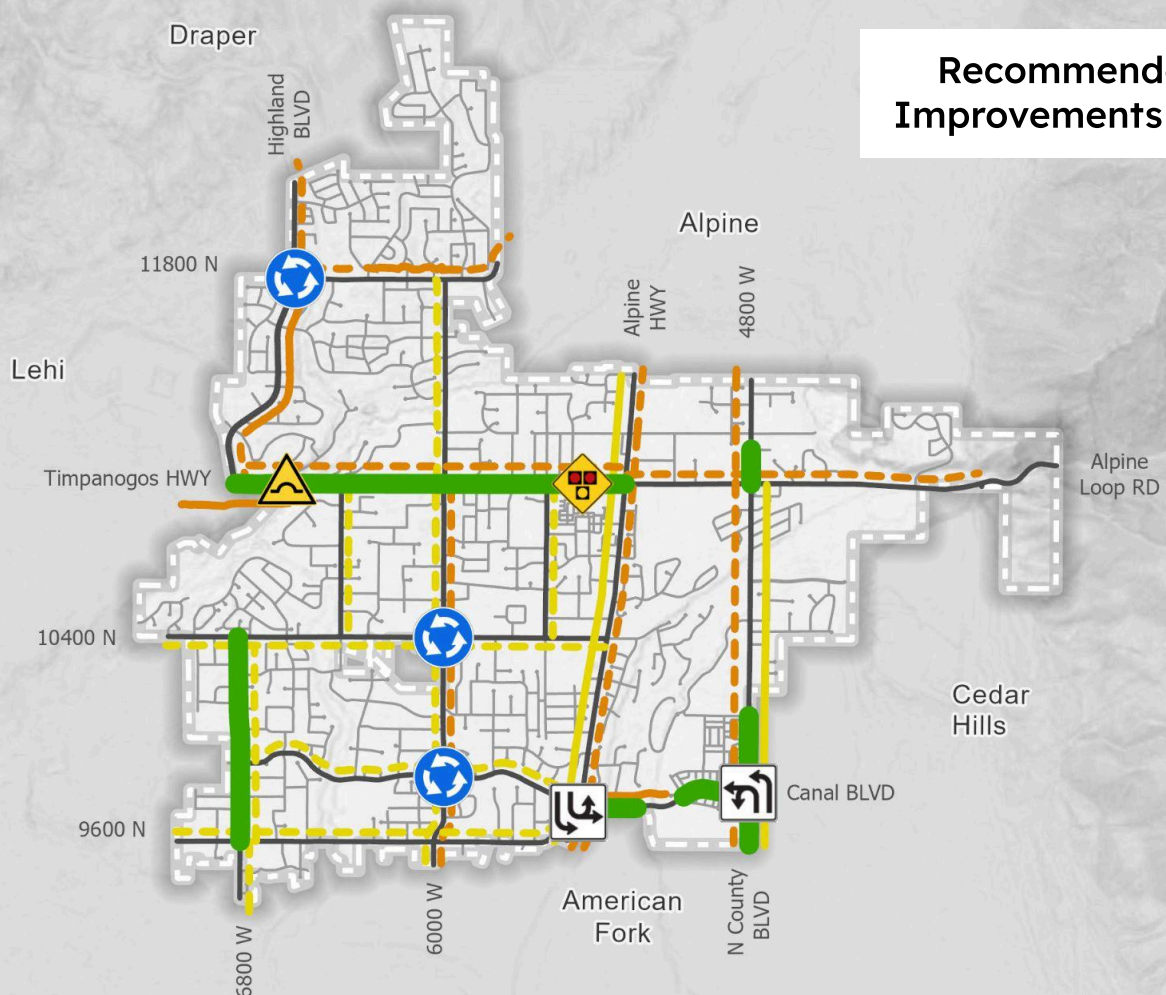
Highland BLVD / 11800  
North  
  
6000 West/10400 North  
6000 West/Canal BLVD



### New Active Transportation

Ped HAWK Signal  
 Trail Tunnel  
 Roadside Trail  
 Bike Lane  
( — Existing - - Future)

## Recommended Improvements Map



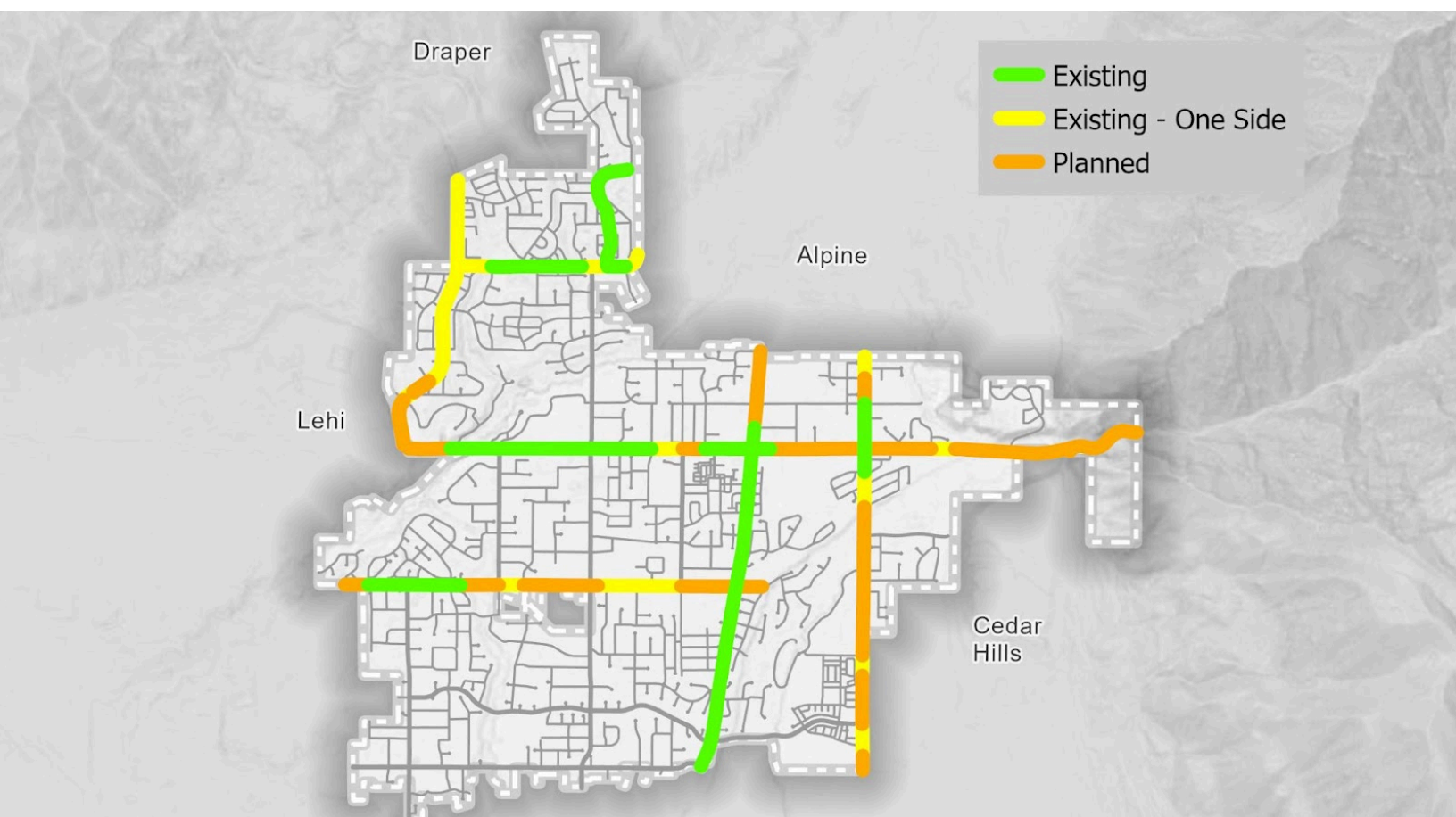
## 2.6 Parkway Detail

As part of its placemaking efforts, Highland has established a “parkway detail” streetscape and landscaping standard for prominent gateways and corridors. This standard, outlined in the Highland City Standard Drawings, typically features a 29-foot landscaped buffer on each side of the roadway, incorporating trees, decorative fencing, and a meandering sidewalk or trail.

The standard has been implemented, or is planned, along the following major corridors:

- Timpanogos Highway (SR-92)
- Alpine Highway (SR-74)
- 4800 West
- North County Boulevard (SR-129)
- Highland Boulevard
- Beacon Hill Boulevard
- 10400 North
- 11800 North

Additional gateways and corridors may be designated over time. Where appropriate, the parkway detail can be adapted to enhance public use and connectivity, such as widening roadways or incorporating multi-use trails, while maintaining the corridor’s open and welcoming character.







CHAPTER  
**3**

# TRANSIT & ACTIVE





### 3. Transit and Active

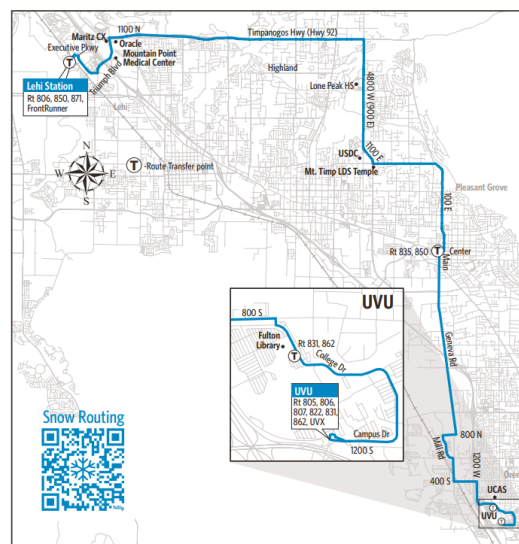
The purpose of this chapter is to discuss the existing and future transit and active transportation networks in Highland City. This focuses on current and planned facilities by local agencies as well as proposed projects found in the Alpine & Highland Active Transportation Plan (2023).

#### 3.1 Public Transit

Today the Utah Transit Authority (UTA) is the service provider for transit in Highland City and the entire Wasatch Front. This regional system includes Limited, Regular, and Frequent Bus service, Bus Rapid Transit lines, TRAX Light Rail, FrontRunner Commuter Rail, Ski Bus, UTA On Demand Service, and Paratransit Service.

##### Existing Service

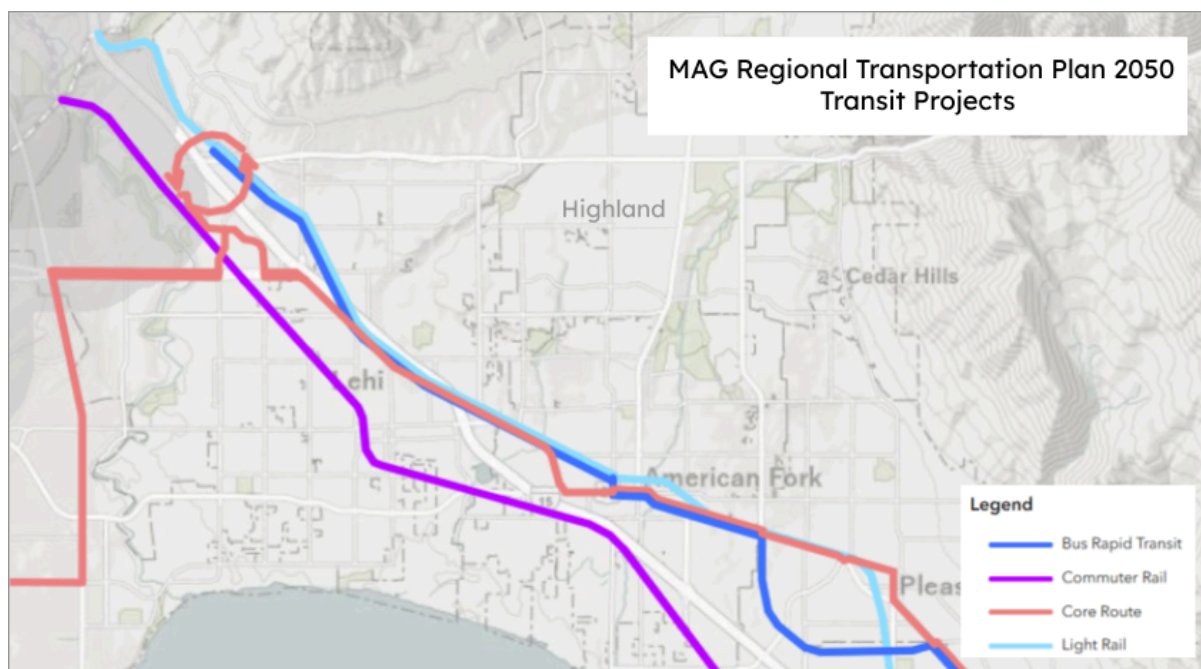
Currently, public transportation within Highland City includes Rush Hour Limited Bus Service Route 807. The 807 route travels westward on Timpanogos HWY to the Lehi FrontRunner commuter rail station and southward on North County BLVD and Geneva RD to the Utah Valley University Orem campus. Route 807 has 10 bus stops within Highland. It has headways of approximately every 30 minutes in the morning and hourly in the afternoon. There are 4 trips in the morning and 4 trips in the evening. There is no all-day bus service in the city nor is Paratransit service available.





## Future Service

The current UTA 5-year service plan, Long-Range Transit Plan, and the MAG Regional Transportation Plan list no service changes or new transit projects within Highland City through 2050. Regional improvements that will benefit Highland include:



**Front Runner Double Track:** will expand headways from the current 30/60-minute peak hour/non-peak service to 15/30-minute peak/non-peak, generally doubling service.

**Point of the Mountain Light Rail:** will construct a new light rail facility connecting the Draper FrontRunner Station with service to Lehi (near Mountain Point Medical Center). It is currently planned to have service before 2042. Future plans show the service to extend southward into Orem.

**Point of the Mountain Shuttle Service:** This planned new service would connect the Lehi Silicone Slopes area with the new development proposed at the old prison site at the Point of the Mountain. This service is planned as a precursor to the future light rail service.

Future discussions should occur as to the direction the city would like to go in regards to transit. Discussions could include:

**Regular Bus All-day Service:** This type of service generally caters to persons that have limited or no access to their own personal transportation.

**Paratransit Service:** To qualify for Paratransit Service, the city must first have a Regular Bus route. Paratransit serves those most vulnerable within the community catering to the disabled community.

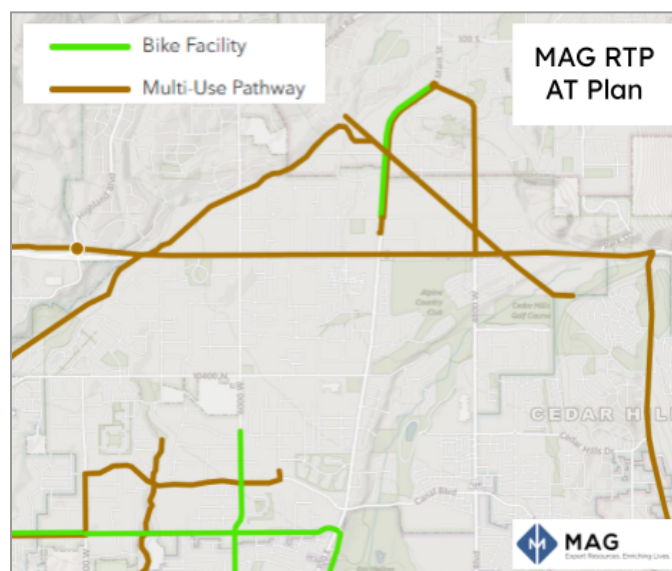
**UTA On Demand Service:** This service allows a rider to schedule a ride that will come to the nearest main intersection to their residence and take them to anywhere within the On Demand service area. This also makes available connections to other major transit services.

## 3.2 Active Transportation

Active transportation, including bike lanes and trails (also called shared use paths), are important to the citizens of Highland with a high percentage of persons giving positive feedback in regards to the current facilities and a desire for more. The Alpine & Highland Active Transportation Plan (ATP), updated in 2023 by Horrocks Engineers, provided Highland City with a detailed review of its bicycle and pedestrian facilities. This plan aims to improve active transportation (AT) within the community by outlining a vision for future AT projects and their implementation. This section builds on the AT plan.

### Regional Plans

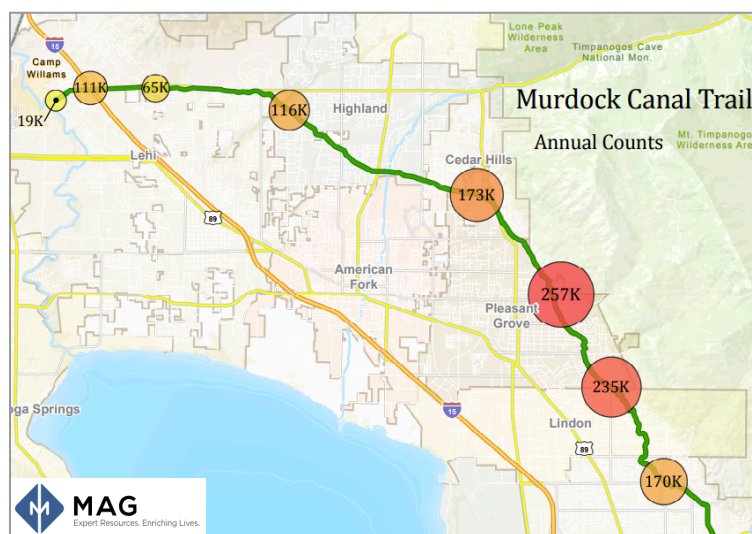
The MAG Regional Transportation Plan (RTP) serves as the long-term regional strategy for the future transportation system. The 2023-2050 RTP, adopted in June 2023 by MAG in collaboration with local governments, transportation agencies, community organizations, stakeholders, and residents, details investments for all transportation modes and forms part of the Wasatch Choice Vision. It includes active transportation projects scheduled between 2023 and 2050. There are differences between the Highland AT plan and the MAG plan. This most likely is because the MAG plan was finalized before the Highland plan. It is recommended that Highland staff work with MAG to incorporate regional AT plan projects into the RTP for the next update in 2027. This would include adding trail projects to North County BLVD, Alpine HWY, and 6000 West as well as bike lane projects to 10400 North, 6800 West, and 6000 West.





## Existing Walking and Biking Facilities

The Murdock Canal Trail, a paved shared-use path connecting Orem to Lehi, is the most frequently used walking and biking facility in the city. Other paved shared-use paths are primarily located around community parks, such as Highland Glen Park and along. Many of the larger roads in Highland have wide roads or road right-of-ways with sufficient shoulder width, making them suitable for designated bike lanes. Currently, only two streets, 5300 West and 4800 South, have designated bike lanes. Sidewalk availability varies by road and neighborhood; some areas have continuous sidewalks, while others have gaps or no sidewalks. Most arterial roads have some form of sidewalk or trail along them.



## Current Projects

In 2022, Highland was awarded by MAG \$2.7 million to construct the final segment of the Mitchell Hollow Trail. This new trail will be constructed from 6800 West at AF 1120 North, through the North County Equestrian Park, connecting to the existing trail at approximately 10100 North. This corridor is significant as both a riparian and open space opportunity, and as a vital north-south connector within the active transportation system for Utah County and Highland City.



## Active Transportation Facility Types

There are generally two types of active transportation facilities in Highland, trails and bike lanes. Similar to the highway classifications, they are designated in a hierarchy from highest to lowest use.

Trails include Regional Trails, Major Road Trails, Local Trails, Neighborhood Trails, and Unpaved Trails. Bike lanes include Major Road Bike Lanes and Local Bike Lanes.

## Bike Lane Network

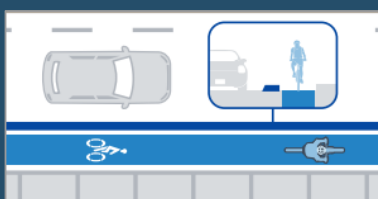
The Alpine & Highland Active Transportation Plan identifies various bike lane types for the future network. Highland currently features bike lanes on North County BLVD and buffered bike lanes on Alpine HWY. Different types of bike lanes offer distinct advantages. The city should weigh each strategy as they develop the future network. Though not prescribed by road corridor in this plan, generally, the higher-speed, higher-volume roads should include safer and more comfortable bike facilities, and lower-speed, lower-volume roads can use shared solutions.

## Bike Lane Types



Bike lanes provide dedicated, comfortable, and safe spaces for cyclists, clearly defining interactions with vehicles. Generally on low to mid-volume roads.

Buffered bike lanes enhance safety by adding extra separation, allowing cyclists to pass, and increasing visibility for all road users, thereby attracting more cyclists. Used on the mid-to higher-volume roads.



Separated bike lanes utilize physical barriers such as medians, landscaping, posts, or parked cars to eliminate collision risks and prevent unauthorized parking. Used on high-volume roads.

Sharrows are used on narrow or low-speed streets to designate shared facilities, indicating that cyclists should ride in vehicle lanes and serving as wayfinding aids. Used on low-volume roads.





## Bike Network Map

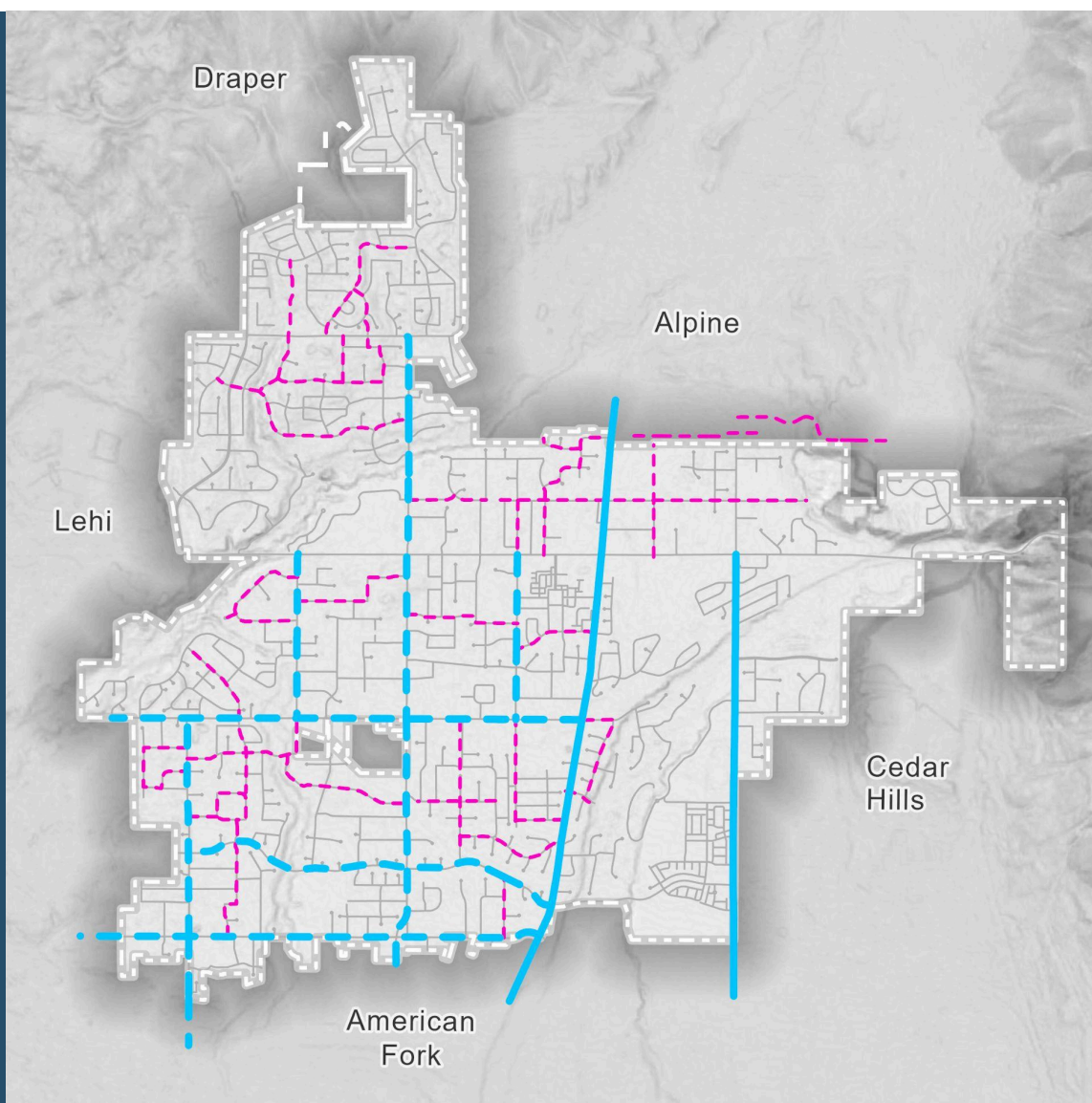
- Major Road Bike Lanes
- Local Road Bike Lanes

- Existing
- Future



Existing 5  
Miles

Future 55  
Miles



## Trail Network

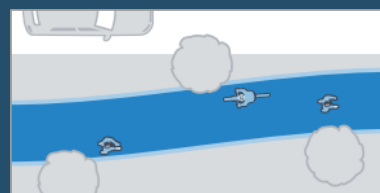
The Alpine & Highland Active Transportation Plan outlines future trail development, building on existing regional trails like the Murdock Canal and Highland Glen, and roadside trails along Canal Blvd, Alpine Hwy, Highland Blvd, Timpanogos Hwy, and 11800 North. Many 5-foot sidewalks are slated for upgrade to 12-foot trails. There are two trail types: Shared-use paths, separated from traffic and often not roadside, and side paths, also separated but typically alongside roads. Both benefit from landscaping to enhance user comfort and safety.

## Trail Types



**Shared Use Paths** offer a low-stress, comfortable environment for walking, biking, and running, separating users from vehicles. Landscape additions enhance user comfort and safety. Generally built away from a road.

**Side Paths**, similar to shared use paths, offer a low-stress, high-comfort environment for various users, separating them from vehicles. Landscape additions enhance comfort and safety. Generally built next to a road.



## Trail Network Map

- Regional Trail
- Major Road Trail
- Local Trail
- Neighborhood Trail
- Unpaved Trail

Existing

Future



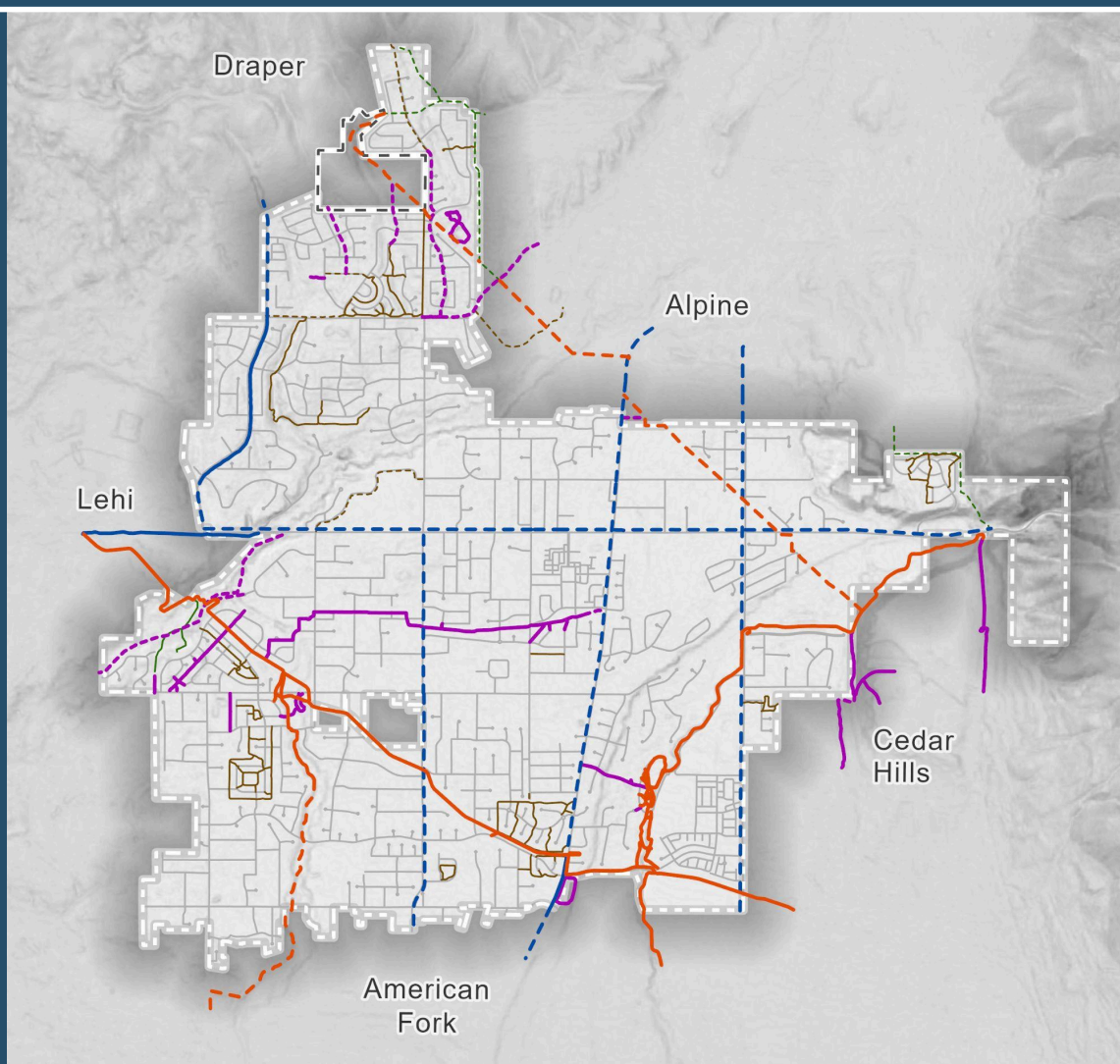
Trails

Existing

**11**  
Miles

Future

**56**  
Miles







CHAPTER

4

# Transportation Management

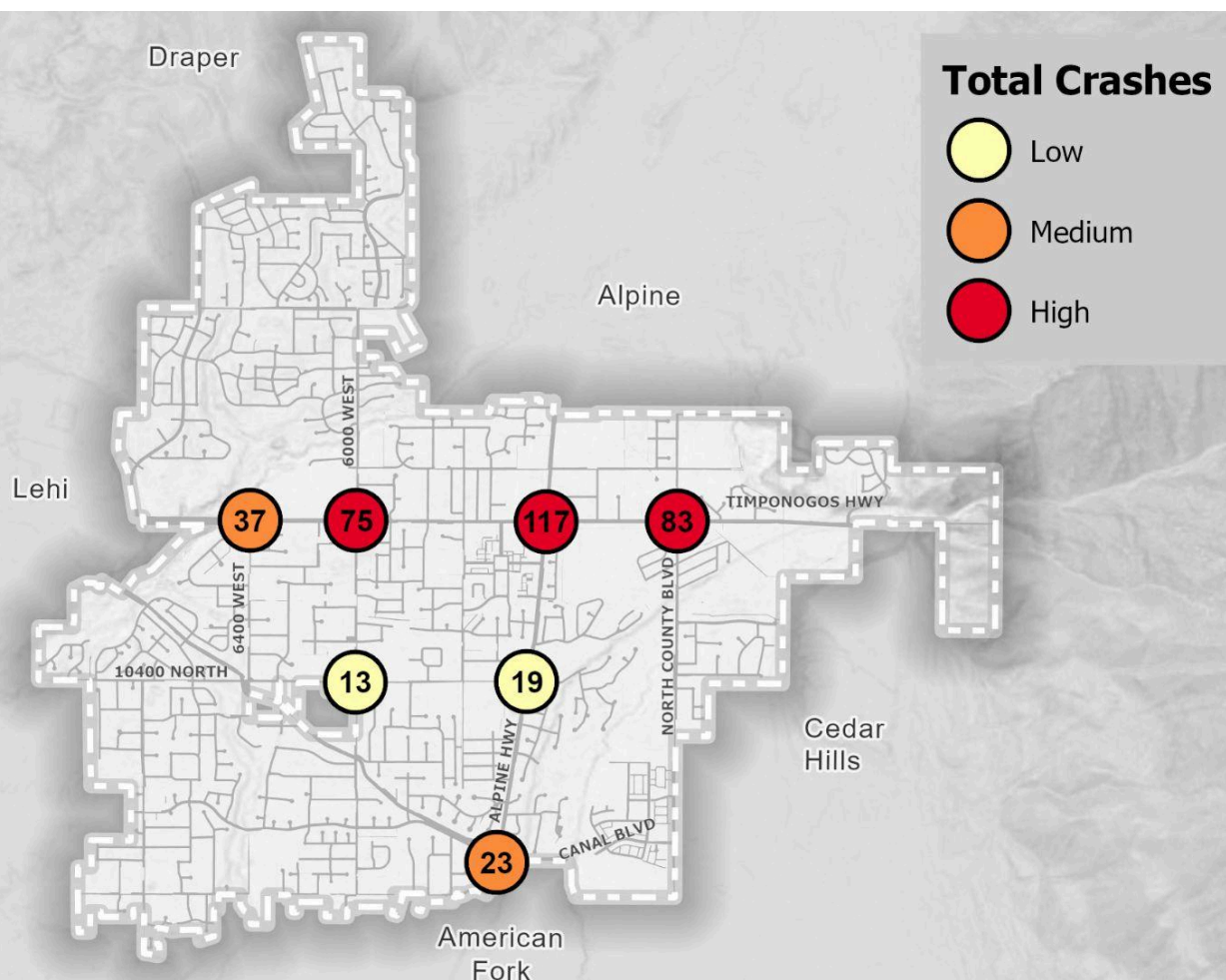


## 4. Transportation Management

Once a transportation system is planned out to handle anticipated volume demands, it is important to put policies and improvement programs in place to maintain the system and maximize safety. This section outlines the policies that have been developed previously and along with this TMP for Highland City to use going forward. In addition, a safety analysis of current conditions was completed, and safety mitigation measures were recommended.

### 4.1 Transportation Safety Analysis

The purpose of this section is to discuss the safety of the existing road network in Highland City and to recommend improvements. A few intersections have been identified by the City as areas of concern. Factors including crash history were examined to determine if any mitigations are needed to improve safety. Crash data was collected between the years 2019-2024 and are protected under 23 USC 409.





## Intersection Analysis

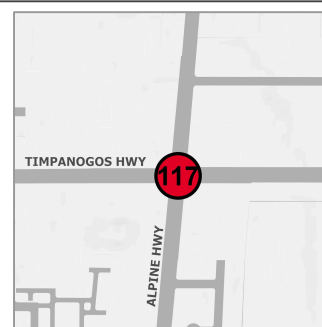
The following are seven (7) intersections in Highland that experience more crashes than typical. The crash histories of each were identified, and mitigations were recommended where a common crash trend was identified:

### Alpine HWY / Timpanogos HWY

#### Crash Stats:

- 117 total crashes (2 serious injury and 18 minor injury crashes)
- Angle collisions comprised approximately 46% of crashes
- Approximately 9% of crashes involved distracted driving
- Predominant movements for crashes was an eastbound left conflicting with westbound through traffic

**No improvements recommended due to lack of crash trend**



### Canal BLVD / Alpine HWY

#### Crash Stats:

- 23 total crashes, (1 serious injury and 1 minor injury crashes)
- Front to rear collisions comprised approximately 48% of crashes
- Approximately 22% of crashes involved distracted driving
- 58% of crashes involved teenage drivers

**Recommendation: Consider increased enforcement around Lone Peak High School at start and end times**

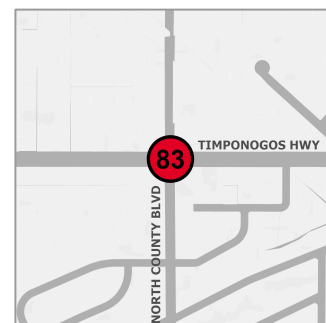


## North County BLVD / Timpanogos HWY

### Crash Stats:

- 83 total crashes (2 serious injury and 13 minor injury crashes)
- Front to rear collisions comprised approximately 52% of crashes
- Approx. 17% westbound left is predominant vehicle in crash, with many occurring in the evening/night hours

**Recommendation: Consider time of day protected phasing for westbound left turn**

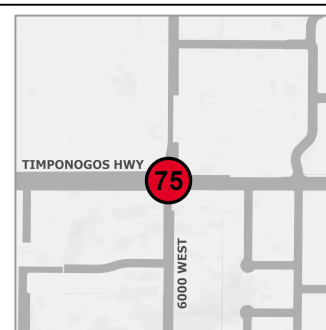


## 6000 West / Timpanogos HWY

### Crash Stats:

- 75 total crashes, (5 serious injury and 13 minor injury crashes)
- Angle collisions comprised approximately 41% of crashes
- Approximately 13% of crashes involved distracted driving
- Predominant movements for crashes was an eastbound left conflicting with westbound through traffic

**Recommendations: Consider protected only left turn phasing for eastbound and westbound, due to high speeds and crash trends**

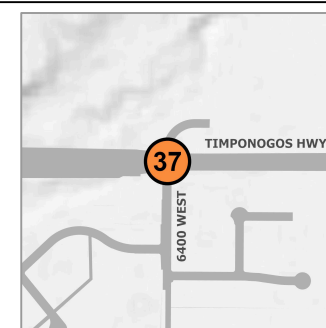


## 6400 West / Timpanogos HWY

### Crash Stats:

- 37 total crashes, (1 serious injury and 6 minor injury crashes)
- Roadway Departure and Speed Related collisions comprised approximately 16% of crashes each
- 40% of Roadway Departure and Speed Related collisions occurred between 6 a.m. and 8 a.m.
- 30% of collisions occurred in wintry roadway surface conditions

**Recommendation: Consider installation of “ICE” signage (W8-5aP)**



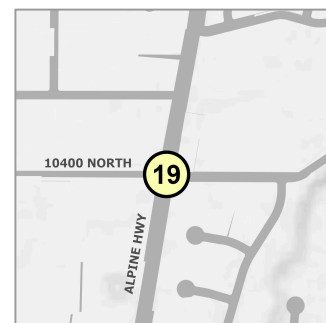


## 10400 North / Alpine HWY

### Crash Stats:

- 19 total crashes, (1 serious injury and 2 minor injury crashes)
- Angle collisions comprised approximately 58% of crashes
- Approximately 16% of crashes involved northbound left turns
- Recommendation: Consider protected only left turn phasing for northbound

**Recommendation: Consider protected only left turn phasing for northbound**

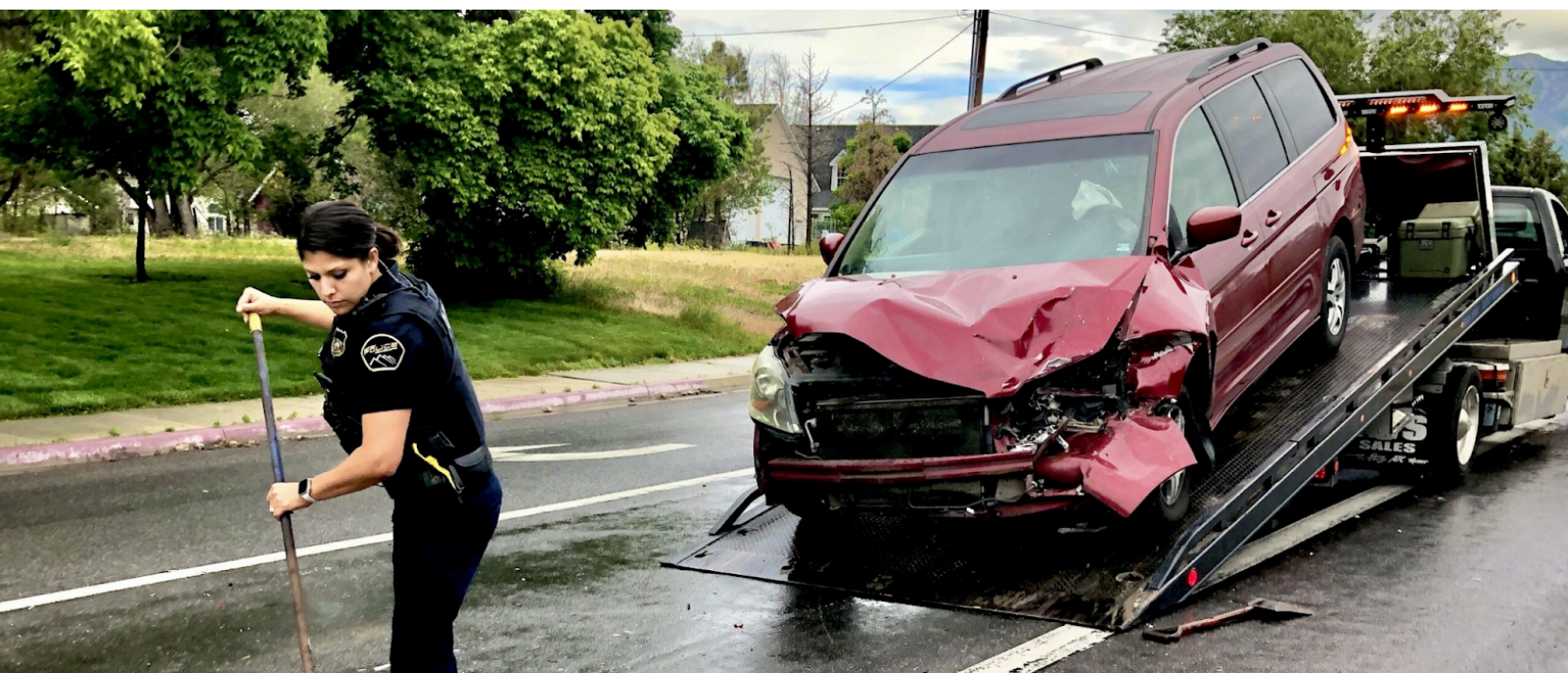


## 10400 North / 6000 West

### Crash Stats:

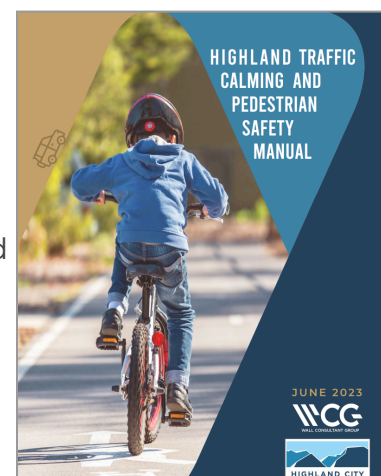
- 13 total crashes
- Angle collisions comprised approximately 70% of crashes
- 30% of crashes came from north and south through movements

**No improvements recommended due to lack of crash trend**



## 4.2 Traffic Calming

Traffic calming can be instrumental in altering driver behavior to improve the speed and safety of roadways for all users. Traffic calming measures may include passive provisions like striping and signage, active improvements such as a raised crosswalk, or temporary measures like rubber bulb-outs. Combining strategies together can lead to better overall safety outcomes as well. First performing site specific studies can reveal what level of adjustment is needed and alternatives across budget and impact level to see improvements. For specific traffic calming measures that could be considered in Highland, see *Highland Traffic Calming and Pedestrian Safety Manual* (2023).



## 4.3 Access Management

Access management is a process of controlling the location and number of access points for roadways, driveways, and other transportation facilities. Applied access management standards strive to improve the safety, mobility, and aesthetics of the transportation network. This is accomplished by limiting points of conflict between users and preserving visual continuity. Access spacing should vary by functional classification type. As a general rule, the greater the mobility on a roadway, the lower the accessibility. When possible, streets and accesses should also line up with the street or access across the intersection to prevent potential collisions. For Highland specific access management standards, see *Highland Traffic Calming and Pedestrian Safety Manual* (2023).

## 4.4 Traffic Impact Studies

Hales Engineering has developed traffic impact study (TIS) guidelines for Highland to use going forward, see Appendix B. While this TMP provides a high-level overview of transportation needs and projects, a traffic impact study provides greater detail for intersection operations and improvements near new development. By requiring these studies for future development, city officials will know how a certain project will impact traffic flow and what improvements the developer may need to complete for their project to be built.



# APPENDIX A

## Intersection Modeling Results & Methodology

While most roadways relied on a network perspective level of service analysis, four intersections were chosen to be analyzed at a closer level to understand prominent intersections as well as determining sensitive mitigation. Both 10400 North / 6000 West and Canal Boulevard / 6000 West are intersections that feature major roadways, yet had minimal intersection control. These intersections were determined to experience acceptable traffic behavior, but are recommended to feature roundabouts for traffic calming purposes. The intersections on Canal Boulevard at Alpine Highway and North County Boulevard relate to three segments that perform poorly in the future network scenario, but have been largely mitigated at the intersection level through improved signal timing and added turn lanes.

# Memorandum

Date: October 2025

Subject: Highland Intersection Analysis

UT24-2754

## Introduction

Hales Engineering completed intersection analyses to supplement the Highland transportation master plan (TMP) work to identify the need for intersection improvements at key intersections. Due to high daily traffic volumes on Canal Boulevard, the Canal Blvd / Alpine Hwy and Canal Blvd & Harvey Blvd / North County Blvd intersections were analyzed to identify signalized intersection improvements to increase capacity. The 10400 North / 6000 West and Canal Blvd / 6000 West intersections were also analyzed as locations with growing traffic volumes to determine in alternative intersection control is needed in the future.

## Analysis

Hales Engineering used Synchro/SimTraffic software to identify the future (2050) level of service (LOS) and queueing results at the study intersections without additional improvements (no-build condition) in the evening peak hour, as shown below. Poor LOS and queueing is expected on Canal Boulevard between Alpine Highway and North County Blvd.

### No-Build LOS Results:

Intersection		Level of Service		
Description	Control	Movement <sup>1</sup>	Aver. Delay (Sec. / Veh.)	LOS <sup>2</sup>
10400 North / 6000 West	AWSC	-	11.7	B
Canal Blvd / 6000 West	EB/WB Stop	WBT	15.5	c
Canal Blvd / Alpine Hwy	Signal	-	75.8	E
Canal Blvd & Harvey Blvd / North County Blvd	Signal	-	>80	F

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, September 2025

### No-Build 95<sup>th</sup> Percentile Queue Results:

Intersection	NB				SB				EB				WB			
	L	LTR	R	T	L	LTR	R	T	L	LTR	R	T	L	LTR	R	T
01: 6000 West & 10400 North		125				150				150				100		
02: 6000 West & Canal Blvd		75				75				50				100		
03: Alpine Hwy & Canal Blvd	175		350	525	350		75	625	75		50	150	300		150	1,450
04: North County Blvd & Canal Blvd/Harvey Blvd	225		325	2,850	225		200	725	250		150	1,575	100		75	150



Based on these no-build results, mitigation measures were proposed at study intersections, as described below.

*Canal Blvd & Harvey Blvd / North County Blvd:*

The following mitigation measures are recommended at this intersection:

- 150 cycle length
- Optimized signal timing
- NBL 250' storage (currently TWLTL) – may need to restrict lefts at some business accesses.
- EBL 200' storage (currently TWLTL)
- SBL 200' storage (currently TWLTL)
- Dual NB left turning lanes
- Dual EB left turning lanes
- Dual SB left turning lanes
- Combine EB thru lane with EB RT pocket (300 feet of storage)
- 2 WB receiving lanes on Canal Blvd
- 2 EB receiving lanes on Harvey Blvd

It is recommended that the signal at Canal Boulevard & Harvey Boulevard / North County Boulevard be optimized with a 150-second cycle length and updated timing to reduce delay and improve intersection LOS. To address queuing, it is recommended that northbound left-turn storage be extended to 250 feet, eastbound left-turn storage to 200 feet, and southbound left-turn storage to 200 feet, which may require restricting left turns at some nearby business accesses. Additional capacity is recommended through the installation of dual northbound, eastbound, and southbound left-turn lanes, as well as combining the eastbound through lane with the eastbound right-turn pocket with 300 feet of storage. It is also recommended that Canal Boulevard be widened to provide two westbound receiving lanes, and Harvey Boulevard be widened to provide two eastbound receiving lanes.

*Canal Blvd / Alpine Hwy:*

The following mitigation measures are recommended at this intersection:

- All directions have a flashing yellow light but based on the signal timing only the SB direction has a protected phase, and the other 3 directions use the flashing yellow as a permitted only left turn (not protected phase)
- Use a protected phase on all directions
- Optimized signal timing
- NBR 200' storage
- EBL 700' Storage
- SBL 300' storage
- Dual SB left turning lanes
- 2 EB receiving lanes on Canal Blvd

It is recommended that the Canal Boulevard / Alpine Highway signal be updated to provide protected left-turn phases for all approaches, as the current operation only provides a protected phase for southbound traffic while the other directions rely on flashing yellow permissive movements, according to the signal timing. Signal timing should also be optimized to improve efficiency and reduce delay. To accommodate anticipated demand, it is recommended that northbound right-turn storage be extended to 200 feet, eastbound left-turn storage to 700 feet, and southbound left-turn storage to 300 feet. It is also recommended that dual southbound left-turn lanes be installed, along with Canal Boulevard being widened to provide two eastbound receiving lanes.

The following are the mitigated results based on these mitigation measures.

#### Mitigated LOS Results:

Intersection		Level of Service		
Description	Control	Movement <sup>1</sup>	Aver. Delay (Sec. / Veh.)	LOS <sup>2</sup>
10400 North / 6000 West	AWSC	-	11.3	B
Canal Blvd / 6000 West	EB/WB Stop	EBT	14.6	b
Canal Blvd / Alpine Hwy	Signal	-	33.7	C
Canal Blvd & Harvey Blvd / North County Blvd	Signal	-	51.0	D

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.  
2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, September 2025

#### Mitigated 95<sup>th</sup> Percentile Queue Results:

Intersection	NB				SB				EB					WB			
	L	LTR	R	T	L	LTR	R	T	L	LTR	R	T	TR	L	LTR	R	T
01: 6000 West & 10400 North		100				150				125					100		
02: 6000 West & Canal Blvd		75				75				75					100		
03: Alpine Hwy & Canal Blvd	100		225	425	225			300	100		75	200		550		150	200
04: North County Blvd & Canal Blvd/Harvey Blvd	425		275	850	350		100	550	375				375	100		75	175



# APPENDIX B

## Traffic Impact Study Guidelines

These Traffic Impact Study (TIS) guidelines are designed to help City staff and traffic consultants effectively scope and conduct traffic studies. Developed in accordance with Utah Department of Transportation (UDOT) and Institute of Transportation Engineers (ITE) standards, the guidelines provide a framework for evaluating the transportation impacts of new development. A TIS delivers detailed analysis of intersection operations and identifies potential improvements, enabling City officials to understand how proposed projects will affect traffic flow and what improvements developers may be required to construct.

## Trip Generation & Traffic Impact Study Guidelines

Highland City

---

### Introduction

This document outlines the traffic impact study (TIS) requirements for the City. The purpose of this document is to guide City staff and traffic consultants in knowing how to scope traffic studies for new development within Highland. The guidelines in this document were based on Utah Department of Transportation (UDOT) and Institute of Transportation Engineers (ITE) guidelines.

### Application Submittal and Review

Prior to submitting a site plan or subdivision application to the City, the applicant should meet with the City's Development Review Committee where they will provide information about the nature and location of the development. Required information will include but may not be limited to:

- Location of development
- Land use type (e.g. single-family or multi-family housing, office, retail, mixed-use, etc.)
- Land use intensity (e.g. unit count, square footage)
- Proposed access points

Based on the information submitted by the applicant, City staff will decide which level of traffic study is required and the boundaries of the study area. Prior to the traffic study beginning, the applicant should contact City Staff to identify the scope of the traffic study. Additional items required for this study will be identified by the City which could include a request for ADT counts, speed data collection / evaluation, intersection sight distance review, traffic control review, etc.

### Trip Generation

A trip represents a vehicle entering or exiting a project site. Trip generation is determined using the ITE *Trip Generation* manual, which contains trip rates for land uses based on actual counts of trips at various study sites around the United States. The latest *Trip Generation* manual should be used to calculate new trips for a development (currently 12<sup>th</sup> Edition, 2025). After calculating the trip generation, all trip counts should be rounded up to a whole number.

The ITE *Trip Generation* data provides an average trip rate per an independent variable (e.g. units, square feet) that can be used. If there are several data points for a land use, ITE also provides a fitted curve equation, which is either a linear or logarithmic equation that may provide a more accurate estimate of new trips for a development. The fitted curve equation is reported with a coefficient of determination ( $R^2$ ) value, which is a value between 0 and 1 that indicates how well the equation fits the data points, with "1" representing a great fit. If the data provided by ITE is not good, the traffic engineer may need to collect local trip data.



The following are various considerations that should be made when determining whether to use the fitted curve equation, the average rate, or local trip data for traffic studies (see *ITE Trip Generation Handbook*, Chapter 4 for more details):

### Use the fitted curve equation when:

- A matching ITE land use has at least 20 data points
- OR the  $R^2$  value is at least 0.75

### Use the average rate when:

- A matching ITE land use has at least three (and preferably six) data points and the fitted curve equation is not appropriate
- AND the standard deviation is less than 55 percent of the average rate value

### Use local trip data when:

- The development land use is unique and does not match any ITE land uses
- OR a matching ITE land use has less than three (and preferably six) data points
- OR if neither the average rate line nor fitted curve fall within the data cluster
- OR the size of development is outside the range of land use sizes in the ITE data

In addition to the above considerations, the engineer should also visually observe where a development fits along the trip generation average rate line or fitted curve to see that the line/curve falls within the cluster of data points of that particular development size. For example, if the fitted curve is deemed appropriate based on data points or the  $R^2$  value but the average rate line fits the data cluster better for that development size, the average rate may be a better option, or vice versa.

Certain developments may experience a reduced new trip generation number due to the nature of the project. The following are the trip reductions that should be considered in trip generation and traffic impact studies based on standard ITE methodologies:

- Pass-by trips: Trips made to a development on the way to an existing destination
- Multi-modal: Trips made via non-vehicle modes such as transit, walking, and biking
- Mixed-use internal capture: Trips made within the development itself due to a mix of uses

For commercial and office space, the City requires that square footage be used as the independent variable to calculate trips, as opposed to using number of employees or other variables. This will help ensure a conservative calculation of trips for a development that will be valid even if the tenant changes in the future.

If an applicant believes they will generate less trips than the average similar land use, a professional traffic operations engineer (PTOE) can complete a local trip generation study based on trip counts and square footages of at least two similar sites along the Wasatch Front.

## Traffic Study Levels

Small developments may not need a full TIS but may still be required to submit a trip generation study (TGS) prior to City approval. A TGS includes a description of the project and a calculation of the anticipated trip generation. In addition to the elements of a TGS, a TIS includes level of service (LOS) analyses for study intersections for the current year and potentially future years and recommendations to mitigate poor levels of service. For the City, the acceptable LOS threshold is LOS D.

A development that is anticipated to generate at least 25 new peak hour trips requires a TIS. A development that generates less than 25 new peak hour trips only requires a TGS. General thresholds of 25 peak hour trips for various common land uses are provided in Table 1.

**Table 1: General 25 Peak Hour Trip Thresholds**

Land Use	ITE Code(s)	≥ 25 Peak Hour Trips
Light Industrial / Manufacturing	110, 140	50,000 sq. ft. GFA
Warehousing	150	150,000 sq. ft. GFA
Mini-Warehouse (Self-Storage)	151	150 storage units
Single-Family Detached Housing	210	25 dwelling units
Single-Family Attached Housing (Townhomes)	215	40 dwelling units
Multifamily: Condo/Apartment	220	50 dwelling units
Mobile Home Park	240	50 dwelling units
Assisted Living	254	100 beds
Hotel	310	<i>Any Size</i>
General Office	710	15,000 sq. ft. GFA
Medical / Dentist Office	720	7,000 sq. ft. GFA
Shopping Center	820	5,000 sq. ft. GLA
Bank	911 - 912	<i>Any Size</i>
Restaurant	930 - 935	<i>Any Size</i>
Gas Station / Convenience Store	944 - 945	<i>Any Size</i>

If a TIS is required, City staff will select the level of TIS to be completed based on the anticipated trip generation. At the smallest TIS level (level II), only an analysis of the current or opening year with and without the project is required. At the highest TIS level (level IV), future analyses up to 20 years out with and without the project are also required. A summary of each traffic study level, with its associated peak hour trip thresholds and horizon years, is shown in Table 2. A flowchart to help determine the traffic study level is also shown in Figure 1.

Table 2: Study Horizon Years by Level

Study Level		New Peak Hour Trips	TIS Horizon Year(s)
TGS	I	< 25	N/A
TIS	II	≥ 25 - 100	Current / Opening Year
	III	≥ 100 - 500	Current / Opening Year, + 5 years
	IV	≥ 500	Current / Opening Year, + 5 years, + 20 years

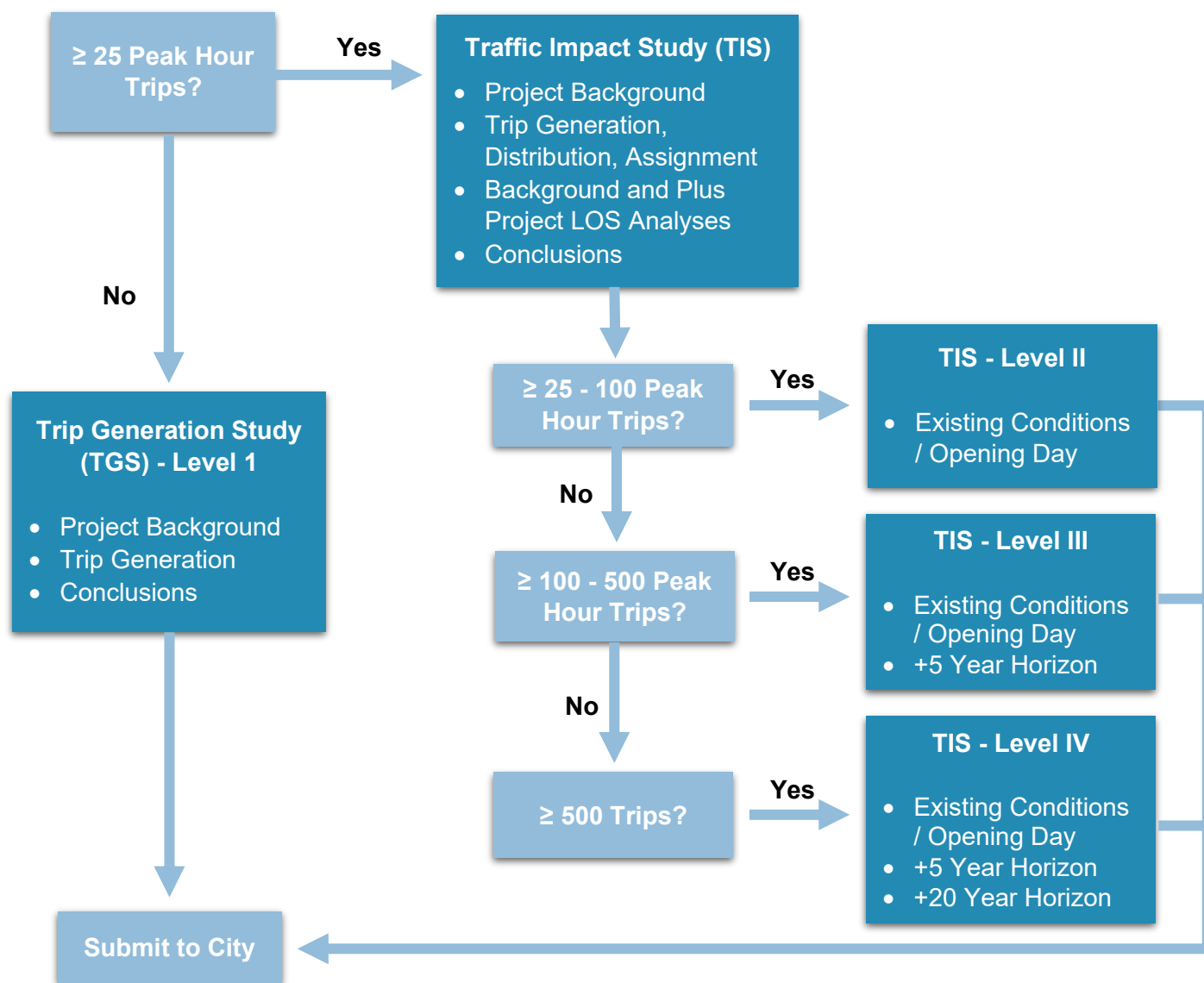


Figure 1: Traffic study flowchart



## Study Area

The study area to be analyzed in a TIS also depends on the size of the development. Large developments may impact intersections miles away while small developments may have minimal impacts on adjacent roadways. The **minimum** required study areas for each TIS level are provided in Table 3. City staff may request additional intersections as needed.

In general, each TIS will include an analysis of the project accesses and nearby major intersections. Major intersections are defined as signalized or unsignalized intersections of two public roadways that are anticipated to be used by project traffic. This does not include minor intersections or other accesses or private roadways near the project, unless requested by the City. However, if a minor intersection is an existing access to the site or located across from an existing or proposed project access, it should be included in the analysis.

**Table 3: TIS Study Areas by Level**

Study Level	Study Area
II	Project Accesses & Closest Major Intersections
III	Project Accesses & Major Intersections within ¼ Mile
IV	Project Accesses & Major Intersections within ½ Mile

## Report Elements

The following sections outline the elements that should be included in the TGS and TIS reports:

### TGS Elements

Each TGS report will be required to contain at minimum the following elements:

- Project Background:
  - Identify the project site location, development type, and site access drives
- Trip Generation:
  - Calculate trip generation for the development according to ITE standards
- Conclusions:
  - State the key findings and recommendations of the TGS in a concise manner

### TIS Elements

Each TIS report will be required to contain at minimum the following elements:

- Traffic studies should be completed by a licensed professional engineer (PE) with a Professional Traffic Operation Engineer (PTOE) certificate
- The study should be stamp and signed by the PE / PTOE engineer
- Executive Summary:
  - Include a concise summary at the beginning of the report with the key assumptions, findings, and recommendations of the TIS

- Study Area:
  - Identify the existing nearby roadways and intersections including roadway classifications, intersection control, and speed limits
- Data Collection:
  - Collect at minimum peak hour turning movement counts at the study intersections and potentially daily volumes if requested by staff
  - Normally collect morning (7-9 AM) and evening (4-6 PM) peak hour counts unless the study area and/or development will have different peak hours (e.g. schools)
- Analysis Period:
  - Identify the study peak hour based on existing counts and the proposed trip generation; at minimum, the highest peak hour should be analyzed
  - City staff may request that multiple peak hours be analyzed
- Project Background:
  - Identify project site location, development type, project phasing, site access drives and nearby intersections to be affected by the development
- Access and Auxiliary Lanes:
  - Identify the location and configuration of each access drive to the site and the need to add auxiliary lanes (deceleration and acceleration turn lanes)
- Trip Generation:
  - Calculate trip generation according to ITE standards and apply reductions when applicable
- Trip Distribution and Assignment:
  - Document the distribution and assignment of project trips for each horizon year
- Capacity Analysis:
  - Calculate delay, LOS, and queuing results for all study intersections in the study area for existing background (without project) conditions, existing plus project conditions, future background conditions, and future plus project conditions (if required by the study level)
  - Complete this analysis using Synchro/SimTraffic, Vistro, or VISSIM software
  - Report LOS of whole intersection for signalized, roundabout, and all-way stop intersections, and report LOS of worst movement for other intersections
- Proposed Mitigations:
  - Identify proposed mitigations to roadway and intersection characteristics in the study area based on the LOS and queueing results
  - Clearly show whether these mitigations are caused by background or site-generated traffic
- Exhibits:
  - Include figures showing peak hour turning movement volumes used in the analysis for each scenario, including trip assignment volumes
  - Include figures or reports that show the assumed lane configurations
  - Include tables or figures that show the LOS at each intersection for each scenario
- Appendices:
  - Include raw traffic count data
  - Include capacity analysis and queueing reports for each scenario
  - Include a site or concept plan of the development if available

# APPENDIX C

## Traffic Volume Data Collection

The traffic data used for analysis includes existing turning movement counts (TMC) and average daily traffic (ADT) data collected since 2019, with new data collected in 2024. These data points were used to understand the existing traffic conditions on the primary arterial and collector roads in Highland. From these observed traffic data points covering the peak hour and total daily observation periods, adjustments were made to the travel demand model to reflect real world traffic conditions and fine tune future traffic volumes.



# Highland General Plan - Traffic Data

Updated: 08/22/2024

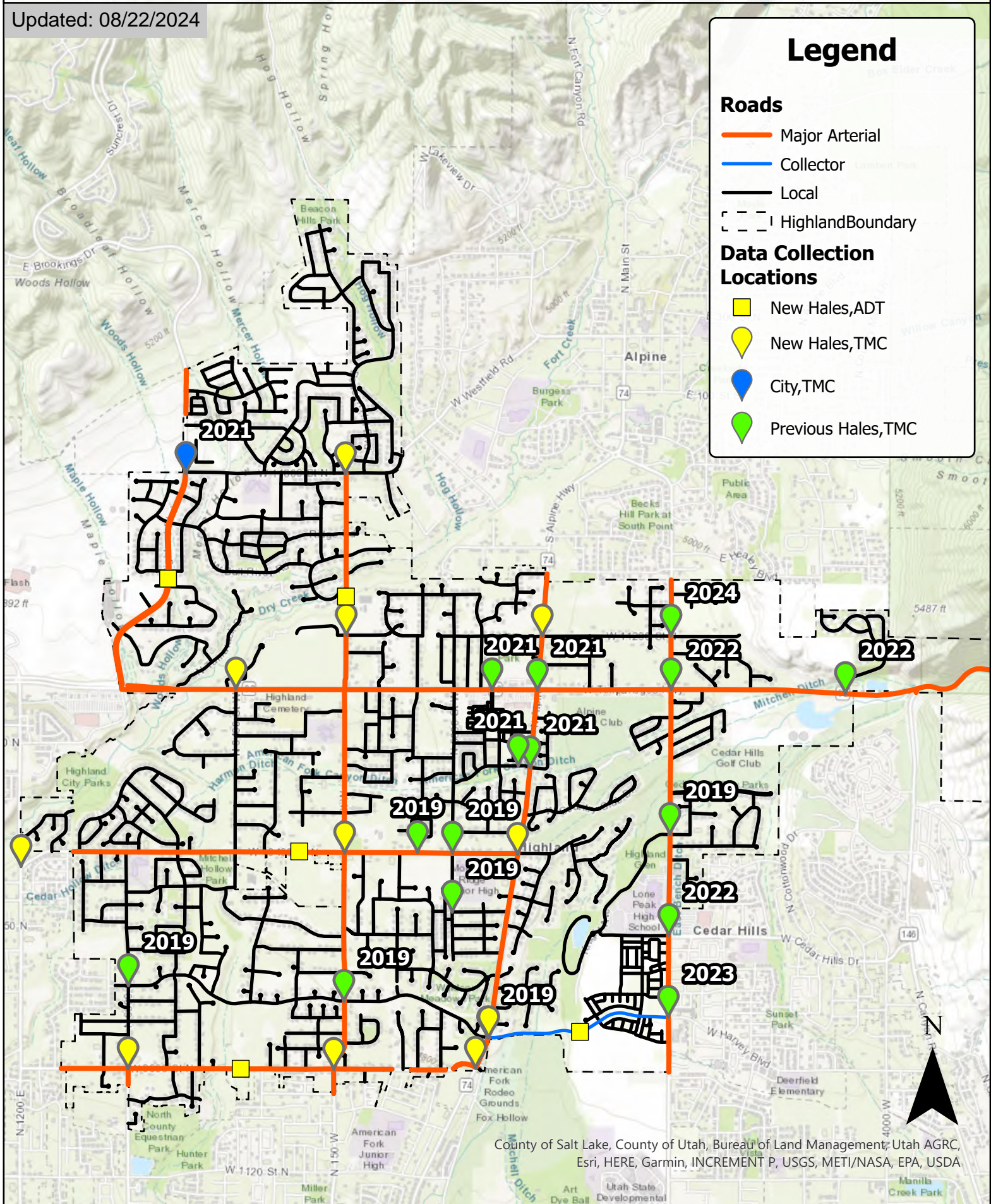
## Legend

### Roads

- Major Arterial
- Collector
- Local
- Highland Boundary

### Data Collection Locations

- New Hales, ADT
- New Hales, TMC
- City, TMC
- Previous Hales, TMC



County of Salt Lake, County of Utah, Bureau of Land Management, Utah AGRC, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA



# Highland UT24-2754

**14 People**  
**Wednesday, August 21, 2024 &**  
**Thursday, August 22, 2024**

**4:00 - 6:00 p.m.**

**2 People**

**1: 6000 West  
/ 11800 North**

**2: 11200  
North /  
6000 West**

**3: 11200 North /  
Alpine Highway**

**4: 6400  
West /  
SR-12**

**5: 10400  
North /  
1200 East**

**6: 6000 West  
/ 10400 North**

**7: 10400 North /  
Alpine Highway**

**2 People**

**8: 9600 North  
/ 6800 West**

**9: 6050 West  
/ 9600 North**

**11: Canal  
Boulevard /  
Alpine Highway**

**2 People**

**10: 9600  
/ Alpine  
Highway**

### Intersection Turning Movement Summary

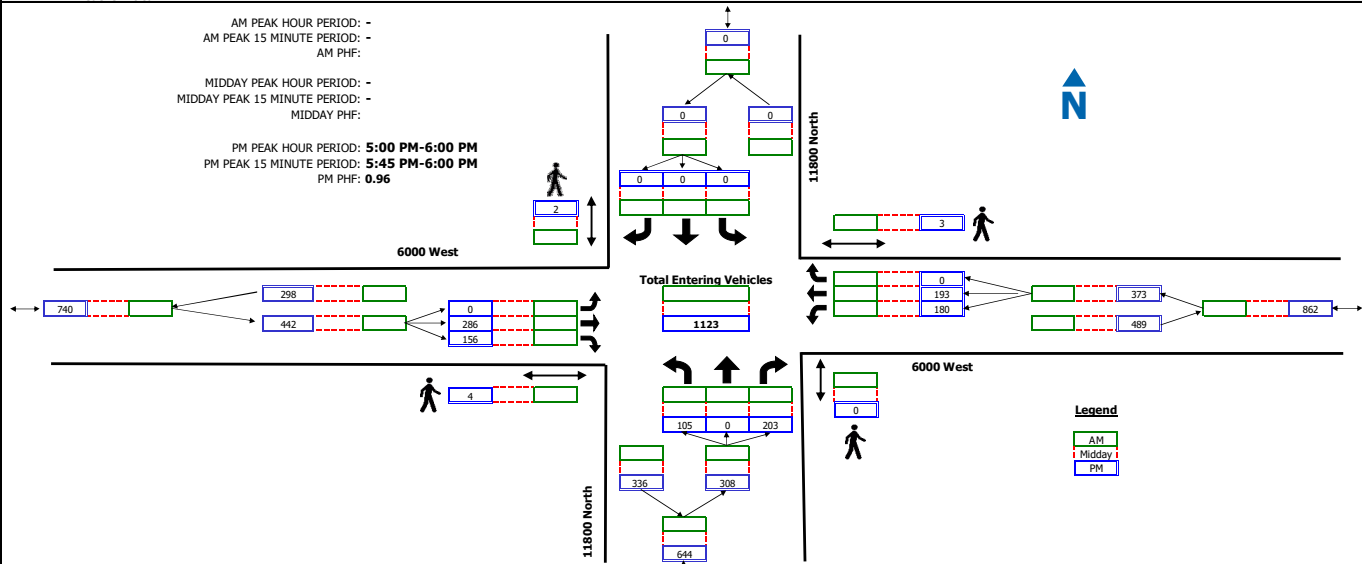
Intersection: 11800 North / 6000 West  
North/South Road: 11800 North  
East/West Road: 6000 West  
Jurisdiction: Highland  
Project Title: Highland General Plan Update  
Project No: UT24-2754  
Weather: Clear

Date: 8-22-24, Thu  
Day of Week Adjustment: 100.0%  
Month of Year Adjustment: 100.0%  
Adjustment Station #: 0  
Growth Rate: 0.0%  
Number of Years: 0

AM PEAK HOUR PERIOD: -  
AM PEAK 15 MINUTE PERIOD: -  
AM PHF: -

MIDDAY PEAK HOUR PERIOD: -  
MIDDAY PEAK 15 MINUTE PERIOD: -  
MIDDAY PHF: -

PM PEAK HOUR PERIOD: 5:00 PM-6:00 PM  
PM PEAK 15 MINUTE PERIOD: 5:45 PM-6:00 PM  
PM PHF: 0.96



COUNT SUMMARY	11800 North Northbound				11800 North Southbound				6000 West Eastbound				6000 West Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	19	0	48	0	0	0	0	0	0	36	21	3	54	47	0	2	225
16:15 - 16:30	23	0	41	0	0	0	0	2	0	46	26	0	39	42	0	0	217
16:30 - 16:45	18	0	40	0	0	0	0	0	0	47	34	0	48	33	0	0	220
16:45 - 17:00	32	0	47	0	0	0	0	0	0	67	51	1	47	48	0	0	292
17:00 - 17:15	23	0	66	0	0	0	0	0	0	70	39	2	49	39	0	0	286
17:15 - 17:30	29	0	46	0	0	0	0	0	0	62	41	0	43	51	0	0	272
17:30 - 17:45	28	0	49	0	0	0	0	1	0	70	38	2	41	46	0	1	272
17:45 - 18:00	25	0	42	0	0	0	0	1	0	84	38	0	47	57	0	2	293





### Intersection Turning Movement Summary

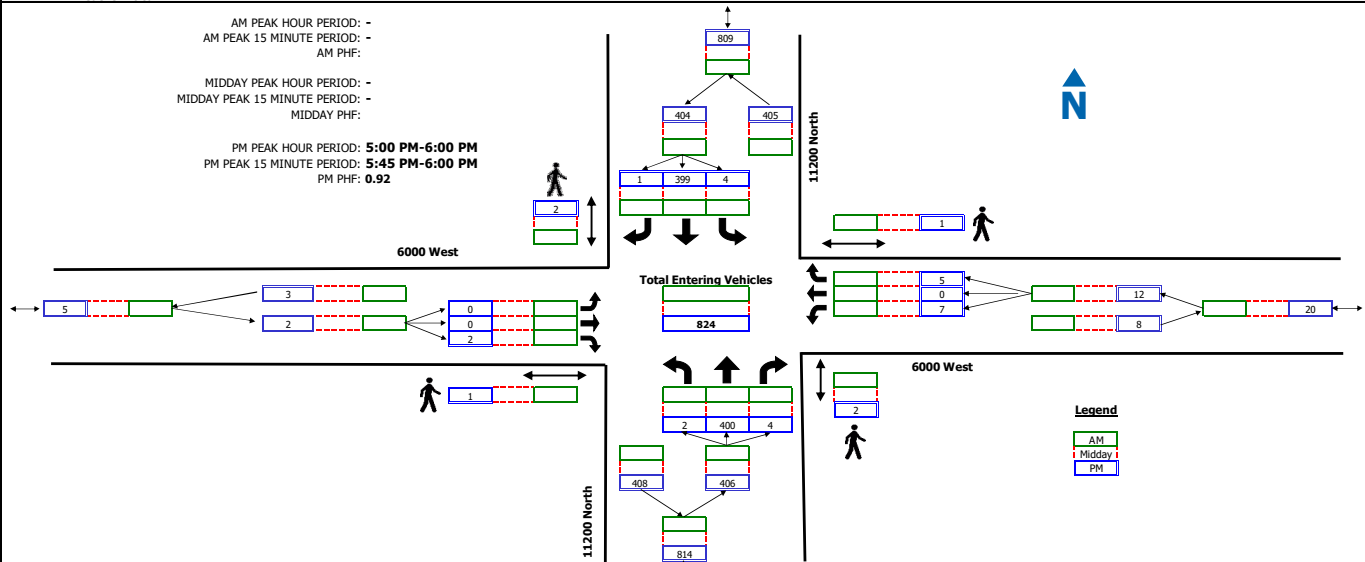
Intersection: 11200 North / 6000 West  
North/South Road: 11200 North  
East/West Road: 6000 West  
Jurisdiction: Highland  
Project Title: Highland General Plan Update  
Project No: UT24-2754  
Weather: Clear

Date: 8-22-24, Thu  
Day of Week Adjustment: 100.0%  
Month of Year Adjustment: 100.0%  
Adjustment Station #: 0  
Growth Rate: 0.0%  
Number of Years: 0

AM PEAK HOUR PERIOD: -  
AM PEAK 15 MINUTE PERIOD: -  
AM PHF: -

MIDDAY PEAK HOUR PERIOD: -  
MIDDAY PEAK 15 MINUTE PERIOD: -  
MIDDAY PHF: -

PM PEAK HOUR PERIOD: 5:00 PM-6:00 PM  
PM PEAK 15 MINUTE PERIOD: 5:45 PM-6:00 PM  
PM PHF: 0.92



COUNT SUMMARY	11200 North Northbound				11200 North Southbound				6000 West Eastbound				6000 West Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	1	74	3	0	1	83	0	0	0	0	0	0	3	0	2	0	167
16:15 - 16:30	0	72	0	2	2	77	1	0	0	0	0	0	0	0	0	0	152
16:30 - 16:45	0	82	2	1	1	102	0	0	0	0	0	0	1	0	0	0	188
16:45 - 17:00	0	87	2	0	1	106	0	0	1	0	1	0	0	0	2	0	200
17:00 - 17:15	1	108	0	1	1	101	0	1	0	0	0	1	2	0	0	0	213
17:15 - 17:30	0	97	3	0	0	104	1	0	0	0	0	0	0	0	2	0	208
17:30 - 17:45	0	84	1	0	0	93	0	0	0	0	0	0	2	0	0	1	180
17:45 - 18:00	1	111	0	1	3	101	0	0	0	0	1	0	3	0	3	0	222

### Intersection Turning Movement Summary

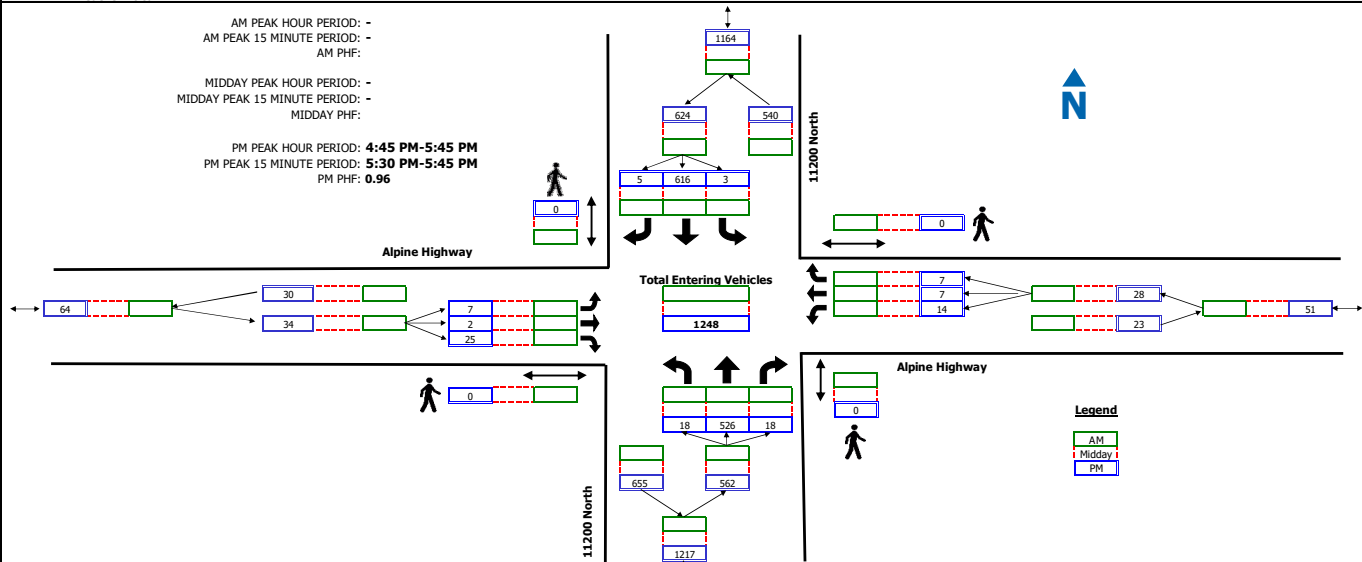
Intersection: 11200 North / Alpine Highway  
North/South Road: 11200 North  
East/West Road: Alpine Highway  
Jurisdiction: Highland  
Project Title: Highland General Plan Update  
Project No: UT24-2754  
Weather: Clear

Date: 8-22-24, Thu  
Day of Week Adjustment: 100.0%  
Month of Year Adjustment: 100.0%  
Adjustment Station #: 0  
Growth Rate: 0.0%  
Number of Years: 0

AM PEAK HOUR PERIOD: -  
AM PEAK 15 MINUTE PERIOD: -  
AM PHF: -

MIDDAY PEAK HOUR PERIOD: -  
MIDDAY PEAK 15 MINUTE PERIOD: -  
MIDDAY PHF: -

PM PEAK HOUR PERIOD: 4:45 PM-5:45 PM  
PM PEAK 15 MINUTE PERIOD: 5:30 PM-5:45 PM  
PM PHF: 0.96



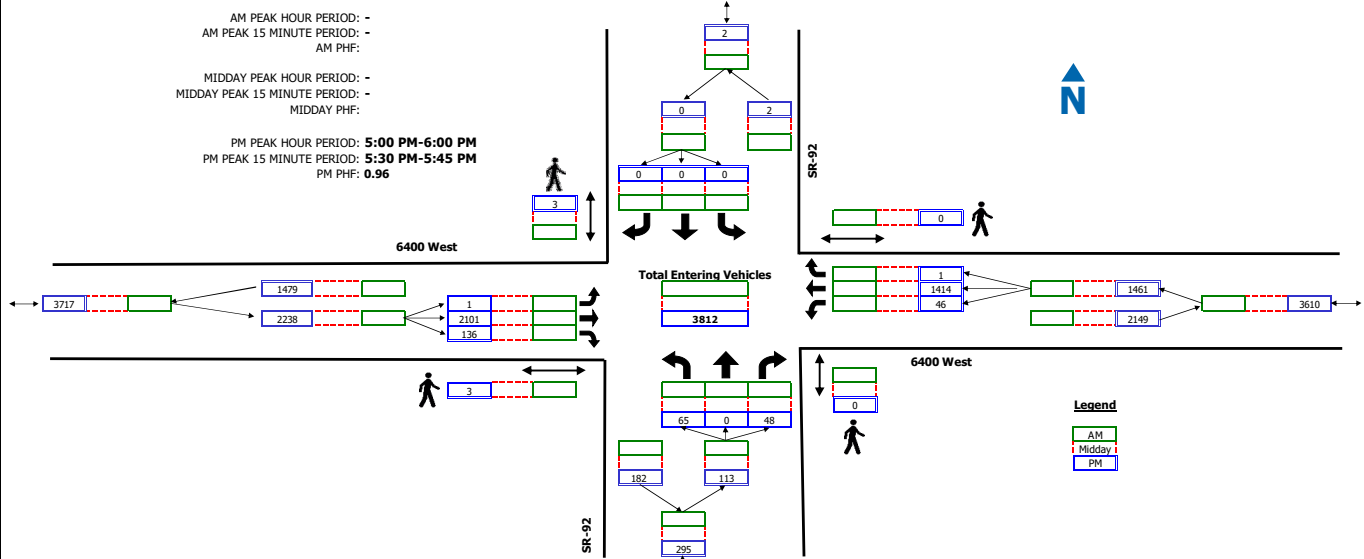
COUNT SUMMARY	11200 North Northbound				11200 North Southbound				Alpine Highway Eastbound				Alpine Highway Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	2	118	2	0	3	146	2	0	4	1	1	1	1	0	0	0	281
16:15 - 16:30	2	126	3	0	1	144	2	0	3	1	3	0	5	0	2	0	292
16:30 - 16:45	8	131	3	0	1	154	0	0	0	1	3	0	4	0	1	0	306
16:45 - 17:00	2	130	3	0	1	161	1	0	2	2	4	0	4	1	4	0	315
17:00 - 17:15	6	120	5	0	2	139	0	0	4	0	11	0	3	3	2	0	295
17:15 - 17:30	6	130	3	0	0	158	2	0	0	0	7	0	4	2	0	0	312
17:30 - 17:45	4	146	7	0	0	158	2	0	1	0	3	0	3	1	1	0	326
17:45 - 18:00	2	133	2	0	0	141	1	0	0	1	4	0	1	0	1	0	286



### Intersection Turning Movement Summary

Intersection: SR-92 / 6400 West  
North/South Road: SR-92  
East/West Road: 6400 West  
Jurisdiction: Highland  
Project Title: Highland General Plan Update  
Project No: UT24-2754  
Weather: Clear

Date: 8-22-24, Thu  
Day of Week Adjustment: 100.0%  
Month of Year Adjustment: 100.0%  
Adjustment Station #: 0  
Growth Rate: 0.0%  
Number of Years: 0



COUNT SUMMARY	SR-92 Northbound				SR-92 Southbound				6400 West Eastbound				6400 West Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	21	0	9	0	0	0	2	0	0	488	20	0	15	324	1	0	880
16:15 - 16:30	16	0	9	0	0	0	0	0	0	510	26	1	11	300	0	0	872
16:30 - 16:45	17	0	8	0	1	0	1	0	0	511	30	0	10	324	0	0	902
16:45 - 17:00	18	1	7	0	0	0	0	0	0	505	39	0	12	304	1	0	887
17:00 - 17:15	20	0	15	0	0	0	0	0	0	568	34	0	13	333	1	0	984
17:15 - 17:30	16	0	7	0	0	0	0	0	1	484	34	2	11	350	0	0	903
17:30 - 17:45	15	0	17	0	0	0	0	3	0	536	32	0	12	378	0	0	990
17:45 - 18:00	14	0	9	0	0	0	0	0	0	513	36	1	10	353	0	0	935

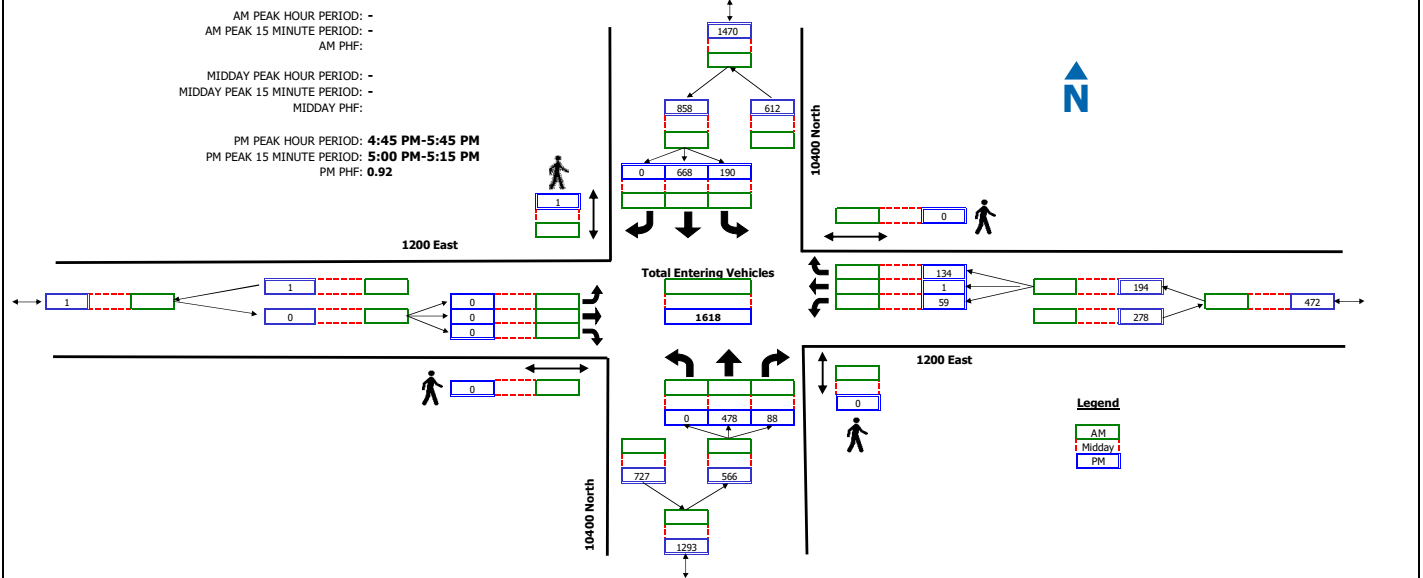




### Intersection Turning Movement Summary

Intersection: 10400 North / 1200 East  
North/South Road: 10400 North  
East/West Road: 1200 East  
Jurisdiction: Highland  
Project Title: Highland General Plan Update  
Project No: UT24-2754  
Weather: Clear

Date: 8-22-24, Thu  
Day of Week Adjustment: 100.0%  
Month of Year Adjustment: 100.0%  
Adjustment Station #: 0  
Growth Rate: 0.0%  
Number of Years: 0



COUNT SUMMARY	10400 North Northbound				10400 North Southbound				1200 East Eastbound				1200 East Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	0	100	14	1	39	146	0	0	0	0	0	0	17	0	27	0	343
16:15 - 16:30	1	82	19	1	42	152	0	0	1	0	0	0	12	0	26	0	335
16:30 - 16:45	0	80	19	0	42	134	0	0	0	0	0	0	19	0	48	0	342
16:45 - 17:00	0	123	22	0	48	153	0	0	0	0	0	0	19	0	32	0	397
17:00 - 17:15	0	133	24	0	47	177	0	0	0	0	0	0	15	0	46	0	442
17:15 - 17:30	0	110	21	0	51	174	0	0	0	0	0	0	17	0	21	0	394
17:30 - 17:45	0	112	21	0	44	164	0	1	0	0	0	0	8	1	35	0	385
17:45 - 18:00	0	138	30	0	46	131	0	0	0	0	0	0	8	0	30	0	383

### Intersection Turning Movement Summary

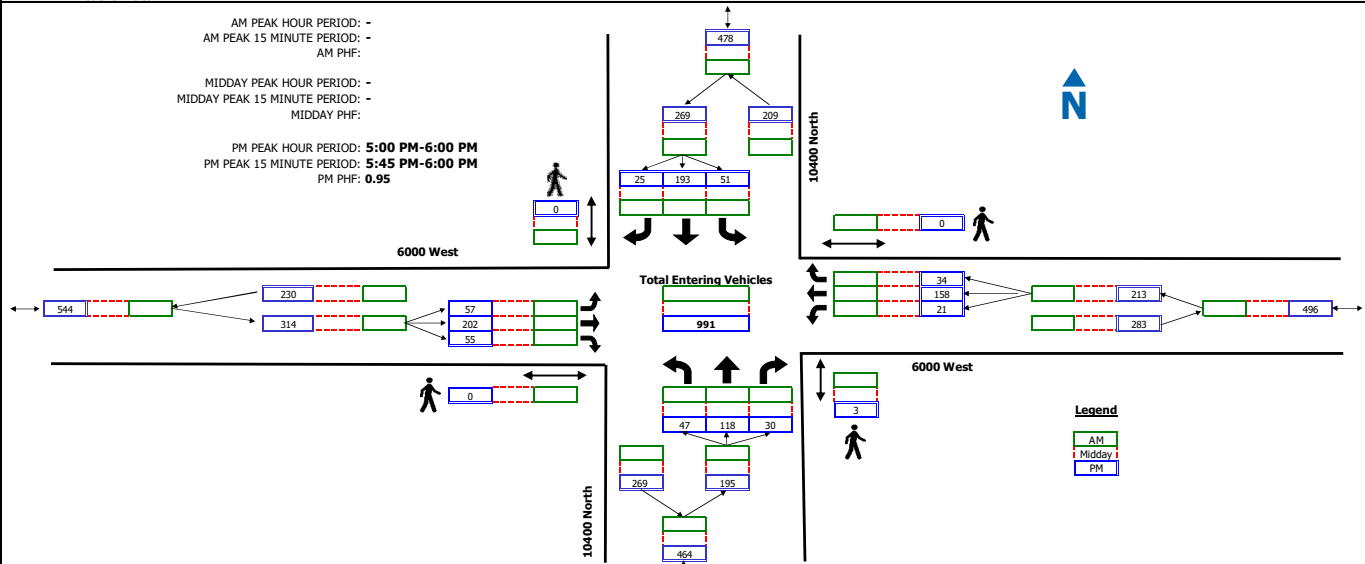
Intersection: 10400 North / 6000 West  
North/South Road: 10400 North  
East/West Road: 6000 West  
Jurisdiction: Highland  
Project Title: Highland General Plan Update  
Project No: UT24-2754  
Weather: Clear

Date: 8-22-24, Thu  
Day of Week Adjustment: 100.0%  
Month of Year Adjustment: 100.0%  
Adjustment Station #: 0  
Growth Rate: 0.0%  
Number of Years: 0

AM PEAK HOUR PERIOD: -  
AM PEAK 15 MINUTE PERIOD: -  
AM PHF: -

MIDDAY PEAK HOUR PERIOD: -  
MIDDAY PEAK 15 MINUTE PERIOD: -  
MIDDAY PHF: -

PM PEAK HOUR PERIOD: 5:00 PM-6:00 PM  
PM PEAK 15 MINUTE PERIOD: 5:45 PM-6:00 PM  
PM PHF: 0.95



COUNT SUMMARY	10400 North Northbound				10400 North Southbound				6000 West Eastbound				6000 West Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	5	34	6	1	12	33	6	0	10	47	10	0	5	42	12	0	222
16:15 - 16:30	14	25	8	0	15	38	10	0	9	41	10	0	4	35	7	0	216
16:30 - 16:45	5	29	8	0	12	36	8	0	8	38	9	0	8	35	13	0	209
16:45 - 17:00	9	17	8	0	12	50	13	0	8	67	14	0	3	39	13	0	253
17:00 - 17:15	16	39	7	2	12	53	3	0	18	38	16	0	3	41	13	0	259
17:15 - 17:30	8	23	8	1	14	57	10	0	13	50	12	0	7	50	7	0	259
17:30 - 17:45	13	30	9	0	9	36	3	0	13	46	17	0	4	25	8	0	213
17:45 - 18:00	10	26	6	0	16	47	9	0	13	68	10	0	7	42	6	0	260

### Intersection Turning Movement Summary

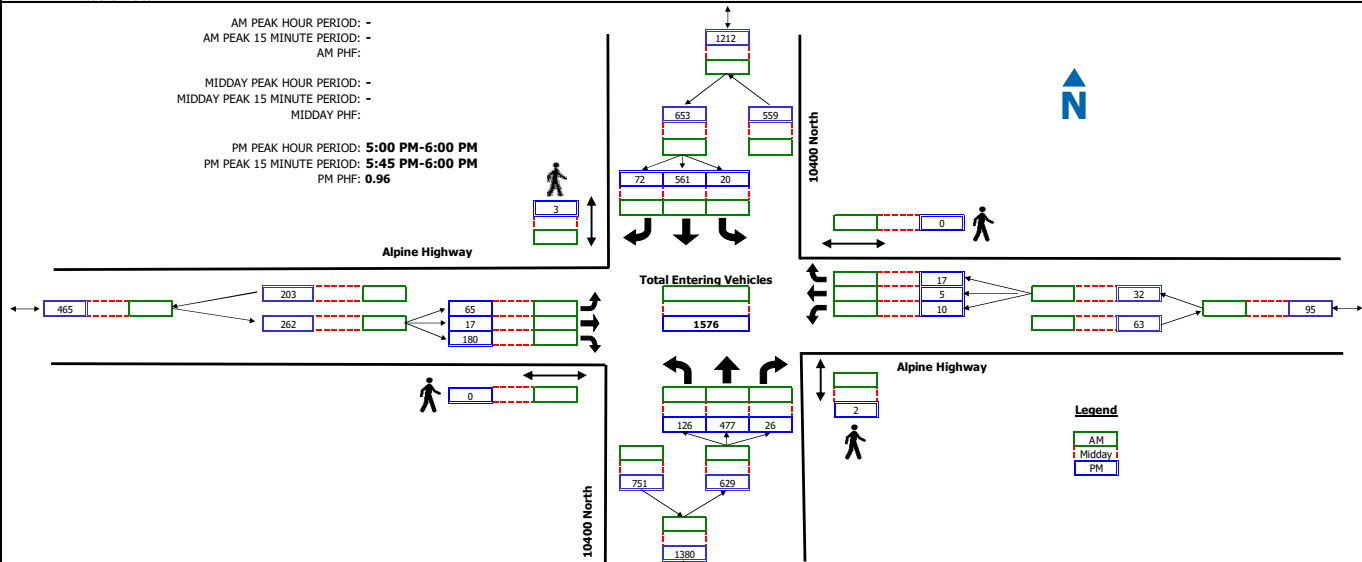
**Intersection:** 10400 North / Alpine Highway  
**North/South Road:** 10400 North  
**East/West Road:** Alpine Highway  
**Jurisdiction:** Highland  
**Project Title:** Highland General Plan Update  
**Project No:** UT24-2754  
**Weather:** Clear

**Date:** 8-21-24, Wed  
**Day of Week Adjustment:** 100.0%  
**Month of Year Adjustment:** 100.0%  
**Adjustment Station #:** 0  
**Growth Rate:** 0.0%  
**Number of Years:** 0

AM PEAK HOUR PERIOD: -  
AM PEAK 15 MINUTE PERIOD: -  
AM PHF: -

MIDDAY PEAK HOUR PERIOD: -  
MIDDAY PEAK 15 MINUTE PERIOD: -  
MIDDAY PHF: -

PM PEAK HOUR PERIOD: 5:00 PM-6:00 PM  
PM PEAK 15 MINUTE PERIOD: 5:45 PM-6:00 PM  
PM PHF: 0.96



COUNT SUMMARY	10400 North Northbound				10400 North Southbound				Alpine Highway Eastbound				Alpine Highway Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	26	109	2	0	7	173	16	0	13	3	16	0	6	1	6	0	378
16:15 - 16:30	27	95	6	1	5	153	15	0	14	3	31	0	2	2	5	0	358
16:30 - 16:45	25	118	7	0	7	140	10	0	11	2	32	0	1	1	3	0	357
16:45 - 17:00	22	104	4	1	10	157	16	1	19	2	33	0	2	1	9	0	379
17:00 - 17:15	25	125	8	1	4	126	25	1	14	4	31	0	3	2	6	0	373
17:15 - 17:30	39	123	5	0	3	155	16	0	12	3	39	0	0	1	5	0	401
17:30 - 17:45	34	104	8	1	8	141	15	1	19	5	53	0	3	0	1	0	391
17:45 - 18:00	28	125	5	0	5	139	16	1	20	5	57	0	4	2	5	0	411



### Intersection Turning Movement Summary

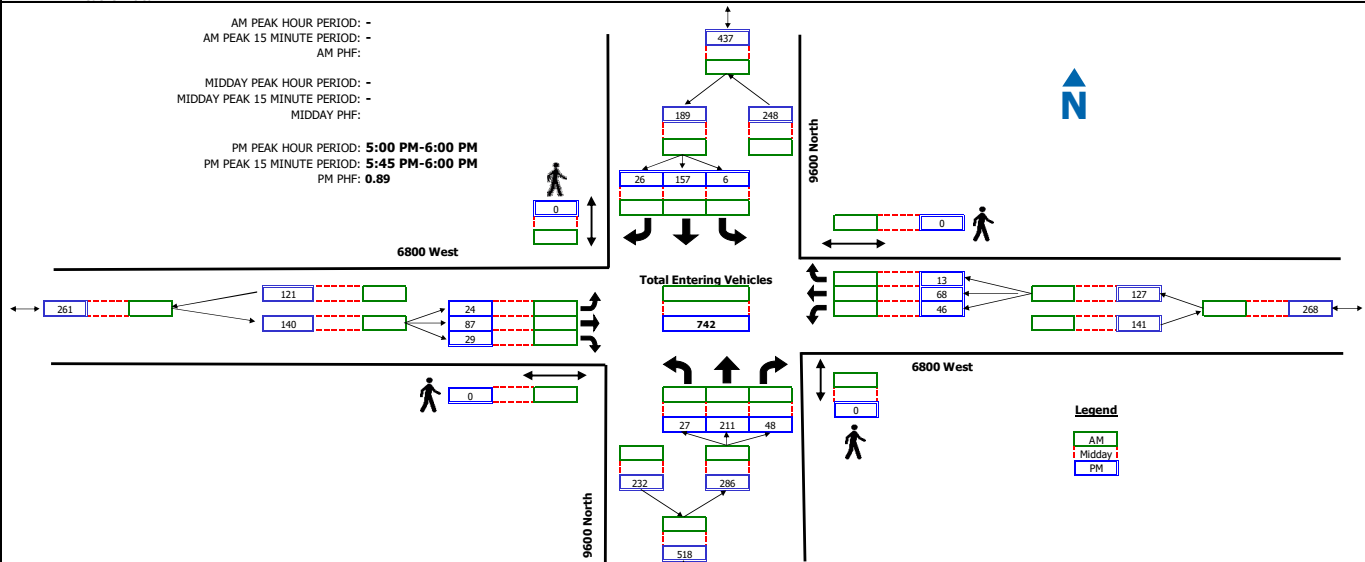
**Intersection:** 9600 North / 6800 West  
**North/South Road:** 9600 North  
**East/West Road:** 6800 West  
**Jurisdiction:** Highland  
**Project Title:** Highland General Plan Update  
**Project No:** UT24-2754  
**Weather:** Clear

**Date:** 8-21-24, Wed  
**Day of Week Adjustment:** 100.0%  
**Month of Year Adjustment:** 100.0%  
**Adjustment Station #:** 0  
**Growth Rate:** 0.0%  
**Number of Years:** 0

AM PEAK HOUR PERIOD: -  
AM PEAK 15 MINUTE PERIOD: -  
AM PHF: -

MIDDAY PEAK HOUR PERIOD: -  
MIDDAY PEAK 15 MINUTE PERIOD: -  
MIDDAY PHF: -

PM PEAK HOUR PERIOD: 5:00 PM-6:00 PM  
PM PEAK 15 MINUTE PERIOD: 5:45 PM-6:00 PM  
PM PHF: 0.89



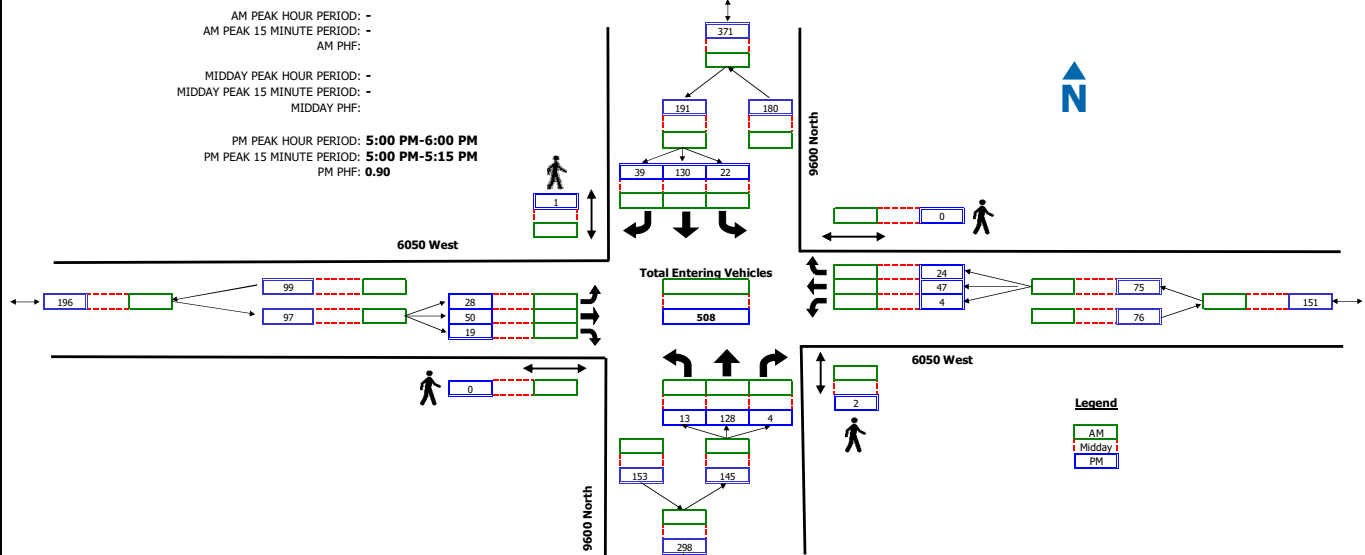
COUNT SUMMARY	9600 North Northbound				9600 North Southbound				6800 West Eastbound				6800 West Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	6	50	9	0	2	45	6	0	6	8	4	0	15	18	1	0	170
16:15 - 16:30	2	64	23	0	3	39	7	0	1	13	1	0	17	18	3	0	191
16:30 - 16:45	7	41	12	1	5	40	5	0	6	16	3	0	10	17	4	0	166
16:45 - 17:00	3	32	11	2	5	41	5	0	6	17	4	0	14	16	1	0	155
17:00 - 17:15	9	46	12	0	1	32	4	0	4	27	11	0	11	17	4	0	178
17:15 - 17:30	2	51	12	0	3	44	7	0	5	17	4	0	10	21	5	0	181
17:30 - 17:45	10	48	10	0	0	44	6	0	6	21	9	0	12	9	0	0	175
17:45 - 18:00	6	66	14	0	2	37	9	0	9	22	5	0	13	21	4	0	208



### Intersection Turning Movement Summary

Intersection: 9600 North / 6050 West  
North/South Road: 9600 North  
East/West Road: 6050 West  
Jurisdiction: Highland  
Project Title: Highland General Plan Update  
Project No: UT24-2754  
Weather: Clear

Date: 8-21-24, Wed  
Day of Week Adjustment: 100.0%  
Month of Year Adjustment: 100.0%  
Adjustment Station #: 0  
Growth Rate: 0.0%  
Number of Years: 0

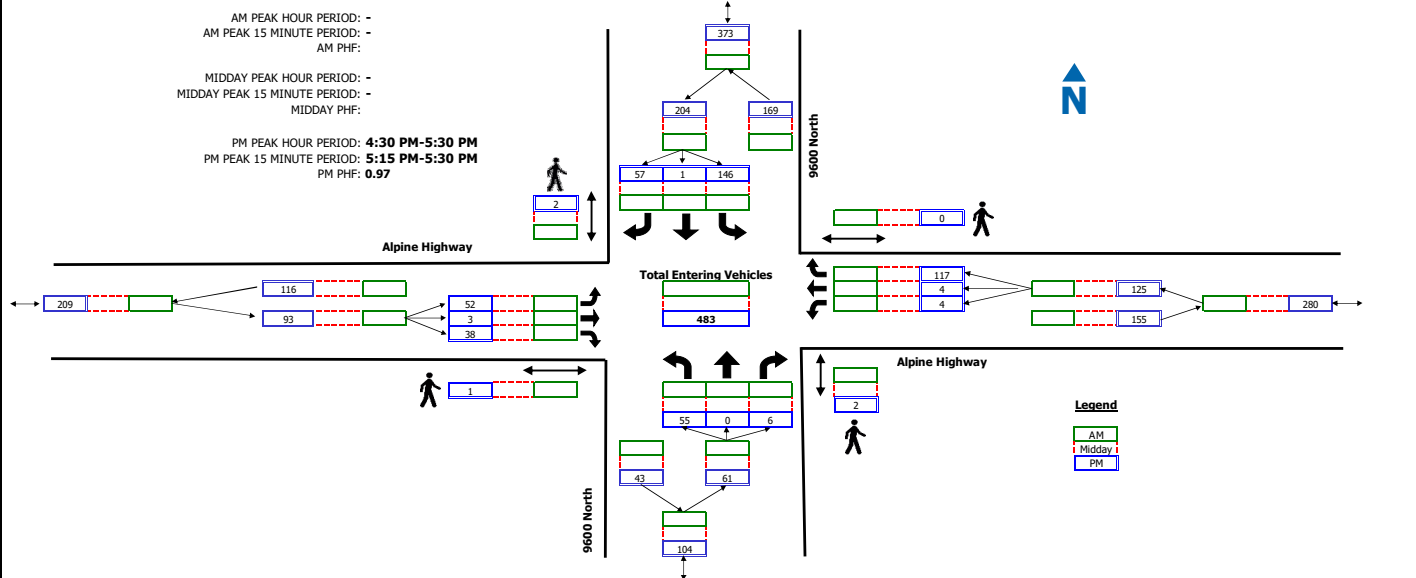


COUNT SUMMARY	9600 North Northbound				9600 North Southbound				6050 West Eastbound				6050 West Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	9	20	2	0	4	33	9	1	7	9	5	0	1	10	10	0	119
16:15 - 16:30	2	23	2	1	17	27	12	0	13	10	3	0	1	20	4	0	134
16:30 - 16:45	2	22	0	0	11	34	12	0	7	12	0	0	3	11	8	0	122
16:45 - 17:00	4	30	0	0	3	24	5	0	6	13	0	0	2	13	2	0	102
17:00 - 17:15	4	36	1	0	5	28	11	0	6	20	5	0	1	18	6	0	141
17:15 - 17:30	2	42	1	0	4	27	6	0	5	11	5	0	2	11	6	0	122
17:30 - 17:45	3	22	1	2	9	33	7	0	11	9	5	0	0	9	5	0	114
17:45 - 18:00	4	28	1	0	4	42	15	1	6	10	4	0	1	9	7	0	131

### Intersection Turning Movement Summary

**Intersection:** 9600 North / Alpine Highway  
**North/South Road:** 9600 North  
**East/West Road:** Alpine Highway  
**Jurisdiction:** Highland  
**Project Title:** Highland General Plan Update  
**Project No:** UT24-2754  
**Weather:** Clear

**Date:** 8-21-24, Wed  
**Day of Week Adjustment:** 100.0%  
**Month of Year Adjustment:** 100.0%  
**Adjustment Station #:** 0  
**Growth Rate:** 0.0%  
**Number of Years:** 0



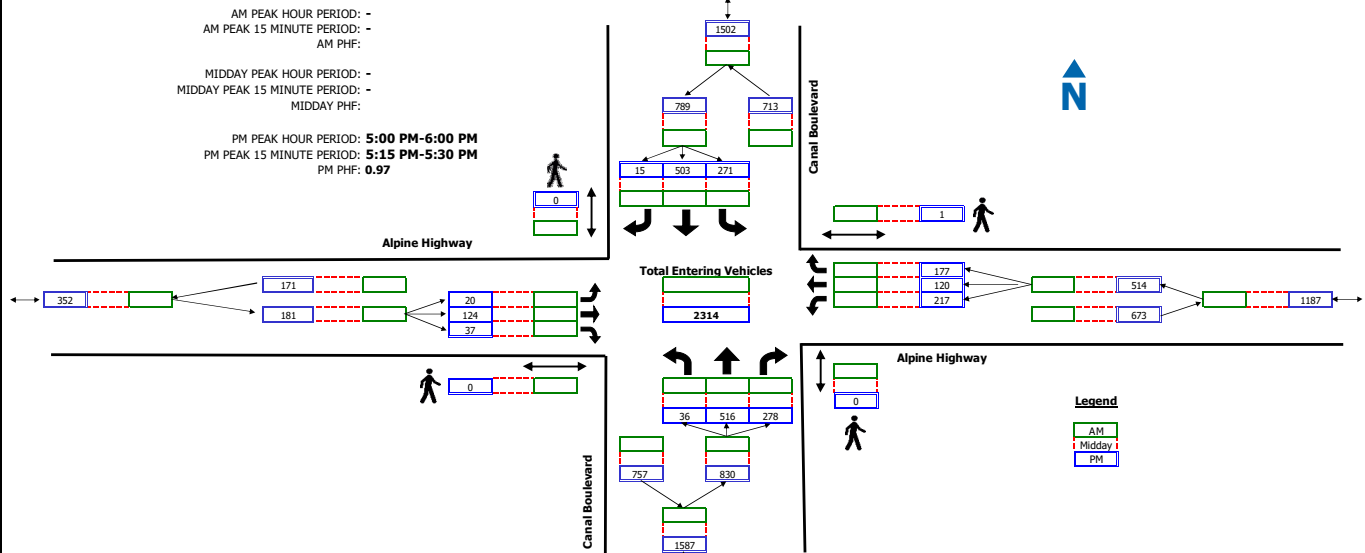
COUNT SUMMARY	9600 North Northbound				9600 North Southbound				Alpine Highway Eastbound				Alpine Highway Westbound				TOTAL	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
AM PERIOD COUNTS																		
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL	
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MIDDAY PERIOD COUNTS																		
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL	
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM PERIOD COUNTS																		
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL	
16:00 - 16:15	7	0	2	2	24	0	11	0	6	2	2	10	0	0	0	29	0	91
16:15 - 16:30	14	0	1	0	29	0	14	1	4	2	8	0	4	1	38	0	115	
16:30 - 16:45	13	0	2	2	32	0	10	0	14	3	8	0	1	2	30	0	115	
16:45 - 17:00	14	0	1	0	36	1	19	2	13	0	10	1	3	2	22	0	121	
17:00 - 17:15	11	0	1	0	40	0	17	0	9	0	12	0	0	0	32	0	122	
17:15 - 17:30	17	0	2	0	38	0	11	0	16	0	8	0	0	0	33	0	125	
17:30 - 17:45	7	0	1	1	28	0	12	1	9	5	13	0	0	2	29	0	106	
17:45 - 18:00	8	0	3	0	37	0	12	0	9	1	9	0	1	3	39	0	122	



### Intersection Turning Movement Summary

**Intersection:** Canal Boulevard / Alpine Highway  
**North/South Road:** Canal Boulevard  
**East/West Road:** Alpine Highway  
**Jurisdiction:** Highland  
**Project Title:** Highland General Plan Update  
**Project No:** UT24-2754  
**Weather:** Clear

**Date:** 8-21-24, Wed  
**Day of Week Adjustment:** 100.0%  
**Month of Year Adjustment:** 100.0%  
**Adjustment Station #:** 0  
**Growth Rate:** 0.0%  
**Number of Years:** 0



COUNT SUMMARY	Canal Boulevard Northbound				Canal Boulevard Southbound				Alpine Highway Eastbound				Alpine Highway Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	11	117	48	0	42	149	6	0	3	15	8	0	17	27	43	0	516
16:15 - 16:30	13	117	55	0	48	137	5	0	6	22	5	0	64	17	31	0	520
16:30 - 16:45	13	121	59	0	46	115	8	0	1	14	6	0	56	23	50	2	512
16:45 - 17:00	13	118	64	0	57	118	3	0	5	26	7	3	56	20	46	1	533
17:00 - 17:15	10	120	79	0	55	121	3	0	5	31	10	0	53	32	42	0	561
17:15 - 17:30	12	142	73	0	68	141	4	0	6	27	7	0	47	28	41	0	596
17:30 - 17:45	9	112	65	0	75	121	2	0	4	29	8	0	57	34	55	1	571
17:45 - 18:00	5	142	61	0	73	120	6	0	5	37	12	0	60	26	39	0	586

# APPENDIX D

## Transportation Funding Opportunities

For successful transportation funding, city staff must proactively seek diverse opportunities from regional agencies including MAG, UDOT, and UTA. The MPO allocates federal funds for local projects through its competitive TIP process, while UDOT administers state and federal grants for local roads and planning studies like TPA. UTA secures transit funding and often partners with local entities to improve first/last mile connections. To compete effectively, staff must cultivate relationships and gain a thorough understanding of each agency's program requirements and cycles.

## **Detailed Funding Information - Transportation Funding Opportunities**

Identifying and pursuing a range of funding strategies and grant opportunities is essential for improvements. City Staff or a grant writer, should actively cultivate connections with funding organizations and gain a thorough understanding of their programs and requirements.

### **Funding Opportunities managed by Mountainland Association of Governments (MAG)**

MAG is responsible for administering and providing assistance with programs that offer funding and resources for local governments. City Staff are advised to cultivate relationships with MAG staff who administer these programs and to submit funding applications.

#### **1. Community Development Block Grant (CDBG)**

The Small Cities Program provides funding to local governments and public service providers for a diverse range of housing, infrastructure, public service, and community development projects that primarily benefit low to moderate-income individuals. Contact MAG for eligibility requirements.

#### **2. Technical Assistance for Local Governments (TAG) Program**

This program supports local governments with technical assistance to integrate land use planning and regional transportation, thereby implementing the Wasatch Choice Vision. The TAG program is made available through a partnership with the Utah Transit Authority and the Utah Department of Transportation. The application process occurs annually, commencing in September.

#### **3. TIP Program (TIP)**

MAG annually allocates approximately \$60 million in federal and county funding to local governments for regional transportation studies and construction projects on federal-aid eligible highways, investments in transit infrastructure, and enhancements to active transportation networks. Federal funds originate from the Surface Transportation Program (STP), the Congestion Mitigation Air Quality (CMAQ) Program, the Carbon Reduction Program (CRP), and the Transportation Alternatives Program (TAP). County funds are derived from the 2nd and 3rd quarter-cent Utah County Transportation Funds. Requirements for this funding include local leadership support, prior completion of a planning and public process (e.g., adopted in a general plan or other city plans), and a required local cash match of 6.77 percent. The application process commences in the fall of every other (odd) year.



## **Funding Opportunities Managed by the Utah Department of Transportation (UDOT)**

### **1. Safe Routes to School (SRTS) Program**

The SRTS Program endeavors to encourage students residing within an approximate 1.5 to 2-mile radius of their educational institution to engage in safe walking or cycling. Funding is accessible for both infrastructure projects, encompassing new sidewalks, pavement markings, signage, and bicycle parking, and non-infrastructure initiatives that champion active transportation. Grant applications are typically due each October.

### **2. Transportation Alternatives (TAP)**

Projects eligible for funding may involve the development of on- or off-road bicycle facilities, the construction of trails and sidewalks situated off state routes, the implementation of strategies to mitigate wildlife-vehicle collisions, or the pursuit of other approved transportation alternatives. UDOT Region Three may provide funding up to 60% of a project's total cost, not to exceed \$300,000. Applications are accepted annually in March.

### **3. Utah Trails Network Fund (UTN)**

This funding, derived from the Active Transportation Transportation Investment Fund (ATIF), supports the planning, design, construction, maintenance, or improvement of paved pedestrian and non-motorized trail projects identified as priorities by the Utah Transportation Commission. To qualify, projects must demonstrate a regional benefit and be incorporated into an active transportation investment plan. A 40% local match is required, which may be provided through non-UDOT state or federal funds, local or county contributions, or in-kind and right-of-way commitments. Applications are due each March.

### **4. Transit Transportation Investment Fund (TTIF) First & Last Mile**

As part of the TTIF, to qualify, a project must enhance pedestrian or non-motorized connections to a public transit system and be maintained by the sponsoring local government or district. Each project necessitates a 30% match, which may be provided through non-UDOT state or federal funds, local or county sources, or in-kind and right-of-way contributions. Applications are accepted annually in March.

## **Funding Opportunities managed by the Utah Transit Authority**

### **1. Capital Improvement Program (CIP)**

UTA collaborates with local governments and UDOT to fortify first- and last-mile connections to transit stations, thereby assisting communities in improving access and achieving greater integration with the regional transit system.