NORTHRIDGE ELEMENTARY TO SAND CREEK ELEMENTARY CONSOLIDATION

Traffic Impact Study

Project Number: 1124175

Prepared For: Douglas County School District

March 21, 2025

DIBBLE

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Highlands Ranch, Colorado

Project Number: 1124175

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

March 21, 2025

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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 Sand Creek Elementary. This traffic impact study addresses existing traffic patterns and potential traffic challenges at Sand Creek Elementary, while considering the anticipated increase in traffic caused by the school consolidation.

Sand Creek has a singular parking area on the south side of the building, with two access points to Maplewood Drive. One access point is a single lane, exit-only access. The other access point allows for both entry and exit and has a dedicated right turn lane and shared left turn lane. This access is directly across the street from Briarhurst Drive. There are no dedicated pick-up or drop-off lanes at this school. A group of pedestrian crosswalks exist at the main access point to the parking lot. Another access point aids the crossing of Maplewood Drive approximately 800' west of the main access for the parking lot. School bus service is provided for individuals within Sand Creek's attendance boundary but is restricted to individuals living more than one mile from the school. This bus service will be expanded for Northridge students who qualify after relocating to Sand Creek.

The projected 2028-2029 combined enrollment is 741 students. The projected combined enrollment numbers are 21 percent more than the previous maximum Sand Creek enrollment.

When the existing traffic at Northridge is relocated to Sand Creek, 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 Sand Creek 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 Sand Creek. 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 Sand Creek 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 Sand Creek 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:

- Monitor the intersections of Dad Clark Drive and Northridge Road for increased traffic safety concerns. If increased vehicle and pedestrian traffic causes safety concerns, additional mitigation measures may be required. No improvements are warranted at this time.
- 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 Sand Creek Elementary (Sand Creek) 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 Sand Creek.

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 Sand Creek.

1.2 Study Area

Sand Creek Elementary School is located at 8898 Maplewood Drive in the northern region of Highlands Ranch. The school is located near the intersection of Maplewood Drive at Dad Clark Drive. The parcel number for the property is 222902104037. A vicinity map showing the school's location is provided as **Figure 1**.

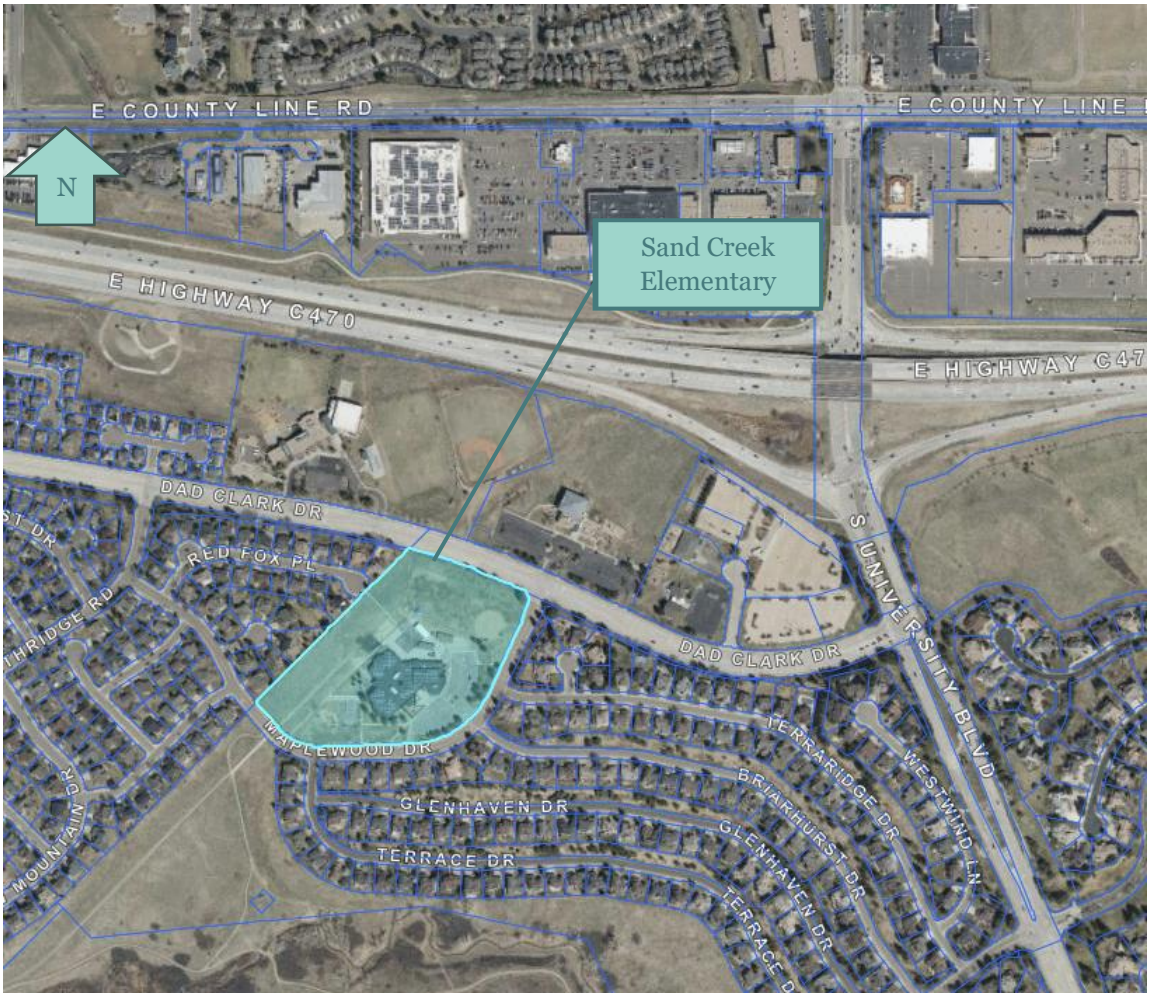


Figure 1 – Vicinity Map

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:

- Dad Clark Drive & Maplewood Drive
- Briarhurst Drive & Maplewood Drive
- Sand Creek W Access & Maplewood Drive
- Dad Clark Drive & Northridge Road
- Broadway at Southpark Road

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

Sand Creek

Sand Creek has a start time of 8:55 AM and an end time of 4:00 PM. The school is located in the neighborhood to the southeast of the intersection University Boulevard at Dad Clark Drive. Sand Creek has a singular parking area on the south side of the building, with two access points to Maplewood Drive. One access point is a single lane, exit-only access. The other access point allows for both entry and exit and has a dedicated right turn lane and shared left turn lane. This access is directly across the street from Briarhurst Drive. There are no dedicated pick-up or drop-off lanes at this school. A group of pedestrian crosswalks exist at the main access point to the parking lot. Another access point aids the crossing of Maplewood Drive approximately 800' west of the main access for the parking lot. Sand Creek has a maximum Capacity of 700 students but the largest enrollment since 2013 is 612 students.

School bus service is provided for individuals within Sand Creek's attendance boundary but is restricted to individuals living more than one mile from the school. **Figure 2** depicts Sand Creek's local attendance boundary in black with the orange circle representing the walking radius. As of November 2024, 142 individuals are eligible to receive bus service, and 71 individuals have used the bus service which is a 50 percent rate.

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 Sand Creek. Therefore, they would qualify for bus service to Sand Creek.

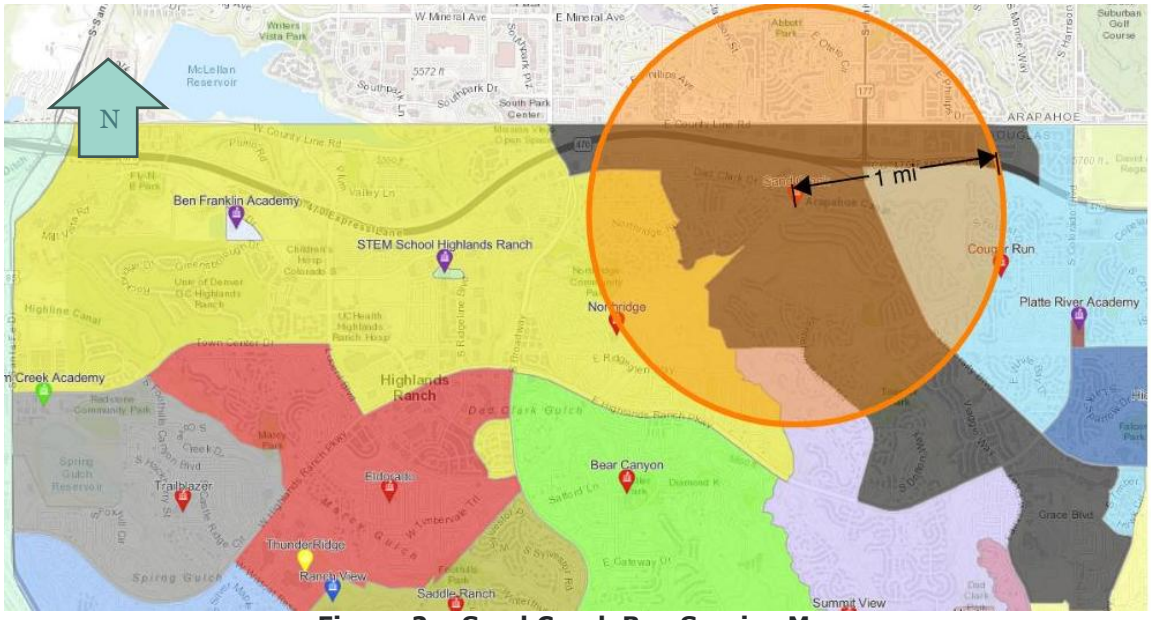


Figure 2 – Sand Creek Bus Service Map

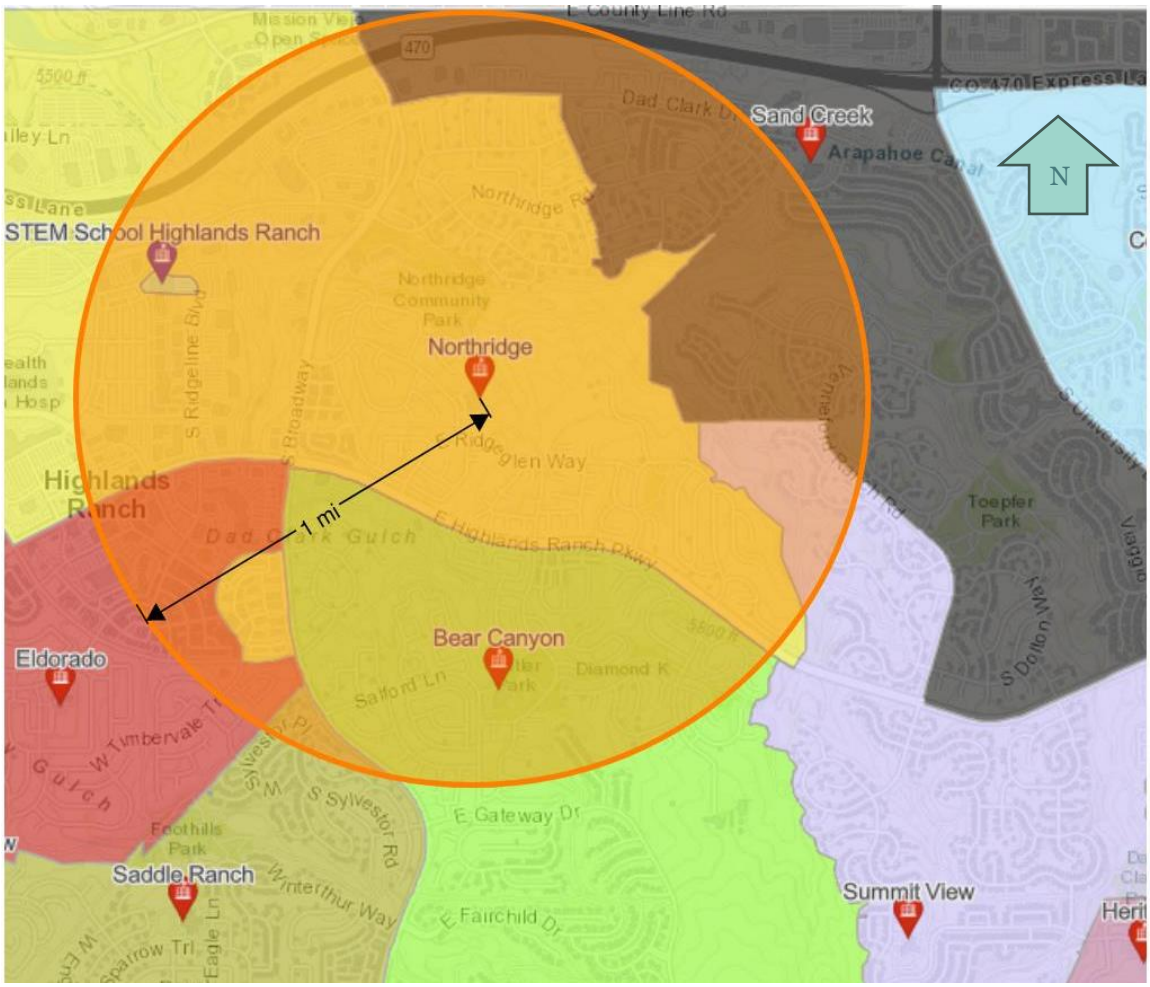


Figure 3 – Northridge Bus Service Map

2. EXISTING CONDITIONS

2.1 Site Observation

A site observation was performed at Sand Creek on November 15, 2024. Field notes from the site observation are included in **Appendix A**. The morning site observation was conducted from 8:15 AM through 9:45 AM and the afternoon site observation was conducted from 3:15 PM through 4:45 PM. Key observations included:

- Visibility challenges when exiting the parking lot onto Maplewood Drive
- Slight congestion on Maplewood Drive and Briarhurst Drive during drop-off and pick-up times

2.2 Roadway Network

The Highlands Ranch roadway network is maintained by Douglas County. Sand Creek is situated within a built-out neighborhood and is surrounded by local and neighborhood collector streets. The main accesses to the neighborhood are from Dad Clark Dive at Northridge Road and Dad Clark Drive at Maplewood Drive with University Boulevard being the main arterial street closest to the school. Maplewood Drive extends from the school entrance to non-signalized intersections at Dad Clark Drive and at Northridge Road.

Northridge traffic driving to Sand Creek will mainly use Broadway and Dad Clark Drive. **Figure 4** depicts the most likely route that would be taken from Northridge to Sand Creek.

School zone flashers operate from 8:35 to 9:15 AM and from 3:50 to 4:30PM. Two flashers are located on Maplewood Drive; one approximately 100 feet east of Arrowhead Road and another approximately 200 feet south of Dad Clark Drive.

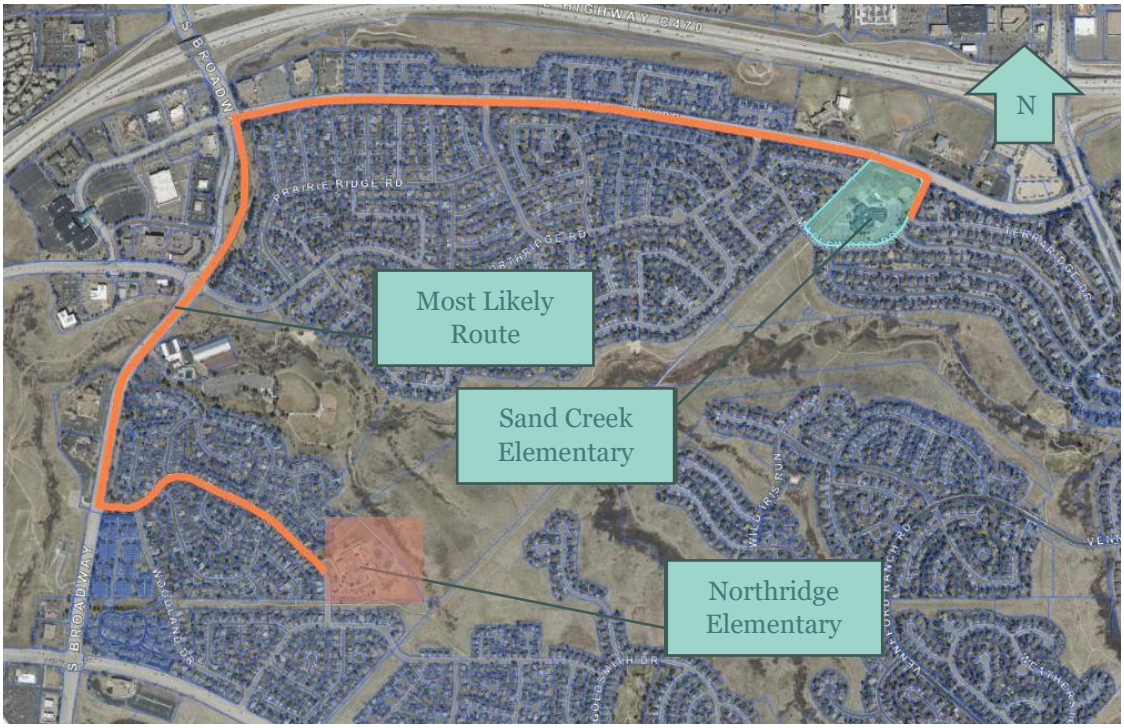


Figure 4 – Route from Northridge to Sand Creek

Broadway at Southpark Road

The intersection of Broadway at Southpark Road is an unsignalized, three-way intersection with unprotected left-turn lanes for Broadway traffic. **Figure 5** shows an aerial of the intersection with the current intersection layout.

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

Dad Clark Drive at Northridge Road
The intersection of Dad Clark Drive at Northridge Road is a non-signalized, four-way intersection that is stop sign controlled for the Northridge Road approaches. **Figure 5** shows an aerial of the intersection with the current intersection layout.

Eastbound Dad Clark Drive has two through lanes and a dedicated left-turn lane with approximately 180 feet of storage and a 110-foot taper before transitioning to a striped median. There is no dedicated right-turn lane. Westbound Dad Clark Drive also has two through lanes, with a dedicated left-turn lane. This lane has approximately 160 feet of storage with a 110-foot taper before transitioning to a striped median. Bike lanes are present on both directions of Dad Clark Drive.

The northbound approach of Northridge Road widens from its original width of 40 feet to 54 feet (measured from flowline to flowline) as it nears Dad Clark Drive. The southbound approach does not widen. The northbound approach has a dedicated right-turn lane and a shared left-turn lane. These two lanes are separated by a stripe approximately 60 feet in length. The southbound approach does not have any dedicated turning lanes and is unstriped.

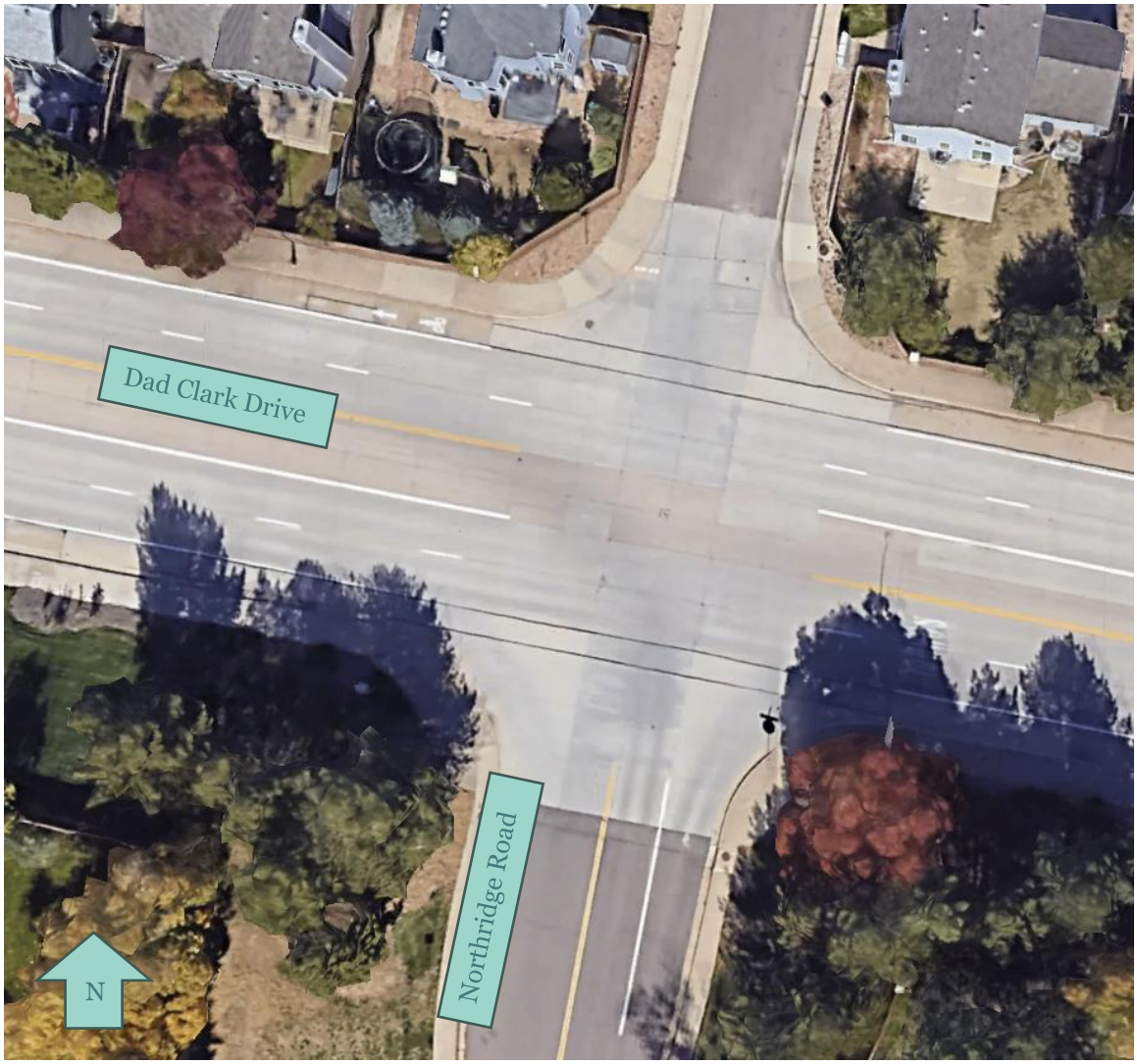


Figure 6 – Dad Clark Drive at Northridge Road

Dad Clark Drive at Maplewood Drive
The intersection of Dad Clark Drive at Maplewood Drive is an unsignalized, four-way intersection, with the southbound approach being the entrance to a commercial parking lot. **Figure 7** shows an aerial of the intersection with the current intersection layout.

Eastbound Dad Clark Drive has two through lanes and a dedicated left-turn lane with approximately 210 feet of storage and a 40-foot taper before transitioning to a striped median. There is no dedicated right-turn lane. Westbound Dad Clark Drive also has two through lanes, with a dedicated left-turn lane. This lane has approximately 160 feet of storage with a 100-foot taper before transitioning to a striped median. Bike lanes are present on both directions of Dad Clark Drive.

The northbound approach of Maplewood Drive has a dedicated right-turn lane and a shared left-turn lane. These two lanes are separated by a stripe approximately 60 feet in length. The southbound approach from the commercial parking lot is wide enough for two lanes of traffic but is not striped. Bicycle lanes are not present on Maplewood Drive.

Figure 7 – Dad Clark Drive at Maplewood Drive

Roadway Characteristics
General features of the roadways along the most likely route from Northridge to Sand Creek are summarized in **Table 1**.

Table 1 – Roadway Characteristics

Roadway	Southpark Road	Broadway	Dad Clark Drive	Maplewood Drive
Speed Limit	25 mph	45 mph	45 mph	25 mph
Number of Through Lanes	2	6	4	2
Lane Width	16 feet*	12 feet	11 feet	16 feet*
Bike Lane Width	None	6 feet	5 feet	None
Median	None	Striped	Striped	None
On-Street Parking	Both Sides	None	None	Both Sides

*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:

- Dad Clark Drive at Maplewood Drive
- Briarhurst Drive at Maplewood Drive
- Maplewood Drive at W Parking Lot Access
- Dad Clark Drive at Northridge Road

Traffic count data is summarized in **Table 2** and is included in **Appendix B**. The existing traffic is shown in **Table 8.**

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.

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

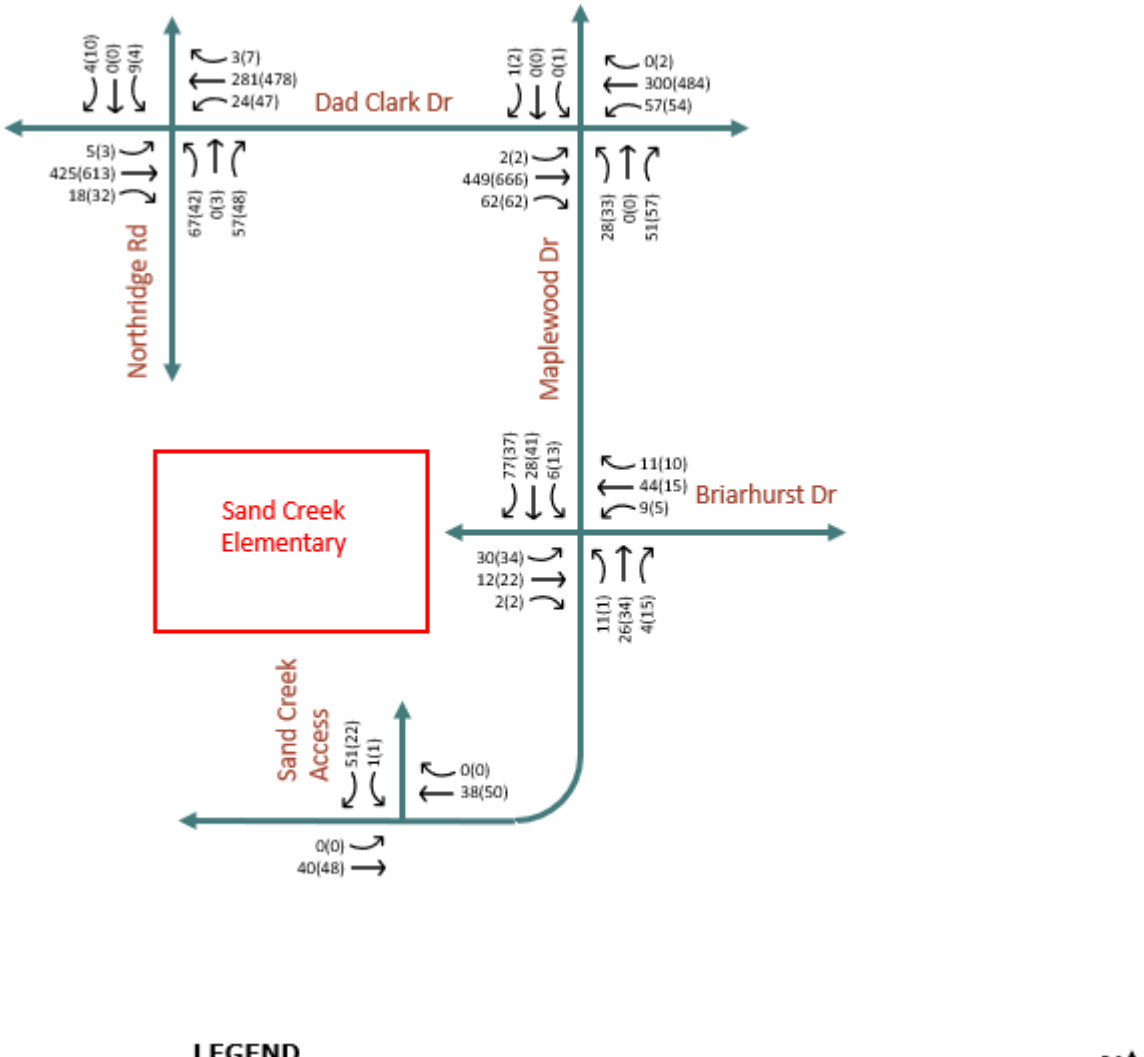


Figure 8 – Exisitng Traffic

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 and Dad Clark Drive at Northridge Road. Crashes were reviewed for the period between 2019 and 2024. **Table 3** Summarizes the year-by-year crash data for the intersections. No crash data was available for the intersection of Dad Clark Drive at Maplewood Drive

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

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.

Dad Clark Drive at Northridge Road

There was a total of 3 crashes at Dad Clark Drive and Northridge Road over the course of the study period. One of these involved an injury. Of the 3 crashes, none involved a left turn, and none were at night. None of these accidents involved a 3rd vehicle and one involved a bicycle.

Table 3 – Annual Crash Summary

Year	Broadway and Southpark Road	Dad Clark Drive and Northridge Road
2019	3	1
2020	0	0
2021	1	0
2022	2	0
2023	0	2
2024	2	0

School Safety
Students are picked up and dropped off primarily via the parking lot to the east 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 both sides of Maplewood Drive and is heavily used. Crosswalks are present at the intersection of Maplewood Drive and Briarhurst Drive. Most of the pedestrian traffic crosses the street here, as it is controlled by a crossing guard. However, some pedestrians cross at other undesignated locations. Bike lanes are not present on Maplewood Drive.

3. TRIP PROJECTIONS

3.1 Projected Traffic

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

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
Sand Creek	529	612	336	257
Combined	-	-	-	741

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

The projected 2028-2029 combined enrollment is 741 students. The projected combined enrollment numbers are 21 percent more than the previous maximum Sand Creek enrollment.

3.2 Trip Generation

Trip generation calculations were performed based on the number of additional students that will be transferring from Northridge to Sand Creek. For the purposes of this report, it is assumed the existing 2024 Sand Creek 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 Sand Creek 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 Sand Creek. 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 Sand Creek. The following considerations were taken into account to determine the anticipated number of trips added to Sand Creek 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 Sand Creek, 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 **70%** which results in an additional **177** students riding the bus to school for a total of **269** students from Northridge taking the bus to Sand Creek.

Students who currently walk to Northridge are unlikely to walk to Sand Creek 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 Sand Creek. 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 Sand Creek 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 within the boundary limits. Then the distribution of traffic within the Northridge boundary and the directions of approach for arriving at Sand Creek 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 9.

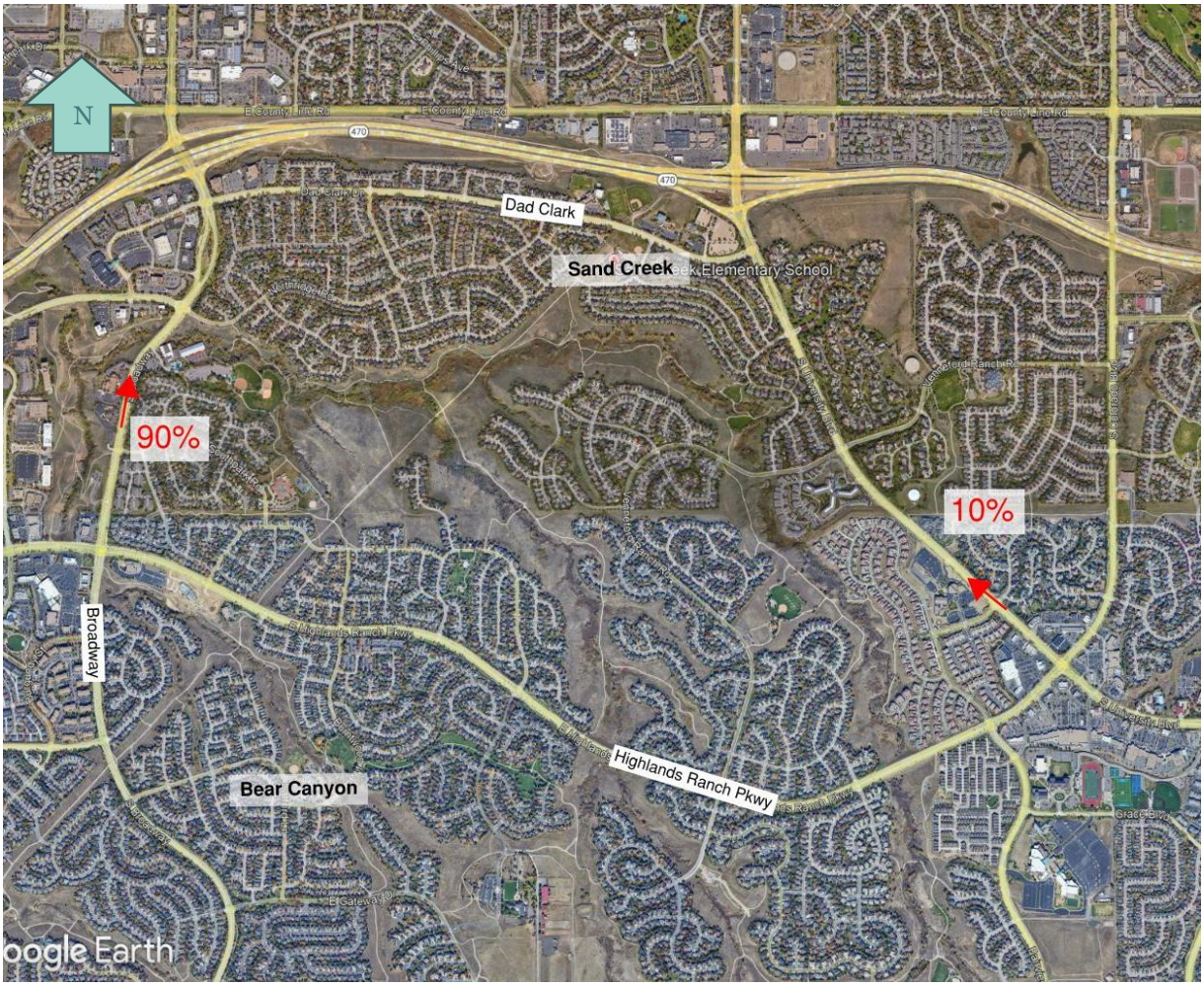


Figure 9 – Trip Distribution

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

- Dad Clark Drive at Maplewood Drive
- Briarhurst Drive at Maplewood Drive
- Maplewood Drive at W Parking Lot Access
- Dad Clark Drive at Northridge Road

The resulting trip assignment is shown in **Figure 10.**

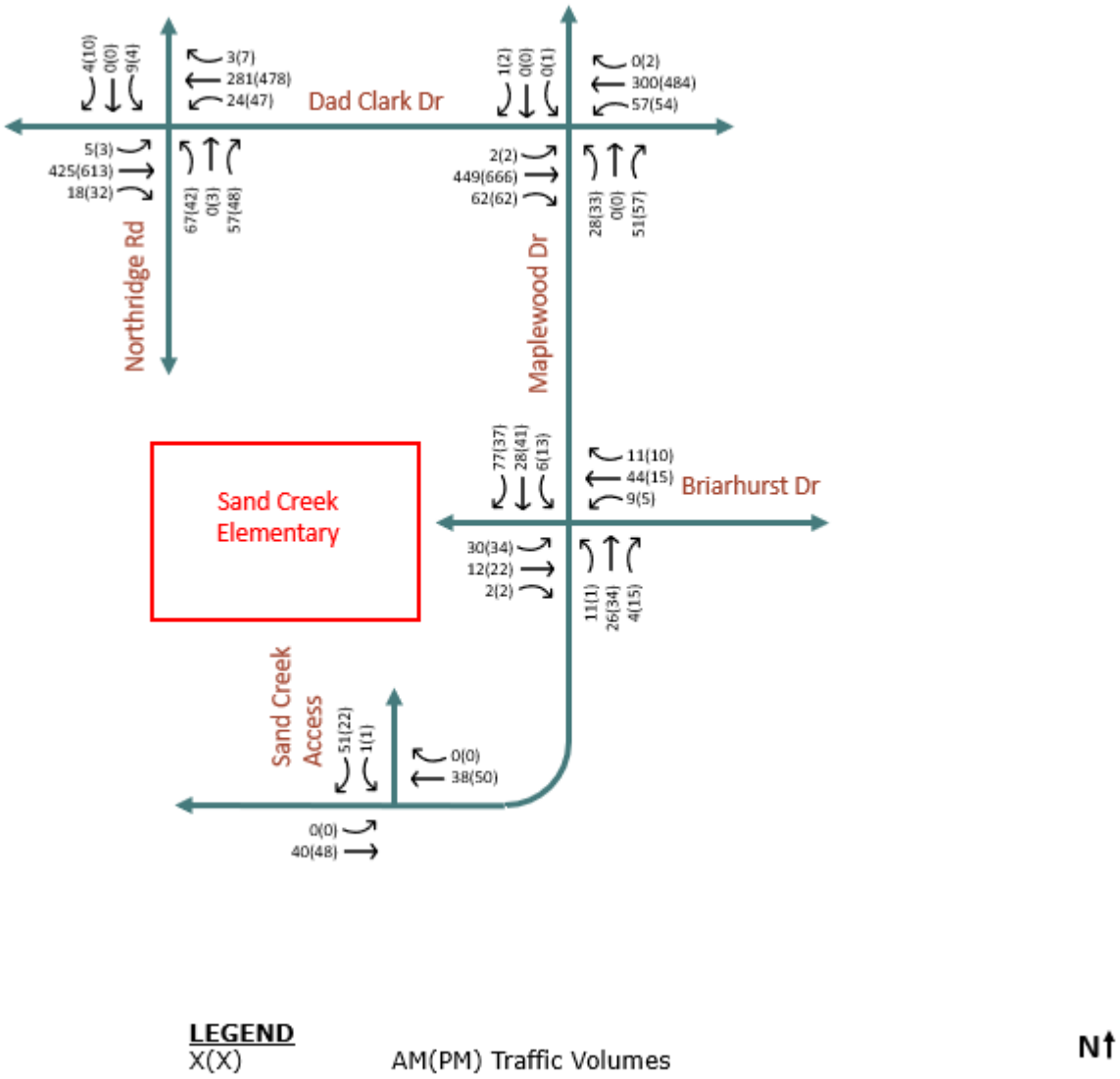


Figure 10 – Trip Assignment

In addition to the new anticipated trips for Northridge students transferring to Sand Creek, 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 Sand Creek with the addition of Northridge students was calculated by adding the trip assignment to the existing Sand Creek traffic data and then subtracting the anticipated turning movement reductions. The resulting total traffic is shown in **Figure 11**.

4.2 Projected Level of Service

The capacity analysis for the total projected traffic from the transfer of Northridge students to Sand Creek 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 E**.

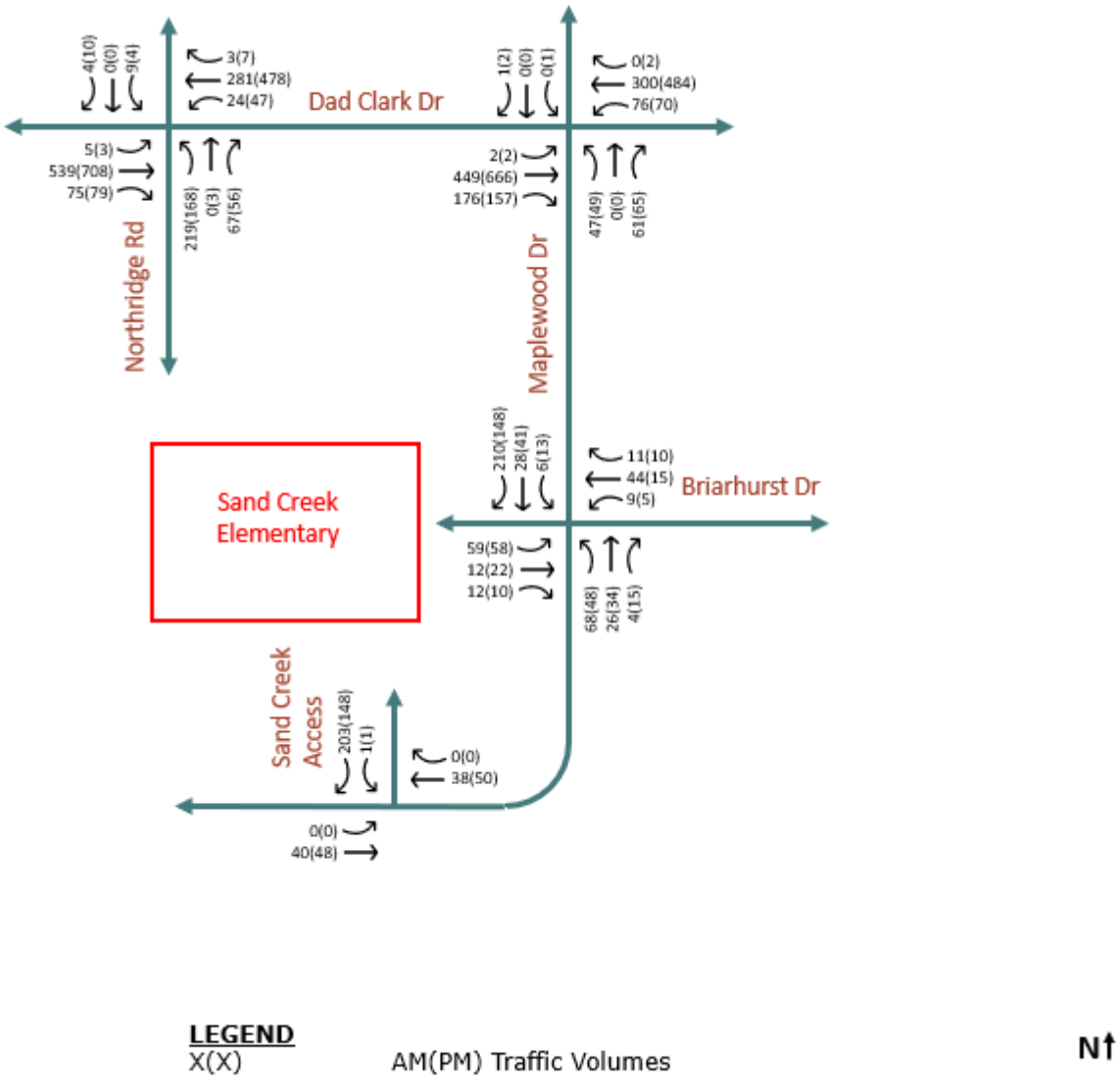


Figure 11 – Total Traffic

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
Dad Clark Dr & Northridge Rd	Unsignalized (TWSC or AWSC)	**Overall**			-	-	-	-			-	-	-	-	-	-
		NBL	D	F	28.6	90.7	38	76	F	F	444.2	1279.0	+415.6	+1188.3	502	636
		NBT	B	B	10.8	12.8	8	12	B	B	12.2	14.8	+1.4	+2.0	12	16
		NBR	B	B	10.8	12.8	8	12	B	B	12.2	14.8	+1.4	+2.0	12	16
		SBL	C	C	16.4	17.1	4	4	B	B	18.6	19.2	+2.2	+2.1	4	6
		SBT	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		SBR	C	C	16.4	17.1	4	4	B	B	18.6	19.2	+2.2	+2.1	4	6
		EBL	A	A	8.1	8.5	0	0	A	A	8.1	8.5	0.0	0.0	0	0
		EBT	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		EBR	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		WBL	A	B	8.7	10.3	4	4	A	B	9.5	11.4	+0.8	+1.1	2	6
		WBT	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		WBR	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
Dad Clark Dr & Maplewood Dr	Unsignalized (TWSC or AWSC)	**Overall**			-	-	-	-			-	-	-	-	-	-
		NBL	D	F	29.3	144.0	16	100	D	F	49.5	437.7	+20.2	+293.7	44	212
		NBT	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		NBR	B	B	11.1	15.0	8	24	B	B	12.1	17.3	+1.0	+2.3	10	32
		SBL	A	A	9.5	0.0	0	2	A	D	9.5	50.6	0.0	+50.6	0	2
		SBT	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		SBR	A	A	9.5	10.0	0	0	A	B	9.5	10.0	0.0	0.0	10	0
		EBL	A	A	8.1	8.6	0	0	A	A	8.1	8.6	0.0	0.0	8	0
		EBT	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		EBR	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		WBL	A	B	9.2	10.9	6	6	B	B	10.0	11.9	+0.8	+1.0	10	10
		WBT	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
		WBR	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0
Maplewood Dr & Sand Creek Access	Unsignalized (TWSC or AWSC)	**Overall**			-	-	-	-			-	-	-	-	-	-
		NBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		NBT	A	A	0.0	0.0	0	0	-	-	0.0	0.0	0.0	0.0	0	0
		NBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		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	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		EBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		EBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		WBL	A	A	9.5	9.3	2	2	B	B	10.2	10.1	+0.7	+0.8	12	16
		WBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		WBR	A	A	9.5	9.3	2	2	-	-	10.2	10.1	+0.7	+0.8	12	16

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
Maplewood Dr & Briarhurst Dr	Unsignalized (TWSC or AWSC)	**Overall**			-	-	-	-			-	-	-	-	-	-
		NBL	A	A	7.4	7.4	0	0	A	A	7.5	7.5	+0.1	+0.1	0	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	A	A	7.5	7.3	0	0	A	A	7.7	7.4	+0.2	+0.1	0	0
		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	9.0	9.2	2	0	A	A	9.4	9.7	+0.4	+0.5	2	0
		EBT	A	A	9.0	9.2	2	0	A	A	9.4	9.7	+0.4	+0.5	2	0
		EBR	A	A	9.0	9.2	2	0	A	A	9.4	9.7	+0.4	+0.5	2	0
		WBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		WBT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		WBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 9 – Mitigation LOS and Delay Results

Intersection	Control	Movement	Total Traffic						Total Traffic - Mitigation								Mitigation
			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	
Dad Clark Dr & Northridge Rd	Signal	**Overall**			-	-	-	-	**B**	**B**	**12.5**	**15.3**	-	-	-	-	Signalize Intersection w/all permissive left turns
		NBL	F	F	444.2	1279.0	502	636	B	B	17.2	15.1	-427.0	-1263.9	80	58	
		NBT	B	B	12.2	14.8	12	16	A	A	3.0	7.1	-9.2	-7.7	8	17	
		NBR	B	B	12.2	14.8	12	16	A	A	3.0	7.1	-9.2	-7.7	8	17	
		SBL	B	B	18.6	19.2	4	6	A	A	2.6	2.9	-16.0	-16.3	3	3	
		SBT	A	A	0.0	0.0	0	0	A	A	2.6	2.9	+2.6	+2.9	3	3	
		SBR	B	B	18.6	19.2	4	6	A	A	2.6	2.9	-16.0	-16.3	3	3	
		EBL	A	A	8.1	8.5	0	0	A	A	8.4	8.3	+0.3	-0.2	5	3	
		EBT	A	A	0.0	0.0	0	0	B	B	11.7	17.3	+11.7	+17.3	93	124	
		EBR	A	A	0.0	0.0	0	0	B	B	11.7	17.3	+11.7	+17.3	93	124	
		WBL	A	B	9.5	11.4	2	6	B	B	14.3	18.3	+4.8	+6.9	23	35	
		WBT	A	A	0.0	0.0	0	0	B	B	13.1	13.2	+13.1	+13.2	67	106	
		WBR	A	A	0.0	0.0	0	0	B	B	13.1	13.2	+13.1	+13.2	67	106	
Dad Clark Dr & Maplewood Dr	Signal	**Overall**			-	-	-	-	**B**	**B**	**12.2**	**10.4**	-	-	-	-	Signalize Intersection w/all permissive left turns
		NBL	D	F	49.5	437.7	44	212	A	B	9.3	18.1	-40.2	-419.6	21	28	
		NBT	A	A	0.0	0.0	0	0	A	A	1.0	8.1	+1.0	+8.1	0	5	
		NBR	B	B	12.1	17.3	10	32	A	A	1.0	8.1	-11.1	-9.2	0	5	
		SBL	A	D	9.5	50.6	0	2	A	A	0.0	0.0	-9.5	-50.6	0	0	
		SBT	A	A	0.0	0.0	0	0	A	A	0.0	0.0	0.0	0.0	0	0	
		SBR	A	B	9.5	10.0	10	0	A	A	0.0	0.0	-9.5	-10.0	0	0	
		EBL	A	A	8.1	8.6	8	0	B	A	10.0	6.5	+1.9	-2.1	2	3	
		EBT	A	A	0.0	0.0	0	0	B	B	13.8	10.5	+13.8	+10.5	126	121	
		EBR	A	A	0.0	0.0	0	0	B	B	13.8	10.5	+13.8	+10.5	126	121	
		WBL	B	B	10.0	11.9	10	10	C	B	21.6	19.4	+11.6	+7.5	43	55	
		WBT	A	A	0.0	0.0	0	0	A	A	9.8	8.0	+9.8	+8.0	46	74	
		WBR	A	A	0.0	0.0	0	0	A	A	9.8	8.0	+9.8	+8.0	21	74	

4.3 Mitigation

Signal Warrant Analysis

Major intersections along the assumed route between Northridge and Sand Creek were analyzed for potential signal needs. The Manual on Uniform Traffic Control Devices (MUTCD) warrants 3 (Peak Hour) and 7 (Crash experience) were used. The intersections of Dad Clark Drive at Maplewood Drive and Dad Clark Drive at Northridge Road were reviewed for warranted signals and do not meet the warrant threshold with the right-turn deduction due to the presence of right-turn lanes on the minor roads at the intersection. 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.

Auxiliary Lane Analysis

Right turn lanes were evaluated for the intersections of Dad Clark Drive at Maplewood Drive and Dad Clark Drive at Northridge Road. A right-turn lane is recommended on an arterial street when the LOS operates at an unacceptable level.

The projected traffic at the eastbound approach of Dad Clark Drive at Maplewood Drive has 176 right turns during the morning peak hour and 157 during the afternoon peak hour. The projected traffic for Dad Clark Drive at Northridge Road has 75 right turns during the morning peak hour and 79 right turns during the afternoon peak hour for the eastbound approach. However, both of these turning movements are operating at an LOS of A and no right-turn lane is warranted.

Site Analysis

Based on site observations and feedback from Sand Creek Administration, Sand Creek faces the following challenges:

- Congestion on Maplewood Drive and Briarhurst Drive

To relieve congestion, bus service could be expanded if consolidation occurs at Sand Creek. Congestion on Maplewood Drive would be expected to increase if traffic increases proportionally to the projected school population increase.

5. CONCLUSIONS/RECOMMENDATIONS

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

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 Sand Creek 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:

- Monitor the intersections of Dad Clark Drive and Northridge Road for increased traffic safety concerns. If increased vehicle and pedestrian traffic causes safety concerns, additional mitigation measures may be required. No improvements are warranted at this time.
- 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

2696 S. Colorado Blvd., Ste. 330
Denver, CO 80222
Ph: (303) 872-5756

TRAFFIC OBSERVATION REPORT

Project Name	DCSD Traffic Study	**Project No.**	1124175
Observer	Nate Hittle		
Location	Sand Creek Elementary School		
Time	8:15 - 9:45 AM	**AM / PM**	

DATE	November 15, 2024					
M	**T**	**W**	**Th**	**F**	**S**	**S**

Queueing Data

Start Time: 8:48 AM

End Time: 9:10 AM

Maximum Queueing Length: 550 ft

Total Storage Length Available: 670 ft

Comments:
Students are dropped off on the south side of the building via a 2-lane drop off system. The right lane is used for dropping off students, and the left lane is used to exit the queue. Vehicles may exit the parking lot using the west access point, which is a single lane, one way exit, only allowing a right turn onto Maplewood Dr, or they may exit through the east access point, the parking lot entrance. The traffic is split evenly between the two exits. The queue for the morning drop-off was observed to briefly back up onto Maplewood Dr. However, this lasted no more than 10 seconds, and the queue quickly went back into the parking lot.

On-Street Parking Locations and Availability

Comments:
Both sides of Maplewood Dr may be used for street parking. The North side fills by 8:48 AM, with 8 cars parked between the two entrances to the parking lot. A couple cars also used the south side of Maplewood Dr.

Crosswalk Locations and Usage

Comments:
Three crosswalks are present at the intersection of Maplewood Dr and Briarhurst Dr, where the main entrance to the parking lot is located. These crosswalks are heavily utilized and supervised by a crossing guard. This intersection is a 4-way stop. Another crosswalk crosses the parking lot. This is also supervised by a crossing guard.

2696 S. Colorado Blvd., Ste. 330
Denver, CO 80222
Ph: (303) 872-5756

Roadway Characteristics

Speed Limit(s) and Location(s):
The speed limit on Maplewood Dr is 25 mph, except during school zone times, when it is 20 mph. The speed limit within the parking lot is 10 mph.

Signage:
Signage present on the public roads includes school zone speed limit signs with flashers, stop signs, No Parking signs, and school crossing signs. One-way signs, 10 mph speed advisory signs, Do not Enter signs, and student drop-off signs were present within the parking lot.

Bike Lanes:
None

Other Comments:
Flashers are operated from 8:30 AM to 9:15 AM. A bus lane is present on the South side of the building.

Sight Visibility Challenges

Comments:
The west exit of the parking lot is angled such that the view of the driver faces away from oncoming traffic. The curvature of the roadway, coupled with the presence of street parking, may cause drivers trouble identifying oncoming traffic before turning onto Maplewood Dr.

Congestion Areas

Comments:
No areas of significant congestion were observed during drop off times.

General Traffic Observations

Comments:
Cones were placed at the east access to the parking lot to facilitate one-way traffic through the parking lot. Buses began arriving at 8:50 AM.

2696 S. Colorado Blvd., Ste. 330
Denver, CO 80222
Ph: (303) 872-5756

TRAFFIC OBSERVATION REPORT

Project Name	DCSD Traffic Study	**Project No.**	1124175
Observer	Nate Hittle		
Location	Sand Creek Elementary School		
Time	3:15 - 4:45 PM	**AM / PM**	

DATE November 19, 2024

M T W Th F S S

Queueing Data

Start Time: 3:37 PM

End Time: 4:08 PM

Maximum Queueing Length: 670 ft

Total Storage Length Available: 670 ft

Comments:
Students are picked off on the south side of the building via a 2-lane pick-up system. The right lane is used for picking up students, and the left lane is used to exit the queue. Vehicles may exit the parking lot using the west access point, which is a single lane, one way exit, only allowing a right turn onto Maplewood Dr, or they may exit through the east access point, where they initially entered. The traffic is split evenly between the two exits. The first vehicles entered the queue at 3:37 PM, and the queue reached the entrance to the lot at 3:57 PM.

On-Street Parking Locations and Availability

Comments:
Both sides of Maplewood Dr may be used for street parking. Street parking here was heavily utilized by parents picking up students.

Crosswalk Locations and Usage

Comments:
Three crosswalks are present at the intersection of Maplewood Dr and Briarhurst Dr, where the main entrance to the parking lot is located. These crosswalks are heavily utilized and supervised by a crossing guard. This intersection is a 4-way stop. Another crosswalk crosses the parking lot. This is also supervised by a crossing guard. The crosswalk across the lot experience heavy volumes in the afternoon, with the guard stopping traffic in the pick up lane to let large groups cross the crosswalk.

2696 S. Colorado Blvd., Ste. 330
Denver, CO 80222
Ph: (303) 872-5756

Roadway Characteristics

Speed Limit(s) and Location(s):
The speed limit on Maplewood Dr is 25 mph, except during school zone times, when it is 20 mph. The speed limit within the parking lot is 10 mph.

Signage:
Signage present on the public roads includes school zone speed limit signs with flashers, stop signs, No Parking signs, and school crossing signs. One-way signs, 10 mph speed advisory signs, Do not Enter signs, and student drop-off signs were present within the parking lot.

Bike Lanes:
None

Other Comments:
Flashers are operated from 3:50 to 4:30 PM. A bus lane is present on the South side of the building.

Sight Visibility Challenges

Comments:
The west exit of the parking lot is angled such that the view of the driver faces away from oncoming traffic. The curvature of the roadway, coupled with the presence of street parking, may cause drivers trouble identifying oncoming traffic before turning onto Maplewood Dr.

Congestion Areas

Comments:
There was slight congestion on southbound Maplewood Dr, due to the high volume of cars entering the parking lot.

General Traffic Observations

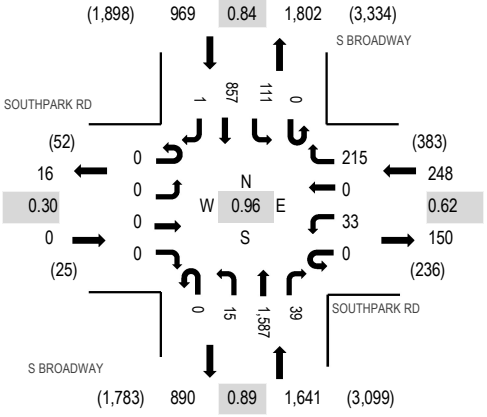
Comments:
Buses began arriving between 3:45 and 3:50 PM. Trace amounts of snow and ice were present in the parking lot.

Appendix B Traffic Volume Counts

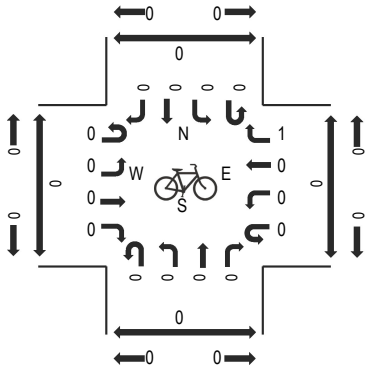
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

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

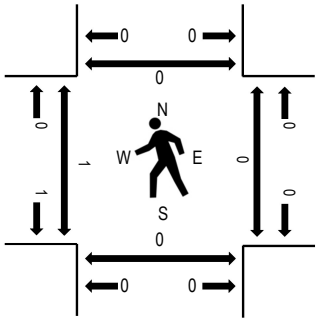
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

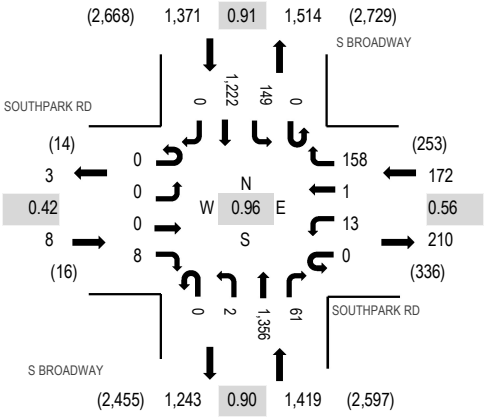
Traffic Counts - Motorized Vehicles

Interval Start Time	SOUTHPARK RD Eastbound				SOUTHPARK RD Westbound				S BROADWAY Northbound				S BROADWAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		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

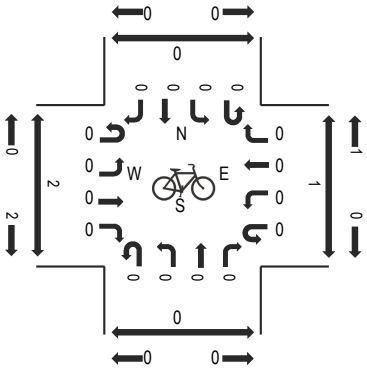
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

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

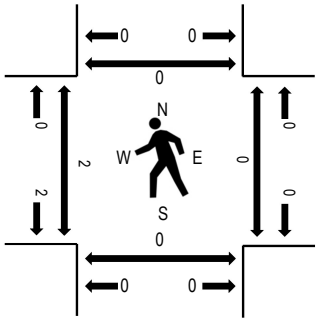
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

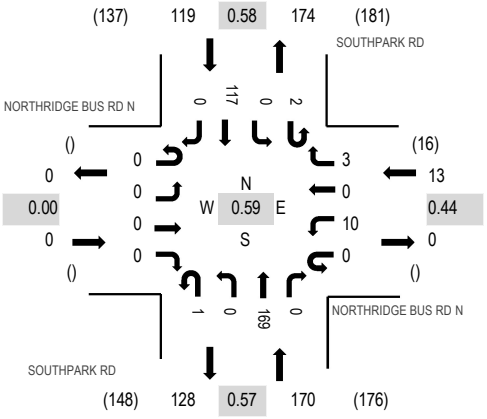
Traffic Counts - Motorized Vehicles

Interval Start Time	SOUTHPARK RD Eastbound				SOUTHPARK RD Westbound				S BROADWAY Northbound				S BROADWAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		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

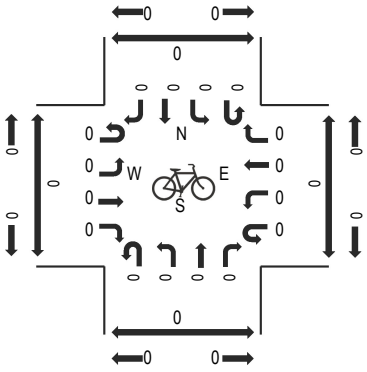
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 6 SOUTHPARK RD & NORTHRIDGE BUS RD N AM
Date: Wednesday, November 13, 2024
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

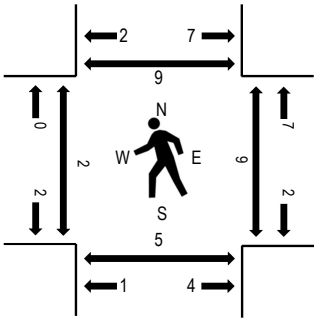
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	NORTHRIDGE BUS RD N Eastbound				NORTHRIDGE BUS RD N Westbound				SOUTHPARK RD Northbound				SOUTHPARK RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:45 AM	0	0	0	0	0	0	0	1	0	0	9	0	1	0	10	0	21	302	0	0	0	0
8:00 AM	0	0	0	0	0	2	0	0	0	0	12	0	0	0	16	0	30	294	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	1	1	0	74	0	1	0	50	0	128	278	2	9	5	6
8:30 AM	0	0	0	0	0	7	0	1	0	0	74	0	0	0	41	0	123		0	0	0	3
8:45 AM	0	0	0	0	0	1	0	1	0	0	4	0	0	0	7	0	13		0	0	0	0
9:00 AM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	11	0	14		0	3	0	0
Count Total	0	0	0	0	0	12	0	4	1	0	175	0	2	0	135	0	329		2	12	5	9
Peak Hour	0	0	0	0	0	10	0	3	1	0	169	0	2	0	117	0	302		2	9	5	9

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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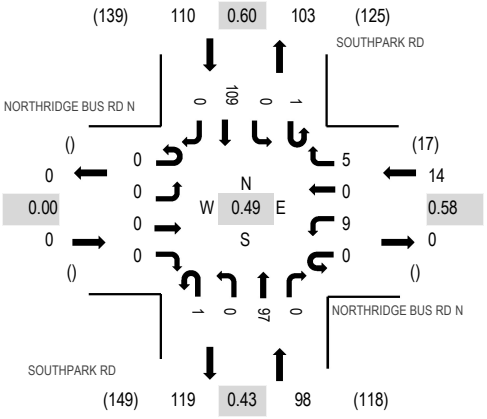
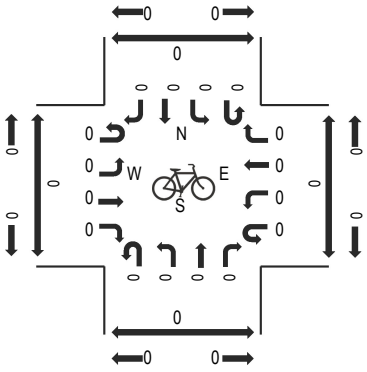
Location: 6 SOUTHPARK RD & NORTHRIDGE BUS RD N PM
Date: Wednesday, November 13, 2024
Peak Hour: 03:00 PM - 04:00 PM
Peak 15-Minutes: 03:30 PM - 03:45 PM

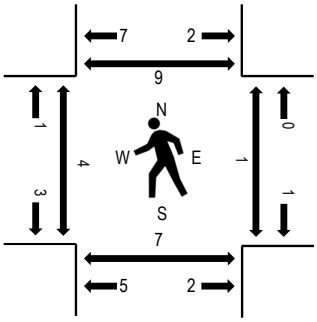
Peak Hour - Motorized Vehicles



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

ALL TRAFFIC DATA SERVICES
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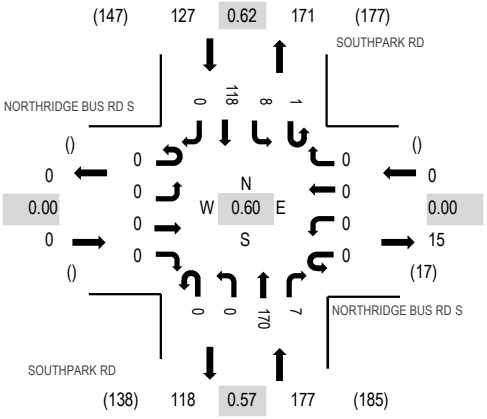
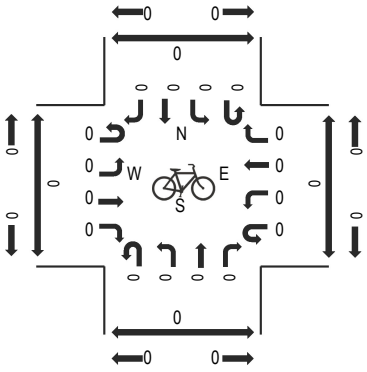
Location: 7 SOUTHPARK RD & NORTHRIDGE BUS RD S AM
Date: Wednesday, November 13, 2024
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

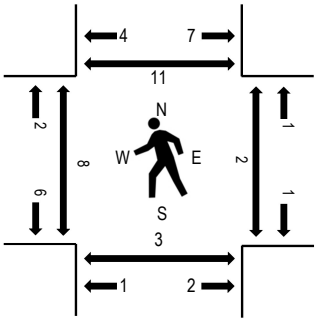
Peak Hour - Motorized Vehicles



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					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		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

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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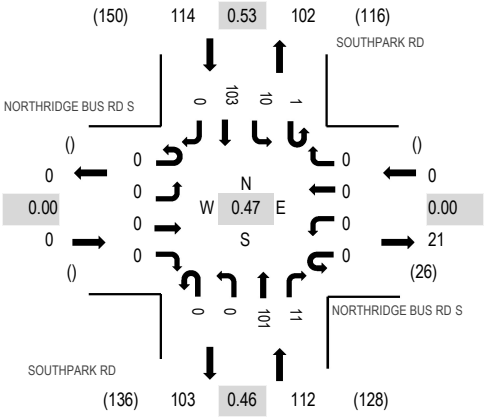
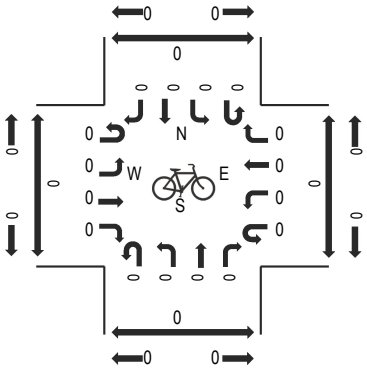
Location: 7 SOUTHPARK RD & NORTHRIDGE BUS RD S PM
Date: Wednesday, November 13, 2024
Peak Hour: 03:15 PM - 04:15 PM
Peak 15-Minutes: 03:30 PM - 03:45 PM

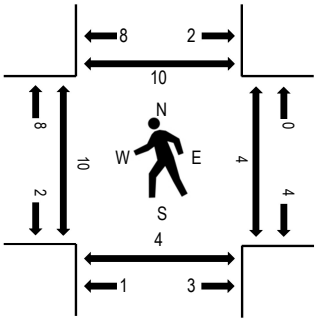
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	NORTHRIDGE BUS RD S Eastbound				NORTHRIDGE BUS RD S Westbound				SOUTHPARK RD Northbound				SOUTHPARK RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
2:45 PM	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	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	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	60	1	0	4	54	0	119		7	2	0	7
3:45 PM	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	15	8	0	2	12	0	37		2	1	2	1
Count Total	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	101	11	1	10	103	0	226		10	4	4	10

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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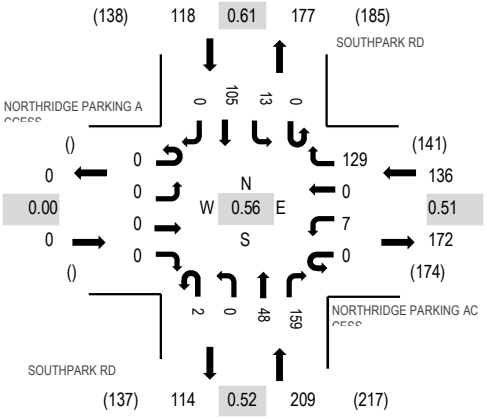
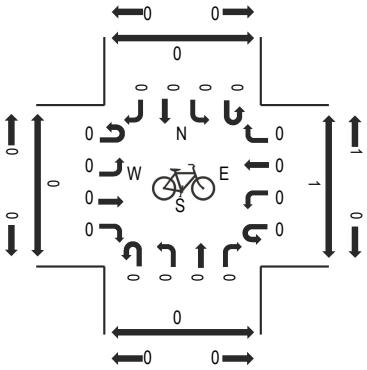
Location: 8 SOUTHPARK RD & NORTHRIDGE PARKING ACCESS AM
Date: Wednesday, November 13, 2024
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

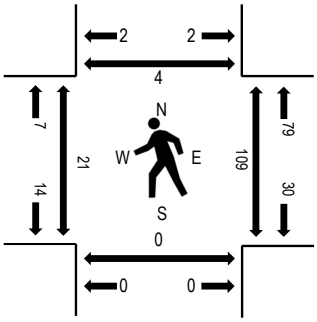
Peak Hour - Motorized Vehicles



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					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		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

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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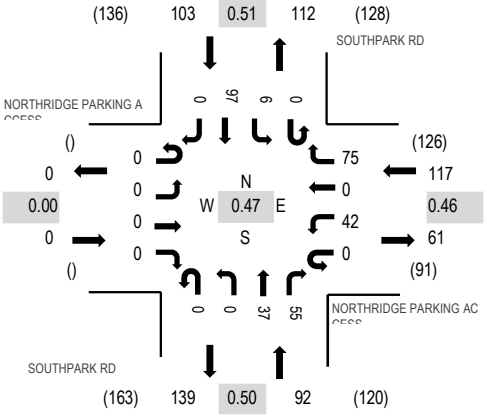
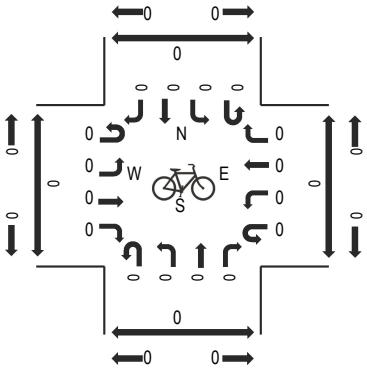
Location: 8 SOUTHPARK RD & NORTHRIDGE PARKING ACCESS PM
Date: Wednesday, November 13, 2024
Peak Hour: 03:15 PM - 04:15 PM
Peak 15-Minutes: 03:30 PM - 03:45 PM

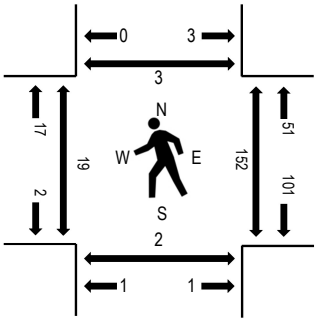
Peak Hour - Motorized Vehicles



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					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		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

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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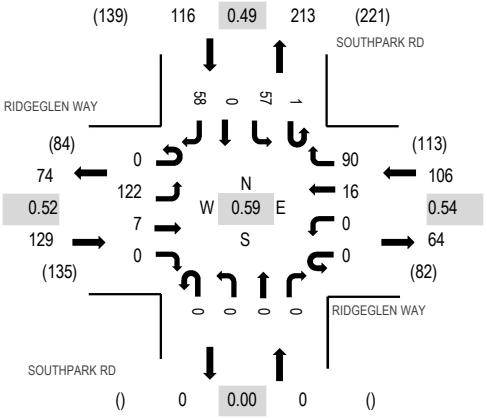
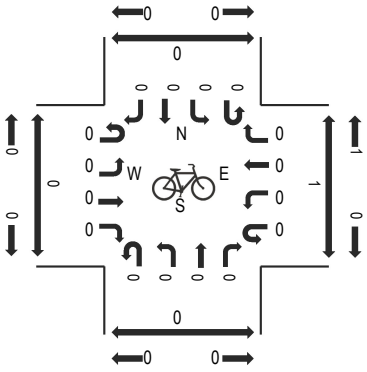
Location: 9 SOUTHPARK RD & RIDGEGLEN WAY AM
Date: Wednesday, November 13, 2024
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

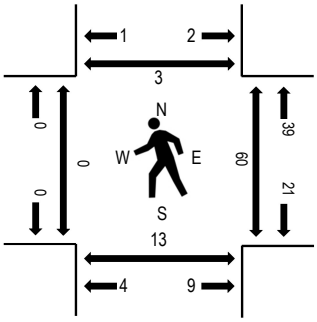
Peak Hour - Motorized Vehicles



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					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		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

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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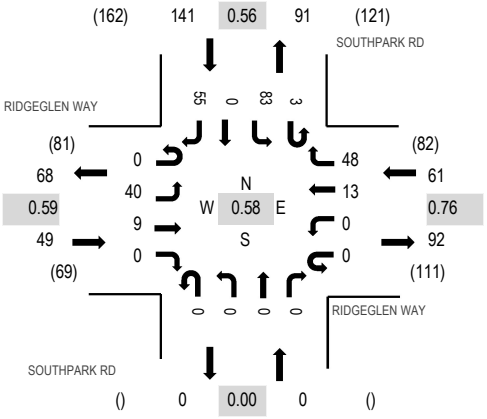
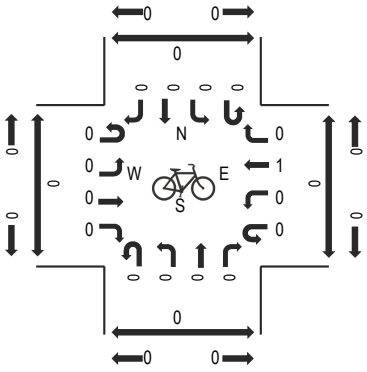
Location: 9 SOUTHPARK RD & RIDGEGLEN WAY PM
Date: Wednesday, November 13, 2024
Peak Hour: 03:15 PM - 04:15 PM
Peak 15-Minutes: 03:30 PM - 03:45 PM

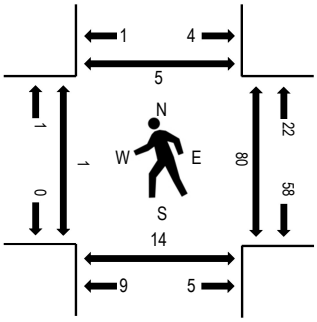
Peak Hour - Motorized Vehicles



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					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		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

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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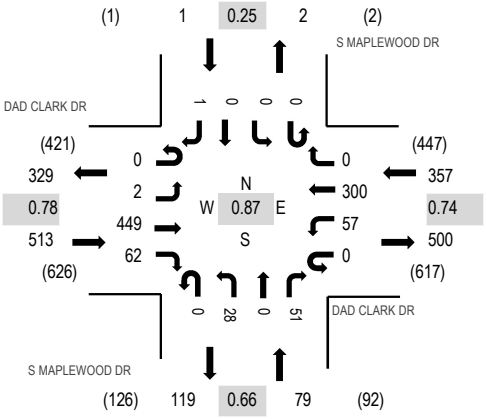
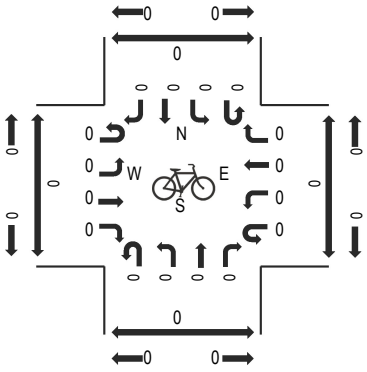
Location: 10 S MAPLEWOOD DR & DAD CLARK DR AM
Date: Wednesday, November 13, 2024
Peak Hour: 08:15 AM - 09:15 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

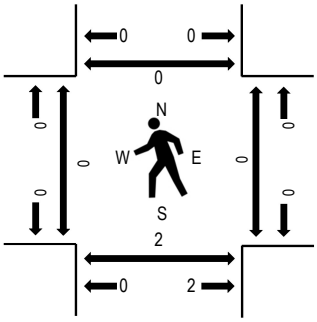
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DAD CLARK DR Eastbound				DAD CLARK DR Westbound				S MAPLEWOOD DR Northbound				S MAPLEWOOD DR Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
8:15 AM	0	0	154	10	0	3	86	0	0	5	0	6	0	0	0	0	264	950	0	0	0	0
8:30 AM	0	0	106	10	0	8	67	0	0	4	0	7	0	0	0	0	202	804	0	0	0	0
8:45 AM	0	0	98	24	0	28	92	0	0	10	0	20	0	0	0	1	273	700	0	0	0	0
9:00 AM	0	2	91	18	0	18	55	0	0	9	0	18	0	0	0	0	211		0	0	2	0
9:15 AM	0	0	62	3	0	1	44	0	0	2	0	6	0	0	0	0	118		0	0	0	0
9:30 AM	0	0	46	2	0	1	44	0	0	2	0	3	0	0	0	0	98		0	0	0	0
Count Total	0	2	557	67	0	59	388	0	0	32	0	60	0	0	0	1	1,166		0	0	2	0
Peak Hour	0	2	449	62	0	57	300	0	0	28	0	51	0	0	0	1	950		0	0	2	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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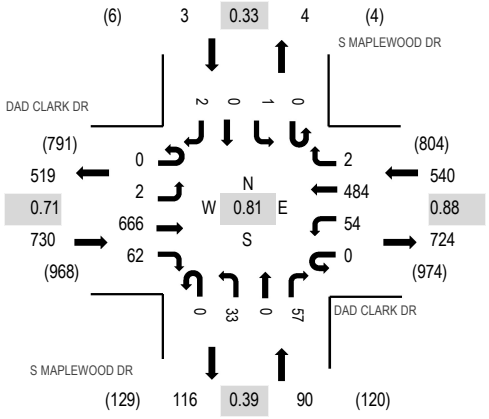
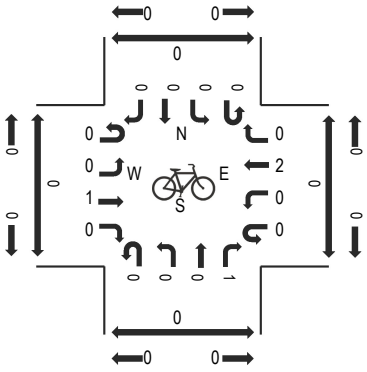
Location: 10 S MAPLEWOOD DR & DAD CLARK DR PM
Date: Wednesday, November 13, 2024
Peak Hour: 03:15 PM - 04:15 PM
Peak 15-Minutes: 03:45 PM - 04:00 PM

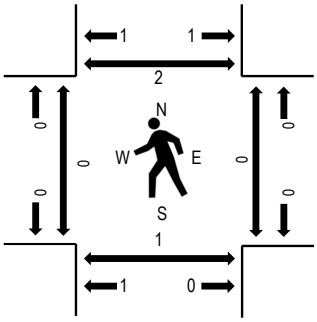
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DAD CLARK DR Eastbound				DAD CLARK DR Westbound				S MAPLEWOOD DR Northbound				S MAPLEWOOD DR Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
3:15 PM	0	1	138	8	0	9	124	1	0	6	0	4	0	1	0	0	292	1,363	0	0	0	0
3:30 PM	0	0	142	18	0	16	101	0	0	2	0	9	0	0	0	1	289	1,337	0	0	0	1
3:45 PM	0	0	232	24	0	22	135	0	0	3	0	3	0	0	0	1	420	1,317	0	0	0	0
4:00 PM	0	1	154	12	0	7	124	1	0	22	0	41	0	0	0	0	362		0	0	1	1
4:15 PM	0	0	115	2	0	1	132	0	0	6	0	10	0	0	0	0	266		0	0	0	0
4:30 PM	0	0	116	5	0	5	126	0	0	6	0	8	0	1	0	2	269		0	0	0	0
Count Total	0	2	897	69	0	60	742	2	0	45	0	75	0	2	0	4	1,898		0	0	1	2
Peak Hour	0	2	666	62	0	54	484	2	0	33	0	57	0	1	0	2	1,363		0	0	1	2

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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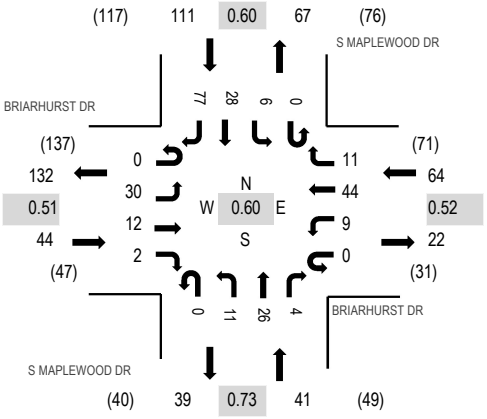
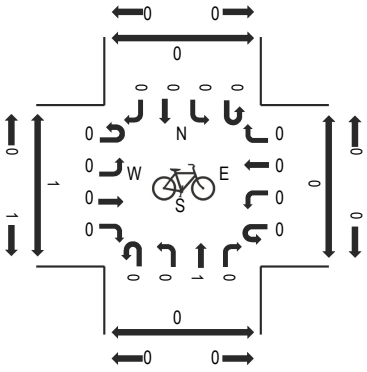
Location: 11 S MAPLEWOOD DR & BRIARHURST DR AM
Date: Wednesday, November 13, 2024
Peak Hour: 08:15 AM - 09:15 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

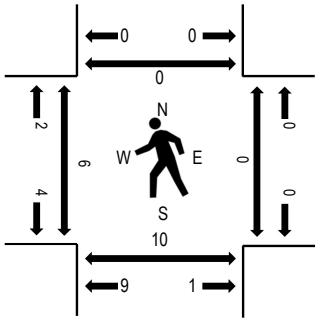
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	BRIARHURST DR Eastbound				BRIARHURST DR Westbound				S MAPLEWOOD DR Northbound				S MAPLEWOOD DR Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
8:15 AM	0	1	0	0	0	1	6	3	0	0	6	2	0	1	2	10	32	260	0	0	0	0
8:30 AM	0	2	1	1	0	2	6	2	0	1	5	0	0	2	3	13	38	243	0	0	0	0
8:45 AM	0	14	3	0	0	5	20	6	0	4	8	2	0	2	10	34	108	214	0	0	6	0
9:00 AM	0	13	8	1	0	1	12	0	0	6	7	0	0	1	13	20	82		6	0	4	0
9:15 AM	0	2	0	0	0	0	1	2	0	1	3	2	0	3	1	0	15		0	0	0	0
9:30 AM	0	0	1	0	0	0	3	1	0	0	1	1	0	2	0	0	9		0	0	0	0
Count Total	0	32	13	2	0	9	48	14	0	12	30	7	0	11	29	77	284		6	0	10	0
Peak Hour	0	30	12	2	0	9	44	11	0	11	26	4	0	6	28	77	260		6	0	10	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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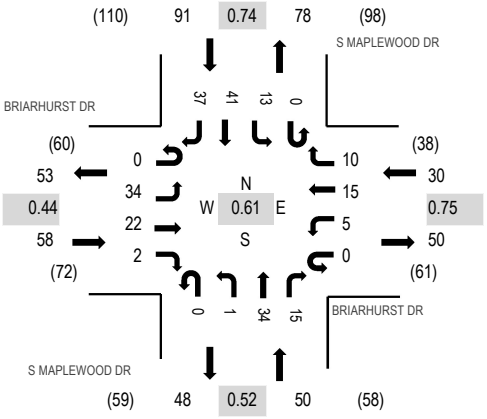
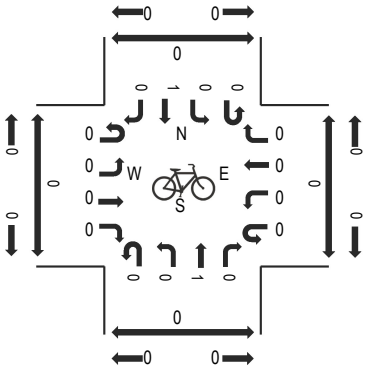
Location: 11 S MAPLEWOOD DR & BRIARHURST DR PM
Date: Wednesday, November 13, 2024
Peak Hour: 03:30 PM - 04:30 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

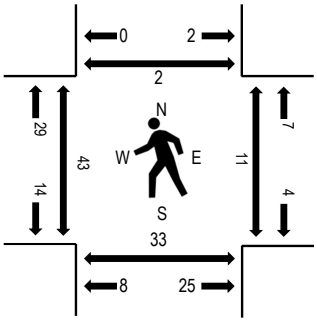
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	BRIARHURST DR Eastbound				BRIARHURST DR Westbound				S MAPLEWOOD DR Northbound				S MAPLEWOOD DR Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
3:15 PM	0	2	1	0	0	3	1	2	0	0	3	0	0	2	5	5	24	218	0	0	3	0
3:30 PM	0	2	0	0	0	3	4	3	0	0	4	4	0	6	16	8	50	229	2	1	0	0
3:45 PM	0	1	0	0	0	1	5	1	0	1	5	2	0	5	9	20	50	204	17	1	13	0
4:00 PM	0	23	14	1	0	1	3	3	0	0	22	2	0	2	15	8	94		23	9	16	2
4:15 PM	0	8	8	1	0	0	3	3	0	0	3	7	0	0	1	1	35		1	0	4	0
4:30 PM	0	9	2	0	0	0	0	2	0	0	2	3	0	3	3	1	25		0	0	0	0
Count Total	0	45	25	2	0	8	16	14	0	1	39	18	0	18	49	43	278		43	11	36	2
Peak Hour	0	34	22	2	0	5	15	10	0	1	34	15	0	13	41	37	229		43	11	33	2

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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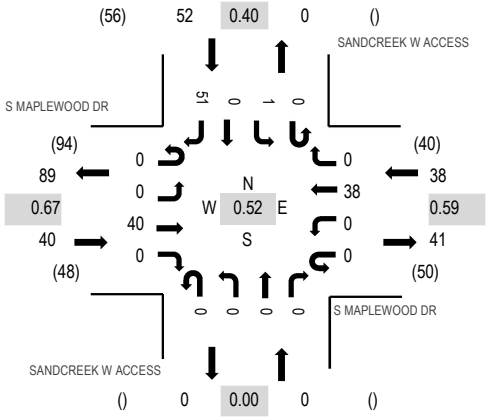
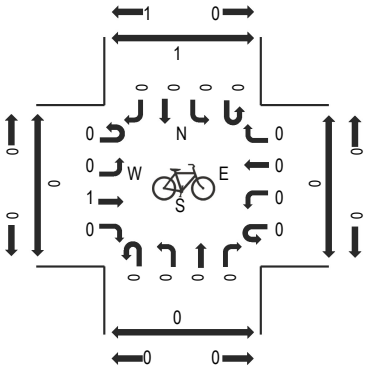
Location: 12 SANDCREEK W ACCESS & S MAPLEWOOD DR AM
Date: Wednesday, November 13, 2024
Peak Hour: 08:15 AM - 09:15 AM
Peak 15-Minutes: 09:00 AM - 09:15 AM

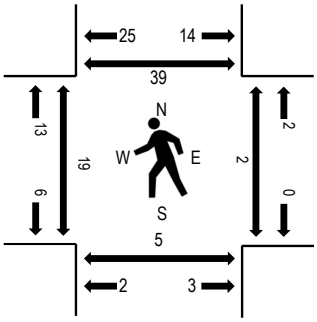
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	S MAPLEWOOD DR Eastbound				S MAPLEWOOD DR Westbound				SANDCREEK W ACCESS Northbound				SANDCREEK W ACCESS Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
8:15 AM	0	0	8	0	0	0	3	0	0	0	0	0	0	0	0	0	11	130	0	0	1	0
8:30 AM	0	0	6	0	0	0	6	0	0	0	0	0	0	0	0	1	13	130	2	0	0	0
8:45 AM	0	0	15	0	0	0	13	0	0	0	0	0	0	1	0	15	44	120	5	2	4	23
9:00 AM	0	0	11	0	0	0	16	0	0	0	0	0	0	0	0	35	62		12	0	0	16
9:15 AM	0	0	5	0	0	0	2	0	0	0	0	0	0	1	0	3	11		1	0	0	0
9:30 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3		0	0	0	0
Count Total	0	0	48	0	0	0	40	0	0	0	0	0	0	2	0	54	144		20	2	5	39
Peak Hour	0	0	40	0	0	0	38	0	0	0	0	0	0	1	0	51	130		19	2	5	39

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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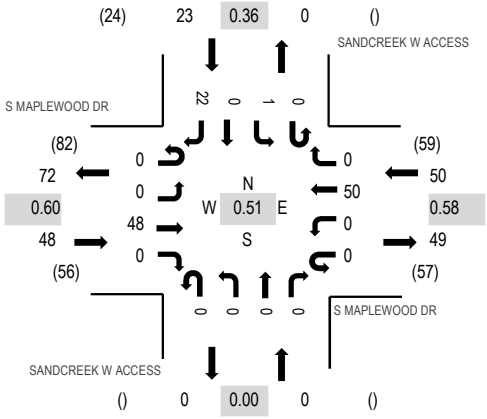
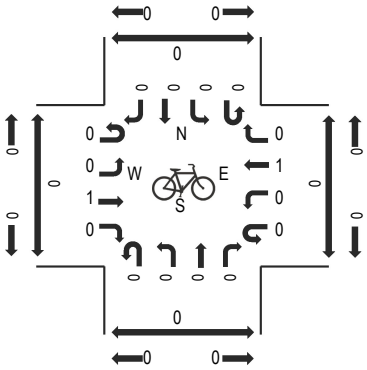
Location: 12 SANDCREEK W ACCESS & S MAPLEWOOD DR PM
Date: Wednesday, November 13, 2024
Peak Hour: 03:30 PM - 04:30 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

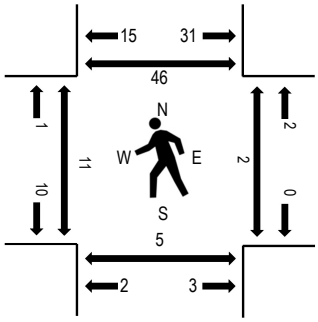
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

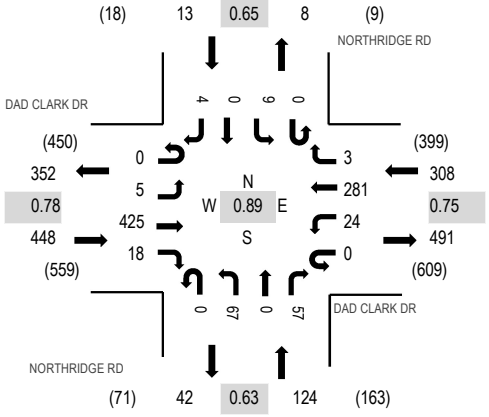
Traffic Counts - Motorized Vehicles

Interval Start Time	S MAPLEWOOD DR Eastbound				S MAPLEWOOD DR Westbound				SANDCREEK W ACCESS Northbound				SANDCREEK W ACCESS Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
3:15 PM	0	0	3	0	0	0	6	0	0	0	0	0	0	0	0	0	9	115	2	0	1	3
3:30 PM	0	0	9	0	0	0	13	0	0	0	0	0	0	0	0	3	25	121	0	2	1	4
3:45 PM	0	0	10	0	0	0	11	0	0	0	0	0	0	0	0	1	22	105	0	0	3	10
4:00 PM	0	0	20	0	0	0	23	0	0	0	0	0	0	1	0	15	59		11	0	1	28
4:15 PM	0	0	9	0	0	0	3	0	0	0	0	0	0	0	0	3	15		0	0	0	4
4:30 PM	0	0	5	0	0	0	3	0	0	0	0	0	0	0	0	1	9		0	0	0	0
Count Total	0	0	56	0	0	0	59	0	0	0	0	0	0	1	0	23	139		13	2	6	49
Peak Hour	0	0	48	0	0	0	50	0	0	0	0	0	0	1	0	22	121		11	2	5	46

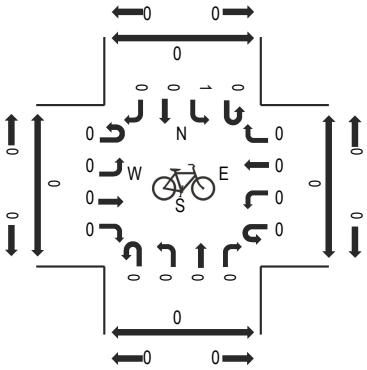
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 13 NORTHRIDGE RD & DAD CLARK DR AM
Date: Wednesday, November 13, 2024
Peak Hour: 08:15 AM - 09:15 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

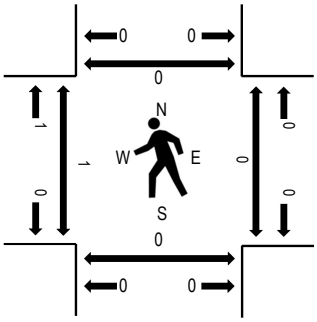
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

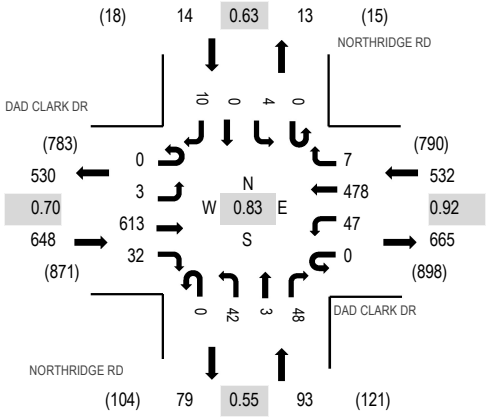
Traffic Counts - Motorized Vehicles

Interval Start Time	DAD CLARK DR Eastbound				DAD CLARK DR Westbound				NORTHRIDGE RD Northbound				NORTHRIDGE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
8:15 AM	0	1	141	2	0	4	64	1	0	10	0	10	0	3	0	2	238	893	0	0	0	0
8:30 AM	0	2	97	7	0	5	69	1	0	12	0	9	0	2	0	0	204	783	0	0	0	0
8:45 AM	0	2	102	7	0	7	96	0	0	13	0	21	0	1	0	2	251	697	0	0	0	0
9:00 AM	0	0	85	2	0	8	52	1	0	32	0	17	0	3	0	0	200		1	0	0	0
9:15 AM	0	0	54	5	0	3	43	1	0	8	0	12	0	1	0	1	128		0	1	0	0
9:30 AM	0	0	44	8	0	4	40	0	9	4	0	6	0	1	0	2	118		0	0	0	0
Count Total	0	5	523	31	0	31	364	4	9	79	0	75	0	11	0	7	1,139		1	1	0	0
Peak Hour	0	5	425	18	0	24	281	3	0	67	0	57	0	9	0	4	893		1	0	0	0

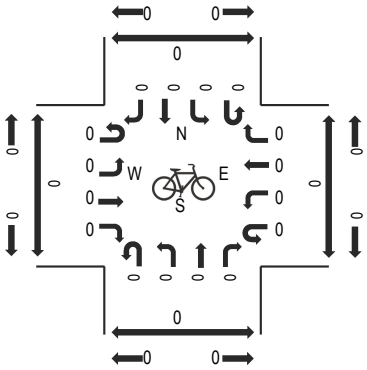
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 13 NORTHRIDGE RD & DAD CLARK DR PM
Date: Wednesday, November 13, 2024
Peak Hour: 03:30 PM - 04:30 PM
Peak 15-Minutes: 03:45 PM - 04:00 PM

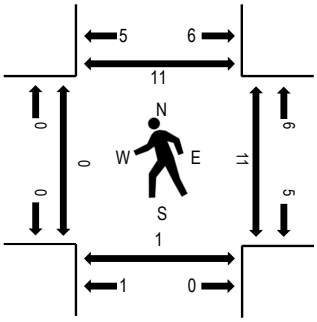
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DAD CLARK DR Eastbound				DAD CLARK DR Westbound				NORTHRIDGE RD Northbound				NORTHRIDGE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
3:15 PM	0	0	104	6	0	9	107	1	0	4	0	12	0	1	0	0	244	1,262	0	0	0	2
3:30 PM	0	0	140	7	0	10	104	2	0	7	0	8	0	1	0	1	280	1,287	0	0	0	1
3:45 PM	0	0	219	12	0	12	117	3	0	4	0	17	0	2	0	4	390	1,276	0	2	0	1
4:00 PM	0	2	139	7	0	15	137	0	0	23	2	19	0	1	0	3	348		0	7	1	9
4:15 PM	0	1	115	6	0	10	120	2	0	8	1	4	0	0	0	2	269		0	2	0	0
4:30 PM	0	0	108	5	0	5	135	1	0	4	0	8	0	0	0	3	269		0	0	0	0
Count Total	0	3	825	43	0	61	720	9	0	50	3	68	0	5	0	13	1,800		0	11	1	13
Peak Hour	0	3	613	32	0	47	478	7	0	42	3	48	0	4	0	10	1,287		0	11	1	11

Appendix C Existing Level of Service Reports

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	425	18	24	281	3	67	0	57	9	0	4
Future Vol, veh/h	5	425	18	24	281	3	67	0	57	9	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	165	-	-	-	-	65	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	75	75	75	63	63	63	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	545	23	32	375	4	106	0	90	14	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	379	0	0	568	0	0	821	1012	284	726	1021	190
Stage 1	-	-	-	-	-	-	569	569	-	441	441	-
Stage 2	-	-	-	-	-	-	252	443	-	285	580	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1176	-	-	1000	-	-	266	238	713	312	235	820
Stage 1	-	-	-	-	-	-	474	504	-	565	575	-
Stage 2	-	-	-	-	-	-	730	574	-	698	498	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1176	-	-	1000	-	-	257	229	713	265	226	820
Mov Cap-2 Maneuver	-	-	-	-	-	-	257	229	-	265	226	-
Stage 1	-	-	-	-	-	-	472	501	-	562	557	-
Stage 2	-	-	-	-	-	-	701	556	-	606	496	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.7	20.4	16.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	257	713	1176	-	-	1000	-	-	335
HCM Lane V/C Ratio	0.414	0.127	0.005	-	-	0.032	-	-	0.06
HCM Control Delay (s)	28.6	10.8	8.1	-	-	8.7	-	-	16.4
HCM Lane LOS	D	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.9	0.4	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	449	62	57	300	0	28	0	51	0	0	1
Future Vol, veh/h	2	449	62	57	300	0	28	0	51	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	180	-	-	-	-	80	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	74	74	74	66	66	66	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	576	79	77	405	0	42	0	77	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	405	0	0	655	0	0	979	1181	328	853	1220	203
Stage 1	-	-	-	-	-	-	622	622	-	559	559	-
Stage 2	-	-	-	-	-	-	357	559	-	294	661	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1150	-	-	928	-	-	204	189	668	253	179	804
Stage 1	-	-	-	-	-	-	441	477	-	481	509	-
Stage 2	-	-	-	-	-	-	633	509	-	690	458	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1150	-	-	928	-	-	190	173	668	209	164	804
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	173	-	209	164	-
Stage 1	-	-	-	-	-	-	440	476	-	480	467	-
Stage 2	-	-	-	-	-	-	578	467	-	609	457	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.5	17.6	9.5
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	190	668	1150	-	-	928	-	-	-	804
HCM Lane V/C Ratio	0.223	0.116	0.002	-	-	0.083	-	-	-	0.005
HCM Control Delay (s)	29.3	11.1	8.1	-	-	9.2	-	-	0	9.5
HCM Lane LOS	D	B	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0.8	0.4	0	-	-	0.3	-	-	-	0

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↱	
Traffic Vol, veh/h	0	40	38	0	1	51
Future Vol, veh/h	0	40	38	0	1	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	67	67	59	59	40	40
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	60	64	0	3	128

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	124	64
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	60	-
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	0	-	-	0	871	1000
Stage 1	0	-	-	0	959	-
Stage 2	0	-	-	0	963	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	871	1000
Mov Cap-2 Maneuver	-	-	-	-	871	-
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	963	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	997
HCM Lane V/C Ratio	-	-	0.13
HCM Control Delay (s)	-	-	9.2
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.4

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	613	32	47	478	7	42	3	48	4	0	10
Future Vol, veh/h	3	613	32	47	478	7	42	3	48	4	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	165	-	-	-	-	65	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	92	92	92	55	55	55	63	63	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	876	46	51	520	8	76	5	87	6	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	528	0	0	922	0	0	1269	1537	461	1075	1556	264
Stage 1	-	-	-	-	-	-	907	907	-	626	626	-
Stage 2	-	-	-	-	-	-	362	630	-	449	930	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1035	-	-	736	-	-	125	115	547	174	112	734
Stage 1	-	-	-	-	-	-	297	353	-	439	475	-
Stage 2	-	-	-	-	-	-	629	473	-	559	344	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1035	-	-	736	-	-	116	107	547	133	104	734
Mov Cap-2 Maneuver	-	-	-	-	-	-	116	107	-	133	104	-
Stage 1	-	-	-	-	-	-	296	352	-	437	442	-
Stage 2	-	-	-	-	-	-	573	440	-	461	343	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.9	50.5	17.1
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	115	547	1035	-	-	736	-	-	320
HCM Lane V/C Ratio	0.711	0.16	0.004	-	-	0.069	-	-	0.069
HCM Control Delay (s)	90.7	12.8	8.5	-	-	10.3	-	-	17.1
HCM Lane LOS	F	B	A	-	-	B	-	-	C
HCM 95th %tile Q(veh)	3.8	0.6	0	-	-	0.2	-	-	0.2

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	666	62	54	484	2	33	0	57	1	0	2
Future Vol, veh/h	2	666	62	54	484	2	33	0	57	1	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	180	-	-	-	-	80	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	88	88	88	39	39	39	33	33	33
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	938	87	61	550	2	85	0	146	3	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	552	0	0	1025	0	0	1385	1662	513	1148	1704	276
Stage 1	-	-	-	-	-	-	988	988	-	673	673	-
Stage 2	-	-	-	-	-	-	397	674	-	475	1031	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1014	-	-	673	-	-	103	96	506	154	91	721
Stage 1	-	-	-	-	-	-	265	323	-	411	452	-
Stage 2	-	-	-	-	-	-	600	452	-	539	309	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1014	-	-	673	-	-	95	87	506	102	82	721
Mov Cap-2 Maneuver	-	-	-	-	-	-	95	87	-	102	82	-
Stage 1	-	-	-	-	-	-	264	322	-	410	411	-
Stage 2	-	-	-	-	-	-	541	411	-	382	308	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.1	62.3	20.5
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	95	506	1014	-	-	673	-	-	102	721
HCM Lane V/C Ratio	0.891	0.289	0.003	-	-	0.091	-	-	0.03	0.008
HCM Control Delay (s)	144	15	8.6	-	-	10.9	-	-	41.4	10
HCM Lane LOS	F	C	A	-	-	B	-	-	E	B
HCM 95th %tile Q(veh)	5	1.2	0	-	-	0.3	-	-	0.1	0

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Traffic Vol, veh/h	0	48	50	0	1	22
Future Vol, veh/h	0	48	50	0	1	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	60	58	58	36	36
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	80	86	0	3	61

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	166	86
Stage 1	-	-	-	-	86	-
Stage 2	-	-	-	-	80	-
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	0	-	-	0	824	973
Stage 1	0	-	-	0	937	-
Stage 2	0	-	-	0	943	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	824	973
Mov Cap-2 Maneuver	-	-	-	-	824	-
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	943	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	965
HCM Lane V/C Ratio	-	-	0.066
HCM Control Delay (s)	-	-	9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.2

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	30	12	2	0	9	44	11	11	26	4	6	28
Future Vol, veh/h	30	12	2	0	9	44	11	11	26	4	6	28
Peak Hour Factor	0.51	0.51	0.51	0.92	0.52	0.52	0.52	0.73	0.73	0.73	0.60	0.60
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	24	4	0	17	85	21	15	36	5	10	47
Number of Lanes	0	1	0	0	0	1	0	0	1	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.4	8.4	8.1	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	27%	68%	14%	18%	0%
Vol Thru, %	63%	27%	69%	82%	0%
Vol Right, %	10%	5%	17%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	41	44	64	34	77
LT Vol	11	30	9	6	0
Through Vol	26	12	44	28	0
RT Vol	4	2	11	0	77
Lane Flow Rate	56	86	123	57	128
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.074	0.114	0.154	0.081	0.156
Departure Headway (Hd)	4.733	4.738	4.515	5.17	4.378
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	757	757	795	694	820
Service Time	2.761	2.762	2.538	2.893	2.101
HCM Lane V/C Ratio	0.074	0.114	0.155	0.082	0.156
HCM Control Delay	8.1	8.4	8.4	8.4	7.9
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	0.4	0.5	0.3	0.6

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	77
Future Vol, veh/h	77
Peak Hour Factor	0.60
Heavy Vehicles, %	2
Mvmt Flow	128
Number of Lanes	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	34	22	2	0	5	15	10	1	34	15	13	41
Future Vol, veh/h	34	22	2	0	5	15	10	1	34	15	13	41
Peak Hour Factor	0.44	0.44	0.44	0.92	0.75	0.75	0.75	0.52	0.52	0.52	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	77	50	5	0	7	20	13	2	65	29	18	55
Number of Lanes	0	1	0	0	0	1	0	0	1	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.5	7.7	8	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	2%	59%	17%	24%	0%
Vol Thru, %	68%	38%	50%	76%	0%
Vol Right, %	30%	3%	33%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	58	30	54	37
LT Vol	1	34	5	13	0
Through Vol	34	22	15	41	0
RT Vol	15	2	10	0	37
Lane Flow Rate	96	132	40	73	50
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.118	0.168	0.049	0.104	0.06
Departure Headway (Hd)	4.407	4.584	4.431	5.141	4.316
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	814	784	809	699	831
Service Time	2.426	2.601	2.452	2.859	2.035
HCM Lane V/C Ratio	0.118	0.168	0.049	0.104	0.06
HCM Control Delay	8	8.5	7.7	8.5	7.3
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.4	0.6	0.2	0.3	0.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	37
Future Vol, veh/h	37
Peak Hour Factor	0.74
Heavy Vehicles, %	2
Mvmt Flow	50
Number of Lanes	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Appendix D Crash Diagrams and Listings

DAD CLARK DR & NORTHRIDGE RD
2019 - 2024

7 Crashes

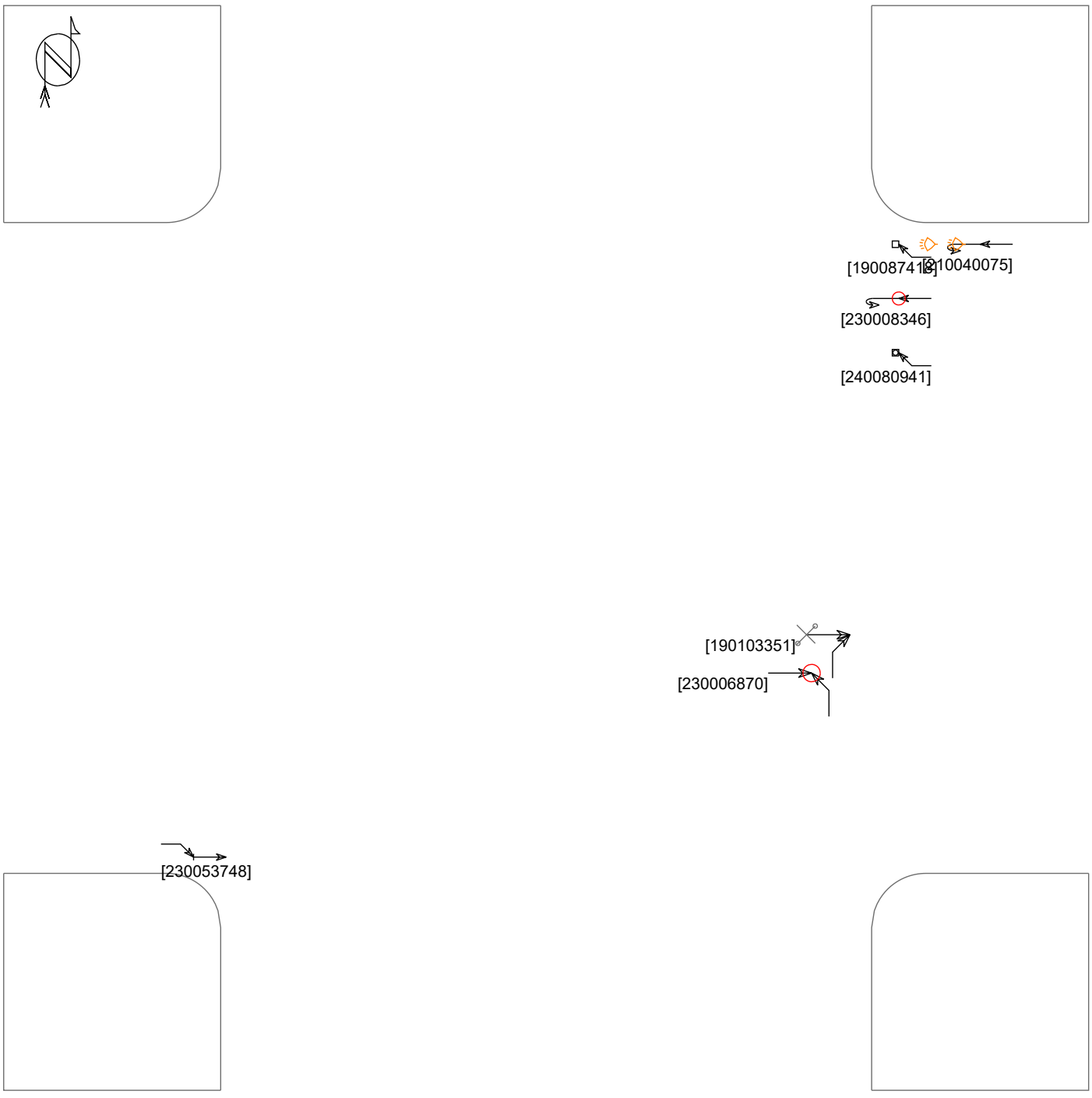
Clear

Casetrackingid	Accidenttime	Accidentdate	_Primarystreet	_Crossstreet	Onroadaddress	Numberinjured	Numberkilled	Harmfulevent1
190087418	8:41 pm	7/31/2019	CENTENNIAL BLVD	PLAZA DR		0	0	Tree
190103351	5:00 pm	9/11/2019	DAD CLARK DR	NORTHRIDGE RD		0	0	Bicycle / Motorized Bicycle
210040075	9:40 pm	5/21/2021	CENTENNIAL BLVD	PLAZA DR		0	0	Front to Side
230006870	3:45 pm	1/27/2023	NORTHRIDGE RD	DAD CLARK DR		1	0	Front to Side
230008346	3:01 pm	2/1/2023	PLAZA DR	CENTENNIAL BLVD		1	0	Front to Side
230053748	3:54 pm	6/23/2023	DAD CLARK DR	NORTHRIDGE RD		0	0	Front to Rear
240080941	5:50 pm	8/28/2024	PLAZA DR	CENTENNIAL BLVD		0	0	Sign

DAD CLARK DR & NORTHRIDGE RD
2019 - 2024

7 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
Animal
Public Obj
Private Obj

Crash Magic Online 11/14/2024

Appendix E Projected Level of Service Reports

Intersection	
Int Delay, s/veh	93.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	539	75	24	281	3	219	0	67	9	0	4
Future Vol, veh/h	5	539	75	24	281	3	219	0	67	9	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	165	-	-	-	-	65	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	75	75	75	63	63	63	65	65	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	691	96	32	375	4	348	0	106	14	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	379	0	0	787	0	0	1003	1194	394	799	1240	190
Stage 1	-	-	-	-	-	-	751	751	-	441	441	-
Stage 2	-	-	-	-	-	-	252	443	-	358	799	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1176	-	-	828	-	-	~ 196	185	605	276	174	820
Stage 1	-	-	-	-	-	-	369	416	-	565	575	-
Stage 2	-	-	-	-	-	-	730	574	-	633	396	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1176	-	-	828	-	-	~ 188	177	605	220	166	820
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 188	177	-	220	166	-
Stage 1	-	-	-	-	-	-	367	414	-	562	553	-
Stage 2	-	-	-	-	-	-	697	552	-	519	394	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.7	$ 343	18.6
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	188	605	1176	-	-	828	-	-	284
HCM Lane V/C Ratio	1.849	0.176	0.005	-	-	0.039	-	-	0.07
HCM Control Delay (s)	$ 444.2	12.2	8.1	-	-	9.5	-	-	18.6
HCM Lane LOS	F	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	25.1	0.6	0	-	-	0.1	-	-	0.2

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

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	449	176	76	300	0	47	0	61	0	0	1
Future Vol, veh/h	2	449	176	76	300	0	47	0	61	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	180	-	-	-	-	80	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	74	74	74	66	66	66	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	576	226	103	405	0	71	0	92	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	405	0	0	802	0	0	1104	1306	401	905	1419	203
Stage 1	-	-	-	-	-	-	695	695	-	611	611	-
Stage 2	-	-	-	-	-	-	409	611	-	294	808	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1150	-	-	817	-	-	166	159	599	232	136	804
Stage 1	-	-	-	-	-	-	399	442	-	448	482	-
Stage 2	-	-	-	-	-	-	590	482	-	690	392	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1150	-	-	817	-	-	149	138	599	177	118	804
Mov Cap-2 Maneuver	-	-	-	-	-	-	149	138	-	177	118	-
Stage 1	-	-	-	-	-	-	398	441	-	447	421	-
Stage 2	-	-	-	-	-	-	513	421	-	582	391	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2	28.4	9.5
HCM LOS			D	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	149	599	1150	-	-	817	-	-	-	804
HCM Lane V/C Ratio	0.478	0.154	0.002	-	-	0.126	-	-	-	0.005
HCM Control Delay (s)	49.5	12.1	8.1	-	-	10	-	-	0	9.5
HCM Lane LOS	E	B	A	-	-	B	-	-	A	A
HCM 95th %tile Q(veh)	2.2	0.5	0	-	-	0.4	-	-	-	0

Intersection	
Int Delay, s/veh	9.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↱	
Traffic Vol, veh/h	0	40	38	0	1	203
Future Vol, veh/h	0	40	38	0	1	203
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	67	67	59	59	40	40
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	60	64	0	3	508

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	124	64
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	60	-
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	0	-	-	0	871	1000
Stage 1	0	-	-	0	959	-
Stage 2	0	-	-	0	963	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	871	1000
Mov Cap-2 Maneuver	-	-	-	-	871	-
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	963	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	999
HCM Lane V/C Ratio	-	-	0.511
HCM Control Delay (s)	-	-	12.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	3

Intersection	
Int Delay, s/veh	186.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	708	79	47	478	7	168	3	56	4	0	10
Future Vol, veh/h	3	708	79	47	478	7	168	3	56	4	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	180	-	-	165	-	-	-	-	65	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	92	92	92	55	55	55	63	63	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	1011	113	51	520	8	305	5	102	6	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	528	0	0	1124	0	0	1438	1706	562	1142	1758	264
Stage 1	-	-	-	-	-	-	1076	1076	-	626	626	-
Stage 2	-	-	-	-	-	-	362	630	-	516	1132	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1035	-	-	617	-	-	~ 94	90	470	155	84	734
Stage 1	-	-	-	-	-	-	~ 234	294	-	439	475	-
Stage 2	-	-	-	-	-	-	629	473	-	510	276	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1035	-	-	617	-	-	~ 86	82	470	108	77	734
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 86	82	-	108	77	-
Stage 1	-	-	-	-	-	-	~ 233	293	-	437	436	-
Stage 2	-	-	-	-	-	-	565	434	-	391	275	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	$ 967.1	19.2
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	86	470	1035	-	-	617	-	-	276
HCM Lane V/C Ratio	3.615	0.217	0.004	-	-	0.083	-	-	0.081
HCM Control Delay (s)	$ 1279	14.8	8.5	-	-	11.4	-	-	19.2
HCM Lane LOS	F	B	A	-	-	B	-	-	C
HCM 95th %tile Q(veh)	31.8	0.8	0	-	-	0.3	-	-	0.3

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

Intersection	
Int Delay, s/veh	28.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	666	157	70	484	2	49	0	65	1	0	2
Future Vol, veh/h	2	666	157	70	484	2	49	0	65	1	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	205	-	-	180	-	-	-	-	80	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	88	88	88	39	39	39	33	33	33
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	938	221	80	550	2	126	0	167	3	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	552	0	0	1159	0	0	1490	1767	580	1186	1876	276
Stage 1	-	-	-	-	-	-	1055	1055	-	711	711	-
Stage 2	-	-	-	-	-	-	435	712	-	475	1165	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1014	-	-	599	-	-	~ 86	83	458	144	71	721
Stage 1	-	-	-	-	-	-	241	301	-	390	434	-
Stage 2	-	-	-	-	-	-	570	434	-	539	267	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1014	-	-	599	-	-	~ 76	72	458	82	61	721
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 76	72	-	82	61	-
Stage 1	-	-	-	-	-	-	240	300	-	389	376	-
Stage 2	-	-	-	-	-	-	490	376	-	342	266	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.5	198	23.5
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	76	458	1014	-	-	599	-	-	82	721
HCM Lane V/C Ratio	1.653	0.364	0.003	-	-	0.133	-	-	0.037	0.008
HCM Control Delay (s)	$ 437.7	17.3	8.6	-	-	11.9	-	-	50.6	10
HCM Lane LOS	F	C	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	10.6	1.6	0	-	-	0.5	-	-	0.1	0

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

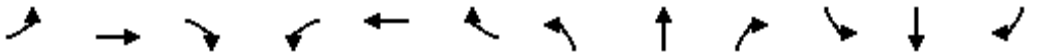
Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↱	
Traffic Vol, veh/h	0	48	50	0	1	148
Future Vol, veh/h	0	48	50	0	1	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	60	58	58	36	36
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	80	86	0	3	411

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	166	86
Stage 1	-	-	-	-	86	-
Stage 2	-	-	-	-	80	-
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	0	-	-	0	824	973
Stage 1	0	-	-	0	937	-
Stage 2	0	-	-	0	943	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	824	973
Mov Cap-2 Maneuver	-	-	-	-	824	-
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	943	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	972
HCM Lane V/C Ratio	-	-	0.426
HCM Control Delay (s)	-	-	11.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	2.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	12	12	9	44	11	68	26	4	6	28	210
Future Volume (vph)	59	12	12	9	44	11	68	26	4	6	28	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.980			0.977			0.995				0.850
Flt Protected		0.966			0.993			0.966			0.991	
Satd. Flow (prot)	0	1763	0	0	1807	0	0	1790	0	0	1846	1583
Flt Permitted		0.966			0.993			0.966			0.991	
Satd. Flow (perm)	0	1763	0	0	1807	0	0	1790	0	0	1846	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		271			250			119			190	
Travel Time (s)		6.2			5.7			2.7			4.3	
Peak Hour Factor	0.51	0.51	0.51	0.52	0.52	0.52	0.73	0.73	0.73	0.60	0.60	0.60
Adj. Flow (vph)	116	24	24	17	85	21	93	36	5	10	47	350
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	164	0	0	123	0	0	134	0	0	57	350
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)		0			0			0			0	
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
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	58	22	10	0	5	15	10	48	34	15	13	41
Future Vol, veh/h	58	22	10	0	5	15	10	48	34	15	13	41
Peak Hour Factor	0.44	0.44	0.44	0.92	0.75	0.75	0.75	0.52	0.52	0.52	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	132	50	23	0	7	20	13	92	65	29	18	55
Number of Lanes	0	1	0	0	0	1	0	0	1	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	10.3	8.5	9.8	9
HCM LOS	B	A	A	A

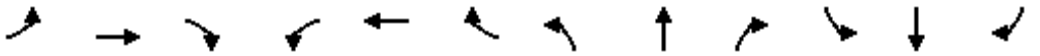
Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	49%	64%	17%	24%	0%
Vol Thru, %	35%	24%	50%	76%	0%
Vol Right, %	15%	11%	33%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	90	30	54	148
LT Vol	48	58	5	13	0
Through Vol	34	22	15	41	0
RT Vol	15	10	10	0	148
Lane Flow Rate	187	205	40	73	200
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.258	0.29	0.057	0.111	0.258
Departure Headway (Hd)	4.987	5.1	5.125	5.473	4.646
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	716	700	691	652	768
Service Time	3.052	3.166	3.212	3.234	2.406
HCM Lane V/C Ratio	0.261	0.293	0.058	0.112	0.26
HCM Control Delay	9.8	10.3	8.5	8.9	9
HCM Lane LOS	A	B	A	A	A
HCM 95th-tile Q	1	1.2	0.2	0.4	1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	148
Future Vol, veh/h	148
Peak Hour Factor	0.74
Heavy Vehicles, %	2
Mvmt Flow	200
Number of Lanes	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Mitigation Scenario

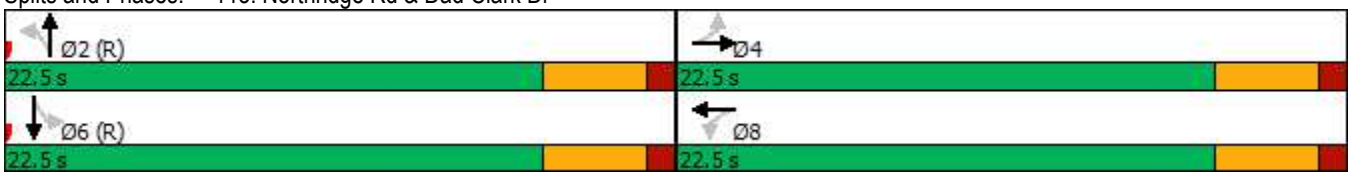


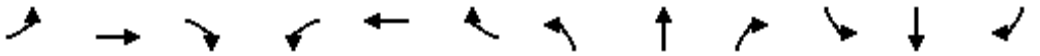
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	539	75	24	281	3	219	0	67	9	0	4
Future Volume (vph)	5	539	75	24	281	3	219	0	67	9	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	165		0	0		65	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.998			0.850			0.959	
Flt Protected	0.950			0.950			0.950				0.966	
Satd. Flow (prot)	1770	3476	0	1770	3532	0	1770	1583	0	0	1726	0
Flt Permitted	0.527			0.284			0.744				0.863	
Satd. Flow (perm)	982	3476	0	529	3532	0	1386	1583	0	0	1542	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			3			111			36	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		244			1245			220			171	
Travel Time (s)		5.5			28.3			5.0			3.9	
Peak Hour Factor	0.78	0.78	0.78	0.75	0.75	0.75	0.63	0.63	0.63	0.65	0.65	0.65
Adj. Flow (vph)	6	691	96	32	375	4	348	0	106	14	0	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	787	0	32	379	0	348	106	0	0	20	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	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	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	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	18.0	18.0		18.0	18.0		18.0	18.0			18.0	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.40	0.40			0.40	
v/c Ratio	0.02	0.56		0.15	0.27		0.63	0.15			0.03	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	8.4	11.7		14.3	13.1		17.2	3.0			2.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	8.4	11.7		14.3	13.1		17.2	3.0			2.6	
LOS	A	B		B	B		B	A			A	
Approach Delay		11.7			13.2			13.9			2.6	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	1	73		8	50		68	0			0	
Queue Length 95th (ft)	5	93		23	67		80	8			3	
Internal Link Dist (ft)		164			1165			140			91	
Turn Bay Length (ft)	180			165								
Base Capacity (vph)	392	1414		211	1414		554	699			638	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.02	0.56		0.15	0.27		0.63	0.15			0.03	

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 43.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 113: Northridge Rd & Dad Clark Dr



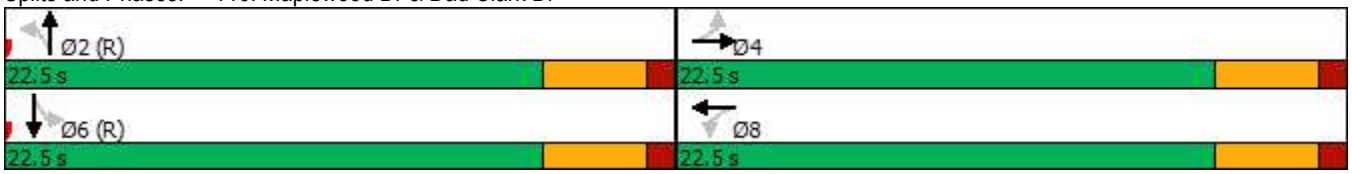


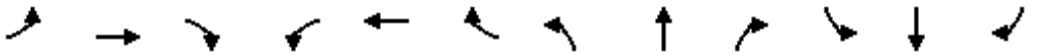
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	449	176	76	300	0	47	0	61	0	0	1
Future Volume (vph)	2	449	176	76	300	0	47	0	61	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205		0	180		0	0		80	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.958						0.850			0.850	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1770	3391	0	1770	3539	0	1770	1583	0	0	3008	0
Flt Permitted	0.514			0.276			0.755					
Satd. Flow (perm)	957	3391	0	514	3539	0	1406	1583	0	0	3008	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		154						165			293	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1245			312			202			175	
Travel Time (s)		28.3			7.1			4.6			4.0	
Peak Hour Factor	0.78	0.78	0.78	0.74	0.74	0.74	0.66	0.66	0.66	0.25	0.25	0.25
Adj. Flow (vph)	3	576	226	103	405	0	71	0	92	0	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	802	0	103	405	0	71	92	0	0	4	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	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	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	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	18.0	18.0		18.0	18.0		18.0	18.0			18.0	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.40	0.40			0.40	
v/c Ratio	0.01	0.55		0.50	0.29		0.13	0.13			0.00	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	10.0	13.8		21.6	9.8		9.3	1.0			0.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	10.0	13.8		21.6	9.8		9.3	1.0			0.0	
LOS	A	B		C	A		A	A			A	
Approach Delay		13.8			12.2			4.6				
Approach LOS		B			B			A				
Queue Length 50th (ft)	1	108		19	35		11	0			0	
Queue Length 95th (ft)	m2	126		43	46		21	0			0	
Internal Link Dist (ft)		1165			232			122			95	
Turn Bay Length (ft)	205			180								
Base Capacity (vph)	382	1448		205	1415		562	732			1379	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.01	0.55		0.50	0.29		0.13	0.13			0.00	

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 42.8%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 116: Maplewood Dr & Dad Clark Dr



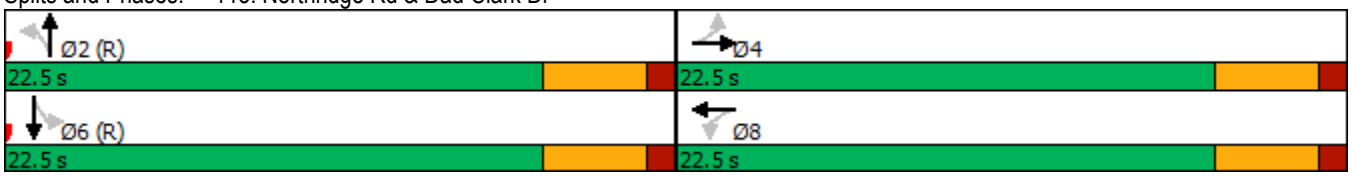


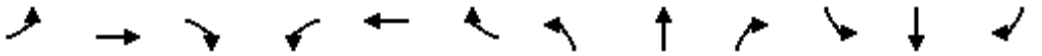
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	708	79	47	478	7	168	3	56	4	0	10
Future Volume (vph)	3	708	79	47	478	7	168	3	56	4	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	165		0	0		65	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.998			0.857			0.902	
Flt Protected	0.950			0.950			0.950				0.987	
Satd. Flow (prot)	1770	3486	0	1770	3532	0	1770	1596	0	0	1658	0
Flt Permitted	0.445			0.222			0.743				0.948	
Satd. Flow (perm)	829	3486	0	414	3532	0	1384	1596	0	0	1593	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			4			36			36	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		244			1245			220			171	
Travel Time (s)		5.5			28.3			5.0			3.9	
Peak Hour Factor	0.70	0.70	0.70	0.92	0.92	0.92	0.55	0.55	0.55	0.63	0.63	0.63
Adj. Flow (vph)	4	1011	113	51	520	8	305	5	102	6	0	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	1124	0	51	528	0	305	107	0	0	22	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	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	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	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	18.0	18.0		18.0	18.0		18.0	18.0			18.0	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.40	0.40			0.40	
v/c Ratio	0.01	0.80		0.31	0.37		0.55	0.16			0.03	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	8.3	17.3		15.5	10.4		15.1	7.1			2.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	8.3	17.3		15.5	10.4		15.1	7.1			2.9	
LOS	A	B		B	B		B	A			A	
Approach Delay		17.3			10.9			13.0			2.9	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	1	122		9	47		57	11			0	
Queue Length 95th (ft)	3	124		31	76		58	17			3	
Internal Link Dist (ft)		164			1165			140			91	
Turn Bay Length (ft)	180			165								
Base Capacity (vph)	331	1413		165	1415		553	660			658	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.01	0.80		0.31	0.37		0.55	0.16			0.03	

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 53.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 113: Northridge Rd & Dad Clark Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	666	157	70	484	2	49	0	65	1	0	2
Future Volume (vph)	2	666	157	70	484	2	49	0	65	1	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205		0	180		0	0		80	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.971			0.999			0.850			0.900	
Flt Protected	0.950			0.950			0.950				0.984	
Satd. Flow (prot)	1770	3437	0	1770	3536	0	1770	1583	0	0	3134	0
Flt Permitted	0.435			0.172			0.751				0.906	
Satd. Flow (perm)	810	3437	0	320	3536	0	1399	1583	0	0	2886	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74			1			110			291	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1245			312			202			175	
Travel Time (s)		28.3			7.1			4.6			4.0	
Peak Hour Factor	0.71	0.71	0.71	0.88	0.88	0.88	0.39	0.39	0.39	0.33	0.33	0.33
Adj. Flow (vph)	3	938	221	80	550	2	126	0	167	3	0	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	1159	0	80	552	0	126	167	0	0	9	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	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	37.0	37.0		37.0	37.0		23.0	23.0		23.0	23.0	
Total Split (%)	61.7%	61.7%		61.7%	61.7%		38.3%	38.3%		38.3%	38.3%	
Maximum Green (s)	32.5	32.5		32.5	32.5		18.5	18.5		18.5	18.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	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	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	32.5	32.5		32.5	32.5		18.5	18.5			18.5	
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.31	0.31			0.31	
v/c Ratio	0.01	0.61		0.46	0.29		0.29	0.30			0.01	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	6.5	10.5		19.4	8.0		18.1	8.1			0.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	6.5	10.5		19.4	8.0		18.1	8.1			0.0	
LOS	A	B		B	A		B	A			A	
Approach Delay		10.5			9.4			12.4				
Approach LOS		B			A			B				
Queue Length 50th (ft)	0	126		16	51		34	15			0	
Queue Length 95th (ft)	3	121		55	74		28	5			0	
Internal Link Dist (ft)		1165			232			122			95	
Turn Bay Length (ft)	205			180								
Base Capacity (vph)	438	1895		173	1915		431	564			1091	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.01	0.61		0.46	0.29		0.29	0.30			0.01	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 48.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 116: Maplewood Dr & Dad Clark Dr