

NORTHRIDGE ELEMENTARY TO BEAR CANYON ELEMENTARY CONSOLIDATION

Traffic Impact Study

Project Number: 1124175

Prepared For: Douglas County
School District

March 21, 2025



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Prepared For: Douglas County School District
Planning and Construction
2808 Highway 85, Building B
Castle Rock, Colorado 80109

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EXECUTIVE SUMMARY

Douglas County School District is considering options for consolidating schools in Highlands Ranch, Colorado. One option being considered is moving Northridge Elementary into Bear Canyon Elementary. This traffic impact study addresses existing traffic patterns and potential traffic challenges at Bear Canyon Elementary, while considering the anticipated increase in traffic caused by the school consolidation.

Bear Canyon has one parking lot with a singular access off Salford Lane. The parking lot has a dedicated left turn lane and a shared right turn lane at the exit. There are no pick-up or drop-off lanes, but there are shoulders for westbound traffic on Burntwood Way intended as pick-up and drop-off locations. Pedestrian crosswalks are located at the intersection of Salford Lane at Burntwood Way, and on Burntwood Way, approximately 600 feet east of Salford Lane. Because nearly all of Bear Canyon's attendance region lies within a 1-mile walking radius of the school, bus service is not provided. Bus service will be expanded for Northridge students who qualify after relocating to Bear Canyon.

The projected 2028-2029 combined enrollment is 717 students. The projected combined enrollment numbers are 17 percent more than the previous maximum Bear Canyon enrollment.

When the existing traffic at Northridge is relocated to Bear Canyon, additional students will be eligible to take the bus. When the existing traffic is relocated to the new school, additional students will be eligible to take the bus. Students who currently walk to Northridge are unlikely to walk to Bear Canyon due to distance and crossing a major roadway, therefore, it is assumed that these students will now be driven to school and count as a new vehicular trip to Bear Canyon. Taking into account the estimated street parking trips, the ingress/egress trips, pedestrians and bicyclists converted to vehicle trips, anticipated carpooling and the subtraction of new bus ridership, the resulting increase in trip demand for Bear Canyon is about 380 trips during the morning peak hour and 316 trips during the afternoon peak hour.

Traffic will be increased with the additional enrollment, but additional bus service will be offered, limiting the impact of the increased enrollment. Although historic enrollment levels suggest Bear Canyon could accommodate the increased traffic, more vehicles and pedestrians are expected. To address existing and potential future traffic challenges the following mitigation measures are recommended:

- Coordinate with Douglas County to monitor the signal timing at Broadway and Salford Lane and modify as needed. Douglas County has a robust traffic signal timing program which optimizes timing for prevailing conditions.
- Monitor the intersection of Broadway at Southpark Road for increased traffic safety concerns. If increased vehicle and pedestrian traffic causes safety concerns. Additional intersection improvements should be explored by Douglas County prior to DCSD consolidating any school into Northridge Elementary or Northridge Elementary to another school as either option will increase traffic into and out of the neighborhood.

1. INTRODUCTION

1.1 Study Purpose and Scope

The purpose of this Traffic Impact Study (TIS) is to discuss the existing traffic patterns at Bear Canyon Elementary (Bear Canyon) and potential mitigation measures for current traffic and potential increased traffic due to increased enrollment caused by school consolidations. A potential school consolidation option includes having Northridge Elementary (Northridge) consolidate into Bear Canyon.

The scope of this TIS includes assessing school driveways, nearby intersections, school parking lots, school drop-off and pick-up locations, traffic flow, bicycle and pedestrian facilities, and general traffic challenges at Bear Canyon.

1.2 Study Area

Bear Canyon Elementary School is located at 9660 Salford Lane in the central region of Highlands Ranch. The school is located near the intersection of Salford Lane and Burntwood Way. The parcel number for the property is 222910404043. A vicinity map showing the school's location is provided as **Figure 1**.



Figure 1 – Vicinity Map

The study area was determined through consultation with Douglas County School District (DCSD) and Douglas County and potentially impacted intersections were identified. Each school access and adjacent streets are included in the TIS study area as well as the following intersections:

- Broadway at Southpark Road
- Broadway at Salford Lane
- Highlands Ranch Parkway at Burntwood Way
- Salford Lane at Burntwood Way

Neighborhood local and collector streets are analyzed for safety challenges, bicycle and pedestrian facilities, parking availability, and queueing lengths. Larger intersections at arterial streets are analyzed for the same items, but also for accident history and traffic signal warrant criteria if a traffic signal is not present.

1.3 School Description

Bear Canyon

Bear Canyon has a start time of 8:40 AM and an end time of 3:30 PM. The school is located in the neighborhood to the southeast of the intersection of Broadway at Highlands Ranch Parkway. Bear Canyon has one parking lot with a singular access off Salford Lane. The parking lot has a dedicated left turn lane and a shared right turn lane at the exit. There are no pick-up or drop-off lanes, but there are shoulders for westbound traffic on Burntwood Way intended as pick-up and drop-off locations. Pedestrian crosswalks are located at the intersection of Salford Lane at Burntwood Way, and on Burntwood Way, approximately 600 feet east of Salford Lane. Bear Canyon has a maximum Capacity of 800 students but the largest enrollment since 2013 is 612 students.

Because nearly all of Bear Canyon's attendance region lies within a 1-mile walking radius of the school, bus service is not provided. **Figure 2** depicts Bear Canyon's local attendance boundary in green with the orange circle representing the walking radius.

Northridge

Northridge has a start time of 8:35 AM and an end time of 3:30 PM. The school is located in the neighborhood to the northeast of the intersection Broadway at Highlands Ranch Parkway. Northridge has a maximum Capacity of 1,000 students but the largest enrollment since 2013 is 743 students.

School bus service is provided for individuals within Northridge's attendance boundary but is restricted to individuals living more than one mile from the school. **Figure 3** depicts Northridge's local attendance boundary in yellow with the orange circle representing the walking radius. As of November 2024, 197 individuals are eligible to receive bus service, and 92 individuals have used the bus service which is a 47 percent rate. Most of the students attending Northridge do not live within 1 mile of Bear Canyon. Therefore, they would qualify for bus service to Bear Canyon.

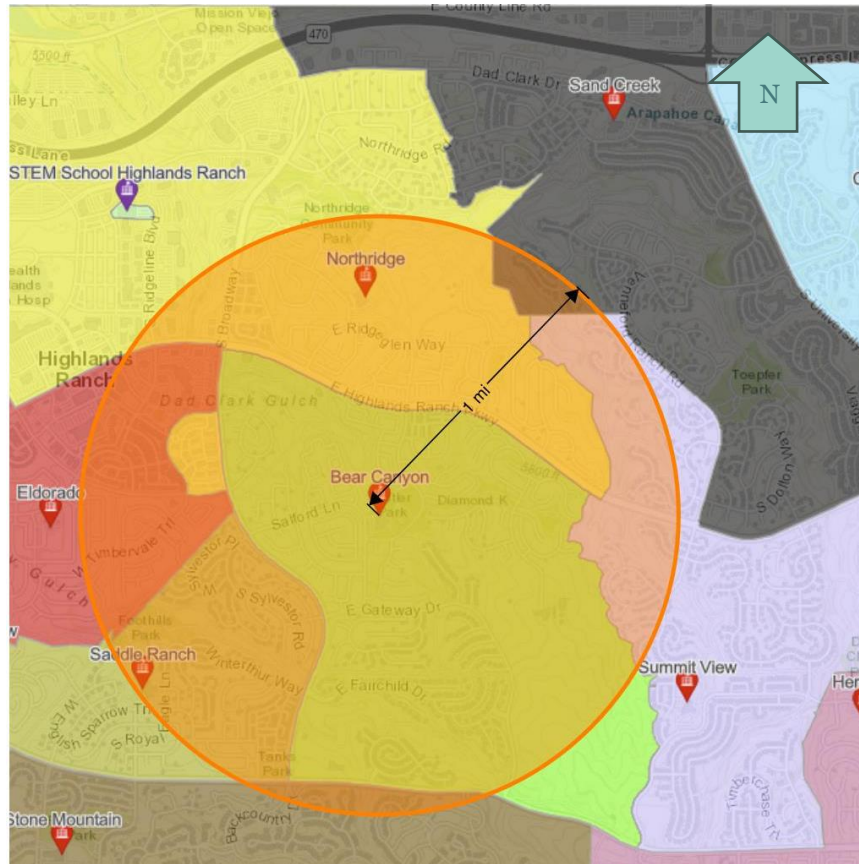


Figure 2 – Bear Canyon Bus Service Map

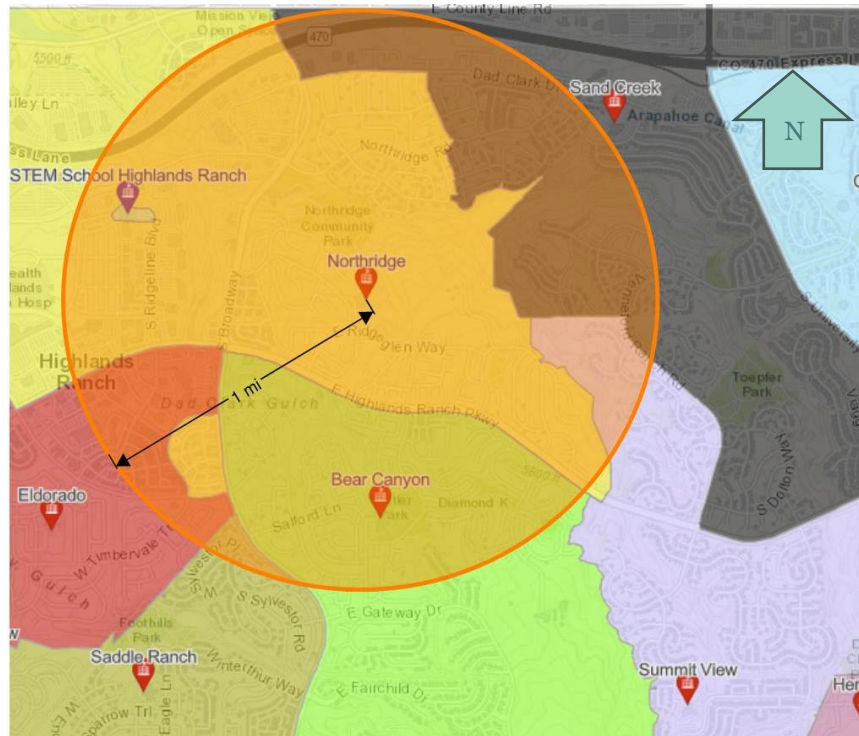


Figure 3 – Northridge Bus Service Map

2. EXISTING CONDITIONS

2.1 Site Observation

A site observation was performed at Bear Canyon on November 12, 2024. Field notes from the site observation are included in **Appendix A**. The morning site observation was conducted from 7:45 AM through 9:15 AM and the afternoon site observation was conducted from 2:45 PM through 4:00 PM. Key observations included:

- High volumes of street parking on Salford Lane.

2.2 Roadway Network

The Highlands Ranch roadway network is maintained by Douglas County. Bear Canyon is situated within a built-out neighborhood and is surrounded by local and neighborhood collector streets. The main accesses to the neighborhood are from Broadway at Salford Lane and Highlands Ranch Parkway at Burntwood Way with Broadway being the main arterial street closest to the school. Salford Lane extends from the school entrance to a signalized intersection at Broadway and a non-signalized intersection at Gateway Drive.

Northridge traffic driving to Bear Canyon will be split mainly between Broadway and Burntwood Way.

Figure 4 depicts the most likely routes that would be taken from Northridge to Bear Canyon.

School zone flashers operate from 8:10 to 8:50 AM and from 3:20 to 4:00PM. A singular flasher is located on Burntwood Way approximately 100 feet east of the school property line.

Broadway at Southpark Road

Northbound Broadway has three through lanes and a dedicated left-turn lane into the church parking lot with approximately 170 feet of storage and a 100-foot taper before transitioning to a striped median. There is no dedicated right-turn lane to turn onto Southpark Road. Southbound Broadway also has three through lanes, with a dedicated left-turn lane to turn onto Southpark Road. This lane has approximately 190 feet of storage with a 110-foot taper before transitioning to a striped median. Bike lanes are present on both directions of Broadway.

The westbound Southpark Road approach has a dedicated left-turn lane and a dedicated right-turn lane separated by a solid white stripe approximately 90 feet in length. Prior to the stripe, Southpark Road is one lane in each direction. There are no bike lanes on Southpark Road.



Figure 5 – Broadway at Southpark Road

Broadway at Salford Lane/Sylvestor Road

The intersection of Broadway at Salford Lane/Sylvestor Road is a signalized intersection with protected/permissive left-turn lanes/phases for southbound Broadway Traffic, and permissive left-turn lanes/phases for all other approaches. **Figure 5** shows an aerial of the intersection with the current intersection layout.

Northbound Broadway has two through lanes and a dedicated left-turn lane with approximately 150 feet of storage and a 120-foot taper before transitioning to a striped median. There is no dedicated right-turn lane to turn onto Salford Lane. Southbound Broadway also has two through lanes, with a dedicated left-turn lane to turn onto Salford Lane. This lane has approximately 240 feet of storage with a 120-foot taper before transitioning to a striped median. Bike lanes are present on both directions of Broadway.

The westbound Salford Lane approach has a dedicated left-turn lane, a dedicated right-turn lane, and one through lane. The turning lanes both contain approximately 70 feet of storage with a 40-foot taper. The Sylvestor Road eastbound approach contains one through lane of traffic in each direction and a dedicated left-turn lane with approximately 130 feet of storage. Bike lanes are present on Salford Lane, but merge with traffic before the intersection. There are no bike lanes on Sylvestor Road.

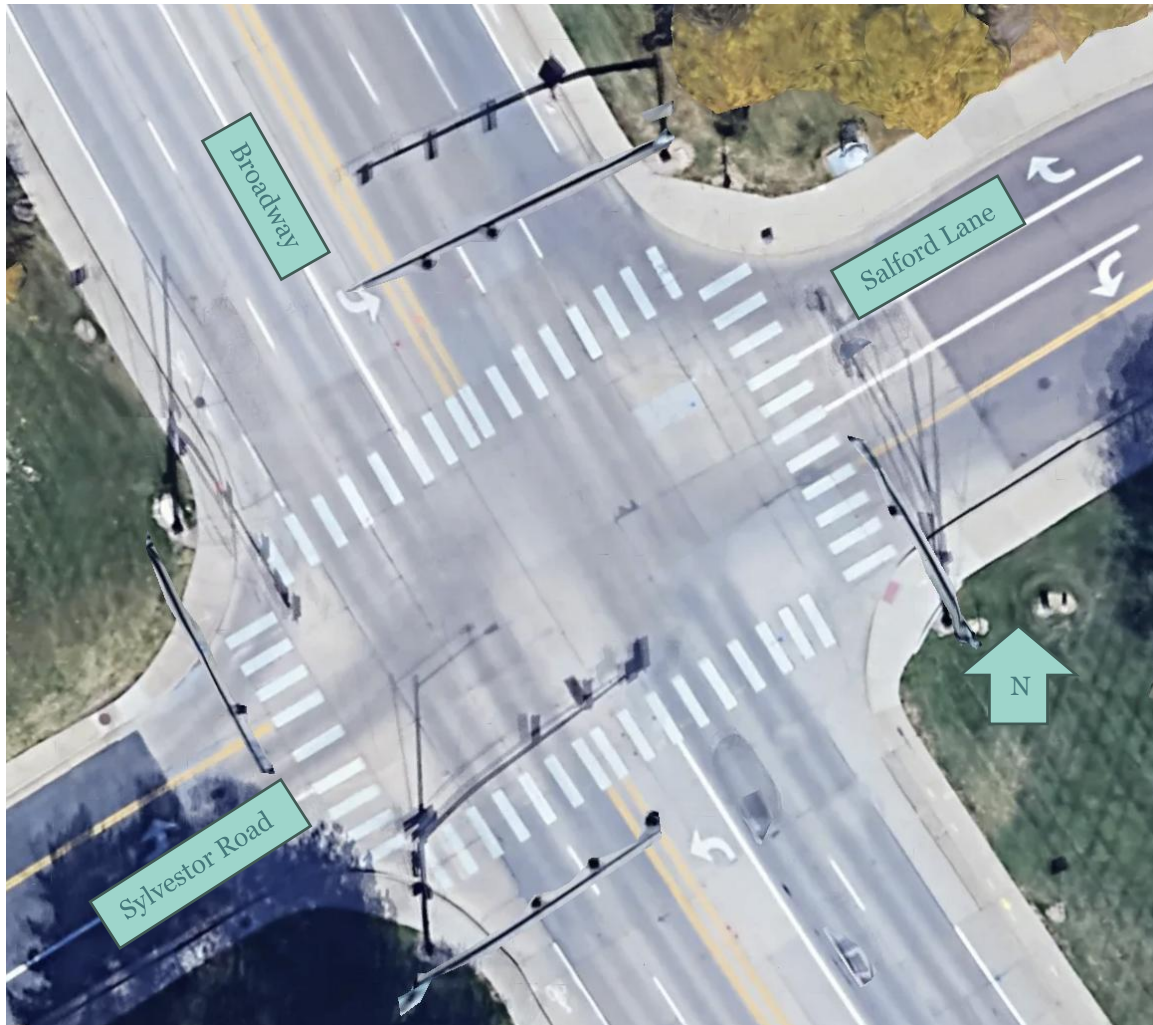


Figure 6 – Broadway at Salford Lane/Sylvester Road

Highlands Ranch Parkway at Burntwood Way

The intersection of Highlands Ranch Parkway at Burntwood Way is a signalized intersection with protected/permissive left-turn lanes/phases for Highlands Ranch Parkway Traffic and permissive movements for Burntwood Way. **Figure 7** shows an aerial of the intersection with the current intersection layout.

Eastbound Highlands Ranch Parkway contains three lanes of through traffic and a left-turn lane with approximately 130 feet of storage and a 120-foot taper before transitioning to a striped median. There is no dedicated right-turn lane. Westbound Highlands Ranch Parkway contains three lanes of through traffic and a left-turn lane with approximately 150 feet of storage and a 140-foot taper before transitioning to a striped median. There is no dedicated right-turn lane. Bike lanes are present for both eastbound and westbound traffic on Highlands Ranch Parkway.

The northbound Burntwood Way approach contains one through lane, a dedicated left-turn lane, and a dedicated right-turn lane. The turn lanes contain approximately 60 feet of storage and have a 60-foot taper. The southbound Burntwood Way approach also contains one through lane, a dedicated left-turn lane, and a dedicated right-turn lane. The turn lanes contain approximately 70 feet of storage and have a 40-foot taper. Bike lanes are present in each direction on each approach for Burntwood way, but merge with traffic prior to the intersection.



Figure 7 – Highlands Ranch Parkway at Burntwood Way

Salford Lane and Burntwood Way

The intersection of Southpark Road at Burntwood Way is an unsignalized, three-way intersection. **Figure 8** shows an aerial of the intersection with the current intersection layout. The intersection is controlled by stop signs in all directions. All approaches have a through lane only, except for the northbound approach of Salford Lane, which contains approximately 50 feet of storage for a right-turn lane. Bike lanes are present in both directions on Burntwood Way and in both directions on Salford Lane north of the intersection.



Figure 8 – Salford Lane at Burntwood Way

Roadway Characteristics

General features of the roadways along the most likely route from Northridge to Bear Canyon are summarized in **Table 1**.

Table 1 – Roadway Characteristics

Roadway	Southpark Road	Broadway	Salford Lane	Burntwood Way
Speed Limit	25 mph	45 mph	25 mph	25 mph
Number of Through Lanes	2	6	2	2
Lane Width	16 feet*	12 feet	17 feet*	11 feet
Bike Lane Width	None	6 feet	5 feet	5 feet
Median	None	Striped	None	None
On-Street Parking	Both Sides	None	East side near school	North Side near School

*Width is defined as distance from centerline to edge of pavement.

2.3 Traffic Volumes

Traffic data collection was conducted by Rekor Systems (All Traffic Data) on Wednesday, November 13, 2024. Traffic volumes were collected at the following applicable intersections:

- Highlands Ranch Parkway at Burntwood Way
- Broadway at Southpark Road
- Broadway at Salford Lane
- Salford Lane at Parking Lot Access
- Salford Lane at Burntwood Way

Traffic count data is summarized in **Table 2** and is included in **Appendix B**. The existing traffic is shown in **Figure 9**.

2.4 Existing Level of Service

The existing capacity analysis for the key intersections included in **Table 2** was evaluated using Synchro 11 Software (Synchro). The resulting level of service (LOS) and delay are summarized in **Table 8** provided in **Section 4** of this report for comparison to the future projected traffic capacity analysis.

Existing traffic signal timing plans provided by Douglas County are included in **Appendix C**.

Level of service reports from Synchro are included in **Appendix D**.

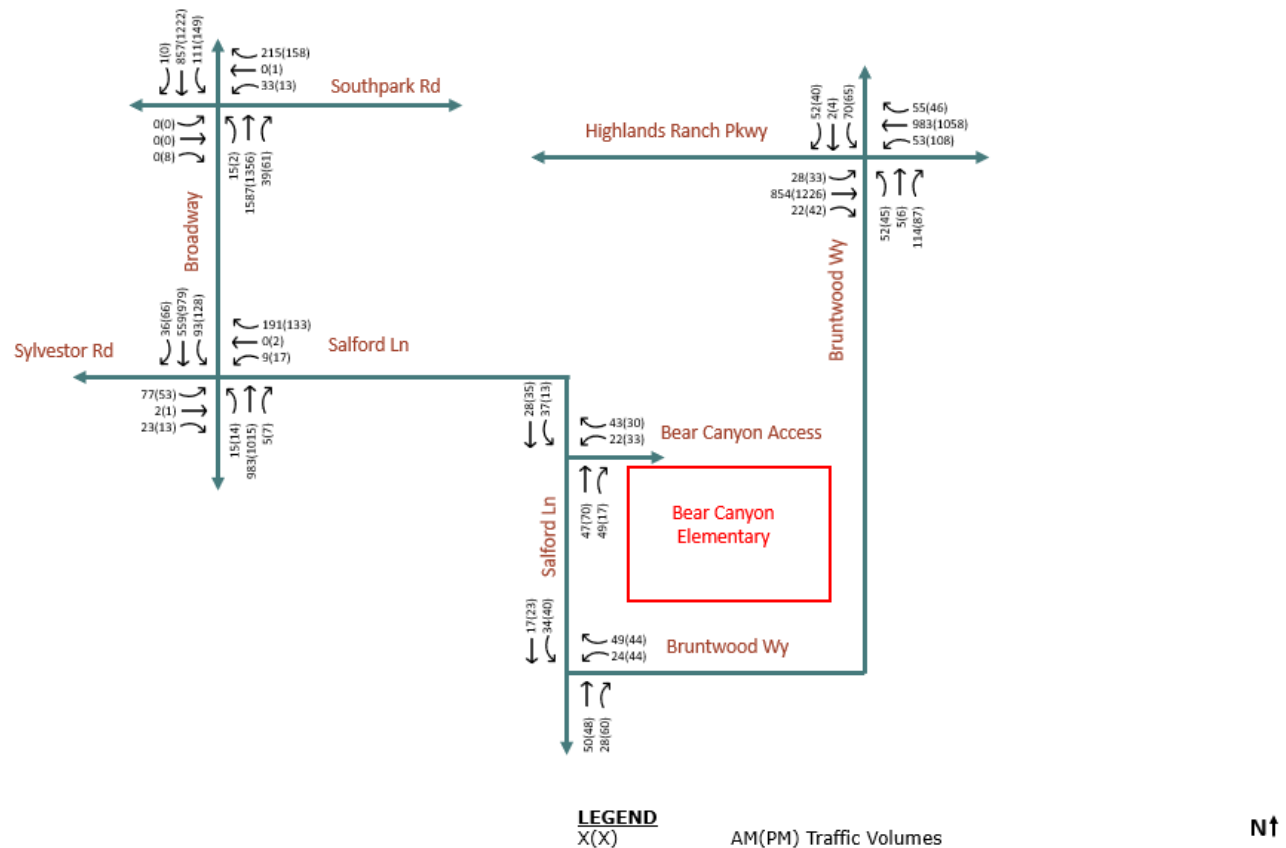


Table 2 – Traffic Volume Summary

Intersection	Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Highlands Ranch Pkwy & Westridge Village Pkwy	AM	3	743	108	98	451	36	123	5	197	82	5	7
	PM	7	637	122	185	841	78	90	3	175	69	5	5
Highlands Ranch Pkwy & Springhill Pkwy	AM	15	813	283	152	344	32	233	25	290	26	34	6
	PM	15	599	258	232	667	50	399	53	346	46	41	29
Highlands Ranch Pkwy & Foothills Canyon Blvd	AM	77	1112	23	60	479	87	45	37	107	109	21	92
	PM	138	1009	12	49	956	124	51	73	186	86	7	102
Westridge Village Pkwy & Baneberry Ct	AM	-	70	88	19	101	-	91	-	16	-	-	-
	PM	-	114	94	13	77	-	103	-	16	-	-	-
Baneberry Pl & Baneberry Ct	AM	4	0	5	9	2	62	2	37	18	78	11	16
	PM	7	0	1	16	2	77	4	30	13	53	33	19
Westridge Village Pkwy & E Bus Access	AM	-	40	-	-	108	-	44	-	32	-	-	-
	PM	-	101	-	-	71	-	19	-	14	-	-	-
Westridge Village Pkwy & W Bus Access	AM	10	37	36	39	109	5	-	-	-	3	0	9
	PM	21	97	15	18	73	2	-	-	-	3	2	17

2.5 Traffic Safety Analysis

Intersection Crash Analysis

Crash history was reviewed at the intersections of Broadway at Southpark Road, Broadway at Salford Lane, and Highlands Ranch Parkway at Burntwood Way. Crashes were reviewed for the period between 2019 and 2024. **Table 3** Summarizes the year-by-year crash data for the intersections.

Crash diagrams and a listing of crashes are provided in **Appendix E**.

Broadway at Southpark Road

There was a total of 8 crashes at Broadway and Southpark Road over the course of the study period. One of these involved injuries. Of the 8 crashes, none involved a left turn, and none were at night. None of these accidents involved a 3rd vehicle and none involved a bicycle. One accident involved a collision with a stationary object on a right-turn movement.

Broadway at Salford Lane

There was a total of 11 crashes at Highlands Ranch Parkway and Wildcat Reserve Parkway over the course of the study period. One of these involved injuries and one resulted in a fatality. Of the 11 crashes, 5 involved a left turn, and one was at night. None of these accidents involved a 3rd vehicle and none involved a bicycle. The accident that resulted in a fatality occurred on a left-turn movement.

Highlands Ranch Parkway at Burntwood Way

There was a total of 11 crashes at Highlands Ranch Parkway and Burntwood Way over the course of the study period. One of these involved injuries and one resulted in a fatality. Of the 11 crashes, 5 involved a left turn, and 2 were at night. One of these accidents involved a 3rd vehicle and none involved a bicycle. The fatal accident was a result of a front-to-side collision.

Table 3 – Annual Crash Summary

Year	Broadway and Southpark Road	Broadway and Salford Lane	Highlands Ranch Parkway and Burntwood Way
2019	3	3	5
2020	0	0	2
2021	1	3	3
2022	2	2	0
2023	0	1	0
2024	2	2	1

School Safety

Students are picked up and dropped off primarily via the parking lot to the west of the school building. A two-lane, one-way aisle facilitates traffic, with the right lane used to pick up and drop off students, and the left lane used to exit the queue. On-street parking is provided on the north side of Burntwood Way and on the East side of Salford Lane. Bike lanes are present on Burntwood Way and on Salford Lane, north of its intersection with Burntwood Way. High volumes of pedestrians cross near the intersection of Burntwood Way and Salford Lane during pickup hours, but there is a crossing guard present at this intersection during this time.

Bear Canyon was provided with a questionnaire to provide feedback related to traffic and school safety. Responses to the questionnaire are provided in **Appendix G**.

Some main concerns stated by Bear Canyon administration in the questionnaire are:

- Large pedestrian volumes crossing the entrance of parking lot
- Congestion on Salford Lane
- Parents are not allowed to park in the west parking lot during drop-off or pick-up times

3. TRIP PROJECTIONS

3.1 Projected Traffic

Douglas County School District (DCSD) is considering a potential school consolidation option that would consolidate Northridge into Bear Canyon. **Table 4** provides data on student enrollment for Northridge and Bear Canyon.

Table 4 – School Enrollment

School	Ideal Capacity per DCSD	Maximum Historic Enrollment	2023-2024 Enrollment Count*	Projected 2028-2029 Enrollment*
Northridge	506	743	565	484
Bear Canyon	506	612	362	233
Combined	-	-	-	717

*Enrollment values include Pre-School through 6th Grade.

The projected 2028-2029 combined enrollment is 717 students. The projected combined enrollment numbers are 17 percent more than the previous maximum Bear Canyon enrollment.

3.2 Trip Generation

Trip generation calculations were performed based on the number of additional students that will be transferring from Northridge to Bear Canyon. For the purposes of this report, it is assumed the existing 2024 Bear Canyon traffic and enrollment will see negligible changes by the 2025-2026 school year. Therefore, the trip generation calculations do not focus on the total future enrollment for Bear Canyon with the addition of Northridge students. The trip generation calculations are therefore only based on the Northridge existing traffic and enrollment. The trip generation was calculated multiple ways to account for the transfer of Northridge students to Bear Canyon. First the Institute of Transportation Engineers (ITE) Trip Generation web-based application was used to calculate the trip generation for three different types of elementary schools or land use codes (LUC) as follows:

- Public Elementary School (LUC 520)
- Private School K-8 (LUC 530)
- Charter School (LUC 536)

The relocation of students from one elementary school to the other has similarities to each of the three land uses evaluated using the ITE Trip Generation approach, however, this is a unique scenario and therefore the three land uses are not entirely representative of this scenario. A unique approach was therefore evaluated using existing traffic data and field observations at Northridge to understand the current traffic demand at the school and how that traffic demand is anticipated to change when relocated to Bear Canyon. The following considerations were taken into account to determine the anticipated number of trips added to Bear Canyon for this scenario:

- Calculate the existing ingress and egress traffic for parent drop-off and pick-up in the designated parking areas (parking lot and bus areas) using the existing traffic data collected
- Field observations of street parking adjacent to the school for drop-off and pick-up of students
- Students walking or riding a bike to/from the school using the existing traffic data collected
- Current bus ridership
- New bus ridership eligibility (outside 1 mile radius)
- Anticipated number of students “carpooling” with siblings or classmates after subtracting trips accounted for with existing traffic data, bus ridership, pedestrians/bicyclists and estimated street parking drop-off/pick-up from the student population.

The results of these considerations are summarized in the following table:

Table 5 – Northridge Existing Traffic Considerations

Peak Hour	Enrollment	Existing Bus Riders	Traffic Data Ingress/Egress	Ped & Bike	Estimated Street Parking	Calculated Carpooling
AM	565	92	188	56	55	174
PM			131	38		249

When the existing traffic at Northridge is relocated to Bear Canyon, additional students will be eligible to take the bus. It is anticipated that about **3/4** of the Northridge students will be newly eligible to take the bus to school. Assuming the ridership percentage remains the same as it is currently, ridership for these newly eligible students will also be about **47%** which results in an additional **177** students riding the bus to school for a total of **269** students from Northridge taking the bus to Bear Canyon.

Students who currently walk to Northridge are unlikely to walk to Bear Canyon due to distance and crossing a major roadway, therefore, it is assumed that these students will now be driven to school and count as a new vehicular trip to Bear Canyon. Taking into account the estimated street parking trips, the ingress/egress trips, pedestrians and bicyclists converted to vehicle trips, anticipated carpooling and the subtraction of new bus ridership, the resulting increase in trip demand for Bear Canyon is about **380** trips during the morning peak hour and **316** trips during the afternoon peak hour.

A summary of the trip generation comparison is summarized in **Table 6**.

Table 6 – Trip Generation Comparison

ITE LUC	Description	Units	Quant	AM Peak - Generator Peak			PM Peak - Generator Peak		
				Total	Ingress	Egress	Total	Ingress	Egress
-	Existing Data Based Calculation	Students	565	380	190	190	316	158	158
520	Public Elementary School	Students	565	424	229	195	254	117	137
530	Private School (K-8)	Students	565	571	320	251	339	159	180
536	Charter Elementary School	Students	565	605	320	284	407	199	207

3.3 Trip Distribution/Assignment

The trip distribution and assignment was evaluated by first reviewing the attendance boundaries for Northridge to get an idea of the population density throughout within the boundary limits. Then the distribution of traffic within the Northridge boundary and the directions of approach for arriving at Bear Canyon was estimated by percentage. Note a small percentage of traffic was assumed to come from outside the Northridge boundaries based on the existing traffic trends. The resulting Trip Distribution percentages are shown in **Figure 10**.

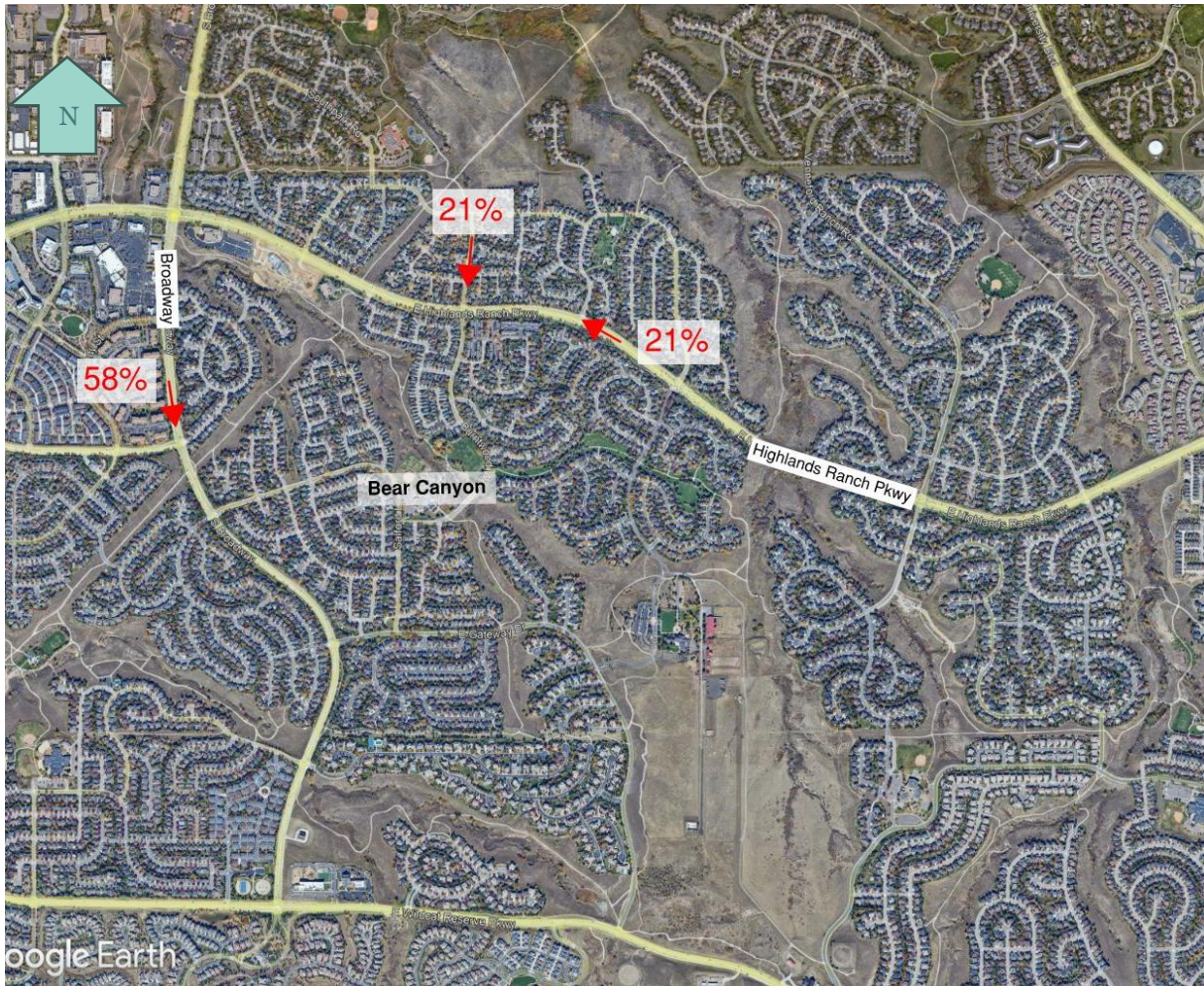


Figure 10 – Trip Distribution

Based on the Trip Distribution, the trips turning movements were then assigned to the key intersections evaluated as a part of this TIS.

- Highlands Ranch Parkway at Burntwood Way
- Broadway at Southpark Road
- Broadway at Salford Lane
- Salford Lane at Parking Lot Access
- Salford Lane at Burntwood Way

The resulting trip assignment is shown in **Figure 11**.

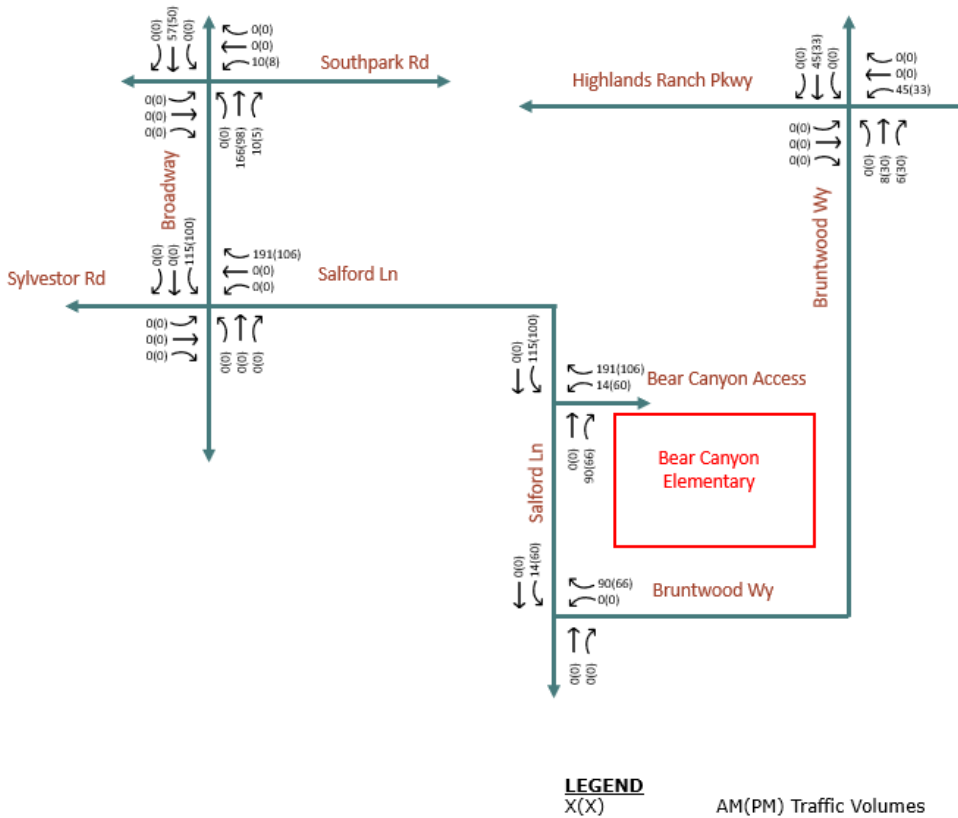


Figure 11 – Trip Assignment

In addition to the new anticipated trips for Northridge students transferring to Bear Canyon, the existing trips to Northridge will also be removed for a few of the key intersections. Certain turning movements accounting for the current arrival of drivers to Northridge would be reduced in this new scenario. Using the trip distribution and the existing distribution of ingress and egress trips for Northridge, the estimated reduction for certain turning movements was estimated. The resulting reductions are summarized in **Table 7**.

Table 7 – Turning Movement Reductions

Intersection	Peak Hour	WBL	WBR	NBR	SBL
Southpark Rd & Broadway	AM	-17	-116	-3	-8
	PM	-6	-69	-2	-6

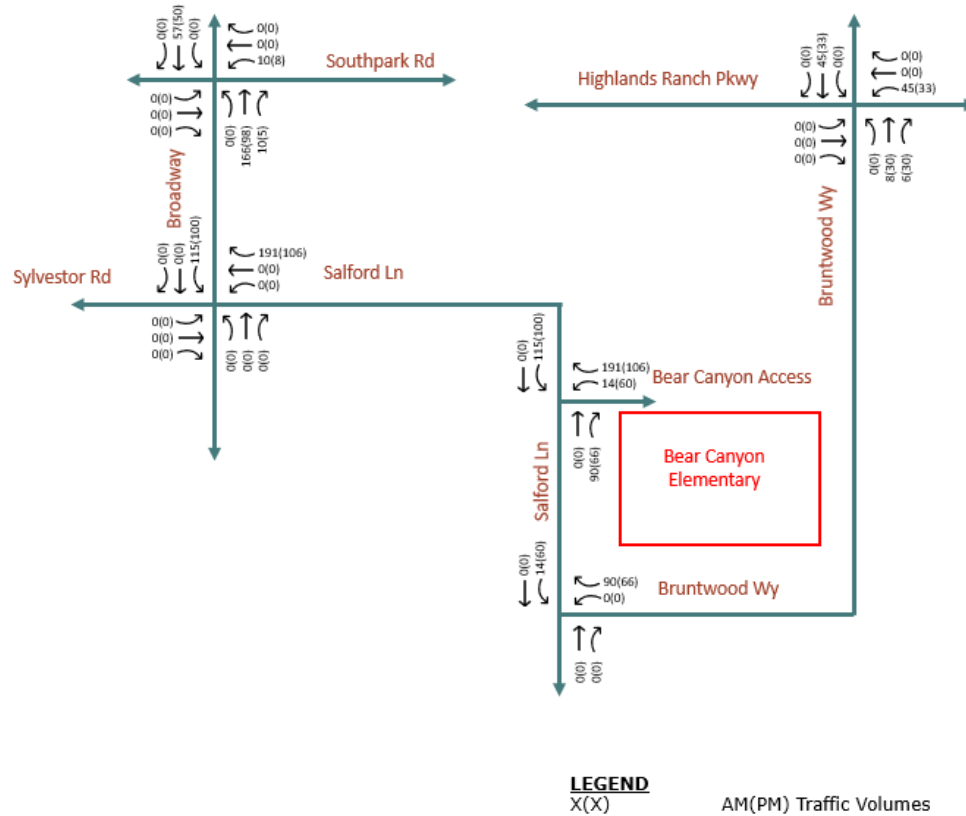
4. PROJECTED SITE TRAFFIC IMPACTS

4.1 Total Traffic (2028-2029 School Year)

The total anticipated future traffic for the 2028 to 2029 school year for Bear Canyon with the addition of Northridge students was calculated by adding the trip assignment to the existing Bear Canyon traffic data and then subtracting the anticipated turning movement reductions. The resulting total traffic is shown in **Figure 12**.

4.2 Projected Level of Service

The capacity analysis for the total projected traffic from the transfer of Northridge students to Bear Canyon was evaluated using Synchro. The resulting LOS and delay are summarized in **Table 8** for both the existing conditions (without Northridge traffic) and for the total traffic conditions (with Northridge traffic). Project level of service reports from Synchro are included in **Appendix F**.



N↑

Table 8 – LOS and Delay Results

Intersection	Control	Movement	Existing						Total Traffic							
			LOS		Delay (s)		Queue Length (ft)		LOS		Delay (s)		Delay Delta (s)		Queue Length (ft)	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Highland Ranch Pwky & Burntwood Way	Signal	Overall	C	C	20.6	22.4	-	-	C	C	20.8	22.4	+0.2	0.0	-	-
		NBL	C	C	23.1	22.9	51	45.0	C	C	23.2	22.9	+0.1	0.0	51	45
		NBT	C	C	21.2	21.2	11	11	C	C	21.4	22.0	+0.2	+0.8	19	38
		NBR	A	A	5.5	5.8	35	30	A	A	5.4	5.8	-0.1	0.0	36	30
		SBL	C	C	24.4	24.7	60	55	C	C	24.5	24.9	+0.1	+0.2	60	55
		SBT	C	C	21.0	21.2	6	8	C	C	22.5	21.2	+1.5	0.0	43	8
		SBR	A	A	3.9	2.9	8	0	A	A	3.9	2.9	0.0	0.0	8	0
		EBL	A	A	8.1	8.1	16	19	A	A	8.1	8.1	0.0	0.0	16	19
		EBT	C	C	22.4	25.6	174	279	C	C	22.4	25.6	0.0	0.0	174	279
		EBR	C	C	22.4	25.6	174	279	C	C	22.4	25.6	0.0	0.0	174	279
		WBL	A	B	8.7	11.5	27	48	A	B	7.8	15.1	-0.9	+3.6	15	74
		WBT	C	C	22.2	22.1	218	221	C	C	22.2	22.1	0.0	0.0	218	221
		WBR	C	C	22.2	22.1	218	221	C	C	22.2	22.1	0.0	0.0	218	221
Broadway & Salford Ln/Sylvestor Rd	Signal	Overall	B	B	17.6	15.0	-	-	D	B	41.2	17.2	+23.6	+2.2	-	-
		NBL	B	B	13.5	14.1	17	18	B	B	13.5	14.1	0.0	0.0	17	18
		NBT	C	C	21.9	20.6	324	347	C	C	21.9	20.6	0.0	0.0	324	347
		NBR	C	C	21.9	20.6	324	347	C	C	21.9	20.6	0.0	0.0	324	347
		SBL	A	B	9.7	10.9	40	52	C	C	30.4	27.7	+20.7	+16.8	165	120
		SBT	A	B	7.9	10.0	109	224	A	B	7.9	10.0	0.0	0.0	109	224
		SBR	A	B	7.9	10.0	109	224	A	B	7.9	10.0	0.0	0.0	109	224
		EBL	C	C	35.0	33.0	87	64	C	C	35.0	33.0	0.0	0.0	87	64
		EBT	B	B	12.2	15.3	22	17	B	B	12.2	15.3	0.0	0.0	22	17
		EBR	B	B	12.2	15.3	22	17	B	B	12.2	15.3	0.0	0.0	22	17
		WBL	C	C	31.1	31.5	17	27	C	C	31.1	31.5	0.0	0.0	17	27
		WBT	A	C	0.0	30.5	0	7	A	C	0.0	30.5	0.0	0.0	0	7
		WBR	B	A	17.5	6.8	51	23	F	B	120.2	18.0	+102.7	+11.2	239	91
Broadway & Southpark Rd	Unsignalized (TWSC or AWSC)	Overall			-	-	-	-			-	-	-	-	-	-
		NBL	B	C	14.9	18.6	2	0	C	C	15.7	19.5	+0.8	+0.9	2	0
		NBT	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		NBR	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		SBL	F	F	98.3	68.7	118	114	F	F	151.2	89.6	+52.9	+20.9	136	128
		SBT	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		SBR	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		EBL	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		EBT	A	A	0	0.0	0	0	A	A	0	0	0.0	0.0	0	0
		EBR	A	C	0	16.1	0	4	A	A	0	0	0.0	-16.1	0	0
		WBL	F	F	3449.0	1861.3	162	86	F	F	3449	3511	0.0	+1649.7	96	102
		WBT	A	F	0	88.3	0	200	A	E	0	37.6	0.0	-50.7	0	72
		WBR	F	F	268.8	88.3	404	200	F	E	66.5	37.6	-202.3	-50.7	108	72

Intersection	Control	Movement	Existing						Total Traffic							
			LOS		Delay (s)		Queue Length (ft)		LOS		Delay (s)		Delay Delta (s)		Queue Length (ft)	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Salford Ln & Bear Canyon Access	Unsignalized (TWSC or AWSC)	Overall	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		NBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		NBT	A	A	0	0	0	0	A	A	0	0	0	0	0	0
		NBR	A	A	0	0	0	0	A	A	0	0	0	0	0	0
		SBL	A	A	7.7	7.6	2	0	A	A	8.8	8.2	+1.1	+0.6	16	10
		SBT	A	A	0	0	0	0	A	A	0	0	0	0	0	0
		SBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		EBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		EBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		EBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		WBL	B	A	11.1	9.2	6	4	C	C	23	21	+12.3	+11.7	30	38
		WBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		WBR	A	A	9.6	7.6	10	4	D	B	25.7	10.7	+16.1	+3.2	176	20
Salford Ln & Burntwood Way	Unsignalized (TWSC or AWSC)	Overall	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		NBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		NBT	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		NBR	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		SBL	A	A	7.6	7.6	2	2	A	A	7.6	7.7	0.0	+0.1	4	6
		SBT	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		SBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		EBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		EBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		EBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		WBL	B	B	10.1	10.4	14	14	B	B	11.6	12.0	+1.5	+1.6	38	34
		WBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		WBR	B	B	10.1	10.4	14	14	B	B	11.6	12.0	+1.5	+1.6	38	34

Table 9 – Mitigation LOS and Delay Results

Intersection	Control	Movement	Total Traffic				Total Traffic - Mitigation				Mitigation	Total Traffic - Mitigation				Mitigation
			LOS	Delay (s)	Delay Delta (s)	Queue Length (ft)	LOS	Delay (s)	Delay Delta (s)	Queue Length (ft)		LOS	Delay (s)	Delay Delta (s)	Queue Length (ft)	
			AM	AM	AM	AM	AM	AM	AM	AM		AM	AM	AM	AM	
Broadway & Salford Ln / Sylvestor Rd	Signal	Overall	D	41.2	+23.6	-	C	31.9	-9.3	-	Increase EB/WB signal timing to at least 38 and increase SBL to 17 seconds, while reducing NBT/SBT phasing time to maintain the cycle length	C	30.2	-11.0	-	Add overlap phasing for the WBR turn with the SBL turn protected phase
		NBL	B	13.5	0.0	17	B	19.3	+5.8	20		B	13.5	0.0	17	
		NBT	C	21.9	0.0	324	C	34.2	+12.3	395		C	21.9	0.0	324	
		NBR	C	21.9	0.0	324	C	34.2	+12.3	395		C	21.9	0.0	324	
		SBL	C	30.4	+20.7	165	D	47.8	+17.4	219		C	30.4	0.0	165	
		SBT	A	7.9	0.0	109	B	11.7	+3.8	138		A	7.9	0.0	109	
		SBR	A	7.9	0.0	109	B	11.7	+3.8	138		A	7.9	0.0	109	
		EBL	C	35.0	0.0	87	C	27.8	-7.2	78		C	35.0	0.0	87	
		EBT	B	12.2	0.0	22	A	9.7	-2.5	20		B	12.2	0.0	22	
		EBR	B	12.2	0.0	22	A	9.7	-2.5	20		B	12.2	0.0	22	
		WBL	C	31.1	0.0	17	C	25.1	-6.0	15		C	31.1	0.0	17	
		WBT	A	0.0	0.0	0	A	0.0	0.0	0		A	0.0	0.0	0	
		WBR	F	120.2	+102.7	239	D	44.1	-76.1	180		E	69.8	-50.4	300	

4.3 Mitigation

Signal Warrant Analysis

The intersections of Burntwood Way and Salford Lane, Broadway at Salford Lane/Sylvester Road, Highlands Ranch Parkway at Burntwood Way, and Broadway at Southpark Road were analyzed for potential signal needs. Warrants 3 (peak hour) and 7 (crash experience) from the Manual on Uniform Traffic Control Devices (MUTCD) were used for this study.

Based on the analysis, it was determined that the intersection of Southpark Road and Broadway met warrant 3 for the installation of a traffic signal.

Warrant 3 considers the volume on the major roadway and the volume on the critical minor volume roadway, which in this case is Broadway and the east leg of Southpark Road. If traffic volumes are greater than the threshold volumes, then a traffic signal may be warranted. Figure 4C-4 of the MUTCD is applicable to this situation since the speed limit on Broadway is 45 mph. Figure 4C-4 is copied below as **Figure 6**. Traffic count data is provided in **Appendix C** and the total peak hour traffic on Broadway is 2,816 vehicles in the AM and 2,927 vehicles in the PM. The peak hour vehicles, excluding right-turn traffic, exiting Southpark Road is 33 in the AM and 14 in the PM. These values do not exceed the warranted values with the right-turn deduction. It is noted that without the right-turn deduction, the intersection would meet Warrant 3 with or without additional school traffic related to the consolidations. It is anticipated that the school consolidation, either to or from Northridge Elementary, will increase traffic at this intersection.

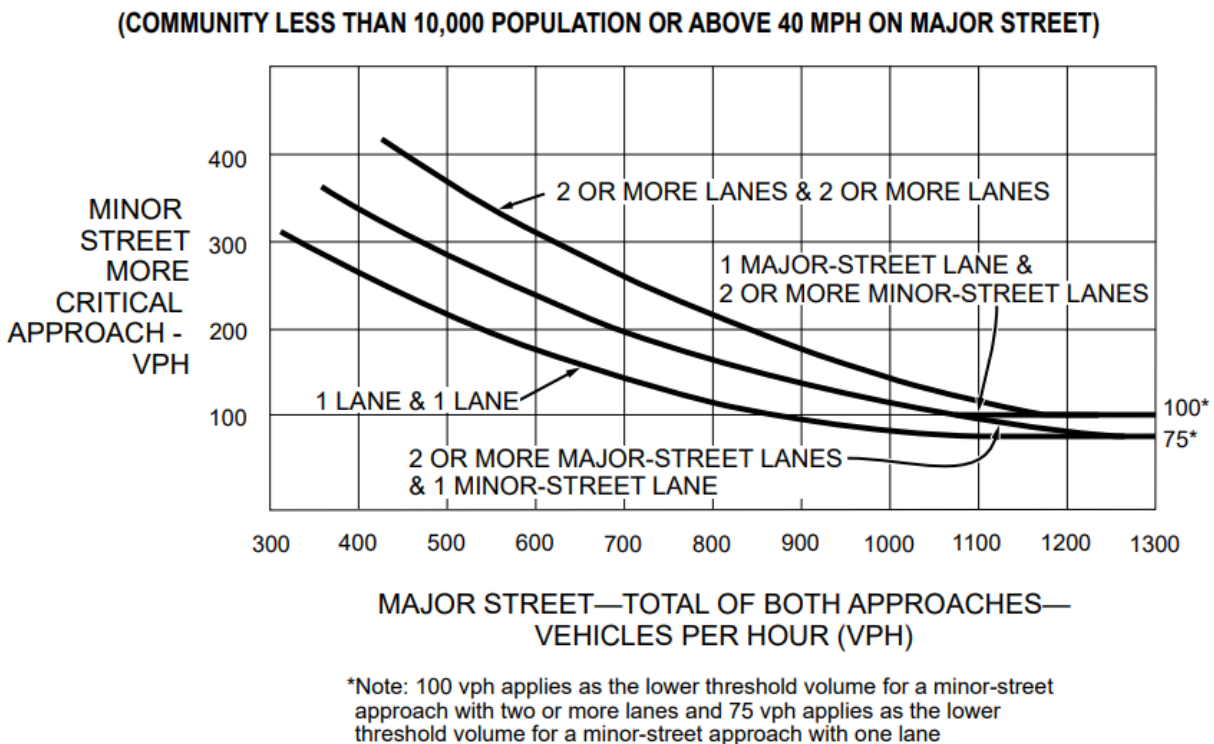


Figure 13 – MUTCD Warrant 3, Peak Hour (70% Factor)

Capacity Analysis

The capacity analysis results show that the relocation of Northridge to Bear Canyon causes an increase in delay and an undesirable level of service for the WBR turning movement during the morning peak hour at the intersection of Broadway at Salford. This is due to the significant increase in the number of vehicles for that turning movement. A few mitigation options were evaluated for consideration to help mitigate the

undesirable level of service and increased delay. There is already a dedicated right turn lane for the turning movement, therefore, signal operation adjustments were evaluated.

The first mitigation option evaluated was providing an additional 8 to 10 seconds for the eastbound/westbound approaches while maintaining the overall cycle length. This option does however cause the southbound left turn to have an undesirable level of service, therefore, the protected phasing for the southbound left turn also requires a few additional seconds.

The second option evaluated is providing overlap phasing for the SBL and the WBR by providing a green arrow for the WBR turning movement allowing for more efficient right turning during the protected phase for the SBL. Note this does require the elimination of a U-turn for the SBL.

The resulting level of service and delay are summarized in **Table 9**. The results show that both mitigation options significantly reduce delay and improve the level of service. It is important to note that the overlap phasing option still has a less than desirable level of service, but it does decrease the delay by about 50 seconds and improves the turning movement to a level of service E from an F. This improvement also requires the installation additional signal equipment, therefore, a cost is associated with this mitigation option.

Auxiliary Lane Analysis

Right turn lanes were evaluated for the intersections of Highlands Ranch Parkway at Burntwood Way and Broadway at Salford Lane. A right-turn lane is recommended on an arterial street when the LOS operates at an unacceptable level.

The projected traffic at the westbound approach of Highlands Ranch Parkway at Burntwood Way has 55 right turns during the morning peak hour and 46 during the afternoon peak hour while the eastbound approach has 22 right turns during the morning peak and 42 during the afternoon peak. The southbound approach of Broadway at Sylvester Road/Salford Lane has 36 right turns during the morning peak hour and 66 during the afternoon peak. However, no new traffic is being added to either of these approaches, and the LOS is an A, so right turn lanes are not recommended.

Site Analysis

Based on site observations and feedback from Bear Canyon Administration, Bear Canyon faces the following challenges:

- Large pedestrian volumes crossing entrance of parking lot
- Congestion on Salford Lane

Dibble recommends positioning a crossing attendant at the exit of the parking lot, as shown in **Figure 14**.

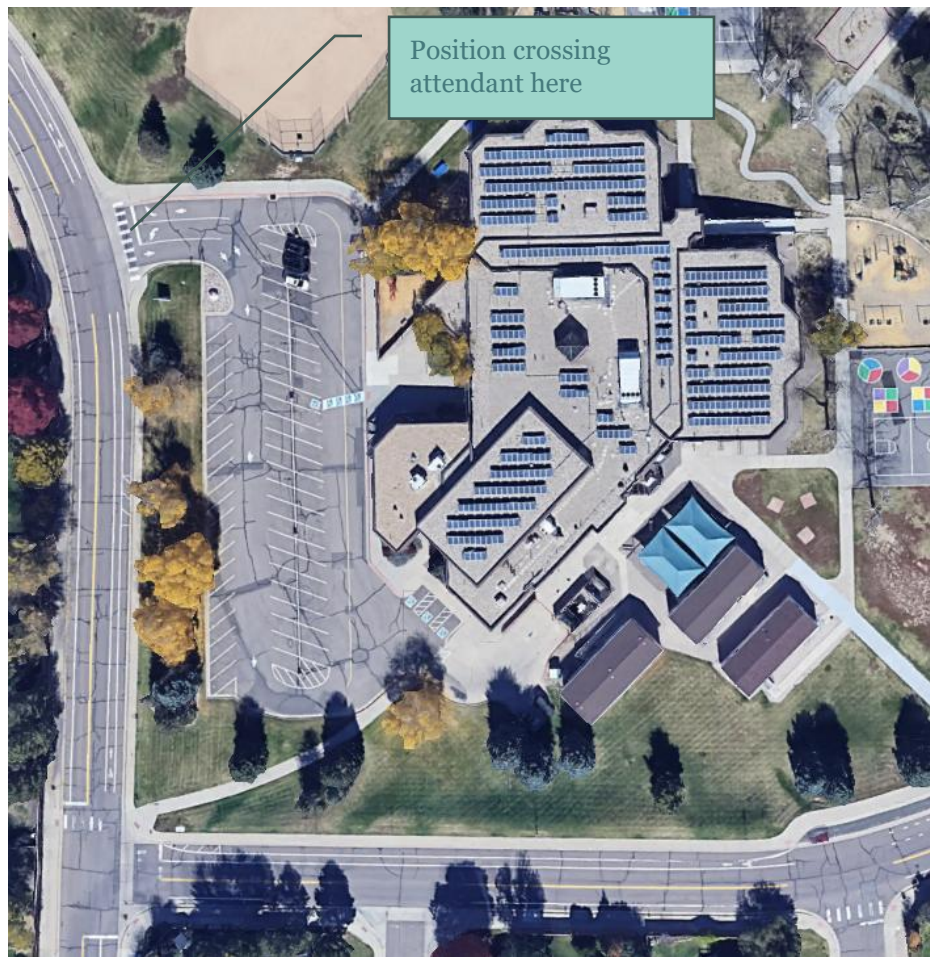


Figure 14 – Bear Canyon Mitigation Measures

5. CONCLUSIONS/RECOMMENDATIONS

This Traffic Impact Study addresses existing traffic patterns and potential traffic challenges at Bear Canyon Elementary School, while considering the anticipated increase in traffic due to possible consolidations with Northridge Elementary.

Traffic will be increased with the additional enrollment, but additional bus service will be offered, limiting the impact of the increased enrollment. Although historic enrollment levels suggest Bear Canyon could accommodate the increased traffic, more vehicles and pedestrians are expected. To address existing and potential future traffic challenges the following mitigation measures are recommended:

- Coordinate with Douglas County to monitor the signal timing at Broadway and Salford Lane and modify as needed. Douglas County has a robust traffic signal timing program which optimizes timing for prevailing conditions.
- Monitor the intersection of Broadway at Southpark Road for increased traffic safety concerns. If increased vehicle and pedestrian traffic causes safety concerns. Additional intersection improvements should be explored by Douglas County prior to DCSD consolidating any school into Northridge Elementary or Northridge Elementary to another school as either option will increase traffic into and out of the neighborhood.



Appendix A Site Observation Notes



TRAFFIC OBSERVATION REPORT

Project Name	DCSD Traffic Study	Project No.	1124175
Observer	Nate Hittle		
Location	Bear Canyon Elementary School		
Time	8:40 AM	AM / PM	
		DATE	November 12, 2024
		M	T W Th F S S

Queueing Data

Start Time: 8:25 AM

End Time: 8:35 AM

Maximum Queueing Length: 320 ft

Total Storage Length Available: 680 ft

Comments:

A drop-off lane is present in the parking lot on the east side of Salford Ln. The main lot has one access point, with an entrance lane, a dedicated left turn lane, and a dedicated right turn lane. Cars began queueing slightly before 8:25 AM. The traffic dissipated quickly once the doors opened at 8:30 AM, and there was no queue by 8:35 AM.

On-Street Parking Locations and Availability

Comments:

On-street parking is available on the east side of Salford Ln, from Burntwood Wy to the parking lot entrance. The parking lane is on the opposite side of the bicycle lane from the northbound travel lane. Street parking is available on the north side of Burntwood Wy. Similar to on Salford Ln, this parking lane is positioned on the opposite side of the bicycle lane from the westbound travel lane. Both parking lanes are fully utilized during drop-off.

Crosswalk Locations and Usage

Comments:

Crosswalks were located at various locations around the school. The most used crosswalks existed at the intersection of Salford Ln & Burntwood Wy, and at the intersection of Burntwood Wy & Kistler Trail. Crossing guards were present at both these locations. The crosswalks were utilized appropriately for most of the morning, and there were not many crossings outside of the crosswalks.



Roadway Characteristics

Speed Limit(s) and Location(s):

The speed limits were 25 mph on both Burntwood Wy and Salford Ln.

Signage:

Signage present on the public roads includes speed limit signs, school zone speed limit signs, stop signs, No Parking signs, school crossing signs, "No U turns in School Zone" signs, and bike lane signs. School zone 15 mph speed limit signs with flashers are present on Burntwood Wy only.

Bike Lanes:

Bike lanes are present on Salford Ln and Burntwood Wy in both directions.

Other Comments:

There were pull-off lanes on Burntwood Wy. These lanes were utilized by the handicap bus.

Sight Visibility Challenges

Comments:

There were no sight visibility issues observed.

Congestion Areas

Comments:

There were no noted areas of congestion in the public roads.

General Traffic Observations

Comments:

The weather at the time of observation was approximately 35° and sunny. Some portions of sidewalk and crosswalk were covered in ice.



TRAFFIC OBSERVATION REPORT

Project Name	DCSD Traffic Study	Project No.	1124175
Observer	Nate Hittle		
Location	Bear Canyon Elementary School		
Time	2:45-4:15 PM	AM / PM	
		DATE	November 12, 2024
		M	T W Th F S S

Queueing Data

Start Time: 3:15 PM

End Time: 3:37 PM

Maximum Queueing Length: 530 ft

Total Storage Length Available: 680 ft

Comments:

3 cars were queued in the pick-up lane by 2:55 PM, these were early pick ups and did not contribute to the queue at the peak pick up time. The main queue began to form at approximately 3:15 PM. The queue reached the south end of the parking lot at 3:28 PM and reached its maximum length shortly after 3:30 PM. The queue never impeded the entrance of the parking lot. However, it blocked off the parking aisle for a short time. The queue was entirely dissipated by 3:37 PM.

On-Street Parking Locations and Availability

Comments:

On-street parking is available on the east side of Salford Ln, from Burntwood Wy to the parking lot entrance. The parking lane is on the opposite side of the bicycle lane from the northbound travel lane. Street parking is available on the north side of Burntwood Wy. Similar to on Salford Ln, this parking lane is positioned on the opposite side of the bicycle lane from the westbound travel lane. Parking lanes began filling at 3:00 PM, with both being completely full by 3:30 PM. The parking lane on Salford Ln filled slightly quicker than the one on Burntwood Wy.

Crosswalk Locations and Usage

Comments:

Crosswalks were located at various locations around the school. The most used crosswalks existed at the intersection of Salford Ln & Burntwood Wy, and at the intersection of Burntwood Wy & Kistler Trail. Crossing guards were present at both these locations. The crosswalks were utilized appropriately for most of the afternoon. The highest volume of crossing occurred at the intersection of Burntwood Wy and Salford Ln. No crossing guard was present at the crosswalk by the parking lot entrance.



Roadway Characteristics

Speed Limit(s) and Location(s):

The speed limits were 25 mph on both Burntwood Wy and Salford Ln.

Signage:

Signage present on the public roads includes speed limit signs, school zone speed limit signs, stop signs, No Parking signs, school crossing signs, "No U turns in School Zone" signs, and bike lane signs. School zone 15 mph speed limit signs with flashers are present on Burntwood Wy only. Flashers were operated from 3:20 PM to 4:00

Bike Lanes:

Bike lanes are present on Salford Ln and Burntwood Wy in both directions.

Other Comments:

There were pull-off lanes on Burntwood Wy. These lanes were utilized by the handicap bus.

Sight Visibility Challenges

Comments:

There were no sight visibility issues observed.

Congestion Areas

Comments:

Westbound Burntwood Wy became congested, accumulating a queue of up to 9 cars.

General Traffic Observations

Comments:

The weather at the time of observation was approximately 55° and sunny. However the weather quickly became cloudy, and there was a slight wind and drizzle from around 3:30 PM through the end of the observation.



Appendix B Traffic Volume Counts



ALL TRAFFIC DATA SERVICES

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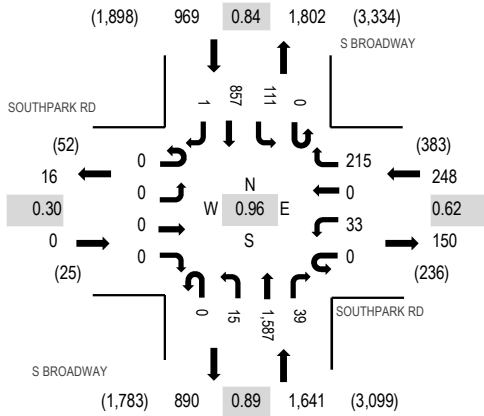
Location: 5 S BROADWAY & SOUTHPARK RD AM

Date: Wednesday, November 13, 2024

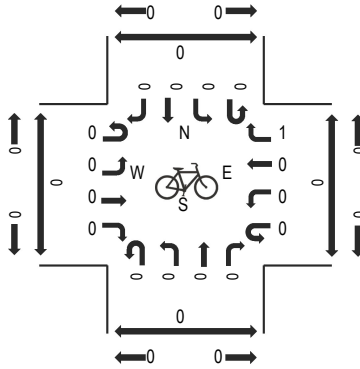
Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:15 AM - 08:30 AM

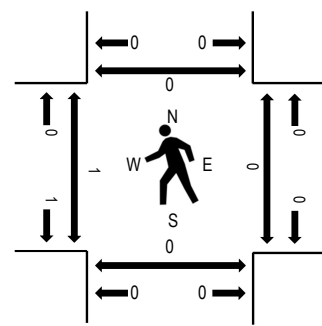
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SOUTHPARK RD Eastbound				SOUTHPARK RD Westbound				S BROADWAY Northbound				S BROADWAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:30 AM	0	0	0	0	0	2	0	48	0	0	433	11	0	13	202	0	709	2,827	0	0	0	0
7:45 AM	0	0	0	0	0	3	0	31	0	3	456	8	0	12	199	0	712	2,858	0	0	0	0
8:00 AM	0	0	0	0	0	4	0	26	0	3	400	6	0	22	201	1	663	2,788	0	0	0	0
8:15 AM	0	0	0	0	0	8	0	76	0	6	324	20	0	67	242	0	743	2,782	1	0	0	0
8:30 AM	0	0	0	0	0	18	0	82	0	3	407	5	0	10	215	0	740	2,578	0	0	0	0
8:45 AM	0	0	0	1	0	2	0	26	0	24	383	5	0	14	186	1	642		1	0	0	0
9:00 AM	0	5	0	16	0	4	0	32	0	7	286	2	1	23	279	2	657		0	0	0	0
9:15 AM	0	1	0	2	0	3	0	18	0	2	299	6	0	12	196	0	539		0	0	0	0
Count Total	0	6	0	19	0	44	0	339	0	48	2,988	63	1	173	1,720	4	5,405		2	0	0	0
Peak Hour	0	0	0	0	0	33	0	215	0	15	1,587	39	0	111	857	1	2,858		1	0	0	0



ALL TRAFFIC DATA SERVICES

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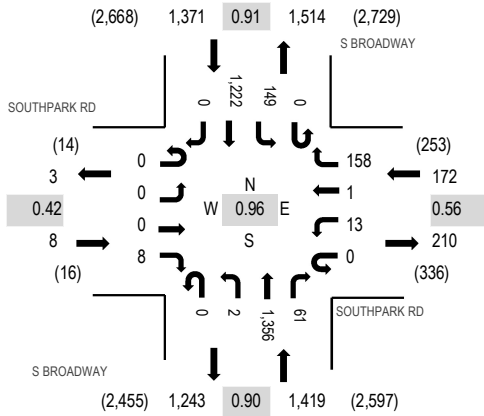
Location: 5 S BROADWAY & SOUTHPARK RD PM

Date: Wednesday, November 13, 2024

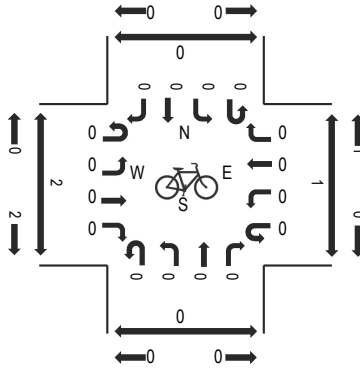
Peak Hour: 03:00 PM - 04:00 PM

Peak 15-Minutes: 03:45 PM - 04:00 PM

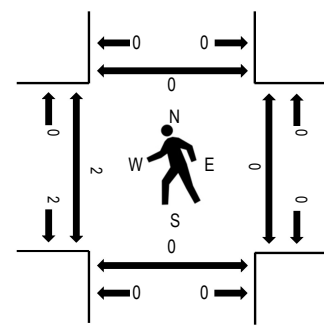
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SOUTHPARK RD Eastbound				SOUTHPARK RD Westbound				S BROADWAY Northbound				S BROADWAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:30 PM	0	1	0	0	0	0	0	20	0	0	239	7	0	17	280	1	565	2,739	0	0	0	0
2:45 PM	0	0	0	1	0	1	0	16	0	5	294	8	0	31	307	0	663	2,857	0	0	0	0
3:00 PM	0	0	0	4	0	1	0	22	0	0	335	13	0	43	333	0	751	2,970	0	0	0	0
3:15 PM	0	0	0	0	0	1	1	21	0	0	333	21	0	60	323	0	760	2,906	2	0	0	0
3:30 PM	0	0	0	1	0	9	0	68	0	0	303	18	0	19	265	0	683	2,795	0	0	0	0
3:45 PM	0	0	0	3	0	2	0	47	0	2	385	9	0	27	301	0	776		0	0	0	0
4:00 PM	0	2	0	4	0	1	0	18	0	4	308	10	0	23	317	0	687		0	0	0	0
4:15 PM	0	0	0	0	0	0	0	25	0	1	292	10	0	20	301	0	649		0	0	0	0
Count Total	0	3	0	13	0	15	1	237	0	12	2,489	96	0	240	2,427	1	5,534		2	0	0	0
Peak Hour	0	0	0	8	0	13	1	158	0	2	1,356	61	0	149	1,222	0	2,970		2	0	0	0



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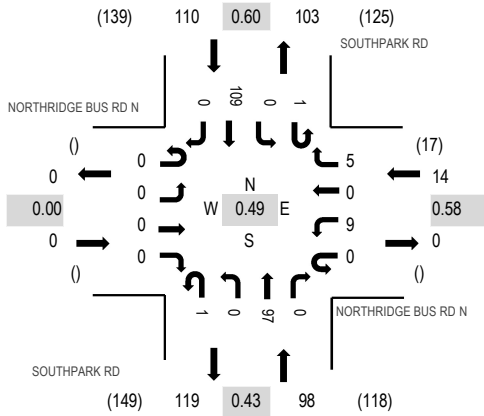
Location: 6 SOUTHPARK RD & NORTHRIDGE BUS RD N PM

Date: Wednesday, November 13, 2024

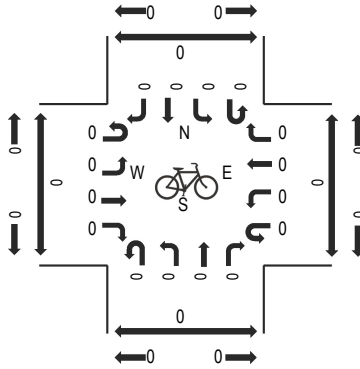
Peak Hour: 03:00 PM - 04:00 PM

Peak 15-Minutes: 03:30 PM - 03:45 PM

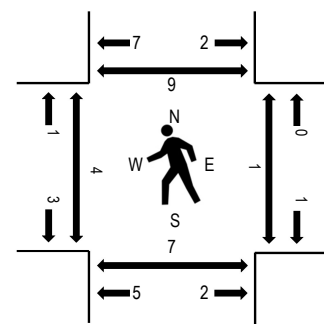
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	NORTHRIDGE BUS RD N Eastbound				NORTHRIDGE BUS RD N Westbound				SOUTHPARK RD Northbound				SOUTHPARK RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:45 PM	0	0	0	0	0	0	0	0	0	0	5	0	1	0	15	0	21	210	0	1	0	0
3:00 PM	0	0	0	0	0	3	0	2	0	0	9	0	1	0	19	0	34	222	0	0	2	0
3:15 PM	0	0	0	0	0	2	0	1	1	0	7	0	0	0	30	0	41	219	0	0	0	1
3:30 PM	0	0	0	0	0	4	0	2	0	0	61	0	0	0	47	0	114		3	1	5	8
3:45 PM	0	0	0	0	0	0	0	0	0	0	20	0	0	0	13	0	33		1	0	0	0
4:00 PM	0	0	0	0	0	2	0	1	0	0	15	0	0	0	13	0	31		0	1	0	0
Count Total	0	0	0	0	0	11	0	6	1	0	117	0	2	0	137	0	274		4	3	7	9
Peak Hour	0	0	0	0	0	9	0	5	1	0	97	0	1	0	109	0	222		4	1	7	9

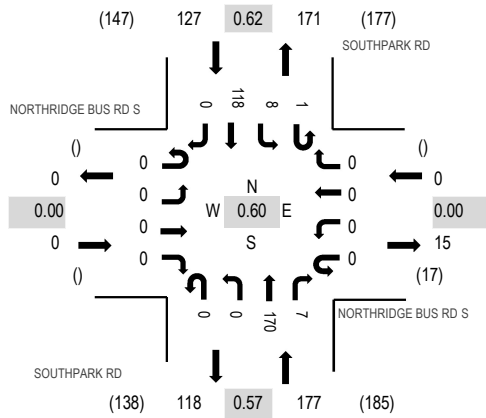
Location: 7 SOUTHPARK RD & NORTHRIDGE BUS RD S AM

Date: Wednesday, November 13, 2024

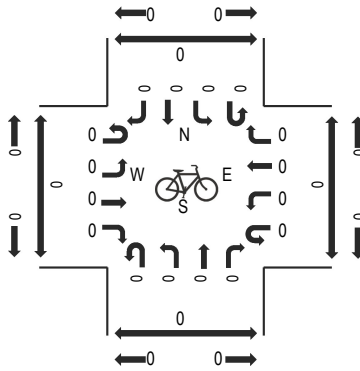
Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:15 AM - 08:30 AM

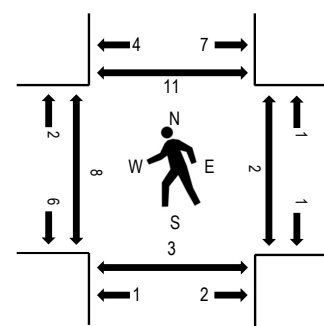
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	NORTHRIDGE BUS RD S Eastbound				NORTHRIDGE BUS RD S Westbound				SOUTHPARK RD Northbound				SOUTHPARK RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:45 AM	0	0	0	0	0	0	0	0	0	0	8	0	1	1	8	0	18	304	0	1	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	14	1	0	2	15	0	32	299	1	0	2	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	76	0	0	5	46	0	127	282	5	1	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	72	6	0	0	49	0	127		2	0	0	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	9	0	13		0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	11	0	15		0	3	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	176	9	1	8	138	0	332		8	5	3	11
Peak Hour	0	0	0	0	0	0	0	0	0	0	170	7	1	8	118	0	304		8	2	3	11



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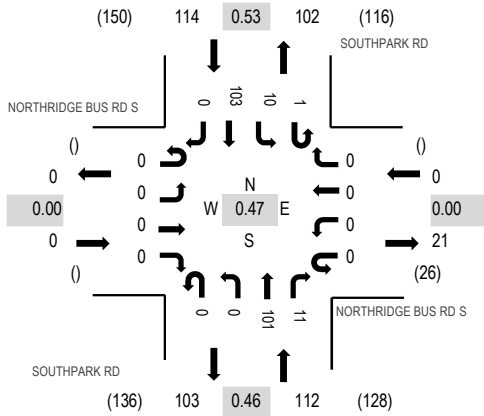
Location: 7 SOUTHPARK RD & NORTHRIDGE BUS RD S PM

Date: Wednesday, November 13, 2024

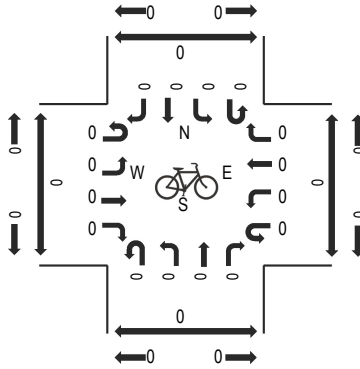
Peak Hour: 03:15 PM - 04:15 PM

Peak 15-Minutes: 03:30 PM - 03:45 PM

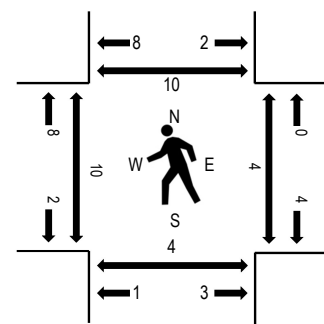
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	NORTHRIDGE BUS RD S				NORTHRIDGE BUS RD S				SOUTHPARK RD				SOUTHPARK RD				Total	Rolling Hour	Pedestrian Crossings				
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right							
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	1	1	13	0	20	207	0	2	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	8	3	0	1	20	0	32	221	0	1	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	1	3	24	0	36	226	0	1	2	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	60	1	0	4	54	0	119		7	2	0	7
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	18	2	0	1	13	0	34		1	0	0	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	15	8	0	2	12	0	37		2	1	2	1
Count Total	0	0	0	0	0	0	0	0	0	0	0	114	14	2	12	136	0	278		10	7	4	10
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	101	11	1	10	103	0	226		10	4	4	10



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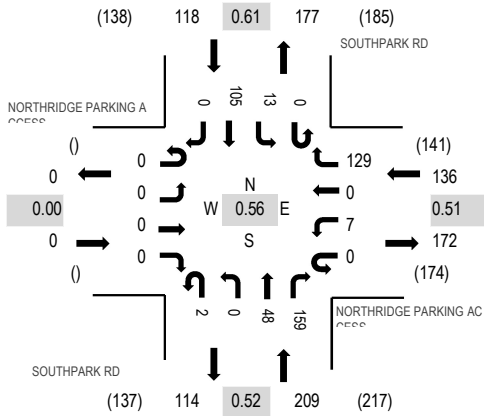
Location: 8 SOUTHPARK RD & NORTHRIDGE PARKING ACCESS AM

Date: Wednesday, November 13, 2024

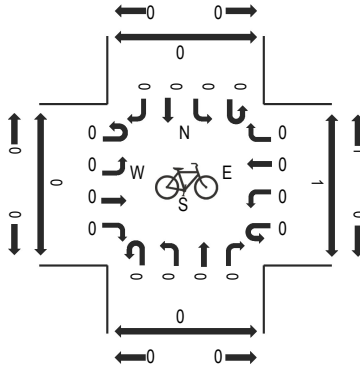
Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:15 AM - 08:30 AM

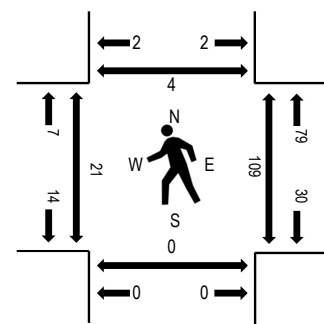
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	NORTHRIDGE PARKING Access Eastbound				NORTHRIDGE PARKING Access Westbound				SOUTHPARK RD Northbound				SOUTHPARK RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:45 AM	0	0	0	0	0	0	0	2	1	0	6	9	0	5	3	0	26	463	1	2	0	1
8:00 AM	0	0	0	0	0	2	0	4	1	0	11	22	0	5	10	0	55	454	1	10	0	2
8:15 AM	0	0	0	0	0	0	0	61	0	0	15	85	0	2	44	0	207	415	10	42	0	1
8:30 AM	0	0	0	0	0	5	0	62	0	0	16	43	0	1	48	0	175		9	55	0	0
8:45 AM	0	0	0	0	0	2	0	2	0	0	2	2	0	0	9	0	17		0	1	0	0
9:00 AM	0	0	0	0	0	1	0	0	0	0	4	0	0	0	11	0	16		0	3	0	0
Count Total	0	0	0	0	0	10	0	131	2	0	54	161	0	13	125	0	496		21	113	0	4
Peak Hour	0	0	0	0	0	7	0	129	2	0	48	159	0	13	105	0	463		21	109	0	4

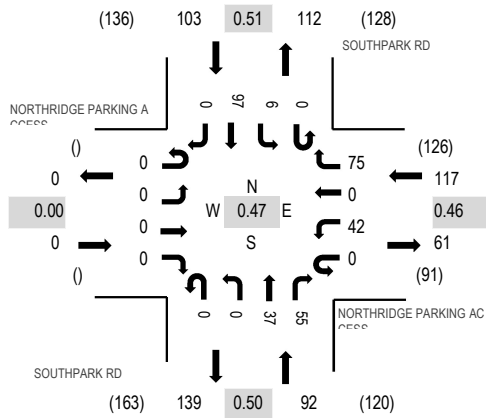
Location: 8 SOUTHPARK RD & NORTHRIDGE PARKING ACCESS PM

Date: Wednesday, November 13, 2024

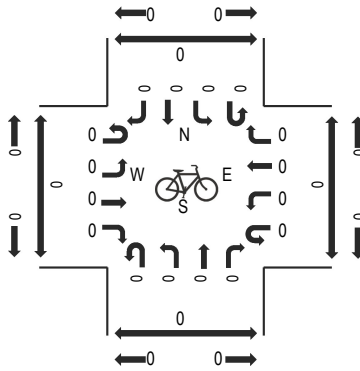
Peak Hour: 03:15 PM - 04:15 PM

Peak 15-Minutes: 03:30 PM - 03:45 PM

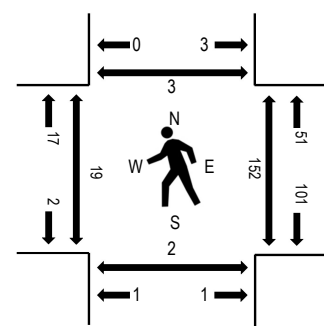
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	NORTHRIDGE PARKING ACCESS Eastbound				NORTHRIDGE PARKING ACCESS Westbound				SOUTHPARK RD Northbound				SOUTHPARK RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:45 PM	0	0	0	0	0	4	0	1	0	0	4	4	0	3	10	0	26	276	0	2	0	0
3:00 PM	0	0	0	0	0	1	0	3	0	0	8	12	0	11	9	0	44	310	0	4	0	0
3:15 PM	0	0	0	0	0	1	0	2	0	0	6	8	0	2	22	0	41	312	6	34	1	2
3:30 PM	0	0	0	0	0	10	0	54	0	0	7	40	0	1	53	0	165		10	102	0	0
3:45 PM	0	0	0	0	0	23	0	11	0	0	9	4	0	2	11	0	60		2	8	0	0
4:00 PM	0	0	0	0	0	8	0	8	0	0	15	3	0	1	11	0	46		1	8	1	1
Count Total	0	0	0	0	0	47	0	79	0	0	49	71	0	20	116	0	382		19	158	2	3
Peak Hour	0	0	0	0	0	42	0	75	0	0	37	55	0	6	97	0	312		19	152	2	3



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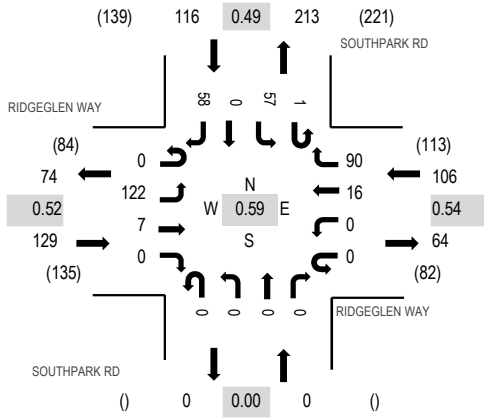
Location: 9 SOUTHPARK RD & RIDGEGLEN WAY AM

Date: Wednesday, November 13, 2024

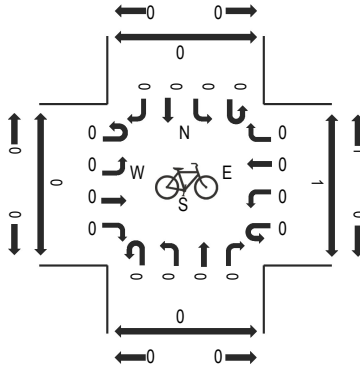
Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:15 AM - 08:30 AM

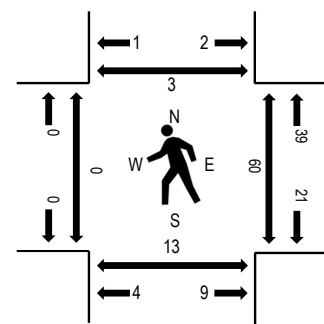
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	RIDGEGLEN WAY Eastbound				RIDGEGLEN WAY Westbound				SOUTHPARK RD Northbound				SOUTHPARK RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:45 AM	0	10	1	0	0	0	1	8	0	0	0	0	0	2	0	1	23	351	0	1	0	0
8:00 AM	0	23	0	0	0	0	2	14	0	0	0	0	0	8	0	4	51	347	0	1	0	1
8:15 AM	0	58	4	0	0	0	5	44	0	0	0	0	0	22	0	16	149	313	0	32	5	2
8:30 AM	0	31	2	0	0	0	8	24	0	0	0	0	1	25	0	37	128		0	26	8	0
8:45 AM	1	1	2	0	0	0	1	4	0	0	0	0	0	5	0	5	19		0	0	2	0
9:00 AM	0	1	1	0	0	0	0	2	0	0	0	0	0	10	0	3	17		0	0	0	0
Count Total	1	124	10	0	0	0	17	96	0	0	0	0	1	72	0	66	387		0	60	15	3
Peak Hour	0	122	7	0	0	0	16	90	0	0	0	0	1	57	0	58	351		0	60	13	3



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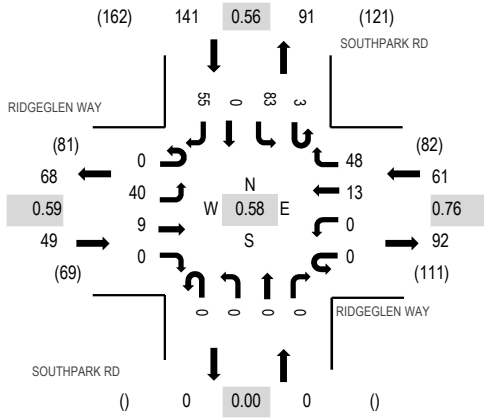
Location: 9 SOUTHPARK RD & RIDGEGLEN WAY PM

Date: Wednesday, November 13, 2024

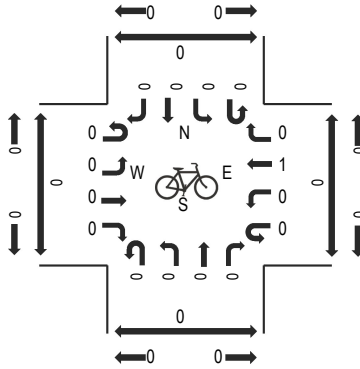
Peak Hour: 03:15 PM - 04:15 PM

Peak 15-Minutes: 03:30 PM - 03:45 PM

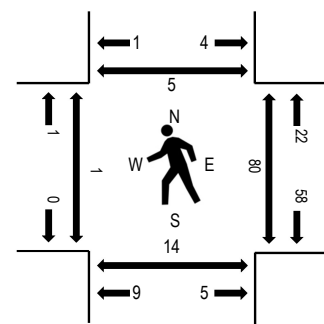
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	RIDGEGLEN WAY Eastbound				RIDGEGLEN WAY Westbound				SOUTHPARK RD Northbound				SOUTHPARK RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:45 PM	0	4	0	0	0	0	3	5	0	0	0	0	0	10	0	4	26	215	0	0	0	0
3:00 PM	0	11	5	0	0	0	3	10	0	0	0	0	0	4	0	3	36	245	0	4	2	0
3:15 PM	0	12	1	0	0	0	1	10	0	0	0	0	3	13	0	4	44	251	0	18	6	2
3:30 PM	0	21	5	0	0	0	5	15	0	0	0	0	0	38	0	25	109		1	57	8	2
3:45 PM	0	4	2	0	0	0	5	8	0	0	0	0	0	21	0	16	56		0	3	0	1
4:00 PM	0	3	1	0	0	0	2	15	0	0	0	0	0	11	0	10	42		0	2	0	0
Count Total	0	55	14	0	0	0	19	63	0	0	0	0	3	97	0	62	313		1	84	16	5
Peak Hour	0	40	9	0	0	0	13	48	0	0	0	0	3	83	0	55	251		1	80	14	5



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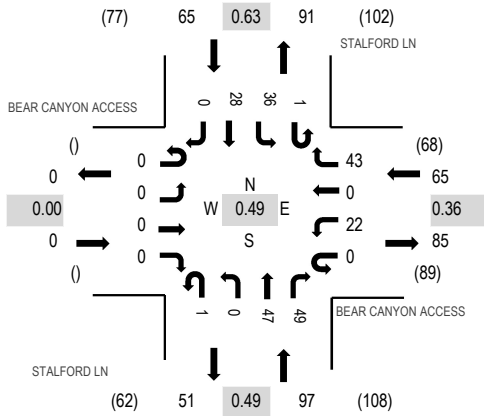
Location: 1 STALFORD LN & BEAR CANYON ACCESS AM

Date: Wednesday, November 13, 2024

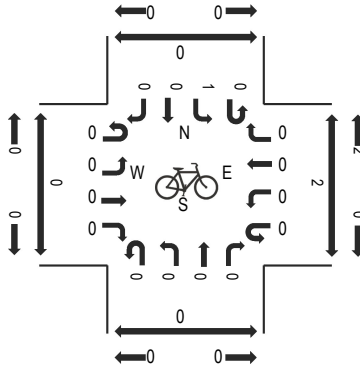
Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:30 AM - 08:45 AM

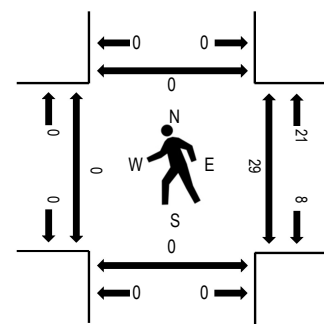
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	BEAR CANYON ACCESS Eastbound				BEAR CANYON ACCESS Westbound				STALFORD LN Northbound				STALFORD LN Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
8:00 AM	0	0	0	0	0	0	0	1	0	0	3	12	0	5	6	0	27	227	0	2	0	0
8:15 AM	0	0	0	0	0	5	0	7	0	0	8	15	1	14	11	0	61	213	0	14	0	0
8:30 AM	0	0	0	0	0	14	0	32	1	0	30	19	0	13	6	0	115	165	0	10	0	0
8:45 AM	0	0	0	0	0	3	0	3	0	0	6	3	0	4	5	0	24		0	3	0	0
9:00 AM	0	0	0	0	0	1	0	1	0	0	4	0	0	0	7	0	13		0	3	0	0
9:15 AM	0	0	0	0	0	0	0	1	0	0	5	2	0	2	3	0	13		0	1	0	0
Count Total	0	0	0	0	0	23	0	45	1	0	56	51	1	38	38	0	253		0	33	0	0
Peak Hour	0	0	0	0	0	22	0	43	1	0	47	49	1	36	28	0	227		0	29	0	0

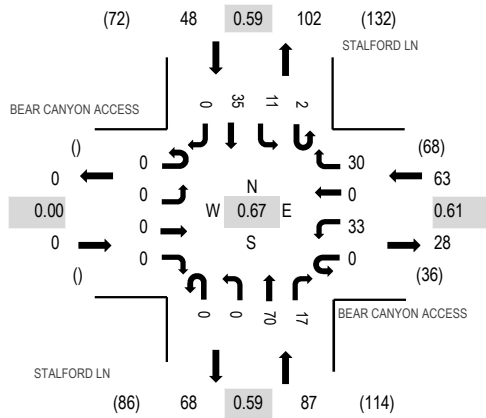
Location: 1 STALFORD LN & BEAR CANYON ACCESS PM

Date: Wednesday, November 13, 2024

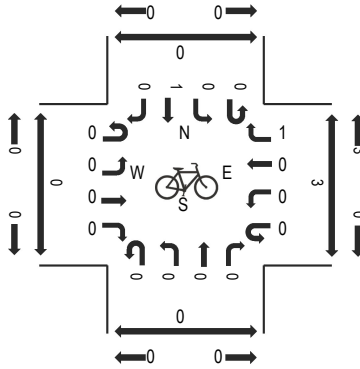
Peak Hour: 03:15 PM - 04:15 PM

Peak 15-Minutes: 03:30 PM - 03:45 PM

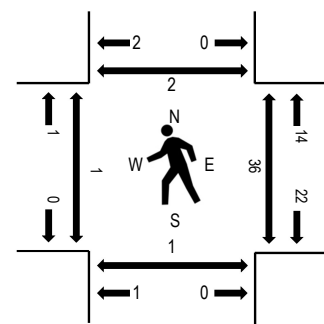
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	BEAR CANYON ACCESS Eastbound				BEAR CANYON ACCESS Westbound				STALFORD LN Northbound				STALFORD LN Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:45 PM	0	0	0	0	0	2	0	3	0	0	8	1	1	2	8	0	25	176	1	5	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	15	3	3	2	8	0	31	196	1	5	0	0
3:15 PM	0	0	0	0	0	2	0	1	0	0	11	8	2	7	15	0	46	198	1	11	1	0
3:30 PM	0	0	0	0	0	13	0	13	0	0	33	6	0	2	7	0	74		0	20	0	2
3:45 PM	0	0	0	0	0	14	0	10	0	0	15	1	0	1	4	0	45		0	4	0	0
4:00 PM	0	0	0	0	0	4	0	6	0	0	11	2	0	1	9	0	33		0	1	0	0
Count Total	0	0	0	0	0	35	0	33	0	0	93	21	6	15	51	0	254		3	46	1	2
Peak Hour	0	0	0	0	0	33	0	30	0	0	70	17	2	11	35	0	198		1	36	1	2



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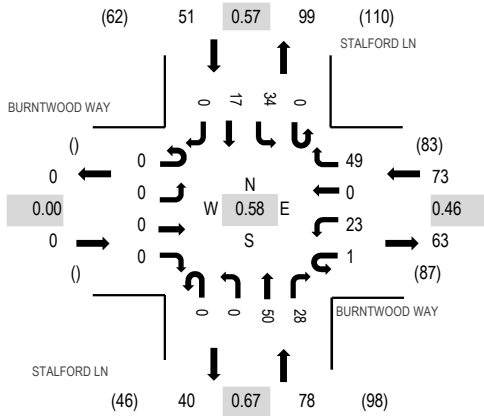
Location: 2 STALFORD LN & BURNTWOOD WAY AM

Date: Wednesday, November 13, 2024

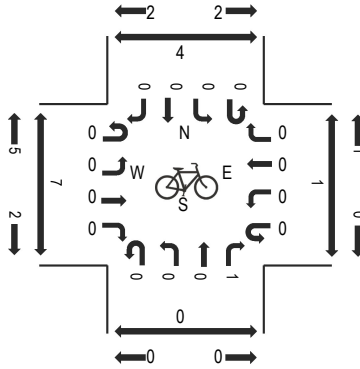
Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:30 AM - 08:45 AM

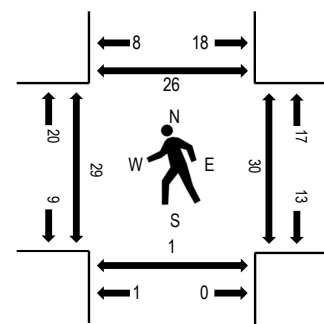
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	BURNTWOOD WAY Eastbound				BURNTWOOD WAY Westbound				STALFORD LN Northbound				STALFORD LN Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
8:00 AM	0	0	0	0	0	2	0	7	0	0	9	9	0	5	1	0	33	202	0	2	1	0
8:15 AM	0	0	0	0	0	4	0	11	0	0	20	9	0	8	5	0	57	187	14	14	0	18
8:30 AM	0	0	0	0	1	14	0	25	0	0	19	5	0	12	11	0	87	153	15	12	0	8
8:45 AM	0	0	0	0	0	3	0	6	0	0	2	5	0	9	0	0	25		0	2	0	0
9:00 AM	0	0	0	0	0	2	0	2	0	0	2	5	0	6	1	0	18		0	0	0	0
9:15 AM	0	0	0	0	0	2	0	4	0	0	3	10	0	3	1	0	23		0	1	0	0
Count Total	0	0	0	0	1	27	0	55	0	0	55	43	0	43	19	0	243		29	31	1	26
Peak Hour	0	0	0	0	1	23	0	49	0	0	50	28	0	34	17	0	202		29	30	1	26



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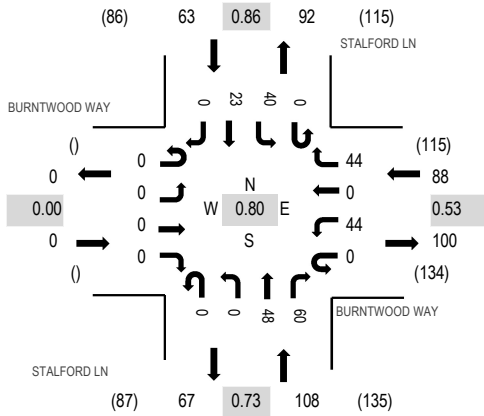
Location: 2 STALFORD LN & BURNTWOOD WAY PM

Date: Wednesday, November 13, 2024

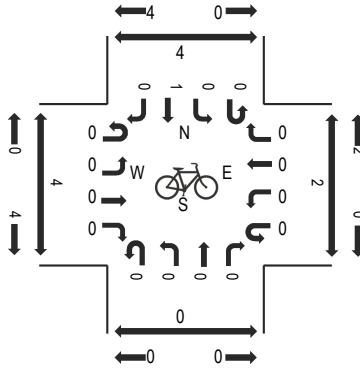
Peak Hour: 03:00 PM - 04:00 PM

Peak 15-Minutes: 03:30 PM - 03:45 PM

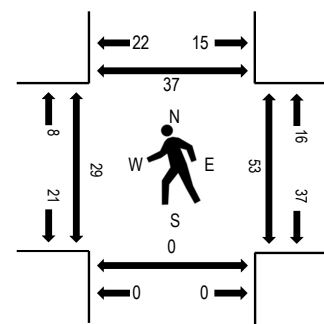
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	BURNTWOOD WAY Eastbound				BURNTWOOD WAY Westbound				STALFORD LN Northbound				STALFORD LN Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:45 PM	0	0	0	0	0	10	0	6	0	0	3	7	0	9	1	0	36	241	0	2	0	0
3:00 PM	0	0	0	0	0	7	0	8	0	0	14	23	0	5	2	0	59	259	0	0	0	2
3:15 PM	0	0	0	0	0	9	0	9	0	0	16	13	0	13	5	0	65	241	9	16	0	15
3:30 PM	0	0	0	0	0	21	0	22	0	0	9	9	0	12	8	0	81		14	35	0	14
3:45 PM	0	0	0	0	0	7	0	5	0	0	9	15	0	10	8	0	54		6	2	0	6
4:00 PM	0	0	0	0	0	3	0	8	0	0	6	11	0	7	6	0	41		0	1	0	0
Count Total	0	0	0	0	0	57	0	58	0	0	57	78	0	56	30	0	336		29	56	0	37
Peak Hour	0	0	0	0	0	44	0	44	0	0	48	60	0	40	23	0	259		29	53	0	37



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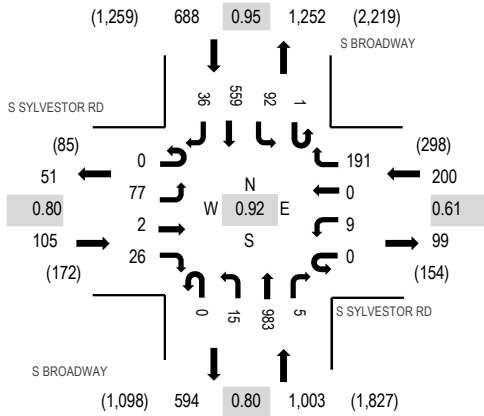
Location: 3 S BROADWAY & S SYLVESTOR RD AM

Date: Wednesday, November 13, 2024

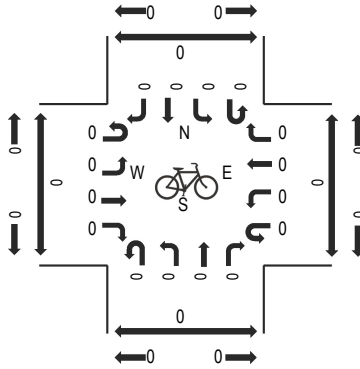
Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:30 AM - 08:45 AM

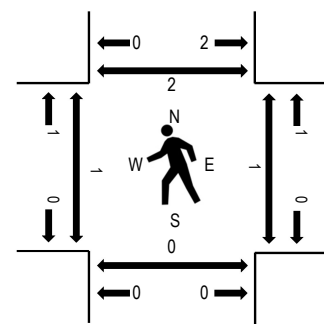
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	S SYLVESTOR RD Eastbound				S SYLVESTOR RD Westbound				S BROADWAY Northbound				S BROADWAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:45 AM	0	30	0	3	0	1	0	44	0	4	306	3	1	12	124	10	538	1,996	1	0	0	0
8:00 AM	0	20	0	5	0	0	0	35	0	0	199	2	0	19	153	8	441	1,923	0	0	0	0
8:15 AM	0	18	2	10	0	2	0	36	0	3	222	0	0	35	141	6	475	1,877	0	1	0	2
8:30 AM	0	9	0	8	0	6	0	76	0	8	256	0	0	26	141	12	542	1,772	0	0	0	0
8:45 AM	0	20	1	0	0	3	0	32	0	3	276	2	0	16	107	5	465	1,560	0	0	0	0
9:00 AM	0	23	0	3	0	4	0	25	0	0	173	0	0	10	148	9	395		0	0	0	0
9:15 AM	0	10	0	1	0	0	0	20	0	2	200	1	1	17	114	4	370		0	1	0	1
9:30 AM	0	9	0	0	0	1	0	13	0	3	164	0	1	8	123	8	330		0	1	0	1
Count Total	0	139	3	30	0	17	0	281	0	23	1,796	8	3	143	1,051	62	3,556		1	3	0	4
Peak Hour	0	77	2	26	0	9	0	191	0	15	983	5	1	92	559	36	1,996		1	1	0	2



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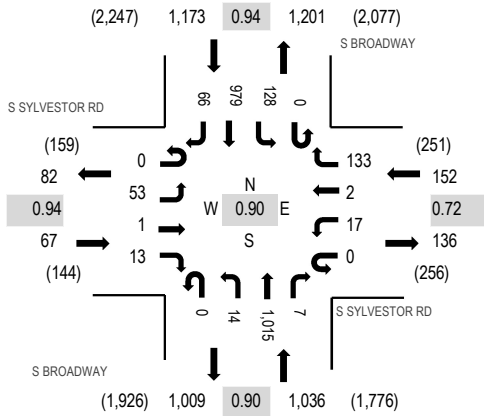
Location: 3 S BROADWAY & S SYLVESTOR RD PM

Date: Wednesday, November 13, 2024

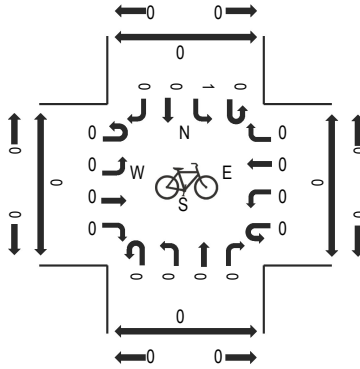
Peak Hour: 03:00 PM - 04:00 PM

Peak 15-Minutes: 03:45 PM - 04:00 PM

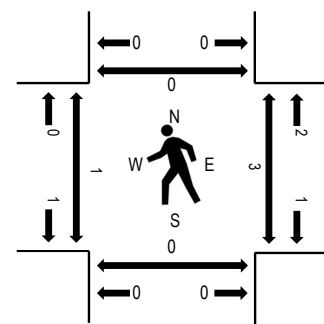
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	S SYLVESTOR RD Eastbound				S SYLVESTOR RD Westbound				S BROADWAY Northbound				S BROADWAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:30 PM	0	18	0	2	0	3	0	21	0	2	155	0	0	21	192	13	427	2,105	1	0	0	0
2:45 PM	0	15	1	3	0	1	0	16	0	4	226	0	0	18	190	12	486	2,237	0	0	0	0
3:00 PM	0	10	0	5	0	4	0	15	0	3	278	3	0	30	220	14	582	2,428	0	0	0	0
3:15 PM	0	8	0	3	0	1	0	23	0	1	244	4	0	37	268	21	610	2,389	0	2	0	0
3:30 PM	0	16	1	3	0	7	2	50	0	6	209	0	0	33	211	21	559	2,313	1	1	0	0
3:45 PM	0	19	0	2	0	5	0	45	0	4	284	0	0	28	280	10	677		0	0	0	0
4:00 PM	0	18	1	2	0	2	5	29	0	6	169	0	0	44	246	21	543		1	0	0	1
4:15 PM	0	15	0	2	0	3	0	19	0	1	175	2	0	33	271	13	534		0	0	0	0
Count Total	0	119	3	22	0	26	7	218	0	27	1,740	9	0	244	1,878	125	4,418		3	3	0	1
Peak Hour	0	53	1	13	0	17	2	133	0	14	1,015	7	0	128	979	66	2,428		1	3	0	0



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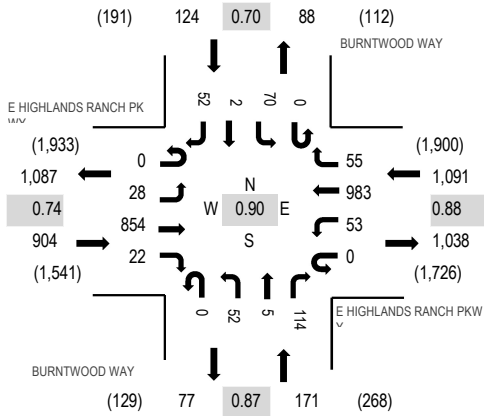
Location: 4 BURNTWOOD WAY & E HIGHLANDS RANCH PKWY AM

Date: Wednesday, November 13, 2024

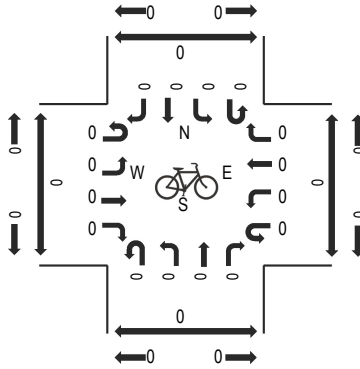
Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

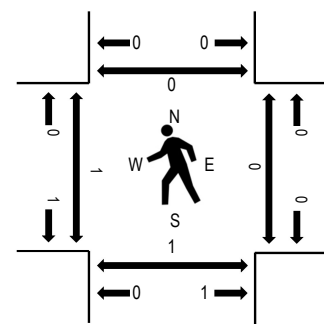
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	E HIGHLANDS RANCH PKWY Eastbound				E HIGHLANDS RANCH PKWY Westbound				BURNTWOOD WAY Northbound				BURNTWOOD WAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:45 AM	0	10	292	4	0	4	262	3	0	14	1	27	0	11	0	10	638	2,290	0	0	0	0
8:00 AM	0	7	203	4	0	9	226	10	0	13	2	30	0	11	2	13	530	2,123	0	0	0	0
8:15 AM	0	5	174	5	0	26	256	29	0	15	1	19	0	17	0	15	562	2,051	0	0	0	0
8:30 AM	0	6	185	9	0	14	239	13	0	10	1	38	0	31	0	14	560	1,849	1	0	1	0
8:45 AM	0	2	149	3	0	4	258	5	0	11	0	16	0	10	0	13	471	1,610	0	0	0	0
9:00 AM	1	2	205	6	0	9	190	2	0	10	0	12	0	9	0	12	458		2	0	0	0
9:15 AM	0	3	123	8	0	8	171	1	0	9	2	21	0	3	0	11	360		0	0	0	0
9:30 AM	0	4	126	5	0	9	150	2	0	6	1	9	0	5	0	4	321		0	0	0	0
Count Total	1	39	1,457	44	0	83	1,752	65	0	88	8	172	0	97	2	92	3,900		3	0	1	0
Peak Hour	0	28	854	22	0	53	983	55	0	52	5	114	0	70	2	52	2,290		1	0	1	0



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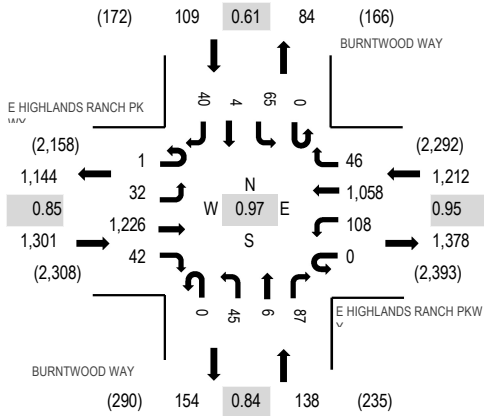
Location: 4 BURNTWOOD WAY & E HIGHLANDS RANCH PKWY PM

Date: Wednesday, November 13, 2024

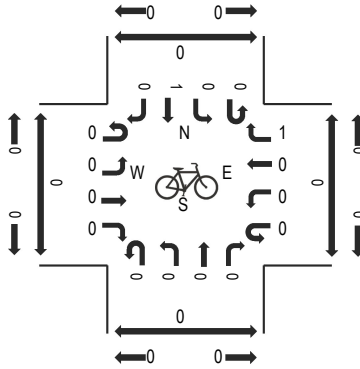
Peak Hour: 03:30 PM - 04:30 PM

Peak 15-Minutes: 03:45 PM - 04:00 PM

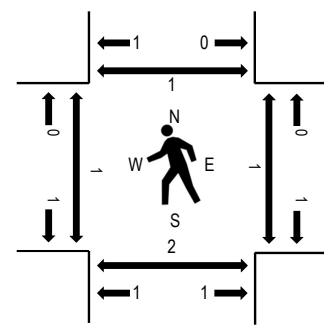
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	E HIGHLANDS RANCH Eastbound				E HIGHLANDS RANCH Westbound				BURNTWOOD WAY Northbound				BURNTWOOD WAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:30 PM	0	4	185	8	0	14	204	1	0	6	0	6	0	2	2	8	440	2,247	0	0	0	0
2:45 PM	1	8	210	4	0	25	237	7	0	9	1	16	0	4	1	15	538	2,498	0	0	0	0
3:00 PM	0	6	292	6	0	25	233	12	0	10	2	24	0	5	1	13	629	2,671	0	0	0	0
3:15 PM	1	18	250	14	0	33	268	21	0	4	2	17	0	4	3	5	640	2,737	0	0	0	0
3:30 PM	0	14	261	12	0	24	275	19	0	11	3	27	0	22	2	21	691	2,760	0	0	1	0
3:45 PM	0	6	306	6	0	25	290	10	0	14	2	20	0	26	0	6	711		1	0	0	1
4:00 PM	0	6	366	10	0	22	234	10	0	8	1	20	0	6	2	10	695		0	0	0	0
4:15 PM	1	6	293	14	0	37	259	7	0	12	0	20	0	11	0	3	663		0	1	1	0
Count Total	3	68	2,163	74	0	205	2,000	87	0	74	11	150	0	80	11	81	5,007		1	1	2	1
Peak Hour	1	32	1,226	42	0	108	1,058	46	0	45	6	87	0	65	4	40	2,760		1	1	2	1



Appendix C Existing Traffic Signal Timing Plans

Station : 31 - HR Pkwy & Burntwood Way (Standard File)

Phase [1.1.1]

	φ1 (WL)	φ2 (ET)	φ3	φ4 (ST)	φ5 (EL)	φ6 (WT)	φ7	φ8 (NT)	φ9	φ10	φ11	φ12	φ13	φ14	φ15	φ16
Walk	0	5	0	5	0	5	0	5	0	0	0	0	0	0	0	0
Ped Clearance	0	14	0	30	0	14	0	30	0	0	0	0	0	0	0	0
Min Green	5	25	0	5	5	25	0	5	0	0	0	0	0	0	0	0
Gap Ext	1.5	3	0	2.5	1.5	3	0	2.5	0	0	0	0	0	0	0	0
Max1	15	40	0	31	15	40	0	31	0	0	0	0	0	0	0	0
Max2	8	20	0	15	8	20	0	15	0	0	0	0	0	0	0	0
Yellow Clr	3	4.5	0	3	3	4.5	0	3	3	3	3	3	3	3	3	3
Red Clr	1	2	0	2	1	2	0	2	2	2	2	2	2	2	2	2
Red Revert	5	5	0	5	5	5	0	5	0	0	0	0	0	0	0	0
Added Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Step	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto Flash Entry				ON				ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																

Phase Option [1.1.2]

	φ1 (WL)	φ2 (ET)	φ3	φ4 (ST)	φ5 (EL)	φ6 (WT)	φ7	φ8 (NT)	φ9	φ10	φ11	φ12	φ13	φ14	φ15	φ16
Enable	ON	ON		ON	ON	ON		ON								
Lock Call									ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry		ON		ON		ON		ON								
Sim Gap Enable	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																

Phase Option+ [1.1.3]/[1.1.5]

	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8	φ9	φ10	φ11	φ12	φ13	φ14	φ15	φ16
Reservice																
Ped Clr Thru Yellow																
Skip Red-NoCall																
Red Rest																
Max 2																
Max Inhibit																
Ped Delay																
Red Rest On Gap																
Conflicting P																
Green Ped Delay Time																
Omit Yel																
Ped Out																
Start Yel																
Inhibit P1		ON														
Inhibit P2																
Inhibit P3																
Inhibit P4																
Inhibit P5						ON										
Inhibit P6																
Inhibit P7																
Inhibit P8																
Call Phs1																
Call Phs2																
Redirect P Calls From 1																
Redirect P Calls To 1																
Redirect P Calls From 2																
Redirect P Calls To 2																
Redirect P Calls From 3																
Redirect P Calls To 3																
Redirect P Calls From 4																
Redirect P Calls To 4																

Prepared By / Date

Reviewed By / Date

Station : 31 - HR Pkwy & Burntwood Way (Standard File)

Ring Sequence [1.2.4]

Ring	P1	P2	P3	P4	P5	P6	P7	P8
Ring 1	1	2	3	4				
Ring 2	5	6	7	8				
Ring 3								
Ring 4								

Unit Parameters [1.2.1]

StartUp Flash	Auto Ped Clear	Red Revert	Local Flash Start	Allow < 3 sec Yel	Allow Skip Yel	MCE Timeout	Enable Run	Start Red Time	Phase Mode	Startup Calls	Diamond Mode	Stop Time Over Preempt	Free Ring Sequence	Clearance Decide	Min Ped Clear Time	RingAlgo			
	OFF	5	RST	OFF	OFF	1	ON	6	STD8	OFF	4PH	OFF	1	OFF	OFF				

Alarms, Parameters [1.4.1]

Auto Flash Parameter

Yellow	Red	Mode	Source

Detector, Vehicle Parameters 1-16 [5.1]

Detector #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Yellow Lock																
Red Lock																
Extend	ON	ON	ON	ON	ON		ON	ON	ON	ON	ON		ON	ON	ON	ON
Added Initial	ON	ON	ON	ON	ON	ON		ON	ON	ON	ON	ON		ON	ON	ON
Call	ON	ON	ON	ON		ON	ON	ON	ON	ON		ON	ON	ON	ON	ON
Call Phase	1	2	2	2	2	2	3	4	4	4	4	4	1	3	5	6
Switch Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Time	0	0	0	0	0	0	0	12	0	3	0	0	0	0	0	0

Detector, Vehicle Parameters 17-32 [5.1]

Detector #	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Yellow Lock																
Red Lock																
Extend	ON	ON	ON		ON	ON	ON	ON	ON		ON	ON				
Added Initial	ON	ON	ON		ON	ON	ON	ON	ON		ON	ON				
Call	ON	ON		ON	ON	ON	ON	ON		ON	ON	ON				
Call Phase	6	6	6	6	7	8	8	8	8	8	5	7	0	0	0	0
Switch Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Time	0	0	0	0	0	12	0	3	0	0	0	0	0	0	0	0

Detector, Ped Detectors 1-16 [5.4]

Detector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Call Phase	0	2	0	4	0	6	0	8								
No Activity	0	0	0	0	0	0	0	0								
Max Presence	15	15	15	15	15	15	15	15								
Erratic Cnt	0	0	0	0	0	0	0	0								

11/27/2024 10:56:54 AM

Channels/SDLC, Assign to Phases [1.8.1]

Channel/SDLC +, Assign to Phases [1.8.4]

Overlap General Parameters [1.5.1]

Overlap Program Parameters [1.5.2.1]

Overlap Conflict Parameters+ [1.5.2.2]

Overlap Program Parameters+ [1.5.2.3]

[illegible]

[illegible]

Station : 31 - HR Pkwy & Burntwood Way (Standard File)

Preemption Times[3.1]/Phases[3.2]/Options[3.3]

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash	ON	ON				
Override Higher Preempt	ON	ON				
Flash in Dwell						
Link to Preempt	0	0	0	0	0	0
Delay	0	0	0	0	0	0
Min Duration	0	0	5	5	5	5
Min Green	0	0	5	5	5	5
Min Walk	0	0	0	0	0	0
Ped Clear	0	0	0	0	0	0
Track Green	0	0	0	0	0	0
Min Dwell	0	0	0	0	0	0
Max Presence	0	0	120	120	120	120
Track Veh 1	0	0	0	0	0	0
Track Veh 2	0	0	0	0	0	0
Track Veh 3	0	0	0	0	0	0
Track Veh 4	0	0	0	0	0	0
Dwell Cyc Veh 1	0	0	2	4	1	8
Dwell Cyc Veh 2	0	0	5	0	6	0
Dwell Cyc Veh 3	0	0	0	0	0	0
Dwell Cyc Veh 4	0	0	0	0	0	0
Dwell Cyc Veh 5	0	0	0	0	0	0
Dwell Cyc Veh 6	0	0	0	0	0	0
Dwell Cyc Veh 7	0	0	0	0	0	0
Dwell Cyc Veh 8	0	0	0	0	0	0
Dwell Cyc Veh 9	0	0	0	0	0	0
Dwell Cyc Veh 10	0	0	0	0	0	0
Dwell Cyc Veh 11	0	0	0	0	0	0
Dwell Cyc Veh 12	0	0	0	0	0	0
Dwell Cyc Ped1	0	0	0	0	0	0
Dwell Cyc Ped2	0	0	0	0	0	0
Dwell Cyc Ped3	0	0	0	0	0	0
Dwell Cyc Ped4	0	0	0	0	0	0
Dwell Cyc Ped5	0	0	0	0	0	0
Dwell Cyc Ped6	0	0	0	0	0	0
Dwell vPed7	0	0	0	0	0	0
Dwell Cyc Ped8	0	0	0	0	0	0
Exit 1	0	0	4	0	4	0
Exit 2	0	0	8	0	8	0
Exit 3	0	0	0	0	0	0
Exit 4	0	0	0	0	0	0

Preemption Times+[3.4]/Overlaps+[3.5]/Options+[3.6]

Preempt	1	2	3	4	5	6
Enable			ON	ON	ON	ON
Type	RAIL	RAIL	EMERG	EMERG	EMERG	EMERG
Skip Track						
Volt Mon Flash						
Coord in Preempt						
Return Max/Min	MAX	MAX	MAX	MAX	MAX	MAX
Extend Dwell	0	0	0	0	0	0
Pattern	0	0	0	0	0	0
Output Mode	TS2	TS2	TS2	TS2	TS2	TS2
Track Over 1	0	0	0	0	0	0
Track Over 2	0	0	0	0	0	0
Track Over 3	0	0	0	0	0	0
Track Over 4	0	0	0	0	0	0
Track Over 5	0	0	0	0	0	0
Track Over 6	0	0	0	0	0	0
Track Over 7	0	0	0	0	0	0
Track Over 8	0	0	0	0	0	0
Track Over 9	0	0	0	0	0	0
Track Over 10	0	0	0	0	0	0
Track Over 11	0	0	0	0	0	0
Track Over 12	0	0	0	0	0	0
DwellCyc Over 1	0	0	0	0	0	0
DwellCyc Over 2	0	0	0	0	0	0
DwellCyc Over 3	0	0	0	0	0	0
DwellCyc Over 4	0	0	0	0	0	0
DwellCyc Over 5	0	0	0	0	0	0
DwellCyc Over 6	0	0	0	0	0	0
DwellCyc Over 7	0	0	0	0	0	0
DwellCyc Over 8	0	0	0	0	0	0
DwellCyc Over 9	0	0	0	0	0	0
DwellCyc Over 10	0	0	0	0	0	0
DwellCyc Over 11	0	0	0	0	0	0
DwellCyc Over 12	0	0	0	0	0	0
Ped Clear	0	0	0	0	0	0
Yellow	0	0	0	0	0	0
Red	0	0	0	0	0	0
Return Max	0	0	0	0	0	0

Preemption Adv Times[3.8]/Init Dwell [3.9]

Preempt	1	2	3	4	5	6
All Red B4 Preempt						
Reset Ext Dwell						
Reservice Preempt						
End Dwell						
DsblDwellCalls						
Enter Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5
Enter Red Clear	25.5	25.5	25.5	25.5	25.5	25.5
Track Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5
Track Red Clear	25.5	25.5	25.5	25.5	25.5	25.5
Dynamic Exit Threshold	0	0	0	0	0	0
Initial Dwell Phase 1	0	0	0	0	0	0
Initial Dwell Phase 2	0	0	0	0	0	0
Initial Dwell Phase 3	0	0	0	0	0	0
Initial Dwell Phase 4	0	0	0	0	0	0
Ped 1	0	0	0	0	0	0
Ped 2	0	0	0	0	0	0
Ped 3	0	0	0	0	0	0
Ped 4	0	0	0	0	0	0
Initial Dwell Overlap 1	0	0	0	0	0	0
Initial Dwell Overlap 2	0	0	0	0	0	0
Initial Dwell Overlap 3	0	0	0	0	0	0
Initial Dwell Overlap 4	0	0	0	0	0	0
Initial Dwell Overlap 5	0	0	0	0	0	0
Initial Dwell Overlap 6	0	0	0	0	0	0
Initial Dwell Overlap 7	0	0	0	0	0	0
Initial Dwell Overlap 8	0	0	0	0	0	0
Initial Dwell Overlap 9	0	0	0	0	0	0
Initial Dwell Overlap 10	0	0	0	0	0	0
Initial Dwell Overlap 11	0	0	0	0	0	0
Initial Dwell Overlap 12	0	0	0	0	0	0
Initial Dwell Overlap 13	0	0	0	0	0	0
Initial Dwell Overlap 14	0	0	0	0	0	0
Initial Dwell Overlap 15	0	0	0	0	0	0

Coordination, Modes, + [2.1]
Modes

Operational	Correct	Maximum	Force-Off
	SHRT/LNG	MAX INH	FLOAT

Coordination, Pattern 1-16 [2.4]

Coordination, Pattern 17-32 [2.4]

Coordination, Pattern+ 1-8 [2.5]

[illegible]

Station : 31 - HR Pkwy & Burntwood Way (Standard File)

Coordination, Pattern+ 9-16 [2.5]

Pattern	9	10	11	12	13	14	15	16
Short	10	10	10	10	10	10	10	10
Long	34	34	34	34	34	34	34	34
Dwell								
No Short P 1								
No Short P 2								
No Short P 3								
No Short P 4								
Early Yield								
Offset	ENDGRN	ENDGRN	ENDGRN	ENDGRN	ENDGRN	ENDGRN	ENDGRN	ENDGRN
CNA								
Max 2								
Float								
Min Veh Perm								
Min Ped Perm								
Percentage								
MI								
Ret Hold	ON	ON	ON	ON	ON	ON	ON	ON
ASC								
Ph Opt Table								
Ph Time Table								
Det Grp								
Call Inh								
Olp Off 1								
Olp Off 2								
Olp Off 3								
Olp Off 4								
Olp Off 5								
Olp Off 6								
Olp Off 7								
Olp Off 8								
Dia Mode	DFT	DFT	DFT	DFT	DFT	DFT	DFT	DFT
Force Mode	DFT	DFT	DFT	DFT	DFT	DFT	DFT	DFT

Coordination, Pattern+ 17 - 24 [2.5]

Pattern	17	18	19	20	21	22	23	24
Short	10	10	10	10	10	10	10	10
Long	34	34	34	34	34	34	34	34
Dwell								
No Short P 1								
No Short P 2								
No Short P 3								
No Short P 4								
Early Yield								
Offset	ENDGRN	ENDGRN	ENDGRN	ENDGRN	ENDGRN	ENDGRN	ENDGRN	ENDGRN
CNA								
Max 2								
Float								
Min Veh Perm								
Min Ped Perm								
Percentage								
MI								
Ret Hold	ON	ON	ON	ON	ON	ON	ON	ON
ASC								
Ph Opt Table								
Ph Time Table								
Det Grp								
Call Inh								
Olp Off 1								
Olp Off 2								
Olp Off 3								
Olp Off 4								
Olp Off 5								
Olp Off 6								
Olp Off 7								
Olp Off 8								
Dia Mode	DFT	DFT	DFT	DFT	DFT	DFT	DFT	DFT
Force Mode	DFT	DFT	DFT	DFT	DFT	DFT	DFT	DFT

Coordination, Splits [2.7.1]

[illegible]

Douglas County Timing Sheet

Timing Sheet

11/27/2024 10:56:54 AM

Station : 31 - HR Pkwy & Burntwood Way (Standard File)

[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]

Douglas County Timing Sheet

Timing Sheet 11/27/2024 10:56:54 AM

11/27/2024 10:56:54 AM

Station : 31 - HR Pkwy & Burntwood Way (Standard File)

[illegible]

Split Table 26	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
----------------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

[illegible]

Split Table 27	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
----------------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

[illegible]

Split Table 28	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
----------------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

[illegible]

Split Table 29	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
----------------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

[illegible]

Split Table 30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
----------------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

[illegible]

Split Table 31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
----------------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

[illegible]

Split Table 32	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
----------------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

[illegible]

TB Coor, Advanced Scheduler [4.3]

TB Coor, Day Plan [4.4]

[illegible]

Douglas County Timing Sheet

Timing Sheet 11/27/2024 10:56:54 AM

11/27/2024 10:56:54 AM

Station : 31 - HR Pkwy & Burntwood Way (Standard File)

[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]

Station : 31 - HR Pkwy & Burntwood Way (Standard File)

TB Coor, Action Table [4.5]

Action	Pattern	Aux 1	Aux 2	Aux 3	Special 1	Special 2	Special 3	Special 4	Special 5	Special 6	Special 7	Special 8
1	1				0	0						
2	2				0	0						
3	3				0	0						
4	4				0	0						
5	5				0	0						
6	6				0	0						
7	7				0	0						
8	8				0	0						
9	9				0	0						
10	10				0	0						
11	11				0	0						
12	12				0	0						
13	13				0	0						
14	14				0	0						
15	15				0	0						
16	16				0	0						
17	17				0	0						
18	18				0	0						
19	19				0	0						
20	20				0	0						
21	21				0	0						
22	22				0	0						
23	23				0	0						
24	24				0	0						
25	25				0	0						
26	26				0	0						
27	27				0	0						
28	28				0	0						
29	29				0	0						
30	30				0	0						
31	31				0	0						
32	32				0	0						
33					0	0						
34					0	0						
35					0	0						
36					0	0						
37					0	0						
38					0	0						
39					0	0						
40					0	0						
41					0	0						
42					0	0						
43					0	0						
44					0	0						
45					0	0						
46					0	0						
47					0	0						
48					0	0						
49					0	0						
50					0	0						
51					0	0						
52					0	0						
53					0	0						
54					0	0						
55					0	0						
56					0	0						
57					0	0						
58					0	0						
59					0	0						
60					0	0						
61					0	0						
62					0	0						
63					0	0						
64					0	0						
99	254				0	0						
100	255				0	0						

Station : 31 - HR Pkwy & Burntwood Way (Standard File)

Alternate Phase Program 1, Interval Times [1.1.6.1]

[illegible]

Alternate Phase Program 2, Interval Times [1.1.6.1]

[illegible]

Alternate Phase Program 1, >Phase Options [1.1.6.2]

[illegible]

Alternate Phase Program 2, Phase Options [1.1.6.2]

[illegible]

Alternate Phase Program 3, Phase Options [1.1.6.2]

[illegible]

Alternate Phase Program 1, Calls and Redirection [1.1.6.3]

[illegible]

Alternate Phase Program 2, Calls and Redirection [1.1.6.3]

[illegible]

Detector Alternate Program 1, Vehicle Parameters [5.5.1]

Detector Alternate Program 2, Vehicle Parameters [5.5.1]

User Input map [1.8.9.1]

User Output map [1.8.9.2]























[illegible]



Appendix D Existing Level of Service Reports

Lanes, Volumes, Timings
85: Broadway & Salford Ln













12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	2	26	9	0	191	15	983	5	93	559	36
Future Volume (vph)	77	2	26	9	0	191	15	983	5	93	559	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	65		70	150		0	250		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.862				0.850		0.999			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1606	0	1770	1863	1583	1770	3536	0	1770	3507	0
Flt Permitted	0.757			0.734			0.414			0.119		
Satd. Flow (perm)	1410	1606	0	1367	1863	1583	771	3536	0	222	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33				201		1			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		188			2065			1259			1188	
Travel Time (s)		4.3			46.9			28.6			27.0	
Peak Hour Factor	0.80	0.80	0.80	0.61	0.61	0.61	0.80	0.80	0.80	0.95	0.95	0.95
Adj. Flow (vph)	96	3	33	15	0	313	19	1229	6	98	588	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	36	0	15	0	313	19	1235	0	98	626	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Perm	NA		Perm		Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Minimum Split (s)	26.0	26.0		29.0	29.0	29.0	26.5	26.5		10.5	26.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	60.0	60.0		15.0	75.0	
Total Split (%)	28.6%	28.6%		28.6%	28.6%	28.6%	57.1%	57.1%		14.3%	71.4%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	53.5	53.5		9.5	68.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	6.5	6.5		5.5	6.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)	16.5	16.5		19.5	19.5	19.5	9.5	9.5			6.5	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)	25.5	25.5		25.5		25.5	53.5	53.5		69.5	68.5	
Actuated g/C Ratio	0.24	0.24		0.24		0.24	0.51	0.51		0.66	0.65	
v/c Ratio	0.28	0.09		0.05		0.58	0.05	0.69		0.34	0.27	

Lanes, Volumes, Timings

85: Broadway & Salford Ln

12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	35.0	12.2		31.1		17.5	13.5	21.9		9.7	7.9	
Queue Delay	0.0	0.0		0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	35.0	12.2		31.1		17.5	13.5	21.9		9.7	7.9	
LOS	D	B		C		B	B	C		A	A	
Approach Delay	28.8			18.1			21.7			8.1		
Approach LOS	C			B			C			A		
Queue Length 50th (ft)	53	2		8		62	6	315		21	82	
Queue Length 95th (ft)	87	22		17		51	17	324		40	109	
Internal Link Dist (ft)	108			1985			1179			1108		
Turn Bay Length (ft)	150			65		70	150			250		
Base Capacity (vph)	342	415		331		536	392	1802		287	2292	
Starvation Cap Reductn	0	0		0		0	0	0		0	0	
Spillback Cap Reductn	0	0		0		0	0	0		0	0	
Storage Cap Reductn	0	0		0		0	0	0		0	0	
Reduced v/c Ratio	0.28	0.09		0.05		0.58	0.05	0.69		0.34	0.27	

Intersection Summary

Area Type: Other

Cycle Length: 105

Actuated Cycle Length: 105

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Pretimed

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 17.6

Intersection LOS: B

Intersection Capacity Utilization 58.8%

ICU Level of Service B












Analysis Period (min) 15

Splits and Phases: 85: Broadway & Salford Ln



Lanes, Volumes, Timings
94: Burntwood Way & Highlands Ranch Pkwy


12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	854	22	53	983	55	52	5	114	70	2	52
Future Volume (vph)	28	854	22	53	983	55	52	5	114	70	2	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	150		0	65		65	70		70
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5065	0	1770	5045	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.159			0.158			0.756			0.754		
Satd. Flow (perm)	296	5065	0	294	5045	0	1408	1863	1583	1405	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			12				131			95
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			411			2035			143	
Travel Time (s)		5.5			9.3			46.3			3.3	
Peak Hour Factor	0.74	0.74	0.74	0.88	0.88	0.88	0.87	0.87	0.87	0.70	0.70	0.70
Adj. Flow (vph)	38	1154	30	60	1117	63	60	6	131	100	3	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	1184	0	60	1180	0	60	6	131	100	3	74
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Minimum Split (s)	9.0	31.5		9.0	31.5		37.0	37.0	37.0	37.0	37.0	37.0
Total Split (s)	15.0	40.0		15.0	40.0		31.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	17.4%	46.5%		17.4%	46.5%		36.0%	36.0%	36.0%	36.0%	36.0%	36.0%
Maximum Green (s)	11.0	33.5		11.0	33.5		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5		4.0	6.5		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		9.5			9.5		27.0	27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effct Green (s)	47.0	33.5		47.0	33.5		26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.55	0.39		0.55	0.39		0.30	0.30	0.30	0.30	0.30	0.30
v/c Ratio	0.11	0.60		0.17	0.60		0.14	0.01	0.23	0.24	0.01	0.14

Lanes, Volumes, Timings

94: Burntwood Way & Highlands Ranch Pkwy

12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	8.1	22.4		8.7	22.2		23.1	21.2	5.5	24.4	21.0	3.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	22.4		8.7	22.2		23.1	21.2	5.5	24.4	21.0	3.9
LOS	A	C		A	C		C	C	A	C	C	A
Approach Delay	21.9			21.6			11.3			15.8		
Approach LOS	C			C			B			B		
Queue Length 50th (ft)	8	182		13	180		24	2	0	40	1	0
Queue Length 95th (ft)	16	174		27	218		51	11	35	60	6	8
Internal Link Dist (ft)	161			331			1955			63		
Turn Bay Length (ft)	130			150			65		65	70		70
Base Capacity (vph)	350	1976		349	1972		425	563	569	424	563	544
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.60		0.17	0.60		0.14	0.01	0.23	0.24	0.01	0.14

Intersection Summary

Area Type: Other

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 20.6

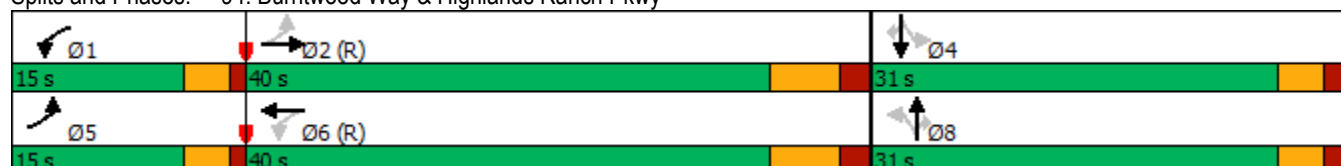
Intersection LOS: C

Intersection Capacity Utilization 48.5%

ICU Level of Service A
























Analysis Period (min) 15

Splits and Phases: 94: Burntwood Way & Highlands Ranch Pkwy



Lanes, Volumes, Timings
85: Broadway & Salford Ln

12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	1	13	17	2	133	14	1015	7	128	979	66
Future Volume (vph)	53	1	13	17	2	133	14	1015	7	128	979	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	65		70	150		0	250		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.860				0.850		0.999			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1602	0	1770	1863	1583	1770	3536	0	1770	3507	0
Flt Permitted	0.756			0.748			0.257			0.146		
Satd. Flow (perm)	1408	1602	0	1393	1863	1583	479	3536	0	272	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				185		1			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		188			2065			1259			1188	
Travel Time (s)		4.3			46.9			28.6			27.0	
Peak Hour Factor	0.94	0.94	0.94	0.72	0.72	0.72	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	56	1	14	24	3	185	16	1128	8	136	1041	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	15	0	24	3	185	16	1136	0	136	1111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Minimum Split (s)	26.0	26.0		29.0	29.0	29.0	26.5	26.5		10.5	26.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	60.0	60.0		15.0	75.0	
Total Split (%)	28.6%	28.6%		28.6%	28.6%	28.6%	57.1%	57.1%		14.3%	71.4%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	53.5	53.5		9.5	68.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	6.5	6.5		5.5	6.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)	16.5	16.5		19.5	19.5	19.5	9.5	9.5			6.5	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)	25.5	25.5		25.5	25.5	25.5	53.5	53.5		69.5	68.5	
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24	0.51	0.51		0.66	0.65	
v/c Ratio	0.16	0.04		0.07	0.01	0.35	0.07	0.63		0.43	0.48	













Existing PM 4:45 pm 11/05/2024

Synchro 11 Report
Page 1

Lanes, Volumes, Timings

85: Broadway & Salford Ln

12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	33.0	15.3		31.5	30.5	6.8	14.1	20.6		10.9	10.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	33.0	15.3		31.5	30.5	6.8	14.1	20.6		10.9	10.0	
LOS	C	B		C	C	A	B	C		B	B	
Approach Delay		29.2			10.0			20.5			10.1	
Approach LOS		C			A			C			B	
Queue Length 50th (ft)	30	1		12	2	0	5	278		30	178	
Queue Length 95th (ft)	64	17		27	7	23	18	347		52	224	
Internal Link Dist (ft)		108			1985			1179			1108	
Turn Bay Length (ft)	150			65		70	150			250		
Base Capacity (vph)	341	399		338	452	524	244	1802		315	2292	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.16	0.04		0.07	0.01	0.35	0.07	0.63		0.43	0.48	

Intersection Summary

Area Type: Other

Cycle Length: 105

Actuated Cycle Length: 105

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Pretimed

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 15.1

Intersection LOS: B

Intersection Capacity Utilization 70.0%

ICU Level of Service C

Analysis Period (min) 15



























Splits and Phases: 85: Broadway & Salford Ln



Lanes, Volumes, Timings

94: Burntwood Way & Highlands Ranch Pkwy

12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	33	1226	42	108	1058	46	45	6	87	65	4	40
Future Volume (vph)	33	1226	42	108	1058	46	45	6	87	65	4	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	150		0	65		65	70		70
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5060	0	1770	5055	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.164			0.119			0.753			0.753		
Satd. Flow (perm)	305	5060	0	222	5055	0	1403	1863	1583	1403	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			9				104			95
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			411			2035			143	
Travel Time (s)		5.5			9.3			46.3			3.3	
Peak Hour Factor	0.85	0.85	0.85	0.95	0.95	0.95	0.84	0.84	0.84	0.61	0.61	0.61
Adj. Flow (vph)	39	1442	49	114	1114	48	54	7	104	107	7	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	1491	0	114	1162	0	54	7	104	107	7	66
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Minimum Split (s)	9.0	31.5		9.0	31.5		37.0	37.0	37.0	37.0	37.0	37.0
Total Split (s)	15.0	40.0		15.0	40.0		31.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	17.4%	46.5%		17.4%	46.5%		36.0%	36.0%	36.0%	36.0%	36.0%	36.0%
Maximum Green (s)	11.0	33.5		11.0	33.5		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5		4.0	6.5		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		9.5			9.5		27.0	27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effct Green (s)	47.0	33.5		47.0	33.5		26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.55	0.39		0.55	0.39		0.30	0.30	0.30	0.30	0.30	0.30
v/c Ratio	0.11	0.75		0.36	0.59		0.13	0.01	0.19	0.25	0.01	0.12

Existing PM 4:45 pm 11/05/2024


Synchro 11 Report

Page 3

Lanes, Volumes, Timings

94: Burntwood Way & Highlands Ranch Pkwy

12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	8.1	25.6		11.5	22.1		22.9	21.2	5.8	24.7	21.2	2.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	25.6		11.5	22.1		22.9	21.2	5.8	24.7	21.2	2.9
LOS	A	C		B	C		C	C	A	C	C	A
Approach Delay	25.2			21.2			12.1			16.6		
Approach LOS	C			C			B			B		
Queue Length 50th (ft)	8	248		25	176		21	3	0	43	3	0
Queue Length 95th (ft)	19	279		48	221		45	11	30	55	8	0
Internal Link Dist (ft)	161			331			1955			63		
Turn Bay Length (ft)	130			150			65		65	70		70
Base Capacity (vph)	354	1975		319	1974		424	563	551	424	563	544
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.75		0.36	0.59		0.13	0.01	0.19	0.25	0.01	0.12

Intersection Summary

Area Type: Other

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 45 (52%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 22.4

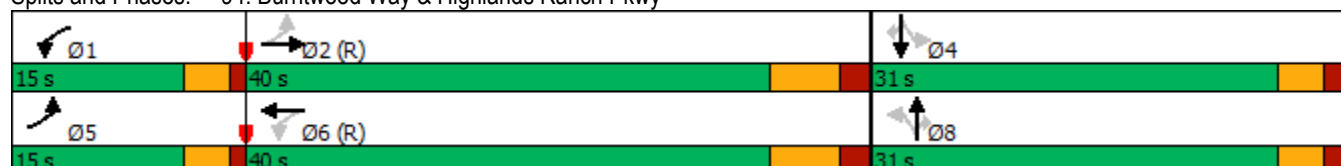
Intersection LOS: C

Intersection Capacity Utilization 53.8%

ICU Level of Service A





Analysis Period (min) 15




Splits and Phases: 94: Burntwood Way & Highlands Ranch Pkwy



HCM 2010 TWSC
89: Salford Ln & Bear Canyon Access

12/20/2024

Intersection						
Int Delay, s/veh	4.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	43	47	49	37	28
Future Vol, veh/h	22	43	47	49	37	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	36	36	49	49	63	63
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	119	96	100	59	44
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	308	146	0	0	196	0
Stage 1	146	-	-	-	-	-
Stage 2	162	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	684	901	-	-	1377	-
Stage 1	881	-	-	-	-	-
Stage 2	867	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	654	901	-	-	1377	-
Mov Cap-2 Maneuver	654	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.1	0	4.4			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 654 901 1377		-		
HCM Lane V/C Ratio	-	- 0.093 0.133 0.043		-		
HCM Control Delay (s)	-	- 11.1 9.6 7.7		0		
HCM Lane LOS	-	- B A A		A		
HCM 95th %tile Q(veh)	-	- 0.3 0.5 0.1		-		

Intersection						
Int Delay, s/veh	5.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	49	50	28	34	17
Future Vol, veh/h	24	49	50	28	34	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	46	46	67	67	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	107	75	42	60	30
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	246	96	0	0	117	0
Stage 1	96	-	-	-	-	-
Stage 2	150	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	742	960	-	-	1471	-
Stage 1	928	-	-	-	-	-
Stage 2	878	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	712	960	-	-	1471	-
Mov Cap-2 Maneuver	712	-	-	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	842	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.1	0		5		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		861	1471	
HCM Lane V/C Ratio	-	-		0.184	0.041	
HCM Control Delay (s)	-	-		10.1	7.6	
HCM Lane LOS	-	-		B	A	
HCM 95th %tile Q(veh)	-	-		0.7	0.1	

Intersection												
Int Delay, s/veh	85.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	33	0	215	15	1587	39	111	857	1
Future Vol, veh/h	0	0	0	33	0	215	15	1587	39	111	857	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	90	170	-	-	190	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	30	30	30	62	62	62	89	89	89	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	53	0	347	17	1783	44	132	1020	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2032	3146	511	2511	3124	914	1021	0	0	1827	0	0
Stage 1	1285	1285	-	1839	1839	-	-	-	-	-	-	-
Stage 2	747	1861	-	672	1285	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	61	11	435	~ 30	11	~ 237	382	-	-	153	-	-
Stage 1	126	233	-	~ 50	124	-	-	-	-	-	-	-
Stage 2	337	121	-	375	233	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	1	435	~ 8	1	~ 237	382	-	-	153	-	-
Mov Cap-2 Maneuver	-	1	-	~ 8	1	-	-	-	-	-	-	-
Stage 1	120	32	-	~ 48	118	-	-	-	-	-	-	-
Stage 2	-	116	-	~ 51	32	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	\$ 692	0.1	11.3
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	382	-	-	- 8 237	153	-	-
HCM Lane V/C Ratio	0.044	-	-	- 6.653 1.463	0.864	-	-
HCM Control Delay (s)	14.9	-	-	0 \$ 3449 268.8	98.3	-	-
HCM Lane LOS	B	-	-	A F F F	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	- 8.1 20.2	5.9	-	-





Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 2010 TWSC
89: Salford Ln & Bear Canyon Access

12/20/2024

Intersection




Int Delay, s/veh 3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	30	70	17	13	35
Future Vol, veh/h	33	30	70	17	13	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	61	61	59	59	59	59
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	49	119	29	22	59

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	237	134	0
Stage 1	134	-	-
Stage 2	103	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	751	915	-
Stage 1	892	-	-
Stage 2	921	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	739	915	-
Mov Cap-2 Maneuver	739	-	-
Stage 1	892	-	-
Stage 2	906	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	-	739	915
HCM Lane V/C Ratio	-	-	0.073	0.054
HCM Control Delay (s)	-	-	10.3	9.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.2

Intersection						
Int Delay, s/veh	5.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	44	48	60	40	23
Future Vol, veh/h	44	44	48	60	40	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	53	53	73	73	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	83	83	66	82	47	27
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	228	107	0	0	148	0
Stage 1	107	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	760	947	-	-	1434	-
Stage 1	917	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	735	947	-	-	1434	-
Mov Cap-2 Maneuver	735	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	874	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.4	0		4.8		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	828		1434	-	
HCM Lane V/C Ratio	-	0.201		0.032	-	
HCM Control Delay (s)	-	10.4		7.6	0	
HCM Lane LOS	-	B		A	A	
HCM 95th %tile Q(veh)	-	0.7		0.1	-	

Intersection												
Int Delay, s/veh	24.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↕		↕		↕		↕	
Traffic Vol, veh/h	0	0	8	13	1	158	2	1356	61	149	1222	0
Future Vol, veh/h	0	0	8	13	1	158	2	1356	61	149	1222	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	90	170	-	-	190	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	42	42	42	56	56	56	90	90	90	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	19	23	2	282	2	1507	68	164	1343	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2279	3250	672	2410	3216	788	1343	0	0	1575	0	0
Stage 1	1671	1671	-	1545	1545	-	-	-	-	-	-	-
Stage 2	608	1579	-	865	1671	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	42	9	342	35	10	287	266	-	-	205	-	-
Stage 1	67	151	-	82	174	-	-	-	-	-	-	-
Stage 2	410	168	-	285	151	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	0	2	342	~ 11	2	287	266	-	-	205	-	-
Mov Cap-2 Maneuver	0	2	-	~ 11	2	-	-	-	-	-	-	-
Stage 1	66	30	-	81	173	-	-	-	-	-	-	-
Stage 2	7	167	-	54	30	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	16.1		232.6		0		7.5					
HCM LOS	C		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	266	-	-	342	8	287	205	-	-			
HCM Lane V/C Ratio	0.008	-	-	0.056	3.125	0.983	0.799	-	-			
HCM Control Delay (s)	18.6	-	-	16.3	1861.3	88.3	68.7	-	-			
HCM Lane LOS	C	-	-	C	F	F	F	-	-			
HCM 95th %tile Q(veh)	0	-	-	0.2	4.3	10	5.7	-	-			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				



Appendix E Crash Diagrams and Listings

BROADWAY & SOUTHPARK RD

2019 - 2024

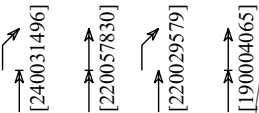
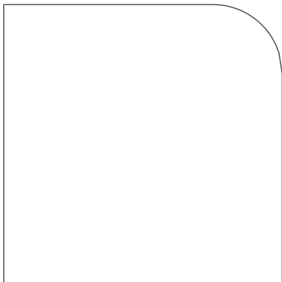
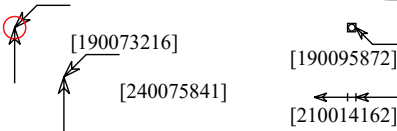
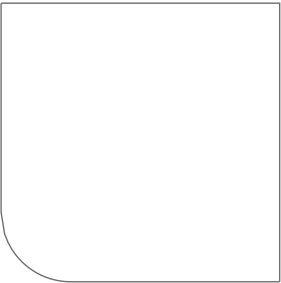
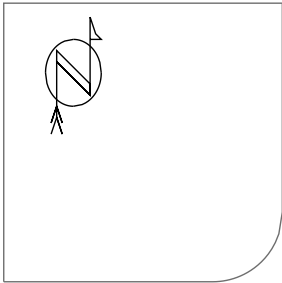
8 Crashes

Clear

Casetrackingid	Accidenttime	Accidentdate	Primarystreet	Crossstreet	Onroadaddress	Numberinjured	Numberkilled	Harmfuleventl
190004065	7:16 am	1/10/2019	BROADWAY	SOUTHPARK RD		0	0	Front to Rear
190073216	9:50 am	6/24/2019	BROADWAY	SOUTHPARK RD		2	0	Front to Front
190095872	9:24 am	8/23/2019	SOUTHPARK RD	BROADWAY		0	0	Sign
210014162	9:55 am	2/18/2021	SOUTHPARK RD	BROADWAY		0	0	Front to Rear
220029579	9:45 am	4/16/2022	BROADWAY	SOUTHPARK RD		0	0	Front to Side
220057830	11:49 am	7/21/2022	BROADWAY	SOUTHPARK RD		0	0	Front to Rear
240031496	2:13 pm	4/5/2024	BROADWAY	SOUTHPARK RD		0	0	Front to Rear
240075841	3:18 pm	8/13/2024	BROADWAY	SOUTHPARK RD		0	0	Front to Side

8 Crashes

Clear



- ← Straight
- ←+ Stopped
- ← Unknown
- ↔ Backing
- ↔ Overtaking
- ↔ Sideswipe

- Parked
- Weaving
- Changing Ln
- Right turn
- Left turn
- U-turn

- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

- 3rd Vehicle
- Motorcycle
- Overturn

- Fixed objects:
- ☐ General
 - ☐ Public Obj
 - ☐ Animal
 - ☐ Private Obj

HIGHLANDS RANCH PKWY & BURNTWOOD WAY

2019 - 2024

11 Crashes

Clear

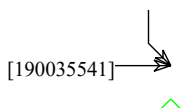
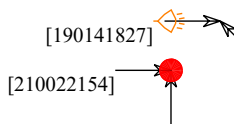
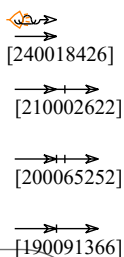
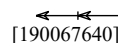
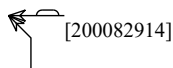
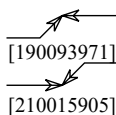
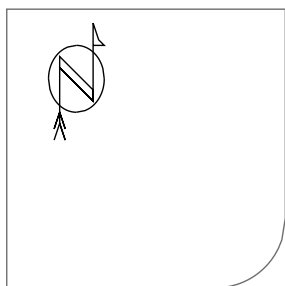
Casetrackingid	Accidenttime	Accidentdate	Primarystreet	Crossstreet	Onroadaddress	Numberinjured	Numberkilled	Harmfuleventl
190035541	1:27 pm	3/24/2019	HIGHLANDS RANCH PKWY	BURNTWOOD WAY		0	0	Front to Side
190067640	12:17 pm	6/10/2019	HIGHLANDS RANCH PKWY	BURNTWOOD WAY		0	0	Front to Rear
190091366	8:21 am	8/12/2019	HIGHLANDS RANCH PKWY	BURNTWOOD WAY		0	0	Front to Rear
190093971	2:39 pm	8/18/2019	HIGHLANDS RANCH PKWY	BURNTWOOD WAY		0	0	Front to Side
190141827	7:21 pm	12/21/2019	HIGHLANDS RANCH PKWY	BURNTWOOD WAY		0	0	Front to Side
200065252	3:12 pm	7/9/2020	HIGHLANDS RANCH PKWY	BURNTWOOD WAY		0	0	Front to Rear
200082914	12:24 pm	9/8/2020	HIGHLANDS RANCH PKWY	BURNTWOOD WAY		0	0	Side to Side - Same Direction
210002622	9:20 am	1/11/2021	HIGHLANDS RANCH PKWY	BURNTWOOD WAY		0	0	Front to Side
210015905	3:32 pm	2/24/2021	HIGHLANDS RANCH PKWY	BURNTWOOD WAY		0	0	Front to Front
210022154	7:50 am	3/19/2021	HIGHLANDS RANCH PKWY	BURNTWOOD WAY		1	1	Front to Side
240018426	9:00 pm	2/23/2024	HIGHLANDS RANCH PKWY	BURNTWOOD WAY		0	0	Side to Side - Same Direction

HIGHLANDS RANCH PKWY & BURNTWOOD WAY

2019 - 2024

11 Crashes

Clear



← Straight
 ←+ Stopped
 ← Unknown
 ↔ Backing
 ↔ Overtaking
 ← Sideswipe

▭ Parked
 ← Weaving
 ← Changing Ln
 ↘ Right turn
 ↙ Left turn
 ↺ U-turn

× Pedestrian
 ⊗ Bicycle
 ○ Injury
 ● Fatality
 ⚡ Nighttime
 🚫 DUI

◀ 3rd Vehicle
 ←-M- Motorcycle
 ←-O- Overturn

Fixed objects:
 □ General ☒ Animal
 ☑ Public Obj ☒ Private Obj
























Crash Magic Online 11/13/2024



Appendix F Projected Level of Service Reports

Lanes, Volumes, Timings
85: Broadway & Sylvester Rd/Salford Ln

12/20/2024













												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	2	26	9	0	382	15	983	5	208	559	36
Future Volume (vph)	77	2	26	9	0	382	15	983	5	208	559	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	65		70	150		0	250		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.862				0.850		0.999			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1606	0	1770	1863	1583	1770	3536	0	1770	3507	0
Flt Permitted	0.757			0.734			0.414			0.119		
Satd. Flow (perm)	1410	1606	0	1367	1863	1583	771	3536	0	222	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33				201		1			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		188			2065			1259			1188	
Travel Time (s)		4.3			46.9			28.6			27.0	
Peak Hour Factor	0.80	0.80	0.80	0.61	0.61	0.61	0.80	0.80	0.80	0.95	0.95	0.95
Adj. Flow (vph)	96	3	33	15	0	626	19	1229	6	219	588	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	36	0	15	0	626	19	1235	0	219	626	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Perm	NA		Perm		Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Minimum Split (s)	26.0	26.0		29.0	29.0	29.0	26.5	26.5		10.5	26.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	60.0	60.0		15.0	75.0	
Total Split (%)	28.6%	28.6%		28.6%	28.6%	28.6%	57.1%	57.1%		14.3%	71.4%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	53.5	53.5		9.5	68.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	6.5	6.5		5.5	6.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)	16.5	16.5		19.5	19.5	19.5	9.5	9.5			6.5	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)	25.5	25.5		25.5		25.5	53.5	53.5		69.5	68.5	
Actuated g/C Ratio	0.24	0.24		0.24		0.24	0.51	0.51		0.66	0.65	
v/c Ratio	0.28	0.09		0.05		1.17	0.05	0.69		0.76	0.27	

Total AM 10:36 am 02/12/2024 Baseline

Synchro 11 Report
Page 1

Lanes, Volumes, Timings
85: Broadway & Sylvestor Rd/Salford Ln

12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	35.0	12.2		31.1		120.2	13.5	21.9		30.4	7.9	
Queue Delay	0.0	0.0		0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	35.0	12.2		31.1		120.2	13.5	21.9		30.4	7.9	
LOS	D	B		C		F	B	C		C	A	
Approach Delay	28.8			118.1			21.7			13.7		
Approach LOS	C			F			C			B		
Queue Length 50th (ft)	53	2		8		~394	6	315		51	82	
Queue Length 95th (ft)	87	22		17		239	17	324		#165	109	
Internal Link Dist (ft)	108			1985			1179			1108		
Turn Bay Length (ft)	150			65		70	150			250		
Base Capacity (vph)	342	415		331		536	392	1802		287	2292	
Starvation Cap Reductn	0	0		0		0	0	0		0	0	
Spillback Cap Reductn	0	0		0		0	0	0		0	0	
Storage Cap Reductn	0	0		0		0	0	0		0	0	
Reduced v/c Ratio	0.28	0.09		0.05		1.17	0.05	0.69		0.76	0.27	

Intersection Summary

Area Type: Other

Cycle Length: 105

Actuated Cycle Length: 105

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 1.17

Intersection Signal Delay: 41.2

Intersection LOS: D

Intersection Capacity Utilization 68.2%

ICU Level of Service C

Analysis Period (min) 15

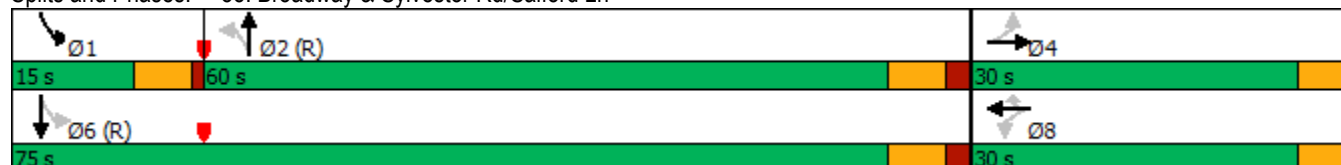
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.




























Splits and Phases: 85: Broadway & Sylvestor Rd/Salford Ln



Lanes, Volumes, Timings

94: Burntwood Way & Highlands Ranch Pkwy

12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	28	854	22	22	983	55	52	13	120	70	47	52
Future Volume (vph)	28	854	22	22	983	55	52	13	120	70	47	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	150		0	65		65	70		70
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5065	0	1770	5045	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.159			0.158			0.713			0.748		
Satd. Flow (perm)	296	5065	0	294	5045	0	1328	1863	1583	1393	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			12				138			95
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			411			2035			143	
Travel Time (s)		5.5			9.3			46.3			3.3	
Peak Hour Factor	0.74	0.74	0.74	0.88	0.88	0.88	0.87	0.87	0.87	0.70	0.70	0.70
Adj. Flow (vph)	38	1154	30	25	1117	63	60	15	138	100	67	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	1184	0	25	1180	0	60	15	138	100	67	74
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Minimum Split (s)	9.0	31.5		9.0	31.5		37.0	37.0	37.0	37.0	37.0	37.0
Total Split (s)	15.0	40.0		15.0	40.0		31.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	17.4%	46.5%		17.4%	46.5%		36.0%	36.0%	36.0%	36.0%	36.0%	36.0%
Maximum Green (s)	11.0	33.5		11.0	33.5		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5		4.0	6.5		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		9.5			9.5		27.0	27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effct Green (s)	47.0	33.5		47.0	33.5		26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.55	0.39		0.55	0.39		0.30	0.30	0.30	0.30	0.30	0.30
v/c Ratio	0.11	0.60		0.07	0.60		0.15	0.03	0.24	0.24	0.12	0.14

Total AM 10:36 am 02/12/2024 Baseline


Synchro 11 Report

Page 3

Lanes, Volumes, Timings

94: Burntwood Way & Highlands Ranch Pkwy

12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	8.1	22.4		7.8	22.2		23.2	21.4	5.4	24.5	22.5	3.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	22.4		7.8	22.2		23.2	21.4	5.4	24.5	22.5	3.9
LOS	A	C		A	C		C	C	A	C	C	A
Approach Delay	21.9			21.9			11.5			17.6		
Approach LOS	C			C			B			B		
Queue Length 50th (ft)	8	182		5	180		24	6	0	40	26	0
Queue Length 95th (ft)	16	174		15	218		51	19	36	60	43	8
Internal Link Dist (ft)	161			331			1955			63		
Turn Bay Length (ft)	130			150			65		65	70		70
Base Capacity (vph)	350	1976		349	1972		401	563	574	421	563	544
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.60		0.07	0.60		0.15	0.03	0.24	0.24	0.12	0.14

Intersection Summary

Area Type: Other

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 20.8

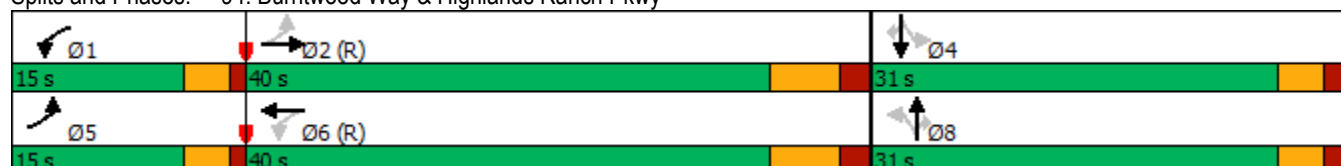
Intersection LOS: C

Intersection Capacity Utilization 46.2%

ICU Level of Service A
























Analysis Period (min) 15

Splits and Phases: 94: Burntwood Way & Highlands Ranch Pkwy



Lanes, Volumes, Timings
85: Broadway & Sylvester Rd/Salford Ln

12/20/2024













												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	1	13	17	2	239	14	1015	7	228	979	66
Future Volume (vph)	53	1	13	17	2	239	14	1015	7	228	979	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	65		70	150		0	250		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.860				0.850		0.999			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1602	0	1770	1863	1583	1770	3536	0	1770	3507	0
Flt Permitted	0.756			0.748			0.257			0.146		
Satd. Flow (perm)	1408	1602	0	1393	1863	1583	479	3536	0	272	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				212		1			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		188			2065			1259			1188	
Travel Time (s)		4.3			46.9			28.6			27.0	
Peak Hour Factor	0.94	0.94	0.94	0.72	0.72	0.72	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	56	1	14	24	3	332	16	1128	8	243	1041	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	15	0	24	3	332	16	1136	0	243	1111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Minimum Split (s)	26.0	26.0		29.0	29.0	29.0	26.5	26.5		10.5	26.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	60.0	60.0		15.0	75.0	
Total Split (%)	28.6%	28.6%		28.6%	28.6%	28.6%	57.1%	57.1%		14.3%	71.4%	
Maximum Green (s)	25.5	25.5		25.5	25.5	25.5	53.5	53.5		9.5	68.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	6.5	6.5		5.5	6.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)	16.5	16.5		19.5	19.5	19.5	9.5	9.5			6.5	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)	25.5	25.5		25.5	25.5	25.5	53.5	53.5		69.5	68.5	
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24	0.51	0.51		0.66	0.65	
v/c Ratio	0.16	0.04		0.07	0.01	0.61	0.07	0.63		0.77	0.48	

Total PM 4:45 pm 11/05/2024

Synchro 11 Report
Page 1

Lanes, Volumes, Timings
85: Broadway & Sylvestor Rd/Salford Ln

12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	33.0	15.3		31.5	30.5	18.0	14.1	20.6		27.7	10.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	33.0	15.3		31.5	30.5	18.0	14.1	20.6		27.7	10.0	
LOS	C	B		C	C	B	B	C		C	B	
Approach Delay		29.2			19.0			20.5			13.2	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	30	1		12	2	66	5	278		58	178	
Queue Length 95th (ft)	64	17		27	7	91	18	347		#120	224	
Internal Link Dist (ft)		108			1985			1179			1108	
Turn Bay Length (ft)	150			65		70	150			250		
Base Capacity (vph)	341	399		338	452	544	244	1802		315	2292	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.16	0.04		0.07	0.01	0.61	0.07	0.63		0.77	0.48	

Intersection Summary

Area Type: Other

Cycle Length: 105

Actuated Cycle Length: 105

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 17.2

Intersection LOS: B

Intersection Capacity Utilization 70.0%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



























Splits and Phases: 85: Broadway & Sylvestor Rd/Salford Ln



Lanes, Volumes, Timings

94: Burntwood Way & Highlands Ranch Pkwy

12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	33	1226	42	141	1058	46	45	36	87	65	4	40
Future Volume (vph)	33	1226	42	141	1058	46	45	36	87	65	4	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	150		0	65		65	70		70
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5060	0	1770	5055	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.164			0.119			0.753			0.729		
Satd. Flow (perm)	305	5060	0	222	5055	0	1403	1863	1583	1358	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			9				104			95
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		241			411			2035			143	
Travel Time (s)		5.5			9.3			46.3			3.3	
Peak Hour Factor	0.85	0.85	0.85	0.95	0.95	0.95	0.84	0.84	0.84	0.61	0.61	0.61
Adj. Flow (vph)	39	1442	49	148	1114	48	54	43	104	107	7	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	1491	0	148	1162	0	54	43	104	107	7	66
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Minimum Split (s)	9.0	31.5		9.0	31.5		37.0	37.0	37.0	37.0	37.0	37.0
Total Split (s)	15.0	40.0		15.0	40.0		31.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	17.4%	46.5%		17.4%	46.5%		36.0%	36.0%	36.0%	36.0%	36.0%	36.0%
Maximum Green (s)	11.0	33.5		11.0	33.5		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5		4.0	6.5		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		9.5			9.5		27.0	27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effct Green (s)	47.0	33.5		47.0	33.5		26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.55	0.39		0.55	0.39		0.30	0.30	0.30	0.30	0.30	0.30
v/c Ratio	0.11	0.75		0.46	0.59		0.13	0.08	0.19	0.26	0.01	0.12


Total PM 4:45 pm 11/05/2024

Synchro 11 Report
Page 3

Lanes, Volumes, Timings

94: Burntwood Way & Highlands Ranch Pkwy

12/20/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	8.1	25.6		15.1	22.1		22.9	22.0	5.8	24.9	21.2	2.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	25.6		15.1	22.1		22.9	22.0	5.8	24.9	21.2	2.9
LOS	A	C		B	C		C	C	A	C	C	A
Approach Delay		25.2			21.3			13.9			16.7	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	8	248		33	176		21	17	0	44	3	0
Queue Length 95th (ft)	19	279		74	221		45	38	30	55	8	0
Internal Link Dist (ft)		161			331			1955			63	
Turn Bay Length (ft)	130			150			65		65	70		70
Base Capacity (vph)	354	1975		319	1974		424	563	551	410	563	544
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.75		0.46	0.59		0.13	0.08	0.19	0.26	0.01	0.12

Intersection Summary

Area Type: Other

Cycle Length: 86

Actuated Cycle Length: 86

Offset: 45 (52%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 22.4

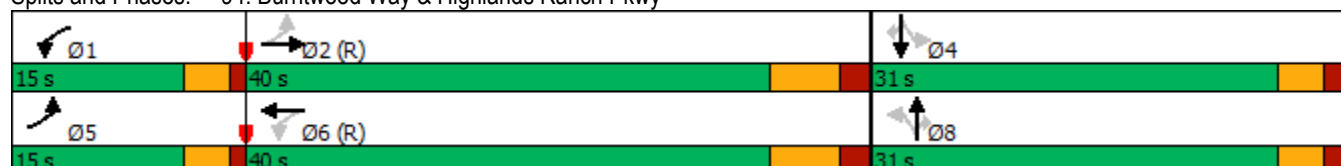
Intersection LOS: C

Intersection Capacity Utilization 55.6%

ICU Level of Service B





Analysis Period (min) 15




Splits and Phases: 94: Burntwood Way & Highlands Ranch Pkwy











HCM 2010 TWSC
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Intersection						
Int Delay, s/veh	15					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	36	234	47	139	152	28
Future Vol, veh/h	36	234	47	139	152	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	36	36	49	49	63	63
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	650	96	284	241	44
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	764	238	0	0	380	0
Stage 1	238	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	372	801	-	-	1178	-
Stage 1	802	-	-	-	-	-
Stage 2	593	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	294	801	-	-	1178	-
Mov Cap-2 Maneuver	294	-	-	-	-	-
Stage 1	802	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	25.4	0	7.5			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 294 801 1178	-	-		
HCM Lane V/C Ratio	-	- 0.34 0.811 0.205	-	-		
HCM Control Delay (s)	-	- 23.4 25.7 8.8	0			
HCM Lane LOS	-	- C D A	A			
HCM 95th %tile Q(veh)	-	- 1.5 8.8 0.8	-			




Intersection						
Int Delay, s/veh	8.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	139	50	28	48	17
Future Vol, veh/h	24	139	50	28	48	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	46	46	67	67	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	302	75	42	84	30
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	294	96	0	0	117	0
Stage 1	96	-	-	-	-	-
Stage 2	198	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	697	960	-	-	1471	-
Stage 1	928	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	657	960	-	-	1471	-
Mov Cap-2 Maneuver	657	-	-	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.6	0		5.6		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		899	1471	
HCM Lane V/C Ratio	-	-		0.394	0.057	
HCM Control Delay (s)	-	-		11.6	7.6	
HCM Lane LOS	-	-		B	A	
HCM 95th %tile Q(veh)	-	-		1.9	0.2	

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	26	0	99	15	1753	46	103	914	1
Future Vol, veh/h	0	0	0	26	0	99	15	1753	46	103	914	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	170	-	-	190	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	30	30	30	62	62	62	89	89	89	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	42	0	160	17	1970	52	123	1088	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	2157	3391	545	2711	3365	1011	1089	0	0	2022	0	0
Stage 1	1335	1335	-	2030	2030	-	-	-	-	-	-	-
Stage 2	822	2056	-	681	1335	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	51	7	413	~ 22	8	204	354	-	-	~ 122	-	-
Stage 1	116	221	-	~ 37	100	-	-	-	-	-	-	-
Stage 2	303	97	-	370	221	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	413	-	0	204	354	-	-	~ 122	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	110	0	-	~ 35	95	-	-	-	-	-	-	-
Stage 2	63	92	-	-	0	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0					0.1			15.3			
HCM LOS	A											
Minor Lane/Major Mvmt	NBL		NBT	NBR	EBLn1WBLn1WBLn2	SBL		SBT	SBR			
Capacity (veh/h)	354		-	-	-	-	204	~ 122	-		-	
HCM Lane V/C Ratio	0.048		-	-	-	-	0.783	1.005	-		-	
HCM Control Delay (s)	15.7		-	-	0	-	66.5	151.2	-		-	
HCM Lane LOS	C		-	-	A	-	F	F	-		-	
HCM 95th %tile Q(veh)	0.1		-	-	-	-	5.4	6.8	-		-	
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

HCM 2010 TWSC
89: Salford Ln & Bear Canyon Access

12/20/2024

Intersection						
Int Delay, s/veh	8.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	93	136	70	83	113	35
Future Vol, veh/h	93	136	70	83	113	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	61	61	59	59	59	59
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	152	223	119	141	192	59
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	633	190	0	0	260	0
Stage 1	190	-	-	-	-	-
Stage 2	443	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	444	852	-	-	1304	-
Stage 1	842	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	377	852	-	-	1304	-
Mov Cap-2 Maneuver	377	-	-	-	-	-
Stage 1	842	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	14.8	0	6.3			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 377 852 1304		-		
HCM Lane V/C Ratio	-	- 0.404 0.262 0.147		-		
HCM Control Delay (s)	-	- 20.9 10.7 8.2		0		
HCM Lane LOS	-	- C B A		A		
HCM 95th %tile Q(veh)	-	- 1.9 1 0.5		-		

Intersection						
Int Delay, s/veh	7.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	110	48	60	100	23
Future Vol, veh/h	44	110	48	60	100	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	53	53	73	73	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	83	208	66	82	116	27
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	366	107	0	0	148	0
Stage 1	107	-	-	-	-	-
Stage 2	259	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	634	947	-	-	1434	-
Stage 1	917	-	-	-	-	-
Stage 2	784	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	582	947	-	-	1434	-
Mov Cap-2 Maneuver	582	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	720	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	12	0		6.3		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	803	1434	-	
HCM Lane V/C Ratio	-	-	0.362	0.081	-	
HCM Control Delay (s)	-	-	12	7.7	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	1.7	0.3	-	

HCM 2010 TWSC
99: Broadway & Southpark Rd

12/20/2024

Intersection												
Int Delay, s/veh	34.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕		↕		↕	
Traffic Vol, veh/h	0	0	8	15	1	89	2	1454	64	143	1272	0
Future Vol, veh/h	0	0	8	15	1	89	2	1454	64	143	1272	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	170	-	-	190	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	42	42	42	56	56	56	90	90	90	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	19	27	2	159	2	1616	71	157	1398	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2363	3403	699	2529	3368	844	1398	0	0	1687	0	0
Stage 1	1712	1712	-	1656	1656	-	-	-	-	-	-	-
Stage 2	651	1691	-	873	1712	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	38	7	328	29	8	263	250	-	-	180	-	-
Stage 1	62	144	-	68	154	-	-	-	-	-	-	-
Stage 2	386	148	-	282	144	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	1	328	~ 7	~ 1	263	250	-	-	180	-	-
Mov Cap-2 Maneuver	-	1	-	~ 7	~ 1	-	-	-	-	-	-	-
Stage 1	62	18	-	67	153	-	-	-	-	-	-	-
Stage 2	150	147	-	34	18	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s			\$ 566.9		0		9.1					
HCM LOS	-		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	250	-	-	-	5	263	180	-	-			
HCM Lane V/C Ratio	0.009	-	-	-	5.714	0.604	0.873	-	-			
HCM Control Delay (s)	19.5	-	-	-\$ 3511	37.6	89.6	-	-				
HCM Lane LOS	C	-	-	-	F	E	F	-	-			
HCM 95th %tile Q(veh)	0	-	-	-	5.1	3.6	6.4	-	-			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				



Appendix G School Questionnaire

Review: DCSD Traffic and Pedestrian Safety Questionnaire

Respondent

12

Anonymous

124:44

Time to complete

1. What school do you represent?

Score / 0 pts

Bear Canyon Elemetary

2. Please provide your name.

Score / 0 pts

Allison Sullivan

3. Please provide your email.

Score / 0 pts

amsullivan@dcsdk12.org

4. Please provide feedback on crosswalks. Are crosswalks provided in adequate locations? Do families in general abide by crosswalk locations? Are additional crosswalk locations desired?

Score / 0 pts

The two cross walks we currently have are well located. And, yes, families abide by the crosswalks. The most dangerous area is at the entrance of the building. There is a lot of pedestrian traffic crossing as well as cars turning in both right and left. I believe that because we ONLY have one entrance for cars then this area gets congested with both pedestrians entering the property along with cars turning in as well.

5. Please provide feedback on pickup/drop-off. Where are your schools pickup and drop-off locations? Is there adequate length or do vehicle queues extend on to public roadways?

Score / 0 pts

The school was built with only one parking lot on the west side. This area serves as staff parking, visitor parking, and a drop off/pick up loop. To facilitate an efficient flow of traffic and to increase pedestrian safety, we have asked that parents DO NOT park in the parking lot between 8:15-8:30 am and 3:00-3:45pm. This ensures that the parking lot can be converted into a drop off loop without pedestrian traffic. The downside is that parents who choose to drive, must find parking spot along the street. On good weather days, the drop off/pick up loop flows well and traffic is not backed up along Salford very long (5-7min). On bad weather days, the backup can take longer. RTD had to adjust their route because the traffic sometimes gets backed up along Salford and it would cause the RTD bus to be delayed. So RTD adjusted the times of the route so as to avoid the congestion.

6. If available, can you provide your school's written pickup and drop-off procedures? Please send to nick.westphal@dibblecorp.com.

Score / 0 pts

I think it is all described above. I'll send some slides and pictures.

7. Please provide feedback on parking lot safety. Is there an adequate number of parking spaces? Are there any sight visibility challenges when exiting a parking lot (e.g. parked vehicles blocking views)? If so, where?

Score / 0 pts

We have plenty of parking spaces. Parents are NOT allowed to park in the parking lot during drop off or pick up because the parking lot the ONLY drop off loop we have. If parents park in the parking lot then we have students trying to cross the parking lot while cars are also trying to drop off/pick up. This is an accident waiting to happen. Consistent communication is sent to parents reminding them of parking lot safety.

8. Please provide feedback on roadway safety. Do vehicles in general follow traffic laws such as speed limits, stop signs, no parking zones, etc.?

Score / 0 pts

It depends. Often times we have community members that are rushing to their destination and will sometimes swerve around crossing guards, or honk. This happens once or twice a year. We try take down license plate numbers and report unsafe drivers.

9. Does your school have a designated bus drop-off area? Are there any conflicts between buses and other vehicles?

Score / 0 pts

We do not have a designated drop off. The parking lot becomes the drop off loop. Busses have a "pull over" spot on the south side of the school along Burntwood.

10. Please provide any general information related to vehicle and pedestrian safety at or around your school that you would like to share.

Score / 0 pts

As stated above...pedestrian traffic in the parking lot is a safety hazard as we do not have a designated drop off loop. So for 30 min a day we convert our parking lot into a drop off/pick up loop and do not allow vehicle parking.