



# HIGHLAND PLANNING COMMISSION AGENDA

TUESDAY, FEBRUARY 27, 2024

Highland City Council Chambers, 5400 West Civic Center Drive, Highland Utah 84003

## VIRTUAL PARTICIPATION

YouTube Live: <http://bit.ly/HC-youtube>

Email comments prior to meeting: [planningcommission@highlandcity.org](mailto:planningcommission@highlandcity.org)

## 7:00 PM REGULAR SESSION

Call to Order: Chair Audrey Moore

Invocation: Commissioner Christopher Howden

Pledge of Allegiance: Commissioner Debra Maughan

### 1. UNSCHEDULED PUBLIC APPEARANCES

Please limit comments to three minutes per person. Please state your name.

### 2. PRESENTATIONS

#### a. Swearing in New Planning Commission Members *General City Management*

*Jay Baughman, Assistant City Administrator/Community Development Director*

Planning Commissioner Alternates Sherry Kramer and Wesley Warren were recommended by the Mayor and approved by the City Council at the February 20th City Council meeting. These new Commissioners will now be sworn in.

#### b. Open and Public Meeting Training

### 3. CONSENT ITEMS

Items on the consent agenda are of a routine nature. They are intended to be acted upon in one motion.

Items on the consent agenda may be pulled for separate consideration.

#### a. Approval of Meeting Minutes

### 4. ACTION ITEMS

#### a. ACTION: Election of 2024 Chair and Vice Chair *General City Management*

*Rob Patterson, City Attorney*

Selection of chair and vice-chair for 2024.

#### b. ACTION: PUBLIC HEARING: 4800 General Plan Amendment *General Plan Amendment (Legislative)*

*Rob Patterson, City Attorney*

The Planning Commission will consider whether to recommend amending the transportation element

in the City's general plan to re-designate a portion of 4800 W between SR-92 and 11200 North from a 3-lane major collector to a 5-lane arterial.

## **ADJOURNMENT**

In accordance with Americans with Disabilities Act, Highland City will make reasonable accommodations to participate in the meeting. Requests for assistance can be made by contacting the City Recorder at (801) 772-4505 at least three days in advance of the meeting.

## **ELECTRONIC PARTICIPATION**

Members of the Planning Commission may participate electronically during this meeting.

## **CERTIFICATE OF POSTING**

I, Stephannie Cottle, the duly appointed City Recorder, certify that the foregoing agenda was posted at the principal office of the public body, on the Utah State website (<http://pmn.utah.gov>), and on Highland City's website ([www.highlandcity.org](http://www.highlandcity.org)).

Please note the order of agenda items are subject to change in order to accommodate the needs of the Planning Commission, staff and the public.

Posted and dated this agenda on the 22nd day of February, 2024      Stephannie Cottle, CMC, City Recorder

<b>THE PUBLIC IS INVITED TO PARTICIPATE IN ALL PLANNING COMMISSION MEETINGS.</b>
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# HIGHLAND CITY PLANNING COMMISSION MINUTES

Tuesday, January 23, 2024

## Waiting Formal Approval

Highland City Council Chambers, 5400 West Civic Center Drive, Highland Utah 84003

### VIRTUAL PARTICIPATION

YouTube Live: <http://bit.ly/HC-youtube>

Email comments prior to meeting: [planningcommission@highlandcity.org](mailto:planningcommission@highlandcity.org)

### 7:00 PM REGULAR SESSION

Call to Order – Chair Audrey Moore

Invocation – Commissioner Debra Maughan

Pledge of Allegiance – Commissioner Tracy Hill

The meeting was called to order by Commissioner Audrey Moore as a regular session at 7:05 pm. The meeting agenda was posted on the *Utah State Public Meeting Website* at least 24 hours prior to the meeting. The prayer was offered by Commissioner Claude Jones and those in attendance were led in the Pledge of Allegiance by Commissioner Tracy Hill.

**PRESIDING:** Commissioner Audrey Moore

### COMMISSIONERS

**PRESENT:** Tracy Hill, Christopher Howden, Claude Jones, and Trent Thayn

**CITY STAFF PRESENT:** Mayor Kurt Ostler, Assistant City Administrator /Community Development Director Jay Baughman, City Attorney Rob Patterson, City Engineer Andy Spencer, Planning Commission Secretary Heather White

**OTHERS PRESENT:** Daryl Chadwick, Eric Halverson, Todd Trane, Elizabeth Rice, Rick Guyman, Dennis Bromley, see attendance sheet

### 1. UNSCHEDULED PUBLIC APPEARANCES

Please limit comments to three minutes per person. Please state your name.

Resident Daryl Chadwick said he did not understand the regulations regarding curb, gutter, and sidewalk for subdivisions. Some homes had improvements and others didn't. He wondered if developers were required to put in curb, gutter, and sidewalk. He wondered why the city put in his neighbor's improvements, but not everyone else's. Mr. Spencer couldn't speak to what had been done in the past, but said current regulations required

developers to put in curb, gutter, and sidewalk. He explained that older county roads had varying cross sections. He was not aware of the circumstances involving Mr. Chadwick's neighbor.

Resident Eric Halverson wondered if curb, gutter, and sidewalk were going to be required in the development on 6400 West. He wondered if it was possible to have a new development install a wall to reduce sound. Mr. Spencer said curb, gutter, and sidewalk would be required. Commissioner Moore explained that it was possible to require a sound wall from developers.

## **2. CONSENT ITEMS**

Items on the consent agenda are of a routine nature or have been previously studied by the Planning Commission. They are intended to be acted upon in one motion. Commissioners may pull items from consent if they would like them considered separately.

**a. Approval of Meeting Minutes** *General City Management - Jay Baughman, Assistant City Administrator / Community Development Director*  
Planning Commission Meeting – December 19, 2023

*Commissioner Chris Howden MOVED to approve the minutes from the December 19, 2023 Planning Commission Meeting. Commissioner Trent Thayn SECONDED the motion.*

*The vote was recorded as follows:*

<i>Commissioner Jerry Abbott</i>	<i>Absent</i>
<i>Commissioner Tracy Hill</i>	<i>Yes</i>
<i>Commissioner Christopher Howden</i>	<i>Yes</i>
<i>Commissioner Claude Jones</i>	<i>Yes</i>
<i>Commissioner Debra Maughan</i>	<i>Absent</i>
<i>Commissioner Audrey Moore</i>	<i>Yes</i>
<i>Commissioner Trent Thayn</i>	<i>Yes</i>

*The motion carried 5:0*

## **3. PUBLIC HEARING: PRELIMINARY PLAT - FOXWOOD ESTATES** *Land Use (Administrative) - Jay Baughman, Assistant City Administrator/Community Development Director*

The Planning Commission will hold a public hearing to consider a request by the developers for preliminary plat approval of a 20-lot subdivision in the R-1-40 Zone located at 10630 North 6400 West. The Planning Commission will take appropriate action.

Mr. Patterson presented information for the preliminary plat application. He said that the applicant would provide a trail connection between Lots 7 and 8. He reviewed the route of the trail. Mr. Patterson explained that a theme wall (or other appropriate buffer) would be installed by the applicant along the trail on the southwest boundary of the subdivision. Theme walls or other fencing was required along 6400 West and along trails. Mr. Patterson explained that the applicant requested a variance to the slope setback. As required by code, the developer provided studies and engineering regarding slopes. Each lot will have a restricted buildable area shown on the plat. Mr. Spencer talked about the slope setback. He said the developer thought the 50-foot requirement was too restrictive. They cited the homes on the other side of the wash that had been there for

years. He reviewed the findings of the geotechnical study submitted by the applicant. He said each lot would be surveyed to determine the buildable area. Residents could landscape to the edge of the wash, but structures would be limited. He said it would be clear on the plat where the buildable area would be.

Commissioner Moore wondered how the information would be presented to the homeowner. Mr. Spencer talked about what the homeowner would see on the plat. He said the geotechnical study would be recorded and each lot would be recorded with exact dimensions of buildable area listed.

Commissioner Thayn asked about testing for the geotechnical report. He wondered if they found anything or took test samples. Mr. Spencer explained that they did test holes. He said the developer was aware that the edge of the wash, in various locations, had debris that was dumped there - old concrete, etc. He said the developer had already tried to clean up some of the dead vegetation. Commissioner Moore wondered what kind of trash was in the area. Mr. Spencer explained that the city found old concrete and sidewalk remnants when the sewer line was constructed. He speculated that farmers might have told excavators they could dump it on the farm. He said it was common for old farm properties to have a garbage area. He said staff was confident that the stipulations satisfied any concerns.

Commissioner Howden wondered if fences would be permitted along the wash. He also asked about the permitted trail and fencing materials. Mr. Spencer said structure restrictions would not apply to fences. Mr. Patterson explained that the code required a theme wall, and that the developer would be held to development code standards.

Commissioner Moore wondered who was responsible for the maintenance of the park strip. Mr. Spencer explained that the city only took care of parkway detail with a 29-foot cross section. He explained that the adjacent homeowner would be responsible for maintenance. For example, the homeowner of Lot 7 would be responsible for the park strip maintenance in front of the home as well as the park strip and landscape maintenance behind their lot along 6400 West. He anticipated that the city would care for the trail south of Lots 17-20 as well as the trail between Lots 7 and 8.

Mr. Patterson reviewed the stipulations from the staff report as well as the stipulations listed in the Sensitive Lands Memorandum. Mr. Spencer explained that there was a provision stipulating that residents would take care of the wash and remove fallen trees, etc. but they would not completely strip the area of all vegetation.

By invitation, Todd Trane, representative for Millhaven Homes, addressed the commissioners. He said substantial geotechnical work had been done on the hollow. They were able to get to native material in all the test holes where they would excavate for a home. They had seen the fill on the edges with concrete and building materials and would clean it up. He said they had a standard practice where a Geotech would look at each excavated hole. He thought the setback was enough that they would not have a problem getting to native fill. He said a theme wall was planned along 6400 West and along the south cul-de-sac. A 6-foot park strip with trees was planned on the south in order to give Lots 9-11 more of a buffer. He said they followed the geotechnical recommendations and were as safe as possible. He said they clean up vegetation and debris in the bottom of the channel.

Commissioner Thayn wondered if Millhaven intended to build on each lot. He was concerned that the lots had an extremely long list of restrictions. Mr. Trane said a few builders had asked, but Millhaven was still deciding if they would give one or two lots to a high-end custom builder. He said Millhaven was going to build out the subdivision and be involved until the last home. He acknowledged that there were a lot of restrictions, however, they were not grading anything and would only build on the flat. He said they would stay away from the hollow and would dedicate a conservation easement in the bottom in order to keep it natural, as required by the irrigation company.

Commissioner Thayn wondered if the developer had any problems with any of the stipulations. Mr. Trane said he wished they had submitted the application six months ago. He said every other subdivision in Highland developed without the new regulations. He understood why the city had new regulations but didn't think they applied to this property. He said they were more than willing to do what they were asked because it was the right thing to do. He said the process had been difficult, but the staff had been great to work with as new regulations were navigated.

Commissioner Moore opened the public hearing at 8:23 PM and asked for public comment.

Resident Elizabeth Rice said she respected Millhaven homes. She reminded the commissioners about the homes in St. George and Draper that were built too close to washes. She trusted Millhaven but suggested adding a stipulation that required the developer to build on lots near the wash.

Resident Eric Halverson wondered if staff did anything to verify or vet the geotechnical engineer. Mr. Spencer explained that the state went through the process to license engineers. He said the city didn't have the ability to define which engineers they like or didn't like. Mr. Halverson thought that most residents preferred to see a fence completely around the property. He thought it made more sense to have a fence bordering the existing homes. He asked the commission to consider not having a grass space between the sidewalk, fence, and houses on the parkway because it might not get taken care of. He mentioned that the lot behind his out was 4 acres and wondered if the property could be later subdivided. Mr. Patterson explained that the property owners could build accessory structures, but additional homes would require a 130 feet of street frontage.

Resident Rick Guyman liked the proposed preliminary plan. He asked about the height of the theme wall and details with the drainage between the subdivisions. Mr. Patterson explained that a 6-foot from finished grade was standard. He said the area between the existing subdivision was a drainage and could possibly be change to concrete. Mr. Guyman mentioned that Deer Hollow Way was sometimes a racetrack and wondered if there were plans for a stop sign. Mr. Patterson said there were no traffic control plans yet. He explained that local roads were typically evaluated once they were finished.

Resident Dennis Bromley asked about the general development outline and agreed with having a fence around the whole development. Mr. Trane hoped to have approval within the next few months. He thought complete buildout would take two or three years. He said they were meeting fencing requirements, but 99% of the time residents would install their own fence. He thought that most of the subdivision would eventually be fenced.

Commissioner Moore asked for additional comments. Hearing none, she closed the public hearing at 8:34 PM and asked for additional discussion.

Commissioner Howden mentioned that the park strips needed to be xeriscaped. He was impartial about changing the 19-foot parkway cross section to 14 feet if the commissioners chose to change it.

*Commissioner Chris Howden MOVED that the Planning Commission accept the findings and approve the preliminary plat for the Foxwood Estates Subdivision subject to the following fourteen (14) stipulations recommended by staff:*

- 1. The final plat shall be in substantial conformance with the preliminary plat received January 11, 2024.*
- 2. All public improvements shall be installed as required by the City Engineer.*
- 3. Final subdivision improvement plans shall meet all requirements as determined by the City Engineer.*

4. *Sewer slopes must be revised, applicant shall provide more slope on the furthest north streets (to increase velocity where minimum flow is happening), and a flatter slope in the trunk lines. Final sewer slopes to be approved by the City Engineer.*
5. *The applicant has indicated to staff they would like to update percolation tests and calculations used to determine the required number of storm drainage inlets and sumps. Revised calculations and placement shall be approved by the City Engineer, otherwise final plans shall substantially conform in number and placement as indicated on the preliminary plans.*
6. *The low point shown in street grading between lots 14 and 15 shall be eliminated to allow all street grading to overflow blocked inlets without causing localized flooding, otherwise a dedicated surface overflow path shall be provided to the wash.*
7. *A dedicated overflow corridor is required for any cul-de-sac that drains to the bulb, a surface drainage corridor to the wash is an acceptable mitigation until such time as the trail can be installed to provide a surface overflow path. Applicant shall also verify that the future trail can be graded to allow for this drainage.*
8. *All drainage runoff not directed to the public street must be contained on each lot without draining to the adjacent lot or property. A note shall be added to the final plat for each lot stating this requirement and detailing any lot specific provisions required to accomplish this objective.*
9. *Final plat and subdivision improvement plans to conform to stipulations and conditions outlined in staff sensitive lands memorandum.*
10. *Parcel A shall be dedicated to Highland City.*
11. *Irrigation piping plans and associated easements shall be approved by Lehi Irrigation Company. Easements for water conveyance within the wash and the piping leading to the wash shall be dedicated to both Lehi Irrigation Company and Highland City.*
12. *Trees along trail park strip shall be of a variety and shall be spaced according to City forester recommendations and requirements. Trees, rock mulch for xeriscape and a sprinkler system shall be installed along trail corridors that will be owned by the City. Fencing compliant with City ordinance shall be installed along the trail corridor between lot 7 and 8. Fencing along the trail corridor behind lot 8 along 6400 West shall be placed to have 5-foot behind the trail to match the standard City fence ordinance for placement of fences adjacent to sidewalks.*
13. *A theme-wall fence shall be placed along 6400 West.*
14. *Final plat and subdivision improvement plans to conform to final review comments and review responses dated Dec 21, 2023/Jan 5, 2024, except as superseded by above stipulations.*

*Commissioner Claude Jones SECONDED the motion.*

*The vote was recorded as follows:*

<i>Commissioner Jerry Abbott</i>	<i>Absent</i>
<i>Commissioner Tracy Hill</i>	<i>Yes</i>
<i>Commissioner Christopher Howden</i>	<i>Yes</i>
<i>Commissioner Claude Jones</i>	<i>Yes</i>

<i>Commissioner Debra Maughan</i>	<i>Absent</i>
<i>Commissioner Audrey Moore</i>	<i>Yes</i>
<i>Commissioner Trent Thayn</i>	<i>Yes</i>

*The motion carried 5:0*

#### **4. PLANNING COMMISSION AND STAFF COMMUNICATION ITEMS**

The Planning Commission may discuss and receive updates on City events, projects, and issues from the Planning Commissioners and city staff. Topics discussed will be informational only. No final action will be taken on communication items.

##### **a. Future Meetings**

- February 6, City Council, 7:00 pm, City Hall
- February 20, City Council, 7:00 pm, City Hall
- February 27, Planning Commission, 7:00 pm, City Hall

Mr. Baughman mentioned that the council would discuss 4800 West during a work session on January 31.

#### **ADJOURNMENT**

*Commissioner Trent Thayn MOVED to adjourn the meeting. Commissioner Chris Howden SECONDED the motion. All were in favor. The motion carried.*

The meeting ended at 8:43 pm.

I, Heather White, Planning Commission Secretary, hereby certify that the foregoing minutes represent a true, accurate and complete record of the meeting held on January 23, 2024. The document constitutes the official minutes for the Highland City Planning Commission Meeting.



# PLANNING COMMISSION AGENDA REPORT ITEM #4a

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**DATE:** February 27, 2024  
**TO:** Planning Commission  
**FROM:** Rob Patterson, City Attorney  
**SUBJECT:** Election of 2024 Chair and Vice Chair  
**TYPE:** General City Management

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**PURPOSE:**

Selection of chair and vice-chair for 2024.

**STAFF RECOMMENDATION:**

Staff recommends that the Planning Commission select a chair and vice-chair.

**PRIOR REVIEW:**

None.

**BACKGROUND & SUMMARY OF REQUEST:**

The [Highland City's Development Code 2-203](#), as amended in January 2024, requires the Planning Commission to select its chair and vice-chair during its first meeting in February, to coincide with commissioners' terms ending and the appointment of new commissioners. The chair and vice-chair serve one-year terms and can serve unlimited terms, consecutive or otherwise.

**STAFF REVIEW & PROPOSED FINDINGS:**

Staff recommends that the Planning Commission select a chair and vice-chair.

**MOTION:**

I move that the Planning Commission select [COMMISSIONER NAME] as Planning Commission chair and [COMMISSIONER NAME] as Planning Commission vice-chair.

**ATTACHMENTS:**



# PLANNING COMMISSION AGENDA REPORT ITEM #4b

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**DATE:** February 27, 2024  
**TO:** Planning Commission  
**FROM:** Rob Patterson, City Attorney  
**SUBJECT:** PUBLIC HEARING: 4800 General Plan Amendment  
**TYPE:** General Plan Amendment (Legislative)

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## **PURPOSE:**

The Planning Commission will consider whether to recommend amending the transportation element in the City's general plan to re-designate a portion of 4800 W between SR-92 and 11200 North from a 3-lane major collector to a 5-lane arterial.

## **STAFF RECOMMENDATION:**

Staff recommends that the Planning Commission consider the proposed amendments to the City's general plan, the impacts to adjacent property owners from widening 4800 West, and the safety impacts and needs of the 4800 W/SR-92 intersection; conduct a public hearing; and recommend approval of the proposed amendment to the classification of a portion of 4800 West.

## **PRIOR REVIEW:**

In February and March of 2022, the Planning Commission and City Council considered a proposal to amend the transportation element of the City's general plan to re-classify 4800 West from a 3-lane major collector to a 5-lane arterial for the entirety of 4800 West within Highland north of SR-92. This proposal arose out of long-standing concerns that the City and residents have expressed regarding the safety of the 4800 West/SR-92 intersection and the functionality of 4800 West.

The Planning Commission conducted a public hearing regarding that proposed widening on February 22, 2022. During the hearing and meeting, the Commission heard from several residents regarding concerns with widening 4800 West and with the current state of 4800 West and the SR-92 intersection and discussed the resident concerns and other issues. The Commission ultimately recommended approval of the reclassification of 4800 West as a 5-line arterial in a unanimous, 7-0 decision, with the additional recommendation that the City Council address safety concerns raised during the public hearing related to sound, speed, and shoulder issues, as well as the apportionment of the cost of the project.

The City Council then conducted a public hearing related to the proposed amendment on March 1, 2022. The City Council considered the 2022 study, the recommendation of the Planning Commission, and comments from residents who raised concerns regarding shoulders, pedestrian safety, biker safety, speeding, sound, and impact on the residents who live along 4800 West. The Council unanimously voted 5-0 to continue the item to the March 15, 2022, City Council meeting, to give the Council and staff time to gather additional data and consider other issues and options. On March 15, 2022, the City Council again considered the proposed amendment. Additional information regarding safety concerns, accident and traffic counts, signal timing, etc., were gathered and provided. The Council voted to pull the MAG

funding application for the 4800 West widening project, conduct a more complete study of what was needed, listen to the citizens' concerns, and consider leaving 4800 West a three-lane road.

On April 12, 2022, the City Council held a work session to discuss options regarding 4800 West and the SR-92 intersection, with representatives from UDOT in attendance. Various intersection improvement options were discussed, including physical improvements and changes to lighting and signage. On April 19, 2022, the City Council unanimously approved applying for funding to improve the 4800 West/SR-92 intersection with a modified design that would align lanes through the intersection, provide shoulders for driveway exits and bicycle lanes, provide two-way left turn lane, create a multi-use trail on the east side, and improve pedestrian crossings. That funding application was eventually approved, and that project is expected to move forward in 2026.

## **BACKGROUND & SUMMARY OF REQUEST:**

The Highland City General Plan was adopted in 2008 and included a Transportation Element that classifies various roads within the City as local, collector, and arterial roads. Under Utah State law, "After the legislative body has adopted a general plan, no street, park, or other public way, ground, place, or space, no publicly owned building or structure, and no public utility, whether publicly or privately owned, may be constructed or authorized until and unless it conforms to the current general plan." Accordingly, the City cannot engage in a road improvement project that would adjust the classification of a road (e.g., reclassifying a portion of 4800 West from a collector to an arterial), without first amending the general plan to reflect that classification.

Since the 2022 funding request and project scope was approved, City staff have continued with the City Council's direction to work to improve the safety of the SR-92 and 4800 West intersection and to conduct additional studies regarding 4800 West and SR-92 to resolve remaining safety issues. Staff worked with UDOT to improve signal timing, striping/painting, and signage. These improvements have helped, but have not fully resolved the traffic and safety concerns at the intersection.

Staff are also continuing with the intersection improvement project approved in 2022. However, as Staff moved forward with that project, staff were informed that MAG would prefer to support a project on 4800 West that will permanently resolve the intersection safety and capacity concerns, so additional funding requests are not needed. To evaluate the need for additional improvements beyond the scope of the project approved in 2022, Staff commissioned an additional, independent traffic study from Hales Engineering. The purpose of this study was to determine what improvements, if any, would be necessary beyond the intersection improvements approved in 2022 to address the ongoing safety and capacity issues with 4800 West/SR-92.

The study concluded that, without improvements, the 4800 West/SR-92 and 4800 West/11200 South intersections would operate at poor levels of service. To address those issues, Hales Engineering made the following recommendations

- It is recommended that 4800 West be widened to a 5-lane section from S.R. 92 to 11200 South, adding a lane in the north- and southbound direction and terminating the outer northbound lane as a trap right at 11200 South. The second southbound thru lane at S.R. 92 will necessitate the addition of a third southbound lane south of the intersection to provide acceleration for the eastbound free right. This lane could end south of the subdivision at the golf course.

- Based on the future volumes, the UDOT thresholds for dual left-turn lanes on the eastbound approach are nearly met. To future-proof the intersection, the east- and westbound approaches could be widened to accommodate eastbound dual left turns but be striped with single lanes until the point at which dual left-turns are warranted.
- A second northbound thru lane, while not necessary from a capacity perspective, is recommended to match the alignment on the north side of the intersection. A separate northbound right-turn lane is still recommended.
- A separate dedicated westbound right-turn lane is also recommended to minimize queues at the intersection. Queues would be about twice as long otherwise on that approach.
- Finally, it is recommended that the southbound right-turn pocket be extended by 100 feet to allow right-turning vehicles to get around the queued thru vehicles.

Implementing these recommendations will necessarily include taking portions of residents' properties along 4800 West and SR-92 to support the expanded roadway. Included with this staff report are project designs that show the proposed road improvements and the impacts to the residents.

Implementing the recommendations from Hales Engineering would also require the reclassification of the portion of 4800 West between SR-92 and 11200 North as a 5-lane arterial by amending the City's general plan. If the amendment is approved, then the City can pursue funding for a project that would facilitate the expansion and improvement of 4800 West to implement the recommendations described above. That project would be completed between 2026 and 2028, depending on funding and project timelines.

### **STAFF REVIEW & PROPOSED FINDINGS:**

Staff believes that the project scope approved in 2022 is insufficient to fully resolve the safety and traffic concerns at the 4800 West/SR-92 intersection. Staff has reviewed and agrees with the recommendation from Hales Engineering that 4800 West be widened to a 5-lane arterial from SR-92 to 11200 South, with the other recommendations described in the Hales' study.

### **FINDINGS:**

The proposed General Plan amendment appears to meet the following findings:

- It is consistent with the goals and policies found in the Transportation element of the General Plan and City code.
- It is consistent with the previously expressed goals of the Planning Commission and City Council to make only those improvements that are required to protect residents and improve the safety of the 4800 West/SR-92 intersection.

### **STAFF RECOMMENDATION:**

Staff recommends that the Planning Commission consider the proposed amendments to the City's general plan, the impacts to adjacent property owners from widening 4800 West, and the safety impacts and needs of the 4800 W/SR-92 intersection; conduct a public hearing; and recommend **APPROVAL** of the proposed amendment to the classification of a portion of 4800 West.

### **MOTION:**

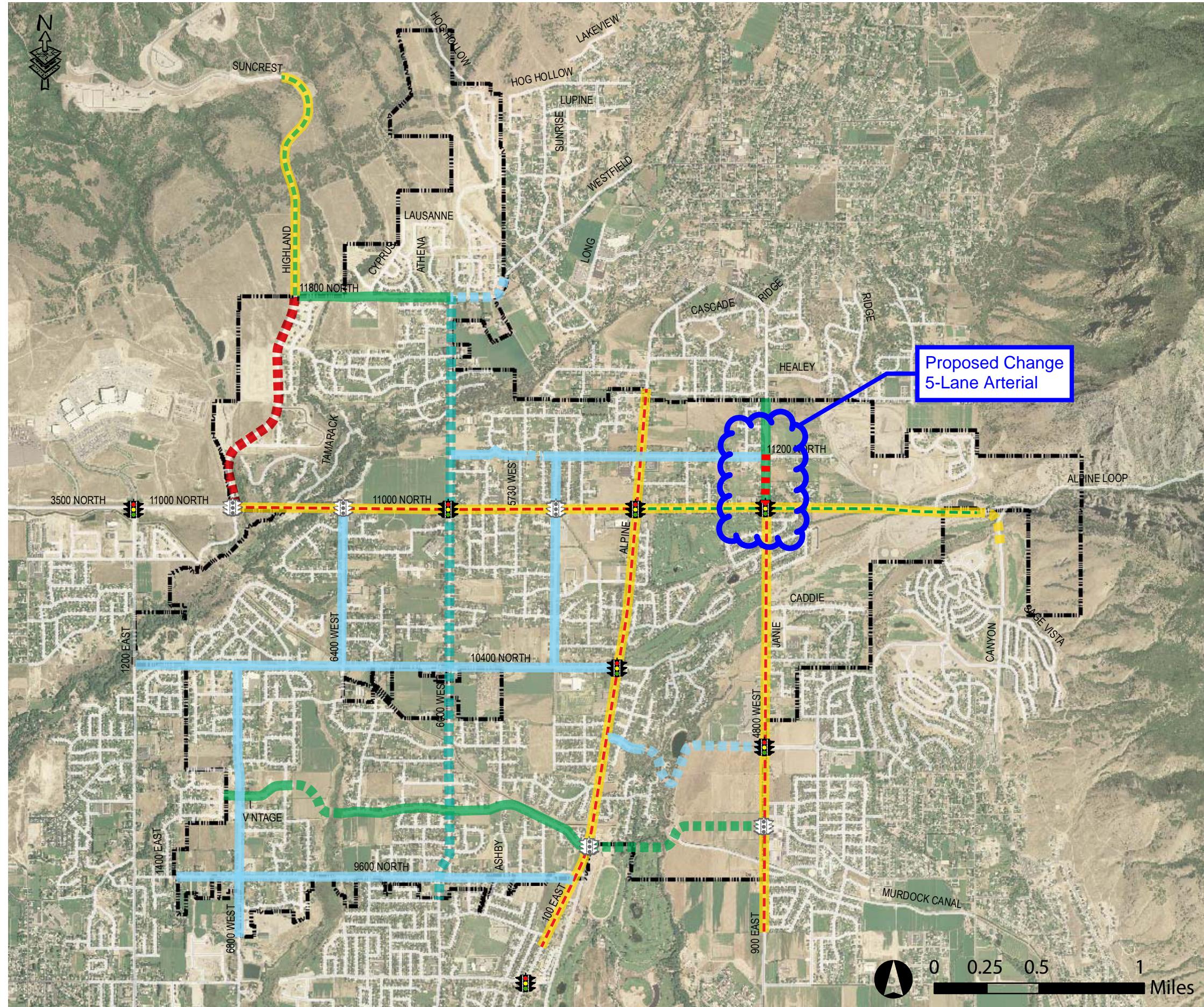
I move that the Planning Commission accept the findings and recommend APPROVAL of the proposed amendment to the Transportation Element of the General Plan to update a portion of 4800 West between

SR-92 and 11200 North from a 3-lane major collector to a 5-lane arterial.

**ALTERNATIVE MOTION:** I move that the Planning Commission recommend DENIAL of the proposed General Plan amendment based on the following findings: (The Commission will need to draft appropriate findings).

**ATTACHMENTS:**

1. Proposed Amendment - Highland General Plan Transportation - Change Considered Feb-27-2024
2. Hales Engineering Study
3. 4800 West Project Map and Scope
4. 4800 West Project Design Sheets



## MAP 3-2 RECOMMENDED TRANSPORTATION NETWORK

Highland City  
General Plan Update



InterPlan Co.  
Transportation Planning

Adopted February 19, 2008

## MEMORANDUM

Date: January 26, 2023

To: Highland City

From: Hales Engineering

**Subject: Highland 4800 West Traffic Study**



UT24-2687

### Introduction

The purpose of this memorandum is to address 4800 West from S.R. 92 in Highland to Ridge Drive in Alpine and whether any improvements are needed to improve flow in the area.

### Data Collection

Weekday morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.) peak period traffic counts were performed at the following intersections:

- 11200 North / 4800 West
- Allegheny Way / 4800 West
- Healey Boulevard / 4800 West
- Ridge Drive / 4800 West

The counts were performed on Wednesday, January 17 and Thursday, January 18, 2024. The morning peak hour was determined to be between 7:45 and 8:45 a.m., and the evening peak hour was determined to be between 4:30 and 5:30 p.m. The evening peak hour volumes were approximately 7% higher than the morning peak hour volumes. According to UDOT Automatic Signal Performance Measures (ATSPM) data, the morning (7-9 a.m.) and evening (4-6 p.m.) are the periods of the day in which the 4800 West / S.R. 92 intersection experiences the highest traffic volumes. Therefore, these are the periods that were analyzed.

Detailed count data are included in Appendix A.

In addition, prior counts were performed at the 4800 West / S.R. 92 intersection on Tuesday, April 19, 2019. These counts were calibrated based on a combination of ATSPM data, the other counts to the north on 4800 West, a historic annual growth rate of 2% based on UDOT data, and queueing observations from multiple site visits.

Hales Engineering made seasonal adjustments to the observed traffic volumes. Monthly traffic volume data were obtained from a nearby UDOT automatic traffic recorder (ATR) on S.R. 129

(ATR #656). In recent years, traffic volumes in January have been equal to approximately 98.7% of average traffic volumes. The observed traffic volumes were adjusted accordingly to determine average turning movement counts at the study intersections. Figure 1 shows the existing peak hour volumes as well as intersection geometry at the study intersections.

### Existing (2024) Analysis

Hales Engineering determined that all study intersections are currently operating at acceptable levels of service (LOS) during the morning and evening peak hours, as shown in Table 1. These results serve as a baseline condition for the impact analysis of the proposed development during existing (2024) conditions. Detailed LOS results can be found in Appendix B.

**Table 1: Existing (2024) Peak Hour LOS**

Intersection		LOS (Sec. Delay / Veh.) / Movement <sup>1</sup>	
Description	Control	Morning Peak	Evening Peak
4800 West / S.R. 92	Signal	C (30.2)	D (39.4)
11200 South / 4800 West	EB/SB Stop	b (10.7) / WBL	a (6.4) / NBL
Allegheny Way / 4800 West	EB/WB Stop	b (10.1) / EBL	a (9.9) / EBT
Healey Boulevard / 4800 West	WB Stop	b (12.2) / WBL	b (12.3) / WBL
Ridge Drive / 4800 West	WB Stop	b (10.9) / WBL	b (10.9) / WBL

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, January 2024

Hales Engineering calculated the 95<sup>th</sup> percentile queue lengths for each of the study intersections. The most significant queueing occurred on the southbound approach of the 4800 West / S.R. 92 intersection, which ranged from 450 to 575 feet during the morning and evening peak hours, which is consistent with on-site observations. Detailed queue reports are contained in Appendix C. According to Highland City, queueing at this intersection was consistently much worse until UDOT made an adjustment to the signal timing approximately 18 months ago.

Separately, UDOT has indicated that distracted driving contributes to southbound queueing at the 4800 West / S.R. 92 intersection as the signal gaps out and turns red because a vehicle in the queue has waited too long before proceeding. This appears to occur primarily around school start and end times and is an enforcement issue.

**Highland - 4800 West TS  
Existing (2024) Background**

**Morning Peak Hour  
Figure 1A**



**Highland - 4800 West TS  
Existing (2024) Background**

**Evening Peak Hour  
Figure 1B**



While no mitigation measures may be needed from a capacity perspective at this time, the relatively long southbound queues indicate that near-term regional growth may push the 4800 West / S.R. 92 intersection over capacity in the near future.

## Safety Analysis

Hales Engineering referenced UDOT's crash history database (AASHTOWare Safety) to determine the crash history at the 4800 West / S.R. 92 intersection between 2018 and 2022 since these are the last 5 full years of available validated crash data. Detailed crash data are included in Appendix D.

A total of 65 crashes occurred at this intersection during that timeframe. Rear-end crashes were the most common crash type, followed by angle crashes. One crash was severe, which involved a left-turning vehicle failing to yield to a cyclist. 15% of the crashes listed had distracted driving listed as a factor.

As regional traffic grows into the future, capacity improvements at the intersection may reduce rear-end crashes resulting from unexpectedly long queues. It is worth noting that 2022, the most recent year in the data, had the lowest number of crashes, which was the year that the signal timing change was implemented and queues were reduced.

## Future (2050) Analysis

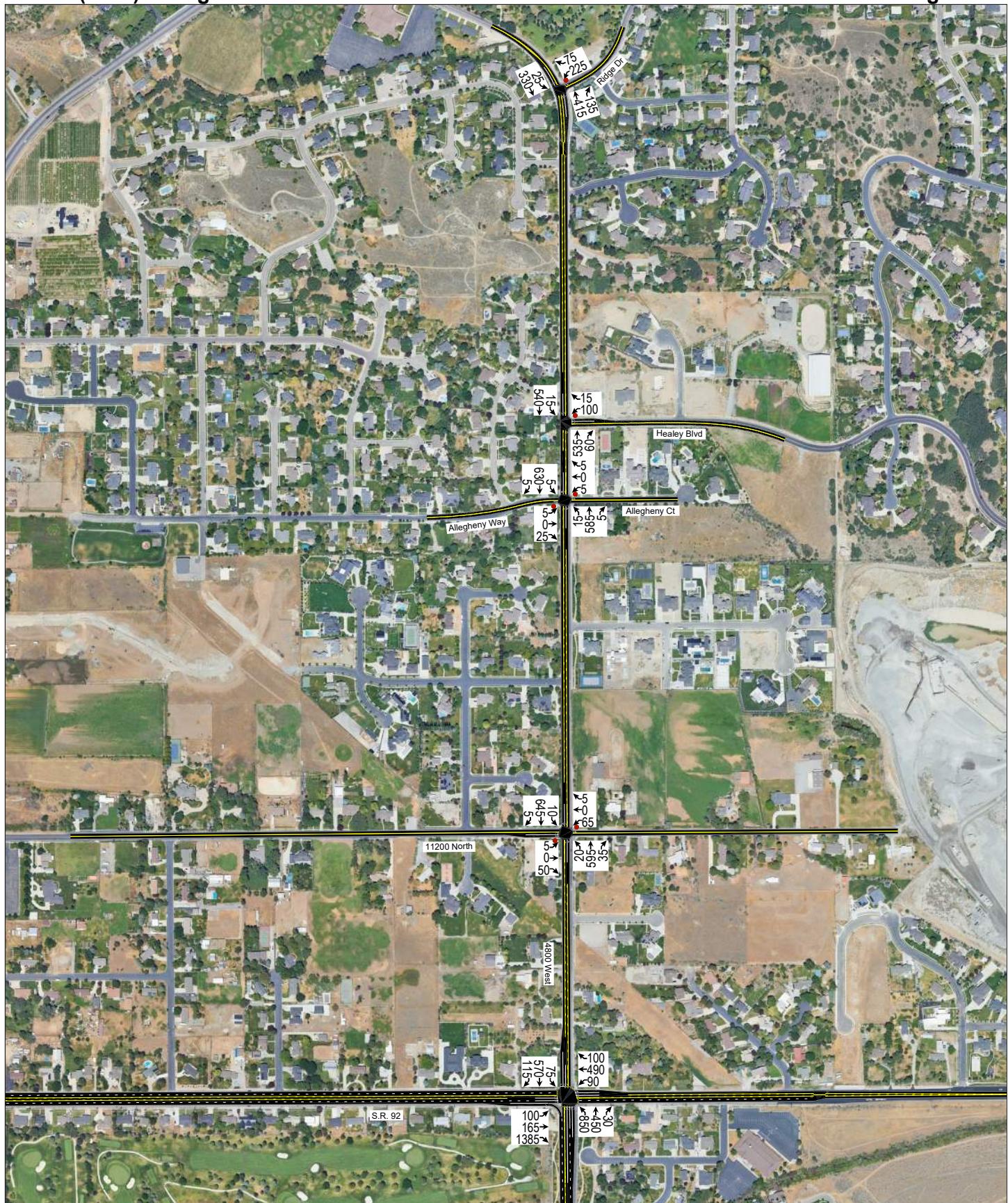
Hales Engineering obtained future (2050) forecasted volumes from the Wasatch Front Regional Council (WFRC) / Mountainland Association of Governments (MAG) travel demand model. Peak period turning movement counts were estimated using National Cooperative Highway Research Program (NCHRP) 255 methodologies which utilize existing peak period turn volumes and future AWDT volumes to project the future turn volumes at the major intersections. Future (2050) background morning and evening peak hour turning movement volumes are shown in Figure 2.

Hales Engineering determined that the 4800 West / S.R. 92 and 11200 North / 4800 West intersections are anticipated to operate at poor levels of service during the morning and evening peak hours in future (2050) background conditions, as shown in Table 2. These results serve as a baseline condition for the impact analysis of the proposed development for future (2050) conditions. The poor LOS at the 11200 North / 4800 West intersection is due to queueing from S.R. 92 backing across the intersection.

Hales Engineering calculated the 95<sup>th</sup> percentile queue lengths for each of the study intersections. At the 4800 West / S.R. 92 intersection, queues of over 1,000 feet are anticipated on all but the westbound approach, which experienced a 95<sup>th</sup> percentile queue of 950 feet.

**Highland - 4800 West TS  
Future (2050) Background**

**Morning Peak Hour  
Figure 2A**



**Highland - 4800 West TS  
Future (2050) Background**

**Evening Peak Hour  
Figure 2B**



**Table 2: Future (2050) Peak Hour LOS**

Intersection		LOS (Sec. Delay / Veh.) / Movement <sup>1</sup>	
Description	Control	Morning Peak	Evening Peak
4800 West / S.R. 92	Signal	E (66.4)	F (>80)
11200 South / 4800 West	EB/SB Stop	f (>50) / WBR	f (>50) / WBL
Allegheny Way / 4800 West	EB/WB Stop	c (16.0) / EBL	c (22.0) / EBL
Healey Boulevard / 4800 West	WB Stop	c (20.6) / WBL	d (27.0) / WBL
Ridge Drive / 4800 West	WB Stop	c (20.4) / WBL	c (18.6) / WBL

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, January 2024

## Mitigation Measures

It is recommended that 4800 West be widened to a 5-lane section from S.R. 92 to 11200 South, adding a lane in the north- and southbound direction and terminating the outer northbound lane as a trap right at 11200 South. The second southbound thru lane at S.R. 92 will necessitate the addition of a third southbound lane south of the intersection to provide acceleration for the eastbound free right. This lane could end south of the subdivision at the golf course.

Based on the future volumes, the UDOT thresholds for dual left-turn lanes on the eastbound approach are nearly met. To future-proof the intersection, the east- and westbound approaches could be widened to accommodate eastbound dual left turns but be striped with single lanes until the point at which dual left-turns are warranted.

A second northbound thru lane, while not necessary from a capacity perspective, is recommended to match the alignment on the north side of the intersection. A separate northbound right-turn lane is still recommended.

A separate dedicated westbound right-turn lane is also recommended to minimize queues at the intersection. Queues would be about twice as long otherwise on that approach.

Finally, it is recommended that the southbound right-turn pocket be extended by 100 feet to allow right-turning vehicles to get around the queued thru vehicles.

At the Ridge Drive / 4800 West intersection, while it operates at an acceptable LOS, it is recommended that separate left- and right-turn pockets be striped on the westbound approach since there is room for it and it would improve operation for right-turning vehicles.

A diagram showing the proposed lane configuration at the 4800 West / S.R. 92 intersection is shown in Figure 3.



**Figure 3: Proposed 4800 West / S.R. 92 intersection configuration**

A mitigated scenario was analyzed with the proposed improvements. Because southbound queueing will lessen with the second lane at the 4800 West / S.R. 92 intersection, and because the eastbound right may struggle with capacity, 100 vehicles were rerouted from the eastbound right to the southbound thru as congestion shapes drivers' routes.

With the proposed improvements, all study intersections are anticipated to operate at acceptable levels of service, as shown in Table 3.

**Table 3: Mitigated Future (2050) Peak Hour LOS**

Intersection		LOS (Sec. Delay / Veh.) / Movement <sup>1</sup>	
Description	Control	Morning Peak	Evening Peak
4800 West / S.R. 92	Signal	D (37.8)	D (42.6)
11200 South / 4800 West	EB/SB Stop	c (21.1) / WBL	c (19.2) / WBL
Allegheny Way / 4800 West	EB/WB Stop	c (16.5) / WBL	c (20.4) / WBL
Healey Boulevard / 4800 West	WB Stop	c (23.3) / WBL	c (19.2) / WBL
Ridge Drive / 4800 West	WB Stop	c (20.4) / WBL	c (17.0) / WBL

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, January 2024

## Other Considerations

In the course of this project, other improvements could be considered. While it is not anticipated that these may be necessary from an operational perspective, they would serve to reduce delay and/or queueing and could be implemented if the City desires.

Extending the eastbound right-turn pocket at the 4800 West / S.R. 92 intersection would get right-turning vehicles out of the mainline, reducing the potential for queueing on this approach.

Additionally, a roundabout could be considered at the Healey Boulevard / 4800 West intersection. Complaints from residents have indicated that it can be difficult to turn from the side street at times, and this would reduce delay for those movements.

Again, these are options to consider and may not be absolutely necessary from a capacity perspective.

## Conclusions

The findings of this study are as follows:

- All study intersections currently operate at acceptable levels of service but the 4800 West / S.R. 92 intersection is approaching capacity.
- Without improvements, the 4800 West / S.R. 92 and 11200 South / 4800 West intersections are anticipated to operate at poor levels of service.
- The following improvements are recommended:
  - 4800 West:
    - Widen to 5 lanes from 11200 South to S.R. 92 and end outer northbound lane as a trap right at 11200 South

- Add a third southbound lane south of S.R. 92 as a dedicated acceleration lane for the free right. This could carry past the subdivision and end at the golf course.
- 4800 West / S.R. 92:
  - Add a second northbound thru lane and keep a right-turn pocket
  - Add a dedicated westbound right-turn pocket
  - Widen east- and westbound approaches to accommodate potential future eastbound dual left-turn lanes
  - Extend southbound right-turn pocket by 100 feet
- Ridge Drive / 4800 West:
  - Stripe separate westbound left- and right-turn lanes
- The following additional improvements could also be considered to reduce delay and/or queueing:
  - 4800 West / S.R. 92:
    - Extend eastbound right-turn pocket
  - Healey Boulevard / 4800 West:
    - Install roundabout

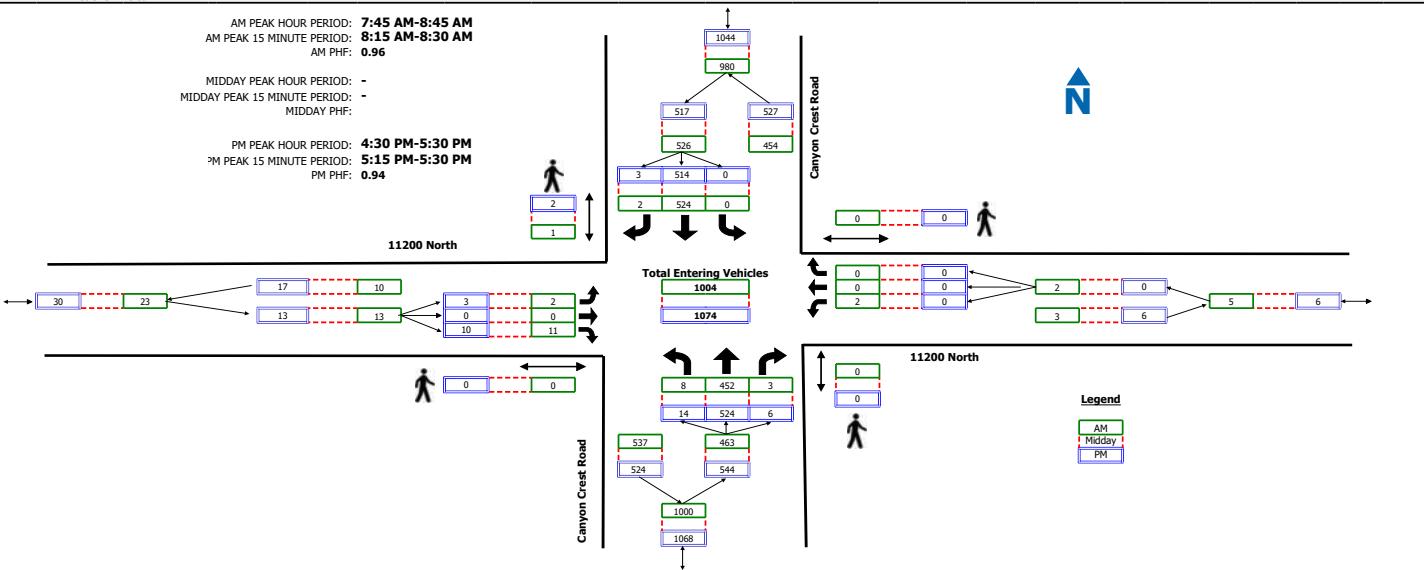
If you have any questions regarding this memorandum, please contact us at 801.766.4343.

# APPENDIX A

## Turning Movement Counts

**Intersection Turning Movement Summary**

Intersection: Canyon Crest Road / 11200 North	Date: 1/17/2024 & 1/18/2024
North/South Road: Canyon Crest Road	100.0%
East/West Road: 11200 North	98.7%
Jurisdiction: Highland	0
Project Title: Highland Canyon Crest Road TS	Growth Rate: 0.0%
Project No: 24-2687	Number of Years: 0
Weather: Clear	



COUNT SUMMARY	Canyon Crest Road Northbound				Canyon Crest Road Southbound				11200 North Eastbound				11200 North 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	26	0	0	0	60	1	1	0	4	0	2	2	0	0	0	93
7:15 - 7:30	4	70	0	0	0	119	1	0	0	6	0	1	0	0	0	0	201
7:30 - 7:45	3	92	0	0	0	147	2	1	0	0	2	0	3	0	1	0	251
7:45 - 8:00	2	127	0	0	0	98	0	0	0	2	0	0	0	0	0	0	229
8:00 - 8:15	1	112	1	0	0	129	1	0	2	0	5	0	1	0	0	0	252
8:15 - 8:30	2	118	0	0	0	140	0	0	0	2	0	0	0	0	0	0	262
8:30 - 8:45	3	95	2	0	0	157	1	1	0	0	2	0	1	0	0	0	261
8:45 - 9:00	0	83	0	0	0	123	1	1	0	0	0	0	3	0	0	0	210

**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

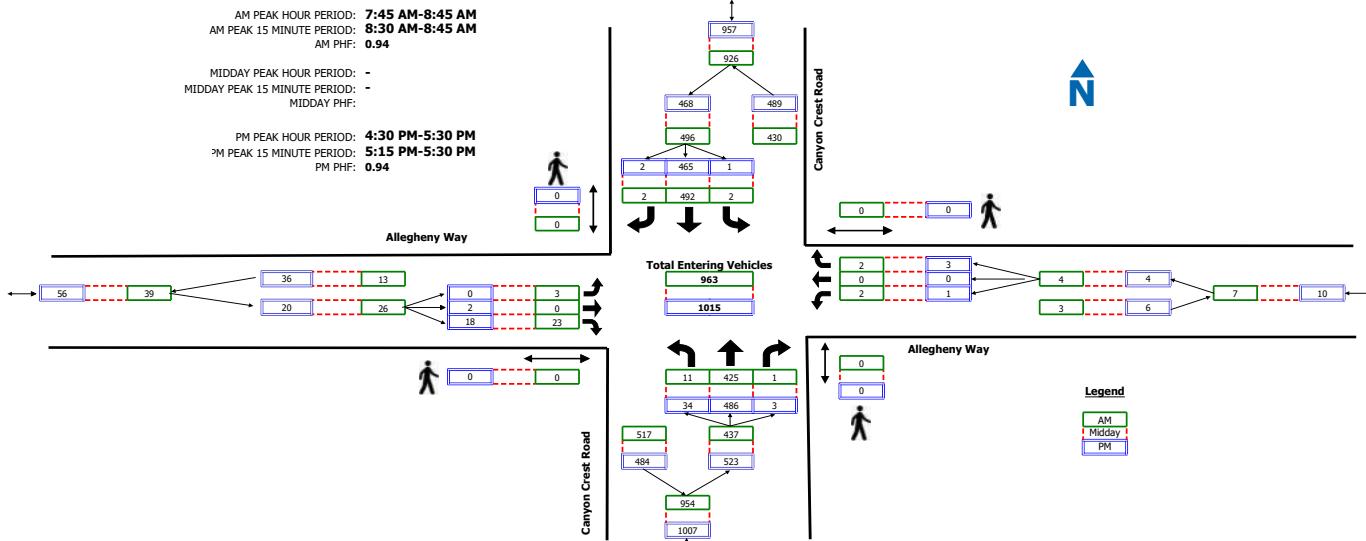
**PM PERIOD COUNTS**

Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	3	94	0	0	1	108	0	0	0	1	2	0	1	0	2	0	212
16:15 - 16:30	2	127	1	0	0	104	0	0	0	0	3	0	1	0	0	0	238
16:30 - 16:45	4	103	1	1	0	131	0	0	0	2	0	0	0	0	0	0	241
16:45 - 17:00	2	133	2	0	0	146	0	0	0	0	0	0	0	0	0	0	283
17:00 - 17:15	2	131	3	0	0	119	2	2	0	5	0	0	0	0	0	0	264
17:15 - 17:30	6	157	0	0	0	118	1	0	1	0	3	0	0	0	0	0	286
17:30 - 17:45	5	124	0	0	0	109	0	0	1	0	2	0	0	0	0	0	241
17:45 - 18:00	7	140	1	0	0	86	0	0	1	1	1	0	0	0	0	0	237

Intersection Turning Movement Summary

Intersection: Canyon Crest Road / Allegheny Way  
North/South Road: Canyon Crest Road  
East/West Road: Allegheny Way  
Jurisdiction: Highland  
Project Title: Highland Canyon Crest Road TS  
Project No: UT24-2687  
Weather: Clear

Date: 1/17/2024 & 1/18/2024  
Day of Week Adjustment: 100.0%  
Month of Year Adjustment: 98.7%  
Adjustment Station #: 0  
Growth Rate: 0.0%  
Number of Years: 0



COUNT SUMMARY	Canyon Crest Road Northbound				Canyon Crest Road Southbound				Allegheny Way Eastbound				Allegheny Way 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	2	27	0	0	0	58	0	1	0	0	8	0	1	0	0	0	96
7:15 - 7:30	0	68	0	0	0	133	0	0	0	0	3	0	0	0	0	0	204
7:30 - 7:45	6	97	0	0	1	119	0	1	0	0	15	0	1	0	0	0	223
7:45 - 8:00	3	123	0	0	1	91	0	0	0	0	4	0	1	0	0	0	223
8:00 - 8:15	1	104	1	0	0	0	121	2	0	3	0	5	0	0	0	2	239
8:15 - 8:30	4	117	0	0	1	120	0	0	0	0	4	0	0	0	0	0	246
8:30 - 8:45	3	81	0	0	0	160	0	0	0	0	10	0	1	0	0	0	255
8:45 - 9:00	0	80	0	0	0	102	0	1	0	0	7	0	1	0	1	0	191

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
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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
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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

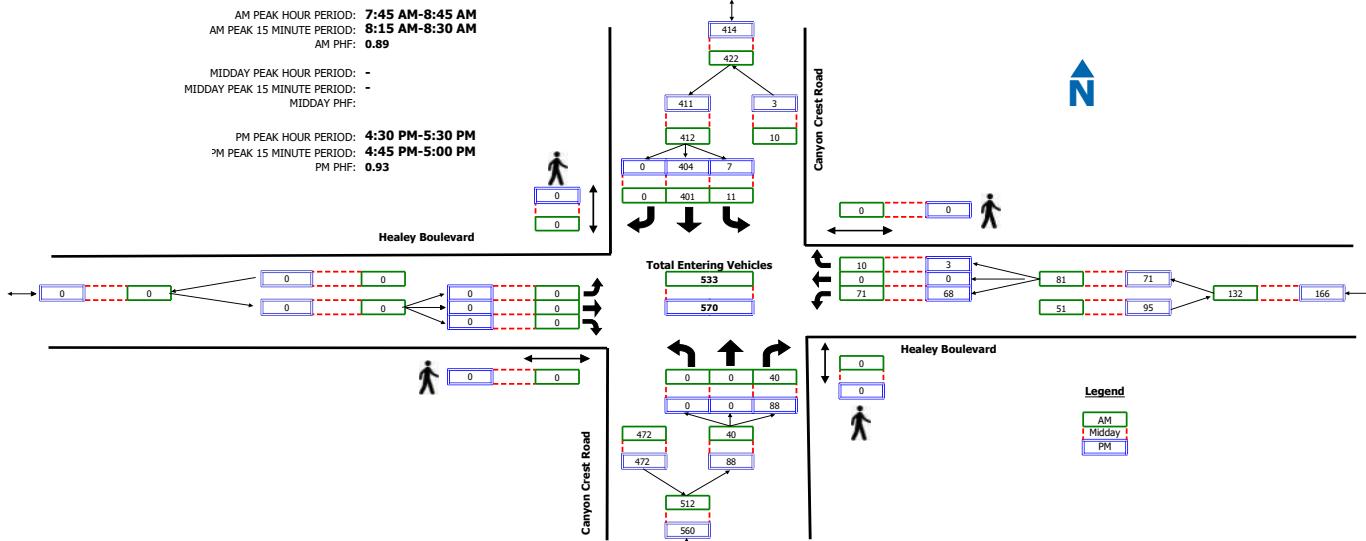
PM PERIOD COUNTS

Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	2	97	1	0	0	98	0	0	0	0	3	0	0	0	0	0	205
16:15 - 16:30	6	109	0	0	1	105	0	0	0	0	6	0	0	1	0	0	225
16:30 - 16:45	3	99	0	0	0	125	1	0	0	1	6	0	1	0	0	0	236
16:45 - 17:00	18	108	2	0	1	116	0	0	0	0	8	0	0	0	2	0	255
17:00 - 17:15	5	125	0	0	0	120	0	0	0	0	2	0	0	0	1	0	253
17:15 - 17:30	8	154	1	0	0	104	1	0	0	1	2	0	0	0	0	0	271
17:30 - 17:45	5	102	0	0	0	102	0	0	2	0	2	0	0	0	0	0	213
17:45 - 18:00	3	121	2	0	1	89	0	0	0	0	2	0	0	0	0	0	218

Intersection Turning Movement Summary

Intersection: Canyon Crest Road / Healey Boulevard  
North/South Road: Canyon Crest Road  
East/West Road: Healey Boulevard  
Jurisdiction: Highland  
Project Title: Highland Canyon Crest Road TS  
Project No: UT24-2687  
Weather: Clear

Date: 1/17/2024 & 1/18/2024  
Day of Week Adjustment: 100.0%  
Month of Year Adjustment: 98.7%  
Adjustment Station #: 0  
Growth Rate: 0.0%  
Number of Years: 0



COUNT SUMMARY	Canyon Crest Road Northbound				Canyon Crest Road Southbound				Healey Boulevard Eastbound				Healey Boulevard 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	4	0	0	52	0	0	0	0	0	0	9	0	0	0	65
7:15 - 7:30	0	0	3	0	1	105	0	0	0	0	0	0	25	0	2	0	137
7:30 - 7:45	0	0	0	0	0	97	0	0	0	0	0	0	21	0	2	0	116
7:45 - 8:00	0	0	9	0	2	81	0	0	0	0	0	0	13	0	2	0	107
8:00 - 8:15	0	0	10	0	4	109	0	0	0	0	0	0	19	0	2	0	144
8:15 - 8:30	0	0	10	0	4	112	0	0	0	0	0	0	19	0	4	0	149
8:30 - 8:45	0	0	11	0	1	99	0	0	0	0	0	0	20	0	2	0	133
8:45 - 9:00	0	0	10	0	1	76	0	0	0	0	0	0	15	0	2	0	104

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	0	18	0	0	68	0	0	0	0	0	0	16	0	2	0	104
16:15 - 16:30	0	0	22	0	1	62	0	0	0	0	0	0	14	0	1	0	100
16:30 - 16:45	0	0	13	0	4	105	0	0	0	0	0	0	16	0	1	0	139
16:45 - 17:00	0	0	20	0	1	114	0	0	0	0	0	0	18	0	1	0	154
17:00 - 17:15	0	0	27	0	2	88	0	0	0	0	0	0	19	0	0	0	136
17:15 - 17:30	0	0	28	0	0	97	0	0	0	0	0	0	15	0	1	0	141
17:30 - 17:45	0	0	21	0	1	73	0	0	0	0	0	0	14	0	1	0	110
17:45 - 18:00	0	0	19	0	2	72	0	0	0	0	0	0	13	0	1	0	107

## Intersection Turning Movement Summary

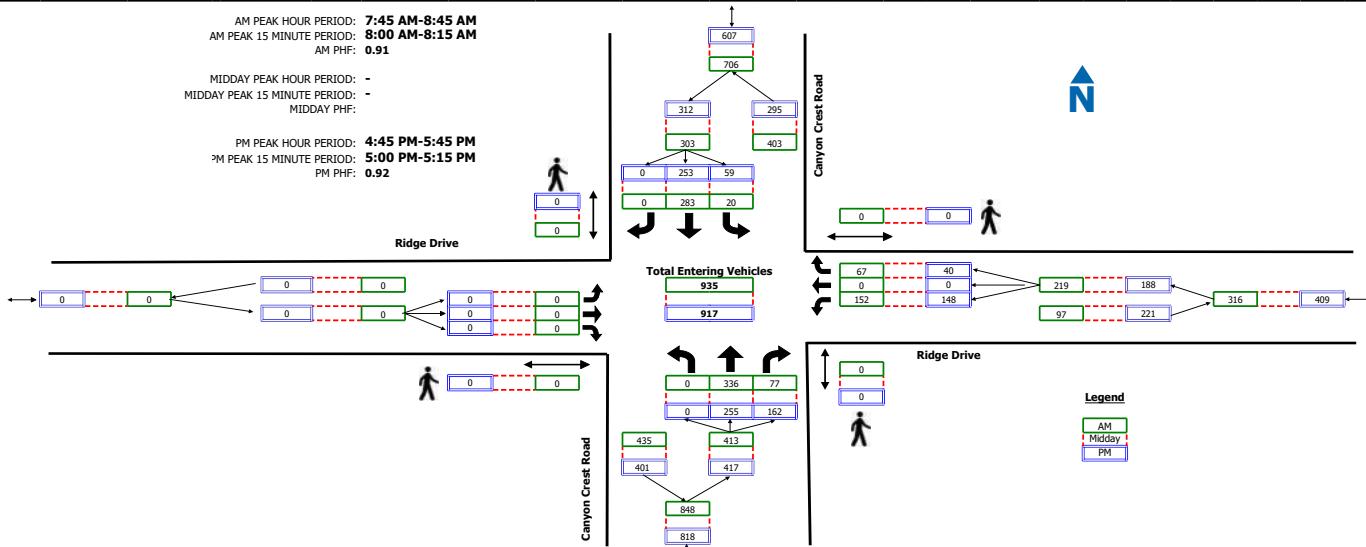
**Intersection:** Canyon Crest Road / Ridge Drive  
**North/South Road:** Canyon Crest Road  
**East/West Road:** Ridge Drive  
**Jurisdiction:** Highland  
**Project Title:** Highland Canyon Crest Road TS  
**Project No:** UT24-2687  
**Weather:** Clear

<b>Date:</b>	1-18-24, Thu
<b>Day of Week Adjustment:</b>	100.0%
<b>Month of Year Adjustment:</b>	98.7%
<b>Adjustment Station #:</b>	0
<b>Growth Rate:</b>	0.0%
<b>Number of Years:</b>	0

AM PEAK HOUR PERIOD: **7:45 AM-8:45 AM**  
AM PEAK 15 MINUTE PERIOD: **8:00 AM-8:15 AM**  
AM PHF: **0.91**

MIDDAY PEAK HOUR PERIOD:  
MIDDAY PEAK 15 MINUTE PERIOD:  
MIDDAY RHE:

PM PEAK HOUR PERIOD: **4:45 PM-5:45 PM**  
PM PEAK 15 MINUTE PERIOD: **5:00 PM-5:15 PM**  
PM PHF: **0.92**

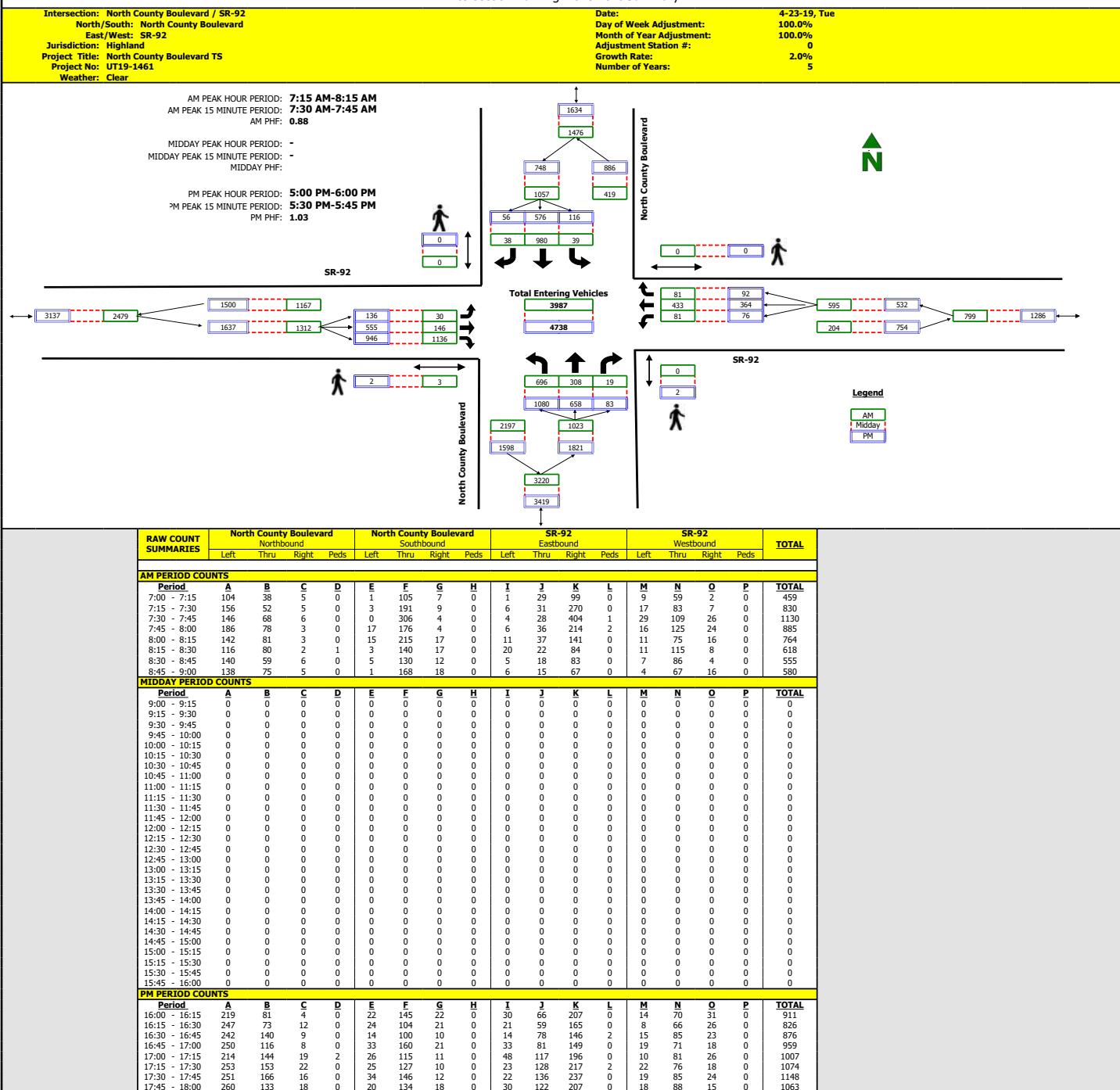


COUNT SUMMARY	Canyon Crest Road Northbound				Canyon Crest Road Southbound				Ridge Drive Eastbound				Ridge Drive Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	

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	16	7	0	0	33	0	0	0	0	0	0	19	0	4	0	79
7:15 - 7:30	0	62	4	0	4	74	0	1	0	0	0	0	35	0	6	0	185
7:30 - 7:45	0	65	24	0	1	46	0	0	0	0	0	0	40	0	11	0	187
7:45 - 8:00	0	103	19	0	3	54	0	0	0	0	0	0	19	0	22	0	220
8:00 - 8:15	0	82	24	0	8	88	0	0	0	0	0	0	29	0	25	0	256
8:15 - 8:30	0	93	18	0	5	74	0	0	0	0	0	0	44	0	12	0	246
8:30 - 8:45	0	58	16	0	4	67	0	0	0	0	0	0	60	0	8	0	213
8:45 - 9:00	0	51	21	0	5	68	0	0	0	0	0	0	34	0	9	0	188

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	49	36	0	6	69	0	0	0	0	0	0	26	0	6	0	192
16:15 - 16:30	0	55	41	0	10	39	0	0	0	0	0	0	29	0	12	0	186
16:30 - 16:45	0	62	39	0	5	71	0	0	0	0	0	0	22	0	11	0	210
16:45 - 17:00	0	53	47	0	18	67	0	0	0	0	0	0	35	0	8	0	228
17:00 - 17:15	0	67	30	0	13	73	0	0	0	0	0	0	51	0	15	0	249
17:15 - 17:30	0	62	43	0	22	56	0	0	0	0	0	0	29	0	12	0	224
17:30 - 17:45	0	73	42	0	6	57	0	0	0	0	0	0	33	0	5	0	216
17:45 - 18:00	0	72	36	0	20	50	0	0	0	0	0	0	32	0	8	0	218

## Intersection Turning Movement Summary



# APPENDIX B

## LOS Results

## *SimTraffic LOS Report*

**Project:** **Highland - 4800 West TS**  
**Analysis Period:** **Existing (2024)**  
**Time Period:** **Morning Peak Hour** **Project #:** **UT24-2687**

**Intersection:** **4800 West & S.R. 92**  
**Type:** **Signalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	696	691	99	43.8	D
	T	339	350	103	20.9	C
	R	28	28	100	4.9	A
	Subtotal	1,063	1,069	101	35.3	D
SB	L	64	63	98	58.8	E
	T	439	436	99	41.4	D
	R	46	49	107	15.6	B
	Subtotal	549	548	100	41.1	D
EB	L	34	32	93	51.8	D
	T	146	151	103	40.1	D
	R	1,136	1,132	100	14.1	B
	Subtotal	1,316	1,315	100	18.0	B
WB	L	81	81	100	41.6	D
	T	433	437	101	39.1	D
	R	90	95	105	26.0	C
	Subtotal	604	613	101	37.4	D
<b>Total</b>		<b>3,532</b>	<b>3,545</b>	<b>100</b>	<b>30.2</b>	<b>C</b>

**Intersection:** **4800 West & 11200 North**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	8	97	5.4	A
	T	453	467	103	2.5	A
	R	3	3	100	2.6	A
	Subtotal	464	478	103	2.5	A
SB	T	525	521	99	1.7	A
	R	2	3	150	1.5	A
	Subtotal	527	524	99	1.7	A
EB	L	2	1	50	10.3	B
	R	11	12	107	4.8	A
	Subtotal	13	13	100	5.2	A
WB	L	2	2	100	10.7	B
	Subtotal	2	2	100	10.7	B
<b>Total</b>		<b>1,006</b>	<b>1,017</b>	<b>101</b>	<b>2.2</b>	<b>A</b>

## SimTraffic LOS Report

**Project:** Highland - 4800 West TS  
**Analysis Period:** Existing (2024)  
**Time Period:** Morning Peak Hour Project #: UT24-2687

**Intersection:** 4800 West & Allegheny Way/Allegheny Ct  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	11	10	89	4.2	A
	T	442	455	103	2.2	A
	R	1	1	100	1.2	A
	Subtotal	454	466	103	2.2	A
SB	L	2	2	100	2.7	A
	T	502	498	99	0.5	A
	R	2	2	100	0.2	A
	Subtotal	506	502	99	0.5	A
EB	L	3	3	100	10.1	B
	R	23	24	104	4.5	A
	Subtotal	26	27	104	5.1	A
WB	L	2	2	100	9.7	A
	R	2	2	100	4.0	A
	Subtotal	4	4	100	6.9	A
<b>Total</b>		990	999	101	1.5	A

**Intersection:** 4800 West & Healey Blvd  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	408	420	103	1.3	A
	R	40	41	102	0.5	A
	Subtotal	448	461	103	1.2	A
SB	L	11	11	98	4.8	A
	T	434	437	101	0.9	A
	Subtotal	445	448	101	1.0	A
WB	L	71	66	93	12.2	B
	R	10	10	98	4.5	A
	Subtotal	81	76	94	11.2	B
<b>Total</b>		975	985	101	1.9	A

## *SimTraffic LOS Report*

**Project:** **Highland - 4800 West TS**  
**Analysis Period:** *Existing (2024)*  
**Time Period:** *Morning Peak Hour* **Project #:** **UT24-2687**

**Intersection:** **4800 West & Ridge Dr**  
**Type:** **Unsignalized**

<b>Approach</b>	<b>Movement</b>	<b>Demand Volume</b>	<b>Volume Served</b>		<b>Delay/Veh (sec)</b>	
			<b>Avg</b>	<b>%</b>	<b>Avg</b>	<b>LOS</b>
NB	T	340	350	103	0.6	A
	R	78	80	103	0.3	A
	Subtotal	418	430	103	0.5	A
SB	L	20	19	96	2.9	A
	T	290	299	103	0.5	A
	Subtotal	310	318	103	0.6	A
WB	L	<b>155</b>	<b>148</b>	<b>96</b>	<b>10.9</b>	<b>B</b>
	R	67	65	97	7.1	A
	Subtotal	222	213	96	9.7	A
<b>Total</b>		949	961	101	2.6	A

## *SimTraffic LOS Report*

**Project:** **Highland - 4800 West TS**  
**Analysis Period:** *Existing (2024)*  
**Time Period:** *Evening Peak Hour* **Project #:** **UT24-2687**

**Intersection:** **4800 West & S.R. 92**  
**Type:** **Signalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	705	700	99	56.1	E
	T	375	374	100	30.0	C
	R	83	86	104	6.0	A
	Subtotal	1,163	1,160	100	44.0	D
SB	L	81	76	94	80.2	F
	T	390	393	101	61.6	E
	R	54	54	100	20.0	B
	Subtotal	525	523	100	60.0	E
EB	L	109	110	101	48.3	D
	T	555	559	101	46.7	D
	R	725	717	99	9.9	A
	Subtotal	1,389	1,386	100	27.8	C
WB	L	76	82	108	49.6	D
	T	364	362	100	39.1	D
	R	60	62	103	23.6	C
	Subtotal	500	506	101	38.9	D
<b>Total</b>		<b>3,577</b>	<b>3,575</b>	<b>100</b>	<b>39.4</b>	<b>D</b>

**Intersection:** **4800 West & 11200 North**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	14	14	98	6.4	A
	T	524	527	101	3.1	A
	R	6	6	100	2.9	A
	Subtotal	544	547	101	3.2	A
SB	T	514	508	99	1.7	A
	R	3	3	100	1.2	A
	Subtotal	517	511	99	1.7	A
EB	L	3	2	67	5.7	A
	R	10	10	98	4.5	A
	Subtotal	13	12	92	4.7	A
<b>Total</b>		<b>1,075</b>	<b>1,070</b>	<b>100</b>	<b>2.5</b>	<b>A</b>

## SimTraffic LOS Report

**Project:** Highland - 4800 West TS  
**Analysis Period:** Existing (2024)  
**Time Period:** Evening Peak Hour Project #: UT24-2687

**Intersection:** 4800 West & Allegheny Way/Allegheny Ct  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	34	32	95	5.1	A
	T	490	492	100	2.7	A
	R	3	4	133	1.5	A
	Subtotal	527	528	100	2.8	A
SB	L	1	0	0		
	T	500	494	99	0.5	A
	R	2	2	100	0.2	A
	Subtotal	503	496	99	0.5	A
EB	L	2	1	50	9.9	A
	R	18	18	99	4.5	A
	Subtotal	20	19	95	4.8	A
WB	L	1	1	100	8.1	A
	R	3	3	100	5.6	A
	Subtotal	4	4	100	6.2	A
<b>Total</b>		1,054	1,047	99	1.8	A

**Intersection:** 4800 West & Healey Blvd  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	406	405	100	2.1	A
	R	88	89	101	0.9	A
	Subtotal	494	494	100	1.9	A
SB	L	7	6	86	4.6	A
	T	434	430	99	0.8	A
	Subtotal	441	436	99	0.9	A
WB	L	68	67	98	12.3	B
	R	3	3	100	6.5	A
	Subtotal	71	70	99	12.1	B
<b>Total</b>		1,006	1,000	99	2.2	A

## *SimTraffic LOS Report*

**Project:** **Highland - 4800 West TS**  
**Analysis Period:** *Existing (2024)*  
**Time Period:** *Evening Peak Hour* **Project #:** **UT24-2687**

**Intersection:** **4800 West & Ridge Dr**  
**Type:** **Unsignalized**

<b>Approach</b>	<b>Movement</b>	<b>Demand Volume</b>	<b>Volume Served</b>		<b>Delay/Veh (sec)</b>	
			<b>Avg</b>	<b>%</b>	<b>Avg</b>	<b>LOS</b>
NB	T	256	252	98	0.6	A
	R	162	163	100	0.5	A
	Subtotal	418	415	99	0.6	A
SB	L	59	57	96	3.8	A
	T	292	287	98	0.5	A
	Subtotal	351	344	98	1.0	A
WB	L	<b>148</b>	<b>146</b>	<b>99</b>	<b>10.9</b>	<b>B</b>
	R	40	39	98	6.5	A
	Subtotal	188	185	98	10.0	A
<b>Total</b>		958	944	99	2.6	A

## *SimTraffic LOS Report*

**Project:** **Highland - 4800 West TS**  
**Analysis Period:** **Future (2050)**  
**Time Period:** **Morning Peak Hour** **Project #:** **UT24-2687**

**Intersection:** **4800 West & S.R. 92**  
**Type:** **Signalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	850	842	99	87.3	F
	T	450	455	101	38.2	D
	R	30	30	100	13.4	B
	Subtotal	1,330	1,327	100	68.8	E
SB	L	75	70	94	137.4	F
	T	572	556	97	114.9	F
	R	115	110	95	82.1	F
	Subtotal	762	736	97	112.1	F
EB	L	100	96	96	71.4	E
	T	165	164	99	54.3	D
	R	1,385	1,382	100	23.3	C
	Subtotal	1,650	1,642	100	29.2	C
WB	L	90	91	101	89.2	F
	T	490	487	99	95.2	F
	R	100	105	105	79.5	E
	Subtotal	680	683	100	92.0	F
<b>Total</b>		<b>4,422</b>	<b>4,388</b>	<b>99</b>	<b>66.4</b>	<b>E</b>

**Intersection:** **4800 West & 11200 North**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	20	18	91	8.7	A
	T	597	605	101	4.0	A
	R	35	38	108	3.0	A
	Subtotal	652	661	101	4.1	A
SB	L	10	10	98	11.9	B
	T	645	640	99	8.1	A
	R	5	5	95	3.3	A
	Subtotal	660	655	99	8.1	A
EB	L	5	5	95	24.5	C
	R	50	48	96	87.4	F
	Subtotal	55	53	96	81.5	F
WB	L	65	58	89	115.8	F
	R	5	4	76	<b>131.4</b>	<b>F</b>
	Subtotal	70	62	89	116.8	F
<b>Total</b>		<b>1,438</b>	<b>1,431</b>	<b>100</b>	<b>14.2</b>	<b>B</b>

## *SimTraffic LOS Report*

**Project:** **Highland - 4800 West TS**  
**Analysis Period:** **Future (2050)**  
**Time Period:** **Morning Peak Hour** **Project #:** **UT24-2687**

**Intersection:** **4800 West & Allegheny Way/Allegheny Ct**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	15	14	95	6.6	A
	T	586	591	101	2.9	A
	R	5	6	114	2.2	A
	Subtotal	606	611	101	3.0	A
SB	L	5	5	95	4.2	A
	T	630	630	100	0.7	A
	R	5	7	133	0.2	A
	Subtotal	640	642	100	0.7	A
EB	L	<b>5</b>	<b>4</b>	<b>76</b>	<b>16.0</b>	<b>C</b>
	R	25	24	96	6.3	A
	Subtotal	30	28	93	7.7	A
WB	L	5	4	76	11.4	B
	R	5	6	114	7.7	A
	Subtotal	10	10	100	9.2	A
<b>Total</b>		<b>1,287</b>	<b>1,291</b>	<b>100</b>	<b>2.0</b>	<b>A</b>

**Intersection:** **4800 West & Healey Blvd**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	535	541	101	1.8	A
	R	60	60	100	0.7	A
	Subtotal	595	601	101	1.7	A
SB	L	15	15	102	5.7	A
	T	543	548	101	1.0	A
	Subtotal	558	563	101	1.1	A
WB	L	<b>100</b>	<b>97</b>	<b>97</b>	<b>20.6</b>	<b>C</b>
	R	15	15	102	6.9	A
	Subtotal	115	112	97	18.8	C
<b>Total</b>		<b>1,267</b>	<b>1,276</b>	<b>101</b>	<b>2.9</b>	<b>A</b>

### *SimTraffic LOS Report*

**Project:** **Highland - 4800 West TS**  
**Analysis Period:** **Future (2050)**  
**Time Period:** **Morning Peak Hour** **Project #:** **UT24-2687**

**Intersection:** **4800 West & Ridge Dr**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	416	421	101	0.7	A
	R	135	136	101	0.4	A
	Subtotal	551	557	101	0.6	A
SB	L	25	26	104	4.3	A
	T	330	334	101	0.7	A
	Subtotal	355	360	101	1.0	A
WB	L	<b>225</b>	<b>228</b>	<b>101</b>	<b>20.4</b>	<b>C</b>
	R	75	75	100	17.2	C
	Subtotal	300	303	101	19.6	C
<b>Total</b>		1,206	1,220	101	5.4	A

## SimTraffic LOS Report

**Project:** Highland - 4800 West TS  
**Analysis Period:** Mitigated Future (2050)  
**Time Period:** Morning Peak Hour **Project #:** UT24-2687

**Intersection:** 4800 West & S.R. 92  
**Type:** Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	850	875	103	53.2	D
	T	450	448	100	20.0	B
	R	30	33	110	2.6	A
	Subtotal	1,330	1,356	102	41.0	D
SB	L	75	73	98	69.8	E
	T	670	667	99	57.2	E
	R	115	116	101	18.9	B
	Subtotal	860	856	100	53.1	D
EB	L	100	102	102	53.2	D
	T	165	164	99	42.0	D
	R	1,285	1,302	101	20.4	C
	Subtotal	1,550	1,568	101	24.8	C
WB	L	90	85	94	41.6	D
	T	490	493	101	48.8	D
	R	100	103	103	9.5	A
	Subtotal	680	681	100	42.0	D
<b>Total</b>		4,420	4,461	101	37.8	D

**Intersection:** 4800 West & 11200 North  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	20	19	96	8.2	A
	T	597	599	100	4.7	A
	R	35	36	102	1.8	A
	Subtotal	652	654	100	4.6	A
SB	L	10	11	107	7.6	A
	T	725	727	100	2.5	A
	R	5	6	114	1.9	A
	Subtotal	740	744	101	2.6	A
EB	L	5	5	95	14.2	B
	R	70	70	100	5.7	A
	Subtotal	75	75	100	6.3	A
WB	L	65	62	95	21.1	C
	R	5	6	114	12.9	B
	Subtotal	70	68	97	20.4	C
<b>Total</b>		1,538	1,541	100	4.4	A

## SimTraffic LOS Report

**Project:** Highland - 4800 West TS  
**Analysis Period:** Mitigated Future (2050)  
**Time Period:** Morning Peak Hour **Project #:** UT24-2687

**Intersection:** 4800 West & Allegheny Way/Allegheny Ct  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	15	14	95	6.1	A
	T	586	588	100	2.6	A
	R	5	5	95	1.9	A
	Subtotal	606	607	100	2.7	A
SB	L	5	4	76	7.1	A
	T	690	693	100	0.8	A
	R	5	5	95	0.3	A
	Subtotal	700	702	100	0.8	A
EB	L	5	5	95	15.2	C
	R	45	47	105	6.3	A
	Subtotal	50	52	104	7.2	A
WB	L	5	5	95	16.5	C
	R	5	6	114	7.5	A
	Subtotal	10	11	110	11.6	B
<b>Total</b>		1,366	1,372	100	2.0	A

**Intersection:** 4800 West & Healey Blvd  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	535	535	100	1.9	A
	R	60	63	105	0.8	A
	Subtotal	595	598	101	1.8	A
SB	L	15	14	95	7.5	A
	T	602	604	100	1.2	A
	Subtotal	617	618	100	1.3	A
WB	L	100	100	100	23.3	C
	R	15	15	102	7.4	A
	Subtotal	115	115	100	21.2	C
<b>Total</b>		1,327	1,331	100	3.2	A

## *SimTraffic LOS Report*

**Project:** **Highland - 4800 West TS**  
**Analysis Period:** *Mitigated Future (2050)*  
**Time Period:** *Morning Peak Hour* **Project #:** **UT24-2687**

**Intersection:** **4800 West & Ridge Dr**  
**Type:** **Unsignalized**

<b>Approach</b>	<b>Movement</b>	<b>Demand Volume</b>	<b>Volume Served</b>		<b>Delay/Veh (sec)</b>	
			<b>Avg</b>	<b>%</b>	<b>Avg</b>	<b>LOS</b>
NB	T	416	414	99	0.7	A
	R	135	140	104	0.4	A
	Subtotal	551	554	101	0.6	A
SB	L	25	25	100	4.5	A
	T	390	388	99	0.7	A
	Subtotal	415	413	100	0.9	A
WB	L	<b>225</b>	<b>227</b>	<b>101</b>	<b>20.4</b>	<b>C</b>
	R	75	75	100	4.9	A
	Subtotal	300	302	101	16.6	C
<b>Total</b>		1,266	1,269	100	4.5	A

## SimTraffic LOS Report

**Project:** Highland - 4800 West TS  
**Analysis Period:** Future (2050)  
**Time Period:** Evening Peak Hour **Project #:** UT24-2687

**Intersection:** 4800 West & S.R. 92  
**Type:** Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	875	871	100	94.8	F
	T	490	489	100	53.4	D
	R	65	68	104	27.1	C
	Subtotal	1,430	1,428	100	77.4	E
SB	L	100	97	97	168.3	F
	T	502	481	96	148.8	F
	R	105	102	97	102.5	F
	Subtotal	707	680	96	144.6	F
EB	L	230	220	96	141.7	F
	T	620	626	101	99.6	F
	R	895	895	100	32.6	C
	Subtotal	1,745	1,741	100	70.5	E
WB	L	80	78	98	103.1	F
	T	410	416	102	93.7	F
	R	70	74	105	81.2	F
	Subtotal	560	568	101	93.4	F
<b>Total</b>		4,442	4,417	99	87.5	F

**Intersection:** 4800 West & 11200 North  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	50	49	98	9.9	A
	T	672	665	99	5.3	A
	R	70	72	102	4.0	A
	Subtotal	792	786	99	5.5	A
SB	L	10	8	78	11.9	B
	T	620	623	100	13.4	B
	R	5	6	120	8.8	A
	Subtotal	635	637	100	13.3	B
EB	L	5	6	120	27.7	D
	R	35	31	89	92.1	F
	Subtotal	40	37	93	81.7	F
WB	L	50	46	92	151.6	F
	R	5	5	100	149.0	F
	Subtotal	55	51	93	151.3	F
<b>Total</b>		1,522	1,511	99	16.5	C

## *SimTraffic LOS Report*

**Project:** **Highland - 4800 West TS**  
**Analysis Period:** **Future (2050)**  
**Time Period:** **Evening Peak Hour** **Project #:** **UT24-2687**

**Intersection:** **4800 West & Allegheny Way/Allegheny Ct**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	40	36	90	6.3	A
	T	636	632	99	3.2	A
	R	5	6	120	2.9	A
	Subtotal	681	674	99	3.4	A
SB	L	5	4	80	6.0	A
	T	606	612	101	0.7	A
	R	5	6	120	0.3	A
	Subtotal	616	622	101	0.7	A
EB	L	5	4	80	22.0	C
	T	5	5	100	17.3	C
	R	25	25	101	6.2	A
	Subtotal	35	34	97	9.7	A
WB	L	5	5	100	16.1	C
	R	5	6	120	8.6	A
	Subtotal	10	11	110	12.0	B
<b>Total</b>		1,341	1,341	100	2.4	A

**Intersection:** **4800 West & Healey Blvd**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	541	534	99	2.4	A
	R	105	108	103	1.0	A
	Subtotal	646	642	99	2.2	A
SB	L	10	13	127	7.7	A
	T	536	543	101	1.0	A
	Subtotal	546	556	102	1.2	A
WB	L	80	80	100	27.0	D
	R	5	5	100	4.7	A
	Subtotal	85	85	100	25.7	D
<b>Total</b>		1,277	1,283	100	3.3	A

## *SimTraffic LOS Report*

**Project:** **Highland - 4800 West TS**  
**Analysis Period:** **Future (2050)**  
**Time Period:** **Evening Peak Hour** **Project #:** **UT24-2687**

**Intersection:** **4800 West & Ridge Dr**  
**Type:** **Unsignalized**

<b>Approach</b>	<b>Movement</b>	<b>Demand Volume</b>	<b>Volume Served</b>		<b>Delay/Veh (sec)</b>	
			<b>Avg</b>	<b>%</b>	<b>Avg</b>	<b>LOS</b>
NB	T	298	300	101	0.7	A
	R	250	241	96	0.7	A
	Subtotal	548	541	99	0.7	A
SB	L	65	63	97	4.4	A
	T	320	317	99	0.7	A
	Subtotal	385	380	99	1.3	A
WB	L	<b>225</b>	<b>237</b>	<b>105</b>	<b>18.6</b>	<b>C</b>
	R	45	50	111	14.1	B
	Subtotal	270	287	106	17.8	C
<b>Total</b>		1,203	1,208	100	5.0	A

## SimTraffic LOS Report

**Project:** Highland - 4800 West TS  
**Analysis Period:** Mitigated Future (2050)  
**Time Period:** Evening Peak Hour **Project #:** UT24-2687

**Intersection:** 4800 West & S.R. 92  
**Type:** Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	875	884	101	51.3	D
	T	490	486	99	27.4	C
	R	65	65	100	5.1	A
	Subtotal	1,430	1,435	100	41.1	D
SB	L	100	99	99	73.0	E
	T	502	498	99	63.5	E
	R	105	102	97	17.2	B
	Subtotal	707	699	99	58.1	E
EB	L	230	221	96	64.3	E
	T	620	621	100	57.0	E
	R	895	896	100	15.1	B
	Subtotal	1,745	1,738	100	36.3	D
WB	L	80	76	95	60.9	E
	T	410	415	101	50.1	D
	R	70	76	108	7.9	A
	Subtotal	560	567	101	45.9	D
<b>Total</b>		4,442	4,439	100	42.6	D

**Intersection:** 4800 West & 11200 North  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	50	49	98	9.4	A
	T	672	664	99	5.3	A
	R	70	69	98	2.4	A
	Subtotal	792	782	99	5.3	A
SB	L	10	11	107	7.2	A
	T	620	616	99	2.1	A
	R	5	5	100	1.7	A
	Subtotal	635	632	100	2.2	A
EB	L	5	4	80	17.1	C
	R	35	35	101	4.4	A
	Subtotal	40	39	98	5.7	A
WB	L	50	51	102	19.2	C
	R	5	7	140	11.2	B
	Subtotal	55	58	105	18.2	C
<b>Total</b>		1,522	1,511	99	4.5	A

## *SimTraffic LOS Report*

**Project:** **Highland - 4800 West TS**  
**Analysis Period:** *Mitigated Future (2050)*  
**Time Period:** *Evening Peak Hour* **Project #:** **UT24-2687**

**Intersection:** **4800 West & Allegheny Way/Allegheny Ct**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	40	38	95	6.3	A
	T	636	629	99	2.8	A
	R	5	5	100	2.1	A
	Subtotal	681	672	99	3.0	A
SB	L	5	5	100	5.3	A
	T	606	600	99	0.6	A
	R	5	5	100	0.3	A
	Subtotal	616	610	99	0.6	A
EB	L	5	5	100	17.0	C
	T	5	5	100	18.9	C
	R	25	28	113	5.6	A
	Subtotal	35	38	109	8.9	A
WB	L	<b>5</b>	<b>5</b>	<b>100</b>	<b>20.4</b>	<b>C</b>
	R	5	7	140	7.4	A
	Subtotal	10	12	120	12.8	B
<b>Total</b>		1,341	1,332	99	2.2	A

**Intersection:** **4800 West & Healey Blvd**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	541	534	99	2.3	A
	R	105	107	102	1.0	A
	Subtotal	646	641	99	2.1	A
SB	L	10	10	98	5.8	A
	T	536	534	100	1.0	A
	Subtotal	546	544	100	1.1	A
WB	L	<b>80</b>	<b>77</b>	<b>97</b>	<b>19.2</b>	<b>C</b>
	R	5	5	100	5.3	A
	Subtotal	85	82	96	18.4	C
<b>Total</b>		1,277	1,267	99	2.7	A

## *SimTraffic LOS Report*

**Project:** **Highland - 4800 West TS**  
**Analysis Period:** *Mitigated Future (2050)*  
**Time Period:** *Evening Peak Hour* **Project #:** **UT24-2687**

**Intersection:** **4800 West & Ridge Dr**  
**Type:** **Unsignalized**

<b>Approach</b>	<b>Movement</b>	<b>Demand Volume</b>	<b>Volume Served</b>		<b>Delay/Veh (sec)</b>	
			<b>Avg</b>	<b>%</b>	<b>Avg</b>	<b>LOS</b>
NB	T	298	295	99	0.7	A
	R	250	248	99	0.7	A
	Subtotal	548	543	99	0.7	A
SB	L	65	65	100	4.8	A
	T	320	317	99	0.7	A
	Subtotal	385	382	99	1.4	A
WB	L	<b>225</b>	<b>225</b>	<b>100</b>	<b>17.0</b>	<b>C</b>
	R	45	44	98	3.7	A
	Subtotal	270	269	100	14.8	B
<b>Total</b>		1,203	1,194	99	4.1	A

# APPENDIX C

## 95<sup>th</sup> Percentile Queue Length Reports

**SimTraffic Queueing Report****Project: Highland - 4800 West TS****Analysis: Existing (2024)****Time Period: Morning Peak Hour**95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft**Project #: UT24-2687**

Intersection	NB				SB			EB				WB						
	L	R	T	TR	L	R	T	L	LTR	R	T	TR	L	LR	LTR	R	T	TR
01: 4800 West & S.R. 92	350	75	325		225	175	450	75		125		150				300	250	
02: 4800 West & 11200 North										50								
03: 4800 West & Allegheny Way/Allegheny Ct								50										
04: 4800 West & Healey Blvd											75					50		
05: 4800 West & Ridge Dr					25							100						

# SimTraffic Queueing Report

Project: Highland - 4800 West TS

Analysis: Existing (2024)

Time Period: Evening Peak Hour

95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft



innovative transportation solutions

Project #: UT24-2687

Intersection	NB				SB			EB				WB					
	L	R	T	TR	L	R	T	L	LTR	R	T	TR	L	LR	LTR	R	T
01: 4800 West & S.R. 92	425	100	325		250	225	575	225		125	375		150			250	225
02: 4800 West & 11200 North												50					
03: 4800 West & Allegheny Way/Allegheny Ct	50								50				75				
04: 4800 West & Healey Blvd														100			
05: 4800 West & Ridge Dr					50												

# SimTraffic Queueing Report

Project: Highland - 4800 West TS

Analysis: Future (2050)

Time Period: Morning Peak Hour

95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

**HALES**  **ENGINEERING**  
innovative transportation solutions

Project #: UT24-2687

Intersection	NB				SB				EB				WB				
	L	R	T	TR	L	R	T	TR	L	LTR	T	TR	L	LR	LTR	R	T
01: 4800 West & S.R. 92	875	125	650		250	375	1,300		150		825		250			950	275
02: 4800 West & 11200 North	50				50		250	175			150			225			
03: 4800 West & Allegheny Way/Allegheny Ct	50								50					50			50
04: 4800 West & Healey Blvd					50						100						
05: 4800 West & Ridge Dr					50							200					

**SimTraffic Queueing Report****Project: Highland - 4800 West TS****Analysis: Mitigated Future (2050)****Time Period: Morning Peak Hour**95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft**Project #: UT24-2687**

Intersection	NB				SB				EB				WB			
	L	R	T	TR	L	R	T	TR	L	LTR	R	T	TR	L	LTR	R
01: 4800 West & S.R. 92	525	50	225		225	200	400		125		550		200		150	325
02: 4800 West & 11200 North	50		75								75		75			
03: 4800 West & Allegheny Way/Allegheny Ct	50									75			50			
04: 4800 West & Healey Blvd					50							100		50		
05: 4800 West & Ridge Dr					50							150		75		

# SimTraffic Queueing Report

Project: Highland - 4800 West TS

Analysis: Future (2050)

Time Period: Evening Peak Hour

95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

**HALES**  **ENGINEERING**  
innovative transportation solutions

Project #: UT24-2687

Intersection	NB				SB				EB				WB							
	L	R	T	TR	L	R	T	TR	L	LTR	R	T	TR	L	LR	LTR	R	T	TR	
01: 4800 West & S.R. 92	1,150	225	950		275	375	1,350		275		450	1,300		225				750	275	
02: 4800 West & 11200 North	50				75		350	100				100				275				
03: 4800 West & Allegheny Way/Allegheny Ct	50									75							50			
04: 4800 West & Healey Blvd					50							100								
05: 4800 West & Ridge Dr					50												175			

**SimTraffic Queueing Report****Project: Highland - 4800 West TS****Analysis: Mitigated Future (2050)****Time Period: Evening Peak Hour**95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft**Project #: UT24-2687**

Intersection	NB				SB				EB				WB				
	L	R	T	TR	L	R	T	TR	L	LTR	R	T	TR	L	LTR	R	T
01: 4800 West & S.R. 92	475	75	250		225	125	325		350		225	800		175		125	300
02: 4800 West & 11200 North	50	50	75									50		75			
03: 4800 West & Allegheny Way/Allegheny Ct	50									75				50			
04: 4800 West & Healey Blvd													100				
05: 4800 West & Ridge Dr					50							150		50			

# APPENDIX D

## Crash Data

## CRASH SUMMARY REPORT

# 4800 West & SR-92

Created on January 25, 2024

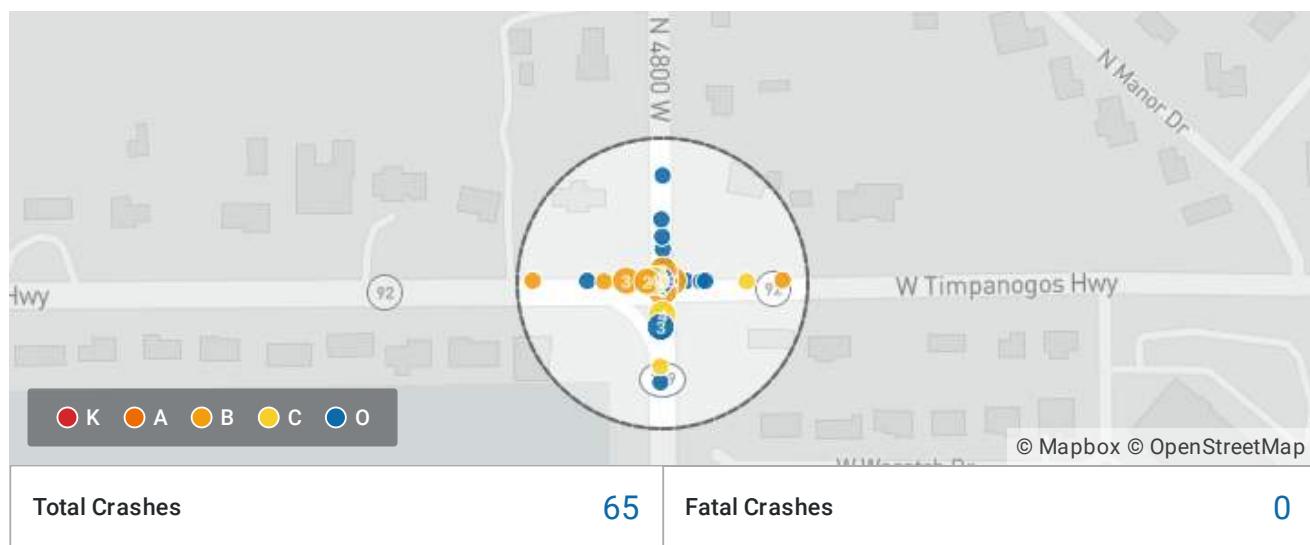
Created by Joseph Browning

Data extents: January 1, 2018 to December 31, 2022



### Applied Filters

Shape: Circle 250 ft



UDOT Crash Summary	Crashes
Total Crashes	65 100.00%
Intersection Related	63 96.92%
Distracted Driving	10 15.38%
CMV Involved	3 4.62%
Roadway Departure	3 4.62%
Speed Related	2 3.08%
Drowsy Driving	1 1.54%
Pedalcycle Involved	1 1.54%
+ 5 more	0 0%

Crash Verified	Crashes
True	65 100.00%
False	0 0.00%

Crash Severity	Crashes
No injury/PDO	38 58.46%

Suspected Minor Injury	14	21.54%
Possible injury	12	18.46%
Suspected Serious Injury	1	1.54%
Fatal	0	0.00%

Injury Level	People
No injury	101 79.53%
Suspected Minor Injury	17 13.39%
Possible injury	8 6.30%
Suspected Serious Injury	1 0.79%
+ 2 more	0 0%

Manner of Collision	Crashes
Front to Rear	31 47.69%
Angle	25 38.46%
Head On (front-to-front)	3 4.62%
Not Applicable/Single Vehicle	3 4.62%
Parked Vehicle	1 1.54%
Sideswipe Opposite Direction	1 1.54%
Sideswipe Same Direction	1 1.54%
+ 4 more	0 0%

Crash Date Time (Year)	Crashes
2022	11 16.92%
2021	12 18.46%
2020	15 23.08%
2019	12 18.46%
2018	15 23.08%
+ 10 more	0 0%

V1 & V2 Movement & Direction (Crash Level Only)	Crashes
Turning Left (Westbound) & Straight Ahead (Eastbound)	15 23.08%
Straight Ahead (Eastbound) & Stopped in Traffic Lane (Eastbound)	5 7.69%
Straight Ahead (Southbound) & Stopped in Traffic Lane (Southbound)	5 7.69%
Straight Ahead (Northbound) & Stopped in Traffic Lane (Northbound)	4 6.15%
Slowing in Traffic Lane (Northbound) & Stopped in Traffic Lane (Northbound)	3 4.62%
Straight Ahead (Westbound) & Stopped in Traffic Lane (Westbound)	3 4.62%
Turning Left (Eastbound) & Straight Ahead (Westbound)	3 4.62%
Turning Left (Southbound) & Straight Ahead (Eastbound)	3 4.62%

+ 992 more	21	32.34%
------------	----	--------

Roadway Surface Condition	Crashes
Dry	58 89.23%
Wet	6 9.23%
Snow	1 1.54%
+ 12 more	0 0%

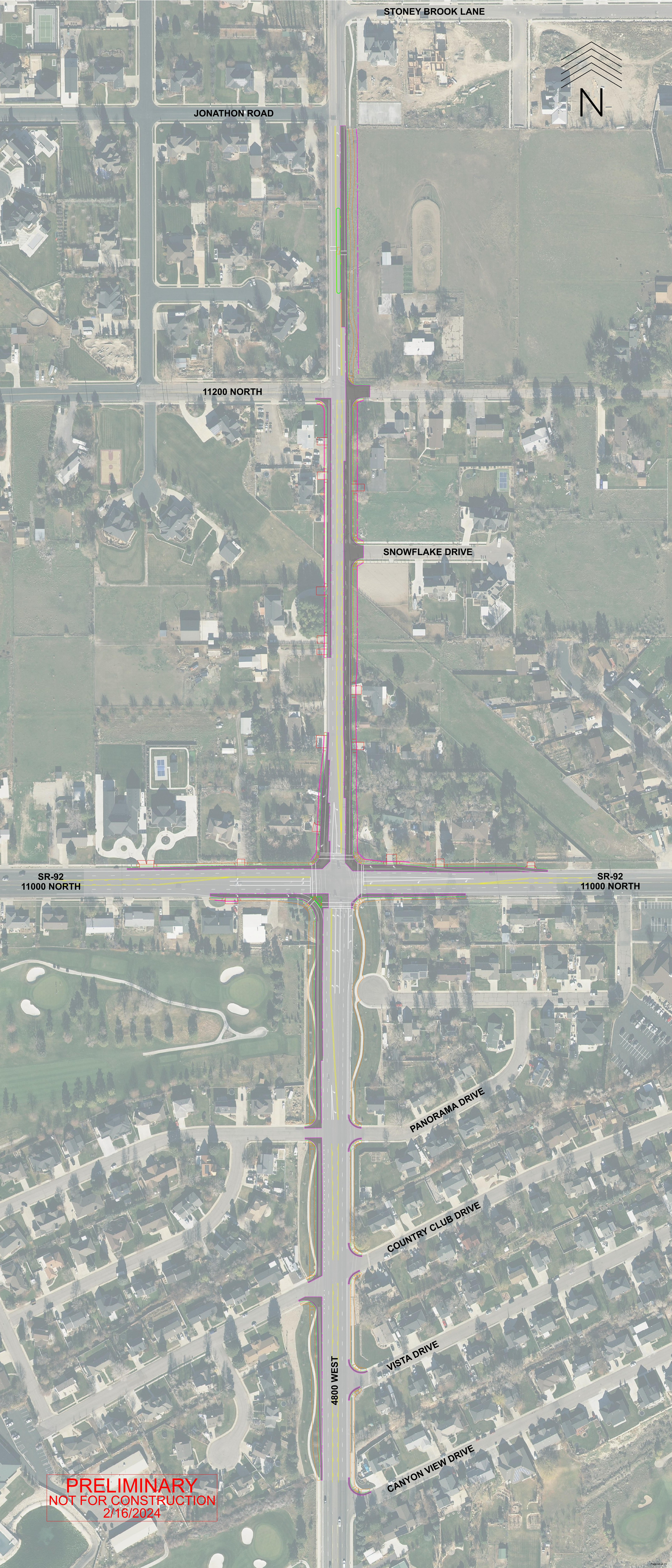
Weather Condition	Crashes
Clear	47 72.31%
Cloudy	11 16.92%
Rain	4 6.15%
Snowing	2 3.08%
Blowing Snow	1 1.54%
+ 6 more	0 0%

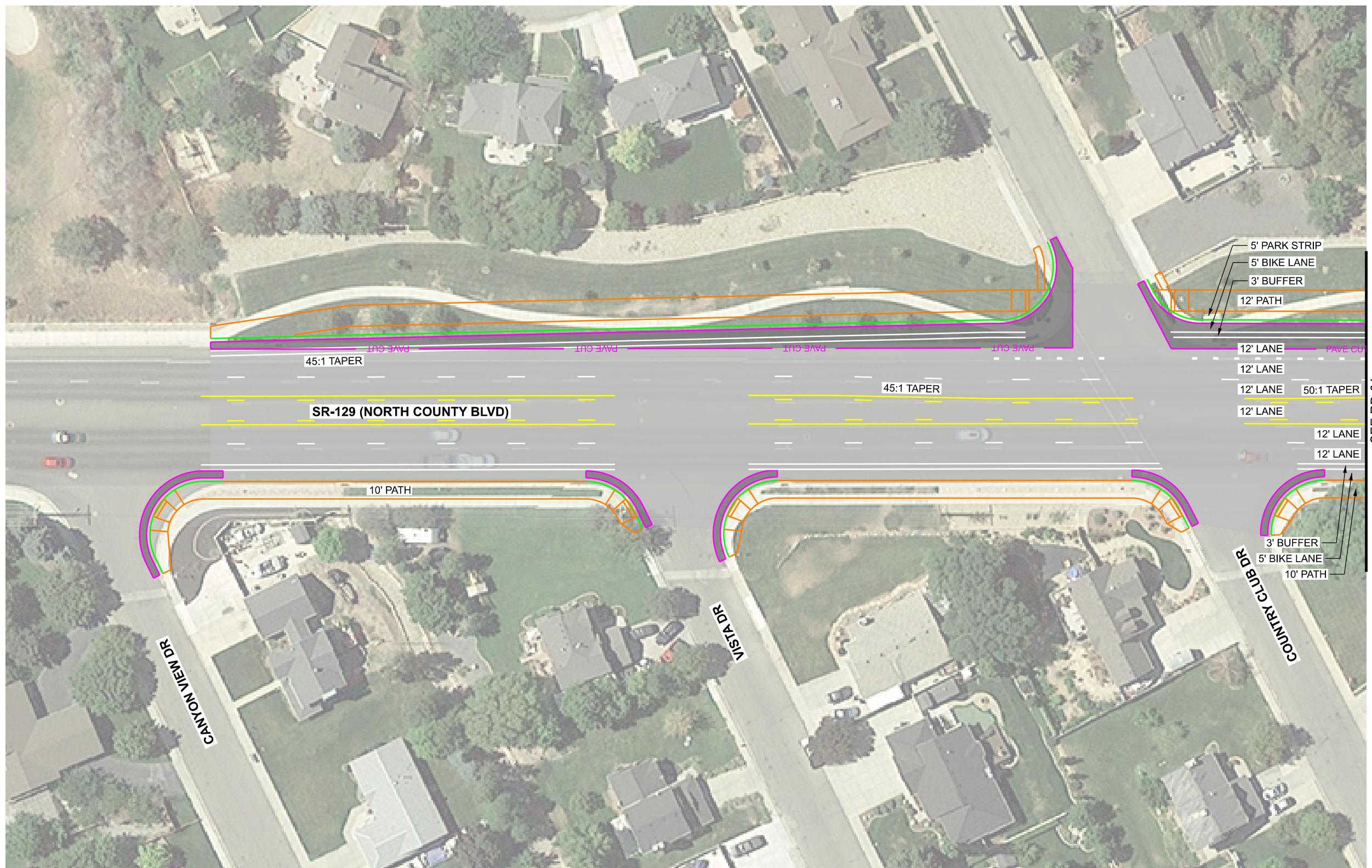
Most Harmful Event	Vehicle
Collision With Other Motor Vehicle in Transport	127 92.70%
Collision With Parked Motor Vehicle	4 2.92%
Fence	2 1.46%
Other Non-Collision*	1 0.73%
Overtake/Rollover	1 0.73%
Pedacycle	1 0.73%
Traffic Sign Support	1 0.73%
+ 48 more	0 0%

Light Condition	Crashes
Daylight	41 63.08%
Dark - Lighted	19 29.23%
Dark - Not Lighted	2 3.08%
Dawn	2 3.08%
Dusk	1 1.54%
+ 3 more	0 0%

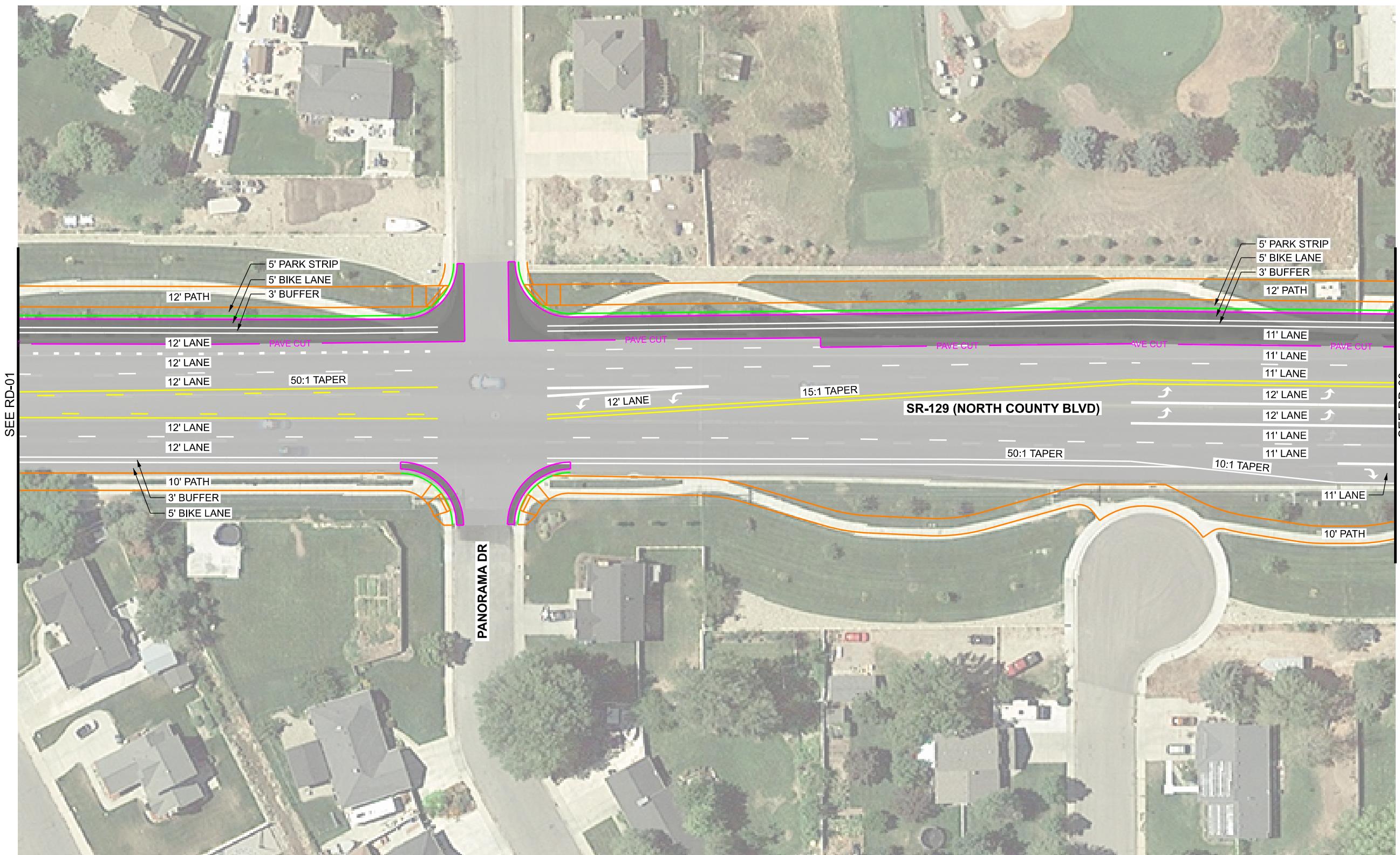
Countermeasures	Crashes
Countermeasure: Left Turn Lane	28 43.08%
Countermeasure: Left Turn Phase Change	24 36.92%
Countermeasure: Intersection Lighting	2 3.08%
Countermeasure: Right Turn Lane	2 3.08%

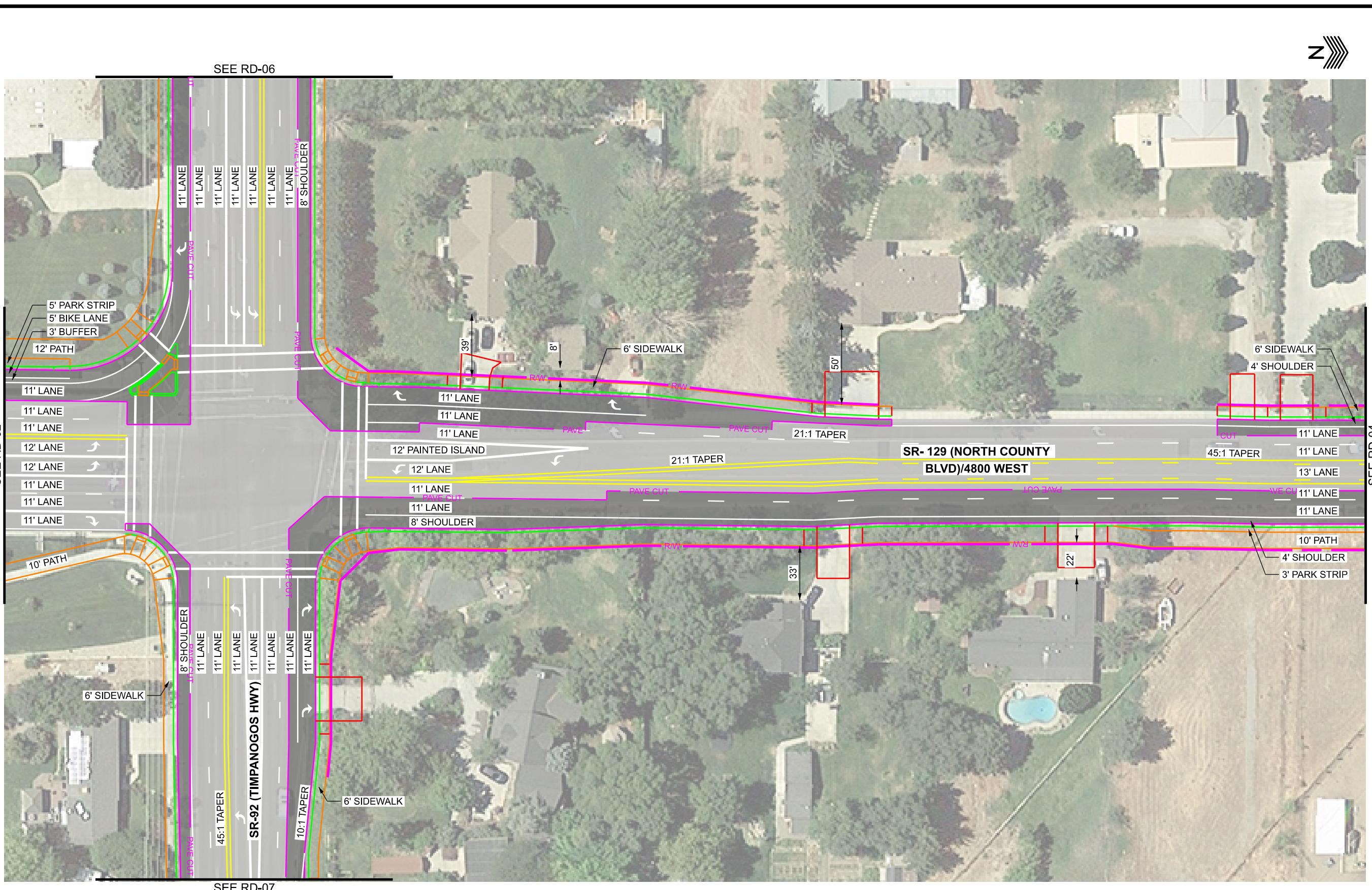
Countermeasure: Active Transportation Improvement	1	1.54%
+ 10 more	0	0%





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**PRELIMINARY  
NOT FOR CONSTRUCTION  
2/16/2024**

2/16/2024

SHEET  
NUMBER  
RD-03

RD-03

avenue consultants, inc  
5575 S Redwood Road, Ste 101  
Taylorsville, UT 84123  
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Avenue Consultants, Inc

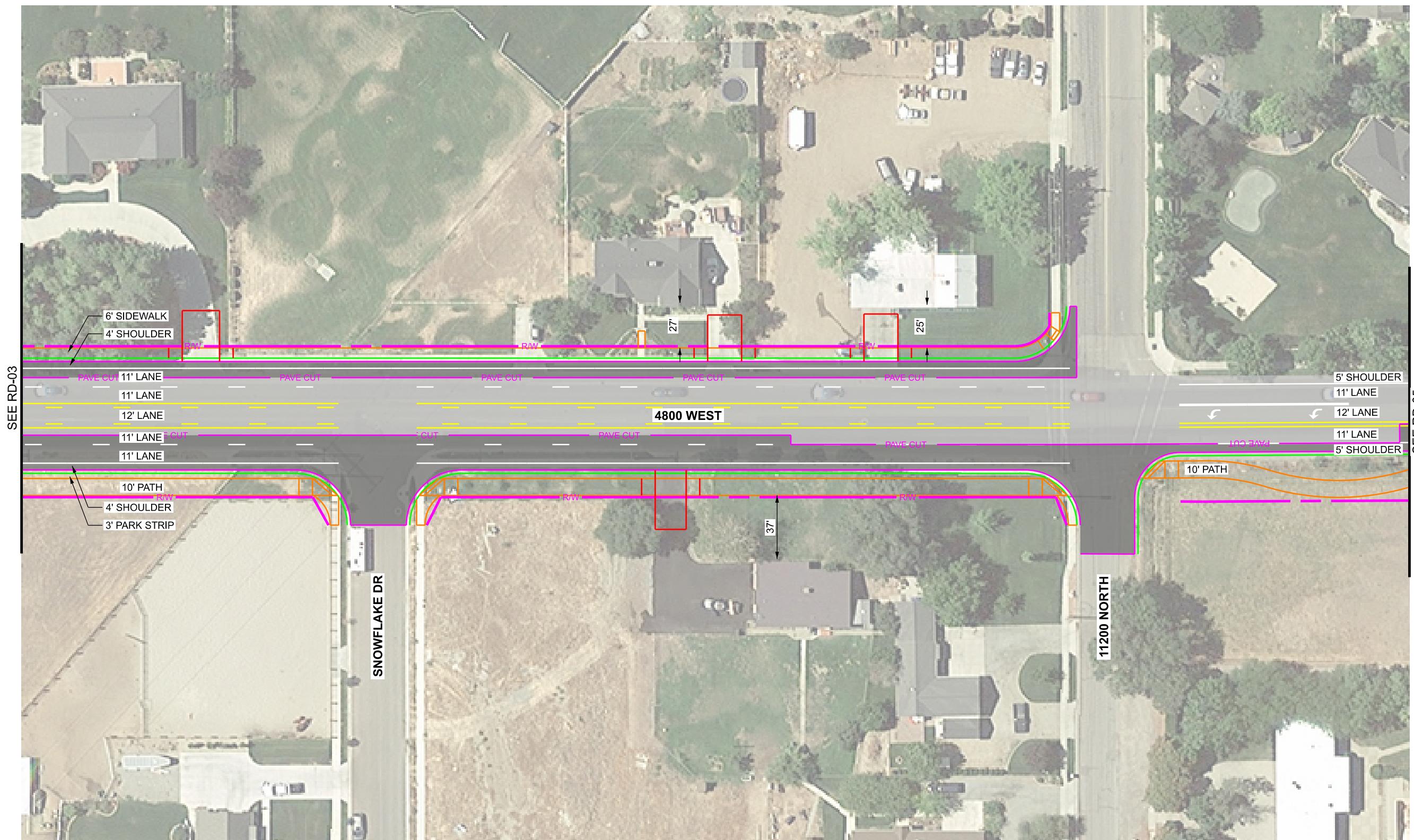
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APPROVED

RD-03

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