# White Rock Grand Canyon Intersection Analysis

Final Report, October 1, 2024



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## 1. Executive Summary

This study was conducted in response to the petition from the residents to improve road and pedestrian safety at several key intersections along Grand Canyon Drive in White Rock, New Mexico. The purpose of this study is to evaluate safety and operations; conduct warrant analysis for the installation of a traffic signal, all-way stop control (AWSC), or pedestrian hybrid beacon; and recommend measures to enhance pedestrian and vehicle safety at the following three two-way stop-controlled intersections:

- Grand Canyon Drive and Sherwood Boulevard stop controls on Sherwood Boulevard
- Rover Boulevard and Grand Canyon Drive stop controls on Grand Canyon Drive
- Aragon Avenue and Grand Canyon Drive stop controls on Grand Canyon Drive

## 1.1 Residents' Reported Issues

The following are the key issues reported by the residents at the study intersections:

#### Grand Canyon Drive/Sherwood Boulevard Intersection

- The drivers are ignoring crossing pedestrians.
- A crossing guard is absent.

#### **Rover Boulevard/Grand Canyon Drive Intersection**

- The drivers are ignoring crossing pedestrians.
- A crossing guard is absent.
- Sight issues cause pedestrian-vehicle conflicts while crossing Rover Boulevard.

#### Aragon Avenue/Grand Canyon Drive Intersection

- It is difficult to cross the intersection during the start and end times of the Los Alamos National Laboratory.
- Several collisions occurred at this intersection.

The residents suggested installing an AWSC at each study intersection to handle the above issues.

## **1.2 Field Observations**

The following operations and issues were observed at the study intersections during the field visit:

#### Grand Canyon Drive/Sherwood Boulevard Intersection

- Westbound Grand Canyon Drive experiences congestion during the school's peak traffic hours.
- A crossing guard is stationed during the school drop-off and pick-up periods.
- Drivers frequently do not fully stop at the stop signs.
- Potential sight distance issues exist in the southeast and northwest corners.
- Flashing school zone lights installed along westbound Grand Canyon Drive are wrongly positioned and do not sufficiently alert drivers until they are close to the pedestrian area.

• Pedestrian crossing signs do not fully meet the MUTCD guidelines for placement and visibility.

#### Rover Boulevard/Grand Canyon Drive Intersection

- Significant traffic flows during the school drop-off and pick-up periods.
- A crossing guard is not stationed.
- Crosswalks are faded and less visible to approaching traffic.
- Absence of speed reduction measures could cause potential pedestrian-vehicle conflicts.
- The intersection is relatively open, with few obstructions. A recent County-initiated trimming of roadside trees has improved visibility to now meet the sight distance requirements.
- Operational times of the flashing school zone lights installed on Rover Boulevard do not align with the time periods when students are crossing the intersection on their way to/from school.

#### Aragon Avenue/Grand Canyon Drive Intersection

- Lighter traffic during the school drop-off and pick-up periods, compared to the other study intersections.
- Less number of pedestrians cross at this intersection.
- No school crossing signs or pedestrian safety measures are provided.
- No sightline issues at this intersection.

## **1.3 Summary of Analyses**

Traffic, warrant, safety, and pedestrian analyses were conducted using traffic counts collected in August 2024. All analyses were conducted for a typical weekday, when peak traffic activity is expected in the study area. A summary of all the analyses conducted at the study intersections is provided below.

#### Grand Canyon Drive/Sherwood Boulevard Intersection

- The majority of the pedestrians are crossing the stop-controlled minor street (Sherwood Boulevard).
- Average number of pedestrians crossing the uncontrolled (without stop signs) major street (Grand Canyon Drive) is more than 10 pedestrians per hour (pph) only for one hour of the day (during the school drop-off hour between 8 and 9 AM); for the remaining hours, it is less than 10 pph.
- During the morning and evening peak traffic hours, the worst-operating approach of the intersection operates at level of service (LOS) B, with an average delay in the range of 11-13 seconds per vehicle.
- Between 2018 and 2023, no collisions occurred at or near the intersection.
- The intersection meets the Manual on Uniform Traffic Control Devices (MUTCD) requirements for intersection and stopping sight distances.
- The intersection does not meet any of the traffic control signal warrants.
- The intersection will not meet any of the AWSC warrants once the vegetation in the northwest and southeast corners of the intersection has been trimmed and regularly maintained.
- No pedestrian hybrid beacon requirement analysis was conducted, since it already has pedestrian school zone flashing lights.

#### **Rover Boulevard/Grand Canyon Drive Intersection**

- Average number of pedestrians crossing the uncontrolled (without stop signs) major street (Rover Boulevard) is more than 20 pph only for one hour of the day (during the school drop-off hour between 8 and 9 AM); for the remaining hours, it is less than 10 pph.
- During the morning and evening peak traffic hours, the worst-operating approach of the intersection operates at LOS B, with an average delay in the range of 12-13 seconds per vehicle.
- Between 2018 and 2023, two collisions occurred near the intersection (about a few hundred feet north of Grand Canyon Drive) one was a property damage only collision that occurred in 2018 and the other an injury collision that occurred in 2023.
- No collision occurred at the study intersections itself.
- No fatalities occurred in any of the recent collisions.
- No pedestrian was involved in any of the recent collisions.
- The intersection meets the MUTCD requirements for intersection and stopping sight distances.
- The intersection does not meet any of the traffic control signal warrants.
- The intersection does not meet any of the AWSC warrants. However, the vegetation by the intersection has to be trimmed regularly to avoid this warrant.
- No pedestrian hybrid beacon requirement analysis was conducted, since the intersection already has pedestrian school zone flashing lights north and south of it.

#### Aragon Avenue/Grand Canyon Drive Intersection

- Average number of pedestrians crossing the uncontrolled (without stop signs) major street (Aragon Avenue) is about 10 pph only for one hour of the day (during the school drop-off hour between 8 and 9 AM); for the remaining hours, it is 10 pedestrians or few per hour.
- During the morning and evening peak traffic hours, the worst-operating approach of the intersection operates at LOS A, with an average delay of about 9 seconds per vehicle.
- Between 2018 and 2023, no collisions occurred at or near the intersection.
- The intersection meets the MUTCD requirements for intersection and stopping sight distances.
- The intersection does not meet any of the traffic control signal warrants.
- The intersection does not meet any of the AWSC warrants.
- Low pedestrian activity at this intersection (less than 20 pph crossing the major street) does not support the installation of a pedestrian hybrid beacon.

## **1.4 Recommendations**

The following countermeasures to improve safety, performance, and operations at the study intersections were recommended.

#### Grand Canyon Drive/Sherwood Boulevard Intersection

- **Sherwood Recommendation 1** Trim vegetation on the northwest and southeast corners of the intersection to maintain sightlines for the road users.
- **Sherwood Recommendation 2** Remove and relocate flashing zone lights upstream per the MUTCD guidelines to provide early warning of pedestrian area approach.

- Sherwood Recommendation 3 Update crossing signs per the latest MUTCD guidelines.
- **Sherwood Recommendation 4** Review the feasibility of installing traffic calming measures (e.g., curb extensions, etc.) and enhanced signage and pavement markings.

#### **Rover Boulevard/Grand Canyon Drive Intersection**

- **Rover Recommendation 1** Restripe crosswalks per the latest MUTCD guidelines to enhance visibility of the faded ones.
- **Rover Recommendation 2** Trim vegetation regularly at intersection corners to maintain sightlines for the road users.
- **Rover Recommendation 3** Review operation times for flashing school zone lights installed on Rover Boulevard.
- **Rover Recommendation 4** Review the feasibility of installing traffic calming measures (e.g., curb extensions, etc.) and enhanced signage and pavement markings.

#### Aragon Avenue/Grand Canyon Drive Intersection

1. *Aragon Recommendation 1* – Install crosswalk(s), pavement marking, and signage across the major street to enhance the visibility of the major street crossings.

The above recommendations are expected to address the issues reported by the residents and identified during the field study as summarized in **Table 1-1**.

#### Table 1-1 Effectiveness of Recommendations at the Study Intersections

Reported/Observed Issue	Recommended Countermeasure	Issue Resolved with Countermeasure?
Grand Canyo	n Drive/Sherwood Bo	ulevard Intersection
Observed during Field Study		
1. Drivers frequently do not fully stop at the stop signs	Sherwood Recommendations 1 & 4	Yes (maintaining sightlines and installing traffic calming measures will improve pedestrian visibility, force drivers to slow/stop, and reduce pedestrian crossing times)
2. Potential sight distance issues exist in the southeast and northwest corners	Sherwood Recommendation 1	Yes
3. Flashing school zone lights installed along westbound Grand Canyon Drive are wrongly positioned	Sherwood Recommendation 2	Yes
4. Pedestrian crossing signs do not fully meet the MUTCD guidelines for placement and visibility	Sherwood Recommendation 3	Yes
Reported by Residents		
5. A crossing guard is absent	None	Field observations do not support this claim
6. Drivers are ignoring crossing pedestrians	Sherwood Recommendations 1 & 4	Yes (maintaining sightlines and installing traffic calming measures will improve pedestrian visibility, force drivers to slow/stop, and reduce pedestrian crossing times)
Rover Boul	evard/Grand Canyon	Drive Intersection
Observed during Field Study		
1. A crossing guard is not stationed	Rover Recommendation 4	Yes (installing traffic calming measures will improve students' visibility, force drivers to slow/stop, and reduce pedestrian crossing times)
2. Crosswalks are faded and less visible to approaching traffic	Rover Recommendation 1	Yes
3. A recent County-initiated trimming of roadside trees has improved visibility for drivers	Rover Recommendation 2	Yes
4. Absence of speed reduction measures could cause potential pedestrian-vehicle conflicts	Rover Recommendation 4	Yes
5. Operational times of flashing school zone lights do not align with the time periods when students are crossing the intersection on their way to/from school.	Rover Recommendation 3	Yes

Reported/Observed Issue	Recommended Countermeasure	Issue Resolved with Countermeasure?		
Reported by Residents				
6. A crossing guard is absent	Rover Recommendation 4	Yes (installing traffic calming measures will improve students' visibility, force drivers to slow/stop, and reduce pedestrian crossing times)		
7. Drivers are ignoring crossing pedestrians	Rover Recommendations 2 & 4	Yes (maintaining sightlines and installing traffic calming measures will improve pedestrian visibility, force drivers to slow/stop, and reduce pedestrian crossing times)		
8. Sight issues cause pedestrian-vehicle conflicts while crossing Rover Boulevard	Rover Recommendations 2 & 4	Yes (maintaining sightlines and installing traffic calming measures will improve pedestrian visibility, force drivers to slow/stop, and reduce pedestrian crossing times)		
Aragon Av	enue/Grand Canyon	Drive Intersection		
Observed during Field Study				
1. No school crossing signs or pedestrian safety measures are provided	Aragon Recommendation 1	Yes (crosswalks, markings, and signage would enable pedestrians to cross the major street safely)		
Reported by Residents				
2. Difficult to cross the intersection during the start and end times of the national laboratory	Aragon Recommendation 1	Yes (with low intersection traffic of 135 vph or lower, dedicated crosswalk(s) will enable pedestrians to cross the major street safely)		
3. Several collisions occurred at this intersection	None	Most-recent crash data between 2018 and 2023 does not support this claim		

## 2. Introduction

## 2.1 Study Purpose

Los Alamos County has received a petition from the residents to improve road and pedestrian safety at several key intersections along Grand Canyon Drive in White Rock, New Mexico. These intersections are located along significant routes for students attending the Piñon Elementary School, and non-motorized transportation users have expressed safety concerns at those intersections due to the lack of crossing guards and motor vehicles frequently ignoring pedestrian crosswalks. The purpose of this study is to evaluate safety and operations; conduct warrant analysis for the installation of a traffic signal, all-way stop control (AWSC), or pedestrian hybrid beacon; and recommend measures to enhance pedestrian and vehicle safety at the following three intersections:

- 1. Grand Canyon Drive and Sherwood Boulevard
- 2. Rover Boulevard and Grand Canyon Drive
- 3. Aragon Avenue and Grand Canyon Drive

## 2.2 Key Issues Reported

The following are the key issues reported by the residents at the study intersections:

- Grand Canyon Drive/Sherwood Boulevard Intersection
  - The drivers are ignoring crossing pedestrians.
  - A crossing guard is absent.
- Rover Boulevard/Grand Canyon Drive Intersection
  - The drivers are ignoring crossing pedestrians.
  - A crossing guard is absent.
  - o Sight issues cause pedestrian-vehicle conflicts while crossing Rover Boulevard.
- Aragon Avenue/Grand Canyon Drive Intersection
  - It is difficult to cross the intersection during the start and end times of the Los Alamos National Laboratory.
  - Several collisions occurred at this intersection.

The residents suggested installing an AWSC at each study intersection to handle the above issues.

## 2.3 Study Area

All the study intersections are controlled by two-way stop controls (TWSCs) as follows:

- 1. Grand Canyon Drive and Sherwood Boulevard stop controls on Sherwood Boulevard
- 2. Rover Boulevard and Grand Canyon Drive stop controls on Grand Canyon Drive
- 3. Aragon Avenue and Grand Canyon Drive stop controls on Grand Canyon Drive

All the study intersections have single-lane approaches. The intersection of Grand Canyon Drive and

Sherwood Boulevard is located about 500 feet east of the Piñon Elementary School, the Rover Boulevard/Grand Canyon Drive intersection about 0.4 miles east, and the Aragon Avenue/Grand Canyon Drive intersection about 0.8 miles east. The study area of the project is shown in **Figure 2-1**.



Figure 2-1 Study Area

Source: OpenStreetMap

#### 2.3.1 Major Roadways

**Grand Canyon Drive** is a two-lane roadway running through the heart of White Rock primarily in the eastwest direction between State Road 4 (SR 4) and Meadow Lane. North of SR 4 it continues as Pajarito Road. Grand Canyon Drive connects most key roadways in White Rock. In the study area, it has no median, has a posted speed limit of 15 miles per hour (mph) within the school zone during school pick-up and drop-off periods and 25 mph during remaining times and in other areas, has sidewalks on either side, and allows onstreet parking. Grand Canyon Drive is classified as a Collector in the Los Alamos County 2016 Comprehensive Plan.

**Sherwood Boulevard** is a two-lane, north-south roadway between SR 4 in the north and Piedra Loop in the south. It is one of the key north-south roadways connecting White Rock with SR 4. In the study area, it has no median, has a posted speed limit of 25 mph, has sidewalks on the east side typically, and allows on-street parking. Sherwood Boulevard is classified as a Collector in the Los Alamos County 2016 Comprehensive Plan.

**Rover Boulevard** is a two-lane roadway between SR 4 in the north and Paul Place in the south. East of Paul Place it continues as Meadow Lane. Together with Meadow Lane, Rover Boulevard forms a loop/circular

roadway around the eastern part of White Rock. In the study area, Rover Boulevard has no median, has a posted speed limit of 15 mph during school drop-off and pick-up periods and 25 mph during remaining times, has sidewalks on both sides, and allows on-street parking. It is classified as a Collector in the Los Alamos County 2016 Comprehensive Plan.

**Aragon Avenue** is a two-lane, predominantly north-south roadway between Cheryl Avenue in the north and Rover Boulevard in the south. In the study area, it has no median, has a posted speed limit of 25 mph, has sidewalks on either side, and allows on-street parking. Aragon Avenue is classified as a Collector in the Los Alamos County 2016 Comprehensive Plan.

## 3. Area Conditions

## 3.1 Field Conditions

Field reconnaissance was conducted by the project team on August 27, 2024. A summary of the field conditions at the study intersections is provided below.

Grand Canyon Drive/Sherwood Boulevard Intersection

- It experiences traffic congestion during the school's peak traffic hours, especially between 7:30 AM and 8:15 AM, with most traffic along westbound Grand Canyon Drive.
- A crossing guard is stationed at this location during the school drop-off and pick-up periods.
- A recurring issue is that drivers do not fully stop at the stop signs on Sherwood Boulevard.
- Potential sight distance issues exist in the southeast and northwest corners, reducing visibility for drivers approaching the crosswalk.
- Flashing school zone lights are installed along westbound Grand Canyon Drive and operate from 7:30 to 8:20 AM and 2:30 and 3:00 PM. However, they are positioned further west of the west crosswalk at the intersection and do not sufficiently alert drivers until they are close to the pedestrian area.
- Current pedestrian crossing signs, though visible, do not fully meet the Manual on Uniform Traffic Control Devices (MUTCD) guidelines for placement and visibility.

Rover Boulevard/Grand Canyon Drive Intersection

- No crossing guard is stationed at this location during the school drop-off and pick-up periods, posing a hazard to young students.
- Crosswalks are faded and less visible to approaching traffic, particularly under low-light conditions.
- Absence of speed reduction measures could result in potential pedestrian-vehicle conflicts.
- The intersection is relatively open, with few obstructions. A recent County-initiated trimming of roadside trees has improved visibility to now meet the sight distance requirements.
- Significant traffic flows during the school drop-off and pick-up periods.
- The intersection has flashing pedestrian beacons along Rover Boulevard, about 50-100 feet north and south of the intersection. Their operational times do not align with the time periods when students are crossing the intersection on their way to/from school.
- The pedestrian crosswalk across Rover Boulevard has a school crossing sign.

Aragon Avenue/Grand Canyon Drive Intersection

- It has lighter traffic during the school drop-off and pick-up periods, compared to the other two study intersections.
- Less number of pedestrians cross at this intersection.
- No school crossing signs or pedestrian safety measures are provided.
- No sightline issues at this intersection.

A detailed discussion on field conditions is provided in the Field Conditions and Safety Issues Technical Memorandum included in **Appendix A**, while signage provided in the study area is exhibited in **Appendix B**.

## 3.2 Existing Intersection Operations

Traffic and pedestrian counts were collected at the study intersections on typical weekdays (when peak traffic activity is expected in the study area) on August 20 (Tuesday), August 21 (Wednesday), and August 22 (Thursday) of 2024. Traffic and pedestrian counts were collected in 15-minute intervals between 6 AM and 7 PM (the period of most traffic activity) on each of those days. An average value of the three days, representing average weekday conditions, was calculated and used for traffic and warrant analyses. The count data and the calculated average weekday traffic volumes are included in **Appendix C**.

## 3.2.1 Study Periods

The study intersections were evaluated under the following peak traffic conditions during the morning and evening periods to identify their worst operations:

- Morning peak hour 7:00 to 8:00 AM
- Evening peak hour 4:30 to 5:30 PM

These peak hours were identified based on the average weekday traffic volumes.

### 3.2.2 Study Methodologies

The operating characteristics of intersections are described by the concept of level of service (LOS), which is a qualitative description of the performance of an intersection based on the average delay per vehicle. Intersection LOS values range from LOS A, which indicates free flow or excellent conditions with short delays, to LOS F, which indicates congested or overloaded conditions with extremely long delays.

The study intersections were evaluated using the methodology identified in the Highway Capacity Manual (HCM), Sixth Edition. This methodology calculates LOS value based on the average vehicle delay (in seconds) at an intersection. For signalized and all-way stop-controlled intersections, the LOS value is based on the combined weighted average delay of the whole intersection. For one-way and two-way stop-controlled intersections, LOS value is calculated for each controlled movement, as opposed to the intersection as a whole. LOS definitions for signalized and unsignalized intersections are provided in **Table 3-1**.

		Average Control Delay (seconds per vehicle)         Unsignalized Intersection       Signalized Intersection $\leq 10.0$ $\leq 10.0$ 10.1 - 15.0 $10.1 - 20.0$ 15.1 - 25.0 $20.1 - 35.0$ 25.1 - 35.0 $35.1 - 55.0$ 35.1 - 50.0 $55.1 - 80.0$	
LOS	Description of Operations	Unsignalized Intersection	Signalized Intersection
А	No Delay for stop-controlled approaches	≤ 10.0	≤ 10.0
В	Operations with minor delays	10.1 - 15.0	10.1 - 20.0
С	Operations with moderate delays	15.1 – 25.0	20.1 – 35.0
D	Operations with some delays	25.1 - 35.0	35.1 – 55.0
Е	Operations with high delays, and long queues	35.1 – 50.0	55.1 – 80.0
F	Operations with extreme congestion, very high delays, and long queues unacceptable to most drivers	≥ 50.1	≥ 80.1

#### Table 3-1 Intersection LOS Criteria

Source: Highway Capacity Manual, Transportation Research Board, Sixth Edition.

Capacity analysis at the study Intersection was conducted using the Highway Capacity Software, 2024.

### 3.2.3 Existing Traffic Volumes

The study intersections' turning movement volumes during the weekday AM and PM peak hours, along with their geometric configurations, are exhibited in **Figure 3-1**.



#### Figure 3-1 Existing Intersection Volumes



#### 3.2.4 Existing Intersection Operations

Table 3-2 summarizes the existing operations at each study intersection during the AM and PM peak hours.

Under Existing Conditions, the worst-operating approach of all the study intersections operate at LOS B or better during both the AM and PM peak hours. The worst-operating approach of Grand Canyon Drive/Sherwood Boulevard and Rover Boulevard/Grand Canyon Drive intersections operates at LOS B during both the AM and PM peak hours, while that of the Aragon Avenue/Grand Canyon Drive intersection operates at LOS A. As such, drivers experience minimal traffic delays (average delays of less than 15 seconds per vehicle) at the study intersections.

Appendix D contains the analysis output sheets documenting the intersection level of service calculations.

	Table 5-2 Existing intersection Operations						
		Troffic	AM Pea	ak Hour	PM Peak Hour		
#	Intersection	Control	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS B B	
1	Grand Canyon Drive/ Sherwood Boulevard	TWSC	12.7 (NB)	В	11.2 (SB)	В	
2	Rover Boulevard/ Grand Canyon Drive	TWSC	13.2 (EB)	В	12.1 (EB)	В	
3	Aragon Avenue/ Grand Canyon Drive	TWSC	9.6 (EB)	А	9.3 (EB)	А	

#### Table 3-2 Existing Intersection Operations

Notes:

TWSC – Two-Way Stop Control

EB – Eastbound approach, NB – Northbound Approach, SB – Southbound Approach

At TWSC, delay is presented for the worst-operating movement/approach.

## 3.3 Existing Pedestrian Activity

**Figure 3-2** exhibits the average number of hourly pedestrians crossing major street at each of the study intersections between 6 AM and 7 PM on a typical weekday. These volumes were identified using the pedestrian counts collected on three weekdays, as mentioned in Section 3.2: Existing Intersection Operations.



Figure 3-2 Average Number of Pedestrians Crossing Major Street per Hour

Key observations include the following:

- Grand Canyon Drive/Sherwood Boulevard
  - Most pedestrians cross the major street (Grand Canyon Drive) during the school drop-off period
     about 12 pedestrians per hour (pph) between 8 and 9 AM.
  - During the remaining periods, pedestrian activity is low, with 5 pedestrians or fewer crossing the major street per hour.
- Rover Boulevard/Grand Canyon Drive
  - Peak pedestrian activity of about 23 pph crossing the major street (Rover Boulevard) occurs during the school drop-off period between 8 and 9 AM.
  - During the remaining periods, less than 10 pph cross the major street.
- Aragon Avenue/Grand Canyon Drive
  - Peak pedestrian activity of about 17 pph crossing the major street (Aragon Avenue) occurs between 8 and 9 AM.
  - During the remaining periods, 10 pedestrians or fewer cross the major street per hour.

## 3.4 Intersection Safety Performance

To evaluate safety performance of the study intersections, historical crash data was collected within the study area for a five-year period between 2018 and 2023 (the most-recent period for which data is available). This data was obtained from the New Mexico Statewide Traffic Records System (NMSTRS). A summary of the crash data is provided in **Table 3-3**, while the actual data is included in **Appendix E**.

#	Date	ate Location		Cause	Pedestrians Involved?	Weather	Alcohol Involvement
1	January 2018	358 ft north of Rover Boulevard/Grand Canyon Drive intersection	Property Damage Only	Collision with vehicle	No	Clear	No
2	January 2023 413 ft north of Rover Boulevard/Grand Canyon Drive intersection		Injury	Collision with vehicle	No	Clear	No

Over the most-recent five-year period between 2018 and 2023, only two collisions were reported within the study area. Both were collisions with other vehicles and occurred a few hundred feet north of the Rover Boulevard/Grand Canyon Drive intersection. One was a property damage only collision and the other was an injury collision. Pedestrians were not involved in either of the collisions and none reported driving under influence. Key observations from the crash data include the following:

- Very few collisions occurred within the study area between 2018 and 2023.
- None occurred at the study intersections itself.
- No fatalities occurred in any of the recent collisions
- No pedestrian was involved in any of the recent collisions.
- No clear pattern or cause of collision could be identified from the two collisions.

The most-recent crash data does not indicate any obvious major safety issues at the study intersections.

Though crash data analysis provides an indication of intersection safety performance, it should be noted that the crash data does neither include nor indicate any near-miss collisions that might have occurred at the study intersections.

## 3.5 Intersection Sight Distance

Intersection sight distance (ISD) is critical to ensure safety at intersections, allowing drivers to see oncoming vehicles and making informed decisions when entering or crossing the intersection. Providing adequate ISD reduces the risk of collisions by giving drivers necessary time to react appropriately.

According to the American Association of State Highway and Transportation Officials (AASHTO) Green Book, sufficient ISD shall be provided for vehicles on minor roads to safely enter and cross major roads without causing oncoming traffic to slow down or stop. The required sight distance is influenced by the speed of the major road and the type of maneuver being executed (e.g., left turn, right turn, or crossing). As road speed limit increases, the necessary sight distance increases to allow for adequate reaction and acceleration time.

#### Sight Triangles

Sight triangles ensure clear visibility at intersections, allowing drivers to detect oncoming vehicles and pedestrians. Two types of sight triangles are commonly considered:

- **Approach Sight Triangle**: Provides visibility of vehicles approaching the intersection. This is particularly important at high-volume intersections.
- **Departure Sight Triangle**: Allows visibility for vehicles leaving a stop-controlled intersection, ensuring they can safely enter the major road.

Sight triangles are generally defined by unobstructed lines of sight measured at a height of 3.5 feet for both the driver's eye and the object being observed.

Approach sight triangles are not typically required for intersections controlled by stop signs; as such, they were not further evaluated for the study intersections.

#### Sight Triangle Guidelines

**Figure 3-3** illustrates the departure sight triangle requirements for stop-controlled intersections based on the AASHTO guidelines.



#### Figure 3-3 Departure Sight Triangle Requirements for a Stop-Controlled Intersection

### 3.5.1 Observed Obstructions

Obstructions within sight triangles can significantly compromise traffic safety by blocking visibility. Common obstructions observed at the Grand Canyon Drive/Sherwood Boulevard and Rover Boulevard/Grand Canyon Drive intersections during the field visit included the following

• Vegetation: Overgrown trees or shrubs encroaching into the sight triangle

#### 3.5.2 Evaluation Results

The ISD was evaluated at each intersection according to the AASHTO guidelines – considering the design

speeds at the intersection. ISD evaluation results are summarized in Table 3-4.

Table 5-4 Intersection Sight Distance Evaluation Results							
Intersection	Design Speed	Intersection Sight Dista Left Turn from Stop "b"	ance for Passenger Cars Right Turn from Stop "b"	Evaluation			
Sherwood Boulevard/ Grand Canyon Drive	25 mph	280 feet	240 feet	Meets requirement			
Grand Canyon Drive/ Rover Boulevard	25 mph	280 feet	240 feet	Meets requirement			
Grand Canyon Drive/ Aragon Avenue	25 mph	280 feet	240 feet	Meets requirement			

#### **Table 3-4 Intersection Sight Distance Evaluation Results**

All the study intersections meet the necessary ISD requirements.

Sight distance evaluation sheets for the study intersections are included in Appendix F.

## 3.6 Stopping Sight Distance

Stopping Sight Distance (SSD) is a key safety measure at intersections, ensuring that drivers have adequate time and distance to perceive, react, and bring their vehicle to a complete stop in response to a hazard. The AASHTO Green Book defines SSD as the total distance a vehicle travels from the moment a driver perceives a need to stop to when the vehicle comes to a complete stop. Providing sufficient SSD helps to prevent collisions and enhances overall safety at intersections.

#### SSD Components

SSD consists of two main components:

- **Perception-Reaction Distance**: The distance a vehicle travels from the moment a driver perceives a need to stop to the moment they begin braking.
- **Braking Distance**: The distance traveled while the vehicle is decelerating to a complete stop.

#### **Field Evaluation**

The SSD was evaluated for each study intersection according to the AASHTO guidelines – using the relevant design speeds for the area. The following factors were considered during the evaluation:

- The grade of the roadway approaching the intersections,
- Any obstructions that may impede a driver's line of sight, including vegetation or street furniture, and
- The distance required for drivers to safely stop their vehicles in response to an unexpected hazard.

#### 3.6.1 Evaluation Results

The results of the SSD evaluation at the study intersections are presented in **Table 3.5**. All the intersections were assessed based on the AASHTO guidelines, considering the design speed of 25 miles per hour (mph).

Intersection	Design Speed	AASHTO Stopping Sight Distance	Evaluation
Sherwood Boulevard/ Grand Canyon Drive	25 mph	155 feet	Meets requirement
Grand Canyon Drive/ Rover Boulevard	25 mph	155 feet	Meets requirement
Grand Canyon Drive/ Aragon Avenue	25 mph	155 feet	Meets requirement

#### Table 3-5 Stopping Sight Distance Evaluation Results

In accordance with the AASHTO guidelines for the given design speeds, all the study intersections meet the required SSDs, ensuring that drivers have ample time and distance to react to potential hazards and bring their vehicles to a safe stop.

Sight distance evaluation sheets for the study intersections are included in **Appendix F**.

## 4. Signal Warrant Analysis

Based on the guidelines provided in the Manual on Uniform Traffic Control Devices (MUTCD), 11<sup>th</sup> Edition, signal warrant analysis was conducted for each study intersection to evaluate if the installation of a traffic signal is warranted and justified. The MUTCD has nine warrants to determine the need for a traffic signal. Those warrants, along with the suitability of each warrant at the study intersections, are discussed in detail in the following sections. Detailed worksheets showing traffic signal warrant analysis input values and calculations for each study intersection are included in **Appendix G**.

## 4.1 Traffic Signal Warrant 1: Eight-Hour Vehicular Volume

#### **MUTCD** Criteria

The MUTCD provides the following guidance for Traffic Signal Warrant 1:

The need for a traffic control signal should be considered if an engineering study finds that one of the following conditions exist for each of any eight hours of an average day:

- A. The vehicles per hour given in both of the 100 percent columns of Condition A in Figure 4-1 exist on the major street and the more critical minor-street approach, respectively, to the intersection; or
- *B.* The vehicles per hour given in both of the 100 percent columns of Condition B in Figure 4-1 exist on the major street and the more critical minor-street approach, respectively, to the intersection.

,	Condition A—Minimum Vehicular Volume									
	Number of lar traffic on eac	Vehicle (tot	s per hou al of both	r on majo approach	r street ies)	Vehicles per hour on higher-volume minor-street approach (one direction only)				
	Major Street	Minor Street	100% <sup>a</sup>	80% <sup>b</sup>	<b>70%</b> ℃	<b>56%</b> <sup>d</sup>	100% <sup>a</sup>	80% <sup>b</sup>	<b>70%</b> °	56% <sup>d</sup>
	1	1	500	400	350	280	150	120	105	84
	2 or more	1	600	480	420	336	150	120	105	84
	2 or more	2 or more	600	480	420	336	200	160	140	112
	1	2 or more	500	400	350	280	200	160	140	112

Figure 4-1 Traffic Signal Warrant 1 Criteria

#### Condition B—Interruption of Continuous Traffic

ſ	Number of lar traffic on ea	nes for moving ch approach	Vehicles per hour on major street (total of both approaches)			Vehicles per hour on higher-volume minor-street approach (one direction only)				
	Major Street	Minor Street	100% <sup>a</sup>	80% <sup>b</sup>	<b>70%</b> °	56% <sup>d</sup>	100% <sup>a</sup>	80% <sup>b</sup>	<b>70%</b> °	56% <sup>d</sup>
	1	1	750	600	525	420	75	60	53	42
	2 or more	1	900	720	630	504	75	60	53	42
	2 or more	2 or more	900	720	630	504	100	80	70	56
	1	2 or more	750	600	525	420	100	80	70	56

<sup>a</sup> Basic minimum hourly volume

Used for combination of Conditions A and B after adequate trial of other remedial measures

May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

<sup>d</sup> May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Source: MUTCD, 11th Edition

The study intersections have one lane in each direction along both major and minor streets. Per 2020 United States Census, White Rock has a population of about 5,900<sup>1</sup>. Therefore, according to **Figure 4-1**, the following minimum vehicular volumes are needed at each study intersection for any eight hours in a day to satisfy Traffic Signal Warrant 1:

- Condition A
  - Major Street: A total of 350 vehicles per hour (vph) for both the approaches combined
  - Minor Street: 105 vph on higher-volume approach
- Condition B
  - Major Street: A total of 525 vph for both the approaches combined
  - Minor Street: 53 vph on higher-volume approach

#### **Analysis Results**

All the study intersections do not meet Traffic Signal Warrant 1.

## 4.2 Traffic Signal Warrant 2: Four-Hour Vehicular Volume

#### **MUTCD Criteria**

The MUTCD provides the following guidance for Traffic Signal Warrant 2:

The need for a traffic control signal should be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the more critical minor-street approach (one direction only) all fall above the applicable curve in Figure 4-2 for the existing combination of approach lanes.



Source: MUTCD, 11<sup>th</sup> Edition

<sup>1</sup> Source: <u>https://www.census.gov/quickfacts/whiterockcdpnewmexico</u>

#### **Analysis Results**

All the study intersections do not meet Traffic Signal Warrant 2.

### 4.3 Traffic Signal Warrant 3: Peak Hour

#### **MUTCD** Criteria

The MUTCD provides the following guidance for Traffic Signal Warrant 3:

The need for a traffic control signal should be considered if an engineering study finds that the criteria in either of the following two categories are met:

- A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:
  - The total stopped-time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach, and
  - The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vph for two moving lanes, and
  - The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for 0 intersections with three approaches or 800 vph for intersections with four or more approaches.
- B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the more critical minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4-3 for the existing combination of approach lanes.



#### Figure 4-3 Traffic Signal Warrant 3 Criteria

Source: MUTCD, 11th Edition

#### **Analysis Results**

**Figure 4-4** exhibits the total number of vehicles accessing the study intersections in an hour on a typical weekday between 6 AM and 7 PM. These volumes were identified using the calculated average value of the traffic counts collected on three weekdays, as mentioned in Section 3.2: Existing Intersection Operations.



#### Figure 4-4 Total Hourly Traffic at Study Intersections

The maximum hourly traffic on a typical weekday at any of the study intersections is about 400 vph. As such, none of the study intersections meet the Criterion A of the Traffic Signal Warrant 3. Also, none of the study intersections meet the Criterion B of Traffic Signal Warrant 3 provided in **Figure 4-3**.

All the study intersections do not meet Traffic Signal Warrant 3.

## 4.4 Traffic Signal Warrant 4: Pedestrian Volume

#### **MUTCD Criteria**

The MUTCD provides the following guidance for Traffic Signal Warrant 4:

The need for a traffic control signal at an intersection or midblock crossing should be considered if an engineering study finds that one of the following criteria is met:

A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4-5; or

B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4-6.



Source: MUTCD, 11<sup>th</sup> Edition



Source: MUTCD, 11<sup>th</sup> Edition

#### **Analysis Results**

All the study intersections do not meet Traffic Signal Warrant 4.

## 4.5 Traffic Signal Warrant 5: School Crossing

#### **MUTCD** Criteria

The MUTCD provides the following guidance for Traffic Signal Warrant 5:

The School Crossing signal warrant is intended for application where the fact that schoolchildren cross the major street is the principal reason to consider installing a traffic control signal. The School Crossing signal warrant should not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

The need for a traffic control signal should be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of schoolchildren at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing is less than the number of minutes in the same period and there are a minimum of 20 schoolchildren during the highest crossing hour.

#### Analysis Results

The <u>Grand Canyon Drive/Sherwood Boulevard intersection does not meet</u> Traffic Signal Warrant 5, since field observations indicated sufficient gaps in traffic stream for schoolchildren to cross.

The <u>Rover Boulevard/Grand Canyon Drive intersection does not meet</u> Traffic Signal Warrant 5, since the maximum number of pedestrians crossing the major street during any time of the day is 15 pph (less than the minimum of 20 schoolchildren required per the warrant criteria), as discussed in Section 3.3: Existing Pedestrian Activity.

Traffic Signal Warrant 5 is <u>not applicable at the Aragon Avenue/Grand Canyon Drive intersection</u>, since schoolchildren are not expected to cross at this intersection due to its distance (about 0.8 miles) from the school. This is confirmed by the fact that less than 10 pph cross the major street at this intersection during the school drop-off and pick-up periods, as discussed in Section 3.3: Existing Pedestrian Activity.

## 4.6 Traffic Signal Warrant 6: Coordinated Signal System

#### **MUTCD Criteria**

The MUTCD provides the following guidance for Traffic Signal Warrant 6:

The need for a traffic control signal should be considered if an engineering study finds that one of the following criteria is met:

- A. On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.
- B. On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

#### **Analysis Results**

Traffic Signal Warrant 6 is <u>not applicable at the study intersections</u>, since there is no coordinated signal system within and in the vicinity of the study area.

## 4.7 Traffic Signal Warrant 7: Crash Experience

#### **MUTCD** Criteria

The MUTCD provides the following guidance for Traffic Signal Warrant 7:

The need for a traffic control signal should be considered if an engineering study finds that all of the following criteria are met:

- A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and
- B. At least one of the following conditions applies to the reported crash history (where each reported crash considered is related to the intersection and apparently exceeds the applicable requirements for a reportable crash):
  - The number of reported angle crashes and pedestrian crashes within a 1-year period equals or exceeds the threshold number in Figure 4-7 for total angle crashes and pedestrian crashes (all severities); or
  - The number of reported fatal-and-injury angle crashes and pedestrian crashes within a 1-year period equals or exceeds the threshold number in Figure 4-7 for total fatal-and-injury angle crashes and pedestrian crashes; or
  - The number of reported angle crashes and pedestrian crashes within a 3-year period equals or exceeds the threshold number in Figure 4-7 for total angle crashes and pedestrian crashes (all severities); or
  - The number of reported fatal-and-injury angle crashes and pedestrian crashes within a 3-year period equals or exceeds the threshold number in Figure 4-7 for total fatal-and-injury angle crashes and pedestrian crashes; and
- C. For each of any 8 hours of an average day, the vehicles per hour given in both of the 80 percent columns of Condition A in Figure 4-1 (Traffic Signal Warrant 1), or the vehicles per hour in both of the 80 percent columns of Condition B in Figure 4-1 exists on the major street and the more critical minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Traffic Signal Warrant 4: Pedestrian Volume.

Minimum Number of Reported Crashes in One-Year Period							
Comr	Community less than 10,000 population or above 40 mph on major street						
Number of the on each a	rough lanes pproach	Total of angle and crashes (all se	d pedestrian verities)ª	Total of fatal-and-injury angle and pedestrian crashes <sup>a</sup>			
Major Street	Minor Street	Four Legs	Three Legs	Four Legs	Three Legs		
1	1	4	3	3	3		
2 or more	1	10	9	6	6		
2 or more	2 or more	10	9	6	6		
1	2 or more	4	3	3	3		
Minimum Number of Reported Crashes in Three-Year Period Community less than 10,000 population or above 40 mph on major street							
Com	nimum Num nunity less th	ber of Reported an 10,000 population	Crashes in or above 4	Three-Year I 0 mph on ma	Period jor street		
Comm Number of the on each a	nimum Num nunity less th rough lanes pproach	ber of Reported an 10,000 population Total of angle and crashes (all se	Crashes in on or above 4 I pedestrian verities)ª	Three-Year I 0 mph on ma Total of fata and pede	Period jor street I-and-injury angle strian crashesª		
Comm Number of the on each a Major Street	nimum Num nunity less th rough lanes pproach Minor Street	ber of Reported an 10,000 population Total of angle and crashes (all se Four Legs	Crashes in on or above 4 I pedestrian verities) <sup>a</sup> Three Legs	Three-Year I 0 mph on ma Total of fata and pede Four Legs	Period jor street I-and-injury angle strian crashes <sup>a</sup> Three Legs		
Comm Number of the on each a Major Street	nimum Num nunity less th rough lanes pproach Minor Street	ber of Reported an 10,000 population Total of angle and crashes (all se Four Legs 6	Crashes in on or above 4 pedestrian verities) <sup>a</sup> Three Legs 5	Three-Year I 0 mph on ma Total of fata and pede Four Legs 4	Period ijor street I-and-injury angle strian crashes <sup>a</sup> Three Legs 4		
Comm Number of the on each a Major Street 1 2 or more	nimum Num nunity less th rough lanes pproach Minor Street 1 1	an 10,000 population Total of angle and crashes (all se Four Legs 6 16	Crashes in on or above 4 pedestrian verities) <sup>a</sup> Three Legs 5 13	Three-Year I 0 mph on ma Total of fata and pede Four Legs 4 9	Period jor street I-and-injury angle strian crashes <sup>a</sup> Three Legs 4 9		
Comm Number of the on each a Major Street 1 2 or more 2 or more	nimum Num nunity less th rough lanes pproach Minor Street 1 1 2 or more	an 10,000 population Total of angle and crashes (all se Four Legs 6 16 16	Crashes in on or above 4 I pedestrian verities) <sup>a</sup> Three Legs 5 13 13	Three-Year I O mph on ma Total of fata and pede Four Legs 4 9 9	Period jor street I-and-injury angle strian crashes <sup>a</sup> Three Legs 4 9 9 9		
Comm Number of the on each a Major Street 1 2 or more 2 or more 1	nimum Num nunity less th rough lanes pproach Minor Street 1 1 2 or more 2 or more	an 10,000 populati Total of angle and crashes (all se Four Legs 6 16 16 6	Crashes in on or above 4 pedestrian verities) <sup>a</sup> Three Legs 5 13 13 13 5	Three-Year I O mph on ma Total of fata and pede Four Legs 4 9 9 9 4	Period jor street I-and-injury angle strian crashes <sup>a</sup> Three Legs 4 9 9 9 4		

#### Figure 4-7 Traffic Signal Warrant 7 Criteria

<sup>a</sup> Angle crashes include all crashes that occur at an angle and involve one or more vehicles on the major stree and one or more vehicles on the minor street

Source: MUTCD, 11<sup>th</sup> Edition

#### Analysis Results

As discussed in Section 3.4: Intersection Safety Performance, during the most-recent five-year period between 2018 and 2023, only two non-fatal (one injury and one property damage only) crashes occurred at the Rover Boulevard/Grand Canyon Drive intersection and none occurred at the other two study intersections. As such, none of the intersections meet the mandatory Criterion B of the Traffic Signal Warrant 7.

All the study intersections do not meet Traffic Signal Warrant 7.

## 4.8 Traffic Signal Warrant 8: Roadway Network

#### **MUTCD Criteria**

The MUTCD provides the following guidance for Traffic Signal Warrant 8:

The need for a traffic control signal should be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:

- A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vph during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or
- *B.* The intersection has a total existing or immediately projected entering volume of at least 1,000 vph for each of any 5 hours of a non-normal business day (Saturday or Sunday).

#### **Analysis Results**

As discussed in earlier sections, none of the study intersections met Traffic Signal Warrants 1, 2, and 3, thereby failing to satisfy Criterion A. As discussed in Section 4.3: Traffic Signal Warrant 3: Peak Hour, the maximum hourly traffic on a typical weekday at any of the study intersections is about 400 vph. Generally, non-normal business days are expected to have lower traffic than a typical weekday in White Rock, thereby failing to meet Criterion B.

All the study intersections do not meet Traffic Signal Warrant 8.

## 4.9 Traffic Signal Warrant 9: Intersection Near a Grade Crossing

#### **MUTCD Criteria**

The MUTCD provides the following guidance for Traffic Signal Warrant 9:

The need for a traffic control signal should be considered if an engineering study finds that both of the following criteria are met:

- A. A grade crossing exists on an approach controlled by a STOP or YIELD sign at a highway-highway intersection and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and
- B. During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) of the highway-highway intersection and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4-8 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance.



Source: MUTCD, 11<sup>th</sup> Edition

#### **Analysis Results**

Traffic Signal Warrant 9 is <u>not applicable at the study intersections</u>, since there is no railroad crossing within the study area.

## 4.10 Summary

A summary of traffic signal warrant analysis is provided in **Table 4-1**.

Traffic Clause	Traffic Signal Warrant Met at Study Intersection?						
Warrant	Grand Canyon Drive/ Sherwood Boulevard	Rover Boulevard/ Grand Canyon Drive	Aragon Avenue/ Grand Canyon Drive				
1	No	No	No				
2	No	No	No				
3	No	No	No				
4	No	No	No				
5	No	No	Not Applicable				
6	Not Applicable	Not Applicable	Not Applicable				
7	No	No	No				
8	No	No	No				
9	Not Applicable	Not Applicable	Not Applicable				
Overall	No	No	No				

#### Figure 4-1 Traffic Signal Warrant Analysis Summary

Under existing conditions, all the three study intersections meet none of the traffic signal warrants to justify installation of a traffic control signal.

## 5. All-Way Stop Control Warrant Analysis

Based on the guidelines provided in the MUTCD, 11<sup>th</sup> Edition, AWSC warrant analysis was conducted for each study intersection to evaluate if the installation of an AWSC is warranted and justified. The MUTCD has five warrants to determine the need for an AWSC. Those warrants, along with the suitability of each warrant at the study intersections, are discussed in detail in the following sections.

## 5.1 AWSC Warrant A: Crash Experience

#### **MUTCD Criteria**

The MUTCD provides the following guidance for AWSC Warrant A:

AWSC may be installed at an intersection where an engineering study indicates that:

- A. For a four-leg intersection, there are five or more reported crashes in a 12-month period or six or more reported crashes in a 36-month period that were of a type susceptible to correction by the installation of all-way stop control.
- B. For a three-leg intersection, there are four or more reported crashes in a 12-month period or five or more reported crashes in a 36-month period that were of a type susceptible to correction by the installation of all-way stop control.

#### **Analysis Results**

As discussed in Section 3.4: Intersection Safety Performance, during the most-recent five-year period between 2018 and 2023, only two non-fatal (one injury and one property damage only) crashes occurred at the Rover Boulevard/Grand Canyon Drive intersection and none occurred at the other two study intersections.

<u>All the study intersections do not meet</u> AWSC Warrant A.

## 5.2 AWSC Warrant B: Sight Distance

#### **MUTCD** Criteria

The MUTCD provides the following guidance for AWSC Warrant B:

AWSC may be installed at an intersection where an engineering study indicates that sight distance on the minor-road approaches controlled by a STOP sign is not adequate for a vehicle to turn onto or cross the major (uncontrolled) road.

#### Analysis Results

As discussed in Section 3.1: Field Conditions, the following observations were made during the field reconnaissance:

- Grand Canyon Drive/Sherwood Boulevard Intersection: Potential sight distance issues exist in the southeast and northwest corners, reducing visibility for drivers approaching the crosswalk. However, the County is expected to and plans to trim this vegetation regularly to maintain sightlines.
- Rover Boulevard/Grand Canyon Drive Intersection: The intersection is relatively open, with few obstructions. A recent County-initiated trimming of roadside trees has improved visibility to meet new sight distance requirements.
- Aragon Avenue/Grand Canyon Drive Intersection: No sightline issues.

The <u>Grand Canyon Drive/Sherwood Boulevard intersection will not meet</u> AWSC Warrant B once the vegetation at the southeast and northwest corners has been trimmed and regularly maintained.

The <u>Rover Boulevard/Grand Canyon Drive intersection does not meet</u> AWSC Warrant B. However, the vegetation by the intersection has to be trimmed regularly to avoid this warrant.

The <u>Aragon Avenue/Grand Canyon Drive intersection does not meet</u> AWSC Warrant B.

## 5.3 AWSC Warrant C: Transition to Signal or Yield Control

#### **MUTCD Criteria**

The MUTCD provides the following guidance for AWSC Warrant C:

AWSC may be installed at locations where AWSC is an interim measure that can be installed to control traffic while arrangements are being made for the installation of a traffic control signal at the intersection or for the installation of yield control at a circular intersection.

#### Analysis Results

As discussed in Section 4: Signal Warrant Analysis, none of the study intersections meet traffic signal warrants. As such, there are and will be no plans to install a traffic signal at any of the study intersections. Additionally, there are no plans to change the traffic control at any of the study intersections to yield control.

<u>All the study intersections do not meet</u> AWSC Warrant C.

## 5.4 AWSC Warrant D: 8-Hour Volume

#### **MUTCD Criteria**

The MUTCD provides the following guidance for AWSC Warrant D:

AWSC may be installed at an intersection where an engineering study indicates:

- *A.* The combined motor vehicle, bicycle, and pedestrian volume entering the intersection from the major street approaches is at least 300 units per hour for each of any 8 hours of a typical day; and
- *B.* The combined motor vehicle, bicycle, and pedestrian volume entering the intersection from the minor street approaches is at least 200 units per hour for each of any of the same 8 hours.

#### **Analysis Results**

**Figures 5-1 and 5-2** exhibit the hourly combined multimodal traffic entering the study intersections from the major and minor street approaches, respectively on a typical weekday between 6 AM and 7 PM. These volumes were identified using the calculated average value of the traffic counts collected on three weekdays, as mentioned in Section 3.2: Existing Intersection Operations.







Figure 5-2 Combined Multimodal Traffic Along Minor Street Approaches

Key observations include the following:

- Along major street approaches, the maximum hourly combined multimodal traffic on a typical weekday at any of the study intersections is about 220 units (well below the 300 units per the AWSC Warrant D criterion).
- Along minor street approaches, the maximum hourly combined multimodal traffic on a typical weekday at all the study intersections is less than 200 units (AWSC Warrant D criterion), except for one hour (between 4 and 5 PM) at the Rover Boulevard/Grand Canyon Drive intersection.

As such, <u>all the study intersections do not meet</u> AWSC Warrant D.

## 5.5 AWSC Warrant E: Other Factors

#### **MUTCD Criteria**

The MUTCD provides the following guidance for AWSC Warrant E:

AWSC may be installed at an intersection where an engineering study indicates that AWSC is needed due to other factors not addressed in the other AWSC warrants. Such other factors may include, but are not limited to, the following:

- A. The need to control left-turn conflicts,
- B. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where AWSC would improve traffic operational characteristics of the intersection, or
- C. Where pedestrian and/or bicyclist movements support the installation of AWSC.

#### Analysis Results

As discussed in Section 3.2.4: Existing Intersection Operations, drivers experience average delays of less than 15 seconds per vehicle at the study intersections. With such low average vehicle delays, left-turns conflicts do not appear to be an uncontrollable issue. Additionally, traffic operations do not seem to be a problem at the study intersections. As such, the study intersections do not meet Criteria A and B.

In general, pedestrian activity is low in the study area. As discussed in Section 3.3: Existing Pedestrian Activity, 15 pedestrians per hour or fewer cross major street at the study intersections during a typical weekday, except for three hours (between 7 and 9 AM and 2 and 3 PM) at the Grand Canyon Drive/Sherwood Boulevard intersection during the school drop-off and pick-up periods, when about 35-45 pedestrians cross the major street. However, a school guard is present during those times to manage schoolchildren activity. Additionally, historical crash data indicated no safety issues with pedestrian and bicycle traffic during the most-recent five-year period between 2018 and 2023. Hence, the study intersections do not meet Criterion C.

As such, <u>all the study intersections do not meet</u> AWSC Warrant E.

## 5.6 Summary

A summary of AWSC warrant analysis is provided in Table 5-1.

	AWSC Warrant Met at Study Intersection?							
AWSC Warrant	Grand Canyon Drive/ Sherwood Boulevard	Rover Boulevard/ Grand Canyon Drive	Aragon Avenue/ Grand Canyon Drive					
А	No	No	No					
В	Conditional No	No	No					
С	No	No	No					
D	No	No	No					
E	No	No	No					
Overall	Conditional No	No	No					

#### Figure 5-1 AWSC Warrant Analysis Summary

Summary of the AWSC warrant analysis is as follows:

- Grand Canyon Drive/Sherwood Boulevard Intersection Will not meet any of the AWSC warrants once the vegetation in the northwest and southeast corners of the intersection has been trimmed and regularly maintained.
- Rover Boulevard/Grand Canyon Drive Intersection Does not meet any of the AWSC warrants.
- Aragon Avenue/Grand Canyon Drive Intersection Does not meet any of the AWSC warrants.

## 6. Pedestrian Hybrid Beacon Requirement Analysis

Currently, pedestrian hybrid beacons are installed at the Grand Canyon Drive/Sherwood Boulevard intersection and about 50-100 feet north and south of the Rover Boulevard/Grand Canyon Drive intersection. Analysis was conducted to evaluate if the installation of a pedestrian hybrid beacon is justified at the study intersection of Aragon Avenue/Grand Canyon Drive. The analysis was conducted based on the guidelines provided in the MUTCD, 11<sup>th</sup> Edition. Details of the analysis and its results are discussed in the following sections.

## 6.1 MUTCD Guidelines

The MUTCD provides the following guidance on installation of a pedestrian hybrid beacon:

For a major street where the posted or statutory speed limit or the 85th-percentile speed is 35 mph or less, the need for a pedestrian hybrid beacon should be considered if the engineering study finds that the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding total of all pedestrians crossing the major street for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 6-1 for the length of the crosswalk.



Figure 6-1 Pedestrian Hybrid Beacon Guidelines for Low-Speed Roadways

Source: MUTCD, 11th Edition

## 6.2 Analysis Results

Per **Figure 6-1**, 20 pedestrians per hour crossing the major street is the recommended lower threshold volume to install a pedestrian hybrid beacon. As discussed in Section 3.3: Existing Pedestrian Activity, 10 pedestrians per hour or fewer cross major street at the Aragon Avenue/Grand Canyon Drive intersection during a typical weekday. Therefore, existing pedestrian activity at that study intersection does not meet the MUTCD guidelines, and a pedestrian hybrid beacon installation is not supported.
# 7. Conclusions and Recommendations

### 7.1 Summary of Findings

A summary of field observations and results of traffic, pedestrian, safety, and warrant analyses conducted at the study intersections is provided below. As mentioned earlier, all the analyses were conducted for a typical weekday, when peak traffic activity is expected in the study area.

### Grand Canyon Drive/Sherwood Boulevard Intersection

- Field Observations
  - Westbound Grand Canyon Drive experiences congestion during the school's peak traffic hours.
  - A crossing guard is stationed during the school drop-off and pick-up periods.
  - Drivers frequently do not fully stop at the stop signs.
  - Potential sight distance issues exist in the southeast and northwest corners.
  - Flashing school zone lights installed along westbound Grand Canyon Drive are wrongly positioned and do not sufficiently alert drivers until they are close to the pedestrian area.
  - Pedestrian crossing signs do not fully meet the MUTCD guidelines for placement and visibility.
- Traffic & Pedestrian Analysis
  - It experiences a maximum total hourly traffic of about 300 vph, number of pedestrians crossing the major street (Grand Canyon Drive) of about 12 pph, combined multimodal traffic along major street approaches of about 225 units, and combined multimodal traffic along minor street approaches of about 100 units.
  - The majority of the pedestrians are crossing the stop-controlled minor street (Sherwood Boulevard).
  - Average number of pedestrians crossing the uncontrolled (without stop signs) major street (Grand Canyon Drive) is more than 10 pph only for one hour of the day (during the school dropoff hour between 8 and 9 AM); for the remaining hours, it is less than 10 pph.
  - During the morning and evening peak traffic hours, the worst-operating approach of the intersection operates at LOS B, with an average delay in the range of 11-13 seconds per vehicle.
- Safety Analysis
  - Between 2018 and 2023, no collisions occurred at or near the intersection.
- Sight Distance Analysis
  - $\circ$  The intersection meets the MUTCD requirements for intersection and stopping sight distances.
- Warrant Analysis
  - The intersection does not meet any of the traffic control signal warrants.
  - The intersection will not meet any of the AWSC warrants once the vegetation in the northwest and southeast corners of the intersection has been trimmed and regularly maintained.

• No pedestrian hybrid beacon requirement analysis was conducted, since it already has pedestrian school zone flashing lights.

### **Rover Boulevard/Grand Canyon Drive Intersection**

- Field Observations
  - Significant traffic flows during the school drop-off and pick-up periods.
  - A crossing guard is not stationed.
  - Crosswalks are faded and less visible to approaching traffic.
  - Absence of speed reduction measures could cause potential pedestrian-vehicle conflicts.
  - The intersection is relatively open, with few obstructions. A recent County-initiated trimming of roadside trees has improved visibility for drivers to now meet the sight distance requirements.
  - Operational times of the flashing school zone lights installed on Rover Boulevard do not align with the time periods when students are crossing the intersection on their way to/from school.
- Traffic & Pedestrian Analysis
  - It experiences a maximum total hourly traffic of about 400 vph, number of pedestrians crossing the major street (Rover Boulevard) of about 23 pph, combined multimodal traffic along major street approaches of about 175 units, and combined multimodal traffic along minor street approaches of about 210 units.
  - Average number of pedestrians crossing the uncontrolled (without stop signs) major street (Rover Boulevard) is more than 20 pph only for one hour of the day (during the school drop-off hour between 8 and 9 AM); for the remaining hours, it is less than 10 pph.
  - During the morning and evening peak traffic hours, the worst-operating approach of the intersection operates at LOS B, with an average delay in the range of 12-13 seconds per vehicle.
- Safety Analysis
  - Between 2018 and 2023, two collisions occurred near the intersection (about a few hundred feet north of Grand Canyon Drive) one was a property damage only collision that occurred in 2018 and the other an injury collision that occurred in 2023.
  - No collision occurred at the study intersections itself.
  - No fatalities occurred in any of the recent collisions.
  - No pedestrian was involved in any of the recent collisions.
  - No clear pattern or cause of collision could be identified from the two collisions.
- Sight Distance Analysis
  - $\circ$  The intersection meets the MUTCD requirements for intersection and stopping sight distances.
- Warrant Analysis
  - The intersection does not meet any of the traffic control signal warrants.
  - The intersection does not meet any of the AWSC warrants. However, the vegetation by the intersection has to be trimmed regularly to avoid this warrant.
  - No pedestrian hybrid beacon requirement analysis was conducted, since the intersection already has pedestrian school zone flashing lights north and south of it.

#### Aragon Avenue/Grand Canyon Drive Intersection

- Field Observations
  - Lighter traffic during the school drop-off and pick-up periods, compared to the other study intersections.
  - $\circ$   $\;$  Less number of pedestrians cross at this intersection.
  - No school crossing signs or pedestrian safety measures are provided.
  - No sightline issues at this intersection.
- Traffic & Pedestrian Analysis
  - It experiences a maximum total hourly traffic of about 150 vph, number of pedestrians crossing the major street (Aragon Avenue) of about 17 pph, combined multimodal traffic along major street approaches of about 60 units, and combined multimodal traffic along minor street approaches of about 70 units.
  - Average number of pedestrians crossing the uncontrolled (without stop signs) major street (Aragon Avenue) is about 10 pph only for one hour of the day (during the school drop-off hour between 8 and 9 AM); for the remaining hours, it is 10 pedestrians or few per hour.
  - During the morning and evening peak traffic hours, the worst-operating approach of the intersection operates at LOS A, with an average delay of about 9 seconds per vehicle.
- Safety Analysis
  - Between 2018 and 2023, no collisions occurred at or near the intersection.
- Sight Distance Analysis
  - The intersection meets the MUTCD requirements for intersection and stopping sight distances.
- Warrant Analysis
  - The intersection does not meet any of the traffic control signal warrants.
  - The intersection does not meet any of the AWSC warrants.
  - Low pedestrian activity at this intersection (less than 20 pph crossing the major street) does not support the installation of a pedestrian hybrid beacon.

### 7.2 Recommendations

### 7.2.1 Grand Canyon Drive/Sherwood Boulevard Intersection

Based on the issues observed during the field study and reported by the residents, recommendations to improve safety, performance, and operations at the Grand Canyon Drive/Sherwood Boulevard intersection are as follows:

- **Sherwood Recommendation 1** Trim vegetation on the northwest and southeast corners of the intersection to maintain sightlines for the road users.
- **Sherwood Recommendation 2** Remove and relocate flashing zone lights upstream per the MUTCD guidelines to provide early warning of pedestrian area approach.
- Sherwood Recommendation 3 Update crossing signs per the latest MUTCD guidelines.

• **Sherwood Recommendation 4** – Review the feasibility of installing traffic calming measures (e.g., curb extensions, etc.) and enhanced signage and pavement markings.

The effectiveness of these recommendations for the issues observed and reported at the Grand Canyon Drive/Sherwood Boulevard intersection are summarized in **Table 7-1**.

Reported/Observed Issue	Recommended Countermeasure	Issue Resolved with Countermeasure?
Observed during Field Study		
1. Drivers frequently do not fully stop at the stop signs	Sherwood Recommendations 1 & 4	Yes (maintaining sightlines and installing traffic calming measures will improve pedestrian visibility, force drivers to slow/stop, and reduce pedestrian crossing times)
2. Potential sight distance issues exist in the southeast and northwest corners	Sherwood Recommendation 1	Yes
3. Flashing school zone lights installed along westbound Grand Canyon Drive are wrongly positioned	Sherwood Recommendation 2	Yes
4. Pedestrian crossing signs do not fully meet the MUTCD guidelines for placement and visibility	Sherwood Recommendation 3	Yes
Reported by Residents		
5. A crossing guard is absent	None	Field observations do not support this claim
6. Drivers are ignoring crossing pedestrians	Sherwood Recommendations 1 & 4	Yes (maintaining sightlines and installing traffic calming measures will improve pedestrian visibility, force drivers to slow/stop, and reduce pedestrian crossing times)

#### Table 7-1 Recommendations at Grand Canyon Drive/Sherwood Boulevard Intersection

### 7.2.2 Rover Boulevard/Grand Canyon Drive Intersection

Recommendations to improve safety, performance, and operations at the Rover Boulevard/Grand Canyon Drive intersection are as follows:

- **Rover Recommendation 1** Restripe crosswalks per the latest MUTCD guidelines to enhance visibility of the faded ones.
- **Rover Recommendation 2** Trim vegetation regularly at intersection corners to maintain sightlines for the road users.
- **Rover Recommendation 3** Review operation times for flashing school zone lights installed on Rover Boulevard.

• **Rover Recommendation 4** – Review the feasibility of installing traffic calming measures (e.g., curb extensions, etc.) and enhanced signage and pavement markings.

The effectiveness of these recommendations for the issues observed and reported at the Rover Boulevard/Grand Canyon Drive intersection are summarized in **Table 7-2**.

Reported/Observed Issue	Recommended Countermeasure	Issue Resolved with Countermeasure?
Observed during Field Study		
1. A crossing guard is not stationed	Rover Recommendation 4	Yes (installing traffic calming measures will improve students' visibility, force drivers to slow/stop, and reduce pedestrian crossing times)
2. Crosswalks are faded and less visible to approaching traffic	Rover Recommendation 1	Yes
3. A recent County-initiated trimming of roadside trees has improved visibility for drivers	Rover Recommendation 2	Yes
4. Absence of speed reduction measures could cause potential pedestrian-vehicle conflicts	Rover Recommendation 4	Yes
5. Operational times of flashing school zone lights do not align with the time periods when students are crossing the intersection on their way to/from school.	Rover Recommendation 3	Yes
Reported by Residents		
6. A crossing guard is absent	Rover Recommendation 4	Yes (installing traffic calming measures will improve students' visibility, force drivers to slow/stop, and reduce pedestrian crossing times)
7. Drivers are ignoring crossing pedestrians	Rover Recommendations 2 & 4	Yes (maintaining sightlines and installing traffic calming measures will improve pedestrian visibility, force drivers to slow/stop, and reduce pedestrian crossing times)
8. Sight issues cause pedestrian- vehicle conflicts while crossing Rover Boulevard	Rover Recommendations 2 & 4	Yes (maintaining sightlines and installing traffic calming measures will improve pedestrian visibility, force drivers to slow/stop, and reduce pedestrian crossing times)

#### Table 7-2 Recommendations at Rover Boulevard/Grand Canyon Drive Intersection

### 7.2.3 Aragon Avenue/Grand Canyon Drive Intersection

Recommendations to improve safety, performance, and operations at the Aragon Avenue/Grand Canyon

Drive intersection are as follows:

4. *Aragon Recommendation 1* – Install crosswalk(s), pavement marking, and signage across the major street to enhance the visibility of the major street crossings.

The effectiveness of these recommendations for the issues observed and reported at the Aragon Avenue/Grand Canyon Drive intersection are summarized in **Table 7-3**.

	<b>v</b> , , ,	
Reported/Observed Issue	Recommended Countermeasure	Issue Resolved with Countermeasure?
Observed during Field Study		
<ol> <li>No school crossing signs or pedestrian safety measures are provided</li> </ol>	Aragon Recommendation 1	Yes (crosswalks, markings, and signage would enable pedestrians to cross the major street safely)
Reported by Residents		
2. Difficult to cross the intersection during the start and end times of the national laboratory	Aragon Recommendation 1	Yes (with low intersection traffic of 135 vph or lower, dedicated crosswalk(s) will enable pedestrians to cross the major street safely)
3. Several collisions occurred at this intersection	None	Most-recent crash data between 2018 and 2023 does not support this claim

#### Table 7-3 Recommendations at Aragon Avenue/Grand Canyon Drive Intersection

# Appendix

# **Appendix A**

## Field Conditions & Safety Issues Tech Memo

September 6, 2024 TO: Eric Ulibarri, PE, CFM, County Engineer Los Alamos County 100 Central Ave. Los Alamos County, NM 87544

#### FROM:

Suresh Parvatoja, PE, MBA Senior Traffic Engineer SRIRAMA, LLC

# SUBJECT: FIELD CONDITIONS & ISSUES FOR WHITE ROCK GRAND CANYON INTERSECTION Introduction

The White Rock Grand Canyon Intersection Analysis is part of an initiative by Los Alamos County in response to a citizen's petition to improve road and pedestrian safety at several key intersections along routes frequently used by students attending Pinon Elementary School. The petition, submitted by local residents on May 22, 2024, highlighted critical safety concerns, including inadequate pedestrian crossing protection, limited visibility for vehicles, and the frequent disregard of crosswalks by drivers. These issues are particularly concerning during school hours, when pedestrian activity peaks.

The intersections identified for this analysis— Sherwood Blvd/Grand Canyon Dr, Rover Blvd/ Grand Canyon Dr, and Aragon Ave/Grand Canyon Dr—are crucial for pedestrian traffic, especially for school children and non-motorized transportation users. These intersections have been highlighted as problematic due to insufficient crossing guards, visibility challenges, and driver behavior that poses risks to pedestrian safety.



The scope of the project involves conducting field visits, collecting vehicular and pedestrian traffic data, performing safety and sight distance analyses, and assessing the need for additional traffic control measures. This memorandum details the findings from a field visit conducted on August 27, 2024, attended by representatives from Los Alamos County, Wilson & Company, and SRIRAMA, LLC. The below are the attendees of the field visit: Eric Ulibarri (Los Alamos County), Aaron Park (Los Alamos County), Keith Wilson (Los Alamos County), Daniel Blea (Los Alamos **Field Observations** 

#### 1. Sherwood/Grand Canyon Intersection:

**Traffic Volume and Pedestrian Movement:** The intersection of Sherwood Rd and Grand Canyon Dr. experiences substantial traffic congestion, especially during peak school hours, between 7:30 AM and 8:15 AM. The majority of traffic is concentrated westbound on Grand Canyon Dr., with parents dropping off children at Pinon Elementary. This also results in a notable increase in pedestrian activity, primarily schoolchildren crossing at various points.

**Safety Concerns:** The crossing guard stationed at this intersection reported that despite general compliance from drivers, there have been minor incidents over the past 14 years. No severe accidents have been documented; however, the crossing guard noted a recurring issue with drivers not fully stopping at the stop sign on Sherwood Rd. Furthermore, drivers turning onto Grand Canyon from Sherwood may underestimate the speed of approaching vehicles, posing risks to crossing pedestrians.

**Sight Distance Issues:** Obstructions, particularly bushes at the southeast corner of the intersection, significantly reduce visibility for drivers approaching the crosswalk. In addition, potential sight distance issues exist at the northeast corner, where visibility for turning vehicles could be compromised, leading to unsafe crossing conditions for pedestrians and cyclists.

School Flashers: The flashing school zone lights positioned westbound on Grand Canyon are not ideally located to provide early enough warning to drivers approaching the school zone. The lights are positioned further back from the crosswalk and do not sufficiently alert drivers until they are close to the pedestrian area. Based on the school flasher schedule, these lights are operational between 7:30 AM and 8:20 AM in the morning and 2:30 PM to 3:00 PM in the afternoon, but their placement needs adjustment to improve their effectiveness.



**Existing Signage:** The intersection features standard stop signs on Sherwood Rd but lacks a stop control for vehicles on Grand Canyon Dr. Current pedestrian crossing signs, though visible, do not fully meet MUTCD guidelines in terms of placement and visibility, particularly in relation to the volume of pedestrian traffic during school hours.

### 2. Rover/Grand Canyon Intersection:

Traffic Volume and Pedestrian Movement: During the field visit, traffic volume at this intersection was significant between 7:30 AM and 8:15 AM, coinciding with the school drop-off period. While vehicular flow was steady, pedestrian movement was observed to be less organized compared to the Sherwood/Grand Canyon intersection. Many children crossed independently without an accompanying adult or crossing guard.
Visibility and Obstructions: The intersection is relatively open, with fewer obstructions compared to Sherwood/ Grand Canyon. However, a recent county-initiated trimming of trees along the roadside has marginally improved sightlines for drivers. Despite this, the crosswalk at this intersection, although marked, was faded and less visible to approaching traffic, particularly under low-light conditions in the early morning.

### **TECHNICAL MEMORANDUM**

Pedestrian Safety Concerns: The lack of a crossing guard at this intersection increases the risk for schoolchildren, as vehicles tend to approach the intersection at higher speeds. In particular, the unmonitored pedestrian crossings pose a hazard to young students, especially those crossing unsupervised. The absence of flashing lights or speed reduction measures in the vicinity exacerbates the problem, creating an environment where both pedestrian and vehicular traffic conflicts are likely. Flasher Placement: While no flashing lights were installed at this location during the field visit, it was observed that the presence of such lights could significantly improve the safety of schoolchildren during drop-off and pick-up times. Coordination with the school flasher schedule would ensure that any future installations are aligned with the operational hours of 7:30 AM to 8:20 AM and 2:30 PM to 3:00 PM.



### 3. Aragon/Grand Canyon Intersection:

Traffic Conditions: The Aragon/Grand Canyon intersection displayed relatively light traffic during the school

drop-off period. However, it is situated in close proximity to residential areas, leading to a small but steady volume of local traffic. Although this intersection does not experience the same level of congestion as Sherwood/Grand Canyon, it remains a key access point for vehicles entering and exiting the neighborhood.

**Pedestrian Activity:** Unlike the other intersections, there were fewer pedestrians observed crossing at Aragon/Grand Canyon. The intersection does not currently feature any school crossing signs or pedestrian safety measures, which may contribute to the reduced number of students choosing this route. **Signage and Sight Distance:** The current stop sign configuration prioritizes traffic on Grand Canyon Dr., with no stop control for vehicles traveling on Aragon Ave. There were no immediate sightline issues observed, and visibility for drivers turning onto Grand Canyon Dr. was sufficient.



In conclusion, Sherwood/Grand Canyon and Rover/Grand Canyon are the most congested, pedestrian-heavy intersections during school hours. Improving visibility, pedestrian infrastructure, and adjusting school flashers can mitigate risks. Future efforts should focus on coordinating pedestrian and vehicle movements during peak times.

# **Appendix B**

# Signage Provided in the Study Area



White Rock Grand Canyon Intersections OVERALL PLAN SHEET

Attachment C

## **Appendix C**

# Existing Traffic Counts & Average Weekday Traffic Volumes

Tue Aug 20, 2024 Full Length (6 AM-7 PM (+1)) All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements ID: 1216208, Location: 35.820614, -106.211562



LOS ALAMOS

Provided by: Los Alamos County

101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

Leg	SB Sh	erwood					WB Gra Westbou	nd Can	yon				NB Shei Northbo	rwood					EB Gran	d Cany	on					
Time	R	T	,	L	U	Ann	Ped*	R	Т	L	U	Ann	Ped*	R	Т	L	U	Ann	Ped*	R	Т	L	U	Ann	Ped*	Int
2024-08-20	I. I.				0	түр	r cu	K	-			түр	rcu		1	п.		T PP	i cu	IX.	1	ь	0	TTPP	reu	m
6:00AM	5	0		2	0	7	0	1	18	0	0	19	2	0	1	0	0	1	0	0	1	3	0	4	0	31
6:15AM	3	0		0	0	3	2	3	10	0	0	13	0	0	1	0	0	1	0	0	4	0	0	4	4	21
6:30AM	1	. 1		1	0	3	3	0	15	2	0	17	0	1	2	1	0	4	0	0	1	0	0	1	0	25
6:45AM	3	0		0	0	3	1	0	23	0	0	23	0	1	2	0	0	3	0	0	0	0	0	0	0	29
Hourly Total	12	. 1		3	0	16	6	4	66	2	0	72	2	2	6	1	0	9	0	0	6	3	0	9	4	106
7:00AM	2	. 1		2	0	5	2	2	15	0	0	17	0	2	1	0	0	3	1	0	0	0	0	0	0	25
7:15AM	4	. 2		0	0	6	0	3	21	3	0	27	1	1	2	2	0	5	0	0	2	3	0	5	0	43
7:30AM	16	1		1	0	18	6	4	47	1	0	52	1	1	7	4	0	12	0	1	10	11	0	22	0	104
7:45AM	22	1		0	0	23	35	1	42	0	0	43	1	0	6	4	0	10	0	1	10	3	0	14	1	90
Hourly Total	44	. 5		3	0	52	43	10	125	4	0	139	3	4	16	10	0	30	1	2	22	17	0	41	1	262
8:00AM	12	2		1	0	15	24	0	28	2	0	30	3	1	7	1	0	9	0	6	29	20	0	55	3	109
8:15AM	5	5 5		4	0	14	3	5	9	3	0	17	0	1	3	0	0	4	0	0	7	2	0	9	2	44
8:30AM	1	2		1	0	4	0	2	7	3	0	12	3	1	8	1	0	10	0	0	2	5	0	7	0	33
8:45AM	2	4		3	1	10	0	2	7	3	0	12	0	5	3	0	0	8	0	0	1	2	0	3	0	33
Hourly Total	20	13		9	1	43	27	9	51	11	0	71	6	8	21	2	0	31	0	6	39	29	0	74	5	219
9:00AM	1	1		- 1	0	3	5	4	2	3	0	9	3	3	1	0	0	4	0	1	1	2	0	4	4	20
9:15AM	1	4		0	0	5	0	3	- 6	0	0	9	4	1	3	0	0	4	2	0	1	- 8	0	9	0	27
9:30AM	3	0		5	0	8	2	7	3	2	0	12	1	1	5	0	0	6	1	0	0	0	0	0	2	26
9:45AM	4			5	0	9	1	5	2	2	0	9	0	0	3	0	0	3	0	0	3	2	0	5	- 1	26
Hourly Total	9	1 5	1	1	0	25	8	19	13	7	0	39	8	5	12	0	0	17	3	1	5	12	0	18	7	99
10:00AM	3	. 4		2	0	9	2	11	3	, 3	0	17	0	1	3	0	0	4	0	0	1	2	0	3	,	33
10:15AM	2	1		6	0	9	0	5	4	0	0		0	0	1	0	0	1	0	0	3	1	0	4	0	23
10:30AM	3	- 1 - 7		5	0	11	0	4		0	0	6	0	0	6	1	0	7	0	1	2	3	0		0	30
10:45AM	3			7	0	10	0		6	3	0	13	0	0	4	0	0	,	0	0	5	3	0	8	0	35
Hourly Total	11	9 0	2	<u>/</u>	0	30	2		15	6	0	45	0	1	1/	1	0	16	0	1	11	9	0	21	0	121
11:00 A M		. 0	2	2	0	12	2	24	13	2	0	4.5	0	1	14 2	0	0	2	0	1	11	2	0	5	0	25
11:15AM	4			3 1	0	12	0	2	2		0	6	0	0		0	0	2	0	0	17	3	0	15	0	42
11:30AM	3	6		3	2	14	0	2	7	2	0	12	1	4	5	0	0	6	0	2	7	2	0	6	0	38
11:45 A M	7	, U		1	2	17	0	0	5	- 1	0	6	1	1	5	0	0	7	0	2	6		0	15	0	41
Hourly Total	20	- 16	1	4	2	52	0	5	17	0	0	20	1	7	16	0	0	22	0	2	21	17	0	13	0	141
12:00PM	20	5	1	4 6	2	14	0	5	7	0	0	12	1	1	20	1	0	23	0	2	5	1/	0	15	0	140
12:00FM	2			0 7	0	7	1	2	7	1	0	12	1	1	2	1 2	0	- 4	0	2	6	0	0	6	0	40
12.13FM	2	2		<u> ۲</u>	0		1	6		2	0	11	1	4	5	2	0	6	0	0	1	2	0	4	0	22
12:30FM	2			+ 2	0	12	1	6		7	0	24	0	1	5	0	0	7	0	0	1		0	- 4	0	
Hourly Total	10	17	1	5	0	12	1	20	20	/	0	50	1	2	14	2	0	25	0	0	12	12	0	2 79	0	154
1:00DM	10	1/	1	5	0	42	2	20	20	- 11	0	10	1	2	5	0	0	23	0	2	13 2	13	0	20	0	24
1.00FM	1	1		2	1	13	0		5	2	0	10	0	2	2	0	0	6	0	0		2	0		0	26
1.15PM	4	- 4		3 1	1	12	0	4	2	0	0		2	3	3	0	0	0	1	0	/	2	0	9	0	30
1.30PM	5	1		5	0	11	2		3 7	2	0	<u> </u>	2	4	4 2	0	0	0 2	1	0	1	2	0	6	0	2/
Hourly Total	15	17	1	3	1	47	2	12	16	2	0	3	2	0	14	0	0	2	1	0	14	2	0	22	0	125
	13	1/	1	4 2	1	4/	2	15	201	4	0	 0	2	9	14	0	0	23	1	0	14	0 2	0	22	0	125
2:00PM	2			3	0	14	0	3	10	2	0	17	2	0	2	1	0	2	0	0	4	2	0	0	0	30
2:15PM	17	5		5	0	1/	15	6	10	1	0	1/	0	0	2	1	0	3	0	0	2	4	0	12	1	43
2:30PM	1/	0		э 7	0	14	15	4	1/	3	0	24	0		2	1	0	4	1	1	22	11	0	13	1	70
2:45PM	1	17		/	0	14	27	4	2	2	0	8	0	6	12	0	0	12	1	2	23	11	0	30	3	70
Hourly I otal	30	1/	2	0	0	6/	45	1/	32	8	0	57	2	/	12	2	0	21	1	3	35	23	0	61	4	206
3:00PM	4			5	0	10	0	8		1	0	10	0	0	1	0	0		1	0	12	5	0	10	0	31
3:15PM	2			1	0	5	2	/	3	2	0	12	0	3	2	0	0	5	1	0	13	5	0	18	0	40
3:30PM		5		5	0	13	4	3	3	0	0	6	1	3	3	0	U	6	0		11	4	0	16	U	41
3:45PM	2	9		5	0	16	1	7	3	1	0	11	0	3	3	0	0	6	0	0	16	7	0	23	0	56
Hourly Total	11	17	1	0	0	44	1	25	10	4	0	39	1	9	9	0	0	18	1	1	45	21	0	67	0	168
4:00PM		6	1	1	0	17	1	- 13	3	5	0	21	0	1	4	0	0	5	0	1	15	6	0	22	0	65
4:15PM		2		ь 	0	10	0	5	3	0	0	8	0	3	5	0	U	8	0	0	14	5	0	19	0	45
4:30PM	5	6		/	0	18	0	8	1	- 1	0	10	0	1	2	0	0	3	0	1	24	4	0	29	0	60
4:45PM	6	5	1	1	0	22	0	7	3	3	0	13	0	6	4	0	0	10	0	3	28	8	0	39	0	84
Hourly Total	13	19	3	5	0	67	1	33	10	9	0	52	0	11	15	0	0	26	0	5	81	23	0	109	0	254

Leg	SB S	Sherwo	boc					WB Gra Westbou	nd Can	yon			NB She	rwood					EB Grai Fastbou	nd Cany	on				
Time	Jour	R	T	L	U	App 1	Ped*	R	Т	L	U	App Ped*	R	T	L	U	App Pe	*b	R	Т	L	U	App	Ped*	Int
5:00PM		5	2	11	0	18	0	3	7	2	0	<b>12</b> 1	4	3	1	0	8	0	1	35	10	0	46	0	84
5:15PM		9	8	11	0	28	0	9	7	2	0	<b>18</b> 0	8	2	0	0	10	0	3	46	6	0	55	0	111
5:30PM		2	9	16	0	27	0	5	5	5	0	<b>15</b> 0	3	4	0	0	7	0	3	19	8	0	30	0	79
5:45PM		5	10	8	0	23	0	3	1	4	0	<b>8</b> 0	8	1	0	0	9	0	0	17	7	0	24	0	64
Hourly Total	2	21	29	46	0	96	0	20	20	13	0	<b>53</b> 1	23	10	1	0	34	0	7	117	31	0	155	0	338
6:00PM		2	4	9	0	15	0	6	4	10	0	<b>20</b> 1	2	4	0	0	6	0	1	6	2	0	9	0	50
6:15PM		3	7	4	0	14	2	1	5	1	0	<b>7</b> 1	4	3	0	0	7	1	1	10	2	0	13	2	41
6:30PM		5	8	5	0	18	1	2	5	3	0	<b>10</b> 0	2	2	0	0	4	0	0	6	3	0	9	0	41
6:45PM		3	8	5	0	16	1	4	11	4	0	<b>19</b> 0	5	1	0	0	6	0	0	3	0	0	3	0	44
Hourly Total	1	13	27	23	0	63	4	13	25	18	0	<b>56</b> 2	13	10	0	0	23	1	2	25	7	0	34	2	176
2024-08-21 6:00 A M		5	0	1	0	6	0	1	17	1	0	<b>1</b> 4 7	0	1	0	0	1	1	0	2	0	0	2	0	22
6:15AM		2	0	0	0	2	0	1	19	0	0	<b>20</b> 0	0	2	0	0	2	0	0	1	1	0	2	0	25
6:30AM		2	1	0	0	3	1	0	22	2	0	20 0 24 1	3	5	1	0	9	1	0	0	1	0	1	0	37
6:45AM		2	1	2	0	5	0	4	22	2	0	<b>28</b> 1	1	1	1	0	3	1	0	0	0	0	0	0	36
Hourly Total	1	11	2	3	0	16	1	6	75	5	0	<b>86</b> 4	4	9	2	0	15	3	0	3	2	0	5	0	122
7:00AM		2	0	1	0	3	3	2	13	1	0	<b>16</b> 2	1	0	0	0	1	1	0	0	2	0	2	2	22
7:15AM		6	0	1	0	7	1	0	21	2	0	<b>23</b> 0	2	2	0	0	4	0	0	1	1	0	2	0	36
7:30AM	1	19	4	3	0	26	6	5	34	1	0	<b>40</b> 0	2	4	5	0	11	0	3	5	9	0	17	0	94
7:45AM	2	24	0	0	0	24	29	5	41	3	0	<b>49</b> 0	2	8	4	0	14	0	1	11	5	0	17	0	104
Hourly Total	5	51	4	5	0	60	39	12	109	7	0	<b>128</b> 2	7	14	9	0	30	1	4	17	17	0	38	2	256
8:00AM		9	2	3	0	14	39	4	30	1	0	<b>35</b> 1	5	5	4	0	14	0	3	26	16	0	45	1	108
8:15AM		2	3	4	0	9	1	4	8	1	0	<b>13</b> 0	0	2	0	0	2	0	0	6	1	0	7	0	31
8:30AM		3	0	2	0	5	0	3	12	5	0	<b>20</b> 1	1	5	0	0	6	0	0	1	0	0	1	0	32
8:45AM		1	1	2	0	4	0	3	7	1	0	11 0	4	5	0	0	9	0	0	2	1	0	3	0	27
Hourly Total		2	0		0	32	40	14	57	8	0	<b>79</b> 2	10	- 17	4	0	31	0	3	35	81	0	56	1	198
9:00AM		2	2	5 1	0	5	1	5	4	4	0	10 0 10 1	0	/	0	0	/	0	0	1	2	0	3	1	29
9.15AM		2	3	2	0	7	1	2	6	1	0	<b>10</b> 1		10	0	0	12	2	0	4	2 2	0	2	0	30
9:45AM		2	1	1	0	4	3	4	7	0	0	<b>11</b> 0	2	5	0	0	7	0	0	1	1	0	2	0	24
Hourly Total		6	10	9	0	25	5	13	20	7	0	<b>40</b> 1	4	22	0	0	26	2	0	6	8	0	14	1	105
10:00AM		3	3	3	0	9	0	5	5	2	0	<b>12</b> 0	2	2	0	0	4	0	0	1	4	0	5	0	30
10:15AM		3	3	4	0	10	1	5	5	0	0	<b>10</b> 0	0	3	1	0	4	0	1	4	3	0	8	1	32
10:30AM		3	1	5	0	9	7	2	6	4	0	<b>12</b> 1	1	5	0	0	6	0	0	3	6	0	9	4	36
10:45AM		1	4	3	0	8	0	3	4	1	0	<b>8</b> 0	1	1	0	0	2	0	0	1	0	0	1	0	19
Hourly Total	1	10	11	15	0	36	8	15	20	7	0	<b>42</b> 1	4	11	1	0	16	0	1	9	13	0	23	5	117
11:00AM		2	3	7	0	12	0	3	4	2	0	<b>9</b> 0	2	4	0	0	6	0	0	7	3	0	10	0	37
11:15AM		1	3	6	0	10	0	5	2	3	0	<b>10</b> 0	0	3	0	0	3	0	0	8	1	0	9	0	32
11:30AM		7	3	3	0	13	0	6	6	4	0	<b>16</b> 0	1	4	0	0	5	0	1	5	1	0	7	0	41
11:45AM		8	4	4	0	16	0	2	8	1	0	11 0	5	1	0	0	6	0	0	2	9	0	11	0	44
Hourly Total	1	18	13	20	0	51	0	16	20	10	0	<b>46</b> 0	8	12	0	0	20	0	1	22	14	0	37	0	154
12:00PM		3	5	3	0	11	1	3	1	2	0	<b>6</b> 0	1	6	1	0	8	0	0	5	3	0	8	0	33
12:15PM		2	9	4	0	15	4	3	3	1	0	<b>7</b> 0	2	2	1	0	5	0	1	4	1	0	10	0	32
12.50PM		6	6	3	0	14	0	4	5	1	0	<b>13</b> 0	2	1	0	0	3	0	1		/	0	10	0	30
Hourly Total	1	15	26	14	0	55	5	16	11	-+	0	<b>35</b> 0	8	11	2	0	21	0	1	18	15	0	34	0	145
1:00PM		1	1	7	0	9	1	0	2	3	0	<b>5</b> 0	3	4	1	0	8	0	0	4	2	0	6	0	28
1:15PM		2	3	4	0	9	0	6	2	1	0	<b>9</b> 1	1	3	0	0	4	1	0	2	1	0	3	1	25
1:30PM		3	2	1	0	6	0	0	2	1	0	<b>3</b> 0	1	1	0	0	2	0	0	2	4	0	6	0	17
1:45PM		1	5	2	0	8	0	2	7	4	0	<b>13</b> 0	1	2	0	0	3	0	0	4	1	0	5	0	29
Hourly Total		7	11	14	0	32	1	8	13	9	0	<b>30</b> 1	6	10	1	0	17	1	0	12	8	0	20	1	99
2:00PM		2	4	5	0	11	0	4	6	1	0	<b>11</b> 0	2	3	0	0	5	0	0	2	1	0	3	0	30
2:15PM		8	1	4	0	13	2	1	12	1	0	<b>14</b> 0	1	3	3	0	7	0	0	5	2	0	7	0	41
2:30PM	1	17	2	7	0	26	14	4	16	7	0	<b>27</b> 0	1	3	1	0	5	0	2	9	8	0	19	0	77
2:45PM		4	3	2	0	9	28	3	2	2	0	<b>7</b> 0	6	4	0	0	10	0	4	29	13	0	46	0	72
Hourly Total	3	31	10	18	0	59	44	12	36	11	0	<b>59</b> 0	10	13	4	0	27	0	6	45	24	0	75	0	220
3:00PM	<u> </u>	2	2	5	0	9	2	3	4	4	0	11 0	2	3	0	0	5	0	0	3	8	0	11	0	36
3:15PM	-	5	10	5	0	20	2	9	5	7	0	21 0		5	3	0	11	0	1	10	3	0	14	1	63
3:30PM	-	۷ ۷	0	0	0	0	1	4 7	ح 1	2	0	<b>9</b> 0	3	ช ว	0	0		0	0	9 1⊑	/	0	74 10	0	50
Hourly Total	1	4	18	20	0	51	1	18	13	13	0	<b>44</b> 0	د ۹	18	2	0	5 29	0	1	13	9 27	0	65	1	190
4.00PM		5	7	6	0	18	0	6	13	-13	0	<b>19</b> 0	3	2	0	0	5	0	7	18	11	0	31	1	73
4:15PM		3	8	8	0	19	1	9	3	2	0.	14 0	4	4	1	0	9	0	1	18	3	0	22	0	64
								L				wachment	<u>ال</u>												

Leg Direction	SB S	Sherw	bod					WB Gra Westhou	nd Cany	yon			NB She Northbo	rwood				EB C	Gran	d Cany	on				
Time	000	R	Т	L	U	App 1	ed*	R	Т	L	U	App Ped*	R	Т	L	U	App Ped	*	R	Т	L	U	App	Ped*	Int
4:30PM		3	7	8	0	18	0	3	5	4	0	<b>12</b> 0	5	2	1	0	8	0	1	17	3	0	21	0	59
4:45PM		3	10	5	0	18	0	7	2	3	0	<b>12</b> 0	3	2	4	0	9	1	2	29	8	0	39	0	78
Hourly Total		14	32	27	0	73	1	25	18	14	0	<b>57</b> 0	15	10	6	0	31	1	6	82	25	0	113	0	274
5:00PM		1	4	10	0	15	0	4	4	5	0	<b>13</b> 0	8	6	1	0	15	0	2	22	8	0	32	0	75
5:15PM		5	5	8	0	18	0	3	4	2	0	<b>9</b> 0	5	6	0	0	11	0	2	42	4	0	48	0	86
5:30PM		9	7	4	1	21	0	7	3	4	0	<b>14</b> 0	9	1	0	0	10	0	2	43	10	0	55	0	100
5:45PM		2	5	6	0	13	0	5	5	0	0	<b>10</b> 0	7	3	1	0	11	0	0	17	6	0	23	0	57
Hourly Total		17	21	28	1	67	0	19	16	11	0	<b>46</b> 0	29	16	2	0	47	0	6	124	28	0	158	0	318
6:00PM		4	8	13	0	25	0	6	6	2	0	<b>14</b> 0	3	3	0	0	6	0	0	7	4	0	11	0	56
6:15PM		7	8	5	0	20	0	6	6	3	0	14 0 15 0	5	2	0	0	7	0	0	7	7	0	14	0	56
6:30PM		3	5	3	0	11	1	5	4	4	0	13 0	2	2	0	0	, 	0	0	6	2	0	8	0	36
6:45PM		2	5	5	0	12	0	4	1	2	0	7 0	2	0	0	0	2	0	0	6	3	0	9	0	30
Hourly Total		16	26	26	0	68	1	21	17	11	0	<b>10</b> 0	12	7	0	0	10	0	0	26	16	0	12	0	178
	,	10	20	20	0	00	1	21	1/	11	0	<b>43</b> 0	12	/	0	0	15	0	0	20	10	0	42	0	1/0
6:00AM		4	0	0	0	4	0	1	15	0	0	<b>16</b> 0	0	1	0	0	1	0	0	2	0	0	2	0	23
6:15AM		2	0	0	0	2	0	2	14	3	0	<b>19</b> 7	0	3	0	0	3	0	0	1	0	0	- 1	0	25
6:30AM		2	0	0	0	2	4	0	20	2	0	<b>2 2</b>	3	2	1	0	6	0	0	0	0	0		2	30
6:45AM		2	1	0	0	2		2	16	1	0	19 0	1	1	1	0	3	1	1	1	0	0	2	0	27
Hourly Total		10	1	0	0	11	4	5	65	6	0	<b>76</b> 3	1	7	2	0	13	1	1	1	0	0	5	2	105
7:00 A M		10	2	1	0	0	4	2	12	0	0	<b>14</b> 1	4	/ 2	- 2	0	15	0	1	4	1	0		2	27
7.00AM		4	3 1	1 2	0	0	6	2	12	1	0	14 1 25 1	1	4	1	0	4	1	0	2	1	0	2	2	2/ E2
7:15AM		0	1	2	0	11	0	0	28	1	0	35 1 47 2	0	4	0	0	4	1	1	2	12	0	3 22	2	23
7:30AM		10	0	0	0	10	40	4	40	1	0	<b>4</b> / 2		5	2	0	/	1	1	10	12	0	22	0	94
/:45AM		23	0	0	0	23	40	12	40	1	0	42 0	5	5	3	0	13	0	2	12	/	0	21	0	399
Hourly I otal		53	4	3	0	60	49	13	120	5	0	138 4	6	16	6	0	28	2	3	23	21	0	4/	2	2/3
8:00AM		11	2	1	0	14	24	4	30	2	0	<b>36</b> 0	6	/	4	0	17	1	8	24	19	0	51	1	118
8:15AM		6	0	2	0	8	3	4	8	4	0	16 0	4	1	1	0	6	1	0	6	6	0	12	0	42
8:30AM		0	5	1	0	6	2	5	6	5	0	16 1	1	8	0	0	9	1	0	3	0	0	3	0	34
8:45AM		0	2	2	0	4	1	4	7	0	0	11 1	4	2	0	0	6	0	0	1	1	0	2	0	23
Hourly Total		17	9	6	0	32	30	17	51	11	0	<b>79</b> 2	15	18	5	0	38	2	8	34	26	0	68	1	217
9:00AM		1	2	3	0	6	0	0	7	0	0	7 0	2	6	0	0	8	0	0	3	5	0	8	0	29
9:15AM		5	2	1	0	8	1	2	1	3	0	<b>6</b> 0	0	3	2	0	5	0	0	1	8	0	9	1	28
9:30AM		2	2	2	0	6	0	1	5	1	0	<b>7</b> 0	0	4	0	0	4	0	0	1	4	0	5	1	22
9:45AM		3	7	0	0	10	0	3	5	2	0	<b>10</b> 3	1	3	0	0	4	0	0	2	2	0	4	0	28
Hourly Total		11	13	6	0	30	1	6	18	6	0	<b>30</b> 3	3	16	2	0	21	0	0	7	19	0	26	2	107
10:00AM		2	6	3	0	11	0	2	2	1	0	<b>5</b> 0	1	3	0	0	4	0	1	1	0	0	2	0	22
10:15AM		2	3	0	0	5	0	3	2	4	0	<b>9</b> 0	2	4	0	0	6	0	1	0	1	0	2	0	22
10:30AM		1	6	2	0	9	2	3	2	2	0	<b>7</b> 0	1	5	0	0	6	0	0	0	4	0	4	0	26
10:45AM		1	2	1	0	4	1	2	3	1	0	<b>6</b> 1	0	3	0	0	3	0	1	2	2	0	5	0	18
Hourly Total		6	17	6	0	29	3	10	9	8	0	<b>27</b> 1	4	15	0	0	19	0	3	3	7	0	13	0	88
11:00AM		4	3	6	0	13	0	3	3	6	0	<b>12</b> 0	1	2	0	0	3	0	0	3	1	0	4	0	32
11:15AM		1	2	5	0	8	0	6	4	2	0	<b>12</b> 2	2	3	0	0	5	0	0	6	2	0	8	0	33
11:30AM		0	7	9	0	16	0	3	5	0	0	<b>8</b> 0	0	5	0	0	5	0	0	3	5	0	8	0	37
11:45AM		3	3	6	0	12	0	5	8	1	0	<b>14</b> 0	2	4	0	0	6	0	0	5	6	0	11	0	43
Hourly Total		8	15	26	0	49	0	17	20	9	0	<b>46</b> 2	5	14	0	0	19	0	0	17	14	0	31	0	145
12:00PM		2	3	4	0	9	1	1	3	2	0	<b>6</b> 1	2	0	1	0	3	0	0	3	2	0	5	1	23
12:15PM		6	5	4	0	15	1	3	1	0	0	<b>4</b> 0	1	7	0	0	8	0	0	4	4	0	8	0	35
12:30PM		4	4	3	0	11	0	4	2	3	0	<b>9</b> 1	1	9	0	0	10	0	3	2	5	0	10	0	40
12:45PM		2	4	1	0	7	2	3	5	3	0	<b>11</b> 0	1	6	0	0	7	0	0	1	4	0	5	2	30
Hourly Total		14	16	12	0	42	4	11	11	8	0	<b>30</b> 2	5	22	1	0	28	0	3	10	15	0	28	3	128
1:00PM		3	3	7	0	13	0	7	4	0	0	<b>11</b> 0	0	3	0	0	3	0	0	2	3	0	5	0	32
1:15PM		1	6	6	0	13	0	2	4	3	0	<b>9</b> 1	2	4	0	0	6	0	0	3	0	0	3	0	31
1:30PM		4	2	1	0	7	0	2	4	1	0	<b>7</b> 0	2	5	0	0	7	0	0	3	1	0	4	0	25
1:45PM	1	1	6	4	0	11	0	3	2	0	0	<b>5</b> 0	1	0	0	0	1	0	0	2	1	0	3	0	20
Hourly Total		9	17	18	0	44	0	14	14	4	0	<b>32</b> 1	5	12	0	0	17	0	0	10	5	0	15	0	108
2:00PM		1	1	1	0	3	0	4	7	3	0	<b>14</b> 0	2	3	0	0	5	0	0	1	2	0	3	0	25
2:15PM	1	8	4	6	0	18	2	5	9	2	0	<b>16</b> 0	1	1	2	0	4	0	0	6	1	0	7	0	45
2:30PM	-	14	5	2	0	21	16	3	16	- 7	0	21 0	4	3		0	11	0	0	5	6	0	. 11	0	64
2.501 M	-	5	10	7	0	27	23	7	3	10	0	20 0	4	5	0	0	9	0	3	25	11	0	30	0	 Q/
Hourly Total		28	20	16	0	64	<u>4</u> 1	19	35	17	0	71 0	11	12	6	0	29	0	3	37	20	0	60	0	224
2.00DM		1	20	6	0	10	1	15	1	1	0	6 0	11	12	0	0	6	0	0	4	6	0	10	0	224
2.15DM	-	6	2	7	0	15	1	7	1	т Г	0	13 0	4	2	1	0	9 8	0	2	11	6	<u>n</u>	10	0	52
2.20014		3	4	/ /	0	11	1	/ 5	יד ר	5	0	10 U	1	5	1	0	7	0	<u>د</u> 1	6	5	0	13	0	 /1
2.4EDM	-	5	+	4	0	11	1	5 7	<u>∠</u> ۸	כ ר	0	<u>12</u> 0	1	נ ר	1	0	, c	0	1	17	7	0	12	0	42 F1
3:45PM	1	э	0	σ	U	1/	1	3	4	2	U 4	ttachment	IC 4	2	U	υ	o	V	U	12	/	U	19	U	51

Leg Direction	SB She Southb	rwood ound					WB Gra Westbo	and Ca und	nyon				NB She Northbe	erwood ound					EB Gra Eastbou	nd Car ınd	iyon				
Time	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	Int
Hourly Total	15	15	23	0	53	3	19	8	13	0	40	0	13	12	2	0	27	0	3	33	24	0	60	0	180
4:00PM	9	7	4	0	20	0	2	5	3	0	10	0	1	4	2	0	7	0	0	17	7	0	24	0	61
4:15PM	5	4	6	0	15	2	4	4	1	0	9	1	2	5	0	0	7	0	1	15	8	0	24	1	55
4:30PM	6	8	11	0	25	0	8	7	4	0	19	0	1	4	2	0	7	0	1	21	8	0	30	0	81
4:45PM	5	7	8	0	20	0	6	4	4	0	14	0	6	4	1	0	11	1	3	37	8	0	48	0	93
Hourly Total	25	26	29	0	80	2	20	20	12	0	52	1	10	17	5	0	32	1	5	90	31	0	126	1	290
5:00PM	6	5	10	0	21	1	6	6	4	0	16	0	5	2	0	0	7	0	1	21	3	0	25	0	69
5:15PM	3	6	10	0	19	0	9	5	2	0	16	0	4	3	0	0	7	0	1	32	11	0	44	0	86
5:30PM	0	8	9	0	17	2	2	7	2	0	11	2	4	2	0	0	6	0	2	21	2	0	25	0	59
5:45PM	5	6	8	0	19	5	6	8	1	0	15	0	6	2	0	0	8	0	1	19	4	0	24	3	66
Hourly Total	14	25	37	0	76	8	23	26	9	0	58	2	19	9	0	0	28	0	5	93	20	0	118	3	280
6:00PM	2	9	10	0	21	0	5	3	4	0	12	1	1	1	0	0	2	0	1	11	2	0	14	0	49
6:15PM	4	5	7	0	16	0	9	2	3	0	14	2	2	3	0	0	5	0	1	10	3	0	14	0	49
6:30PM	2	10	11	0	23	0	3	1	2	0	6	1	4	3	1	0	8	0	0	7	1	0	8	0	45
6:45PM	5	6	7	0	18	0	3	2	1	0	6	1	2	1	0	0	3	0	1	2	1	0	4	0	31
Hourly Total	13	30	35	0	78	0	20	8	10	0	38	5	9	8	1	0	18	0	3	30	7	0	40	0	174
Total	676	589	656	5	1926	443	601	1258	344	0	2203	66	341	517	84	0	942	22	99	1261	637	0	1997	48	7068
% Approach	35.1%	30.6%	34.1%	0.3%	-	-	27.3% 5	57.1%	15.6%	0%	-	-	36.2%	54.9%	8.9%	0%	-	-	5.0% (	63.1%	31.9%	0%	-	-	-
% Total	9.6%	8.3%	9.3%	0.1%	27.2%	-	8.5% 1	17.8%	4.9%	0%3	31.2%	-	4.8%	7.3%	1.2%	0% :	13.3%	-	1.4%	17.8%	9.0%	0%2	28.3%	-	-
Vehicles	674	568	647	5	1894	-	593	1233	317	0	2143	-	316	495	83	0	894	-	89	1236	633	0	1958	-	6889
% Vehicles	99.7%	96.4%	98.6%	100%	98.3%	-	98.7% 9	98.0%	92.2%	0% 9	97.3%	-	92.7%	95.7%	98.8%	0% 9	94.9%	-	89.9% 9	98.0%	99.4%	0% 9	98.0%	-	97.5%
Bicycles on																									
Road	2	21	9	0	32	-	8	25	27	0	60	-	25	22	1	0	48	-	10	25	4	0	39	-	179
% Bicycles																									
on Road	0.3%	3.6%	1.4%	0%	1.7%	-	1.3%	2.0%	7.8%	0%	2.7%	-	7.3%	4.3%	1.2%	0%	5.1%	-	10.1%	2.0%	0.6%	0%	2.0%	-	2.5%
Pedestrians	-	-	-	-	-	443	-	-	-	-	-	66	-	-	-	-	-	22	-	-	-	-	-	48	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	- 2	100%	-	-	-	-	- 1	100%	-	-	-	-	-	100%	-

Tue Aug 20, 2024

All Movements

Total: 4015 7 Out: 2018

ln: 1997

[W] EB Grand Canyon

ID: 1216208, Location: 35.820614, -106.211562



Out: 1032 In: 942 Total: 1974 [S] NB Sherwood

84

5

17

341

517

Tue Aug 20, 2024 Midday Peak (Aug 20 2024 11:15AM - 12:15 PM) All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements

Provided by: Los Alamos County

101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

ID: 1216208, Location: 35.820614, -106.211562

Leg	SB She	rwood					WB	Grand	Can	yon				NB Sh	erwood					EB Gra	and Ca	nyon				
Direction	Southb	ound					West	bound	l	-				Northb	ound					Eastbo	und	-				
Time	R	Т	L	U	Α	App Ped	k ]	R	Т	L	U	Арр	Ped*	R	Т	L	U	App P	'ed*	R	Т	L	U	App I	ed*	Int
2024-08-20						40		2			0		0				_		0		40				-	
11:15AM	6	3	4	0		13	)	2	2	2	0	6	0	4	4	0	0	8	0	0	12	3	0	15	0	42
11:30AM	3	6	3	2		14	)	3	7	2	0	12	1	1	5	0	0	6	0	2	2	2	0	6	0	38
11:45AM	7	2	4	0		13	)	0	5	1	0	6	0	2	5	0	0	7	0	0	6	9	0	15	0	41
12:00PM	3	5	6	0		14	)	5	7	0	0	12	0	1	2	1	0	4	0	2	5	8	0	15	0	45
Total	19	16	17	2		54	) 1	0	21	5	0	36	1	8	16	1	0	25	0	4	25	22	0	51	0	166
% Approach	35.2%	29.6%	31.5%	3.7%		-	- 27.89	6 58.3	8% 1	3.9%	0%	-	-	32.0%	64.0%	4.0%	0%	-	-	7.8%	49.0%	43.1%	0%	-	-	-
% Total	11.4%	9.6%	10.2%	1.2%	32.5	5%	- 6.0%	6 12.7	7%	3.0%	0%	21.7%	-	4.8%	9.6%	0.6%	0% :	15.1%	-	2.4%	15.1%	13.3%	0% 3	0.7%	-	-
PHF	0.679	0.667	0.800	0.250	0.9	946	- 0.50	0 0.7	50 (	0.625	-	0.750	-	0.438	0.750	0.250	-	0.821	-	0.500	0.545	0.611	- (	0.833	-	0.920
Vehicles	19	16	16	2		53	- 1	0	21	5	0	36	-	7	15	1	0	23	-	4	24	22	0	50	-	162
% Vehicles	100%	100%	94.1%	100%	<b>98.</b> 1	1%	- 1009	6 100	)%	100%	0%	100%	-	87.5%	93.8%	100%	0% 9	92.0%	-	100% 9	96.0%	100%	0% <b>9</b>	8.0%	-	97.6%
Bicycles on																										
Road	0	0	1	0		1	-	0	0	0	0	0	-	1	1	0	0	2	-	0	1	0	0	1	-	4
% Bicycles																										
on Road	0%	0%	5.9%	0%	1.9	9%	- 09	6 (	)%	0%	0%	0%	-	12.5%	6.3%	0%	0%	8.0%	-	0%	4.0%	0%	0%	2.0%	-	2.4%
Pedestrians	-	-	-	-		-	)	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-		-	-	-	-	-	-	- 3	100%	-	-	-	-	-	-	-	-	-	-	-	-	-



Tue Aug 20, 2024 Midday Peak (Aug 20 2024 11:15AM - 12:15 PM) All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements ID: 1216208, Location: 35.820614, -106.211562



Provided by: Los Alamos County 101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US



Out: 25 In: 25 Total: 50 [S] NB Sherwood

Tue Aug 20, 2024 PM Peak (Aug 20 2024 4:45PM - 5:45 PM) All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements



Provided by: Los Alamos County 101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

ID: 1216208, Location: 35.820614, -106.211562

Leg	SB She	rwood					WB Gra	and Ca	nyon				NB She	erwood					EB Gr	and Ca	nyon				
Direction	Southb	ound					Westbo	und	-				Northb	ound					Eastbo	und	-				
Time	R	Т	L	U	App P	ed*	R	Т	L	U	Арр	Ped*	R	Т	L	U	App P	ed*	R	Т	L	U	App P	ed*	Int
2024-08-20 4:45PM	6	5	11	0	22	0	7	3	3	0	13	0	6	4	0	0	10	0	3	28	8	0	39	0	84
5:00PM	5	2	11	0	18	0	3	7	2	0	12	1	4	3	1	0	8	0	1	35	10	0	46	0	84
5:15PM	9	8	11	0	28	0	9	7	2	0	18	0	8	2	0	0	10	0	3	46	6	0	55	0	111
5:30PM	2	9	16	0	27	0	5	5	5	0	15	0	3	4	0	0	7	0	3	19	8	0	30	0	79
Total	22	24	49	0	95	0	24	22	12	0	58	1	21	13	1	0	35	0	10	128	32	0	170	0	358
% Approach	23.2%	25.3%	51.6%	0%	-	-	41.4%	37.9%	20.7%	0%	-	-	60.0%	37.1%	2.9%	0%	-	-	5.9%	75.3%	18.8%	0%	-	-	-
% Total	6.1%	6.7%	13.7%	0% 2	26.5%	-	6.7%	6.1%	3.4%	0% 1	16.2%	-	5.9%	3.6%	0.3%	0%	9.8%	-	2.8%	35.8%	8.9%	0% 4	7.5%	-	-
PHF	0.583	0.667	0.766	-	0.839	-	0.667	0.786	0.550	-	0.792	-	0.625	0.750	0.250	-	0.825	-	0.833	0.696	0.775	- (	0.768	-	0.795
Vehicles	21	24	49	0	94	-	24	22	11	0	57	-	20	12	1	0	33	-	10	128	31	0	169	-	353
% Vehicles	95.5%	100%	100%	0% <b>9</b>	98.9%	-	100%	100%	91.7%	0% 9	98.3%	-	95.2%	92.3%	100%	0%	94.3%	-	100%	100%	96.9%	0% <b>9</b>	9.4%	-	98.6%
Bicycles on Road	1	0	0	0	1	-	0	0	1	0	1	-	1	1	0	0	2	-	0	0	1	0	1	-	5
% Bicycles on Road	4.5%	0%	0%	0%	1.1%	-	0%	0%	8.3%	0%	1.7%	-	4.8%	7.7%	0%	0%	5.7%	-	0%	0%	3.1%	0%	0.6%	-	1.4%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-



Out: 46 In: 35 Total: 81 [S] NB Sherwood

Thu Aug 22, 2024 AM Peak (Aug 22 2024 7:15AM - 8:15 AM) - Overall Peak Hour All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements

LOS ALAMOS

Provided by: Los Alamos County

101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

ID: 1216208, Location: 35.820614, -106.211562

																								_	
Leg	SB She	rwood	l				WB Gr	and Ca	nyon				NB Sh	erwood					EB Gra	and Car	nyon				
Direction	Southb	ound					Westbo	und					Northb	ound					Eastbo	und					
Time	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	Int
2024-08-22																									
7:15AM	8	1	. 2	0	11	6	6	28	1	0	35	1	0	4	0	0	4	1	0	2	1	0	3	2	53
7:30AM	18	0	0 0	0	18	3	4	40	3	0	47	2	0	5	2	0	7	1	1	9	12	0	22	0	94
7:45AM	23	0	0 0	0	23	40	1	40	1	0	42	0	5	5	3	0	13	0	2	12	7	0	21	0	99
8:00AM	11	2	. 1	0	14	24	4	30	2	0	36	0	6	7	4	0	17	0	8	24	19	0	51	1	118
Total	60	3	3	0	66	73	15	138	7	0	160	3	11	21	9	0	41	2	11	47	39	0	97	3	364
% Approach	90.9%	4.5%	4.5%	0%	-	-	9.4%	86.3%	4.4%	0%	-	-	26.8%	51.2%	22.0%	0%	-	-	11.3%	48.5%	40.2%	0%	-	-	-
% Total	16.5%	0.8%	0.8%	0%	18.1%	-	4.1%	37.9%	1.9%	0%	44.0%	-	3.0%	5.8%	2.5%	0% :	11.3%	-	3.0%	12.9%	10.7%	0%2	26.6%	-	-
PHF	0.652	0.500	0.375	-	0.707	-	0.583	0.856	0.500	-	0.835	-	0.500	0.850	0.563	-	0.643	-	0.344	0.490	0.513	-	0.475	-	0.785
Vehicles	60	2	3	0	65	-	14	137	6	0	157	-	10	17	9	0	36	-	11	47	39	0	97	-	355
% Vehicles	100%	66.7%	100%	0%	98.5%	-	93.3%	99.3%	85.7%	0%	98.1%	-	90.9%	81.0%	100%	0%	87.8%	-	100%	100%	100%	0%	100%	-	97.5%
Bicycles on																	_								
Road	0	1	. 0	0	1	-	1	1	1	0	3	-	1	4	0	0	5	-	0	0	0	0	0	-	9
% Bicycles on Road	0%	33.3%	0%	0%	1.5%	-	6.7%	0.7%	14.3%	0%	1.9%	-	9.1%	19.0%	0%	0% <sup>.</sup>	12.2%	-	0%	0%	0%	0%	0%	-	2.5%
Dedestrians	070	00.070	. 070	570	1.570	73	0.770		1.1370		1.570	3	5.170	10.070	070			2	070	070	070			3	
0/ Dedestrians		-	-	-	-	1000/		-	-	-	-	1000/		-	-	-	-	4 1000/		-	-	-	-	000/	
% Peuestrians	-			-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-		.00%	

**Grand Canyon & Sherwood TMC - TMC** Thu Aug 22, 2024 AM Peak (Aug 22 2024 7:15AM - 8:15 AM) - Overall Peak Hour All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements



Provided by: Los Alamos County 101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

ID: 1216208, Location: 35.820614, -106.211562 [N] SB Sherwood Total: 141 In: 66 Out: 75 09 09 09 20 53 m m 15 [W] EB Grand Canyon [E] WB Grand Canyon Out: 207 In: 160 138 Total: 304 Total: 221 7 39 Out: 61 In: 97 47 11 2 21 11 ი Out: 21 ln: 41 Total: 62 [S] NB Sherwood

Attachment C

### Grand Canyon Drive & Sherwood Boulevard - Average Weekday Traffic Volumes

Leg Direction	Leg SB Sherwood Direction Southbound								WB Gra We	and Cany stbound	on				NB S Nor	herwood thbound	ł				EB Gra Eas	nd Cany tbound	on					Total In	tersection		Peds	Hourly Peds
Time	Right	Thru	Left	U-Turn	Total	Ped	Right	Thru	Left	U-Turn	Total	Ped	Right	Thru	Left	U-Turn	Total	Ped	Right	Thru	Left	U-Turn	Total	Ped	Traffic	Peds	Hourly Traffic	Hourly	Hourly Multimodal Traffic - Major	Hourly Multimodal Traffic - Minor	Crossing Major Street	Crossing Major Street
					Approach						Approacn						Approacn						Approacn		volume		Volume	Peas	Street	Street		(ppn)
6:00 AM	5	0	1	0	6	0	1	15	0	0	16	1	0	1	0	0	1	0	0	2	1	0	3	0	26	1					1	1
6:15 AM	2	0	0	0	2	1	2	14	1	0	17	1	0	2	0	0	2	0	0	2	0	0	2	1	24	3					2	3
6:30 AM	2	1	0	0	3	3	0	19	2	0	21	1	2	3	1	0	6	0	0	0	0	0	1	1	31	5					2	5
6:45 AM	2	1	1	0	4	0	2	20	1	0	23	0	1	1	1	0	3	1	0	0	0	0	1	0	31	1	112	10	89	32	0	5
7:00 AM	3	1	1	0	5	2	2	13	0	0	16	1	1	1	0	0	3	1	0	0	1	0	1	1	25	5	111				2	6
7:15 AM	6	1	1	0	8	2	3	23	2	0	28	1	1	3	1	0	4	0	0	2	2	0	3	1	44	4	131				2	6
7:30 AM	18	2	1	0	21	5	4	40	2	0	46	1	1	5	4	0	10	0	2	8		0	20	0	97	6	197	50	224	01	1	5
7:45 AM	23	0	0	0	23	35	2	41	1	0	45	0	2	6	4	0	12	0	1	11	10	0	1/	2	98	35	264	50	221	91	0	5
8:00 AIVI		2	2	0	14	29	3	29	2		15		4		3		15	0	0	20	20		50	2 1	20	32	246				3	
8:15 AIVI 8:20 AM	4	3	1	0	10	2	4	0 0	3	0	15		2 1	2	0		4	0	0		3	0	9		22	2	282				2	11
8.30 AIVI 8.45 AM	1	2		0	6		2	0	4	0	10		1	2	0		0 0	0	0	2	2	0	4	0	22	0	202	6	122	50	2	12
9:00 AM	1	2	2	0	6	2	2	/	2	0		1	4	5	0	0	6	0	0	2	3	0	5	2	20	5	126	0	132	50	3	6
9.15 AM	2	2	1	0	6	1	2	3	2	0	8	2	0	2	1		3	1	0	2	6	0	8		20	1	113				2	7
9:30 AM	2	2	3	0	7	1	3	5	1		9	0	1	6	0		7	0	0	0	2	0	2	1	20	2	106				1	6
9:45 AM	3	3	2	0	8	1	4	5	1	0	10		1	4	0		5	0	0	2	2	0	4	0	20	2	100	13	61	55	1	7
10:00 AM	3	4	3	0	10	1	6	3	2	0	11	0	1	3	0	0	4	0	0	1	2	0	3	0	28	1	106	13	01		0	4
10:15 AM	2	2	3	0	8	0	4	4	1	0	9	0	1	3	0	0	4	0	1	2	2	0	5	0	26	0	106				0	2
10:30 AM	2	3	4	0	10	3	3	3	2	0	8	0	1	5	0	0	6	0	0	2	4	0	6	1	31	4	111				1	2
10:45 AM	2	2	4	0	7	0	3	4	2	0	9	0	0	3	0	0	3	0	0	3	2	0	5	0	24	0	109	5	60	53	0	1
11:00 AM	3	4	5	0	12	0	2	3	4	0	9	0	1	3	0	0	4	0	0	4	2	0	6	0	31	0	112				0	1
11:15 AM	3	3	5	0	10	0	4	3	2	0	9	1	2	3	0	0	5	0	0	9	2	0	11	0	36	1	122				1	2
11:30 AM	3	5	5	1	14	0	4	6	2	0	12	0	1	5	0	0	5	0	1	3	3	0	7	0	39	0	130				0	1
11:45 AM	6	3	5	0	14	0	2	7	1	0	10	0	3	3	0	0	6	0	0	4	8	0	12	0	43	0	149	1	76	71	0	1
12:00 PM	3	4	4	0	11	1	3	4	1	0	8	0	1	3	1	0	5	0	1	4	4	0	9	0	34	1	152				0	1
12:15 PM	4	5	3	0	12	2	3	4	1	0	7	0	2	4	1	0	7	0	0	5	2	0	6	0	33	2	149				0	0
12:30 PM	3	4	4	0	11	0	5	3	2	0	11	0	2	5	0	0	7	0	1	2	5	0	8	0	37	0	147				0	0
12:45 PM	3	6	2	0	11	1	4	6	5	0	15	0	2	4	0	0	6	0	0	3	3	0	6	1	39	2	143	5	74	71	1	1
1:00 PM	2	3	6	0	12	0	3	4	2	0	9	0	2	4	0	0	6	0	0	3	2	0	5	0	31	0	140				0	1
1:15 PM	2	4	4	0	11	0	4	4	1	0	9	1	2	3	0	0	5	0	0	4	1	0	5	0	31	1	138				1	2
1:30 PM	3	4	1	0	8	0	1	3	1	0	5	1	2	3	0	0	6	0	0	2	2	0	4	0	23	1	124				1	3
1:45 PM	2	4	4	0	10	1	3	4	2	0	9	0	1	1	0	0	2	0	0	3	1	0	5	0	26	1	111	3	52	62	0	2
2:00 PM	3	4	3	0	9	0	4	5	2	0	11	1	1	3	0	0	4	0	0	2	2	0	4	0	28	1	108				1	3
2:15 PM	8	3	5	0	16	2	4	10	1	0	16	0	1	2	2	0	5	0	0	4	2	0	7	0	43	2	120				0	2
2:30 PM	16	2	5	0	23	15	4	16	4	0	24	0	2	3	2	0	7	0	1	7	7	0	14	0	68	15	165				0	1
2:45 PM	3	6	5	0	15	26	5	2	5	0	12	0	5	5	0	0	10	0	3	26	12	0	40	1	77	27	216	45	171	91	1	2
3:00 PM	2	2	5	0	10		5	2	2	0	9	0	2	2	0	0	4	0	0	4	6	0	10	0	33	1	221				0	
3:15 PM	4	5	4	0	13	1	8	3	5	0	15	0	2	3	1	0	/	0	1	11	5	0	1/	0	53	1	231				0	
3:30 PIM	3	5	5	0	13	2	4	3	2	0	9	0	2	5	0	0	8	0	1	9	5	0	15	0	44	2	207		110	75	0	
3:45 PIVI	4	5	5	0	14	1	4	3	1	0	8	0	3	2	0	0	6	0	0	14	8	0	22	0	49	1	1/9	5	110	/5	0	
4:00 PIVI	5	/	7	0	18	0		5	4	0	1/		2	3	1		6	0		1/	8	0	20	0	00 EE	1	212				0	0
4.13 PIVI	5	7		0	20		6	3	2	0	10		2	2	1		6	0	1	21	5	0	22	0	67	1	214				0	
4.50 PIVI	5	7	9	0	20	0	7	4	2		14		<u> </u>	2	1 2		10	1	2	21	0	0	42	0	07	1	237	2	172	102	0	
5:00 PM		/	10	0	19	0	/	6	1	0	1/		6		1		10		1	26	7	0	3/	0	76	1 0	2/3	<u> </u>	-1/3	103	0	
5:15 PM	6	6	10	0	22		7	5	2	0	14		6	4	<u> </u>		9	0	2	40	7		49	0	94	0	377				0	
5:30 PM	4	8	10	0	22	1	5	5	Δ	0	13	1	5	2	0		8	0	2	28	7	0	37	0	79	2	322				1	1
5:45 PM	4	7	7	0	18	2	5	5	2		11	0	7	2	0		9	0	0	18	6		24	1	62	3	311	5	153	91	1	3
6:00 PM	3	7	11	n n	20	0	6	4	5		15	1	2	3	0		5	0	1	8	3	0	11	0	52	1	287	Ť	100	<u></u>	1	4
6:15 PM	5	7	5	0	17	1	5	4	2	0	12	1	4	3	Ő	0	6	0	1	9	4	0	14	1	49	3	242	1			2	6
6:30 PM	3	8	6	0	17	1	3	3	3	0	10	0	3	2	Ō	0	5	Ō	0	6	2	Ō	8	0	41	1	204	1			0	4
6:45 PM	3	6	6	0	15	0	4	5	2	0	11	0	3	1	0	0	4	0	0	4	1	0	5	0	35	0	177	5	88	92	0	3

Tue Aug 20, 2024 Full Length (6 AM-7 PM (+1)) All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements ID: 1216210, Location: 35.820645, -106.206024



101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

Provided by: Los Alamos County

Leg	SB R	over	,					WB Gra	nd Cany	yon			NB Ro	ver					EB Gran	d Cany	on				
Direction	South	boun	d					Westbou	nd				Northb	ound					Eastbour	1d					
Time	F	ι	Т	T L U <b>App</b> Pea≁				R	Т	L	U	App Ped*	R	Т	L	U	App Pe	d*	R	Т	L	U	Арр	Ped*	Int
2024-08-20		1	ъ	1	0	4	Э	2	10	0	0	<b>16</b> 1	0	4	F	0	0	1	Э	0	1	0	2	0	22
6.00AM		1	2	1	0	4	2	3	15	0	0	10 1 10 0	0	10	5	0	9	1	2	1	1	0	5	0	32
6:15AM		<u> </u>	0	0	0	0	0	3		0	0	10 0	0	12	4	0	10	1	0	1	4	0		0	31
6:30AM		1	1	0	0	2	0	6	7	0	0	13 2	0	3	5	0	8	1	0	2	1	0	3	3	26
6:45AM	(	0	3	0	0	3	1	7	14	1	0	22 1	1	13	8	0	22	0	0	0	1	0	1	1	48
Hourly Total	2	2	6	1	0	9	3	19	41	1	0	<b>61</b> 4	1	32	22	0	55	3	2	3	7	0	12	4	137
7:00AM	(	0	3	1	0	4	0	8	6	0	0	<b>14</b> 1	2	15	5	0	22	1	4	1	0	0	5	3	45
7:15AM	2	2	5	2	0	9	1	14	11	1	0	<b>26</b> 0	0	9	16	0	25	1	1	1	5	0	7	1	67
7:30AM	4	4	10	4	0	18	3	14	20	0	0	<b>34</b> 1	1	18	24	0	43	0	2	5	6	0	13	3	108
7:45AM	(	6	5	5	0	16	12	24	18	0	0	<b>42</b> 2	0	33	18	0	51	0	2	6	7	0	15	0	124
Hourly Total	12	2	23	12	0	47	16	60	55	1	0	<b>116</b> 4	3	75	63	0	141	2	9	13	18	0	40	7	344
8:00AM	2	2	11	6	0	19	2	14	16	1	0	<b>31</b> 3	0	31	15	0	46	0	18	6	10	0	34	0	130
8:15AM	4	4	10	2	0	16	0	6	4	2	0	<b>12</b> 0	0	21	6	0	27	1	9	3	2	0	14	2	69
8:30AM	(	0	5	4	0	9	0	12	5	0	0	<b>17</b> 1	2	17	5	0	24	0	1	1	3	0	5	0	55
8:45AM	:	3	4	4	1	12	0	8	3	0	1	<b>12</b> 2	2	13	6	0	21	0	1	1	4	0	6	1	51
Hourly Total		9	30	16	1	56	2	40	28	3	1	<b>72</b> 6	4	82	32	0	118	1	29	11	19	0	59	3	305
9:00 A M	,	, ,	4	2	0	8	0	7	20	0	0	<b>10</b> 1	1	16	4	0	21	1	25	5	0	0	7	0	46
0:15 A M	-	<u>~</u> 1	6	4	0	14	0		2	0	0	<b>0</b> 0	0	10		0	15	0	2	2	1	0	2	0	40
9.15AM		+	10	4	0	14	0	5	5	0	0	0 0 11 0	0	10	5	0	10	0	0	2	1	0		1	40
9:30AM	4	2	10	5	0	1/	0	6	5	0	0	<u> </u>	0	8	4	0	12	0	3	3	1	0	/	1	4/
9:45AM		3	6	0	0	9	1	2	1	0	0	3 4	1	3	6	0	10	0	1	3	1	0	5	1	27
Hourly Total	1.	1	26	11	0	48	1	20	12	0	0	32 5	2	37	19	0	58	0	6	13	3	0	22	2	160
10:00AM		1	5	6	0	12	0	6	10	0	0	<b>16</b> 1	0	10	5	0	15	0	2	3	0	0	5	0	48
10:15AM	1	2	10	3	0	15	0	7	5	0	0	<b>12</b> 3	0	11	2	0	13	2	6	2	1	0	9	0	49
10:30AM	(	0	7	3	0	10	0	5	3	0	0	<b>8</b> 0	1	13	1	0	15	0	3	3	2	0	8	0	41
10:45AM	4	4	9	7	0	20	0	8	4	0	0	<b>12</b> 1	0	10	6	0	16	0	2	7	2	0	11	0	59
Hourly Total	:	7	31	19	0	57	0	26	22	0	0	<b>48</b> 5	1	44	14	0	59	2	13	15	5	0	33	0	197
11:00AM	3	3	7	4	0	14	0	4	1	0	0	<b>5</b> 2	0	8	2	0	10	2	4	1	1	0	6	0	35
11:15AM		1	8	4	0	13	0	2	3	0	0	<b>5</b> 0	0	6	1	0	7	0	4	10	5	0	19	0	44
11:30AM		1	7	6	0	14	0	7	3	0	0	<b>10</b> 0	0	9	5	0	14	0	3	0	3	0	6	1	44
11:45AM		1	14	7	0	22	0	6	2	1	0	<b>9</b> 0	0	11	4	0	15	0	6	3	4	0	13	0	59
Hourly Total	(	6	36	21	0	63	0	19	9	1	0	<b>29</b> 2	0	34	12	0	46	2	17	14	13	0	44	1	182
12.00PM		1	10	6	0	17	0	10	3	0	0	<b>13</b> 0	0	10	7	0	17	0	5	4	1	0	10	0	57
12.15PM		- 1	10	10	0	21	0	2	6	1	0	<b>9</b> 0	1	7	2	0	10	0	7	6	3	0	16	0	56
12:30PM		4	14	5	0	23	0		5	0	0	5 0	0	9	- 4	0	13	0	3	1	1	0	5	0	46
12:301 M		- 1	7	0	0	10	0	6	0	0	0	<b>14</b> 1	0	0	- 0	0	16	0	4	1	1	0	6	0	55
I2,45FW	1(	+	/	20	0	90	0	10	22	1	0	14 1 41 1	1	24	21	0	10	0	10	12	6	0	27	0	214
	10	0	41	29	0	00	0	10	22	1	0	<b>41</b> 1	1	34	21	0	00	0	19	12	0	0	3/	0	214
1:00PM		3	16		0	26	0	6	5	0	0	11 0	0	/	1	0	8	0	2	5	1	0	8	0	53
1:15PM	1	3	6	7	0	16	0	11	6	1	0	18 0	0	4	3	0	7	0	3	6	3	0	12	0	53
1:30PM		1	6	5	0	12	0	11	1	0	0	<b>12</b> 0	0	6	3	0	9	0	3	0	3	0	6	0	39
1:45PM		1	7	4	0	12	0	5	6	0	0	<b>11</b> 0	0	5	3	0	8	0	3	3	1	1	8	0	39
Hourly Total	8	В	35	23	0	66	0	33	18	1	0	<b>52</b> 0	0	22	10	0	32	0	11	14	8	1	34	0	184
2:00PM		1	16	6	0	23	1	4	3	0	0	<b>7</b> 0	0	5	3	0	8	0	5	4	1	0	10	0	48
2:15PM	3	3	15	8	0	26	0	7	8	0	0	<b>15</b> 0	1	9	6	0	16	0	3	3	2	0	8	0	65
2:30PM	10	D	9	8	0	27	0	3	7	0	0	<b>10</b> 0	0	11	8	0	19	0	4	4	1	0	9	0	65
2:45PM		1	8	4	0	13	9	6	5	0	0	<b>11</b> 4	0	4	2	0	6	1	14	16	9	0	39	1	69
Hourly Total	15	5	48	26	0	89	10	20	23	0	0	<b>43</b> 4	1	29	19	0	49	1	26	27	13	0	66	1	247
3:00PM		1	12	8	0	21	1	7	5	0	0	<b>12</b> 1	0	12	4	0	16	0	6	2	1	0	9	1	58
3:15PM		1	13	9	0	23	0	2	9	0	0	<b>11</b> 0	0	13	1	0	14	0	2	9	4	0	15	0	63
3:30PM		1	8	8	0	17	1	10	1	0	0	<b>11</b> 0	0	13	4	0	17	0	9	6	4	0	19	0	64
3:45PM		3	12	9	0	24	0	4	4	0	0	<b>8</b> 1	0	- 8	5	0	13	1	- 11	7	11	0	29	0	74
Hourly Total		6	45	34	0	85	2	. 23	19	0	0	<b>42</b> 2	0	46	14	0	60	1	28	24	20	0	72	1	259
4.00PM		- 1	18	15	0	34	1	5	10	0	0	<b>15</b> 0	1	14	11	0	26	0	11	10	5	0	26	-	101
4.00FIVI		>	10	10	0	24	U	- J - J	10	0	0	<b>1J</b> 0	1	14	C	0	14	1	- 11	1/	- J - J	0	20	1	70
4.10PM		<u>د</u> 5	13	10	0	54	0	5	2	2	0	J U	2	0	0	0	14	1	10	14	2	0	20	1	102
4:30PM		ע ר	34	13	0	50	0	6	2	2	0	10 0	2	8	3	0	15	U	12	10	1	0	29	U	102
4:45PM	(	0	24	10	0	40	0	4	4	0	0	8 0		6	8	0	15	U	21	19	6	0	46	0	109
Hourly Total	14	4	93	51	0	158	1	18	18	2	0	38 0	4	36	28	0	68	1	51	59	14	0	124	1	388
5:00PM		3	16	7	0	26	0	0	9	1	0	<b>10</b> 0	0	15	4	0	19	0	24	20	6	0	50	0	105
5:15PM	8	В	19	10	0	37	0	3	6	1	0 <b>д</b>	tta <b>ch</b> men?	$c^2$	10	8	0	20	0	29	28	3	0	60	1	127

Leg Direction	SB Ro Southt	ver oound						WB Gra Westbou	nd Cany nd	yon				NB Rov Northbo	rer ound					EB Gran Eastbour	d Cany 1d	on			
Time	R		ſ	L	U	Арр	Ped*	R	Т	L	U	App	Ped*	R	Т	L	U	App F	ed*	R	Т	L	U	App Ped*	Int
E 2000 4	-	1	7	14	0	20	0	2	4				0	1	10			10		10	26	1	0	20 0	101
5:30PM 5:45PM	/	1	/	14	0	38	0	2	4	1	0	5	0	2	13	4	0	18	0	9	14	2	0	<b>39</b> 0 <b>25</b> 1	83
Hourly Total	21	6	т 6 -	48	0	135	0	8	20	3	0	31	0	5	47	24	0	76	0	74	88	12	0	<b>174</b> 2	416
6:00PM	6	1	5	11	0	32	0	6	6	1	0	13	0	3	4	5	0	12	0	7	11	2	0	<b>20</b> 1	77
6:15PM	1	1	4	14	0	29	0	6	3	3	0	12	1	1	8	2	0	11	1	4	14	0	0	<b>18</b> 1	70
6:30PM	5	1	3	8	0	31	0	8	4	1	0	13	0	0	7	2	0	9	0	5	5	0	0	<b>10</b> 2	63
6:45PM	3		3	9	0	20	0	4	8	2	0	14	0	4	9	9	0	22	0	7	7	1	0	<b>15</b> 2	71
Hourly Total	15	5	5	42	0	112	0	24	21	7	0	52	1	8	28	18	0	54	1	23	37	3	0	<b>63</b> 6	281
2024-08-21 6:00AM	1		1	0	0	2	0	3	8	0	0	11	1	0	6	3	0	9	2	1	0	3	0	<b>4</b> 1	26
6:15AM	0		1	1	0	2	0	6	12	0	0	18	1	0	10	6	0	16	0	0	0	2	0	2 0	38
6:30AM	0		1	1	0	2	0	5	10	0	0	15	2	0	7	12	0	19	0	1	0	1	0	<b>2</b> 1	38
6:45AM	0		3	1	0	4	0	7	13	0	0	20	0	0	8	11	0	19	0	2	2	1	0	<b>5</b> 0	48
Hourly Total	1		6	3	0	10	0	21	43	0	0	64	4	0	31	32	0	63	2	4	2	7	0	<b>13</b> 2	150
7:00AM	0		3	1	0	4	0	7	8	0	0	15	2	0	15	6	0	21	1	2	0	0	0	2 3	42
7:15AM	3	1	4	2	0	9	0	12	10	1	0	21	2	0	16	10	0	26	0	0	1	4	0	5 2	61
7:45 A M	2	1	2	5	0	10	7	12	18	1	0	30	4	0	2/	18	0	45 21	0	4	2	6	0	12 2	103
Hourly Total	12	2	3 4	11	0	47	14	49	63	2	0	114	14	0	75	48	0	123	1	- 2	8	16	0	<b>32</b> 7	316
8:00AM	12	1	)	1	0	12	9	18	17	0	0	35	1	0	33	14	0	47	0	13	11	10	0	<b>36</b> 2	130
8:15AM	2		7	0	0	9	0	9	4	2	0	15	0	1	18	6	0	25	2	3	2	3	0	<b>8</b> 2	57
8:30AM	0		6	5	0	11	1	10	10	0	0	20	0	1	15	9	0	25	0	1	2	3	0	<b>6</b> 0	62
8:45AM	3		9	6	0	18	0	10	2	2	0	14	2	3	15	6	0	24	0	4	1	1	0	<b>6</b> 0	62
Hourly Total	6	3	2	12	0	50	10	47	33	4	0	84	3	5	81	35	0	121	2	21	16	19	0	<b>56</b> 4	311
9:00AM	1	1	2	4	0	17	0	5	6	0	0	11	3	0	12	5	0	17	0	5	1	3	0	9 0	54
9:15AM	1		3	2	0	6	0	2	2	0	0	4	1	0	9	6	0	15	0	2	3	1	0	6 1 2 0	31
9:30AM	1		3	4	0	10	0	7	3	3	0	1/	3	0	8	3	0	11	0	0	3	2	0	<u> </u>	39
Hourly Total	4	2	4	13	0	41	1	25	15	3	0	43	7	0	37	21	0	58	0	9	9	6	0	<b>24</b> 1	166
10:00AM	1			8	0	18	0	5	7	0	0	12	0	1	8	3	0	12	0	5	1	1	0	<b>7</b> 1	49
10:15AM	3		3	2	0	13	0	7	2	0	0	9	0	0	10	4	0	14	0	4	2	1	0	<b>7</b> 1	43
10:30AM	2		7	3	0	12	4	4	7	0	0	11	2	0	10	4	0	14	0	5	4	1	0	<b>10</b> 0	47
10:45AM	1		3	0	0	9	0	2	3	2	0	7	0	0	5	2	0	7	0	4	0	0	0	<b>4</b> 0	27
Hourly Total	7	3	2	13	0	52	4	18	19	2	0	39	2	1	33	13	0	47	0	18	7	3	0	<b>28</b> 2	166
11:00AM	2	1	) 7	1	0	13	0	7	1	0	0	8	0	1		6	0	18	0	4	8	2	0	14 0 19 0	53
11:15AM	2	1	/ }	6 1	0	15	0	4	3	0	0	- /	0	0	12	7	0	12	0	<u>8</u> 2	8 2	2	0	18 U 7 0	48
11:45AM	1	1	3	6	0	20	0	8	5	1	0	14	0	0	7	5	0	12	0	4	3	4	0	<b>11</b> 1	57
Hourly Total	7	4	)	14	0	61	0	22	15	1	0	38	0	1	37	23	0	61	0	18	21	11	0	<b>50</b> 1	210
12:00PM	1		Ð	4	0	14	0	2	3	0	0	5	1	1	13	2	0	16	0	5	1	2	0	8 0	43
12:15PM	1		5	3	0	10	0	4	1	0	0	5	0	0	14	5	0	19	0	3	5	1	0	<b>9</b> 0	43
12:30PM	2	1	)	6	0	18	0	3	3	0	0	6	0	0	11	3	0	14	0	2	7	0	0	<b>9</b> 0	47
12:45PM	2	1	3	7	0	22	0	9	6	0	0	15	1	0	11	6	0	17	0	4	7	0	0	11 0	65
Hourly Total	6	3	3	20	0	15	0	18	13	0	0	51	2		49	16	0	66 14	0	14	20	3	0	37 U	198
1.00PM 1.15PM	) )	1	+ 1	6	0	19	0	4	3	0	0	с 8	0	1	13	3	0	14	0	4 8	0	4	0	<b>8</b> 1	40
1:30PM	1	-	Э	12	0	22	0	3	2	0	0	5	0	0	5	0	0	5	0	0	4	1	0	5 0	37
1:45PM	4		5	6	0	16	0	6	4	1	0	11	0	0	7	8	0	15	0	3	2	0	0	5 0	47
Hourly Total	12	3	)	30	0	72	0	18	10	1	0	29	0	1	32	11	0	44	0	15	12	5	0	<b>32</b> 1	177
2:00PM	3		3	5	0	16	0	7	4	0	0	11	0	0	6	5	0	11	0	5	2	3	0	<b>10</b> 0	48
2:15PM	6		6	2	0	14	1	3	2	0	0	5	0	1	3	5	0	9	0	5	5	1	0	<b>11</b> 0	39
2:30PM	11	1	3	3	0	27	0	9	5	1	0	15	0	1	2	8	0	11	0	7	2	1	0	<b>10</b> 0	63
2:45PM	1	1	-	7	0	27	10	2	1	0	0	3	5	0	11	2	0	13	0	12	19	12	0	<b>39</b> 4	82
	21	4	3	2	0	12	11	21	6	0	0	34 10	5	2	15	20	0	44 21	0	29	28	13	0	10 0	232
3:15PM	с – 1 8	1	2	4	0	24	0		9	0	0	10	0	3	9	3	0	15	0	6	-+	3	0	12 0	65
3:30PM	3	1	7	8	0	18	0	7	3	1	0	11	1	1	14	3	0	18	0	9	6	3	0	<b>18</b> 0	65
3:45PM	2	2	2	6	0	30	0	5	2	0	0	7	0	0	6	3	0	9	0	7	11	6	0	<b>24</b> 0	70
Hourly Total	16	4	9	20	0	85	0	21	20	1	0	42	1	5	44	14	0	63	0	27	24	13	0	<b>64</b> 0	254
4:00PM	4	2	7	5	0	36	1	8	7	1	0	16	0	2	15	8	0	25	0	10	10	4	0	<b>24</b> 0	101
4:15PM	2	1	4	25	0	41	1	8	6	1	0	15	2	2	12	7	0	21	0	14	7	8	0	<b>29</b> 0	106
4:30PM	3		9	14	0	26	0	6	7	2	0	15	2	1	8	4	0	13	0	13	17	3	0	<b>33</b> 0	87
4:45PM	3	1	3	6	0	22	0	8	6	6	0	20	2	0	12	4	0	16	1	8	14	10	0	<b>32</b> 2	90

Leg	SB Ro	ver						WB Grai	nd Can	yon				NB Rov	rer					EB Gran	d Cany	on				
Direction	South	bound						Westbou	nd					Northbo	ound					Eastbour	nd					
Time	R		<u> </u>	L	U	App 1	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App I	ed*	R	T	L	U	App Pe	d* ]	Int
Hourly Total	12	6	3 5	0	0	125	2	30	26	10	0	66	6	5	47	23	0	75	1	45	48	25	0	118	2	384
5:00PM	3	10	5 I 2 1	.0	0	42	0	/ 	4	0	0	6	1	1	8	6	0	10	0	17	18	6	0	41	0	100
5.15PM	2	- 20	2 I 2 1	.5 7	0	43	0	5	4	0	0	14	1	0	11	5	0	10	0	15	20	5	0	49	1	110
5:45DM	1	1	5 1	2	0	30	0	3	7	0	0	14	1	0	5	3	0	10	0	10	10	1	0	3/	1	82
Hourly Total	2	80		.S .Q	0	136	0	17	24	0	0	41	3	2	27	21	0	50	0	61	97	23	0	191	2	408
6:00PM	6	1/	<u> </u>	2	0	32	2	17	24 A	2	0	18	0	2	9	7	0	18	0	12	- 37	1	0	21	2	900
6:15PM	8	19	+ 1 R 1	1	0	37	2	12	7	0	0	11	0	1	10	1	0	10	0	12	7	2	0	13	1	73
6:30PM	2	1	1	9	0	22	0	7	7	0	0	14	0	0	2	5	0	7	0	7	10	0	0	17	2	60
6:45PM	0	14	4 1	1	0	25	2	5	4	0	0	9	0	1	3	3	0	7	0	4	8	2	0	14	0	55
Hourly Total	16	5	7 4	3	0	116	4	28	22	2	0	52	0	4	24	16	0	44	0	27	33	5	0	65	4	277
2024-08-22																	-						-		-	
6:00AM	0		1	0	0	1	0	4	9	0	0	13	1	1	3	6	0	10	0	0	0	4	0	4	0	28
6:15AM	1	1	3	0	0	4	1	3	11	0	0	14	0	0	7	6	0	13	0	0	1	0	0	1	2	32
6:30AM	0		1	0	0	1	1	7	14	0	0	21	1	0	14	6	0	20	0	1	0	2	0	3	0	45
6:45AM	1	4	4	1	0	6	0	7	13	0	0	20	2	0	13	3	0	16	0	2	2	1	0	5	0	47
Hourly Total	2	ę	9	1	0	12	2	21	47	0	0	68	4	1	37	21	0	59	0	3	3	7	0	13	2	152
7:00AM	0	(	)	0	0	0	0	13	6	0	0	19	2	0	12	4	0	16	0	1	0	1	0	2	0	37
7:15AM	3	10	)	3	0	16	0	12	14	1	0	27	1	0	20	19	0	39	0	0	2	2	0	4	1	86
7:30AM	6	5	5	0	0	11	7	15	19	0	0	34	5	1	22	15	0	38	0	5	3	2	0	10	3	93
7:45AM	4	. 8	3	1	0	13	2	13	23	0	0	36	2	1	30	15	0	46	1	4	7	4	0	15	2	110
Hourly Total	13	23	3	4	0	40	9	53	62	1	0	116	10	2	84	53	0	139	1	10	12	9	0	31	6	326
8:00AM	2	1	1	4	0	17	3	19	13	3	0	35	1	0	30	14	0	44	0	12	12	8	0	32	0	128
8:15AM	5		7	5	0	17	2	11	6	0	0	17	0	1	16	7	0	24	2	7	3	2	0	12	1	70
8:30AM	2	9	9	1	0	12	2	5	4	0	0	9	0	0	20	10	0	30	0	3	1	2	0	6	1	57
8:45AM	0		7	2	0	9	1	5	3	0	0	8	1	1	9	6	0	16	1	4	1	1	0	6	2	39
Hourly Total	9	34	4 1	2	0	55	8	40	26	3	0	69	2	2	75	37	0	114	3	26	17	13	0	56	4	294
9:00AM	1	1	1	6	0	18	1	8	2	0	0	10	3	0	12	4	0	16	1	3	5	3	0	11	2	55
9:15AM	1	4	4	0	0	5	0	2	3	0	0	5	3	0	7	4	0	11	0	3	1	0	0	4	0	25
9:30AM	2	10	)	1	0	13	0	4	4	0	0	8	0	1	14	2	0	17	0	0	3	3	0	6	0	44
9:45AM	2		2	5	0	9	0	2	2	0	0	4	4	0	10	5	0	15	0	2	1	1	0	4	0	32
Hourly Total	6	22	7 1	.2	0	45	1	16	11	0	0	27	10	1	43	15	0	59	1	8	10	7	0	25	2	156
10:00AM	0	(	5	2	0	8	0	5	4	0	0	9	0	0	4	2	0	6	0	4	1	3	0	8	0	31
10:15AM	2		7	3	0	12	0	3	2	0	0	5	1	0	10	5	0	15	0	1	2	1	0	4	0	36
10:30AM	3	1	1	3	0	17	3	4	2	0	0	6	0	1	10	2	0	13	0	2	1	0	0	3	0	39
10:45AM	2		3	1	0	6	0	6	1	0	0	7	0	1	9	2	0	12	0	1	2	2	0	5	1	30
Hourly Total	7	2	/	9	0	43	3	18	9	0	0	27	1	2	33		0	46	0	8	6	6	0	20	1	136
11:00AM	2	10	) )	3	0	15	1	8	6	1	0	15	1	1	12	5	0	18	0	6	3	0	0	9	0	5/
11:15AM			-) -	5	0	15	1	5	/	1	0	13	0	1	15	5	0	10	0	5	6	2	0	13	0	51
11:45 A M	2		7	3	0	12	0	6	1	0	0	10	0	1	15	4	0	19	0	5	4	2	0	11	0	49 54
Hourly Total	7	2	/	0	0	50	1	25	10	2	0	10	1	1	27	0 22	0	15	0	2	17	6	0	12	0	24 211
12:00PM		1	+ 1	.0 2	0	14	1	5	10	2	0	4.5	1	0	- 37	1	0	10	0	5	2	3	0	10	0	43
12:00FM		1.	<u> </u>	5	0	14	0	5	4 2	0	0	7	1	0	9	2	0	10	0	6	2	3	0	10	0	43
12:10FM			3	3	0	15	0	5	2	0	0	, 8	0	1	13	2	0	16	0	2	2	1	0	5	0	44
12:301 M		,	7	7	0	14	0	10	5	1	0	16	0	3	9	5	0	17	0	2	3	0	0	5	0	52
Hourly Total	4	31	5 1	.9	0	58	0	25	14	1	0	40	1	4	40	10	0	54	0	15	9	7	0	31	0	183
1.00PM	1	10	)	8	0	19	0	5	5	0	0	10	0	0	10	4	0	14	0	6	2	0	0	8	0	51
1:15PM	3	1	3	4	0	10	0	3	3	0	0	6	0	0	6	5	0	11	0	3	6	2	0	11	0	38
1:30PM	1	1		7	0	19	0	3	2	0	0	5	0	1	8	4	0	13	0	4	2	0	0	6	0	43
1:45PM	1		3	7	0	16	0	2	3	0	0	5	0	0	6	3	0	9	0	2	2	1	0	5	0	35
Hourly Total	6	32	2 2	6	0	64	0	13	13	0	0	26	0	1	30	16	0	47	0	15	12	3	0	30	0	167
2:00PM	2		3	2	0	12	0	4	4	0	0	8	0	1	9	6	0	16	0	2	2	1	0	5	0	41
2:15PM	6	12	2	3	0	21	1	2	3	0	0	5	0	1	8	6	0	15	0	3	8	0	0	11	0	52
2:30PM	6	12	2	2	0	20	1	5	12	0	0	17	0	1	8	5	0	14	0	1	4	5	0	10	0	61
2:45PM	7	1	7	8	0	32	18	4	4	1	0	9	3	0	10	5	0	15	1	10	11	4	0	25	2	81
Hourly Total	21	49	9 1	5	0	85	20	15	23	1	0	39	3	3	35	22	0	60	1	16	25	10	0	51	2	235
3:00PM	0	14	4	5	0	19	0	15	4	1	0	20	0	0	10	3	0	13	0	6	3	4	0	13	1	65
3:15PM	3	15	5	9	0	27	0	4	4	0	0	8	1	1	17	7	0	25	0	6	9	3	0	18	0	78
3:30PM	3	23	3	8	0	34	1	4	4	0	0	8	0	1	5	7	0	13	0	6	7	0	0	13	1	68
3:45PM	4	13	3 1	0	0	27	0	6	4	0	0	10	0	1	16	2	0	19	0	8	10	4	0	22	0	78
Hourly Total	10	6	5 3	2	0	107	1	29	16	1	0	46	1	3	48	19	0	70	0	26	29	11	0	66	2	289
4:00PM	2	1	7 1	6	1	36	2	6	3	0	0	9	0	2	16	5	0	23	0	9	11	1	0	21	0	89
4:15PM	3	1	3 1	0	0	21	3	6	4	0	0	10	1	0	8	3	0	11	1	6	13	2	0	21	1	63

Leg	SB Ro	ver					WB Gr	and Ca	nyon				NB Ro	ver					EB Gra	nd Car	iyon				
Direction	Southb	ound					Westbo	ound					Northb	ound					Eastbou	ınd					
Time	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	Int
4:30PM	9	19	15	0	43	0	6	9	1	0	16	0	1	8	4	0	13	0	18	11	3	0	32	0	104
4:45PM	7	10	8	0	25	0	8	7	1	0	16	0	0	7	6	0	13	1	21	20	9	0	50	1	104
Hourly Total	21	54	49	1	125	5	26	23	2	0	51	1	3	39	18	0	60	2	54	55	15	0	124	2	360
5:00PM	4	17	9	0	30	0	4	7	0	0	11	0	1	7	6	0	14	0	13	22	1	0	36	0	91
5:15PM	8	23	13	0	44	1	6	5	3	0	14	0	1	14	3	0	18	0	16	22	2	0	40	0	116
5:30PM	4	22	8	0	34	0	4	9	1	0	14	0	2	13	1	0	16	0	15	22	0	0	37	0	101
5:45PM	3	21	18	0	42	0	5	8	0	0	13	0	0	15	5	0	20	0	10	21	2	0	33	2	108
Hourly Total	19	83	48	0	150	1	19	29	4	0	52	0	4	49	15	0	68	0	54	87	5	0	146	2	416
6:00PM	4	20	8	0	32	1	5	8	1	0	14	1	2	9	3	0	14	0	13	5	1	0	19	0	79
6:15PM	1	18	8	0	27	0	6	6	1	0	13	0	3	10	5	0	18	0	4	15	1	0	20	0	78
6:30PM	1	15	9	0	25	0	4	2	2	0	8	1	1	5	5	0	11	0	7	13	1	0	21	1	65
6:45PM	3	13	7	0	23	0	4	0	1	0	5	4	1	5	4	0	10	0	5	6	1	0	12	0	50
Hourly Total	9	66	32	0	107	1	19	16	5	0	40	6	7	29	17	0	53	0	29	39	4	0	72	1	272
Total	398	1594	904	2	2898	133	982	930	67	1	1980	121	93	1664	865	0	2622	28	890	976	393	1	2260	82	9760
% Approach	13.7%	55.0% 3	31.2%	0.1%	-	-	49.6%	47.0%	3.4%	0.1%	-	-	3.5%	63.5%	33.0%	0%	-	-	39.4%	43.2%	17.4%	0%	-	-	-
% Total	4.1%	16.3%	9.3%	0%	29.7%	-	10.1%	9.5%	0.7%	0%	20.3%	-	1.0%	17.0%	8.9%	0%2	26.9%	-	9.1%	10.0%	4.0%	0%2	23.2%	-	-
Vehicles	388	1568	899	2	2857	-	973	912	64	1	1950	-	93	1623	828	0	2544	-	863	950	388	1	2202	-	9553
% Vehicles	97.5%	98.4% 9	99.4%	100%	98.6%	-	99.1%	98.1%	95.5%	100%	98.5%	-	100%	97.5%	95.7%	0% <b>9</b>	97.0%	-	97.0%	97.3%	98.7%	100% 9	97.4%	-	97.9%
Bicycles on																									
Road	10	26	5	0	41	-	9	18	3	0	30	-	0	41	37	0	78	-	27	26	5	0	58	-	207
% Bicycles	0.50/	1.00/	0.00/	00/	4 40/		0.00/	4.00/	4 50/	00/	4 =0/			0.50/	4.00/	<u>00</u> /	D 00/		D 00/	0.70/	4.00/	00/	0.00/		0.40/
on Road	2.5%	1.6%	0.6%	0%	1.4%	-	0.9%	1.9%	4.5%	0%	1.5%	-	0%	2.5%	4.3%	0%	3.0%	-	3.0%	2.7%	1.3%	0%	2.6%	-	2.1%
Pedestrians	-	-	-	-	-	133	-	-	-	-	-	121	-	-	-	-	-	28	-	-	-	-	-	82	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-

Tue Aug 20, 2024

Full Length (6 AM-7 PM (+1))

All Classes (Vehicles, Pedestrians, Bicycles on Road)

All Movements

ID: 1216210, Location: 35.820645, -106.206024



Provided by: Los Alamos County 101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US



Tue Aug 20, 2024 AM Peak (Aug 20 2024 7:30AM - 8:30 AM) All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements



LOS ALAMOS

Provided by: Los Alamos County

101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

ID: 1216210, Location: 35.820645, -106.206024

Leg	SB Ro	ver					WB Gr	and Ca	nyon				NB Ro	ver					EB Gra	nd Car	iyon				
Direction	Southb	ound					Westbo	und	5				Northb	ound					Eastbo	und	5				
Time	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	Int
2024-08-20 7:30AM	4	10	4	0	18	3	14	20	0	0	34	1	1	18	24	0	43	0	2	5	6	0	13	3	108
7:45AM	6	5	5	0	16	12	24	18	0	0	42	2	0	33	18	0	51	0	2	6	7	0	15	0	124
8:00AM	2	11	6	0	19	2	14	16	1	0	31	3	0	31	15	0	46	0	18	6	10	0	34	0	130
8:15AM	4	10	2	0	16	0	6	4	2	0	12	0	0	21	6	0	27	1	9	3	2	0	14	2	69
Total	16	36	17	0	69	17	58	58	3	0	119	6	1	103	63	0	167	1	31	20	25	0	76	5	431
% Approach	23.2%	52.2%	24.6%	0%	-	-	48.7%	48.7%	2.5%	0%	-	-	0.6%	61.7%	37.7%	0%	-	-	40.8%	26.3%	32.9%	0%	-	-	-
% Total	3.7%	8.4%	3.9%	0% 1	16.0%	-	13.5%	13.5%	0.7%	0%:	27.6%	-	0.2%	23.9%	14.6%	0%3	38.7%	-	7.2%	4.6%	5.8%	0% 1	7.6%	-	-
PHF	0.667	0.795	0.708	-	0.895	-	0.604	0.779	0.375	-	0.695	-	0.250	0.773	0.656	-	0.814	-	0.441	0.792	0.625	-	0.578	-	0.831
Vehicles	16	35	17	0	68	-	58	53	3	0	114	-	1	102	63	0	166	-	30	19	25	0	74	-	422
% Vehicles	100%	97.2%	100%	0% 9	98.6%	-	100%	91.4%	100%	0% 9	95.8%	-	100% !	99.0%	100%	0% 9	9.4%	-	96.8%	95.0%	100%	0% 9	97.4%	-	97.9%
Bicycles on Road	0	1	0	0	1	-	0	5	0	0	5	-	0	1	0	0	1	-	1	1	0	0	2	-	9
% Bicycles on Road	0%	2.8%	0%	0%	1.4%	-	0%	8.6%	0%	0%	4.2%	-	0%	1.0%	0%	0%	0.6%	-	3.2%	5.0%	0%	0%	2.6%	-	2.1%
Pedestrians	-	-	-	-	-	17	-	-	-	-	-	6	-	-	-	-	-	1	-	-	-	-	-	5	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	- 1	100%	-

Tue Aug 20, 2024 AM Peak (Aug 20 2024 7:30AM - 8:30 AM)

All Classes (Vehicles, Pedestrians, Bicycles on Road)

All Movements

ID: 1216210, Location: 35.820645, -106.206024



58

58

3

[E] WB Grand Canyon

لا الا الله من الله Total: 157

Out: 38

[W] EB Grand Canyon Total: 213 76 Out: 137 In: 76

25

20 31

> 63 Out: 70 ln: 167

In: 69

16 36 17

15

Total: 237 [S] NB Rover 1

-

103

Tue Aug 20, 2024 Midday Peak (Aug 20 2024 11:45AM - 12:45 PM) All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements

LOS ALAMOS

Provided by: Los Alamos County

101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

ID: 1216210, Location: 35.820645, -106.206024

Leg	SB Ro	ver					WB Gra	and Ca	nyon				NB Ro	ver					EB Gra	nd Can	iyon				
Direction	South	oound					Westbo	und					Northb	ound					Eastbou	ind	-				
Time	R	Т	L	U	App P	ed*	R	Т	L	U	App I	ed*	R	Т	L	U	App Pe	d*	R	Т	L	U	App P	'ed*	Int
2024-08-20 11:45AM	1	14	7	0	22	0	6	2	1	0	9	0	0	11	4	0	15	0	6	3	4	0	13	0	59
12:00PM	1	10	6	0	17	0	10	3	0	0	13	0	0	10	7	0	17	0	5	4	1	0	10	0	57
12:15PM	1	10	10	0	21	0	2	6	1	0	9	0	1	7	2	0	10	0	7	6	3	0	16	0	56
12:30PM	4	14	5	0	23	0	0	5	0	0	5	0	0	9	4	0	13	0	3	1	1	0	5	0	46
Total	7	48	28	0	83	0	18	16	2	0	36	0	1	37	17	0	55	0	21	14	9	0	44	0	218
% Approach	8.4%	57.8%	33.7%	0%	-	-	50.0% 4	44.4%	5.6%	0%	-	-	1.8%	67.3%	30.9%	0%	-	-	47.7%	31.8%	20.5%	0%	-	-	-
% Total	3.2%	22.0%	12.8%	0%	38.1%	-	8.3%	7.3%	0.9%	0% :	16.5%	-	0.5%	17.0%	7.8%	0%2	25.2%	-	9.6%	6.4%	4.1%	0% 2	20.2%	-	-
PHF	0.438	0.857	0.700	-	0.902	-	0.472	0.667	0.500	-	0.729	-	0.250	0.841	0.607	-	0.809	-	0.679	0.600	0.563	-	0.667	-	0.903
Vehicles	7	48	28	0	83	-	17	16	2	0	35	-	1	37	17	0	55	-	19	12	9	0	40	-	213
% Vehicles	100%	100%	100%	0%	100%	-	94.4%	100%	100%	0% 9	97.2%	-	100%	100%	100%	0%	100%	-	90.5%	85.7%	100%	0% 9	90.9%	-	97.7%
Bicycles on Road	0	0	0	0	0	-	1	0	0	0	1	-	0	0	0	0	0	-	2	2	0	0	4	_	5
% Bicycles on Road	0%	0%	0%	0%	0%	-	5.6%	0%	0%	0%	2.8%	-	0%	0%	0%	0%	0%	-	9.5%	14.3%	0%	0%	9.1%	-	2.3%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tue Aug 20, 2024 Midday Peak (Aug 20 2024 11:45AM - 12:45 PM) All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements ID: 1216210, Location: 35.820645, -106.206024



Provided by: Los Alamos County 101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US



Out: 71 In: 55 Total: 126 [S] NB Rover

Tue Aug 20, 2024 PM Peak (Aug 20 2024 4:30PM - 5:30 PM) - Overall Peak Hour All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements

ID: 1216210, Location: 35.820645, -106.206024



Provided by: Los Alamos County

101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

Leg Direction	SB Ro South	over bound					WB Gr Westbo	and Ca ound	nyon				NB Ro North	over oound					EB Gra Eastbo	and Car und	iyon				
Time	R	Т	L	U	App 1	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	App Pe	d*	R	Т	L	U	Арр	Ped*	Int
2024-08-20	_	22	10	0	50	0	6	2	2	0	10	0	2	0	2	0	12	0	10	10	1	0	20	0	102
4.30PM 4.45PM	6	52 24	10	0	40	0	4	4	2	0	8	0	2	6	8	0	15	0	21	10	6	0	 	0	102
5:00PM	3	16	7	0	26	0	0	9	1	0	10	0	0	15	4	0	19	0	24	20	6	0	50	0	105
5:15PM	8	19	10	0	37	0	3	6	1	0	10	0	2	10	8	0	20	0	29	28	3	0	60	1	127
Total	22	91	40	0	153	0	13	21	4	0	38	0	5	39	23	0	67	0	86	83	16	0	185	1	443
% Approach	14.4%	59.5%	26.1%	0%	-	-	34.2%	55.3%	10.5%	0%	-	-	7.5%	58.2%	34.3%	0%	-	-	46.5%	44.9%	8.6%	0%	-	-	-
% Total	5.0%	20.5%	9.0%	0%	34.5%	-	2.9%	4.7%	0.9%	0%	8.6%	-	1.1%	8.8%	5.2%	0% :	15.1%	-	19.4%	18.7%	3.6%	0%	41.8%	-	-
PHF	0.656	0.703	0.769	-	0.755	-	0.542	0.583	0.750	-	0.925	-	0.625	0.617	0.719	-	0.855	-	0.741	0.741	0.667	-	0.771	-	0.869
Vehicles	21	90	40	0	151	-	13	21	3	0	37	-	5	37	23	0	65	-	86	83	16	0	185	-	438
% Vehicles	95.5%	98.9%	100%	0%	98.7%	-	100%	100%	75.0%	0% 9	97.4%	-	100%	94.9%	100%	0% 9	97.0%	-	100%	100%	100%	0%	100%	-	98.9%
Bicycles on Road	1	1	0	0	2	-	0	0	1	0	1	-	0	2	0	0	2	-	0	0	0	0	0	-	5
% Bicycles on Road	4.5%	1.1%	0%	0%	1.3%	-	0%	0%	25.0%	0%	2.6%	-	0%	5.1%	0%	0%	3.0%	-	0%	0%	0%	0%	0%	-	1.1%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-


Grand Canyon & Rover TMC - TMC

Tue Aug 20, 2024

Total: 248 [S] NB Rover

### Grand Canyon Drive & Rover Boulevard - Average Weekday Traffic Volumes

Leg			SE	Rover					WB Gra	and Canyo	on				NB	Rover					EB Gra	nd Cany	on				Total In	torcastion			
Direction			Sou	thbound					We	stbound					Nor	thbound					Eas	tbound					Total In	tersection		Peds	Crossing
					Total						Total						Total						Total	Traffic		Hourly	Hourly	Hourly Multimodal	Hourly Multimodal	Crossing	Maior Street
Time	Right	Thru	Left	U-Turn	Approach	Ped*	Right	Thru	Left	U-Turn	Approach	Ped*	Right	Thru	Left	U-Turn	Approach	Ped*	Right	Thru	Left	U-Turn	Approach Ped*	Volume	Peds	Traffic	Peds	Traffic - Major	Traffic - Minor	Major Street	(pph)
6:00 414	1	1			2	1	2	10	0		12	1	0	1	5		0	1	1	0	2	0		20	2	Volume	1	Street	Street	1	1
6:15 AM	1	1		0	2		3	10	0	0	13	0	0	4	5		15	0	0	1	2	0	<b>4</b> 0	29	1					1	2
6:30 AM	0	1	0	0	2		6	10		0	16	2	0	8	8		16	0	1	1	1		3 1	36	3					3	5
6:45 AM	0	3	1	0	4	0	7	13		0	21	1	0	11	7		10	0	1	1	1		4 0	48	1	147	8	80	75	1	6
7:00 AM	0	2	1	0	3	0	9	7	0	0	16	2	1	14	5	0	20	1	2	0	0	0	<b>3</b> 2	40	5	159			/5	4	9
7:15 AM	3	6	2	0	11	0	13	11	1	0	25	1	0	15	15	0	30	0	0	1	4	0	5 1	71	2	196				2	10
7:30 AM	4	9	2	0	15	6	14	19	0	0	33	3	1	22	19	0	42	0	4	3	5	0	<b>12</b> 3	101	12	261				6	13
7:45 AM	6	6	4	0	16	7	18	23	0	0	42	3	0	27	16	0	43	0	3	6	6	0	<b>14</b> 1	115	11	328	30	164	196	4	16
8:00 AM	2	11	4	0	16	5	17	15	1	0	34	2	0	31	14	0	46	0	14	10	10	0	<b>34</b> 1	129	8	416			-	3	15
8:15 AM	4	8	2	0	14	1	9	5	1	0	15	0	1	18	6	0	25	2	6	3	2	0	<b>11</b> 2	65	5	410				2	30
8:30 AM	1	7	3	0	11	1	9	6	0	0	15	0	1	17	8	0	26	0	2	1	3	0	<b>6</b> 0	58	1	367				0	24
8:45 AM	2	7	4	0	13	0	8	3	1	0	11	2	2	12	6	0	20	0	3	1	2	0	<b>6</b> 1	51	3	303	9	86	129	3	23
9:00 AM	1	9	4	0	14	0	7	4	0	0	10	2	0	13	4	0	18	0	3	4	2	0	<b>9</b> 1	52	3	226				3	8
9:15 AM	2	4	2	0	8	0	3	3	0	0	6	1	0	9	5	0	14	0	2	2	1	0	<b>4</b> 0	32	1	193				1	7
9:30 AM	2	8	3	0	13	0	7	4	1	0	12	0	0	10	3	0	13	0	1	3	1	0	<b>5</b> 0	43	0	178				0	7
9:45 AM	2	5	3	0	9	1	4	2	0	0	6	4	0	7	6	0	13	0	2	2	1	0	<b>5</b> 0	34	5	161	9	58	110	4	8
10:00 AM	1	7	5	0	13	0	5	7	0	0	12	0	0	7	3	0	11	0	4	2	1	0	7 0	43	0	152				0	5
10:15 AM	2	8	3	0	13	0	6	3	0	0	9	1	0	10	4	0	14	1	4	2	1	0	<b>7</b> 0	43	2	163				1	5
10:30 AM	2	8	3	0	13	2	4	4	0	0	8	1	1	11	2	0	14	0	3	3	1	0	<b>7</b> 0	42	3	162				1	6
10:45 AM	2	7	3	0	12	0	5	3	1	0	9	0	0	8	3	0	12	0	2	3	1	0	<b>7</b> 0	39	0	167	5	69	104	0	2
11:00 AM	2	9	3	0	14	0	6	3	0	0	9	1	1	10	4	0	15	1	5	4	1	0	<b>10</b> 0	48	2	172				1	3
11:15 AM	1	8	5	0	14	0	4	4	0	0	8	0	0	6	4	0	10	0	6	8	3	0	<b>17</b> 0	49	0	178				0	2
11:30 AM	1	8	3	0	13	0	5	3	0	0	9	0	0	12	5	0	17	0	4	2	2	0	<b>8</b> 0	47	0	183				0	1
11:45 AM	2	11	7	0	20	0	7	4	1	0	11	0	0	8	6	0	14	0	5	3	4	0	<b>12</b> 0	57	0	201	2	85	118	0	1
12:00 PM	1	10	4	0	15	0	6	3	0	0	9	1	0	11	3	0	14	0	5	2	2	0	<b>9</b> 0	48	1	201				1	1
12:15 PM	1	8	6	0	15	0	4	3	0	0	7	0	0	10	3	0	13	0	5	4	2	0	<b>12</b> 0	48	0	200				0	1
12:30 PM	3	11	5	0	19	0	3	4	0	0	6	0	0	11	3	0	14	0	2	3	1	0	<b>6</b> 0	46	0	199				0	1
12:45 PM	2	9	7	0	18	0	8	6	0	0	15	1	1	9	6	0	17	0	3	4	0	0	<b>7</b> 0	57	1	199	2	71	127	1	2
1:00 PM	3	10	7	0	20	0	5	4	0	0	9	0	0	10	2	0	12	0	4	4	2	0	<b>10</b> 0	51	0	202				0	1
1:15 PM	3	7	6	0	15	0	6	4	0	0	11	0	0	6	4	0	9	0	5	4	2	0	<b>10</b> 0	45	0	199				0	1
1:30 PM	1	9	8	0	18	0	6	2	0	0	7	0	0	6	2	0	9	0	2	2	1	0	<b>6</b> 0	40	0	193				0	1
1:45 PM	2	7	6	0	15	0	4	4	0	0	9	0	0	6	5	0	11	0	3	2	1	0	<b>6</b> 0	40	0	176	0	68	109	0	0
2:00 PM	2	11	4	0	17	0	5	4	0	0	9	0	0	7	5	0	12	0	4	3	2	0	<b>8</b> 0	46	0	171				0	0
2:15 PM	5	11	4	0	20	1	4	4	0	0	8	0	1	7	6	0	13	0	4	5	1	0	<b>10</b> 0	52	1	178				0	0
2:30 PM	9	11	4	0	25	0	6	8	0	0	14	0	1	7	7	0	15	0	4	3	2	0	<b>10</b> 0	63	0	201				0	0
2:45 PM	3	15	6	0	24	12	4	3	0	0	8	4	0	8	3	0	11	1	12	15	7	0	<b>34</b> 2	77	19	238	20	115	143	6	6
3:00 PM	1	11	5	0	18	0	9	5	0	0	14	0	0	12	4	0	17	0	6	3	2	0	<b>11</b> 1	59	1	251				1	7
3:15 PM	4	13	7	0	25	0	4	7	0	0	11	0	1	13	4	0	18	0	5	7	3	0	<b>15</b> 0	69	0	268				0	7
3:30 PM	2	13	8	0	23	1	7	3	0	0	10	0	1	11	5	0	16	0	8	6	2	0	17 0	66	1	271			1.50	0	7
3:45 PM	3	16	8		27		5	3	0		8	0	0		3		14	0	9	9		0	25 0	74	0	268	2	112	159	0	
4:00 PM	2	21	12	0	35	1	6	/	0	0	13	0	2	15	8	0	25	0	10	10	3	0	24 0	97	1	306				0	0
4:15 PM	2	14	16	0	32	1	6	4	0	0	10	1	1	9	5	0	15	1	9	11	4	0	24 1	82	4	319				2	2
4:30 PM	6	20	14	0	40	0	6	6	2		14			8	4		13	0	14	15	2	0	31 0	98	1	351		170	200	1	3
4:45 PIVI	5	16	8	0	29			6	2		15		0	8	6		15		1/	18	8	0	43 1	101	3	3/8	9	1/8	209	2	5
	3 6	1/	12		29		4	/ F			10			10	D E		10		20	20	4		<b>42</b> U	98	0	3/9				0	2
5:15 PIVI	0	23	12	0	41		4	5	1		11	0		12	р р		10	0	20	25	4		50 0	117	0	414				0	3
5.30 PIVI	4	17	11	0	35		4	/ 	0		- 11	0		12	5		1/	0	15	10	2	0	<b>44</b> U <b>21</b> 1	107	1	423	1	156	160	1	2
5.45 PIVI	 Г	16	10	0	27		4	5	1		9 15		1 2	70			10		10	0 10	1			91	1	413	+ <u>+</u>	001	202	1	3
6.15 DM	2	17	11		21		0 5	5	1		12		2		2		10		11	0 12		0	<b>17</b> 1	0Z 7/	1	35/	+			1	4 5
6:30 PM	2	15	0	0	26		6	1	1		12		<u> </u>	5			14		- <del>4</del> 6	12	- <u>-</u>	0	16 2	63	2	310	+			2	5
6:45 DM	2 2	12	0	0	20	1	1		1			1	2				13	0					10 2	E0	2	270	•	117	160	2	
0.45 FIVI	۷	1 12	9		1 23	1 -	4	I 4	I T		3	I T	- 4		5		1 12		5	L /	1 +		1 TA 1 T	59	1 3	2/0	1 °	1 11/	103	4	U U

Tue Aug 20, 2024 Full Length (6 AM-7 PM (+1)) All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements ID: 1216212, Location: 35.821934, -106.199721



Provided by: Los Alamos County

101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

Leg Direction	SB Arag	gon ound					WB Gra Westbou	nd Cany	/on			NB Araş Northbo	gon und					EB Gran Eastbour	d Canyo	on				
Time	R	T	L	U	Ann	Ped*	R	Т	L	U	Ann Ped*	R	Т	L	U	Ann Per	-1*	R	т	L	U	Ann	Ped*	Int
2024-08-20	R	1	Б	0	<sup>1</sup> PP	reu		1		0	TIPP I'dd	, R	1		0	TTPP TO	_	R	1	Б	0	140	rea	inc
6:00AM	3	0	0	0	3	0	1	2	2	0	<b>5</b> 0	1	2	3	0	6	2	0	0	0	0	0	0	14
6:15AM	1	0	0	0	1	0	0	2	0	0	<b>2</b> 0	0	3	2	0	5	0	0	0	0	0	0	0	8
6:30AM	0	1	0	0	1	0	0	2	0	0	<b>2</b> 1	0	3	1	0	4	1	1	1	0	0	2	0	9
6:45AM	0	0	1	0	1	1	2	3	1	0	<b>6</b> 5	0	7	2	0	9	0	0	1	0	0	1	1	17
Hourly Total	4	1	1	0	6	1	3	9	3	0	<b>15</b> 6	1	15	8	0	24	3	1	2	0	0	3	1	48
7:00AM	0	1	0	0	1	1	0	2	0	0	<b>2</b> 4	2	3	4	0	9	1	1	1	0	0	2	1	14
7:15AM	0	1	0	0	1	1	3	3	0	0	<b>6</b> 1	0	5	4	0	9	0	0	2	0	0	2	0	18
7:30AM	0	5	0	0	5	0	8	4	0	0	<b>12</b> 2	0	12	7	0	19	0	4	2	3	0	9	0	45
7:45AM	1	0	1	0	2	2	1	4	2	0	<b>7</b> 1	0	14	4	0	18	0	2	6	2	0	10	5	37
Hourly Total	1	7	1	0	9	4	12	13	2	0	<b>27</b> 8	2	34	19	0	55	1	7	11	5	0	23	6	114
8:00AM	0	2	2	0	4	1	2	6	0	0	<b>8</b> 3	1	7	5	0	13	2	1	1	2	0	4	1	29
8:15AM	0	2	1	0	3	0	0	2	0	0	<b>2</b> 0	1	8	3	0	12	0	1	5	1	0	7	0	24
8:30AM	1	3	1	0	5	0	2	4	0	0	<b>6</b> 4	1	5	5	0	11	0	1	0	0	0	1	0	23
8:45AM	0	2	1	0	3	0	2	0	0	0	2 0	0	3	1	0	4	0	1	2	0	0	3	0	12
Hourly Total	1	9	5	0	15	1	6	12	0	0	<b>18</b> 7	3	23	14	0	40	2	4	8	3	0	15	1	88
9:00AM	1	3	0	0	4	2	2	2	0	0	<b>4</b> 3	1	5	0	0	6	0	1	2	3	0	6	0	20
9:15AM	0	2	0	0	2	0	0	4	0	0	<b>4</b> 0	0	2	1	0	3	0	2	2	0	0	4	1	13
9:30AM	1	2	1	0	4	0	0	0	0	0	<b>0</b> 2	1	6	3	0	10	0	0	5	0	0	5	0	19
9:45AM	0	1	0	0	1	0	1	2	1	0	<b>4</b> 0	0	6	1	0	7	0	0	2	0	0	2	0	14
Hourly Total	2	8	1	0	11	2	3	8	1	0	<b>12</b> 5	2	19	5	0	26	0	3	11	3	0	17	1	66
10:00AM	0	1	1	0	2	1	0	2	2	0	<b>4</b> 1	2	3	2	0	7	0	1	1	2	0	4	0	17
10:15AM	0	3	0	0	3	0	0	2	0	0	2 0	0	4	2	0	6	1	0	1	0	0	1	1	12
10:30AM	1	7	0	0	8	1	1	0	0	0	1 0	1	5	2	0	8	0	1	1	0	0	2	0	19
10:45AM	2	4	0	0	6	0	1	1	2	0	<b>4</b> 0	0	2	2	0	4	0	2	2	0	0	4	0	18
Hourly Total	3	15	1	0	19	2	2	5	4	0	<b>11</b> 1	3	14	8	0	25	1	4	5	2	0	11	1	66
11:00AM	0	1	1	0	2	0	0	1	0	0	<b>1</b> 1	1	4	0	0	5	0	3	1	1	0	5	0	13
11:15AM	0	2	1	0	3	0	0	0	0	0	<b>0</b> 1	1	2	2	0	5	0	2	5	1	0	8	0	16
11:30AM	0	1	0	0	1	0	0	2	0	0	2 0	1	4	5	0	10	0	1	2	0	0	3	0	16
11:45AM	1	1	0	0	2	0	1	0	2	0	<b>3</b> 1	0	1	1	0	2	0	3	1	0	0	4	0	11
Hourly Total	1	5	2	0	8	0	1	3	2	0	<b>6</b> 3	3	11	8	0	22	0	9	9	2	0	20	0	56
12:00PM	1	4	2	0	7	0	2	2	0	0	<b>4</b> 0	1	7	4	0	12	0	0	2	0	0	2	0	25
12:15PM	1	4	1	0	6	0	0	1	0	0	1 0	1	3	2	0	6	0	5	1	0	0	6	0	19
12:30PM	0	8	0	0	8	0	2	2	1	0	5 0	0	2	2	0	4	0	1	1	0	0	2	0	19
12:45PM	1	6	2	0	9	0	2	3	1	0	<b>6</b> 0	0	4	5	0	9	0	0	2	0	0	2	0	26
Hourly Total	3	22	5	0	30	0	6	8	2	0	<b>16</b> 0	2	16	13	0	31	0	6	6	0	0	12	0	89
1:00PM	1	4	2	0	7	0	1	2	0	0	<b>3</b> 0	1	1	2	0	4	0	3	1	1	0	5	0	19
1:15PM	0	5	1	0	6	0	0	3	0	0	<b>3</b> 0	1	2	3	0	6	0	1	3	1	0	5	0	20
1:30PM	0	6	0	0	6	0	0	1	0	0	1 0	0	4	1	0	5	0	2	1	0	0	3	0	15
1:45PM	0	2	2	0	4	0	0	0	1	0	1 1	0	3	1	0	4	0	1	1	0	0	2	0	11
Hourly Total	1	17	5	0	23	0	1	6	1	0	<b>8</b> 1	2	10	7	0	19	0	7	6	2	0	15	0	65
2:00PM	1	1	2	0	4	0	0	4	0	0	<b>4</b> 0	1	2	0	0	3	0	,3	2	0	0	5	0	16
2:15PM	0	4	0	0	4	0	1	4	1	0	<b>6</b> 0	1	5	1	0	7	0	5	2	1	0	8	0	25
2:30PM	2	2	0	0	4	0	1	1	2	0	<b>4</b> 1	0	4	1	0	5	0	1	3	0	0	4	2	17
2:45PM	1	12	3	0	16	0	1	2	2	0	5 2	0	1	2	0	3	0	2	1	0	0	3	0	27
Hourly Total	4	19	5	0	28	0	3	11	- 5	0	<b>19</b> 3	2	12	4	0	18	0	11	8	1	0	20	2	85
3:00PM	0	6	1	0	7	0	0	3	1	0	<b>4</b> 0	1	7	4	0	12	0	3	0	0	0	3	- 0	26
3:15PM	2	4	1	0	7	0	1	3	0	0	<b>4</b> 0	1	6	3	0	10	0	4	4	0	0	8	0	20
3:30PM	0	1	2	0	3	1	0	1	1	0	<b>2</b> 0	0	3	1	0	4	0	2	5	0	0	7	0	16
3.45DM	1	2	1	0	4	1	1	4	1	0	<b>6</b> 1	n	<u>२</u>	2	0	5	0		4	1	0	, Q	0	24
Hourly Total	3	13	5	0	21	2	2	11	3	0	<b>16</b> 1	2	19	10	0	31	0	13	13	1	0	27	0	95
4.00PM	1	10	0	0	11	0	0	4	0	0	<b>4</b> 1	2	5	4	0	11	0	13	4		0	11	1	37
4.15PM	0		1	0	4	0	2	1	0	0	3 0	1	4	0	0	5	0		4	0	0	R	1	20
4.30PM	0	8	2	0	10	1	1	2	1	0	<b>4</b> 0	3	4	0	0	7	0		7	0	0	10		20
4.45PM	0	7	2	0		0	0	4	2	0	<b>6</b> 1	0	5	0	0	5	0	6	3	1	0	10	0	30
Hourly Total	1	28	5	0	34	1	3	11	3	0	17 2	6	18	4	0	28	0	17	18	4	0	39	2	118
5.00PM	0	12	1	0	13	0	2	0	1	0	<b>3</b> 0	1	10	5	0	16	0	10	8	0	0	18		50
	I V		-	0	10	5	-	0	1	5	Attachm	ent C	10	0	0		5	10	0	0	v	10		

Leg	SB Arage	on				W	/B Gran	id Cany	on				NB Arag	on					EB Gran	d Canyo	n				
Time	R	т	Т	II	Ann Per	*	R	т	T	П	Ann	Ped*	R	T	T	II	Ann P	ed*	R	т	I	II	Ann I	Ped* 1	Int
5.15PM	0	5	2	0	7	0	1	2	0	0	3	. eu		5	4	0	npp 1 Q	0	4	6	3	0	13	0	32
5:30PM	1	5	2	0	, 8	0	1	0	1	0	2	0	1	5	1	0	7	0	4	8	1		13	0	30
5:45PM	0	7	1	0	8	0	0	2	4	0	6	0	0	6	3	0	9	0		7	2		17	1	40
Hourly Total	1	29	6	0	36	0	4	4	6	0	14	0	2	26	13	0	41	0	26	29	6	0	61	1	152
6:00PM	0	2.5	1	0		1		7	1	0	2	2	2	6	5	0	13	0	20	1	2	0	5	0	25
6:15PM	1	6	2	0	4 9	0	1	1	2	0	4		2		0	0	4	1	6	6	3		15	1	32
6:30PM	0	2	0	0	2	1	1	0	1	0		1		5	3	0		1	5	1	0		6	0	18
6:45PM	2	- 5	3	0	10	0	0	2	1	0	- 3	- 0	1	2	2	0	5	0	5	3	0			2	26
Hourly Total	3	16	6	0	25	2	2	5	5	0	12	3	5	15	10	0	30	1	18	11	5	0	34	3	101
2024-08-21		10	0			-	-	0						10	10	0	50	-	10		5	0	5.		101
6:00AM	1	0	0	0	1	0	0	2	2	0	4	0	1	3	1	0	5	1	0	0	0	0	0	0	10
6:15AM	1	0	0	0	1	0	0	3	0	0	3	2	0	1	3	0	4	0	0	0	0	0	0	2	8
6:30AM	1	2	0	0	3	0	1	0	0	0	1	2	0	5	1	0	6	1	0	0	1	0	1	1	11
6:45AM	1	0	0	0	1	0	2	3	1	0	6	4	0	4	1	0	5	0	0	1	1	0	2	0	14
Hourly Total	4	2	0	0	6	0	3	8	3	0	14	8	1	13	6	0	20	2	0	1	2	0	3	3	43
7:00AM	1	1	1	0	3	1	1	2	1	0	4	3	1	6	2	0	9	0	0	1	0	0	1	2	17
7:15AM	0	0	1	0	1	0	3	5	1	0	9	0	0	5	1	0	6	0	0	1	1	0	2	0	18
7:30AM	0	2	0	0	2	0	3	2	0	0	5	3	2	8	4	0	14	0	0	2	1	0	3	1	24
7:45AM	1	4	0	0	5	1	0	5	1	0	6	0	0	9	9	0	18	0	0	2	2	0	4	2	33
Hourly Total	2	7	2	0	11	2	7	14	3	0	24	6	3	28	16	0	47	0	0	6	4	0	10	5	92
8:00AM	2	3	4	0	9	0	2	6	0	0	8	3	1	11	2	0	14	1	2	2	2	0	6	0	37
8:15AM	1	2	0	0	3	0	0	2	1	0	3	3	0	5	3	0	8	0	2	2	0	0	4	0	18
8:30AM	1	1	0	0	2	0	2	2	0	0	4	0	1	1	1	0	3	1	2	2	0	0	4	0	13
8:45AM	1	4	1	0	6	0	0	1	1	0	2	4	0	5	4	0	9	1	1	1	0	0	2	2	19
Hourly Total	5	10	5	0	20	0	4	11	2	0	17	10	2	22	10	0	34	3	7	7	2	0	16	2	87
9:00AM	0	1	0	0	1	2	0	4	0	0	4	1	1	4	0	0	5	0	1	1	1	0	3	0	13
9:15AM	0	2	0	0	2	2	0	3	1	0	4	1	0	5	1	0	6	2	0	3	0	0	3	1	15
9:30AM	0	0	1	0	1	0	4	0	1	0	5	2	0	4	1	0	5	1	0	3	0	0	3	0	14
9:45AM	0	3	0	0	3	0	1	0	2	0	3	0	1	3	5	0	9	2	0	2	0	0	2	0	17
Hourly Total	0	6	1	0	7	4	5	7	4	0	16	4	2	16	7	0	25	5	1	9	1	0	11	1	59
10:00AM	0	2	0	0	2	2	3	2	0	0	5	2	1	8	4	0	13	0	0	3	1	0	4	0	24
10:15AM	0	3	0	0	3	0	1	3	1	0	5	1	0	3	1	0	4	1	0	3	0	0	3	0	15
10:30AM	3	6	0	0	9	0	0	3	1	0	4	0	0	9	1	0	10	0	3	2	1	0	6	0	29
10:45AM	0	0	0	0	0	0	0	2	1	0	3	0	1	2	1	0	4	0	0	1	0	0	1	0	8
Hourly Total	3	11	0	0	14	2	4	10	3	0	17	3	2	22	7	0	31	1	3	9	2	0	14	0	76
11:00AM	2	5	0	0	7	0	1	0	0	0	1	0	1	1	0	0	2	0	3	2	2	0	7	0	17
11:15AM	1	5	3	0	9	0	1	3	0	0	4	0	2	4	1	0	7	0	2	1	0	0	3	0	23
11:30AM	1	3	1	0	5	0	1	0	0	0	1	0	1	4	4	0	9	0	1	1	1	0	3	0	18
11:45AM	2	2	2	0	6	0	2	2	1	0	5	1	0	2	1	0	3	0	0	2	1	0	3	2	17
Hourly Total	6	15	6	0	27	0	5	5	1	0	11	1	4	11	6	0	21	0	6	6	4	0	16	2	75
12:00PM	0	1	1	0	2	0	1	1	0	0	2	1	1	2	1	0	4	0	2	1	0	0	3	0	11
12:15PM	0	- 8	0	0	8	0	1	3	1	0	5	0	0	2	2	0	4	0	- 1	2	1	0	4	0	21
12:30PM	0	3	0	0	3	1	0	3	0	0	3	2	0	4	0	0	4	1	1	2	0		3	3	13
12:45PM	0	2	2	0	4	0	1	3	1	0	5	- 0	1	1	3	0	5	1	2	- 5	0		7	0	21
Hourly Total	0	14	3	0	17	1	3	10	2	0	15	3	2	9	6	0	17	1	6	10	1	0	17	3	66
1:00PM	0	3	2	0	5	0	3	2	0	0	5	0	1	3	1	0	5	1	1	3	0	0	4	0	19
1.001 M	n	3	0	0	3	0	1	2	0	0	3	0	0		4	0	4	1	.3	0	1		4	0	14
1:30PM	0	3	2	0	5	0	1	0	1	0	2	0	0	4	0	0	4	0	1	3	2		6	- 0	17
1.45PM	n	2	1	0	3	0	0	1	1	0	- 2	0	0	4	1	0	5	0	1	1	1		3	- 0	17
Hourly Total	0	11	5	0	16	0	5	5	2	0	12	0	1	11	6	0	18	1	6	7	4	0	17	0	63
2.00bW	0	4	1	0	5	0	2	2	0	0	4	0	2	2	1	0	5	-	1	0	3	0	4	0	19
2.001 WI	0 0	7	1	0	J	0	- 0	- 1	0	0	-+	0		- <u>-</u> ?	- -	0	6	0	1	2	0		<del>ب</del> د		1/
2.101 M 2.30PM	1	4	1	0	- 6	0	0	1	0	0	1	0	0	5	2	0	7	0	0	1	2		 	- 0	1
2.301 M 2.45PM	2	10	1	0	13	1	0	3	2	0	5		0		<u>_</u>	0	, ,	0	4	8	0		12	0	33
Hourly Total	2	21	4	0	28	1	2	7	2	0	11	4	2	12	6	0	20	0	-	11	5	0	22	0	92 81
3.0001	0	21	4	0	20	1	2	1	- 2	0	5	4	1	12	0	0	5	0	0	7	0	0	- <u></u> 7	0	14
2.15DM	1		Т	0	-+ 9	0	0	- <del>+</del> 7	1	0	- J - J	0	1	-+ 	5	0	14	0	ט ר	-	0			- 0	74
2.12111	1	4	د ۸	0	16	0	0	5	1	0	2 6	0	1			0	14	0	2	1	1				20
3:30PM	4	0 7	4	0	10	2	0	с г	1	0	0 7	0	2	5 1	3	0	01	U	<u>პ</u>	4	1	0	0 0	1	4(
3:45PM	0	/	0	0	25	2	0	12	1	0	3 10	0	1	10	1	0	<u>ა</u>	U	2	10	1	0	0 20	1	105
nounly 10tal	5	22	8	0	35	2	0	13	3	0	16	0	5	18	9	0	32	0	/	12	1	0	20	1	103
4.0001	. 0	9	1	U	10	U	U	4	U	U	4	0		4	2	U	/	U	3	1	1		5	U	26
4:00PM	0	n	1	^		0	1	1	~ ~	0	· ·	· · · ·		<b>_</b>	_	~	10				- 1	0	11	~	
4:00PM 4:15PM	0	3	1	0	4	0	1	1	0	0	2	0	0	5	5	0	10	0	3	7	1	0	11	0	27

Leg Direction	SB A South	rago ibour	n nd					WB Gr Westbo	and Cany und	yon			NB Ara Northbo	gon und					EB Gran Eastbour	d Cany nd	on				
Time	I	2	Т	L	U	App	Ped*	R	Т	L	U	App Ped*	R	Т	L	U	App P	ed*	R	Т	L	U	Арр	Ped*	Int
TT 1 00 . 1		1	0.7	0	0	26	0				0	10		10	10	0	20	0	0	10	-	0	25	-	447
Fourly Total		1	2/	8	0	0 0	0	3	2	2	0	<u> </u>	2	18	10	0	30	0	9	19	/	0	35 12	5	35
5:15PM		0	5	1	0	6	0	0	2	0	0	2 0	0	3	2	0	5	0	6	8	3	0	17	0	30
5:30PM		2	6	1	0	9	0	1	2	1	0	4 0	0	1	4	0	5	0	13	12	1	0	26	1	44
5:45PM		0	6	0	0	6	1	0	4	1	0	<b>5</b> 2	0	5	2	0	7	1	9	5	1	0	15	1	33
Hourly Total		3	25	2	0	30	1	4	10	3	0	<b>17</b> 2	2	12	11	0	25	1	37	27	6	0	70	4	142
6:00PM		2	1	3	0	6	0	0	3	2	0	<b>5</b> 0	3	5	4	0	12	0	4	3	3	0	10	0	33
6:15PM		1	5	3	0	9	1	0	2	2	0	<b>4</b> 1	0	3	6	0	9	0	5	1	0	0	6	1	28
6:30PM		1	3	3	0	7	1	1	1	1	0	3 0	0	3	4	0	7	0	4	4	1	0	9	1	26
6:45PM Hourly Total		6	2	0	0	26	0	1	11	2	0	<b>8</b> 1 <b>20</b> 2		15	10	0	38	0	4	14	4	0	35	0	110
2024-08-22		0	11	5	0	20	2	2	11	/	0	20 2		15	15	0		0	17	14	4	0		2	115
6:00AM		1	0	0	0	1	1	1	3	2	0	<b>6</b> 0	0	2	5	0	7	1	0	0	0	0	0	1	14
6:15AM		1	0	0	0	1	1	1	4	0	0	<b>5</b> 3	0	4	2	0	6	1	0	1	0	0	1	0	13
6:30AM		1	0	0	0	1	0	0	4	0	0	<b>4</b> 1	1	2	3	0	6	0	0	0	0	0	0	1	11
6:45AM		0	1	0	0	1	0	1	1	1	0	3 3	0	3	0	0	3	0	1	0	0	0	1	1	8
Hourly Total		3	1	0	0	4	2	3	12	3	0	<b>18</b> 7	1	11	10	0	22	2	1	1	0	0	2	3	46
7:00AM		0	0	0	0	0	1	0	1	1	0	2 3	1	5	2	0	8	0	0	0	1	0	1	0	11
7:15AM		2	1	2	0	- 5	3	4	5	0	0	9 0	0	8	4	0	12	0	0	4	0	0	4	0	30
7:45AM		2		1	0	2	0	4	3	1	0	<u> </u>		16	4	0	22	0	1	2	2	0	6	3	23
Hourly Total		4	3	3	0	10	4	9	13	2	0	<b>24</b> 5	1	35	17	0	53	0	1	7	6	0	14	3	101
8:00AM		1	0	2	0	3	0	1	3	2	0	<b>6</b> 1	1	6	3	0	10	0	3	7	2	0	12	2	31
8:15AM		4	2	2	0	8	0	1	2	0	0	<b>3</b> 1	0	10	1	0	11	2	1	1	1	0	3	0	25
8:30AM		2	4	0	0	6	0	1	1	0	0	<b>2</b> 4	0	7	2	0	9	0	0	2	0	0	2	1	19
8:45AM		0	2	0	0	2	0	0	2	1	0	<b>3</b> 0	1	3	2	0	6	0	3	0	0	0	3	1	14
Hourly Total		7	8	4	0	19	0	3	8	3	0	<b>14</b> 6	2	26	8	0	36	2	7	10	3	0	20	4	89
9:00AM		1	5	0	0	6	0	0	3	0	0	<b>3</b> 2	3	5	1	0	9	1	3	2	0	0	5	1	23
9:15AM		0	1	0	0	1	0	0	0	0	0	<b>0</b> 1	0	6	1	0	7	0	0	0	0	0	0	0	8
9:30AM		0	1	1	0	2	0	2	4	1	0	7 3	0	3	2	0	5	0	0	1	0	0	1	0	15
9:45AM		1	2	1	0	11	2	2	7	2	0	14 6		10	5	0	0 27	1	2	1	1	0	2	1	14 60
10:00AM		2	3	0	0	5	2	4	3	1	0	7 0	2	3	3	0	- 27	2	0	2	0	0	2	2	22
10:15AM		0	2	0	0	2	0	2	0	0	0	2 0	0	7	1	0	8	0	1	2	1	0	4	0	16
10:30AM		2	3	0	0	5	2	3	1	0	0	<b>4</b> 0	0	6	2	0	8	0	1	1	0	0	2	2	19
10:45AM		0	3	0	0	3	0	1	1	1	0	3 0	0	0	2	0	2	0	2	2	0	0	4	0	12
Hourly Total		4	11	0	0	15	3	9	5	2	0	<b>16</b> 0	2	16	8	0	26	0	4	7	1	0	12	2	69
11:00AM		1	2	2	0	5	0	1	4	0	0	<b>5</b> 0	1	4	3	0	8	0	3	4	1	0	8	0	26
11:15AM		0	3	1	0	4	0	0	3	0	0	<b>3</b> 0	0	2	2	0	4	0	3	2	1	0	6	0	17
11:30AM		1	3	1	0	5	0	2	0	0	0	2 0	0	4	1	0	5	0	0	4	2	0	6	1	18
11:45AM		0	1	0	0	1	0	1	4	2	0	7 0	1	15	3	1	10	0	3	0	0	0	3	0	21
12:00DM		2	5	4	0	15	0	4	211	2	0	2 0	2	15	9	1	2/ 5	0	9	10	4	0	 5	1	02 19
12:00FM		0	0	1	0		0	0	0	0	0	0 0	0	4	2	0	3	0	2	0	1	0	2	0	10
12:30PM		0	4	0	0	4	0	0	2	0	0	<b>2</b> 1	0	3	2	0	5	0	1	1	2	0	4	0	15
12:45PM		3	5	0	0	8	0	0	2	1	0	3 0	0	2	5	0	7	0	2	0	1	0	3	0	21
Hourly Total		3	14	1	0	18	0	0	7	1	0	<b>8</b> 1	1	10	9	0	20	0	6	4	4	0	14	0	60
1:00PM		0	1	3	0	4	0	2	2	1	0	<b>5</b> 0	2	1	1	0	4	0	4	1	0	0	5	0	18
1:15PM		1	3	1	0	5	0	1	2	1	0	<b>4</b> 0	0	2	2	0	4	0	1	4	0	0	5	0	18
1:30PM		0	3	1	0	4	0	1	0	0	0	1 0	1	3	3	0	7	0	1	2	2	0	5	0	17
1:45PM		0	2	2	0	4	0	1	1	2	0	4 0	0	2	1	0	3	1	3	0	1	0	4	0	15
Hourly Total		1	9	7	0	17	0	5	5	4	0	14 0	3	8	7	0	18	1	9	7	3	0	19	0	68
2:00PM		1	2	2	0	5	0	1	0	0	0	1 0	1	2	2	0	5	1	0	2	0	0	2	0	13
2:15PM		0 1	1	<u>ט</u> ר	0	1 0	0		1 c	0	0	3 0		5	1	0	5	1	U 	4	1	0	5	0	13 22
2.50FM		2	7	2	0	9	0	1	6	2	0	9 0	0	-+	2	0	3	0	4	4	1	0	, 6	0	23 27
Hourly Total		4	15	4	0	23	0	2	10	2	0	14 (	1	12	6	0	19	1	5	12	3	0	20	0	76
3:00PM		0	1	1	0	2	0	1	2	1	0	4 0	2	4	3	0	9	0	1	3	0	0	4	0	19
3:15PM		0	3	1	0	4	0	1	3	0	0	4 0	0	6	0	0	6	0	5	4	1	0	10	0	24
3:30PM		1	6	0	0	7	0	2	2	_1	0	5 0	1	5	2	0	8	0	5	2	1	0	8	0	28
3:45PM		1	3	1	0	5	0	2	1	2	0	<b>5</b> 1	0	2	2	0	4	1	4	1	1	0	6	1	20
Hourly Total		2	13	3	0	18	0	6	8	4	0	<b>18</b> 1	3	17	7	0	27	1	15	10	3	0	28	1	91
4:00PM		1	6	0	0	7	0	1	5	0	0	Afachn	ent C <sup>2</sup>	2	2	0	6	0	2	6	0	0	8	0	27

Leg Direction	SB Ara Southb	gon ound					WB Gr Westbo	and Cai und	nyon				NB Ara Northb	igon ound					EB Gra Eastboi	nd Can 1nd	yon				
Time	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	Int
																			1						
4:15PM	0	7	2	0	9	0	0	2	1	0	3	0	0	2	4	0	6	0	5	2	2	0	9	0	27
4:30PM	2	4	1	0	7	1	0	4	1	0	5	0	1	5	3	0	9	0	3	5	0	0	8	0	29
4:45PM	2	5	3	0	10	0	2	1	2	0	5	0	0	6	2	0	8	0	3	3	2	0	8	0	31
Hourly Total	5	22	6	0	33	1	3	12	4	0	19	1	3	15	11	0	29	0	13	16	4	0	33	0	114
5:00PM	0	8	2	0	10	0	0	3	0	0	3	1	2	3	1	0	6	0	11	6	1	0	18	0	37
5:15PM	0	8	1	0	9	0	1	1	1	0	3	0	0	6	1	0	7	0	5	8	4	0	17	0	36
5:30PM	1	5	3	0	9	0	1	3	1	0	5	0	1	3	2	0	6	0	5	8	2	0	15	0	35
5:45PM	0	4	1	0	5	0	4	0	1	0	5	0	1	4	1	0	6	0	7	4	3	1	15	0	31
Hourly Total	1	25	7	0	33	0	6	7	3	0	16	1	4	16	5	0	25	0	28	26	10	1	65	0	139
6:00PM	0	6	1	0	7	0	1	1	0	0	2	1	1	4	6	0	11	0	1	2	0	0	3	0	23
6:15PM	0	5	0	0	5	0	0	1	0	0	1	0	0	6	1	0	7	0	4	4	2	0	10	0	23
6:30PM	1	10	3	0	14	0	0	1	1	0	2	0	1	3	2	0	6	0	3	6	1	0	10	0	32
6:45PM	0	4	1	0	5	0	1	1	1	0	3	3	1	2	0	0	3	0	2	2	1	0	5	1	16
Hourly Total	1	25	5	0	31	0	2	4	2	0	8	4	3	15	9	0	27	0	10	14	4	0	28	1	94
Total	104	535	146	0	785	42	151	337	109	0	597	115	96	654	353	1	1104	31	342	403	123	1	869	63	3355
% Approach	13.2%	58.2%	18.6%	0%	-	-	25.3%	56.4%	18.3% (	0%	-	-	8.7%	59.2%	32.0%	0.1%	-	-	39.4%	46.4%	14.2%	0.1%	-	-	-
% Total	3.1%	15.9%	4.4%	0%2	23.4%	-	4.5%	10.0%	3.2% (	0% 1	17.8%	-	2.9%	19.5%	10.5%	0% 3	32.9%	-	10.2%	12.0%	3.7%	0% 2	25.9%	-	-
Vehicles	97	525	146	0	768	-	146	331	105	0	582	-	94	635	346	1	1076	-	335	399	114	1	849	-	3275
% Vehicles	93.3%	98.1%	100%	0% <b>9</b>	97.8%	-	96.7%	98.2%	96.3% (	0% 9	97.5%	-	97.9%	97.1%	98.0%	100% <b>9</b>	97.5%	-	98.0%	99.0%	92.7%	100% <b>9</b>	97.7%	-	97.6%
Bicycles on																									
Road	7	10	0	0	17	-	5	6	4	0	15	-	2	19	7	0	28	-	7	4	9	0	20	-	80
% Bicycles																									
on Road	6.7%	1.9%	0%	0%	2.2%	-	3.3%	1.8%	3.7% (	0%	2.5%	-	2.1%	2.9%	2.0%	0%	2.5%	-	2.0%	1.0%	7.3%	0%	2.3%	-	2.4%
Pedestrians	-	-	-	-	-	42	-	-	-	-	-	115	-	-	-	-	-	31	-	-	-	-	-	63	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Tue Aug 20, 2024 Full Length (6 AM-7 PM (+1))

All Classes (Vehicles, Pedestrians, Bicycles on Road)

All Movements

ID: 1216212, Location: 35.821934, -106.199721



Provided by: Los Alamos County 101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US



Tue Aug 20, 2024 AM Peak (Aug 20 2024 7:30AM - 8:30 AM) All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements ID: 1216212, Location: 35.821934, -106.199721



where discoveries are man

Provided by: Los Alamos County 101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

Leg	SB Ar	agon					WB Gi	rand Ca	nyon				NB Aı	ragon					EB Gr	and Car	iyon				
Direction	Southl	bound					Westbo	ound					Northl	oound					Eastbo	und					
Time	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	R	Т	L	U	Арр	Ped*	Int
2024-08-20																									
7:30AM	0	5	0	0	5	0	8	4	0	0	12	2	0	12	7	0	19	0	4	2	3	0	9	0	45
7:45AM	1	0	1	0	2	2	1	4	2	0	7	1	0	14	4	0	18	0	2	6	2	0	10	5	37
8:00AM	0	2	2	0	4	1	2	6	0	0	8	3	1	7	5	0	13	2	1	1	2	0	4	1	29
8:15AM	0	2	1	0	3	0	0	2	0	0	2	0	1	8	3	0	12	0	1	5	1	0	7	0	24
Total	1	9	4	0	14	3	11	16	2	0	29	6	2	41	19	0	62	2	8	14	8	0	30	6	135
% Approach	7.1%	64.3%	28.6%	0%	-	-	37.9%	55.2%	6.9%	0%	-	-	3.2%	66.1%	30.6%	0%	-	-	26.7%	46.7%	26.7%	0%	-	-	-
% Total	0.7%	6.7%	3.0%	0%	10.4%	-	8.1%	11.9%	1.5%	0%	21.5%	-	1.5%	30.4%	14.1%	0%	45.9%	-	5.9%	10.4%	5.9%	0%	22.2%	-	-
PHF	0.250	0.450	0.500	-	0.700	-	0.344	0.667	0.250	-	0.604	-	0.500	0.769	0.750	-	0.833	-	0.500	0.583	0.750	-	0.700	-	0.780
Vehicles	1	9	4	0	14	-	11	16	2	0	29	-	2	40	18	0	60	-	8	14	6	0	28	-	131
% Vehicles	100%	100%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	100%	97.6%	94.7%	0%	96.8%	-	100%	100%	75.0%	0% 9	93.3%	-	97.0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	1	1	0	2	-	0	0	2	0	2	-	4
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	2.4%	5.3%	0%	3.2%	-	0%	0%	25.0%	0%	6.7%	-	3.0%
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	6	-	-	-	-	-	2	-	-	-	-	-	6	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Tue Aug 20, 2024 AM Peak (Aug 20 2024 7:30AM - 8:30 AM)

All Classes (Vehicles, Pedestrians, Bicycles on Road)

All Movements

ID: 1216212, Location: 35.821934, -106.199721



Provided by: Los Alamos County 101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US



Tue Aug 20, 2024 Midday Peak (Aug 20 2024 12PM - 1 PM) All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements ID: 1216212, Location: 35.821934, -106.199721



where discoveries are made

Provided by: Los Alamos County 101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

Leg	SB Ara	agon					WB Gr	rand Ca	nyon				NB Ai	agon					EB Gra	nd Can	yon				
Direction	Southb	oound					Westbo	ound					Northl	oound					Eastbou	und					
Time	R	Т	L	U	Aŗ	<b>p</b> Ped*	R	Т	L	U	App P	ed*	R	Т	L	U	App Pe	ed*	R	Т	L	U	App P	ed*	Int
2024-08-20																									
12:00PM	1	4	2	0		<b>7</b> 0	2	2	0	0	4	0	1	7	4	0	12	0	0	2	0	0	2	0	25
12:15PM	1	4	1	0		<b>6</b> 0	0	1	0	0	1	0	1	3	2	0	6	0	5	1	0	0	6	0	19
12:30PM	0	8	0	0		<b>8</b> 0	2	2	1	0	5	0	0	2	2	0	4	0	1	1	0	0	2	0	19
12:45PM	1	6	2	0		<b>9</b> 0	2	3	1	0	6	0	0	4	5	0	9	0	0	2	0	0	2	0	26
Total	3	22	5	0	3	<b>30</b> 0	6	8	2	0	16	0	2	16	13	0	31	0	6	6	0	0	12	0	89
% Approach	10.0%	73.3%	16.7%	0%			37.5%	50.0%	12.5%	0%	-	-	6.5%	51.6%	41.9%	)%	-	-	50.0%	50.0%	0%	0%	-	-	
% Total	3.4%	24.7%	5.6%	0%	33.79	% -	6.7%	9.0%	2.2%	0%	18.0%	-	2.2%	18.0%	14.6%	0%3	34.8%	-	6.7%	6.7%	0%	0% 1	3.5%	-	
PHF	0.500	0.688	0.625	-	0.90	)6 -	0.750	0.667	0.500	-	0.667	-	0.500	0.571	0.650	-	0.646	-	0.300	0.750	-	-	0.500	-	0.880
Vehicles	2	22	5	0	2	- 29	6	8	2	0	16	-	2	16	13	0	31	-	6	6	0	0	12	-	88
% Vehicles	66.7%	100%	100%	0%	96.79	% -	100%	100%	100%	0%	100%	-	100%	100%	100%	)%	100%	-	100%	100%	0%	0%	100%	-	98.9%
Bicycles on																									
Road	1	0	0	0		1 -	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1
% Bicycles on																									
Road	33.3%	0%	0%	0%	3.3	<u> </u>	0%	0%	0%	0%	0%	-	0%	0%	0%	)%	0%	-	0%	0%	0%	0%	0%	-	1.1%
Pedestrians	-	-	-	-		- 0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Tue Aug 20, 2024 Midday Peak (Aug 20 2024 12PM - 1 PM) All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements ID: 1216212, Location: 35.821934, -106.199721



Provided by: Los Alamos County 101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US



[S] NB Aragon

Tue Aug 20, 2024 PM Peak (Aug 20 2024 5PM - 6 PM) - Overall Peak Hour All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements ID: 1216212, Location: 35.821934, -106.199721

Provided by: Los Alamos County

101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

Leg	SB Ar	agon					WB Gr	and Ca	nyon				NB Ar	agon					EB Gra	and Car	iyon				
Direction	South	oound					Westbo	ound					Northb	ound					Eastbo	und					
Time	R	Т	L	U	App P	ed*	R	Т	L	U	App	Ped*	R	Т	L	U	App P	ed*	R	Т	L	U	Арр	Ped*	Int
2024-08-20																									
5:00PM	0	12	1	0	13	0	2	0	1	0	3	0	1	10	5	0	16	0	10	8	0	0	18	0	50
5:15PM	0	5	2	0	7	0	1	2	0	0	3	0	0	5	4	0	9	0	4	6	3	0	13	0	32
5:30PM	1	5	2	0	8	0	1	0	1	0	2	0	1	5	1	0	7	0	4	8	1	0	13	0	30
5:45PM	0	7	1	0	8	0	0	2	4	0	6	0	0	6	3	0	9	0	8	7	2	0	17	1	40
Total	1	29	6	0	36	0	4	4	6	0	14	0	2	26	13	0	41	0	26	29	6	0	61	1	152
% Approach	2.8%	80.6%	16.7%	0%	-	-	28.6%	28.6%	42.9%	0%	-	-	4.9%	63.4%	31.7%	0%	-	-	42.6%	47.5%	9.8%	0%	-	-	-
% Total	0.7%	19.1%	3.9%	0%	23.7%	-	2.6%	2.6%	3.9%	0%	9.2%	-	1.3%	17.1%	8.6%	0%2	27.0%	-	17.1%	19.1%	3.9%	0%4	0.1%	-	-
PHF	0.250	0.604	0.750	-	0.692	-	0.500	0.500	0.375	- (	0.583	-	0.500	0.625	0.650	-	0.625	-	0.667	0.906	0.500	-	0.868	-	0.760
Vehicles	1	29	6	0	36	-	4	4	6	0	14	-	2	25	13	0	40	-	24	29	6	0	59	-	149
% Vehicles	100%	100%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	100% !	96.2%	100%	)% <b>9</b>	97.6%	-	92.3%	100%	100%	0% 9	6.7%	-	98.0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	1	-	2	0	0	0	2	-	3
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	3.8%	0%	0%	2.4%	-	7.7%	0%	0%	0%	3.3%	-	2.0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-
							-		-				-	-					-	-					-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn



Tue Aug 20, 2024 PM Peak (Aug 20 2024 5PM - 6 PM) - Overall Peak Hour All Classes (Vehicles, Pedestrians, Bicycles on Road) All Movements

ID: 1216212, Location: 35.821934, -106.199721



Out: 61 In: 41 Total: 102 [S] NB Aragon



LOS ALAMOS where discoveries are made Provided by: Los Alamos County

101 Camino Entrada, Bldg 1, Rm 216, Los Alamos, NM, 87544, US

### Grand Canyon Drive & Aragon Avenune - Average Weekday Traffic Volumes

Leg			SB Sou	Aragon thbound					WB Gra	and Canyo sthound	on				NB	Aragon thbound					EB Gra Fas	nd Cany	on					Total In	tersection		Peds	Hourly Peds
Direction			500	linoounu	Total				we	stoounu	Total				1401	linoounu	Total				Lus		Total		Traffic		Hourly	Hourly	Hourly Multimodal	Hourly Multimodal	Crossing	Crossing Major Street
Time	Right	Thru	Left	U-Turn	Approach	Ped*	Right	Thru	Left	U-Turn	Approach	Ped*	Right	Thru	Left	U-Turn	Approach	Ped*	Right	Thru	Left	U-Turn	Approach	Ped*	Volume	Peds	Traffic Volume	Peds	Traffic - Major Street	Traffic - Minor Street	Major Street	(pph)
6:00 AM	2	0	0	0	2	0	1	2	2	0	5	0	1	2	3	0	6	1	0	0	0	0	0	0	13	1		T			0	0
6:15 AM	1	0	0	0	1	0	0	3	0	0	3	2	0	3	2	0	5	0	0	0	0	0	0	1	10	3					3	3
6:30 AM	1	1	0	0	2	0	0	2	0	0	2	1	0	3	2	0	5	1	0	0	0	0	1	1	10	3					2	5
6:45 AM	0	0	0	0	1	0	2	2	1	0	5	4	0	5	1	0	6	0	0	1	0	0	1	1	13	5	46	12	19	38	5	10
7:00 AM	0	1	0	0	1	1	0	2	1	0	3	3	1	5	3	0	9	0	0	1	0	0	1	1	14	5	47				4	14
7:15 AM	1	1	1	0	2	1	3	4	0	0	8	0	0	6	3	0	9	0	0	2	0	0	3	0	22	1	59				0	11
7:30 AM	0	3	0	0	3	0	5	3	0	0	8	2	1	9	5	0	14	0	1	2	2	0	5	0	31	2	80				2	11
7:45 AM	1	1	1	0	3	1	1	4	1	0	6	0	0	13	7	0	20	0	1	3	2	0	7	3	36	4	103	12	44	70	3	9
8:00 AM	1	2	3	0	5	0	2	5	1	0	7	2	1	8	3	0	12	1	2	3	2	0	7	1	32	4	121				3	8
8:15 AM	2	2	1	0	5	0	0	2	0	0	3	1	0	8	2	0	10	1	1	3	1	0	5	0	22	2	121				1	17
8:30 AM	1	3	0	0	4	0	2	2	0	0	4	3	1	4	3	0	8	0	1	1	0	0	2	0	18	3	108				3	18
8:45 AM	0	3	1	0	4	0	1	1	1	0	2	1	0	4	2	0	6	0	2	1	0	0	3	1	15	2	87	7	23	51	2	17
9:00 AM	1	3	0	0	4	1	1	3	0	0	4	2	2	5	0	0	7	0	2	2	1	0	5	0	19	3	74				2	8
9:15 AM	0	2	0	0	2	1	0	2	0	0	3	1	0	4	1	0	5	1	1	2	0	0	2	1	12	4	64				2	9
9:30 AM	0	1	1	0	2	0	2	1	1	0	4	2	0	4	2	0	7	0	0	3	0	0	3	0	16	2	62				2	8
9:45 AM	0	2	0	0	2	1	1	1	2	0	4	0	0	5	2	0	7	1	0	2	0	0	2	0	15	2	62	11	32	42	0	6
10:00 AM	1	2	0	0	3	1	2	2	1	0	5	1	2	5	3	0	9	0	0	2	1	0	3	0	21	2	64				1	5
10:15 AM	0	3	0	0	3	0	1	2	0	0	3	0	0	5	1	0	6	1	0	2	0	0	3	0	14	1	66				0	3
10:30 AM	2	5	0	0		1	1	1	0	0	3	0	0		2	0	9	0	2	1	0	0	3	1	22	2	72		20	45	1	2
10:45 AM	1	2	0	0	3	0	1	1	1	0	3	0	0	1	2	0	3	0	1	2	0	0	3	0	13	0	70	5	29	45	0	2
11:00 AM	1	3	1	0	5	0	1	2	0	0	2	0	1	3	1	0	5	0	3	2	1	0		0	19	0	68				0	1
11:15 AM	0	3	2	0	5	0	0	2	0	0	2	0	1	3	2	0	5	0	2	3	1	0	6	0	19	0	/3				0	1
11:30 AM	1	2	1	0	4	0	1		0	0	2	0	1	4	3	0	8	0	1	2	1	0	4	0	1/				21	42	0	0
11:45 AIVI	1	1	1		5		1	2	2	0	2	1	1	3					2		0	0	3		10		71	2	31	42	2	2
12.00 PIVI	0	3	1	0	5	0	0	2	0	0	3	0	1	4	2	0		0	2	1	1	0	3	0	10		66				0	2
12:13 FIV	0	5	0	0	5	0	1	2	0	0	2	1	0	2	2	0	4	0	1	1	1	0	4	1	15	2	65				2	2
12:30 PM	1		1	0	7	0	1	2	1	0	5	0	0	2		0	7	0	1	2	0	0	4	0	23	2	72	2	27	46	0	2
1:00 PM	0	3	2	0	5	0	2	2	0	0	4	0	1	2	1	0	4	0	3	2	0	0	5	0	19	0	72		27		0	2
1:15 PM	0	4	1	0	5	0	1	2	0	0	3	0	0	1	3	0	5	0	2	2	1	0	5	0	17	0	75				0	2
1:30 PM	0	4	1	0	5	0	1	0	0	0	1	0	0	4	1	0	5	0	1	2	1	0	5	0	16	0	75				0	0
1:45 PM	0	2	2	0	4	0	0	1	1	0	2	0	0	3	1	0	4	0	2	1	1	0	3	0	13	0	65	0	28	37	0	0
2:00 PM	1	2	2	0	5	0	1	2	0	0	3	0	1	2	1	0	4	0	1	1	1	0	4	0	16	0	62	-			0	0
2:15 PM	0	3	0	0	3	0	0	2	0	0	3	0	0	4	2	0	6	0	2	3	1	0	5	0	17	0	62				0	0
2:30 PM	1	4	1	0	6	0	0	2	1	0	3	0	0	4	1	0	6	0	2	2	1	0	5	1	19	1	65				1	1
2:45 PM	2	10	1	0	13	0	1	4	2	0	6	2	0	1	1	0	3	0	2	4	0	0	7	0	29	2	81	3	36	49	2	3
3:00 PM	0	3	1	0	4	0	0	3	1	0	4	0	1	5	2	0	9	0	1	2	0	0	3	0	20	0	85				0	3
3:15 PM	1	4	2	0	6	0	1	3	0	0	3	0	1	7	3	0	10	0	4	3	0	0	7	0	26	0	94				0	3
3:30 PM	2	5	2	0	9	0	1	3	1	0	4	0	1	4	2	0	7	0	3	4	1	0	8	0	28	0	103				0	2
3:45 PM	1	4	1	0	5	1	1	2	1	0	5	1	0	2	2	0	4	0	3	4	1	0	8	1	22	3	96	3	43	56	2	2
4:00 PM	1	8	0	0	9	0	0	4	0	0	5	1	2	4	3	0	8	0	3	4	1	0	8	0	30	1	106				1	3
4:15 PM	0	4	1	0	6	0	1	1	0	0	3	0	0	4	3	0	7	0	4	4	1	0	9	0	25	0	105				0	3
4:30 PM	1	7	2	0	9	1	1	3	1	0	5	0	1	4	1	0	7	0	3	6	0	0	10	1	30	2	107				1	4
4:45 PM	1	6	3	0	10	0	1	3	2	0	5	0	0	6	1	0	7	0	3	3	2	0	9	1	31	1	116	4	55	66	1	3
5:00 PM	0	9	1	0	11	0	2	2	1	0	4	0	2	5	3	0	10	0	10	5	1	0	16	1	41	1	127				1	3
5:15 PM	0	6	1	0	7	0	1	2	0	0	3	0	0	5	2	0	7	0	5	7	3	0	16	0	33	0	135				0	3
5:30 PM	1	5	2	0	9	0	1	2	1	0	4	0	1	3	2	0	6	0	7	9	1	0	18	0	36	0	141				0	2
5:45 PM	0	6	1	0	6	0	1	2	2	0	5	1	0	5	2	0	7	0	8	5	2	0	16	1	35	2	145	2	62	46	2	5
6:00 PM	1	3	2	0	6	0	0	2	1	0	3	1	2	5	5	0	12	0	2	2	2	0	6	0	27	1	131				1	5
6:15 PM	1	5	2	0	8	0	0	1	1	0	3	0	1	4	2	0	7	0	5	4	2	0	10	1	28	1	126				1	6
6:30 PM	1	5	2	0	8	1	1	1	1	0	2	0	0	4	3	0	7	0	4	4	1	0	8	0	25	1	115				0	4
6:45 PM	1	4	1	0	6	0	1	3	1	0	5	1	1	3	2	0	6	0	4	4	0	0	8	1	25	2	105	5	46	64	2	4

# Appendix D Intersection Level of Service Calculation Sheets

		ŀ	HCS T	Гwo-	Way	Stop	o-Cor	ntrol	Repo	ort						
General Information							Site	Inforr	natio	n						
Analyst	SRIR/	AMA, LLC					Inters	ection			Arago	on/Gran	d Canyor	n		
Agency/Co.	SRIR/	AMA, LLC	-				Jurisc	liction			White	e Rock, N	JM			
Date Performed	9/10/	2024					East/	West Str	eet		Grand	d Canyor	n Dr			
Analysis Year	2024						North	/South :	Street		Arago	on Ave				
Time Analyzed	PM P	eak					Peak	Hour Fac	ctor		0.86					
Intersection Orientation	North	n-South					Analy	sis Time	Period (	hrs)	1.00					
Project Description	Grand	d Canyoi	n Interse	ction An	alysis						1					
Lanes	-															
				$J \neq \downarrow $	A T. Maior	* * * * * * *	th-South	レスキャレ サ								
Vehicle Volumes and Adju	ustme	nts			Wajo											
Approach	İ 🗌	Eastk	ound		İ 🗌	West	bound			North	bound		Í –	South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6
Number of Lanes	1	0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration	1		LTR				LTR				LTR				LTR	
Volume (veh/h)	1	7	24	25		4	9	5		8	19	3		2	26	7
Percent Heavy Vehicles (%)	1	2	2	2		2	2	2		2				2		
Proportion Time Blocked	1															
Percent Grade (%)	1		0	I			0					<u> </u>		<u> </u>		I
Right Turn Channelized	1															
Median Type   Storage	1			Undi	vided											
Critical and Follow-up He	adwa	ys							<u> </u>							
Base Critical Headway (sec)	1	7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.12	6.52	6.22		7.12	6.52	6.22		4.12				4.12		
Base Follow-Up Headway (sec)	1	3.5	4.0	3.3		3.5	4.0	3.3	-	2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.52	4.02	3.32		2.22				2.22		
Delay, Queue Length, and	d Leve	l of Se	ervice													I
Flow Rate, v (veh/h)	]		65				21			9				2		
Capacity, c (veh/h)			899				856			1566				1589		
v/c Ratio	1		0.07				0.02			0.01				0.00		
95% Queue Length, Q <sub>95</sub> (veh)			0.2				0.1			0.0				0.0		
95% Queue Length, Q <sub>95</sub> (ft)			5.1				2.5									
Control Delay (s/veh)			9.3				9.3			7.3	0.0	0.0		7.3	0.0	0.0
Level of Service (LOS)	1		A				A			A	A	A		A	A	Α
Approach Delay (s/veh)	1	9	.3			9	.3			2	.0			0	.4	
Approach LOS	1		A				A				A			/	4	

		ŀ	ICS -	Гwo-'	Way	Stop	-Cor	ntrol	Repo	ort						
General Information							Site	Inforr	natio	n						
Analyst	SRIRA	AMA, LLC	:				Inters	ection			Grand	d Canyor	n/Sherwo	bod		
Agency/Co.	SRIRA	AMA, LLC	2				Jurisd	liction			White	e Rock, N	IM			
Date Performed	9/10/	2024					East/\	Nest Stre	eet		Grand	d Canyor	ו Dr			
Analysis Year	2024						North	/South S	Street		Sherv	vood Blv	'd			
Time Analyzed	AM P	eak					Peak	Hour Fac	ctor		0.78					
Intersection Orientation	East-	West					Analy	sis Time	Period (	hrs)	1.00					
Project Description	Grand	d Canyor	n Interse	ction An	alysis											
Lanes																
				J 4 4 7 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	n H Majr	or Street: Ea	st-West	┙┥↓Ҳ <b>҂</b> ょс╹								
Vehicle Volumes and Adju	ustme	nts														
Approach		Eastb	ound			West	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		36	47	9		7	133	12		12	20	8		4	5	58
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)											0				0	
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	l Leve	l of Se	ervice													
Flow Rate, v (veh/h)		46				9					51				86	
Capacity, c (veh/h)		1219				1528					520				678	
v/c Ratio		0.04				0.01					0.10				0.13	
95% Queue Length, Q <sub>95</sub> (veh)		0.1				0.0					0.3				0.4	
95% Queue Length, Q <sub>95</sub> (ft)											7.6				10.2	
Control Delay (s/veh)		8.1	0.3	0.3		7.4	0.0	0.0			12.7				11.1	
Level of Service (LOS)		А	А	А		A	Α	А			В				В	
Approach Delay (s/veh)		3	.4			0	.4			12	2.7			1'	1.1	
Approach LOS			4				Ą				В				В	

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		ŀ	ICS -	Гwo-'	Way	Stop	-Cor	ntrol	Repo	ort						
General Information							Site	Inforr	natio	n						
Analyst	SRIRA	AMA, LLC					Inters	ection			Grand	d Canvoi	n/Sherwo	bod		
Agency/Co.	SRIR/	AMA. LLC	-				Jurisc	liction			White	e Rock. N	IM			
Date Performed	9/10/	/2024	-				East/	West Stre	eet		Grand	d Canvoi	ו Dr			
Analysis Year	2024	-					North	/South	Street		Sherv	vood Blv	rd			
Time Analyzed	PM P	eak					Peak	Hour Fac	ctor		0.89					
Intersection Orientation	East-	West					Analy	sis Time	Period (	(hrs)	1.00					
Project Description	Grand	d Canyor	n Interse	ction An	alysis						1					
Lanes	-															
				J 4 1 A 4 4 4 0		م ب م Street: Ea	t-West	141X4400								
Vehicle Volumes and Adju	ustme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority	10	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration	1		LTR				LTR				LTR				LTR	
Volume (veh/h)	1	29	125	8		13	19	23		3	13	22		38	25	19
Percent Heavy Vehicles (%)	1	2				2				2	2	2		2	2	2
Proportion Time Blocked	1															
Percent Grade (%)	1										0			(	0	
Right Turn Channelized	1															
Median Type   Storage	1			Undi	vided											
Critical and Follow-up He	eadwa	ys														
Base Critical Headway (sec)	1	4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)	1	4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)	<u> </u>	2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)	i	2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32
Delay, Queue Length, and	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)	1	33				15					43				92	
Capacity, c (veh/h)	1	1557				1429					741				669	
v/c Ratio	1	0.02				0.01					0.06				0.14	
95% Queue Length, Q <sub>95</sub> (veh)	1	0.1				0.0					0.2				0.5	
95% Queue Length, Q <sub>95</sub> (ft)											5.1				12.7	
Control Delay (s/veh)	1	7.4	0.2	0.2		7.5	0.1	0.1			10.2				11.2	
Level of Service (LOS)	1	A	А	А		A	A	А			В				В	
Approach Delay (s/veh)		1	.5			1	.8			1(	0.2			1.	1.2	
Approach LOS	1		Α				A				B				В	

		ŀ	HCS 1	Гwo-	Way	Stop	-Cor	ntrol	Repo	ort							
General Information							Site	Inforr	natio	n							
Analyst	SRIR	AMA, LLO	2				Inters	ection			Rover	r/Grand	Canvon				
Agency/Co.	SRIR/	AMA, LLC					Jurisc	liction			White	e Rock, N	IM				
Date Performed	9/10/	2024	-				East/	West Str	eet		Grand Canyon Dr						
Analysis Year	2024						North	n/South :	Street		Rover Blvd						
Time Analyzed	AMP	eak					Peak	Hour Fac	ctor		0.81						
Intersection Orientation	North	n-South					Analy	sis Time	Period (	hrs)	1.00						
Project Description	Gran	d Canvo	n Interse	ction An	alvsis												
				7 4 4 A 4 4 4		↓ ▲ 本 ↓ ↓ ↓ ↓	↑ ₽ C U	ע איז דע איז איז דע									
Vehicle Volumes and Adju	ustme	nts			Wajo	Street. Not	un-300un										
Approach		Eastb	ound			West	bound		l –	North	bound		i –	South	bound		
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	T	R	
Priority	1	10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes	1	0	1	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration	1		LTR				LTR				LTR				LTR		
Volume (veh/h)	1	25	20	21		2	68	62		64	95	1		12	32	15	
Percent Heavy Vehicles (%)	1	2	2	2		2	2	2		2				2			
Proportion Time Blocked	1																
Percent Grade (%)	1		0				0										
Right Turn Channelized	1																
Median Type   Storage	1			Undi	vided												
Critical and Follow-up He	adwa	vs															
Base Critical Headway (sec)	1	71	65	62		71	65	62	1	41		<u> </u>		41		<b>—</b>	
Critical Headway (sec)		7.12	6.52	6.22		7.12	6.52	6.22		4 12				4 12			
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.2		22				22			
Follow-Up Headway (sec)		3.52	4.02	3 32		3.52	4.02	3 32		2.2				2.22			
Delay, Queue Length, and	l Leve	l of S	ervice	0.02	<u> </u>	0.02		0.01				<u> </u>					
Flow Rate, v (veh/h)	1		81				163			79				15			
Capacity, c (veh/h)	1		518				635			1530				1446			
v/c Ratio			0.16				0.26			0.05				0.01			
95% Queue Length, Q <sub>95</sub> (veh)			0.6				1.0			0.2				0.0			
95% Queue Length, Q <sub>95</sub> (ft)			15.2				25.4										
Control Delay (s/veh)			13.2				12.6			7.5	0.4	0.4		7.5	0.1	0.1	
Level of Service (LOS)			В				В			A	A	A		Α	Α	Α	
Approach Delay (s/veh)		1:	3.2			12	2.6			3	.2			1	.6		
Approach LOS	1	В					В		A					A			

		ŀ	HCS 1	Гwo-	Way	Stop	-Cor	ntrol	Repo	ort							
General Information							Site	Inforr	natio	n							
Analyst	SRIR	AMA, LLC					Inters	ection			Rover	r/Grand	Canyon				
Agency/Co.	SRIR/	AMA, LLC	-				Jurisc	liction			White	e Rock, N	IM				
Date Performed	9/10/	/2024					East/	West Stre	eet		Grand Canyon Dr						
Analysis Year	2024						North	n/South S	Street		Rover	over Blvd					
Time Analyzed	PM P	eak					Peak	Hour Fac	ctor		0.90						
Intersection Orientation	Nort	n-South					Analy	sis Time	Period (	hrs)	1.00						
Project Description	Gran	d Canyoi	n Interse	ction An	alysis												
Lanes	1																
				144446 14446	٩٦. Majoi	+ + + + + + + + + + +	th-South	↓ 4 ↓ 1 4 ↓ *									
Vehicle Volumes and Adju	ustme	nts															
Approach	i –	Eastk	ound		İ 🗌	West	bound		i –	North	bound		İ	South	bound		
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes	1	0	1	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration	1		LTR				LTR				LTR				LTR		
Volume (veh/h)	1	18	90	70		3	25	19		21	39	3		40	75	18	
Percent Heavy Vehicles (%)	1	2	2	2		2	2	2		2				2			
Proportion Time Blocked	1																
Percent Grade (%)	1		0				0										
Right Turn Channelized	1																
Median Type   Storage	1			Undi	vided												
Critical and Follow-up He	adwa	ys							<u> </u>								
Base Critical Headway (sec)	1	7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1			
Critical Headway (sec)	1	7.12	6.52	6.22		7.12	6.52	6.22		4.12				4.12			
Base Follow-Up Headway (sec)	1	3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2			
Follow-Up Headway (sec)		3.52	4.02	3.32		3.52	4.02	3.32		2.22				2.22			
Delay, Queue Length, and	l Leve	l of S	ervice			<u> </u>	·	·	<u> </u>	·	·	<u> </u>	·				
Flow Rate, v (veh/h)	1		198				52			23				44			
Capacity, c (veh/h)	1		701				695			1486				1558			
v/c Ratio			0.28				0.08			0.02				0.03			
95% Queue Length, Q <sub>95</sub> (veh)			1.2				0.2			0.0				0.1			
95% Queue Length, Q <sub>95</sub> (ft)			30.5				5.1										
Control Delay (s/veh)			12.1				10.6			7.5	0.1	0.1		7.4	0.2	0.2	
Level of Service (LOS)	1		В				В			A	A	A		Α	А	A	
Approach Delay (s/veh)		12	2.1			1(	0.6			2	6			2	.4		
Approach LOS	1	В					В		A				A				

		ŀ	ICS 1	Гwo-	Way	Stop	-Cor	ntrol	Repo	ort						
General Information							Site	Inforr	natio	n						
Analyst	SRIR/	AMA, LLC					Inters	ection			Arago	on/Gran	d Canyor	<u>า</u>		
Agency/Co.	SRIR/	AMA, LLC					Jurisc	liction			White	Rock, N	IM			
Date Performed	9/10/	2024	-				East/	West Stre	eet		Grand	d Canvor	yon Dr			
Analysis Year	2024	-					North	/South	Street		Arago	on Ave				
Time Analyzed	AMP	eak					Peak	Peak Hour Factor 0.84					Ave			
Intersection Orientation	North	n-South					Analy	sis Time	Period (	hrs)	1 00					
Project Description	Grand	d Canvo	n Interse	ction An	alvsis		[ [									
					arysis											
					A T.	* * * \$ froot Nor	↑ ↑↑ ↑	2444444 *								
Vehicle Volumes and Adju	ustme	nts			Wajo	Street. Not	11-30011									
Approach		Eastk	ound			West	oound			North	bound		i –	South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		6	10	4		2	16	11		18	36	2		5	7	3
Percent Heavy Vehicles (%)		2	2	2		2	2	2		2				2		
Proportion Time Blocked	1															
Percent Grade (%)	1		0				0									
Right Turn Channelized																
Median Type   Storage				Undi	vided											
Critical and Follow-up He	adwa	vs							·							
Base Critical Headway (sec)	1	7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7 12	6.52	6.22		7.12	6.52	6.22		4 12				4 12		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.52	4.02	3.32		2.22				2.22		<u> </u>
Delay, Queue Length, and	l Leve	l of S	ervice			I			I							
Flow Rate, v (veh/h)	1		24				35			21				6		
Capacity, c (veh/h)			813				839			1596				1552		
v/c Ratio	1		0.03				0.04			0.01				0.00		
95% Queue Length, Q <sub>95</sub> (veh)	]		0.1				0.1			0.0				0.0		
95% Queue Length, Q <sub>95</sub> (ft)			2.5				2.5									
Control Delay (s/veh)			9.6				9.5			7.3	0.1	0.1		7.3	0.0	0.0
Level of Service (LOS)	1		A				A			A	A	A		Α	А	A
Approach Delay (s/veh)		9	.6			9	.5			2	.4			2	.5	
Approach LOS	1	A					4		A				A			

Appendix E Crash Data

#### 5-YEAR STUDY AREA CRASH DATA: 2018-2023

CRASH REPORT NUMBER	CRASH DATE	TIME OF CRASH	DAY OF WEEK	PRIMARY STREET	SECONDARY STREET	LANDMARK/ LOCATION	DIRECTION FROM INTERSECTION OR LANDMARK	DISTANCE FROM LANDMARK	CRASH SEVERITY	NUMBER OF PEOPLE KILLED IN CRASH	NUMBER OF PEOPLE WITH SUSPECTED MINOR INJURIES (CLASS B) IN CRASH	NUMBER OF MOTOR VEHICLES INVOLVED	CRASH CLASSIFICATION	FIRST HARMFUL EVENT	WEATHER	ALCOHOL INVOLVEMENT	DRUG INVOLVEMENT	PEDESTRIAN INVOLVEMENT	MOTORCYCLE INVOLVEMENT
710409541	1/9/2018	16:15	Tuesday	ROVER BLVD	GRAND CANYON DR		Ν	358 ft	Property Damage Only Crash	0	0	2	Other Vehicle	Collision with Motor Vehicle	Clear	Not Involved	Not Involved	Not Involved	Not Involved
710411461	1/7/2023	15:16	Saturday	ROVER BLVD		GRAND CANYON DR	Ν	413 ft	Injury Crash	0	1	3	Left Blank	Collision with Motor Vehicle	Clear	Not Involved	Not Involved	Not Involved	Not Involved

## **Appendix F**

# **Sight Distance Evaluation Sheets**



# Sherwood Blvd and Grand Canyon Dr. EXHIBIT 1



### Rover Blvd and Grand Canyon Dr. EXHIBIT 2



# Aragon Ave and Grand Canyon Dr. EXHIBIT 3

## **Appendix G**

# **Signal Warrant Analysis Worksheets**

## **Grand Canyon Drive/Sherwood Boulevard Intersection**

	ION	
Municipality: White Rock	Analysis Date:	9/9/2024
County: Los Alamos County	Conducted By:	SRIRAMA, LLC
	Agency/Company Name:	SRIRAMA, LLC
Analysis Information		
Data Collection Date: 8/20 - 8/22/24		
Day of the Week: Tue - Thurs		
	_	
Is the intersection in a built-up area of an isolated community	y of <10,000 population?	Yes
-		
Major Street Information		
Major Street Name and Route Number: Grand Canyon Drive		
Majay Stypet Approach #1 Divertien:		
Major Street Approach #1 Direction: E-Bound		
Major Street Approach #2 Direction: <u>B-Bound</u> Major Street Approach #2 Direction: <u>W-Bound</u>		
Major Street Approach #2 Direction: <u>E-Bound</u> Major Street Approach #2 Direction: <u>W-Bound</u>		
Major Street Approach #1 Direction: E-Bound Major Street Approach #2 Direction: W-Bound Number of Lanes for Moving Traffic on Each Major Street Approach:	1	LANE(S)
Major Street Approach #1 Direction: <u>B-Bound</u> Major Street Approach #2 Direction: <u>W-Bound</u> Number of Lanes for Moving Traffic on Each Major Street Approach: Speed Limit or 85th Percentile Speed on the Major Street:	<u>1</u> 25	LANE(S) MPH
Major Street Approach #1 Direction: <u>E-Bound</u> Major Street Approach #2 Direction: <u>W-Bound</u> Number of Lanes for Moving Traffic on Each Major Street Approach: Speed Limit or 85th Percentile Speed on the Major Street:	<u>1</u> 25	LANE(S) MPH
Major Street Approach #1 Direction: Major Street Approach #2 Direction: Number of Lanes for Moving Traffic on Each Major Street Approach: Speed Limit or 85th Percentile Speed on the Major Street: Minor Street Information	1 25	LANE(S) MPH
Major Street Approach #1 Direction: <u>E-Bound</u> Major Street Approach #2 Direction: <u>W-Bound</u> Number of Lanes for Moving Traffic on Each Major Street Approach: Speed Limit or 85th Percentile Speed on the Major Street: Minor Street Information	1 25	LANE(S) MPH
Major Street Approach #1 Direction: E-Bound Major Street Approach #2 Direction: W-Bound Number of Lanes for Moving Traffic on Each Major Street Approach: Speed Limit or 85th Percentile Speed on the Major Street: Minor Street Information Minor Street Name and Route Number: Sherwood Boulevard Minor Street Approach #1 Direction: NeBound	1 25	LANE(S) MPH
Major Street Approach #1 Direction: Major Street Approach #2 Direction: Number of Lanes for Moving Traffic on Each Major Street Approach: Speed Limit or 85th Percentile Speed on the Major Street: Minor Street Information Minor Street Name and Route Number: Sherwood Boulevard Minor Street Approach #1 Direction: N-Bound Minor Street Approach #2 Direction: Sherwood Boulevard Minor Street Approach #1 Direction: Sherwood Boulevard Street Approach #2 Direction: Sherwood Boulevard Sherwood Boulevard Sherwood Boulevard Sherwood Boulevard Sherwood Boulevard Sherwood Boulevard Minor Street Approach #2 Direction: Sherwood Boulevard Sherwood Boulevard Minor Street Approach #2 Direction: Sherwood Boulevard Sherwood B	1 25	LANE(S) MPH
Major Street Approach #1 Direction: Major Street Approach #2 Direction: Number of Lanes for Moving Traffic on Each Major Street Approach: Speed Limit or 85th Percentile Speed on the Major Street: Minor Street Information Minor Street Name and Route Number: Sherwood Boulevard Minor Street Approach #1 Direction: N-Bound Minor Street Approach #2 Direction: S-Bound	1 25	LANE(S) MPH
Major Street Approach #1 Direction: E-Bound Major Street Approach #2 Direction: W-Bound Number of Lanes for Moving Traffic on Each Major Street Approach: Speed Limit or 85th Percentile Speed on the Major Street: Minor Street Information Minor Street Name and Route Number: Sherwood Boulevard Minor Street Approach #1 Direction: N-Bound Minor Street Approach #2 Direction: S-Bound Number of Lanes for Moving Traffic on Each Minor Street Approach:	1 25	LANE(S) MPH
Major Street Approach #1 Direction: Major Street Approach #2 Direction: Number of Lanes for Moving Traffic on Each Major Street Approach: Speed Limit or 85th Percentile Speed on the Major Street: Minor Street Information Minor Street Name and Route Number: Sherwood Boulevard Minor Street Approach #1 Direction: Minor Street Approach #2 Direction: S-Bound Number of Lanes for Moving Traffic on Each Minor Street Approach: Number of Lanes for Moving Traffic on Each Minor Street Approach: Number of Lanes for Moving Traffic on Each Minor Street Approach: Street Approach #2 Direction: Number of Lanes for Moving Traffic on Each Minor Street Approach: Minor Street Approach #2 Direction: Number of Lanes for Moving Traffic on Each Minor Street Approach: Minor Street Approach #2 Direction: Number of Lanes for Moving Traffic on Each Minor Street Approach: Minor Street Approach #2 Direction: Number of Lanes for Moving Traffic on Each Minor Street Approach: Minor Street Approach #2 Direction: Number of Lanes for Moving Traffic on Each Minor Street Approach: Minor Street Approach #2 Direction: Minor Street Approach #3 Direction: Minor Street Approach #3 Direction: Minor Street Approach #3 Direction: Minor Street Approach #3 Direction: Minor Street Approach #3 Direction: Minor Street Approach #3 Direction: Minor Street Approach #3 Direction: Minor Street Approach #3 Direc	1 25	LANE(S) MPH LANE(S)
Major Street Approach #1 Direction: Major Street Approach #2 Direction: Number of Lanes for Moving Traffic on Each Major Street Approach: Speed Limit or 85th Percentile Speed on the Major Street: Minor Street Information Minor Street Name and Route Number: Sherwood Boulevard Minor Street Approach #1 Direction: Minor Street Approach #1 Direction: Minor Street Approach #2 Direction: S-Bound Number of Lanes for Moving Traffic on Each Minor Street Approach: TRAFEIC SIGNAL WARPANT ANALYSIS E	1 25	LANE(S) MPH LANE(S)
Major Street Approach #1 Direction: Major Street Approach #2 Direction: Number of Lanes for Moving Traffic on Each Major Street Approach: Speed Limit or 85th Percentile Speed on the Major Street: Minor Street Information Minor Street Name and Route Number: Sherwood Boulevard Minor Street Approach #1 Direction: Minor Street Approach #1 Direction: Minor Street Approach #2 Direction: S-Bound Number of Lanes for Moving Traffic on Each Minor Street Approach: TRAFFIC SIGNAL WARRANT ANALYSIS F	1 25 1 <b>INDINGS</b>	LANE(S) MPH LANE(S)

	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	Yes	No
Warrant 2, Four-Hour Vehicular Volume	Yes	No
Warrant 3, Peak Hour	Yes	No
Warrant 4, Pedestrian Volume	Yes	No
Warrant 5, School Crossing	Yes	No
Warrant 6, Coordinated Signal System	No	N/A
Warrant 7, Crash Experience	Yes	No
Warrant 8, Roadway Network	Yes	No
Warrant 9, Intersection Near a Grade Crossing	No	N/A

		Major Street Approach #1	Major Street Approach #2	Major Street Combined	Minor Street Approach #1	Minor Street Approach #2
Time Ir	nterval	(E-Bound)	(W-Bound)		(N-Bound)	(S-Bound)
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 AM	12:14 AM			0		
12:15 AM	12:29 AM			0		
12:30 AM	12:44 AM			0		
12:45 AM	12:59 AM			0		
1:00 AM	1:14 AM			0		
1:15 AM	1:29 AM			0		
1:30 AM	1:44 AM			0		
1:45 AM	1:59 AM			0		
2:00 AM	2:14 AM			0		
2:15 AM	2:29 AM			0		
2:30 AM	2:44 AM			0		
2:45 AM	2:59 AM			0		
3:00 AM	3:14 AM			0		
3:15 AM	3:29 AM			0		
3:30 AM	3:44 AM			0		
3:45 AM	3:59 AM			0		
4:00 AM	4:14 AM			0		
4:15 AM	4:29 AM			0		
4:30 AM	4:44 AM			0		
4:45 AM	4:59 AM			0		
5:00 AM	5:14 AM			0		
5:15 AM	5:29 AM			0		
5:30 AM	5:44 AM			0		
5:45 AM	5:59 AM			0		
6:00 AM	6:14 AM	3	16	19	1	6
6:15 AM	6:29 AM	3	10	10	2	2
6:20 AM	6:44 AM	2	21	15	6	2
6:45 AM	6:50 AM	1	21	22	2	3
7:00 AM	7:14 AM	1	23	24		4
7.00 AM	7.14 AIVI		10	21	3	ر ہ
7.15 AIVI	7.29 AIVI	20 20	20	51	4	0
7.30 AIVI	7.44 AIVI	20	40	60	10	21
7.45 AIVI	7.39 AIVI	17	43	02	12	14
0.00 AIVI	0.14 AIVI	50	15	04	15	14
0.15 AIVI	0.29 AIVI	9	15	24	4	10
0.50 AIVI	0.44 AIVI	4	10	20	0	5
8:45 AIVI	8:59 AIVI	3	11	14	8	6
	9:14 AIVI	5	9	14	6	6
9:15 AIVI	9:29 AM	8	8	16	3	6
9:30 AM	9:44 AM	2	9	11	/	/
9:45 AM	9:59 AM	4	10	14	5	8
10:00 AM	10:14 AM	3	11	14	4	10
10:15 AM	10:29 AM	5	9	14	4	8
10:30 AM	10:44 AM	6	8	14	6	10
10:45 AM	10:59 AM	5	9	14	3	7
11:00 AM	11:14 AM	6	9	15	4	12
11:15 AM	11:29 AM	11	9	20	5	10
11:30 AM	11:44 AM	7	12	19	5	14
11.45 AMI	11:59 AM	12	10	22	6	14

\_

	ENTER V	OLUME DATA	PER 15 MINU	JTE INTERVAL	., PER APPRO	ACH
		Major Street Approach #1	Major Street Approach #2	Major Street Combined	Minor Street Approach #1	Minor Street Approach #2
lime ir	nterval	(E-Bound)	(W-Bound)		(N-Bound)	(S-Bound)
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 PM	12:14 PM	9	8	17	5	11
12:15 PM	12:29 PM	6	7	13	7	12
12:30 PM	12:44 PM	8	11	19	7	11
12:45 PM	12:59 PM	6	15	21	6	11
1:00 PM	1:14 PM	5	9	14	6	12
1:15 PM	1:29 PM	5	9	14	5	11
1:30 PM	1:44 PM	4	5	9	6	8
1:45 PM	1:59 PM	5	9	14	2	10
2:00 PM	2:14 PM	4	11	15	4	9
2:15 PM	2:29 PM	7	16	23	5	16
2:30 PM	2:44 PM	14	24	38	7	23
2:45 PM	2:59 PM	40	12	52	10	15
3:00 PM	3:14 PM	10	9	19	4	10
3:15 PM	3:29 PM	17	15	32	7	13
3:30 PM	3:44 PM	15	9	24	8	13
3:45 PM	3:59 PM	22	8	30	6	14
4:00 PM	4:14 PM	26	17	43	6	18
4:15 PM	4:29 PM	22	10	32	8	15
4:30 PM	4:44 PM	27	14	41	6	20
4:45 PM	4:59 PM	42	13	55	10	20
5:00 PM	5:14 PM	34	14	48	10	18
5:15 PM	5:29 PM	49	14	63	9	22
5:30 PM	5:44 PM	37	13	50	8	22
5:45 PM	5:59 PM	24	11	35	9	18
6:00 PM	6:14 PM	11	15	26	5	20
6:15 PM	6:29 PM	14	12	26	6	17
6:30 PM	6:44 PM	8	10	18	5	17
6:45 PM	6:59 PM	5	11	16	4	15
7:00 PM	7:14 PM			0		
7:15 PM	7:29 PM			0		
7:30 PM	7:44 PM			0		
7:45 PM	7:59 PM			0		
8:00 PM	8:14 PM			0		
8:15 PM	8:29 PM			0		
8:30 PM	8:44 PM			0		
8:45 PM	8:59 PM			0		
9:00 PM	9:14 PM			0		
9:15 PM	9:29 PM			0		
9:30 PM	9:44 PM			0		
9:45 PM	9:59 PM			0		
10:00 PM	10:14 PM			0		
10:15 PM	10:29 PM			0		
10:30 PM	10:44 PM			0		
10:45 PM	10:59 PM			0		
11:00 PM	11:14 PM			0		
11:15 PM	11:29 PM			0		
11:30 PM	11:44 PM			0		
11:45 PM	11:59 PM			0		
Appr	oach i otais:	664	732	1396	313	640

#### MUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic								
on Each Approach								
Major Street:	1 Lane							
Minor Street:	1 Lane							

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?

Yes

#### Combination of Conditions A and B Necessary?\*: No

\*Only applicable for Warrant 1 if after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. See Section 4C.02 of the 2009 MUTCD for application.

	Condition A - Minimum Vehicular Volume										
Number of lanes for a	or moving traffic on each pproach	Vehicles pe	r hour on major st	reet (total of both	approaches)	hes) Vehicles per hour on higher-volume minor street approach (o direction only)					
Major Street	Minor Street	100%	100% 80% 70% 56% 100% 80% 70%								
1	1	500	400	350	280	150	120	105	84		
2 or More	1	600	480	420	336	150	120	105	84		
2 or More	2 or More	600	480	420	336	200	160	140	112		
1	2 or More	500	400	350	280	200	160	140	112		

	Condition B - Interruption of Continuous Traffic											
Number of lanes fo a	or moving traffic on each pproach	Vehicles per hour on major street (total of both approaches) Vehicles per hour on higher-volume mino direction only)					ume minor street a on only)	approach (one				
Major Street	Minor Street	100%	.00% 80% 70% 56% 100% 80% 70% 56%									
1	1	750	600	525	420	75	60	53	42			
2 or More	1	900	720	630	504	75	60	53	42			
2 or More	2 or More	900	900 720 630 504 100 80 70									
1	2 or More	750	750 600 525 420 100 80 70									

Condition A Evaluation								
Number of Unique Hours Met: 0 Condition A Satisfied? No								
Condition B Evaluation								
Number of Unique Hours Met: 0 Condition B Satisfied? No								
Combination of Condition A and Condition B Evaluation								
Number of Unique Hours Met for Condition A: N/A Number of Unique Hours Met for Condition B: N/A								

Combination of Condition A and Condition B Satisfied? N/A

### MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each				
Approach				
Major Street:	1 Lane			
Minor Street:	1 Lane			

### Total Number of Unique Hours Met On Figure 4C-2 **0**

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH	Vec
on Major Street?	Yes

Hourly Vehicular Volume						
Hour Interval	Major Street Combined	Highest Minor Street Approach	Hour Mata			
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	Hour Wet			
12:00 AM	0	0				
12:15 AM	0	0				
12:30 AM	0	0				
12:45 AM	0	0				
1:00 AM	0	0				
1:15 AM	0	0				
1:30 AM	0	0				
1:45 AM	0	0				
2:00 AM	0	0				
2:15 AM	0	0				
2:30 AM	0	0				
2:45 AM	0	0				
3:00 AM	0	0				
3:15 AM	0	0				
3:30 AM	0	0				
3:45 AM	0	0				
4:00 AM	0	0				
4:15 AM	0	0				
4:30 AM	0	0				
4:45 AM	0	0				
5:00 AM	0	0				
5:15 AM	19	6				
5:30 AM	38	8				
5:45 AM	60	11				
6:00 AM	84	15				
6:15 AM	82	14				
6:30 AM	94	20				
6:45 AM	138	38				
7:00 AM	176	57				
7:15 AM	243	66				
7:30 AM	236	68				
7:45 AM	190	52				
8:00 AM	142	35				
8:15 AM	72	27				
8:30 AM	64	25				
8:45 AM	55	25				
9:00 AM	55	27				
9:15 AM	55	31				
9:30 AM	53	33				
9:45 AM	56	36				
10:00 AM	56	35				
10:15 AM	57	37				
10:30 AM	63	39				

Hourly Vehicular Volume					
Hour Interval	Major Street Combined	Highest Minor Street Approach	Have Mad 2		
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	Hour Met?		
10:45 AM	68	43			
11:00 AM	76	50			
11:15 AM	78	49			
11:30 AM	71	51			
11:45 AM	71	48			
12:00 PM	70	45			
12:15 PM	67	46			
12:30 PM	68	45			
12:45 PM	58	42			
1:00 PM	51	41			
1:15 PM	52	38			
1:30 PM	61	43			
1:45 PM	90	58			
2:00 PM	128	63			
2:15 PM	132	64			
2:30 PM	141	61			
2:45 PM	127	51			
3:00 PM	105	50			
3:15 PM	129	58			
3:30 PM	129	60			
3:45 PM	146	67			
4.00 PM	171	73			
4·15 PM	176	73			
4:30 PM	207	80			
4:45 PM	216	82			
5:00 PM	196	80			
5:15 PM	174	82			
5:30 PM	137	77			
5:45 PM	105	72			
6:00 PM	86	69			
6:15 PM	60	49			
6:30 PM	34	32			
6:45 PM	16	15			
7:00 PM	0	15			
7:00 PW	0	0			
7:30 PM	0	0			
7:30 PM	0	0			
9:00 PM	0	0			
8:00 PIVI 8:15 DM	0	0			
8:30 PM	0	0			
8.30 FIVI	0	0			
0:00 PM	0	0			
	0	0			
9.10 PM	0	0			
		0			
9:45 PIVI	0	0			
10:00 PIVI	0	0			
10:15 PM	0	0			
10:30 PM		0			
10:45 PM	0	0			
11:00 PM	U	l O			

#### MUTCD Warrant 2 Page 3 of 3


# **MUTCD WARRANT 3, PEAK HOUR**

Number of Lanes for Moving Traffic on Each					
Approach					
Major Street:	1 Lane				
Minor Street: 1 Lane					

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
Is this signal warrant being applied for an unusual case, such as office complexes,	

or an unusual case, such as office complexes,	is this signal wallant being applied in
high-occupancy vehicle facilities that attract No	manufacturing plants, industrial complexes, or
large numbers of vehicles over a short time?	or discharge

Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-					
minute periods) of an average day are present*					
Does the total stopped time delay experienced by the traffic on one minor-street approach					
(one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-	No				
lane approach or 5 vehicle-hours for a two-lane approach?					
Does the volume on the same minor-street approach (one direction only) equal or exceed					
100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving	No				
lanes?					
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per					
hour for intersection with three approaches or 800 vehicles per hour for intersections with	No				
four or more approaches?					
*If applicable, attach all supporting calculations and documentation.					

Total Number of Unique Hours Met
On Figure 4C-4
0

	Hourly Vehicular Volume						
Hour Interval	Major Street Combined	Highest Minor Street Approach	Hour Mot?				
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	Hour Wet:				
12:00 AM	0	0					
12:15 AM	0	0					
12:30 AM	0	0					
12:45 AM	0	0					
1:00 AM	0	0					
1:15 AM	0	0					
1:30 AM	0	0					
1:45 AM	0	0					
2:00 AM	0	0					
2:15 AM	0	0					
2:30 AM	0	0					
2:45 AM	0	0					
3:00 AM	0	0					
3:15 AM	0	0					
3:30 AM	0	0					
3:45 AM	0	0					
4:00 AM	0	0					
4:15 AM	0	0					
4:30 AM	0	0					
4:45 AM	0	0					
5:00 AM	0	0					
5:15 AM	19	6					
5:30 AM	38	8					
5:45 AM	60	11					
6:00 AM	84	15					
6:15 AM	82	14					
6:30 AM	94	20					
6:45 AM	138	38					
7:00 AM	176	57					
7:15 AM	243	66					
7:30 AM	236	68					
7:45 AM	190	52					

Hourly Vehicular Volume						
Hour Interval	Major Street Combined	Highest Minor Street Approach	Hour Mot2			
Beginning At Vehicles Per Hour (VPH)		Vehicles Per Hour (VPH)	Hour Metr			
8:00 AM	142	35				
8:15 AM	72	27				
8:30 AM 64		25				
8:45 AM	55	25				
9:00 AM	55	27				
9:15 AM	55	31				
9:30 AM	53	33				
9:45 AM	56	36				
10:00 AM	56	35				
10:15 AM	57	37				
10:30 AM	63	39				
10:45 AM	68	43				
11:00 AM	76	50				
11:15 AM	70	49				
11.13 AN	78					
11:30 AIVI	71					
12:00 DM	70	40				
12:00 PIVI	67	45				
12:15 PIVI	0/	40				
12:30 PM	68	45				
12:45 PM	58	42				
1:00 PM	51	41				
1:15 PM	52	38				
1:30 PM	61	43				
1:45 PM	90	58				
2:00 PM	128	63				
2:15 PM	132	64				
2:30 PM	141	61				
2:45 PM	127	51				
3:00 PM	105	50				
3:15 PM	129	58				
3:30 PM	129	60				
3:45 PM	146	67				
4:00 PM	171	73				
4:15 PM	176	73				
4:30 PM	207	80				
4:45 PM	216	82				
5:00 PM	196	80				
5:15 PM	174	82				
5:30 PM	137	77				
5:45 PM	105	72				
6:00 PM	86	69				
6:15 PM	60	49				
6:30 PM	34	32				
6:45 PM	16	15				
7:00 PM	0	0				
7:15 PM	0	0				
7:30 PM	0	0				
7:45 PM	0	0				
8:00 PM	0	0	1			
8:15 PM	0	0	1			
8:30 PM	0	0	1			
8:45 PM	0	0				
9:00 PM	0	0				
9:15 PM	0	0				
9.30 PM	0	0				
9.35 PM	0	0				
10.00 DNA	0	0				
10.15 DM	0	0				
10.13 PIVI	0	0				
10.30 PIVI	0	0				
11:00 DM	0	0				
	U	U	1			

# MUTCD Warrant 3 Page 3 of 3



#### **MUTCD WARRANT 4, PEDESTRIAN VOLUME**

Built-up Isolated Community With Less Than 10,000 Population or Above 35 MPH on Major	Voc
Street?	185
15th Percentile Pedestrian Crossing Speed Less than 3.5 f/s?*	No
$\cdot$ If applicable, attach all supporting calculations, documentation, and findings.	
Is the distance to the nearest traffic control signal or STOP sign controlling the major street that	
pedestrians desire to cross less than 300 feet?	No
If the distance to the nearest traffic control signal or STOP sign controlling the major street that	
pedestrians desire to cross is less than 300 feet, will the proposed traffic control signal restrict	
the progressive movement of traffic?*	No
*If applicable, attach supporting justification.	
ij upproublej uttueri supporting justijisution	
	-
Total Number of Unique Hours Met for Criterion A:	0
Total Number of Unique Hours Met for Criterion B:	0

Hourly Vehicular & Pedestrian Volume						
Hour Interval	Major Street Combined	Total of All Pedestrians Crossing Major Street	Criterion A: 4-Hour	Criterion B: 1-Hour		
Beginning At	Vehicles Per Hour (VPH)	Pedestrians Per Hour (PPH)	Hour Met on Figure 4C-6?	Hour Met on Figure 4C-8?		
12:00 AM	0					
12:15 AM	0					
12:30 AM	0					
12:45 AM	0					
1:00 AM	0					
1:15 AM	0					
1:30 AM	0					
1:45 AM	0					
2:00 AM	0					
2:15 AM	0					
2:30 AM	0					
2:45 AM	0					
3:00 AM	0					
3:15 AM	0					
3:30 AM	0					
3:45 AM	0					
4:00 AM	0					
4:15 AM	0					
4:30 AM	0					
4:45 AM	0					
5:00 AM	0					
5:15 AM	19	1				
5:30 AM	38	1				
5:45 AM	60	1				
6:00 AM	84	1				
6:15 AM	82	3				
6:30 AM	94	5				
6:45 AM	138	5				
7:00 AM	176	6				
7:15 AM	243	6				
7:30 AM	236	5				
7:45 AM	190	5				
8:00 AM	142	6				
8:15 AM	72	11				
8:30 AM	64	12				
8:45 AM	55	12				
9:00 AM	55	6				
9:15 AM	55	7				
9:30 AM	53	6				
9:45 AM	56	7				
10:00 AM	56	4				
10:15 AM	57	2				

Hourly Vehicular & Pedestrian Volume						
Hour Interval	Major Street Combined	Total of All Pedestrians Crossing Major Street Criterion A: 4-		Criterion B: 1-Hour		
Beginning At	Vehicles Per Hour (VPH)	Pedestrians Per Hour (PPH)	Hour Met on Figure 4C-6?	Hour Met on Figure 4C-8?		
10:30 AM	63	2				
10:45 AM	68	1				
11:00 AM	76	1				
11:15 AM	78	2				
11:30 AM	71	1				
11:45 AM	71	1				
12:00 PM	70	1				
12:15 PM	67	0				
12:30 PM	68	0				
12:30 PM	58	1				
1:00 PM	51	1				
1:15 PM	52	2				
1.13 PM	61	2				
1:45 DM	80	3				
2:00 PM	128	2				
2:00 PIVI	120	3				
2:15 PIVI	132	2				
2:30 PM	141	1				
2:45 PM	127	2				
3:00 PM	105	1				
3:15 PM	129	1				
3:30 PM	129	1				
3:45 PM	146	0				
4:00 PM	171	0				
4:15 PM	176	0				
4:30 PM	207	0				
4:45 PM	216	0				
5:00 PM	196	0				
5:15 PM	174	0				
5:30 PM	137	1				
5:45 PM	105	3				
6:00 PM	86	4				
6:15 PM	60	6				
6:30 PM	34	4				
6:45 PM	16	3				
7:00 PM	0					
7:15 PM	0					
7:30 PM	0					
7:45 PM	0					
8:00 PM	0					
8:15 PM	0					
8:30 PM	0					
8:45 PM	0					
9:00 PM	0					
9:15 PM	0					
9.30 PM	0					
9.45 DM	0					
10.00 PM	0					
10.00 F M	0					
10.13 FIVI	0					
10.30 PIVI	0					
11:45 PIVI	0					
1 11:00 PIVI	U		1	1		

# MUTCD Warrant 4 Page 3 of 4



# MUTCD Warrant 4 Page 4 of 4



MUTCD WARRANT 5, SCHOOL CROSSING								
Do schoolchildren (elementary through high school students) cross the major street?						Yes		
	Has consideration been	n given to i	molement other remedia	measures	such as warning signs an	d flashers		
		sch	nool speed zones, school o	rossing gua	ards. or a grade-separated	crossing?	Yes	
			• •	00	, , ,	0		
	Is the dis	tance to th	e nearest traffic control s	ignal along	the major street less thar	n 300 feet?	No	
	If the distance to t	ha naarast	traffic control signal alon	a the maio	r street is loss than 300 fo	ot will the		
	in the distance to t	nro	nosed traffic control signa	al restrict th	he progressive movement	of traffic?	No	
		pro	posca traine control sign		ie progressive movement	or traine.	110	
			Minimum of 20 sc	hoolchildre	en during the highest cros	sing hour?	Yes	
Has a traffic engineering study been co	nducted to determine t	the adequa	cy and frequency of gaps	in the vehi	cular traffic stream as rela	ited to the		i
	number and size of	groups of s	schoolchildren at an estab	lished scho	ool crossing across the ma	jor street?	No	
	Pedestrian	Gap Accept	tance Engineering and Tra	ffic Study E	Evaluation*			
					_			
Data Collection Date:			Sufficient	median for	major street Crossing 1?			
Day of the Week:			Sufficient	median for	major street Crossing 2?			
Study Duration	Crossing 1 (Stage	2 1)	Crossing 1 (Stage	2)	Crossing 2 (Stage	1)	Crossing 2 (Stage	2)
Study Period (mins)	Total Adequate Gaps	Met?	Total Adequate Gaps	_, Met?	Total Adequate Gaps	, Met?	Total Adequate Gaps	Met?
1 Morning		N/A		N/A		N/A		N/A
2 Afternoon		N/A		N/A		N/A		N/A
3		N/A		N/A		N/A		N/A
4		N/A		N/A		N/A		N/A
5		N/A		N/A		N/A		N/A
	Summary:	Not Met		Not Met		Not Met		Not Met

# **MUTCD WARRANT 6, COORDINATED SIGNAL SYSTEM\***

On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals

are so far apart that they do not provide the necessary degree of vehicular platooning. N/A

On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

N/A

\*Warrant 6 should not be applied where the resultant spacing of traffic control signals would be less than 1,000 feet.

# **Rover Boulevard/Grand Canyon Drive Intersection**

STUDY AND ANALYSIS INFORMATION						
-						
Municipality:	White Rock		Analysis Date:	9/9/2024		
County:	Los Alamos County		Conducted By:	SRIRAMA, LLC		
			Agency/Company Name:	SRIRAMA, LLC		
	Analysis Info	rmation				
		1				
Data Collection Date:	8/20 - 8/22/24					
Day of the Week:	Tue - Thurs					
In the Sector						
is the intersed	ction in a built-up area of an	isolated commu	unity of <10,000 population?	Yes		
	Majou Stuppt In	formation				
	iviajor street ir	iformation				
Major Street Name and Route Number:	Rover Boulevard					
Major Street Approach #1 Direction:	N-Bound					
Major Street Approach #2 Direction:	S-Bound					
	5 500110					
Number of Lanes for Mo	ving Traffic on Each Maior St	reet Approach:	1	LANE(S)		
Speed Limit or	85th Percentile Speed on th	e Major Street:	25	МРН		
	•	-				
	Minor Street Ir	formation				
-						
Minor Street Name and Route Number:	Grand Canyon Drive					
Minor Street Approach #1 Direction:	E-Bound					
Minor Street Approach #2 Direction:	W-Bound					
Number of Lanes for Mov	ving Traffic on Each Minor St	reet Approach:	1	LANE(S)		
TRAFF	TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS					
		Applicable?	Warrant Met?			

Warrant 1, Eight-Hour Vehicular Volume	Yes	No
Warrant 2, Four-Hour Vehicular Volume	Yes	No
Warrant 3, Peak Hour	Yes	No
Warrant 4, Pedestrian Volume	Yes	No
Warrant 5, School Crossing	Yes	No
Warrant 6, Coordinated Signal System	No	N/A
Warrant 7, Crash Experience	Yes	No
Warrant 8, Roadway Network	Yes	No
Warrant 9, Intersection Near a Grade Crossing	No	N/A

	ENTER V	OLUME DATA	PER 15 MINU	JTE INTERVAI	., PER APPRO	ACH
Time Ir	atorval	Major Street Approach #1	Major Street Approach #2	Major Street Combined	Minor Street Approach #1	Minor Street Approach #2
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 AM	12:14 AM	Volume	Volume		Volume	Volume
12:00 AM	12:14 AM			0		
12:13 AM	12:23 AM			0		
12:30 AM	12:59 AM			0		
1:00 AM	1.17 AM			0		
1.00 AM	1.14 AM			0		
1.13 AM	1:44 AM			0		
1:45 AM	1:59 AM			0		
2:00 AM	2.17 AM			0		
2:00 AM	2:14 AM			0		
2:10 AM	2:25 AM			0		
2:30 AM	2:59 AM			0		
2:45 AM	2:35 AM			0		
3.15 AM	3.14 AM			0		
3.13 AM	3.29 AN			0		
3:45 AM	3:59 AM			0		
3.43 AM	3.39 AN			0		
4:00 AM	4:14 AM			0		
4:10 AM	4.25 AM			0		
4:35 AM	4:59 AM			0		
5:00 AM	5:14 AM			0		
5:15 AM	5:29 AM			0		
5:30 AM	5:44 AM			0		
5:45 AM	5:59 AM			0		
6:00 AM	6:14 AM	9	2	11	4	13
6.15 AM	6:29 AM	15	2	17	3	14
6:30 AM	6:44 AM	16	2	18	3	16
6:45 AM	6:59 AM	19	4	23	4	21
7:00 AM	7:14 AM	20	3	23	3	16
7:15 AM	7:29 AM	30	11	41	5	25
7:30 AM	7:44 AM	42	15	57	12	33
7:45 AM	7:59 AM	43	16	59	14	42
8:00 AM	8:14 AM	46	16	62	34	34
8:15 AM	8:29 AM	25	14	39	11	15
8:30 AM	8:44 AM	26	11	37	6	15
8:45 AM	8:59 AM	20	13	33	6	11
9:00 AM	9:14 AM	18	14	32	9	10
9:15 AM	9:29 AM	14	8	22	4	6
9:30 AM	9:44 AM	13	13	26	5	12
9:45 AM	9:59 AM	13	9	22	5	6
10:00 AM	10:14 AM	11	13	24	7	12
10:15 AM	10:29 AM	14	13	27	7	9
10:30 AM	10:44 AM	14	13	27	7	8
10:45 AM	10:59 AM	12	12	24	7	9
11:00 AM	11:14 AM	15	14	29	10	9
11:15 AM	11:29 AM	10	14	24	17	8
11:30 AM	11:44 AM	17	13	30	8	9
11:45 AM	11:59 AM	14	20	34	12	11

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH						
		Major Street Approach #1	Major Street Approach #2	Major Street	Minor Street Approach #1	Minor Street Approach #2
Time Ir	nterval	(N-Bound)	(S-Bound)	Combined	(E-Bound)	(W-Bound)
Begin At	End Of	Volume	Volume	Total Volume	Volume	Volume
12:00 PM	12:14 PM	14	15	29	9	9
12:15 PM	12:29 PM	13	15	28	12	7
12:30 PM	12:44 PM	14	19	33	6	6
12:45 PM	12:59 PM	17	18	35	7	15
1:00 PM	1:14 PM	12	20	32	10	9
1:15 PM	1:29 PM	9	15	24	10	11
1:30 PM	1:44 PM	9	18	27	6	7
1:45 PM	1:59 PM	11	15	26	6	9
2:00 PM	2:14 PM	12	17	29	8	9
2:15 PM	2:29 PM	13	20	33	10	8
2:30 PM	2:44 PM	15	25	40	10	14
2:45 PM	2:59 PM	11	24	35	34	8
3:00 PM	3:14 PM	17	18	35	11	14
3:15 PM	3:29 PM	18	25	43	15	11
3:30 PM	3:44 PM	16	23	39	17	10
3:45 PM	3:59 PM	14	27	41	25	8
4:00 PM	4:14 PM	25	35	60	24	13
4:15 PM	4:29 PM	15	32	47	24	10
4:30 PM	4:44 PM	13	40	53	31	14
4·45 PM	4.20 PM	15	29	44	43	15
5:00 PM	5.14 PM	16	29	45	42	11
5:15 PM	5:29 PM	16	41	57	50	10
5:30 PM	5:44 PM	17	35	52	44	11
5:45 PM	5.59 PM	16	35	51	31	9
6:00 PM	6:14 PM	15	32	47	20	15
6:15 PM	6.29 PM	14	31	45	17	12
6:30 PM	6:44 PM	9	26	35	16	12
6:45 PM	6.20 PM	13	23	36	14	9
7:00 PM	7·14 PM	10	25	0		5
7:15 PM	7:29 PM			0		
7:30 PM	7:23 PM			0		
7:45 PM	7:59 PM			0		
8:00 PM	8·14 PM			0		
8.00 PM	8·29 PM			0		
8:30 PM	8:44 PM			0		
8:45 PM	8:59 PM			0		
9:00 PM	9.14 PM			0		
9:15 PM	9:29 PM			0		
9:30 PM	9:23 PM			0		
9:45 PM	9:59 PM			0		
10.00 PM	10.14 PM			0		
10.15 PM	10.29 PM			0		
10:30 PM	10:44 PM			0		
10.45 PM	10.20 PM			0		
11:00 PM	11:14 PM			0		
11.15 PM	11·29 PM			0		
11.13 PM	11·44 PM			0		
11:45 PM	11:59 PM			0		
Appr	oach Totals:	875	967	1842	755	660

#### MUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic		
on Each Approach		
Major Street:	1 Lane	
Minor Street:	1 Lane	

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?

Yes

#### Combination of Conditions A and B Necessary?\*: No

\*Only applicable for Warrant 1 if after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. See Section 4C.02 of the 2009 MUTCD for application.

	Condition A - Minimum Vehicular Volume								
Number of lanes for a	or moving traffic on each pproach	Vehicles per hour on major street (total of both approaches)			Vehicles per l	hour on higher-vol directio	ume minor street a on only)	approach (one	
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or More	1	600	480	420	336	150	120	105	84
2 or More	2 or More	600	480	420	336	200	160	140	112
1	2 or More	500	400	350	280	200	160	140	112

	Condition B - Interruption of Continuous Traffic								
Number of lanes fo a	or moving traffic on each pproach	Vehicles per hour on major street (total of both approaches)			Vehicles per l	hour on higher-vol directio	ume minor street a on only)	approach (one	
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or More	1	900	720	630	504	75	60	53	42
2 or More	2 or More	900	720	630	504	100	80	70	56
1	2 or More	750	600	525	420	100	80	70	56

Condition A Evaluation
Number of Unique Hours Met: 0 Condition A Satisfied? No
Condition B Evaluation
Number of Unique Hours Met: 0 Condition B Satisfied? No
Combination of Condition A and Condition B Evaluation
Number of Unique Hours Met for Condition A: N/A Number of Unique Hours Met for Condition B: N/A

Combination of Condition A and Condition B Satisfied? N/A

# MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each					
Approach					
Major Street: 1 Lane					
Minor Street: 1 Lane					

# Total Number of Unique Hours Met On Figure 4C-2 **0**

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH	Ver
on Major Street?	Yes

Hourly Vehicular Volume				
Hour Interval	Major Street Combined	Highest Minor Street Approach	Hour Mot?	
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)		
12:00 AM	0	0		
12:15 AM	0	0		
12:30 AM	0	0		
12:45 AM	0	0		
1:00 AM	0	0		
1:15 AM	0	0		
1:30 AM	0	0		
1:45 AM	0	0		
2:00 AM	0	0		
2:15 AM	0	0		
2:30 AM	0	0		
2:45 AM	0	0		
3:00 AM	0	0		
3:15 AM	0	0		
3:30 AM	0	0		
3:45 AM	0	0		
4:00 AM	0	0		
4:15 AM	0	0		
4:30 AM	0	0		
4:45 AM	0	0		
5:00 AM	0	0		
5:15 AM	11	13		
5:30 AM	28	27		
5:45 AM	46	43		
6:00 AM	69	64		
6:15 AM	81	67		
6:30 AM	105	78		
6:45 AM	144	95		
7:00 AM	180	116		
7:15 AM	219	134		
7:30 AM	217	124		
7:45 AM	197	106		
8:00 AM	171	75		
8:15 AM	141	51		
8:30 AM	124	42		
8:45 AM	113	39		
9:00 AM	102	34		
9:15 AM	94	36		
9:30 AM	99	39		
9:45 AM	100	35		
10:00 AM	102	38		
10:15 AM	107	35		
10:30 AM	104	41		
	_• .			

Hourly Vehicular Volume				
Hour Interval	Major Street Combined	Highest Minor Street Approach	Liour Mat 2	
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	Hour Met?	
10:45 AM	107	42		
11:00 AM	117	47		
11:15 AM	117	46		
11:30 AM	121	41		
11:45 AM	124	39		
12:00 PM	125	37		
12:15 PM	128	37		
12:30 PM	124	41		
12:45 PM	118	42		
1:00 PM	109	36		
1:15 PM	106	36		
1:30 PM	115	33		
1.45 PM	128	40		
2:00 PM	137	62		
2.15 PM	143	65		
2:30 PM	153	70		
2:30 PM	152	77		
3:00 PM	158	68		
3.00 PM	183	81		
3:30 PM	187	90		
3:45 PM	201	104		
3:43 P M	201	122		
4.00 PM	180	140		
4.13 FIVI	109	140		
4.30 PIVI	199	100		
4.43 PM	205	1/5		
5.15 DM	203	107		
5.13 FIVI	105	145		
	179	112		
5:45 PIVI	1/8	67		
6:00 PIVI	103	67		
6:15 PM	116	47		
6:30 PM	/1	30		
6:45 PM	36	14		
7:00 PM	0	0		
7:15 PM	0	0		
7:30 PM	0	0		
7:45 PM	0	0		
8:00 PM	0	0		
8:15 PM	0	0		
8:30 PM	0	0		
8:45 PM	0	0		
9:00 PM	0	0		
9:15 PM	0	0		
9:30 PM	0	0		
9:45 PM	0	0		
10:00 PM	0	0		
10:15 PM	0	0		
10:30 PM	0	0		
10:45 PM	0	0		
11:00 PM	0	0		

# MUTCD Warrant 2 Page 3 of 3



# **MUTCD WARRANT 3, PEAK HOUR**

Number of Lanes for Moving Traffic on Each		
Approach		
Major Street:	1 Lane	
Minor Street:	1 Lane	

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
Is this signal warrant being applied for an unusual case, such as office complexes,	

	is this signal warrant being applied for an anabula case, such as office complexes,
No	manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract
·	or discharge large numbers of vehicles over a short time?

Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-					
minute periods) of an average day are present*					
Does the total stopped time delay experienced by the traffic on one minor-street approach					
(one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-	No				
lane approach or 5 vehicle-hours for a two-lane approach?					
Does the volume on the same minor-street approach (one direction only) equal or exceed					
100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving	No				
lanes?					
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per					
hour for intersection with three approaches or 800 vehicles per hour for intersections with	No				
four or more approaches?					
*If applicable, attach all supporting calculations and documentation.					

Total Number of Unique Hours Met
On Figure 4C-4
0

	Hourly Vehicular Volume					
Hour Interval Major Street Combined		Highest Minor Street Approach	Hour Met?			
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	Hour Wet:			
12:00 AM	0	0				
12:15 AM	0	0				
12:30 AM	0	0				
12:45 AM	0	0				
1:00 AM	0	0				
1:15 AM	0	0				
1:30 AM	0	0				
1:45 AM	0	0				
2:00 AM	0	0				
2:15 AM	0	0				
2:30 AM	0	0				
2:45 AM	0	0				
3:00 AM	0	0				
3:15 AM	0	0				
3:30 AM	0	0				
3:45 AM	0	0				
4:00 AM	0	0				
4:15 AM	0	0				
4:30 AM	0	0				
4:45 AM	0	0				
5:00 AM	0	0				
5:15 AM	11	13				
5:30 AM	28	27				
5:45 AM	46	43				
6:00 AM	69	64				
6:15 AM	81	67				
6:30 AM	105	78				
6:45 AM	144	95				
7:00 AM	180	116				
7:15 AM	219	134				
7:30 AM	217	124				
7:45 AM	197	106				

Hourly Vehicular Volume						
Hour Interval	Major Street Combined	Highest Minor Street Approach	Hour Mot2			
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	Hour Met?			
8:00 AM	171	75				
8:15 AM	141	51				
8:30 AM	124	42				
8:45 AM	113	39				
9:00 AM	102	34				
9:15 AM	94	36				
9:30 AM	99	39				
9:45 AM	100	35				
10:00 AM	102	38				
10:15 AM	107	35				
10:30 AM	104	41				
10:45 AM	107	42				
11:00 AM	117	47				
11:15 AM	117	46				
11:30 AM	121	41				
11:45 AM	124	39				
12:00 PM	125	37				
12:15 PM	128	37				
12:30 PM	124	41				
12:45 PM	118	42				
1:00 PM	109	36				
1:15 PM	106	36				
1:30 PM	115	33				
1:45 PM	128	40				
2:00 PM	137	62				
2:15 PM	143	65				
2:30 PM	153	70				
2:45 PM	152	77				
3:00 PM	158	68				
3:15 PM	183	81				
3:30 PM	187	90				
3:45 PM	201	104				
4:00 PM	204	122				
4:15 PM	189	140				
4:30 PM	199	166				
4:45 PM	198	179				
5:00 PM	205	167				
5:15 PM	207	145				
5:30 PM	195	112				
5:45 PM	178	84				
6:00 PM	163	67				
6:15 PM	116	47				
6:30 PM	71	30				
6:45 PM	36	14	ļ			
7:00 PM	0	0				
7:15 PM	0	0				
7:30 PM	0	0				
7:45 PM	0	0	<u> </u>			
8:00 PM	0	0				
8:15 PM	0	0				
8:30 PM	0	0				
8:45 PM	0	0				
9:00 PM	0	0	<u> </u>			
9:15 PM	0	0				
9:30 PM	0	0	<u> </u>			
9:45 PM	0	0	<u> </u>			
10:00 PM	<u> </u>	0				
10:15 PM	0	U	<u> </u>			
10:30 PM	U 0	0				
11:45 PM	0	0				
	U	U U	1			

# MUTCD Warrant 3 Page 3 of 3



#### **MUTCD WARRANT 4, PEDESTRIAN VOLUME**

Built-up Isolated Community With Less Than 10,000 Population or Above 35 MPH on Major Street?	Yes
15th Percentile Pedestrian Crossing Speed Less than 3.5 f/s?*	No
*If applicable, attach all supporting calculations, documentation, and findings.	
Is the distance to the nearest traffic control signal or STOP sign controlling the major street that	
pedestrians desire to cross less than 300 feet?	No
If the distance to the nearest traffic control signal or STOP sign controlling the major street that	
pedestrians desire to cross is less than 300 feet, will the proposed traffic control signal restrict	
the progressive movement of traffic?*	No
*If applicable, attach supporting justification.	
Total Number of Unique Hours Met for Criterion A:	0
Total Number of Unique Hours Met for Criterion B:	0

	Hourly Vehicular & Pedestrian Volume						
Hour Interval	Major Street Combined	Total of All Pedestrians Crossing Major Street	Criterion A: 4-Hour	Criterion B: 1-Hour			
Beginning At	Vehicles Per Hour (VPH)	Pedestrians Per Hour (PPH)	Hour Met on Figure 4C-6?	Hour Met on Figure 4C-8?			
12:00 AM	0						
12:15 AM	0						
12:30 AM	0						
12:45 AM	0						
1:00 AM	0						
1:15 AM	0						
1:30 AM	0						
1:45 AM	0						
2:00 AM	0						
2:15 AM	0						
2:30 AM	0						
2:45 AM	0						
3:00 AM	0						
3:15 AM	0						
3:30 AM	0						
3:45 AM	0						
4:00 AM	0						
4:15 AM	0						
4:30 AM	0						
4:45 AM	0						
5:00 AM	0						
5:15 AM	11	1					
5:30 AM	28	1					
5:45 AM	46	1					
6:00 AM	69	1					
6:15 AM	81	2					
6:30 AM	105	5					
6:45 AM	144	6					
7:00 AM	180	9					
7:15 AM	219	10					
7:30 AM	217	13					
7:45 AM	197	16					
8:00 AM	171	15					
8:15 AM	141	30					
8:30 AM	124	24					
8:45 AM	113	23					
9:00 AM	102	8					
9:15 AM	94	7					
9:30 AM	99	7					
9:45 AM	100	8					
10:00 AM	102	5					
10:15 AM	107	5					

	Hourly Vehicular & Pedestrian Volume						
Hour Interval	Major Street Combined	Total of All Pedestrians Crossing Major Street	Criterion A: 4-Hour	Criterion B: 1-Hour			
Beginning At	Vehicles Per Hour (VPH)	Pedestrians Per Hour (PPH)	Hour Met on Figure 4C-6?	Hour Met on Figure 4C-8?			
10:30 AM	104	6					
10:45 AM	107	2					
11:00 AM	117	3					
11:15 AM	117	2					
11:30 AM	121	1					
11:45 AM	124	1					
12:00 PM	125	1					
12:15 PM	128	1					
12:30 PM	124	1					
12:45 PM	118	2					
1:00 PM	109	1					
1:15 PM	106	1					
1:30 PM	115	1					
1:45 PM	128	0					
2:00 PM	137	0					
2:15 PM	143	0					
2:30 PM	153	0					
2:45 PM	152	6					
3:00 PM	158	7					
3:15 PM	183	7					
3:30 PM	187	7					
3:45 PM	201	1					
4:00 PM	204	0					
4:15 PM	189	2					
4:30 PM	199	3					
4:45 PM	198	5					
5:00 PM	205	5					
5:15 PM	207	3					
5:30 PM	195	2					
5:45 PM	178	3					
6:00 PM	163	4					
6:15 PM	116	5					
6:30 PM	71	5					
6:45 PM	36	6					
7:00 PM	0						
7:15 PM	0						
7:30 PM	0						
7:45 PM	0						
8:00 PM	0						
8:15 PM	0						
8:30 PM	0						
8:45 PM	0						
9:00 PM	0						
9:15 PM	0						
9:30 PM	0						
9:45 PM	0						
10:00 PM	0						
10:15 PM	0						
10:30 PM	0						
10:45 PM	0						
11:00 PM	0						

# MUTCD Warrant 4 Page 3 of 4



# MUTCD Warrant 4 Page 4 of 4



	MUTCD WARRANT 5, SCHOOL CROSSING								
Do schoolchildren (elementary through high school students) cross the major street?							Yes		
					-				
		Has consideration bee	n given to i	mplement other remedial	measures	such as warning signs an	d flashers,		
			sch	iool speed zones, school c	rossing gu	ards, or a grade-separated	crossing?	No	
		ls the dis	tanco to th	o poprost traffic control si	anal along	the major street less than	200 foot2	No	
		is the dis			gilai along	the major street less than	Sourcer	NO	
		If the distance to t	he nearest	traffic control signal alon	g the majo	r street is less than 300 fee	et, will the		
			pro	posed traffic control signa	al restrict t	ne progressive movement	of traffic?	No	
				Minimum of 20 sc	hoolchildre	en during the highest cross	sing hour?	No	
Has a traffic engin	eering study been a	conducted to determine t	he adequa	cy and frequency of gans	in the vehi	cular traffic stream as rela	ted to the		
nus a traine engin	cering study seen t	number and size of	groups of s	choolchildren at an estab	lished scho	ol crossing across the ma	jor street?	No	
			0						
		Pedestrian	Gap Accept	tance Engineering and Tra	ffic Study I	valuation*			
<b>D</b> -			I	Cufficient.					
Da	ta Collection Date:			Sufficient	median for	major street Crossing 1?			
	Day of the week.			Sumeent					
Chudu Daviad	Study Duration	Crossing 1 (Stage	e 1)	Crossing 1 (Stage	2)	Crossing 2 (Stage	1)	Crossing 2 (Stage	2)
Study Period	(mins)	Total Adequate Gaps	Met?	Total Adequate Gaps	Met?	Total Adequate Gaps	Met?	Total Adequate Gaps	Met?
1 Morning			N/A		N/A		N/A		N/A
2 Afternoon			N/A		N/A		N/A		N/A
3			N/A		N/A		N/A		N/A
4			N/A		N/A		N/A		N/A
5		<b>6</b>	N/A		N/A		N/A		N/A
	l	Summary:	Not Met		Not Met		Not Met		Not Met

# **MUTCD WARRANT 6, COORDINATED SIGNAL SYSTEM\***

On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals

are so far apart that they do not provide the necessary degree of vehicular platooning. N/A

N/A

On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

\*Warrant 6 should not be applied where the resultant spacing of traffic control signals would be less than 1,000 feet.

Attachment C

#### **MUTCD WARRANT 7, CRASH EXPERIENCE**

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?

Number of Lanes for Moving Traffic on Each			
Approach			
Major Street:	1 Lane		
Minor Street: 1 Lane			

Has adequate trial of alternatives with satisfactory observance and enforcement failed to reduce the crash frequency $2$	No
	NO
Five or more reportable and/or non-reportable crashes, of types susceptible to correction by a traffic control signal, have occurred	
within a 12-month period during the most recent 3 years of available crash data.*	No
*If applicable, attach a summary of the crash data analysis used for this criterion.	
For each of any 8 hours of an average day, the vehicles per hour given in both the 80% columns of Condition A in Table 4C-1 exists	
on the major-street and the higher-volume minor-street approach, respectively, to the intersection.	No
For each of any 8 hours of an average day, the vehicles per hour given in both the 80% columns of Condition B in Table 4C-1 exists	
on the major-street and the higher-volume minor-street approach, respectively, to the intersection.	No
The volume of pedestrian traffic is not less than 80% of the requirements	
specified in Warrant 4, the Pedestrian Volume warrant.*	N/A
*If applicable, attach all supporting calculations and documentation.	
MUTCD WARRANT 8, ROADWAY NETWORK*	

Is the major street classified as an Urban Extension, Principal Arterial, or Minor Arterial that is a reasonable connection between two Principal Arterials and/or Urban Extensions as shown on the official Functional Classification Map? No

Does the intersection have a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1,2, and 3 during an average weekday? No

Does the intersection have a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday)? No

Is the major street part of the street or highway system that serves as the principal roadway network for through traffic flow? Yes

Does the major street include rural or suburban highways outside, entering, or traversing a city? No

Does the major street appear as a major route on an official plan, such as a major street plan in

an urban area traffic and transportation study? Yes

# Aragon Avenue/Grand Canyon Drive Intersection

STUDY AND ANALYSIS INFORMATION					
Municipality: County:	White Rock Los Alamos County		Analysis Date: Conducted By: Agency/Company Name:	9/9/2024 SRIRAMA, LLC SRIRAMA, LLC	
	Analysis Info	ormation			
Data Collection Date: Day of the Week: Is the intersed	8/20 - 8/22/24 Tue - Thurs ction in a built-up area of an	isolated commu	inity of <10,000 population?	Yes	
	Major Street Ir	formation			
	•				
Major Street Name and Route Number:	Aragon Avenue				
Major Street Approach #1 Direction:	N-Bound				
Major Street Approach #2 Direction:	S-Bound				
Number of Lanes for Mov Speed Limit or	ving Traffic on Each Major St 85th Percentile Speed on th	reet Approach: e Major Street:	1 25	LANE(S) MPH	
	Minor Street Ir	nformation			
Minor Street Name and Route Number: Minor Street Approach #1 Direction: Minor Street Approach #2 Direction:	Grand Canyon Drive E-Bound W-Bound				
Number of Lanes for Moving Traffic on Each Minor Street Approach: 1 LANE(S)					
TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS					
		Applicable?	Warrant Met?		

	Applicubic.	warrant wice.
Warrant 1, Eight-Hour Vehicular Volume	Yes	No
Warrant 2, Four-Hour Vehicular Volume	Yes	No
Warrant 3, Peak Hour	Yes	No
Warrant 4, Pedestrian Volume	Yes	No
Warrant 5, School Crossing	No	N/A
Warrant 6, Coordinated Signal System	No	N/A
Warrant 7, Crash Experience	Yes	No
Warrant 8, Roadway Network	Yes	No
Warrant 9, Intersection Near a Grade Crossing	No	N/A
	-	-

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH						
Time li	atonial	Major Street Approach #1	Major Street Approach #2	Major Street Combined	Minor Street Approach #1	Minor Street Approach #2
Rogin At	End Of	(N-Bound)	(S-Bound)	Total Valuma	(E-Bound)	(W-Bound)
12:00 AM	12:14 444	volume	volume		volume	volume
12:00 AIVI	12.14 AIVI			0		
12.15 AIVI	12.29 AIVI			0		
12:30 AIVI	12.44 AIVI			0		
12.45 AIVI	12.59 AIVI			0		
1:15 AM	1.14 AlVI			0		
1.13 AM	1.23 AM			0		
1:45 AM	1.44 AM			0		
2:00 AM	2.14 AM			0		
2:00 AM	2.14 AM			0		
2:10 AM	2:23 AN			0		
2:30 AM	2:59 AM			0		
3:00 AM	2:35 AM			0		
3:15 AM	3.14 AM			0		
3:30 AM	3:44 AM			0		
3:45 AM	3.59 AM			0		
1:00 AM	1.11 AM			0		
4:15 AM	4:29 AM			0		
4:30 AM	4:23 AM			0		
4:45 AM	4:59 AM			0		
5:00 AM	5·14 AM			0		
5:15 AM	5:29 AM			0		
5:30 AM	5:44 AM			0		
5:45 AM	5:59 AM			0		
6:00 AM	6:14 AM	6	2	8	0	5
6:15 AM	6:29 AM	5	1	6	0	3
6:30 AM	6:44 AM	5	2	7	1	2
6:45 AM	6:59 AM	6	1	7	1	5
7:00 AM	7:14 AM	9	1	10	1	3
7:15 AM	7:29 AM	9	2	11	3	8
7:30 AM	7:44 AM	14	3	17	5	8
7:45 AM	7:59 AM	20	3	23	7	6
8:00 AM	8:14 AM	12	5	17	7	7
8:15 AM	8:29 AM	10	5	15	5	3
8:30 AM	8:44 AM	8	4	12	2	4
8:45 AM	8:59 AM	6	4	10	3	2
9:00 AM	9:14 AM	7	4	11	5	4
9:15 AM	9:29 AM	5	2	7	2	3
9:30 AM	9:44 AM	7	2	9	3	4
9:45 AM	9:59 AM	7	2	9	2	4
10:00 AM	10:14 AM	9	3	12	3	5
10:15 AM	10:29 AM	6	3	9	3	3
10:30 AM	10:44 AM	9	7	16	3	3
10:45 AM	10:59 AM	3	3	6	3	3
11:00 AM	11:14 AM	5	5	10	7	2
11:15 AM	11:29 AM	5	5	10	6	2
11:30 AM	11:44 AM	8	4	12	4	2
11:45 AM	11:59 AM	5	3	8	3	5

ENTER VOLUME DATA PER 15 MINUTE INTERVAL, PER APPROACH							
		Major Street	Major Street	Major Street	Minor Street	Minor Street	
		Approacn #1	Approach #2	Combined	Approach #1	Approach #2	
lime ir	Iterval	(N-Bound)	(S-Bound)	Tatal)/aluma	(E-Bound)	(W-Bound)	
12:00 DM	12:14 DN4	voiume	voiume	Iotal volume	voiume	voiume	
12:00 PM	12:14 PIM	/	5	12	3	3	
12:15 PIVI	12:29 PIVI	4	5	9	4	2	
12:30 PIVI	12:44 PIVI	4	<u>ح</u>	9	3	3	
12.45 PIVI	1:14 DM	/	7	14	4 E	5	
1.00 PIVI	1.14 PIVI	4 5	5	9	5	4	
1.13 PIVI	1.29 PIVI	5	5	10	5		
1.30 FIVI	1.44 F M	3	З Л	10	3	2	
2:00 PM	2.33 FIM	4	4	0 Q	3	2	
2:00 F M	2.14 PM		3	9		3	
2:10 PM	2:23 F M	6	6	12	5	3	
2:36 PM	2:44 PM	3	13	16	7	<u>5</u> 6	
3:00 PM	3:14 PM	9	4	13	3	4	
3.15 PM	3.29 PM	10	6	16	7	3	
3:30 PM	3:44 PM	7	9	16	8	4	
3:45 PM	3:59 PM	4	5	9	8	5	
4:00 PM	4:14 PM	8	9	17	8	5	
4:15 PM	4:29 PM	7	6	13	9	3	
4:30 PM	4:44 PM	7	9	16	10	5	
4:45 PM	4:59 PM	7	10	17	9	5	
5:00 PM	5:14 PM	10	11	21	16	4	
5:15 PM	5:29 PM	7	7	14	16	3	
5:30 PM	5:44 PM	6	9	15	18	4	
5:45 PM	5:59 PM	7	6	13	16	5	
6:00 PM	6:14 PM	12	6	18	6	3	
6:15 PM	6:29 PM	7	8	15	10	3	
6:30 PM	6:44 PM	7	8	15	8	2	
6:45 PM	6:59 PM	6	6	12	8	5	
7:00 PM	7:14 PM			0			
7:15 PM	7:29 PM			0			
7:30 PM	7:44 PM			0			
7:45 PM	7:59 PM			0			
8:00 PM	8:14 PM			0			
8:15 PM	8:29 PM			0			
8:30 PM	8:44 PM			0			
8:45 PM	8:59 PM			0			
9:00 PM	9:14 PM			0			
9:15 PM	9:29 PM			0			
9:30 PM	9:44 PM			0			
9:45 PM	9:59 PM			0			
10:00 PM	10:14 PM			0			
10:15 PM	10:29 PM			0			
10:30 PM	10:44 PM			0			
10:45 PM	10:59 PM			0			
11:00 PM	11:14 PM			0			
11:15 PM	11:29 PM			0			
11:30 PM	11:44 PM			0			
11:45 PM	11:59 PM			0			
Appr	oach Totals:	366	263	629	292	197	

#### MUTCD WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic			
on Each Approach			
Major Street: 1 Lane			
Minor Street: 1 Lane			

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?

Yes

#### Combination of Conditions A and B Necessary?\*: No

\*Only applicable for Warrant 1 if after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. See Section 4C.02 of the 2009 MUTCD for application.

	Condition A - Minimum Vehicular Volume								
Number of lanes for a	or moving traffic on each pproach	Vehicles per hour on major street (total of both approaches)				Vehicles per l	hour on higher-vol directio	ume minor street a on only)	approach (one
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or More	1	600	480	420	336	150	120	105	84
2 or More	2 or More	600	480	420	336	200	160	140	112
1	2 or More	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic									
Number of lanes fo aj	or moving traffic on each pproach	Vehicles per hour on major street (total of both approaches)			Vehicles per l	hour on higher-vol directio	ume minor street a on only)	approach (one	
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or More	1	900	720	630	504	75	60	53	42
2 or More	2 or More	900	720	630	504	100	80	70	56
1	2 or More	750	600	525	420	100	80	70	56

Condition A Evaluation					
Number of Unique Hours Met: 0 Condition A Satisfied? No					
Condition B Evaluation					
Number of Unique Hours Met: 0 Condition B Satisfied? No					
Combination of Condition A and Condition B Evaluation					
Number of Unique Hours Met for Condition A: N/A Number of Unique Hours Met for Condition B: N/A					

Combination of Condition A and Condition B Satisfied? N/A

# MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Number of Lar	nes for Moving Traffic on Each Approach				
Major Street:	treet: 1 Lane				
Minor Street:	1 Lane				

# Total Number of Unique Hours Met On Figure 4C-2 **0**

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH	Vec
on Major Street?	Yes

Hourly Vehicular Volume						
Hour Interval	Major Street Combined	Highest Minor Street Approach	Hour Mot?			
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	Hour Wet:			
12:00 AM	0	0				
12:15 AM	0	0				
12:30 AM	0	0				
12:45 AM	0	0				
1:00 AM	0	0				
1:15 AM	0	0				
1:30 AM	0	0				
1:45 AM	0	0				
2:00 AM	0	0				
2:15 AM	0	0				
2:30 AM	0	0				
2:45 AM	0	0				
3:00 AM	0	0				
3:15 AM	0	0				
3:30 AM	0	0				
3:45 AM	0	0				
4:00 AM	0	0				
4:15 AM	0	0				
4:30 AM	0	0				
4:45 AM	0	0				
5:00 AM	0	0				
5:15 AM	8	5				
5:30 AM	14	8				
5:45 AM	21	10				
6:00 AM	28	15				
6:15 AM	30	13				
6:30 AM	35	18				
6:45 AM	45	24				
7:00 AM	61	25				
7:15 AM	68	29				
7:30 AM	72	24				
7:45 AM	67	21				
8:00 AM	54	17				
8:15 AM	48	15				
8:30 AM	40	13				
8:45 AM	37	13				
9:00 AM	36	15				
9:15 AM	37	16				
9:30 AM	39	16				
9:45 AM	46	15				
10:00 AM	43	14				
10:15 AM	41	16				
10:30 AM	42	19				

Hourly Vehicular Volume						
Hour Interval	Major Street Combined	Highest Minor Street Approach	Have Mad 2			
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	Hour Met?			
10:45 AM	38	20				
11:00 AM	40	20				
11:15 AM	42	16				
11:30 AM	41	14				
11:45 AM	38	13				
12:00 PM	44	14				
12:15 PM	41	16				
12:30 PM	42	17				
12:45 PM	43	19				
1:00 PM	37	18				
1:15 PM	37	17				
1:30 PM	36	17				
1:45 PM	38	17				
2:00 PM	46	21				
2:15 PM	50	20				
2:30 PM	57	22				
2:45 PM	61	25				
3:00 PM	54	26				
3.00 PM	58	31				
3.30 PM	55	33				
3:45 PM	55	35				
4:00 PM	63	36				
4:00 T M	67	30				
4:10 PM	68	51				
4:30 T M	67	59				
4.45 PM	63	55				
5.00 PW	60	56				
5.20 PM	61	50				
5.30 FIVI	61	30				
5.45 PIVI	60	40				
	43	32				
0.15 PIVI	42	20				
6:45 DM	27	10				
0.45 PIVI	12	8				
7:00 PIVI	0	0				
7:15 PM	0	0				
7:30 PM	0	0				
7:45 PIVI	0	0				
8:00 PM	0	0				
8:15 PM	0	0				
8:30 PM	0	0				
8:45 PM	0	0				
9:00 PM	0	0				
9:15 PM	0	0				
9:30 PM	0	0				
9:45 PM	0	0				
10:00 PM	0	0				
10:15 PM	0	0				
10:30 PM	0	0				
10:45 PM	0	0				
11:00 PM	0	0				

# MUTCD Warrant 2 Page 3 of 3



# **MUTCD WARRANT 3, PEAK HOUR**

Number of Lanes for Moving Traffic on Each			
Approach			
Major Street:	1 Lane		
Minor Street:	1 Lane		

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	Yes
Is this signal warrant being applied for an unusual case, such as office complexes,	

<b>'</b>	is this signal warrant being applied for an unusual case, such as office complexes,		
t No	manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract		
?	or discharge large numbers of vehicles over a short time?		

Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-			
minute periods) of an average day are present*			
Does the total stopped time delay experienced by the traffic on one minor-street approach			
(one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-	No		
lane approach or 5 vehicle-hours for a two-lane approach?			
Does the volume on the same minor-street approach (one direction only) equal or exceed			
100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving	No		
lanes?			
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per			
hour for intersection with three approaches or 800 vehicles per hour for intersections with	No		
four or more approaches?			
*If applicable, attach all supporting calculations and documentation.			

Total Number of Unique Hours Met
On Figure 4C-4
0

Hourly Vehicular Volume			
Hour Interval	Major Street Combined	Highest Minor Street Approach	Hour Mot2
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	Hour Wet:
12:00 AM	0	0	
12:15 AM	0	0	
12:30 AM	0	0	
12:45 AM	0	0	
1:00 AM	0	0	
1:15 AM	0	0	
1:30 AM	0	0	
1:45 AM	0	0	
2:00 AM	0	0	
2:15 AM	0	0	
2:30 AM	0	0	
2:45 AM	0	0	
3:00 AM	0	0	
3:15 AM	0	0	
3:30 AM	0	0	
3:45 AM	0	0	
4:00 AM	0	0	
4:15 AM	0	0	
4:30 AM	0	0	
4:45 AM	0	0	
5:00 AM	0	0	
5:15 AM	8	5	
5:30 AM	14	8	
5:45 AM	21	10	
6:00 AM	28	15	
6:15 AM	30	13	
6:30 AM	35	18	
6:45 AM	45	24	
7:00 AM	61	25	
7:15 AM	68	29	
7:30 AM	72	24	
7:45 AM	67	21	

Hourly Vehicular Volume			
Hour Interval	Major Street Combined	Highest Minor Street Approach	Have Mat 2
Beginning At	Vehicles Per Hour (VPH)	Vehicles Per Hour (VPH)	Hour Met?
8:00 AM	54	17	
8:15 AM	48	15	
8:30 AM	40	13	
8:45 AM	37	13	
9:00 AM	36	15	
9:15 AM	37	16	
9:30 AM	39	16	
9:45 AM	46	15	
10:00 AM	43	14	
10·15 AM	41	16	
10:30 AM	42	19	
10:45 AM	38	20	
11:00 AM	40	20	
11·15 AM	42	16	
11:10 AM	42	14	
11:30 AM	38	13	
12:00 PM	44	14	
12:00 FM	<u></u>	16	
12:13 FIV	41	17	
12.30 PIVI	42	10	
1.00 PM	40	10	
	27	10	
1:15 PIVI	37	17	
1:30 PIVI	30	17	
1:45 PIVI	30	1/	
2.00 PIVI	48	21	
2:15 PIVI	50	20	
2:30 PIVI	57	22	
2:45 PM	61	25	
3:00 PIVI	54	20	
3:15 PM	58	31	
3:30 PM	55	33	
3:45 PM	55	35	
4:00 PM	63	36	
4:15 PM	6/	44	
4:30 PM	68	51	
4:45 PM	67	59	
5:00 PM	63	66	
5:15 PM	60	56	
5:30 PM	61	50	
5:45 PM	61	40	
6:00 PM	6U	32	
6:15 PM	42	26	
		10	
6:45 PM	12	8	
7:00 PIVI	0	0	
7:15 PM	0	0	
7:30 PM	U		
7:45 PM	0	0	
8:00 PM	0	0	
8:15 PIM	U0	0	
8:30 PM	0	0	
6:45 PIVI	0	0	
9:00 PIVI	U0	0	
9:15 PM	0		
9:30 PM	0	0	
9:45 PM	0		
10:00 PM	<u> </u>		
10:15 PM	<u> </u>	0	
10:30 PM	<u> </u>	0	
10:45 PM	0	0	
11:00 PM	0	0	

# MUTCD Warrant 3 Page 3 of 3


### **MUTCD WARRANT 4, PEDESTRIAN VOLUME**

Built-up Isolated Community With Less Than 10,000 Population or Above 35 MPH on Major Street?	Yes
15th Percentile Pedestrian Crossing Speed Less than 3.5 f/s?*	No
*If applicable, attach all supporting calculations, documentation, and findings.	
Is the distance to the period traffic control signal or STOP sign controlling the major street that	
is the distance to the hearest tranic control signal of 510F sign controlling the major street that	••
pedestrians desire to cross less than 300 feet?	No
If the distance to the nearest traffic control signal or STOP sign controlling the major street that pedestrians desire to cross is less than 300 feet, will the proposed traffic control signal restrict	
the progressive movement of traffic?*	No
*If applicable, attach supporting justification.	
Total Number of Unique Hours Met for Criterion A:	0
Total Number of Unique Hours Met for Criterion B:	0

Hourly Vehicular & Pedestrian Volume				
Hour Interval	Major Street Combined	Total of All Pedestrians Crossing Major Street	Criterion A: 4-Hour	Criterion B: 1-Hour
Beginning At	Vehicles Per Hour (VPH)	Pedestrians Per Hour (PPH)	Hour Met on Figure 4C-6?	Hour Met on Figure 4C-8?
12:00 AM	0			
12:15 AM	0			
12:30 AM	0			
12:45 AM	0			
1:00 AM	0			
1:15 AM	0			
1:30 AM	0			
1:45 AM	0			
2:00 AM	0			
2:15 AM	0			
2:30 AM	0			
2:45 AM	0			
3:00 AM	0			
3:15 AM	0			
3:30 AM	0			
3:45 AM	0			
4:00 AM	0			
4:15 AM	0			
4:30 AM	0			
4:45 AM	0			
5:00 AM	0			
5:15 AM	8	0		
5:30 AM	14	0		
5:45 AM	21	0		
6:00 AM	28	0		
6:15 AM	30	3		
6:30 AM	35	5		
6:45 AM	45	10		
7:00 AM	61	14		
7:15 AM	68	11		
7:30 AM	72	11		
7:45 AM	67	9		
8:00 AM	54	8		
8:15 AM	48	17		
8:30 AM	40	18		
8:45 AM	37	17		
9:00 AM	36	8		
9:15 AM	37	9		
9:30 AM	39	8		
9:45 AM	46	6		
10:00 AM	43	5		
10:15 AM	41	3		

Hourly Vehicular & Pedestrian Volume				
Hour Interval	Major Street Combined	Total of All Pedestrians Crossing Major Street	Criterion A: 4-Hour	Criterion B: 1-Hour
Beginning At	Vehicles Per Hour (VPH)	Pedestrians Per Hour (PPH)	Hour Met on Figure 4C-6?	Hour Met on Figure 4C-8?
10:30 AM	42	2		
10:45 AM	38	2		
11:00 AM	40	1		
11:15 AM	42	1		
11:30 AM	41	0		
11:45 AM	38	2		
12:00 PM	44	2		
12:15 PM	41	2		
12:30 PM	42	4		
12:45 PM	43	2		
1:00 PM	37	2		
1:15 PM	37	2		
1:30 PM	36	0		
1:45 PM	38	0		
2:00 PM	46	0		
2:15 PM	50	0		
2:30 PM	57	1		
2:45 PM	61	3		
3:00 PM	54	3		
3:15 PM	58	3		
3:30 PM	55	2		
3:45 PM	55	2		
4:00 PM	63	3		
4:15 PM	67	3		
4:30 PM	68	4		
4:45 PM	67	3		
5:00 PM	63	3		
5:15 PM	60	3		
5:30 PM	61	2		
5:45 PM	61	5		
6:00 PM	60	5		
6:15 PM	42	6		
6:30 PM	27	4		
6:45 PM	12	4		
7:00 PM	0			
7:15 PM	0			
7:30 PM	0			
7:45 PM	0			
8:00 PM	0			
8:15 PM	0			
8:30 PM	0			
8:45 PM	0			
9:00 PM	0			
9:15 PM	0			
9:30 PM	0			
9:45 PM	0			
10:00 PM	0			
10:15 PM	0			
10:30 PM	0			
10:45 PM	0			
11:00 PM	0			

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# MUTCD Warrant 4 Page 4 of 4



#### **MUTCD WARRANT 7, CRASH EXPERIENCE**

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?

Number of Lanes for Moving Traffic on Each		
Major Street:	1 Lane	
Minor Street:	1 Lane	

Has adequate trial of alternatives with satisfactory observance and enforcement failed to reduce the crash frequency?	No
Five or more reportable and/or non-reportable crashes, of types susceptible to correction by a traffic control signal, have occurred	
within a 12-month period during the most recent 3 years of available crash data.*	No
*If applicable, attach a summary of the crash data analysis used for this criterion. $\Box$	
For each of any 8 hours of an average day, the vehicles per hour given in both the 80% columns of Condition A in Table 4C-1 exists	
on the major-street and the higher-volume minor-street approach, respectively, to the intersection.	No
For each of any 8 hours of an average day, the vehicles per hour given in both the 80% columns of Condition B in Table 4C-1 exists	
on the major-street and the higher-volume minor-street approach, respectively, to the intersection.	No
The volume of pedestrian traffic is not less than 80% of the requirements	
specified in Warrant 4, the Pedestrian Volume warrant.*	N/A
*If applicable, attach all supporting calculations and documentation.	
MUTCD WARRANT & ROADWAY NETWORK*	

Is the major street classified as an Urban Extension, Principal Arterial, or Minor Arterial that is a reasonable connection between two Principal Arterials and/or Urban Extensions as shown on the official Functional Classification Map? No

Does the intersection have a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1,2, and 3 during an average weekday? No

Does the intersection have a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday)? No

Is the major street part of the street or highway system that serves as the principal roadway network for through traffic flow? Yes

Does the major street include rural or suburban highways outside, entering, or traversing a city? No

Does the major street appear as a major route on an official plan, such as a major street plan in

an urban area traffic and transportation study? Yes

#### **MUTCD WARRANT 7, CRASH EXPERIENCE**

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?

Number of Lanes for Moving Traffic on Each		
Approach		
Major Street:	1 Lane	
Minor Street:	1 Lane	

	Ne
Has adequate that of alternatives with satisfactory observance and enforcement failed to reduce the crash frequency (	NO
Five or more reportable and/or non-reportable crashes, of types susceptible to correction by a traffic control signal, have occurred	
within a 12-month period during the most recent 3 years of available crash data.*	No
*If applicable, attach a summary of the crash data analysis used for this criterion.	
For each of any 8 hours of an average day, the vehicles per hour given in both the 80% columns of Condition A in Table 4C-1 exists	
on the major-street and the higher-volume minor-street approach, respectively, to the intersection.	No
For each of any 8 hours of an average day, the vehicles per hour given in both the 80% columns of Condition B in Table 4C-1 exists	
on the major-street and the higher-volume minor-street approach, respectively, to the intersection.	No
The volume of pedestrian traffic is not less than 80% of the requirements	
specified in Warrant 4, the Pedestrian Volume warrant.*	N/A
*If applicable, attach all supporting calculations and documentation.	
MUTCD WARRANT 8, ROADWAY NETWORK*	
Is the major street classified as an Urban Extension, Principal Arterial, or Minor Arterial that is a reasonable c	connection between two
Principal Arterials and/or Urban Extensions as shown on the official Function	onal Classification Map? No

Does the intersection have a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1,2, and 3 during an average weekday? No

Does the intersection have a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday)? No

Is the major street part of the street or highway system that serves as the principal roadway network for through traffic flow? Yes

Does the major street include rural or suburban highways outside, entering, or traversing a city? No

Does the major street appear as a major route on an official plan, such as a major street plan in

an urban area traffic and transportation study? Yes