Aspire Traffic Impact Study

Draft Report

September 2020

Prepared for:

Success Land Holding LLC

Prepared By:

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EXECUTIVE SUMMARY

The following contains a Traffic Impact Study (TIS) for a proposed residential development to be located between Amole Mesa Ave. and Colobel Ave. Within Albuquerque, NM. This report has been completed by Lee Engineering for Success Land Holding LLC. All analyses and items contained herein conform to scoping requirements outlined in the scoping meeting held on April 29, 2020. Scoping meeting notes are located in Appendix A.

BACKGROUND

A proposed residential development is to be located between Amole Mesa Ave. and Colobel Ave. Within the City of Albuquerque, NM. Surrounding major intersections include Dennis Chavez Blvd. & 118th St., Dennis Chavez & Coors Blvd. In total, the site will contain 506 units of single-family detached housing to be completed by 2027. A detailed site plan is included in Figure 2 of this report. Access to the site is to be taken directly from Amole Mesa Ave, Colobel Ave, and 118th St via four full access driveways to the Aspire development. Study intersections, as shown in Figure 1, include:

- Dennis Chavez Blvd & 118th St
- Dennis Chavez Blvd & 98th St
- Dennis Chavez Blvd & Unser Blvd
- Dennis Chavez Blvd & Condershire Dr
- Dennis Chavez Blvd & Coors Blvd
- 98th St & Colobel Ave
- 98th St & Amole Mesa Ave
- Amole Mesa Ave & Messina Dr

Construction is anticipated to begin in 2020 with full completion of the development in 2027. The development is to be constructed in three phases.

1. Phase 1 – 306 units in 2023
2. Phase 2 – 117 units in 2025
3. Phase 3 – (full Build) – 83 units in 2027

Analyses included in this report was performed for the following scenarios:

- Existing (current year 2020) conditions
- Background 2023 (no build)
- Build-out 2023 (phase 1) with 306 units
    i. Mitigated build-out 2023
- Background 2025
- Build-out 2025 (phase 2) with an additional 117 units
    i. Mitigated build-out 2025
- Background 2027
- Full Build 2027 (phase 3) with 83 additional units
- Horizon Year 2037

A volume adjustment factor was calculated and applied to study intersections where traffic data was collected during the Covid-19 pandemic (See traffic counts section for details). Traffic data for Dennis Chavez & 118th and Dennis Chavez & 98th was taken from the Ceja Vista Traffic Study. Furthermore, while the Ceja Vista study was completed in 2018, count data was taken from the Atrisco Heritage Academy High School Traffic Study, which collected data in 2017. Therefore, traffic data for Dennis Chavez & 118th and Dennis Chavez & 98th was forecasted from the 2017 counts using MRCOG travel demand growth rates.

Summary of Recommendations

As shown in the capacity analysis, a general corridor-wide capacity issue is observed to exist on Dennis Chavez Blvd. This contributes to poor levels of service on both Dennis Chavez Blvd and side streets restrict possible near-term improvements as any additional auxiliary lanes feeding Dennis Chavez Blvd would not have receiving lanes departing intersections. Currently, Dennis Chavez Blvd is shown in the MRCOG 2040 plan to be widened with an additional eastbound and westbound travel lane; however, funding has not yet been programmed in the current STIP. Widening of Dennis Chavez would be anticipated to include additional eastbound and westbound travel lane(s) and thereby have significant impacts at each traffic signal and intersection. Additional lanes would mitigate poor levels of service and allow for auxiliary lanes to be constructed at intersections. It is therefore recommended that the NMDOT & Bernalillo County consider developing a future project to widen Dennis Chavez Blvd. It should be noted that these overcapacity conditions, specifically due to lack of through capacity on Dennis Chavez Blvd/Dennis Chavez Blvd, carry through all phased build-out analyses and thus, the proposed Aspire Development is not solely responsible for those associated movements and intersections operating at an unacceptable LOS and/or over capacity. As a widening project on Rio Bravo has not been developed or funded, capacity analysis did not consider additional lanes on Rio Bravo or at the Dennis Chavez Blvd & Coors Blvd intersection in intersection geometries. The following table and paragraph below details capacity mitigations and recommendations for each intersection.

Dennis Chavez Blvd & 118th St

Under full build conditions, the intersection as a whole is expected to operate at acceptable levels of service. However, several capacity issues are expected for individual movements. These include the northbound left turn, northbound through, northbound right, and southbound through movements. It is therefore recommended that the traffic signal be periodically re-time and adjusted as developments in the surrounding area are constructed. It is also noted that the development does not contribute traffic to the northbound left and right movements. Additional through lanes and right turn lanes are not recommended at this intersection as receiving lanes is not currently present departing the intersection. Additionally, it is understood that Bernalillo County is in the process of designing minor signal improvements to add flashing yellow arrow left turns at the intersection. However, the details of this project are not currently finalized.

Dennis Chavez Blvd & 98th St

Under full build conditions, the intersection as a whole is expected to operate at acceptable levels of service. However, capacity issues are expected for the southbound left turn. It is therefore recommended that an additional southbound left-turn lane be constructed, and the traffic signal to be re-timed upon completion of construction.

It is understood that a construction project to add additional lanes at 98th & Dennis Chavez Blvd is currently underway as part of the Ceja Vista development. Current construction efforts are widening the intersection to accommodate additional lane geometry, including a southbound left-turn auxiliary lane, eastbound and westbound through lanes, and northbound lanes. It is understood that while the project is constructing an additional southbound left turn lane, the additional lanes will not have receiving lanes on Dennis Chavez Blvd outside of the intersection and, therefore, will not be activated until Dennis Chavez is widened. Auxiliary lanes being constructed therefore satisfy the above recommendation.

Dennis Chavez Blvd & Unser Blvd

Under full build conditions, the intersection as a whole is expected to operate at acceptable levels of service. However, capacity issues are expected for the southbound left and turns. It is therefore recommended that an additional southbound left turn auxiliary lane be constructed at the intersection. Currently, space exists between the southbound right turn lane and the southbound left-turn lane that could be used as an

additional left-turn lane; however, no receiving lane existing departing the intersection. Therefore, it is recommended that this space be used for an additional southbound left turn lane upon the widening of Dennis Chavez Blvd and that the traffic signal be re-timed upon completion of construction. It is noted that the development does not contribute traffic to this movement.

Dennis Chavez & Condershire Blvd

No recommended improvements as deficiencies exist under 2020 conditions, and the development is not anticipated to contribute traffic to the failing side-street movements.

Dennis Chavez & Coors Blvd

Under full build conditions, the intersection as a whole is expected to operate at acceptable levels of service. However, capacity issues are expected for the following movements:

- Eastbound through
- Eastbound right
- Westbound left
- Westbound through
- Northbound left
- Northbound through
- Southbound left
- Southbound right

Therefore, the following recommendations are made:

- For the eastbound through, it is recommended that the signal be re-timed with the completion of other improvements. It is noted that recommendations below for the eastbound right turn will reduce traffic in the through lane, thereby improving levels of service.
- For the eastbound right turn lane, it is recommended that a right turn auxiliary lane be constructed. The development's traffic volume contribution to this movement, based on the fully constructed development, is calculated to be approximately 4.82% of the movement's total combined peak hour traffic volume (53 total peak trips / 1,100 total peak hour vehicles). It is concluded that the project contributes so few trips to this movement, compared to background traffic volumes, that the development should not be responsible for the entirety of the mitigation costs.
- For the westbound left turn, it is recommended that additional capacity be added by restriping existing pavement, currently configured as a striped median between the through and left-turn lane, into an additional left-turn lane. It is also recommended that signal control for this movement be changed from protected-permitted to protected only.
- For the westbound through, it is recommended that the signal be re-timed with the completion of other improvements. It is noted that recommendations to add additional capacity for the eastbound through/right and westbound left turns would free additional green time at the traffic signal that could be added to the westbound through movement.
- For the northbound left turn, it is noted that traffic generated by the Development site is anticipated to utilize this movement. However, no mitigations such as an additional turn lane are recommended at this time for this movement as the westbound departure of the intersection is currently a single lane departure leading to a single directional lane roadway. Possibility exists to add an additional turn lane and construct a merge point west of the intersection; however, this could cause additional safety issues and traffic slow-downs due to vehicles merging on a high-speed roadway. Therefore, dual left-turn lanes for the north to west movement are not recommended until Dennis Chavez has been widened to accommodate dual movements.

- For the northbound through, it is recommended that the signal be re-timed with the completion of other improvements. It is noted that recommendations to add additional capacity for other movements would free additional green time at the traffic signal that could be added to the northbound through movement.
- For the southbound left, it is recommended that the signal be re-timed with the completion of other improvements. It is noted that the southbound left-turn current utilizes dual-auxiliary lanes, and recommendations to add additional capacity for other movements would free additional green time at the traffic signal that could be added to the southbound left-turn movement.
- For the southbound right is recommended that a right turn auxiliary lane be constructed. The development's traffic volume contribution to this movement, based on the fully constructed development, is calculated to be approximately 1.59% of the movement's total combined peak hour traffic volume (4 total peak trips / 252 total peak hour vehicles). It is concluded that the project contributes so few trips to this movement, compared to background traffic volumes, that the development should not be responsible for the entirety of the mitigation costs.

The following table shows mitigated conditions at the intersection. It is noted that the westbound left turn is expected to experience a failing level of service in at least one 15-minute period. No further mitigations are recommended at this time as no receiving lane is present for an additional lane and, as stated previously, is attributed to a regional traffic issue.

Table 1: Coors Blvd 2027 Mitigated Conditions

Dennis Chavez & Coors Blvd AM Mitigated												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	15.7	29.8	-	55	21	-	64.3	34.3	34.8	37.5	49.7	45.5
7:15	13.6	25.4	-	54.5	19	-	42.6	44.4	43.5	38.3	49.3	46.5
7:30	15.1	30.6	-	54.5	21	-	37	47	46.9	34.4	46.7	38.7
7:45	12.1	18.8	-	54.7	17.5	-	36.1	47.4	45.1	36.8	47.6	43.7
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	B	C	A	E	C	A	E	C	C	D	D	D
7:15	B	C	A	D	B	A	D	D	D	D	D	D
7:30	B	C	A	D	C	A	D	D	D	C	D	D
7:45	B	B	A	D	B	A	D	D	D	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	0.02	-	-	0.12	0.22	-	1.55	-	-	0.32	-	0.21
7:15	0.03	-	-	0.1	0.24	-	1.01	-	-	0.46	-	0.16
7:30	0.02	-	-	0.1	0.27	-	0.72	-	-	0.62	-	0.11
7:45	0.03	-	-	0.14	0.31	-	0.59	-	-	0.47	-	0.12
Dennis Chavez & Coors Blvd PM Mitigated												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	29.7	27.8	-	20.6	57.3	-	32.2	36.8	32.3	52.9	45.2	42.6
16:15	31.4	27.2	-	20	73.6	-	32.1	33.5	29.6	56	46.1	40.4
16:30	30.1	30.4	-	22.7	53.7	-	33.2	31.9	28.2	54.3	43.5	38
16:45	31	26.2	-	20	95.1	-	31.8	36.2	29.8	55	45.4	42.4
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	C	C	A	C	E	A	C	D	C	D	D	D
16:15	C	C	A	B	F	A	C	C	C	E	D	D
16:30	C	C	A	C	D	A	C	C	C	D	D	D
16:45	C	C	A	C	F	A	C	D	C	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.06	-	-	0.09	0	-	0.92	-	-	0.55	-	0.55
16:15	0.11	-	-	0.14	0	-	0.9	-	-	0.29	-	0.25
16:30	0.06	-	-	0.14	0	-	0.9	-	-	0.43	-	0.41
16:45	0.09	-	-	0.1	0	-	0.88	-	-	0.38	-	0.5

98TH ST & AMOLE MESA RD

It is recommended that a traffic signal warrant analysis be performed for the intersection once traffic volumes return to non-COVID conditions. See the signal warrant section for more details.

98TH ST & COLOBEL ST

No recommended improvements.

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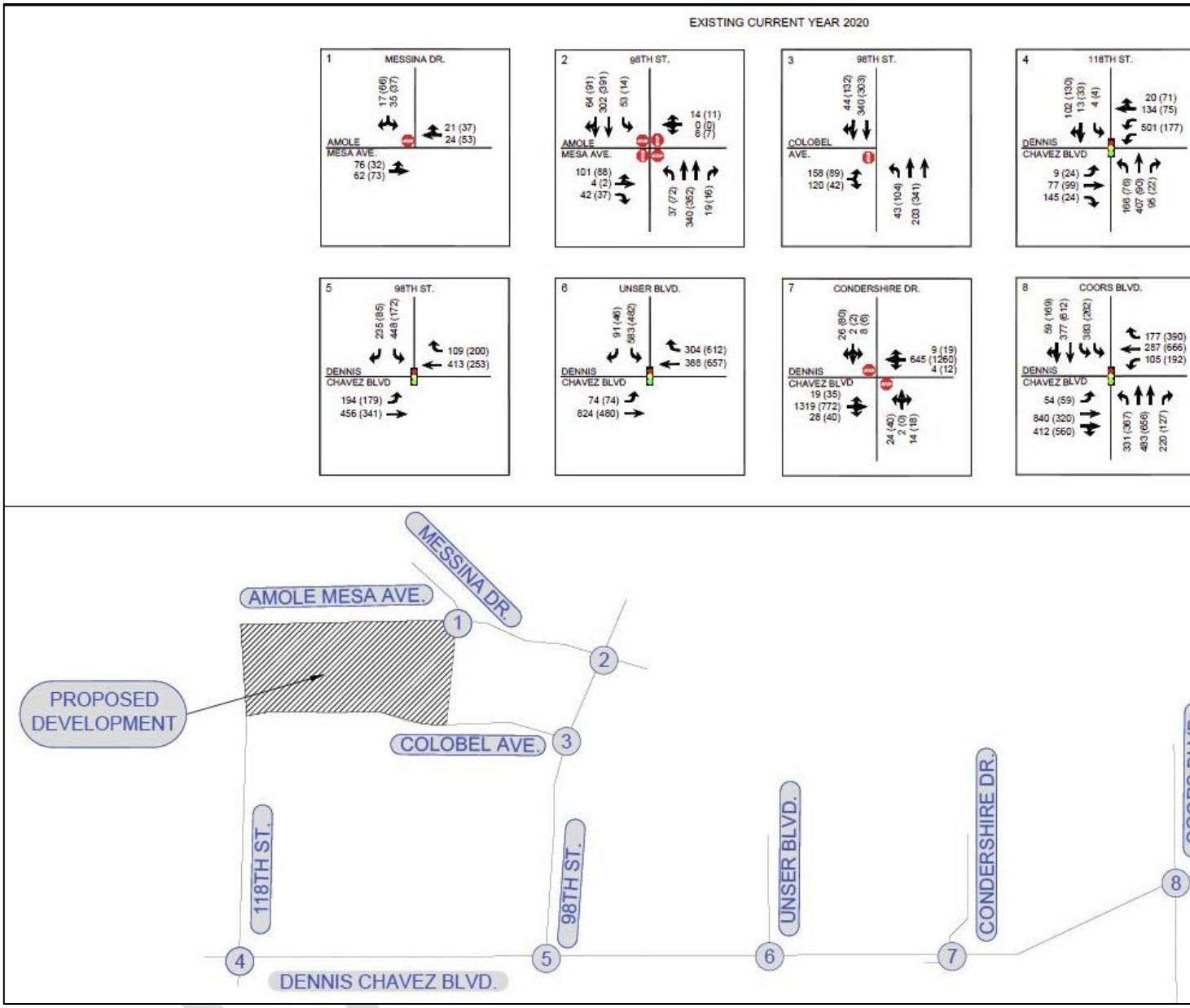

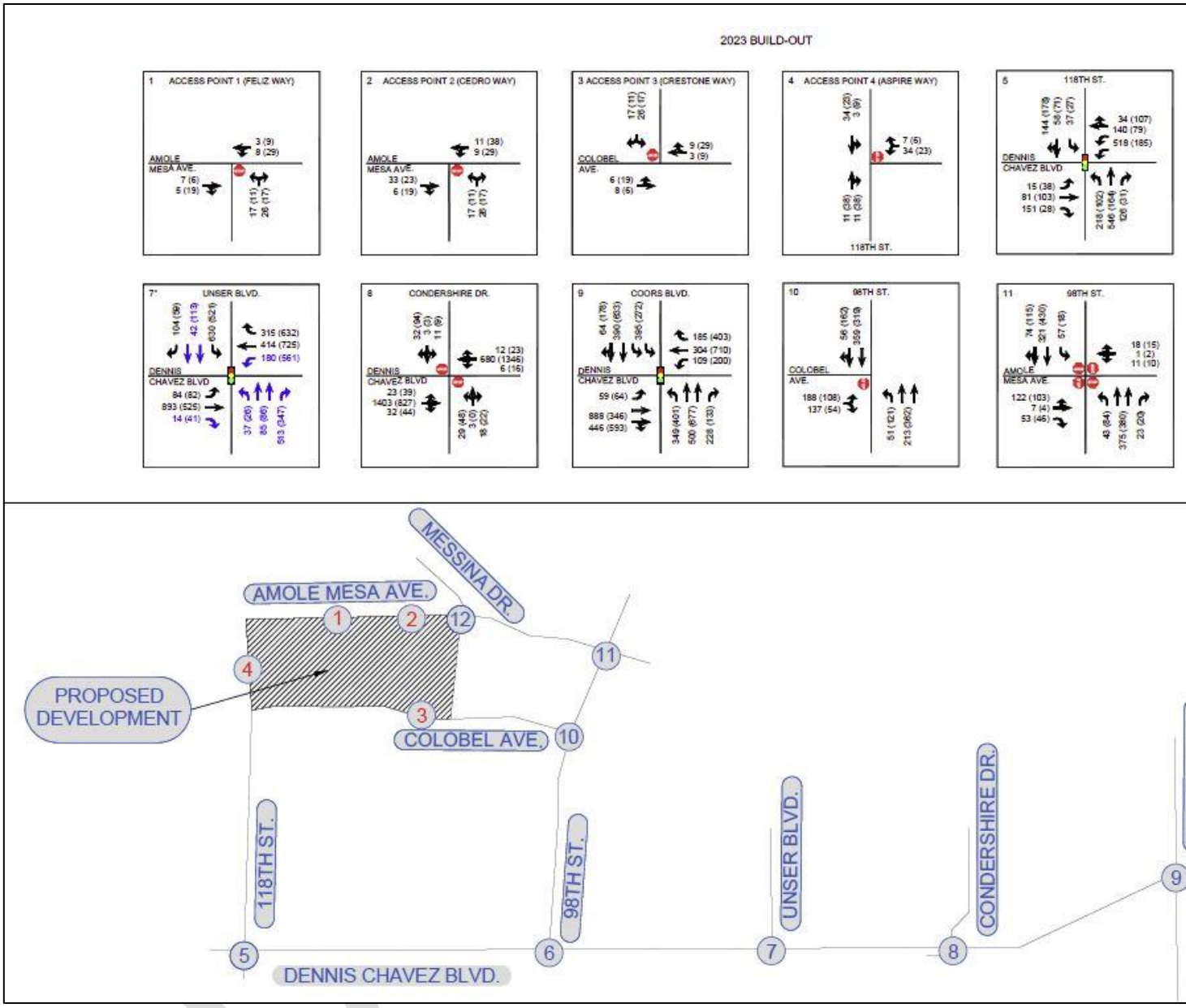

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INTRODUCTION

This report details the procedures and findings of a Traffic Impact Study (TIS) performed by Lee Engineering for Success Land Holding LLC. This report and the analyses contained herein were performed for a proposed residential development located between Amole Mesa Ave. and Colobel Ave. Within Albuquerque, NM. The purpose of this study is to examine the impacts of the development on surrounding traffic conditions.

The scope of this report and the analyses performed were completed in agreement with the scoping requirements outlined with the City of Albuquerque, NMDOT, and Bernalillo County. Meeting notes from the scoping meeting held on April 29, 2020, are included in Appendix A. Analysis procedures, conclusions, and recommendations for this study were developed according to the *ITE Trip Generation Manual 10th Edition, and Highway Capacity Manual 6th Edition*.

Construction is anticipated to begin in 2020 with full completion of the development in 2027. The development is to be constructed in three phases.

1. Phase 1 – 306 units in 2023
2. Phase 2 – 117 units in 2025
3. Phase 3 – (Full Build) – 83 units in 2027

Analyses included in this report was performed for the following scenarios:

- Existing (current year 2020) conditions
- Background 2023 (no build)
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- Full Build 2027 (phase 3) with 83 additional units
- Horizon Year 2037

PROJECT LOCATION & SITE PLAN

The proposed housing development of 506 units is to be constructed on currently undeveloped land, located approximately 6 miles west of I-25 between Amole Mesa Ave. & Colobel Ave. Figure 1 shows the site location, study intersections, and the surrounding area. Surrounding major intersections include Dennis Chavez Blvd & Coors Blvd, Dennis Chavez Blvd & Unser Blvd, Dennis Chavez Blvd & 98th St, Dennis Chavez & 118th St, and Amole Mesa Ave & 98th St. The project area is bounded by existing residential development to the north, south, and east. To the west of the development is undeveloped rural land.
Figure 2 shows the site plan of the proposed housing development.

SITE ACCESS

Access to the site is to be taken directly via four full-access driveways. Two driveways are to be constructed on the north end on Amole Mesa Ave, one to the south on Colobel Ave, and one driveway west of the development on 118th St.

Figure 1: Vicinity Map

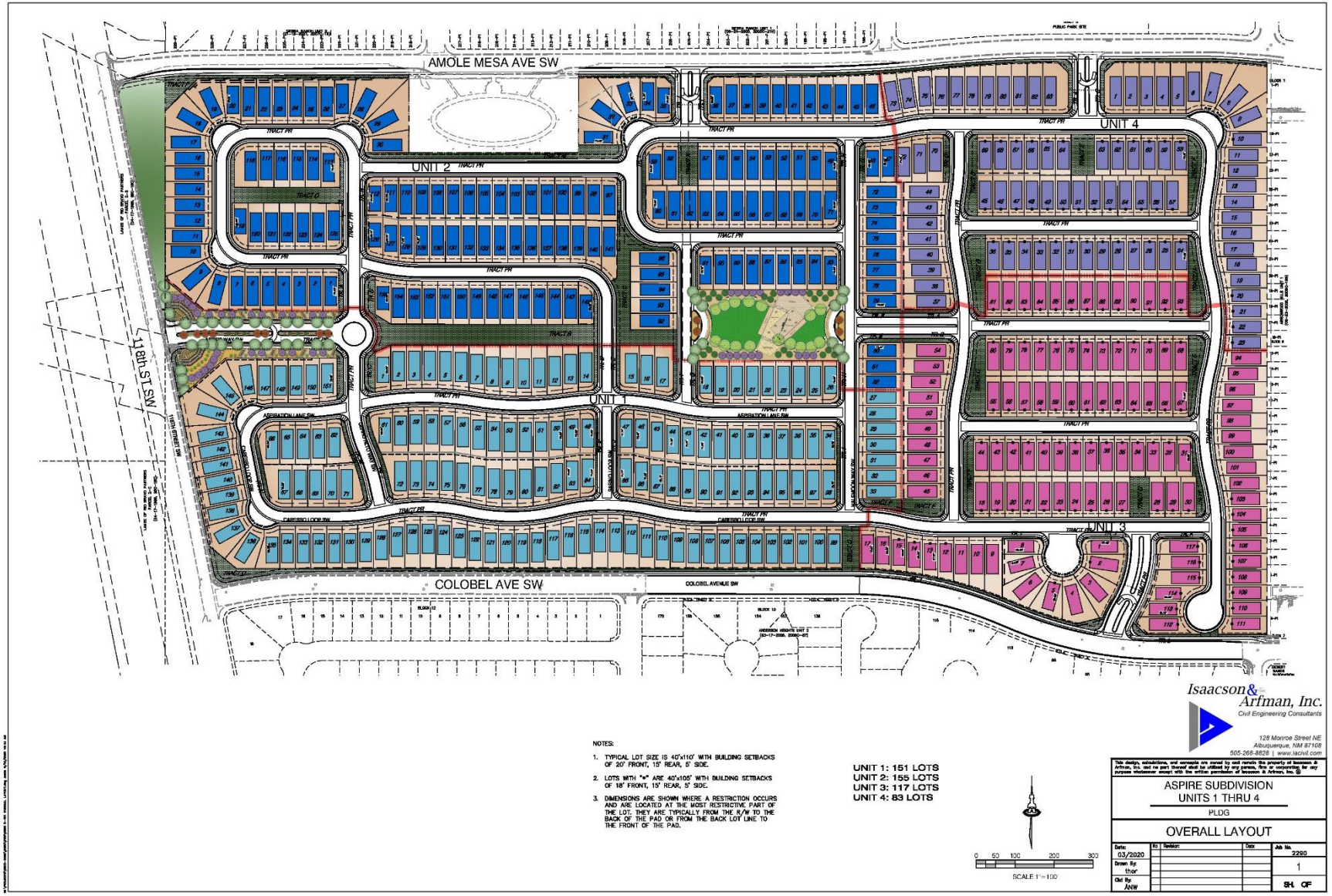

Figure 2: Site Plan

Study Area, Area Land Use, and Streets

STUDY AREA

The study area is defined as the area bounded by Amole Mesa Ave, Colobel Ave, 118th St, and the Arrowwood Hills housing development. The following intersections were identified and agreed upon in the scoping meeting, and serve as the study intersections for this report:

- Dennis Chavez Blvd & 118th St
- Dennis Chavez Blvd & 98th St
- Dennis Chavez Blvd & Unser Blvd
- Dennis Chavez Blvd & Condershire Dr
- Dennis Chavez Blvd & Coors Blvd
- 98th St & Colobel Ave
- 98th St & Amole Mesa Ave
- Amole Mesa Ave & Messina Dr

AREA LAND USE

As described, the development is to be located between Amole Mesa Ave and Colobel Ave, approximately 6 miles west of I-25. Adjacent to and surrounding the project site are land uses consisting of the following:

- Residential: The majority of the developed surrounding land use is residential single-family housing. Other developments in the area include public schools south of the site near the Dennis Chavez Blvd & 118th St intersection and east of the site near Amole Mesa Ave & 98th St intersection.
- Undeveloped/Not-Improved: A large portion of the land use is undeveloped immediately to the west.

STREETS

The following details the characteristics and features of streets included in the study area:

Dennis Chavez Blvd is a National Highway System (NHS) two-lane roadway currently classified by MRCOG as an urbanized Principal Arterial running east and west. Travel lanes are approximately 12 feet wide, and the roadway is undivided, separating opposing travel direction. The roadway incorporates 10-15-foot wide shoulder in both directions, a dedicated left or right deceleration turning lane at each intersection, does not have curb and gutter facilities, and is signed for a speed limit of 45 MPH within the project area. MRCOG traffic count data (2018) reports average weekday traffic to be between 9,200 to 20,400 vehicles per day in the study area, decreasing as you head west.

118th St is a two-lane undivided roadway, currently classified by MRCOG as an Urban Major Collector and runs north and south. Travel lanes are approximately 12 feet wide with curb, gutter, sidewalk, and a 6-foot-wide bike lane on the northbound side of the roadway. The road is to be signed with a speed limit of 30 MPH. The most recently available MRCOG traffic count data (2018) reports the average weekday traffic of 118th St in the study area to be 4,300 vehicles per day.

98th St is a four-lane roadway currently classified by MRCOG as an urbanized Principal Arterial that runs north and south. Travel lanes are approximately 12 feet wide, and the roadway is divided with a 55-feet wide raised median. The roadway incorporates curb, gutter, sidewalk, and 6-foot bike lanes on both sides of the street and is signed for a speed limit of 40 MPH. A 6-foot dedicated bike lane is present on either side of the roadway, and access is unrestricted with all driveways having full access to 98th St. MRCOG traffic count data (2018) reports the average weekday traffic of 98th St in the study area to be 9,600 vehicles per day.

Unser Blvd is a four-lane roadway currently classified by MRCOG as an urbanized Principal Arterial that runs north and south. Travel lanes are approximately 12 feet wide, and the roadway is divided with a 55-foot wide raised median. The roadway incorporates curb, gutter, sidewalk, and 6-foot bike lanes on both sides of the roadway and is signed for a speed limit of 40 MPH. Access is unrestricted, with all driveways having full access

to Unser Blvd. MRCOG traffic count data (2018) reports the average weekday traffic of Unser Blvd in the study area to be 10,800 vehicles per day.

Condershire Dr is a two-lane undivided roadway, currently classified by MRCOG as an Urban Major Collector and runs north and south. Travel lanes are approximately 11 feet wide, and the roadway is undivided with long segments of no striping. The roadway doesn't have curb, gutter, sidewalk, or bike facilities. The roadway is signed for a speed limit of 25 MPH. MRCOG traffic count data (2018) reports the average weekday traffic of Condershire Dr in the study area to be 1,200 vehicles per day.

Coors Blvd is a National Highway System (NHS) four-lane roadway currently classified by MRCOG as an urbanized Principal Arterial running north and south. Travel lanes are approximately 11 feet wide, and the roadway is divided by a 5-foot raised median. The roadway near study intersection doesn't have curb, gutter, sidewalk, or bike facilities. The roadway is signed for a speed limit of 45 MPH and has an 8-foot paved shoulder on both sides. MRCOG traffic count data (2018) reports the average weekday traffic of Coors Blvd in the study area to be 26,900 vehicles per day.

Amole Mesa Ave is a two-lane undivided residential roadway classified by MRCOG as a local street running east to west. Travel lanes are approximately 12 feet wide and incorporate curbs, gutters, and sidewalks on both sides of the street. A speed limit sign could not be located within the roadway's termini and was thus assumed to be 35 MPH MRCOG traffic count data for Amole Mesa could not be found.

Colobel Ave is a two-lane undivided residential roadway classified by MRCOG as a local street running east to west. Travel lanes are approximately 12 feet wide and incorporate curbs, gutters, sidewalks, and a 6-foot bike lane on both sides of the street. A speed limit sign could not be located within the roadway's termini and was thus assumed to be 35 MPH. MRCOG traffic count data for Colobel could not be found.

Messina Dr is a two-lane undivided and unstriped residential roadway classified by MRCOG as a local street running east to west. Travel lanes are approximately 12 feet wide and incorporate curbs, gutters, and sidewalks on both sides of the street. A speed limit sign could not be located within the roadway's termini and was thus assumed to be 30 MPH. MRCOG traffic count data for Messina could not be found.

Intersections

The following details the traffic control and characteristics of existing intersections in the study area:

Dennis Chavez Blvd & 118th St is a 4-legged signalized controlled intersection maintained by the City of Albuquerque. The signal operates with time-of-day coordination. Pedestrian crosswalks are present on all approaches except the northbound approach of the intersection.

Dennis Chavez Blvd & 98th St is a 3-legged signalized-controlled intersection maintained by the City of Albuquerque. The signal operates with time-of-day coordination. The only crosswalk is present across the northbound approach of the intersection.

Dennis Chavez Blvd & Unser Blvd is a 3-legged signalized-controlled intersection maintained by the City of Albuquerque. Signal detection is present for all lanes and approaches, and the signal operates with time-of-day coordination. Pedestrian crosswalks are present across the north and west legs of the intersection.

Dennis Chavez Blvd & Condershire Dr is a 4-legged stopped controlled intersection maintained by the City of Albuquerque. Stop control is present for the northbound and southbound approaches.

Dennis Chavez Blvd & Coors Blvd is a 4-legged signalized intersection maintained by the City of Albuquerque. Signal detection is present for all movements, and the signal is time-of-day coordinated. Pedestrian crosswalks are present on all approaches except the north leg of the intersection. Furthermore, crosswalks exist across the westbound, and eastbound channelized right turns.

98th St & Colobel Ave is a 3-legged stopped controlled intersection maintained by the City of Albuquerque. Stop control is present for the west leg of the intersection on Colobel. Northbound and southbound on 98th are free movement.

98th St & Amole Mesa Ave is a 4-legged 4-way stopped controlled intersection maintained by the City of Albuquerque. Stop control is present for all approaches.

Amole Mesa Ave & Messina Dr is a 3-legged stopped controlled intersection maintained by the City of Albuquerque. Stop control is present for the north leg on Messina, while westbound and eastbound movement on Amole Mesa is free.

Transit

Currently, two bus routes are present in the area surrounding the Aspire development. These include routes 198 and 155. Route 198 travels from the Central & Unser Transit Center to Coors Blvd and Dennis Chavez Blvd via 98th Street, and Route 155 travels from the Northwest Transit Center near Cottonwood Mall to Valley Gardens near Coors Blvd & Gun Club Rd via Coors Blvd.

Multimodal Connectivity

Currently, bicycle facilities are present near the development, as previously stated on 118th St, 98th St, and Colobel Ave.

Current Adjacent Projects

As discussed in the scoping meeting, adjacent projects to be constructed or are under construction near the development site include:

A. Ceja Vista Development- 1,393 single-family residential units, 540 apartment units, & 120,000 S.F. of retail commercial uses south of Dennis Chavez Blvd in the vicinity of Unser Blvd and 98th St.
   - Additional lanes on Dennis Chavez, 98th to Unser, and additional auxiliary lanes for side streets.
   - Development and improvements are understood to be constructed by phase 1 (2023) of Aspire.

B. Bernalillo County Internal project at NM 500 and 1118th St. Flashing Yellow Arrow (FYA) and school improvement.
   - Improvements are understood to be constructed by phase 1 (2023) of Aspire.

C. Bernalillo County Condershire NM 500 project to re-align south Condershire with Mead Rd.
   - Auxiliary lanes to South Condershire from Dennis Chavez Blvd
   - Pending funding/development construction and will not be considered in the background network for Aspire.

Analysis of Existing Conditions

Data Collection

Turning movement counts for the study intersections at 98th & Colobel, 98th & Amole Mesa, and Amole Mesa & Messina were collected for 12 hours from 6:00 AM to 6:00 PM on August 5, 2020. Covid-19 volume adjustment factor was calculated and applied to these intersections. This factor was calculated by comparing the AM and PM peak hours of a 2018 Dennis Chavez & Coors turning movement counts (TMC) to a newly collected 2020 Dennis Chavez & Coors TMC. Notably, the AM peak hour shows a difference of 1472 vehicles (a difference of 41%) while the PM peak hour shows a difference of only 200 vehicles (a difference of 6%).

Traffic data for Dennis Chavez & 118th and Dennis Chavez & 98th was taken from the Ceja Vista Traffic Study. While the Ceja Vista study was completed in 2018, count data was taken from the Atrisco Heritage Academy High School Traffic Study, which collected data in 2017. Therefore, traffic data for Dennis Chavez & 118th St and Dennis Chavez & 98th St were forecasted from the 2017 counts using MRCOG travel demand growth rates

(see growth rate section for rates & details). Growth/forecasting methods for each study intersection are summarized in Table 2. It is important to note a limiting factor of the multi-peak period intersection analyzation extended beyond the traffic data collection hours and could not be studied further. Traffic data for the intersections of Dennis Chavez Blvd & 118th St and Dennis Chavez Blvd & 98th was not available outside of the AM and PM peak hours listed in Table 3.

Table 2: Reconciled data for 2020 condition

Study Intersection	Base Data Source	Growth Method
Dennis Chavez & 118th	Anderson High School 2017 / Ceja Vista 2017 (Same Data Source)	MRCOG TDM Growth Rates
Dennis Chavez & 98th	Anderson High School 2017 / Ceja Vista 2017 (Same Data Source)	MRCOG TDM Growth Rates
Dennis Chavez & Unser	Lee Engineering - Sunrise Village 2018 Data	MRCOG TDM Growth Rates
Dennis Chavez & Condershire	Lee Engineering - Sunrise Village 2018 Data	MRCOG TDM Growth Rates
Dennis Chavez & Coors	Lee Engineering - Sunrise Village 2018 Data	MRCOG TDM Growth Rates
98th & Colobel	New Count	COVID Adjustment Factor
98th & Amole Mesa	New Count	COVID Adjustment Factor
Amole Mesa & Messina	New Count	COVID Adjustment Factor

Table 3: AM and PM Peak Hours

Intersection	Data Collection Date	AM Peak Hour	PM Peak Hour
Dennis Chavez & 118th	10/4/2017	6:35 AM	2:15 PM
Dennis Chavez & 98th	10/4/2017	6:35 AM	2:10 PM
Dennis Chavez & Unser	4/3/2018	7:00 AM	4:00 PM
Dennis Chavez & Condershire	4/3/2018	7:00 AM	5:00 PM
Dennis Chavez & Coors	4/3/2018	7:00 AM	4:00 PM
98th & Colobel	8/5/2020	7:15 AM	4:30 PM
98th & Amole Mesa	8/5/2020	11:00 AM	4:45 PM
Amole Mesa & Messina	8/5/2020	7:00 AM	5:00 PM

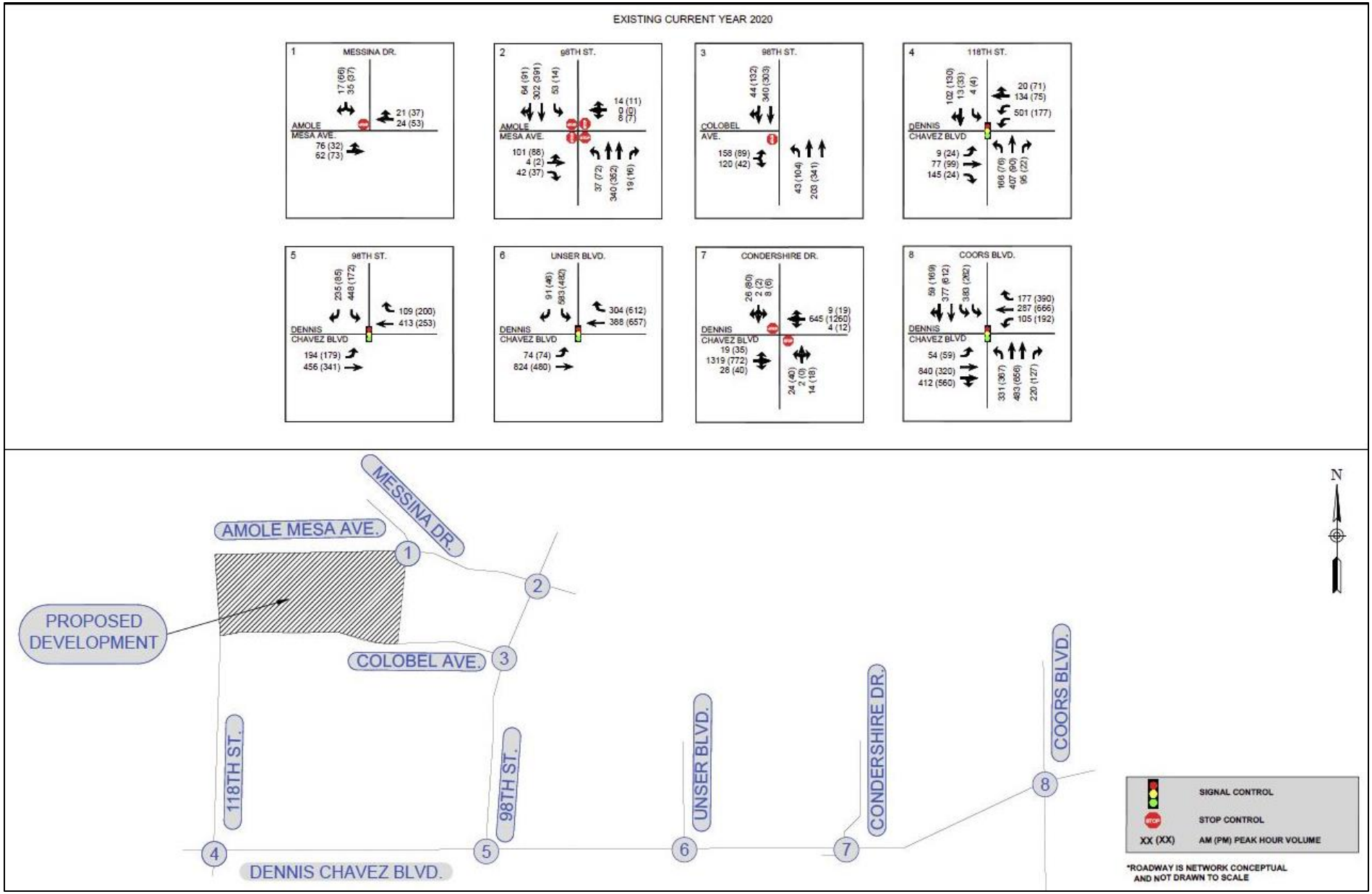

Figure 3: Existing (2020) Turning Movement Counts

Level of Service and Capacity Analysis

Intersection Capacity and Level of Service (LOS) analysis was performed according to the methods and procedures provided in the Highway Capacity Manual, 6th Edition (HCM6). Highway Capacity Software (HCS) was used to facilitate the analysis. Per the Highway Capacity Manual, LOS is presented as a letter grade (A through F) based on the calculated average delay for an intersection or movement. Delay is calculated as a function of several variables, including signal phasing operations, cycle length, traffic volumes, and opposing traffic volumes, but is a measurement of the average wait time a driver can expect when moving through an intersection. Factors such as total cycle time (for all movements), queueing restrictions, and vehicle volumes can affect measurements of delay, especially for lower volume movements and side streets. Generally, these factors are only realized when delays reach or exceed LOS E thresholds. In such cases, a narrative is offered in subsequent sections specific to the individual movement in question.

Table 4 below, reproduced from the Highway Capacity Manual, shows delay thresholds and the associated Level of Service assigned to delay ranges. Generally, a LOS of D/E or better is considered an acceptable level of service. For the purposes of this study, failing movements are defined as those exhibiting a LOS F for any single analysis period.

Table 4: LOS Criteria and Descriptions

Level of Service	Average Control Delay (sec/vehicle)	General Description (Signalized Intersections)
A	≤10	Free flow
B	>10 – 20	Stable flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F	>80	Forced flow (jammed)

Per HCM procedures, additional periods were added where intersections either began or ended with failing movements. It is noted that, in some instances, limitations of available data prevented the addition of analysis periods.

Queueing is reported as a ratio Que Storage Ratio (QSR) and indicates possible lengths of waiting vehicles during "red" times for specific movements. Queues are reported for queue measurements falling within the 95th percentile. It should be noted that 95th percentile queues are statistically expected to occur during only 5% of the peak hour's sign cycles. Furthermore, the recommended storage lengths from Ceja Vista Development Traffic Impact Study for northbound approaches south of Dennis Chavez Blvd for 98th St and Unser Blvd were used for queueing analysis.

Table 5 provides an overall summary of the LOS and delays for each signalized intersection. Table 6 through Table 8 below summarizes intersection Capacity and LOS analysis performed for existing conditions for signalized and stop control intersections. Detailed capacity output sheets can be found in Appendix D. Multiple period peaks in 15-minute time periods were analyzed; therefore, peak hour factors were not applied. Existing signal timings for each study intersection, as provided by the City of Albuquerque, were used in each analysis scenario unless otherwise stated. The following presents a summary of the LOS and capacity analysis performed for existing conditions. HCS models are included in

the appendix. A summary of deficiencies by analysis scenario is provided on page 80. Recommended improvements are provided on page 91.

Table 5:2020 Overall Intersection Conditions

Dennis Chavez & 118th					
2020 AM Existing			2020 PM Existing		
Time-Period	Delay	LOS	Time-Period	Delay	LOS
6:35	19.9	B	14:15	20.4	C
6:50	31.5	C	14:30	18.4	B
7:05	45	D	14:45	20.5	C
7:20	26	C	15:00	21.7	C
Dennis Chavez & 98th					
2020 AM Existing			2020 PM Existing		
Time-Period	Delay	LOS	Time-Period	Delay	LOS
6:35	25	C	14:10	16.1	B
6:50	29.4	C	14:25	13.7	B
7:05	30.6	C	14:40	14.5	B
7:20	33.6	C	14:55	16.4	B
Dennis Chavez & Unser					
2020 AM Existing			2020 PM Existing		
Time-Period	Delay	LOS	Time-Period	Delay	LOS
7:00	24.2	C	16:00	26.3	C
7:15	27.1	C	16:15	30.3	C
7:30	25.7	C	16:30	20.2	C
7:45	30.4	C	16:45	19.8	B
Dennis Chavez & Coors					
2020 AM Existing			2020 PM Existing		
Time-Period	Delay	LOS	Time-Period	Delay	LOS
7:00	41.9	D	16:00	46.6	D
7:15	35.1	D	16:15	43.1	D
7:30	36.6	D	16:30	42	D
7:45	31.7	C	16:45	47.9	D

Table 6: 2020 Existing Signalized Intersections AM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0	9.3	9.4	6.3	9	-	47.2	45.1	35.1	39.1	39.2	-
6:50	22.3	23.7	26	16.7	20.1	-	28.2	54.9	16.9	28.9	23.5	-
7:05	24.4	26.9	30.7	19.3	26.5	-	26.8	85.7	15	28.8	21.3	-
7:20	10.2	11.3	11.6	8.7	11.5	-	43.6	45.8	32.3	33.4	33.7	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	A	A	A	A	A	-	D	D	D	D	D	-
6:50	C	C	C	B	B	-	C	E	B	C	C	-
7:05	C	C	C	B	C	-	C	F	B	C	C	-
7:20	B	B	B	A	A	-	D	E	C	D	D	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.00	-	0.09	0.07	-	-	0.75	0.39	0.15	0.02	-	-
6:50	0.03	-	0.35	0.16	-	-	0.56	1.27	0.12	0.02	-	-
7:05	0.05	-	0.55	0.15	-	-	0.59	1.92	0.11	0.01	-	-
7:20	0.03	-	0.14	0.03	-	-	0.90	0.46	0.16	0.02	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	8.6	9.3	-	-	15.1	3.5	-	-	-	59.6	-	39.8
6:50	8.7	10.1	-	-	6.2	1.7	-	-	-	63.2	-	40.2
7:05	9.1	9.8	-	-	5.3	1.9	-	-	-	63.5	-	40.9
7:20	9.7	11.5	-	-	9.5	3	-	-	-	68.6	-	29
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	A	A	-	-	B	A	-	-	-	E	-	D
6:50	A	B	-	-	A	A	-	-	-	E	-	D
7:05	A	A	-	-	A	A	-	-	-	E	-	D
7:20	A	B	-	-	A	A	-	-	-	E	-	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.07	-	-	-	-	0.05	-	-	-	-	-	-
6:50	0.12	-	-	-	-	0.01	-	-	-	-	-	-
7:05	0.27	-	-	-	-	0.01	-	-	-	-	-	-
7:20	0.24	-	-	-	-	0.04	-	-	-	-	-	-
Dennis Chavez & Unser												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	13.8	6.2	-	-	13.5	13.7	-	-	-	54.8	-	28.3
7:15	14.4	8.8	-	-	13.9	16.9	-	-	-	56.3	-	23.6
7:30	11.2	9.1	-	-	10.6	14.1	-	-	-	54.9	-	28.1
7:45	14.4	12.9	-	-	15.9	20.8	-	-	-	56.7	-	23.7
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	B	A	-	-	B	B	-	-	-	D	-	C
7:15	B	A	-	-	B	B	-	-	-	E	-	C
7:30	B	A	-	-	B	B	-	-	-	D	-	C
7:45	B	B	-	-	B	C	-	-	-	E	-	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	0.22	-	-	-	-	0.27	-	-	-	-	-	-
7:15	0.26	-	-	-	-	0.48	-	-	-	-	-	-
7:30	0.07	-	-	-	-	0.43	-	-	-	-	-	-
7:45	0.12	-	-	-	-	0.66	-	-	-	-	-	-
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:45	17	20.1	22	54.4	13	-	42.8	42.1	32.4	50.8	49.8	50.4
7:00	17.1	22	23.1	17.7	18.6	-	126.4	39.9	35.6	39.3	53.9	55.4
7:15	14.9	25.1	25.3	19.1	18	-	143.2	49.2	44.2	41.3	54.7	55.4
7:30	17.7	25	25.9	20.9	20.4	-	47.6	50	44.5	37.5	53.6	54.2
7:45	14	16.7	19.5	16.6	17.6	-	41.5	51.3	43.4	39.8	52.4	52.8
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:45	B	C	A	D	B	A	D	D	C	D	D	D
7:00	B	C	C	B	B	A	F	D	D	D	D	E
7:15	B	C	C	B	B	A	F	D	D	D	D	E
7:30	B	C	C	C	C	A	D	D	D	D	D	D
7:45	B	B	B	B	B	A	D	D	D	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:45	0	-	-	0.36	0.25	-	1.28	-	-	0.54	-	-
7:00	0.04	-	-	0.39	0.33	-	2.33	-	-	0.62	-	-
7:15	0.06	-	-	0.33	0.38	-	1.54	-	-	0.84	-	-
7:30	0.05	-	-	0.33	0.43	-	1.05	-	-	1.21	-	-
7:45	0.09	-	-	0.46	0.5	-	0.89	-	-	0.89	-	-

Table 7: 2020 Existing Signalized Intersections PM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	7.3	8.4	8	5.6	7.7	-	49.8	45.1	36	39.5	42.4	-
14:30	6.6	7.4	7.1	4.8	5	-	50.1	43.7	38.1	40.7	43.2	-
14:45	7.4	8.6	8.1	5.8	7.2	-	49.7	41.5	35.9	38.4	41.8	-
15:00	6.5	7.4	7.1	4.9	6.6	-	50.3	46.2	37.7	41	43.6	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	A	A	A	A	A	-	D	D	D	D	D	-
14:30	A	A	A	A	A	-	D	D	D	D	D	-
14:45	A	A	A	A	A	-	D	D	D	D	D	-
15:00	A	A	A	A	A	-	D	D	D	D	D	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	0.02	-	0.02	0.02	-	-	0.21	0.19	0.02	0.01	-	-
14:30	0.01	-	0.01	0.01	-	-	0.22	0.05	0.03	0.01	-	-
14:45	0.03	-	0.01	0.02	-	-	0.22	0.07	0.03	0.01	-	-
15:00	0.02	-	0.01	0.01	-	-	0.19	0.16	0.01	0.01	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	4	2.2	-	-	4.7	4.9	-	-	-	47.1	-	43.1
14:25	4	3	-	-	4.2	4.6	-	-	-	44.9	-	40.2
14:40	4.3	4	-	-	7.2	8.4	-	-	-	43.9	-	39.9
14:55	4	2.6	-	-	6.5	7.8	-	-	-	46.6	-	41.4
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	A	A	-	-	A	A	-	-	-	D	-	D
14:25	A	A	-	-	A	A	-	-	-	D	-	D
14:40	A	A	-	-	A	A	-	-	-	D	-	D
14:55	A	A	-	-	A	A	-	-	-	D	-	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	0.01	-	-	-	-	0.07	-	-	-	-	-	-
14:25	0.04	-	-	-	-	0.06	-	-	-	-	-	-
14:40	0.06	-	-	-	-	0.15	-	-	-	-	-	-
14:55	0.01	-	-	-	-	0.17	-	-	-	-	-	-
Dennis Chavez & Unser												
Demand (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	30	160	-	-	161	148	-	-	-	129	-	16
16:15	19	109	-	-	147	161	-	-	-	147	-	14
16:30	16	100	-	-	182	152	-	-	-	100	-	9
16:45	9	111	-	-	167	151	-	-	-	106	-	7
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	14.1	22.7	-	-	17.3	19.6	-	-	-	47.7	-	25.5
16:15	14.8	24.6	-	-	19.1	28.1	-	-	-	49	-	23.2
16:30	8.8	16.3	-	-	11.3	11.8	-	-	-	44.1	-	31.1
16:45	10.1	19	-	-	10.9	11.2	-	-	-	43.8	-	30.1
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	B	C	-	-	B	B	-	-	-	D	-	C
16:15	B	C	-	-	B	C	-	-	-	D	-	C
16:30	A	B	-	-	B	B	-	-	-	D	-	C
16:45	B	B	-	-	B	B	-	-	-	D	-	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.08	-	-	-	-	0.62	-	-	-	-	-	-
16:15	0.07	-	-	-	-	0.95	-	-	-	-	-	-
16:30	0.03	-	-	-	-	0.37	-	-	-	-	-	-
16:45	0.03	-	-	-	-	0.41	-	-	-	-	-	-
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	30.2	29.7	51.6	27.6	53.8	-	54.9	30.6	21.5	27.3	59.1	60.9
16:15	29.9	30.8	52.6	30.3	51.1	-	45.1	30.5	19.7	30.5	47.5	48.2
16:30	30	23.3	39.3	26.6	41.4	-	53.9	28.1	18.3	26.7	60.2	61.5
16:45	30.3	26.4	36.9	23.5	87.7	-	51.4	31.3	20.5	29	55.9	57.6
17:00	30.1	30.7	42.8	54.4	160	-	52.4	28.7	19.3	51	60.8	62.4
17:15	28.8	29	40	54.1	155.3	-	49	32.1	20.7	51.2	55.7	57.3
17:30	29.4	30.5	43.8	54.1	167.3	-	52.9	30.4	19.7	51	58.5	60.1
17:45	29.6	30.9	52.4	53.5	204.4	-	45.7	34.8	19.3	51	51.5	52.7
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	C	C	D	C	D	A	D	C	C	C	E	E
16:15	C	C	D	C	D	C	D	C	B	C	D	D
16:30	C	C	D	C	D	C	D	C	B	C	E	E
16:45	C	C	D	C	F	C	D	C	C	C	E	E
17:00	C	C	D	D	F	A	D	C	B	D	E	E
17:15	C	C	D	D	F	A	D	C	C	D	E	E
17:30	C	C	D	D	F	A	D	C	B	D	E	E
17:45	C	C	D	D	F	A	D	C	B	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.03	-	-	0.18	0.98	-	1.01	-	-	0.33	-	-
16:15	0.04	-	-	0.29	1.03	-	0.87	-	-	0.18	-	-
16:30	0.03	-	-	0.25	0.73	-	0.96	-	-	0.25	-	-
16:45	0.06	-	-	0.19	1.4	-	0.91	-	-	0.23	-	-
17:00	0.05	-	-	0.21	1.97	-	0.9	-	-	0.28	-	-
17:15	0.05	-	-	0.22	2.1	-	0.83	-	-	0.27	-	-
17:30	0.05	-	-	0.22	2.11	-	0.94	-	-	0.29	-	-
17:45	0.05	-	-	0.38	2.74	-	0.81	-	-	0.29	-	-

Table 8: 2020 Existing Stop Control Intersections Analysis Summary

Amole Mesa & Messina									
		AM				PM			
Scenario	Movement	v/c	Delay	LOS	95th Percentile Queue	v/c	Delay	LOS	95th Percentile Queue
2020 Existing	EBL/T	0.05	7.50	A	0.20	0.02	7.50	A	0.10
	SBL/T/R	0.07	10.10	B	0.20	0.13	9.70	A	0.40
Amole Mesa & 98th									
2020 Existing	EBL	-	11.20	B	0.80	-	12.90	B	0.80
	EBT/R	-	8.60	A	0.20	-	10.10	B	0.20
	WBL/T/R	-	9.30	A	0.10	-	10.70	B	0.01
	NBL	-	9.20	A	0.20	-	10.90	B	0.50
	NBT	-	15.20	C	3.60	-	22.30	C	5.30
	NBR	-	7.70	A	0.10	-	8.60	A	0.10
	SBL	-	10.20	B	0.40	-	9.90	A	0.10
	SBT	-	8.90	A	0.00	-	13.00	B	1.80
	SBR	-	8.80	A	0.40	-	15.90	C	3.20
Colobel & 98th									
2020 Existing	EBL/T/R	0.45	14.80	B	2.40	0.25	13.60	B	1.00
	NBL/T	0.05	8.60	A	0.20	0.11	8.90	A	0.40
Dennis Chavez & Condershire									
2020 Existing	EBL/T/R	0.02	9.20	A	0.10	0.08	13.00	B	0.30
	WBL/T/R	0.01	12.90	B	0.00	0.02	9.80	A	0.10
	NBL/T/R	1.21	392.90	F	4.50	4.76	2261.60	F	8.90
	SBL/T/R	0.48	85.90	F	2.00	0.91	139.00	F	5.40

- For Dennis Chavez Blvd & 118th St, the intersection is observed to operate at an acceptable level of service in both the AM and PM peak hours. Individual movements are also observed to operate at an acceptable level of service except for northbound through movement, LOS F for one multi-peak period, and LOS E in two multi-peak periods in the AM.
    - Queue Storage Ratio (QSR) affected by the development are observed to be over capacity for two multi-peak periods for northbound through movement in the AM. QSR during the PM peaks is observed to be acceptable by existing storage lengths.
- For Dennis Chavez Blvd & 98th St, the intersection is observed to operate at an acceptable level of service in both the AM and PM peak hours. Individual movements are also observed to operate at an acceptable level of service in both the AM and PM peak hours except for SBL operating at LOS E for 4 multi-peak periods in the AM.

    - Queue Storage Ratio (QSR) at the intersection is observed to be accommodated and acceptable by existing storage lengths during AM and PM peaks.
- For Dennis Chavez Blvd & Unser Blvd, the intersection is observed to operate at an acceptable level of service in both the AM and PM peak hours. Individual movements are also observed to operate at an acceptable level of service in both the AM and PM peak hours except for SBL operating at LOS E for two multi-peak periods in the AM.
    - Queue Storage Ratio (QSR) at the intersection is observed to be accommodated and acceptable by existing storage lengths during AM and PM peaks.
- For Dennis Chavez Blvd & Coors Blvd, the intersection is observed to operate at a level of service of D in both AM and PM peak hours. Failing Individual movements in the AM for northbound left movement is operating at LOS F for two multi-peak periods, and for the southbound right movement is operating at LOS E for two multi-peak periods. In the PM peak hour, southbound right and southbound through movement have two or more multi-peak period operating at LOS E. Westbound through movement is operating at LOS F in 5 multi-peak periods.
    - Queue Storage Ratio (QSR) is observed to be overcapacity in the AM for 4 multi-peak periods for northbound left movement and one multi-peak period for southbound left existing storage length. In the PM, QSR is overcapacity in 6 multi-peak periods for westbound through movement and in 1 multi-peak period for northbound left movement.
- For Amole Mesa Ave & Messina Ave, the intersection is observed to operate at an acceptable level of service in the AM and PM peak hours, with all movements operating at acceptable levels of service in the AM and PM peak hours.
    - 95th percentile Queueing is observed to be accommodated by existing storage lengths.
- For Amole Mesa Ave & 98th St, the intersection is observed to operate at an acceptable level of service in the AM and PM peak hours with all movements operating at acceptable levels of service in the AM and PM peak hours.
    - 95th percentile Queueing is observed to be accommodated by existing storage lengths.
- For Colobel Ave & 98th St, the intersection is observed to operate at an acceptable level of service in the AM and PM peak hours with all movements operating at acceptable levels of service in the AM and PM peak hours.
    - 95th percentile Queueing is observed to be accommodated by existing storage lengths.
- For Dennis Chavez Blvd & Condershire Dr, the intersection is observed to operate at a level of service of F in the AM and PM peak hours. Failing Individual movements in the AM peak hour includes all northbound and southbound movements from Condershire Dr. Failing individual movements in the PM peak hour include northbound and southbound movements from Condershire Dr.
    - 95th percentile queues are observed to be an issue for the northbound and southbound approaches.

ANALYSIS OF TRAFFIC VOLUMES

The following sections detail the methods and calculations used to obtain traffic volumes for each analysis scenario. This process used the following tools, as described below: Traffic Projections, Trip Overlays, and Site Trip Distributions & Assignment. Figures at the end of this section show the resulting traffic volumes determined for each analysis scenario.

TRAFFIC PROJECTIONS

Construction is anticipated to begin in 2020 with full completion of the development in 2027. To forecast existing traffic volumes to future analysis background conditions, loading values from the 2016 & 2040 (updated) travel demand models were provided by MRCOG. These models were then compared, using AM and PM peak hour directional volumes (AMPH LOAD & PMPH LOAD), to calculate anticipated growth rates for individual roadways. Growth rates were then converted to growth factors for the specific analysis scenarios. Growth factors used in the analysis for different growth periods are shown in Table 9. Values provided by MRCOG are reproduced verbatim below. Growth factors were then applied to the 2020 Existing Conditions turning movement volumes to forecast future volumes.

Table 9: Growth Rates

Roadway			MRCOG 2016 Model "Peak Hour Load"	MRCOG 2040 Model "Peak Hour Load"	Yearly Growth Rate	Average Yearly Growth	Growth Rate for Analysis
Dennis Chavez West of 118th	AM	PH	99	376	5.71%	0.99%	1.00%
	PM	PH	178	360	2.96%		
Dennis Chavez 118th to 98th	AM	PH	83	220	4.13%		
	PM	PH	305	328	0.30%		
Dennis Chavez 98th to Unser	AM	PH	421	372	-0.51%		
	PM	PH	646	607	-0.26%		
Dennis Chavez Unser to Condershire	AM	PH	548	531	-0.13%		
	PM	PH	1035	846	-0.84%		
Dennis Chavez Condershire to Coors	AM	PH	506	525	0.15%		
	PM	PH	979	710	-1.33%		
Dennis Chavez East of Coors	AM	PH	1359	1543	0.53%		
	PM	PH	789	1044	1.17%		
118th North of Dennis Chavez	AM	PH	17	186	10.45%	9.22%	9.25%
	PM	PH	55	350	7.98%		
118th South of Dennis Chavez	AM	PH	Not Present	355	N/A		
	PM	PH	Not Present	196	N/A		
98th North of Dennis Chavez	AM	PH	684	609	-0.48%	-0.55%	*1.00%
	PM	PH	428	369	-0.62%		
98th South of Dennis Chavez	AM	PH	Not Present	8	N/A		
	PM	PH	Not Present	131	N/A		
Unser North of Dennis Chavez	AM	PH	425	673	1.94%	2.43%	2.50%
	PM	PH	261	521	2.92%		
Unser South of Dennis Chavez	AM	PH	Not Present	473	N/A		
	PM	PH	Not Present	349	N/A		
Condershire North of Dennis Chavez	AM	PH	14	36	3.99%	5.05%	5.00%
	PM	PH	15	27	2.40%		
Condershire South of Dennis Chavez	AM	PH	29	223	8.88%		
	PM	PH	42	133	4.92%		
Coors North of Dennis Chavez	AM	PH	1352	1935	1.51%	0.82%	1.00%
	PM	PH	1140	1461	1.04%		
Coors South of Dennis Chavez	AM	PH	971	1097	0.51%		
	PM	PH	1091	1149	0.22%		

Trip Overlays

As stated above, Aspire will be constructed in phases. To account for additional background trips generated by the development, trip generations were obtained and overlaid on the 2023 build-out traffic volumes and subsequent background traffic volumes as the phases progress.

Trip Generation

Trip generation for the development was performed using the procedures and methodologies provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition.* The land use category Single Family Detached Housing (ITE 210) was used to generate trips for the development. Trips were calculated using rates for daily, AM peak hour, and PM peak hour generators. As previously stated, the development is to consist of 3 phases. Total development trips and trips generated for each building are shown below in the tables. Excerpts from the *Trip Generation Manual, 10th Edition* are included in the appendix. Site trips for the Development site were generated using data and procedures according to the *Institute of Transportation Engineer's Trip Generation Manual*. Site trips were added to background traffic volumes to create build-out traffic volumes.

Table 10, through Table 12, provided below, shows expected trips generated by the development. Due to the nature of this development, and as agreed in the scoping meeting, no pass-by or internal capture trips are anticipated.

Table 10: 2023 Phase 1 ITE Trip Generation

Use	Units		TRIP GENERATION							TRIPS				
			Daily Rate	AM Peak			PM Peak			Daily	AM Peak		PM Peak	
				Rate	Enter	Exit	Rate	Enter	Exit		In	Out	In	Out
Single Family Detached Housing (210) Phase 1	306	Dwelling Units	9.44	0.74	25%	75%	0.99	63%	37%	2889	57	170	191	113

Table 11: 2025 Phase 2 ITE Trip Generation

Use	Units		TRIP GENERATION							TRIPS				
			Daily Rate	AM Peak			PM Peak			Daily	AM Peak		PM Peak	
				Rate	Enter	Exit	Rate	Enter	Exit		In	Out	In	Out
Single Family Detached Housing (210) Phase 2	117	Dwelling Units	9.44	0.74	25%	75%	0.99	63%	37%	1105	22	65	73	43

Table 12: 2027 Phase 3 ITE Trip Generation

Use	Units		TRIP GENERATION							TRIPS				
			Daily Rate	AM Peak			PM Peak			Daily	AM Peak		PM Peak	
				Rate	Enter	Exit	Rate	Enter	Exit		In	Out	In	Out
Single Family Detached Housing (210) Phase 3	83	Dwelling Units	9.44	0.74	25%	75%	0.99	63%	37%	784	16	47	52	31

Trip Distribution and Assignment

Trip Distribution was determined based on the analysis of existing intersection demand characteristics within the study area. Overall, trips were distributed within the roadway network to and from the development based on the proportions of existing turning movement counts/demands and employment data. Trip routing was based on logical trip attractions and destinations for commercial based trips. The figures below show the trip distribution and assignment for the development of each analysis scenario.

Trips were then assigned to the background roadway networks to create build-out volumes and are shown in Figure 4 through Figure 12.

Traffic Volume Calculations

Traffic volumes used in the analysis were calculated based on the following:

1. Existing Conditions: direct turning movement counts from 2020

2. Background 2023: 2023 growth rate applied to existing conditions with additional trip overlays
3. Build-out 2023: Background 2023 traffic volumes plus phase 1 site trips
4. Background 2025: 2025 growth rate applied to existing conditions with additional trip overlays
5. Build-out 2025: Background 2025 traffic volumes plus phase 1 + 2 site trips
6. Background 2027: 2027 growth rate applied to existing conditions with additional trip overlays
7. Full Build-out 2027: Background 2027 traffic volumes plus phase 1 + 2 + 3 site trips
8. Horizon Year 2037: 2037 growth rate + select trips

As stated above, build-out traffic volumes were calculated using the growth rates and factors detailed in previous sections plus site trips from the preceding analysis year. Site trips were added to study intersections with direct access to the proposed development. Figure 4 through Figure 12 show the traffic volumes used for each individual analysis scenario.

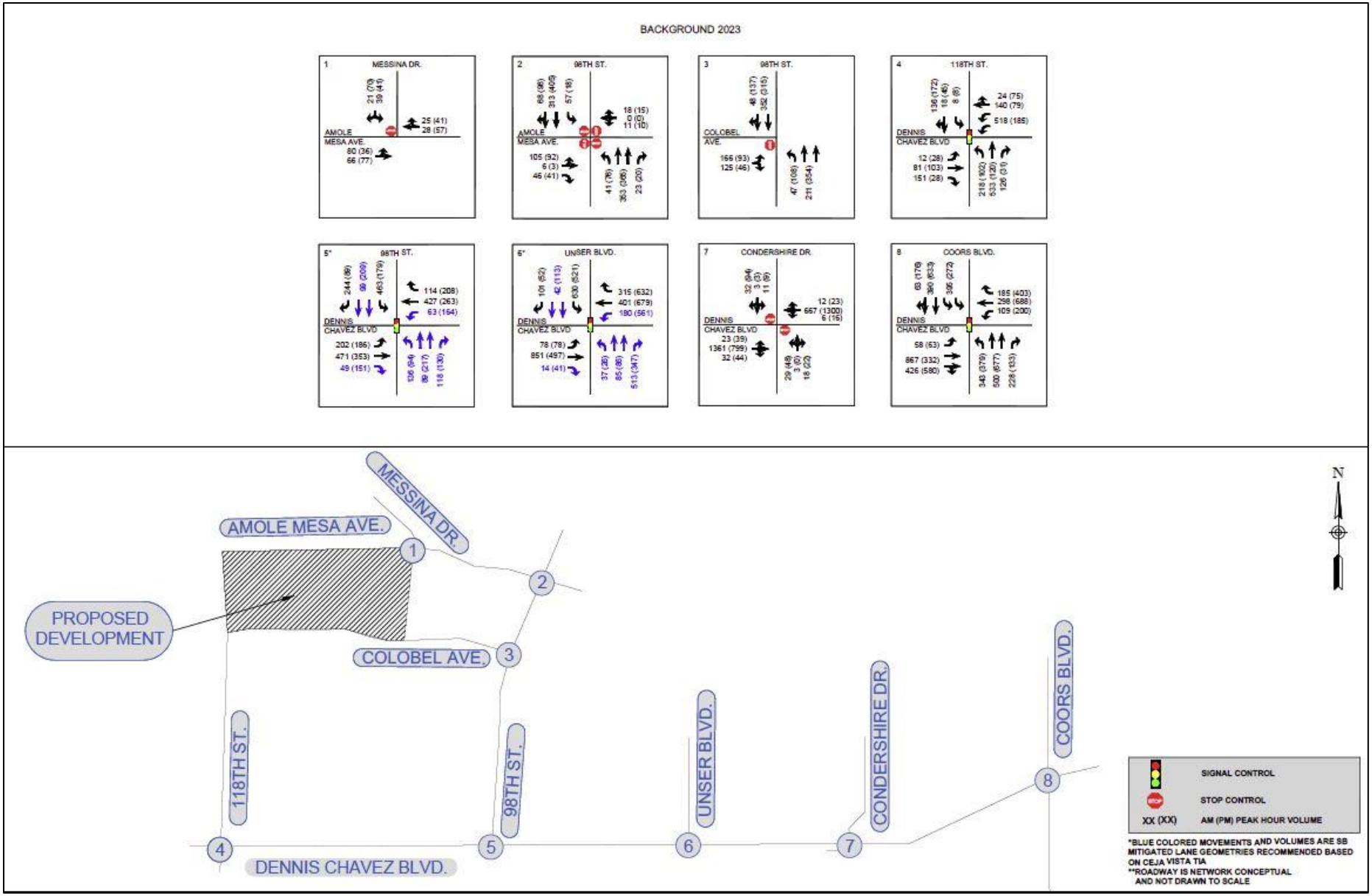

Figure 4: Background 2023 Turning Movement Traffic Volume

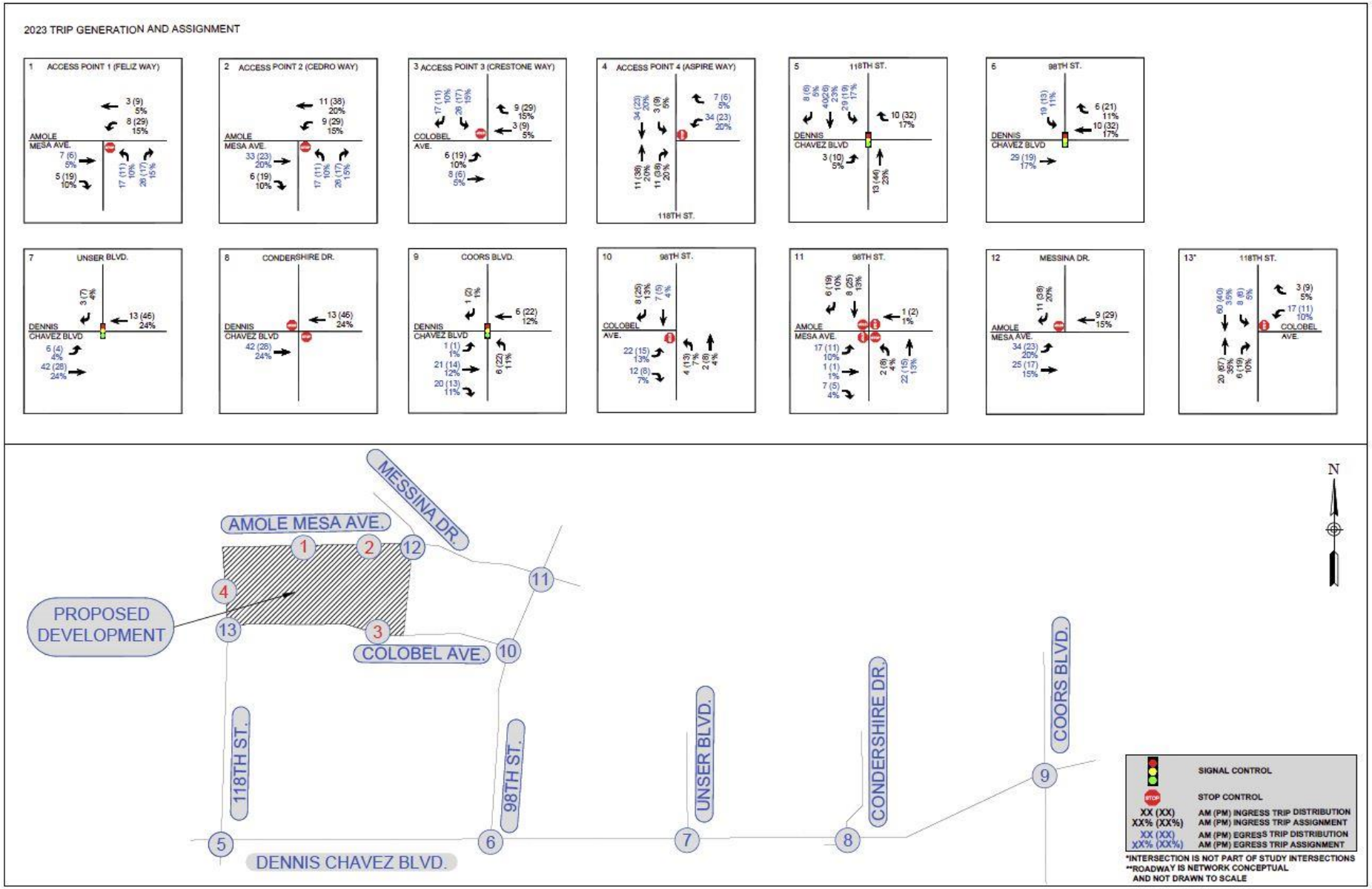

Figure 5: 2023 Trip Distribution and Assignment

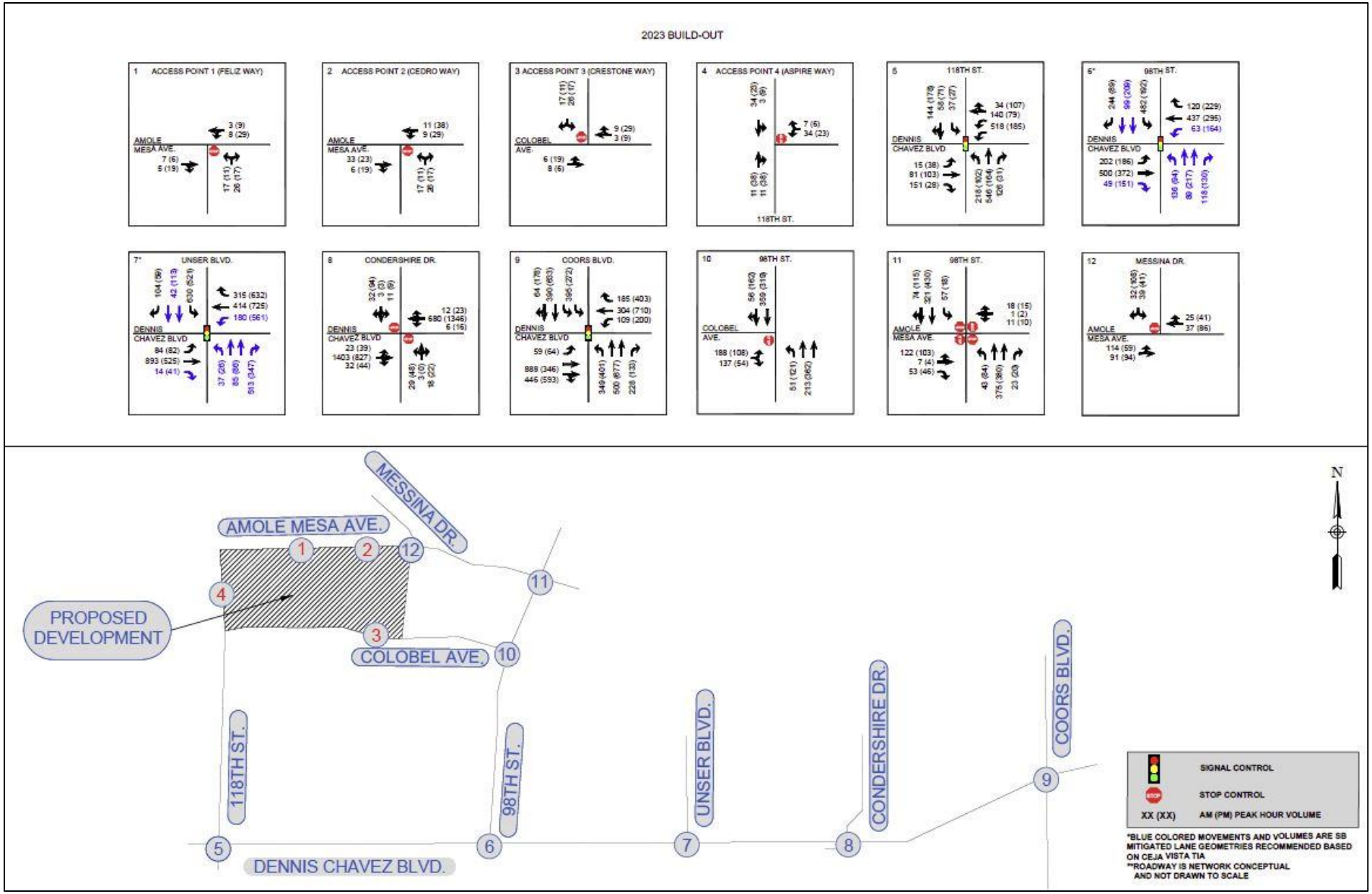

Figure 6: 2023 Build-Out

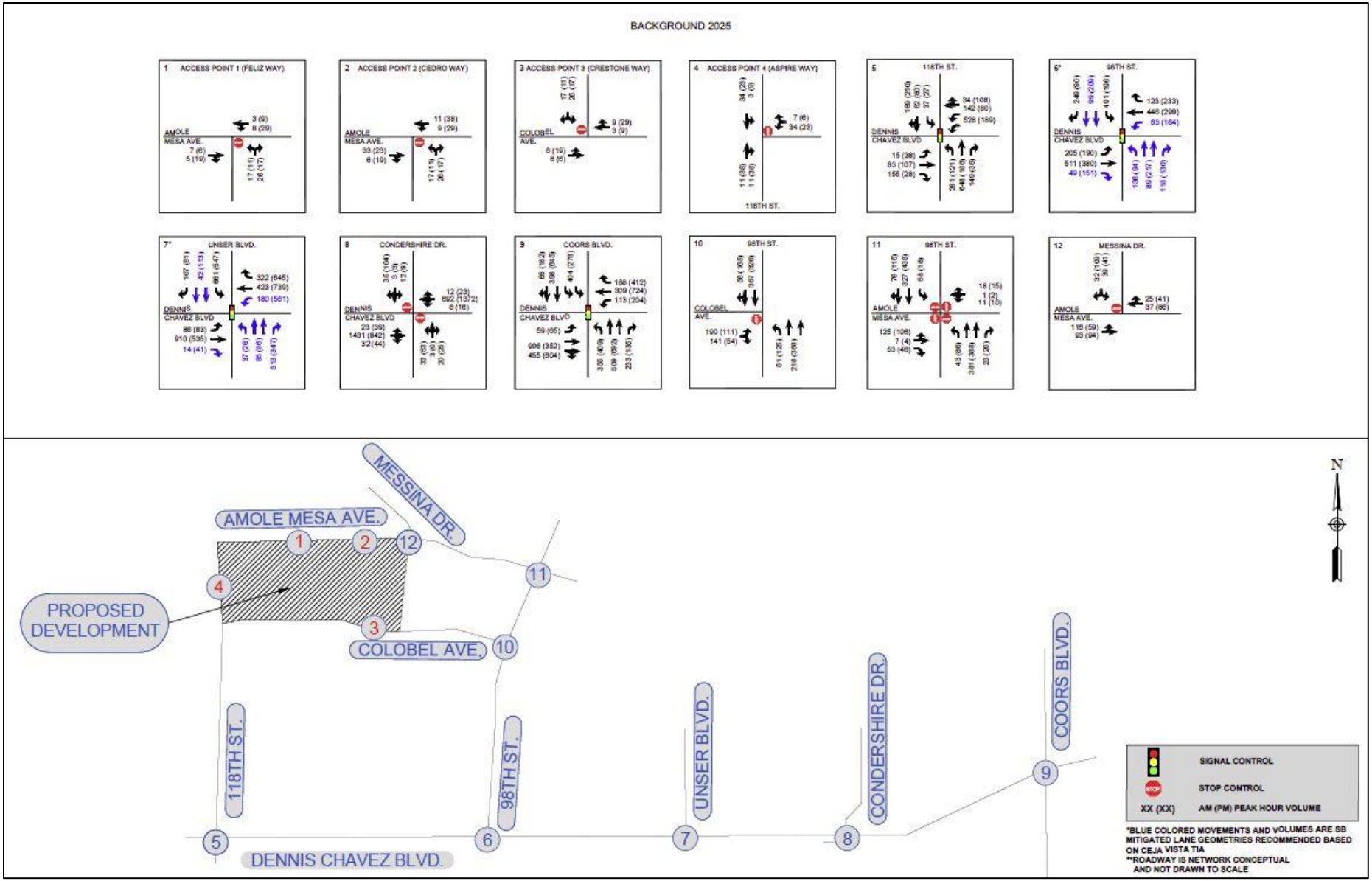

Figure 7: Background 2025 Turning Movement Traffic Volume

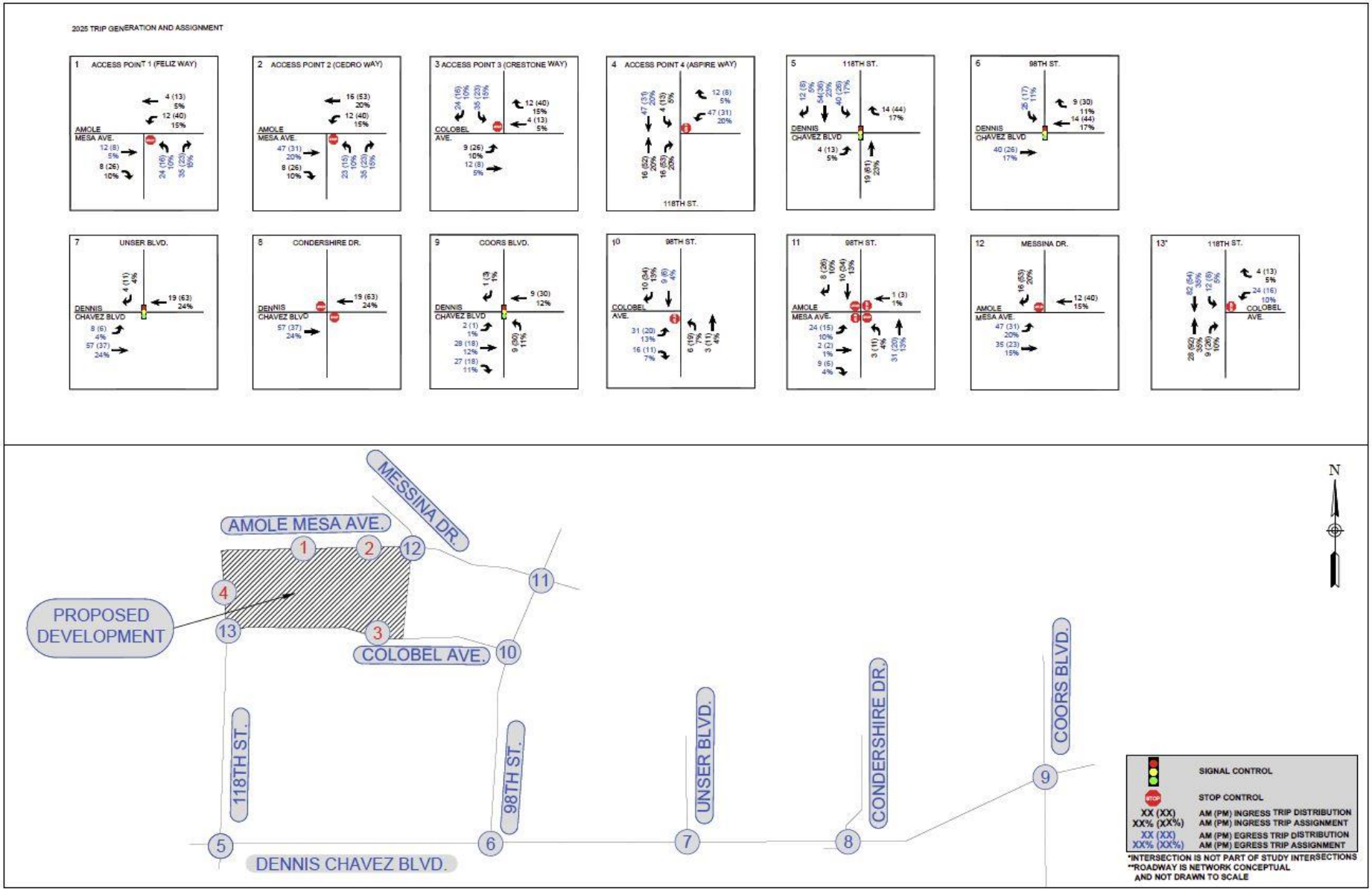

Figure 8: 2025 Trip Distribution and Assignment

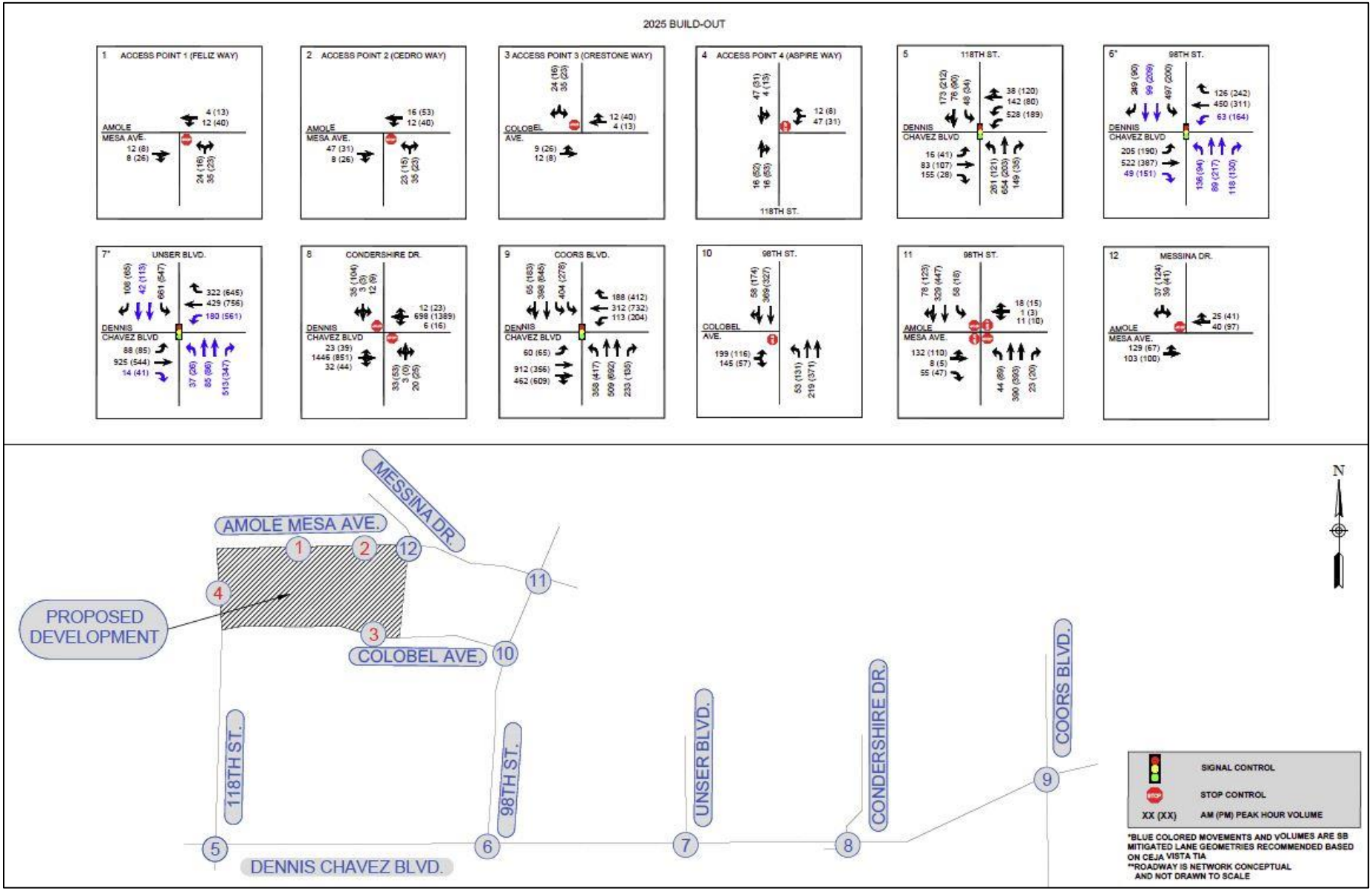

Figure 9: 2025 Build-Out

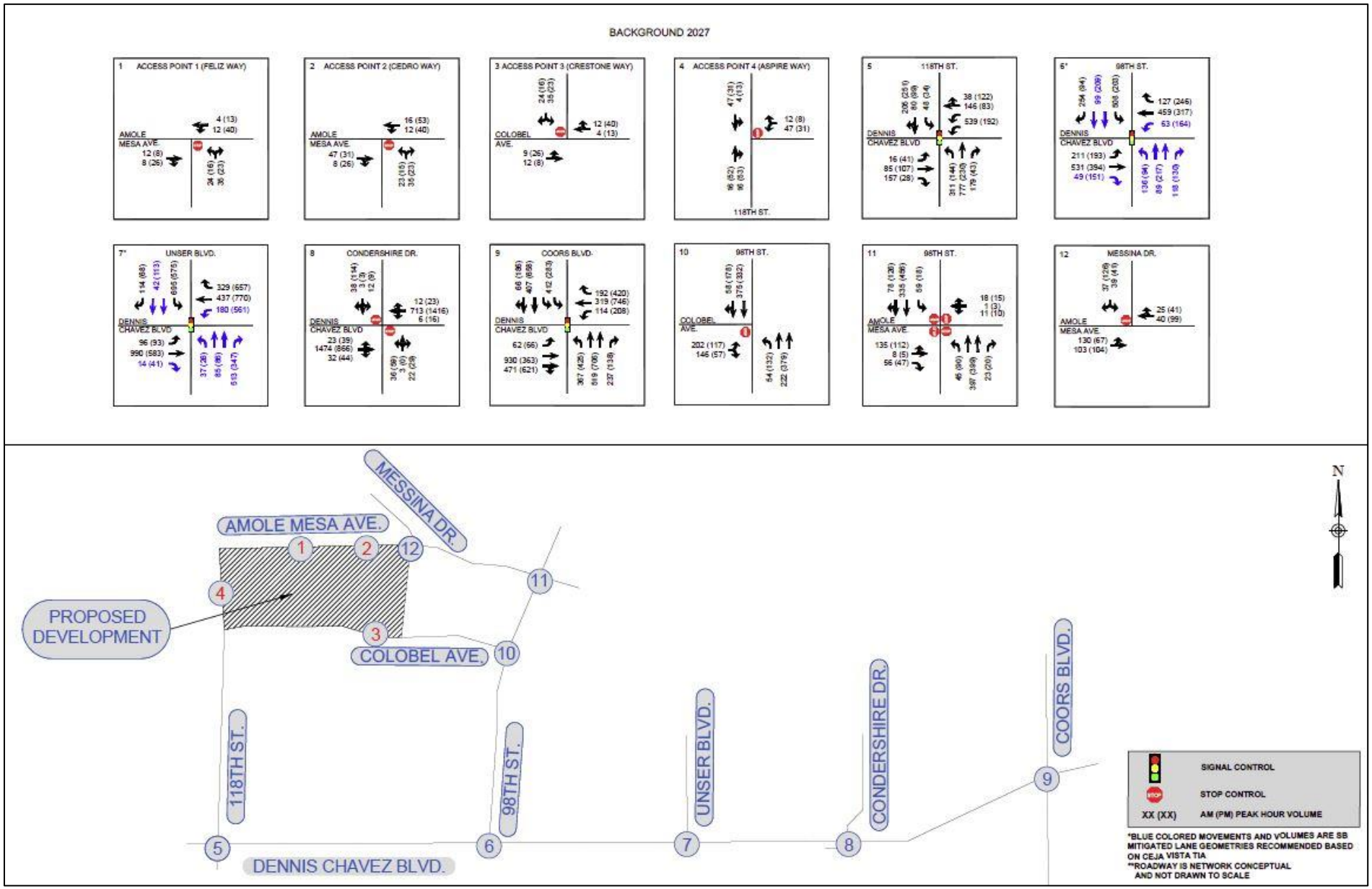

Figure 10: Background 2027 Turning Movement Traffic Volum

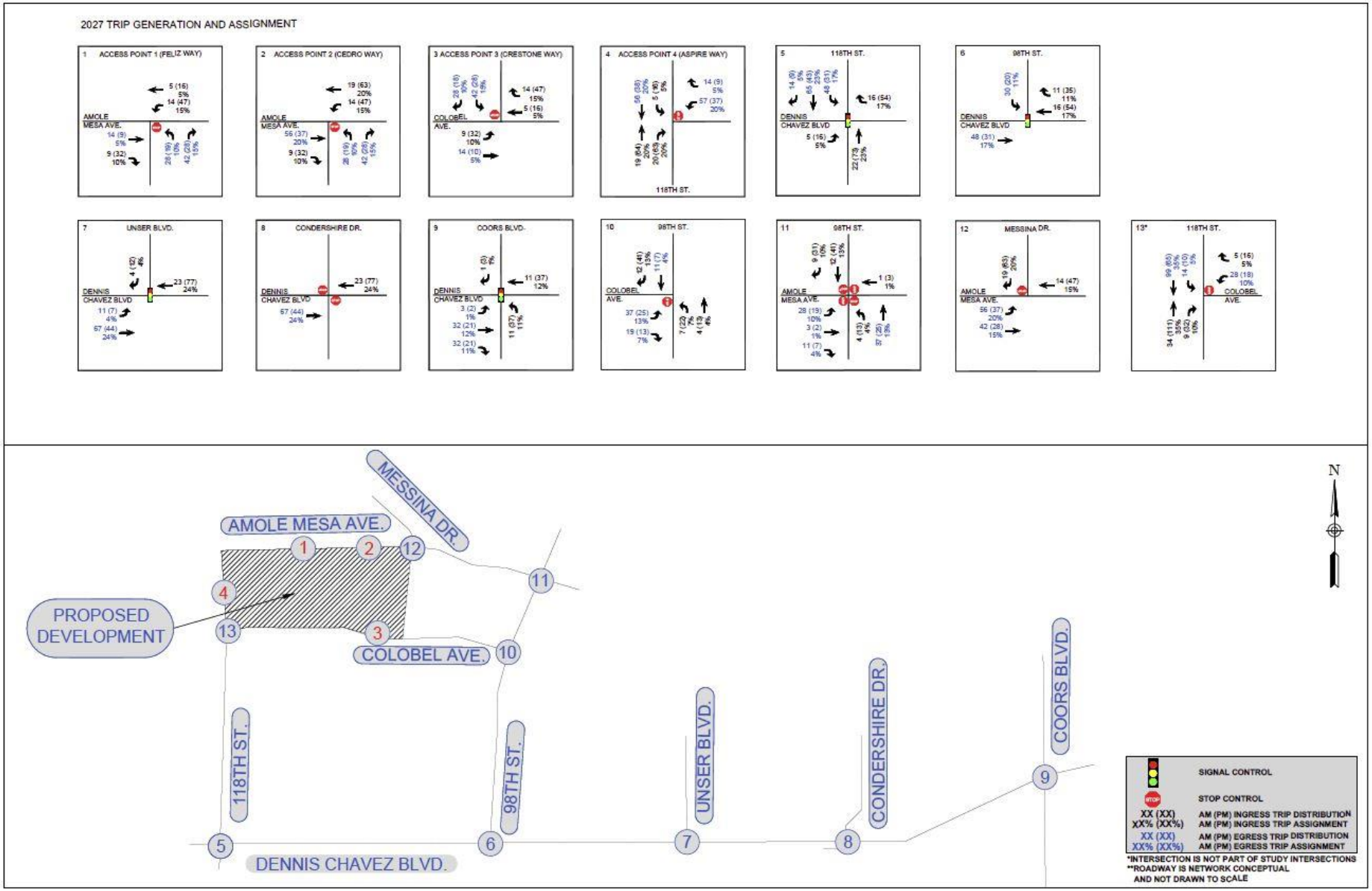

Figure 11: 2027 Trip Distribution and Assignment

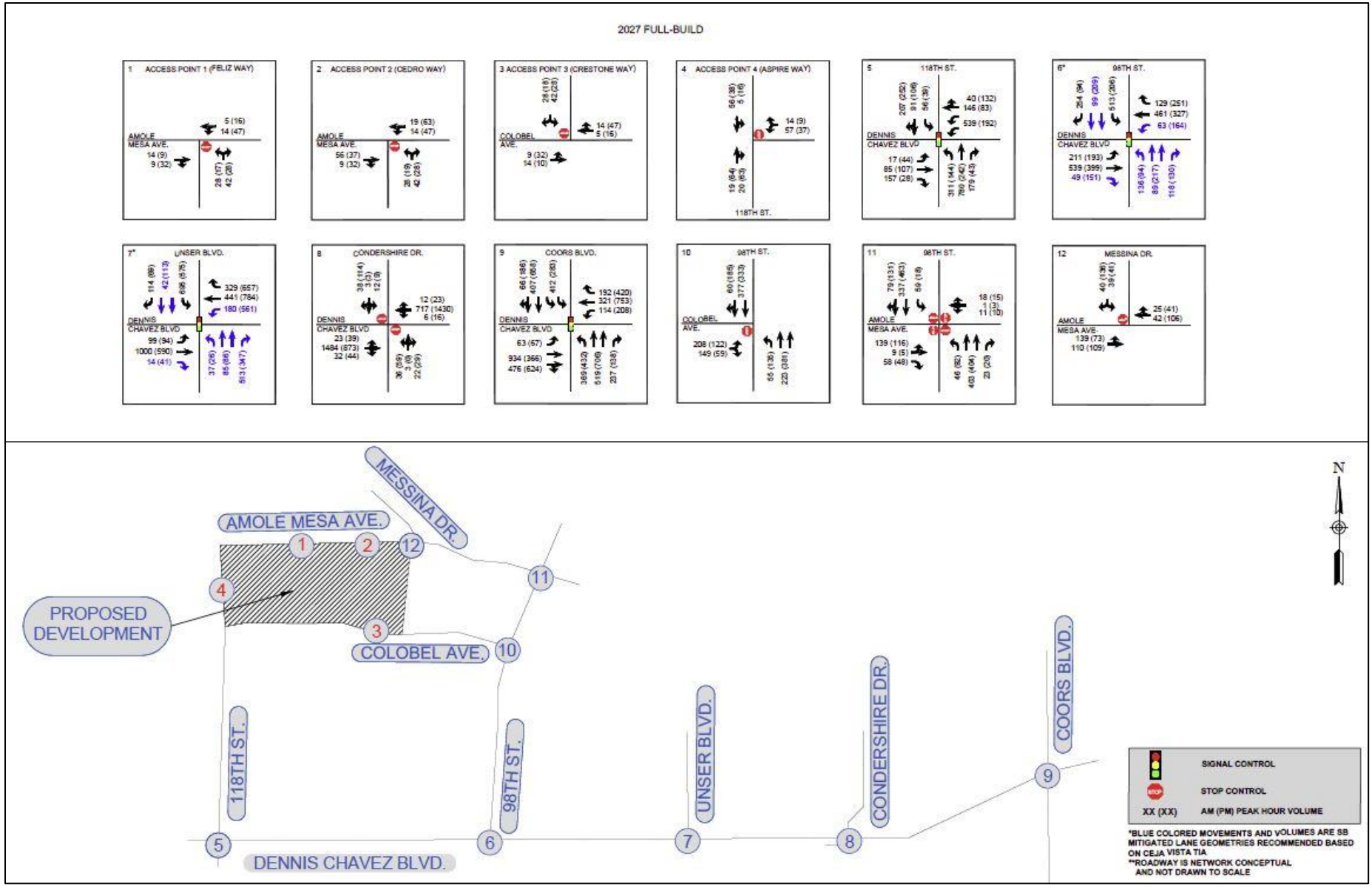

Figure 12: 2027 Full Build-Out

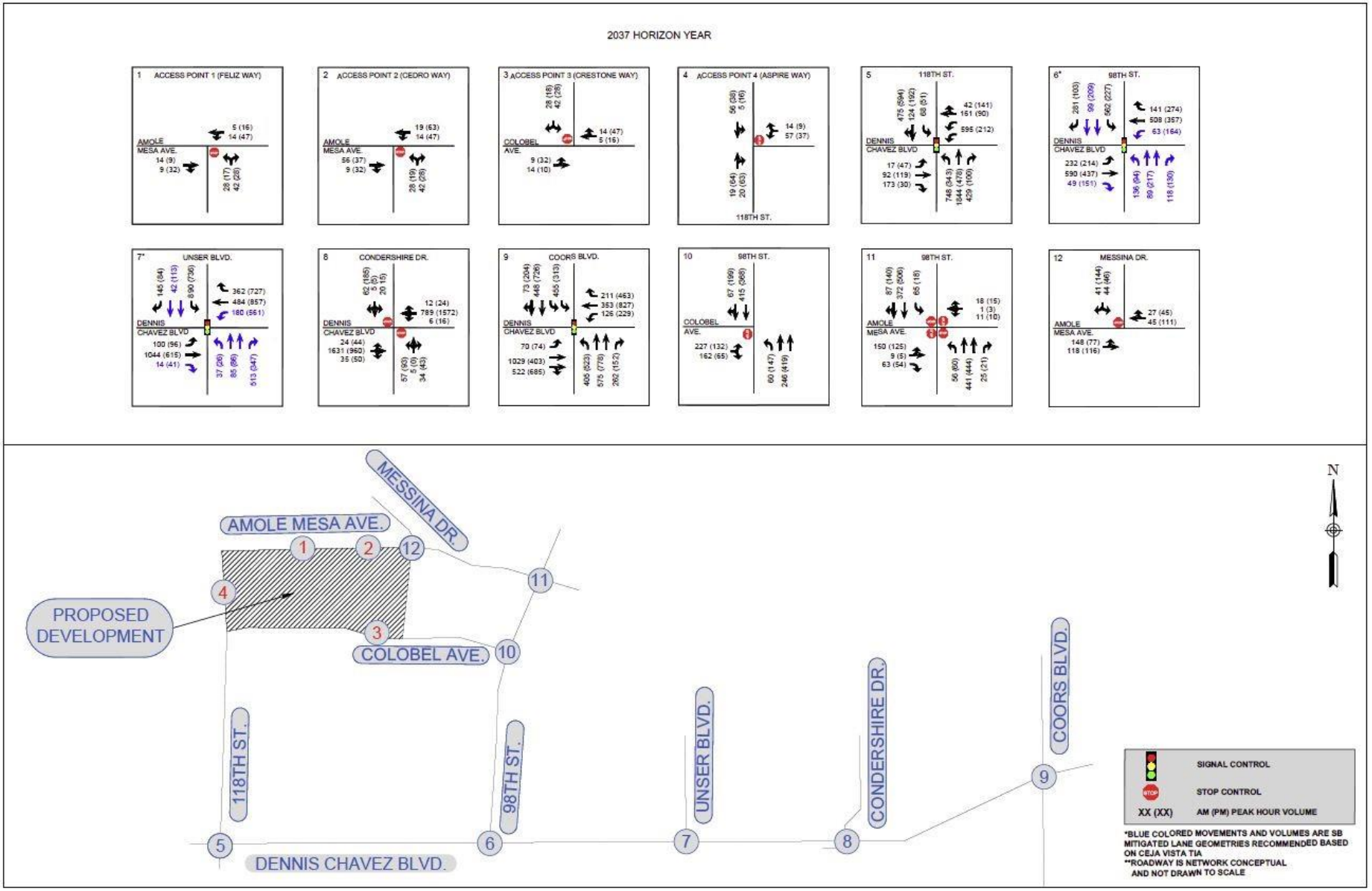

Figure 13: 2037 Horizon Year

TRAFFIC ANALYSIS OF BUILD-OUT AND HORIZON YEAR

As performed for existing conditions, a LOS and capacity analysis was performed for all future analysis scenarios using the same procedures and assumptions. Signal timings used in the existing conditions analysis were retained and used for background conditions, build-out condition analysis, and horizon year. As stated for existing conditions capacity analysis, additional periods were added where intersections either began or ended with failing movements. As previously stated, in some instances, the limitations of available data prevented the addition of analysis periods.

Lanes serving the Ceja Vista Development were added to the intersections of 98th St and Unser Blvd. Dual lanes, as recommended in the Ceja Vista TIA, were not analyzed as no receiving lanes are present on Dennis Chavez Blvd. The lack of dual lanes is noted to contribute to capacity issues for these intersections. Additionally, signal timings for new movements were matched to fit existing timings at the intersection. However, signal timings are likely to be re-calculated with the opening of the new movements upon completion of the traffic signal.

For 2025 and 2027 scenarios, additional peak periods are not shown in summary tables provided below as the extent of failing movements is illustrated in the analysis provided for 2023 conditions. Rather, additional period analyses for 2025 and 2027 scenarios are included in the HCS models provided in the appendix. It is noted that as signal timings were not updated from analysis year to analysis year, LOS and capacity issues exhibited in 2023 conditions continue to be present in 2025 and 2027 conditions.

2023 Conditions

Table 13 provides an overall summary of the LOS and delays for each signalized intersection. Capacity analysis performed for 2023 conditions follows from Table 14 through Table 19. HCS models are included in the appendix. A summary of deficiencies by analysis scenario is provided on page 80. Recommended improvements are provided on page 91.

Table 13: 2023 Overall Intersection Conditions

Dennis Chavez & 118th											
2023 AM Background			2023 PM Background			2023 AM Build-Out			2023 PM Build-Out		
Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS
6:35	20.8	C	14:15	22.7	C	6:35	22.9	C	14:15	23.5	C
6:50	50.2	D	14:30	20.7	C	6:50	23	C	14:30	22	C
7:05	142.2	F	14:45	22.4	C	7:05	104.9	F	14:45	23.1	C
7:20	53.1	D	15:00	23.2	C	7:20	48.5	D	15:00	24.4	C
Dennis Chavez & 98th											
2023 AM Background			2023 PM Background			2023 AM Build-Out			2023 PM Build-Out		
Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS
6:35	42.1	D	14:10	33.4	C	6:35	47.2	D	14:10	31.5	C
6:50	54.3	D	14:25	33.3	C	6:50	73.2	E	14:25	32.3	C
7:05	68.8	E	14:40	33.3	C	7:05	103.2	F	14:40	32	C
7:20	148.9	F	14:55	34.4	C	7:20	233	F	14:55	33.8	C
Dennis Chavez & Unser											
2023 AM Background			2023 PM Background			2023 AM Build-Out			2023 PM Build-Out		
Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS
7:00	46	D	16:00	59.2	E	7:00	49	D	16:00	58.6	E
7:15	84.8	F	16:15	174.1	F	7:15	96.4	F	16:15	176	F
7:30	113.7	F	16:30	199.5	F	7:30	131.1	F	16:30	211.4	F
7:45	158.5	F	16:45	221.3	F	7:45	183.9	F	16:45	231.6	F
Dennis Chavez & Coors											
2023 AM Background			2023 PM Background			2023 AM Build-Out			2023 PM Build-Out		
Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS
7:00	62.5	E	16:00	76.8	E	7:00	117.1	F	16:00	75.7	E
7:15	72.7	E	16:15	95.2	F	7:15	162.4	F	16:15	94	F
7:30	102.6	F	16:30	116.2	F	7:30	291.3	F	16:30	111.2	F
7:45	110.2	F	16:45	123	F	7:45	330.9	F	16:45	116.3	F

Table 14:2023 Background Signalized Intersections AM Analysis Summary

Dennis Chavez & 118th

Delay (veh/p)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	10.2	12.7	12.9	8.7	13.5	-	44.9	41.3	30	34.9	35	-
6:50	27	29	32.8	21.2	17.7	-	27	102.7	13.5	28.9	21	-
7:05	29.7	33.1	40.3	20.6	19.2	-	30.3	318	11.6	28.9	22	-
7:20	17.9	19.6	20.2	15.2	16.2	-	34.3	230.3	21.8	28.7	24	-

Level of Service (LOS)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	B	B	B	A	B	-	D	D	C	C	D	-
6:50	C	C	C	C	B	-	C	F	B	C	C	-
7:05	C	C	D	C	B	-	C	F	B	C	C	-
7:20	B	B	C	B	B	-	C	F	C	C	C	-

Queue Storage Ratio (QSR)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.45	-	0.12	0.09	0	-	0.93	0.47	0.18	0.04	-	-
6:50	0.05	-	0.46	0.2	0	-	0.73	2.17	0.14	0.03	-	-
7:05	0.07	-	0.66	0.23	0	-	0.83	4.97	0.12	0.03	-	-
7:20	0.06	-	0.2	0.05	0	-	1.02	2.76	0.17	0.03	-	-

Dennis Chavez & 98th

Delay (veh/p)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	67.3	14.6	6.7	55.1	12.5	5.9	36.4	41.3	37.7	100.9	41.4	45.1
6:50	49.6	18.9	10.2	53	24.6	12.7	30.9	35.6	33	123.7	35.6	37.3
7:05	43.6	14.8	7.4	53	26.3	15	36.4	41.3	38.7	189.2	41.4	27.5
7:20	44.1	14.8	7.4	54	21.6	15.1	36.4	41.3	38.7	388.5	41.4	26.5

Level of Service (LOS)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	E	B	A	E	B	A	D	D	D	F	D	D
6:50	D	B	B	D	C	B	C	D	C	F	D	D
7:05	D	B	A	D	C	B	D	D	D	F	D	C
7:20	D	B	A	D	C	B	D	D	D	F	D	C

Queue Storage Ratio (QSR)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.07	-	0.01	0.21	-	0.06	0.33	-	0.32	0.48	-	0.24
6:50	0.29	-	0.05	0.17	-	0.08	0.30	-	0.30	0.70	-	0.36
7:05	0.61	-	0.04	0.17	-	0.07	0.33	-	0.33	0.73	-	0.19
7:20	0.59	-	0.04	0.17	-	0.12	0.33	-	0.33	1.52	-	0.10

Dennis Chavez & Unser

Delay (veh/p)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:00	19	28.5	18.2	20.8	18.9	14.2	26.1	29.2	43.6	339.8	26.2	0
6:15	19.1	28.5	18.2	20.8	19.8	14.2	26.1	29.2	43.6	660.3	26.2	24.2
6:30	18.6	30.5	18.3	23.4	21.6	16.2	26.2	29.3	43.3	756.5	26.2	23.4
6:45	19.5	33.8	18.4	27.2	23.5	16.2	26.2	29.3	42.8	676.6	26.3	24.7
7:00	20.4	20.9	11.4	20	32	17.5	25.9	29	42.2	110.8	25.9	25.6
7:15	20.1	43.8	18.7	28	25.6	18.8	25.8	28.9	39.5	248.9	25.9	22.5
7:30	19.7	41.4	18.7	28.5	23.4	17.6	25.8	28.9	39.7	381.3	25.9	23.3
7:45	19.6	43.6	18.8	28.4	23.5	19.4	25.8	28.9	39.8	510.8	25.9	23.5
8:00	19.7	30.9	18.3	23.8	21.8	15.8	26	33.3	43.1	1214.5	26.1	24.8
8:15	19.3	30.6	18.3	23.6	23	16.4	26.2	29.3	43.4	901.1	26.2	24.4
8:30	20.2	30.8	18.3	23.9	25.2	17.9	26.2	29.3	43.2	773.3	26.2	23.6
8:45	18.3	30.8	18	24.1	21.8	17.5	26.4	29.5	43.1	531.1	26.5	22.4

Level of Service (LOS)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:00	B	C	B	C	B	B	C	C	D	F	C	A
6:15	B	C	B	C	C	B	C	C	D	F	C	C
6:30	B	C	B	C	C	B	C	C	D	F	C	C
6:45	C	C	B	C	C	B	C	C	D	F	C	C
7:00	C	C	B	C	C	B	C	C	D	F	C	C
7:15	C	D	B	C	C	B	C	C	D	F	C	C
7:30	B	D	B	C	C	B	C	C	D	F	C	C
7:45	B	D	B	C	C	B	C	C	D	F	C	C
8:00	B	C	B	C	B	B	C	C	D	F	C	C
8:15	B	C	B	C	B	B	C	C	D	F	C	C
8:30	B	C	B	C	B	B	C	C	D	F	C	C
8:45	B	C	B	C	B	B	C	C	D	F	C	C

Queue Storage Ratio (QSR)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:00	0.01	0	0.01	0.13	0	0.06	0.08	0	1.53	2.94	0	0.13
6:15	0.03	0	0.01	0.14	0	0.05	0.08	0	1.53	3.3	0	0.2
6:30	0.07	0	0.01	0.14	0	0.07	0.08	0	1.53	2.86	0	0.23
6:45	0.07	0	0.01	0.13	0	0.06	0.08	0	1.5	2.01	0	0.06
7:00	0.07	-	0.01	0.19	-	0.06	0.08	-	1.51	0.7	-	0.41
7:15	0.11	-	0.02	0.27	-	0.1	0.08	-	1.49	1.22	-	0.1
7:30	0.04	-	0.02	0.27	-	0.1	0.08	-	1.5	1.6	-	0.07
7:45	0.04	-	0.02	0.27	-	0.13	0.08	-	1.5	2.15	-	0.11
8:00	0.01	-	0.01	0.14	-	0.06	0.08	-	1.83	2.9	-	0.13
8:15	0.03	-	0.01	0.14	-	0.06	0.08	-	1.82	3.21	-	0.19
8:30	0.07	-	0.01	0.14	-	0.07	0.08	-	1.81	2.69	-	0.23
8:45	0.07	-	0.01	0.14	-	0.07	0.07	-	1.76	1.75	-	0.06

Dennis Chavez & Coors

Delay (veh/p)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:00	1.8	4.2	1035.2	59.7	8.2	-	38.2	42.8	41	51.9	51.2	51.6
6:15	5.2	11	586.3	58.3	11.1	-	34.5	40.8	41.2	51.2	44.2	44.3
6:30	4.1	7.9	1027.3	55.3	12.3	-	42.9	41.3	37.9	49.3	50.3	50.9
6:45	13	24	274.7	54.1	16.7	-	43.7	41.6	31.6	50.7	49.6	50.2
7:00	19.1	77.2	86.3	53.8	21	-	99.9	36	29.3	50.1	48.4	49
7:15	17.7	120	119	54.6	19.9	-	67.7	44.6	36.2	48.3	48.4	48.9
7:30	20.8	217.6	215.9	54.7	24.1	-	36.9	47.3	36.5	53.3	42.4	42.5
7:45	17.2	238.7	235.1	52.8	20.2	-	35.7	46.5	34.7	48.8	44.8	45
8:00	8.9	16.3	466.6	54.8	16.1	-	41.4	39.6	33	49.3	48.4	48.9
8:15	4.6	8.9	804.8	54.8	15	-	41.6	38.9	32.4	50.3	49.1	49.6
8:30	9.6	17.8	441.6	53.2	17.2	-	46.2	37.3	29.7	50.2	49.9	50.2
8:45	4.5	8.9	826.3	53.3	13.4	-	36.8	43.3	33.6	50.3	48.7	49

Level of Service (LOS)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:00	A	A	F	E	A	A	D	D	D	D	D	D
6:15	A	B	F	E	B	A	C	D	D	D	D	D
6:30	A	A	F	E	B	A	D	D	D	D	D	D
6:45	B	C	F	D	B	A	D	D	C	D	D	D
7:00	B	F	F	D	C	A	F	D	C	D	D	D
7:15	B	F	F	D	B	A	E	D	D	D	D	D
7:30	C	F	F	D	C	A	D	D	D	D	D	D
7:45	B	F	F	D	C	A	D	D	C	D	D	D
8:00	A	B	F	D	B	A	D	D	C	D	D	D
8:15	A	B	F	D	B	A	D	D	C	D	D	D
8:30	A	B	F	D	B	A	D	D	C	D	D	D
8:45	A	B	F	D	B	A	D	D	C	D	D	D

Queue Storage Ratio (QSR)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:00	0	-	-	0.18	-	-	0.82	-	-	0.39	-	-
6:15	0	-	-	0.21	-	-	0.8	-	-	0.47	-	-
6:30	0	-	-	0.3	-	-	1.28	-	-	0.75	-	-
6:45	0.08	-	-	0.38	-	-	1.33	-	-	0.55	-	-
7:00	0.08	-	-	0.4	-	-	2.33	-	-	0.64	-	-
7:15	0.06	-	-	0.35	-	-	1.87	-	-	0.87	-	-
7:30	0.07	-	-	0.35	-	-	1.1	-	-	1.25	-	-
7:45	0.08	-	-	0.47	-	-	0.92	-	-	0.92	-	-
8:00	0.01	-	-	0.33	-	-	1.21	-	-	0.74	-	-
8:15	0.01	-	-	0.33	-	-	1.22	-	-	0.6	-	-
8:30	0.03	-	-	0.44	-	-	1.46	-	-	0.62	-	-
8:45	0.01	-	-	0.42	-	-	0.94	-	-	0.6	-	-

Table 15: 2023 Background Signalized Intersections PM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	9.5	10.8	10.3	7.6	9.1	-	46.8	39.6	31.1	33.9	37.2	-
14:30	8.2	9.2	8.8	6.9	8.3	-	44.8	36.5	32.7	33.4	36.3	-
14:45	9.3	10.7	10.1	8	9.5	-	46.5	36	31.5	32.7	36.5	-
15:00	8.3	9.4	8.9	7.1	8.2	-	45.4	39	32	33.8	36.9	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	A	B	B	A	A	-	D	D	C	C	D	-
14:30	A	A	A	A	A	-	D	D	C	C	D	-
14:45	A	B	B	A	A	-	D	D	C	C	D	-
15:00	A	A	A	A	A	-	D	D	C	C	D	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	0.06	-	0.04	0.04	-	-	0.47	0.4	0.04	0.04	-	-
14:30	0.04	-	0.03	0.02	-	-	0.49	0.11	0.06	0.04	-	-
14:45	0.07	-	0.03	0.03	-	-	0.51	0.15	0.07	0.04	-	-
15:00	0.05	-	0.02	0.02	-	-	0.42	0.33	0.03	0.04	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	84.8	12.9	9.7	54.5	10.2	5.3	38.3	44.3	36.6	49.9	42.9	42.9
14:25	62.3	12.5	9.1	55.1	10.5	5	38.3	44.3	37.4	41.5	42.9	39.2
14:40	57.3	13.1	9.7	55.8	10.2	5.6	38.3	44.3	36.1	38.2	42.9	37.7
14:55	84.1	13.3	10	55.7	8.8	4.9	38.3	44.3	35.8	48.8	42.9	41.4
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	F	B	A	D	B	A	D	D	D	D	D	D
14:25	F	B	A	E	B	A	D	D	D	D	D	D
14:40	E	B	A	E	B	A	D	D	D	D	D	D
14:55	F	B	B	E	A	A	D	D	D	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	0.03	-	0.05	0.33	-	0.06	0.24	-	0.35	0.11	-	0.14
14:25	0.10	-	0.02	0.29	-	0.04	0.24	-	0.36	0.20	-	0.08
14:40	0.16	-	0.02	0.36	-	0.06	0.24	-	0.35	0.16	-	0.08
14:55	0.04	-	0.04	0.38	-	0.06	0.24	-	0.35	0.10	-	0.09
Dennis Chavez & Unser												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
15:00	19.3	26.9	19.9	17.4	17.7	11.9	35.1	38.2	28.6	1367.5	35.9	30.2
15:15	20	28.1	19.9	19	18.1	11	35.1	38.2	28.6	1454.5	35.9	32.9
15:30	20.6	26.4	19.9	17.9	19.5	11.4	34.4	43	28.6	2135.5	35.2	31.7
15:45	20.5	28.2	19.9	19.2	20	12.4	35.1	38.2	28.6	1192.4	35.9	30.5
16:00	16.4	13.7	11.4	13.3	14.6	16.7	34.3	37.5	31.9	216.6	34	30.5
16:15	19.7	32.7	20	26.3	18.6	14.8	35.5	38.7	27.2	663.8	35.3	31.1
16:30	21.3	31.6	20	24.1	20.9	14.2	35.5	38.7	27.2	1003.9	35.3	30.8
16:45	20.4	33.3	20	26.8	19	13.4	35.5	38.7	27.2	1117.5	35.3	31.4
17:00	22	27.3	19.9	18.1	21.7	13	35	38.2	28.6	1170.7	34.7	30.2
17:15	21.9	28.2	19.9	19.1	21.4	12	35	38.2	28.6	1268.3	34.7	30.9
17:30	21.7	27.4	19.9	18.2	21.2	12.4	35	38.2	28.6	1537.1	34.7	30.6
17:45	19.9	28.3	19.9	19.3	19.8	13.6	35	38.2	28.6	1825.8	34.7	30.1
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
15:00	B	B	B	B	B	B	D	D	C	F	D	C
15:15	B	B	B	B	B	B	D	D	C	F	D	C
15:30	C	B	B	B	B	B	C	D	C	F	D	C
15:45	C	B	B	B	B	B	D	D	C	F	D	C
16:00	B	B	B	B	B	B	C	D	C	F	C	C
16:15	B	C	B	C	B	B	D	D	C	F	D	C
16:30	C	C	B	C	C	B	D	D	C	F	D	C
16:45	C	C	B	C	B	B	D	D	C	F	D	C
17:00	C	C	B	B	C	B	D	D	C	F	C	C
17:15	C	C	B	B	C	B	D	D	C	F	C	C
17:30	C	C	B	B	C	B	D	D	C	F	C	C
17:45	B	C	B	B	B	B	D	D	C	F	C	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
15:00	0.05	-	0.04	0.40	-	0.08	0.06	-	0.89	3.62	-	0.10
15:15	0.02	-	0.04	0.40	-	0.07	0.06	-	0.89	3.84	-	0.24
15:30	0.02	-	0.04	0.41	-	0.07	0.06	-	0.89	3.57	-	0.19
15:45	0.06	-	0.04	0.40	-	0.10	0.06	-	0.89	3.19	-	0.13
16:00	0.05	-	0.02	0.30	-	0.11	0.06	-	0.92	0.90	-	0.13
16:15	0.08	-	0.07	0.53	-	0.14	0.06	-	0.84	2.10	-	0.13
16:30	0.07	-	0.07	0.55	-	0.14	0.06	-	0.84	2.69	-	0.07
16:45	0.04	-	0.07	0.53	-	0.12	0.06	-	0.84	3.00	-	0.06
17:00	0.04	-	0.04	0.4	-	0.14	0.06	-	0.89	3.13	-	0.07
17:15	0.03	-	0.04	0.4	-	0.1	0.06	-	0.89	3.5	-	0.09
17:30	0.03	-	0.04	0.4	-	0.12	0.06	-	0.89	4.2	-	0.07
17:45	0.07	-	0.04	0.4	-	0.14	0.06	-	0.89	4.92	-	0.15
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
15:00	3.2	4.7	2161.5	60.9	25	-	47	31.9	19.6	50.4	54	55.7
15:15	24.6	33.6	236.3	60	39	-	51.8	34.3	19.6	50.2	55.6	57
15:30	18.9	23.6	1330	70.1	114.7	-	57	30.8	17.5	50.2	58.8	60.4
15:45	29.7	38.3	203.5	56.8	246.4	-	43.4	37.5	21.5	49.7	52	53
16:00	32.1	47.7	239.9	64.7	83.6	-	57.5	32.5	20.3	48.5	64	66
16:15	31.1	123.8	313.1	66.4	117.9	-	53.3	32.3	17.3	51.3	55.8	57.1
16:30	33.2	174	412.2	97.5	147.4	-	57.4	29.7	17.2	49.7	66.5	67.9
16:45	30.7	228.1	346.9	62.9	229.3	-	54.3	33	18.3	50.4	59.6	61.5
17:00	30.9	39.4	167.1	54.2	414.3	-	56.2	28.4	18.8	50.9	70.8	72.6
17:15	15.6	19.9	11417.1	54.2	625.9	-	55.8	29.3	18.8	51.3	62.9	64.7
17:30	30.2	38.8	307.3	54	886.6	-	55.5	29.9	19	50.8	63.2	64.9
17:45	28.3	36.4	183.5	58.9	930.7	-	49.7	34.4	18.5	51	55.5	56.9
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
15:00	A	A	F	E	C	-	D	C	B	D	D	E
15:15	C	C	F	E	D	-	D	C	B	D	E	E
15:30	B	C	F	E	F	-	E	C	B	D	E	E
15:45	C	D	F	E	F	-	D	C	C	D	D	D
16:00	C	D	F	E	F	-	E	C	C	D	E	E
16:15	C	F	F	E	F	-	D	C	B	D	E	E
16:30	C	F	F	E	F	-	E	C	B	D	E	E
16:45	C	F	F	E	F	-	D	C	B	D	E	E
17:00	C	D	F	D	F	-	E	C	B	D	E	E
17:15	B	B	F	D	F	-	E	C	B	D	E	E
17:30	C	D	F	D	F	-	E	C	B	D	E	E
17:45	C	D	F	E	F	-	D	C	B	D	E	E
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
15:00	0.01	-	-	0.79	0.73	-	1.29	-	-	0.59	-	-
15:15	0.05	-	-	0.73	1.07	-	1.45	-	-	0.62	-	-
15:30	0.02	-	-	0.89	2.01	-	1.66	-	-	0.62	-	-
15:45	0.06	-	-	0.77	3.61	-	1.21	-	-	0.69	-	-
16:00	0.08	-	-	0.63	1.70	-	1.62	-	-	0.84	-	-
16:15	0.11	-	-	0.91	2.17	-	1.52	-	-	0.47	-	-
16:30	0.12	-	-	0.99	2.08	-	1.59	-	-	0.70	-	-
16:45	0.17	-	-	0.69	3.36	-	1.52	-	-	0.60	-	-
17:00	0.05	-	-	0.39	4.65	-	1.5	-	-	0.53	-	-
17:15	0.03	-	-	0.39	7.35	-	1.55	-	-	0.47	-	-
17:30	0.06	-	-	0.4	8.99	-	1.53	-	-	0.54	-	-
17:45	0.05	-	-	0.71	10.73	-	1.37	-	-	0.51	-	-

Table 16: 2023 Background Stop Control Intersections Analysis Summary

		AM				PM			
Scenario	Movement	v/c	Delay	LOS	95th Percentile Queue	v/c	Delay	LOS	95th Percentile Queue
Amole Mesa & Messina									
2023 Background	EBL/T	0.06	7.50	A	0.20	0.03	7.50	A	0.10
	SBL/T/R	0.09	10.20	B	0.30	0.14	9.90	A	0.50
Amole Mesa & 98th									
2023 Background	EBL	-	13.40	B	1.10	-	13.40	B	0.90
	EBT/R	-	10.10	B	0.30	-	10.40	B	0.30
	WBL/T/R	-	10.90	B	0.20	-	11.10	B	0.20
	NBL	-	10.40	B	0.30	-	11.30	B	0.60
	NBT	-	23.00	C	5.50	-	25.40	D	6.10
	NBR	-	8.80	A	0.10	-	8.90	A	0.10
	SBL	-	10.80	B	0.40	-	10.10	B	0.10
	SBT	-	12.20	B	1.30	-	13.70	B	1.90
	SBR	-	13.80	B	2.20	-	17.40	C	3.60
Colobel & 98th									
2023 Background	EBL/T/R	0.48	15.50	C	2.60	0.28	14.10	B	1.10
	NBL/T	0.06	8.70	A	0.20	0.12	9.00	A	0.40
Dennis Chavez & Condershire									
2023 Background	EBL/T/R	0.03	9.30	A	0.10	0.09	13.40	B	0.30
	WBL/T/R	0.01	13.30	B	0.00	0.02	10.00	A	0.10
	NBL/T/R	1.91	725.40	F	6.40	10.06	5032.30	F	11.10
	SBL/T/R	0.85	190.00	F	3.80	1.41	331.40	F	9.00

Table 17: 2023 Build-Out Signalized Intersections AM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	13.3	14.7	15	10	11.9	-	43.8	38.9	28.7	32.2	32.4	-
6:50	13.7	15.4	15.6	10.3	14.3	-	43.7	38.4	27.8	31.7	32.2	-
7:05	24.8	28.5	33.8	19.6	19.4	-	34	252.2	15.5	29.1	22.7	-
7:20	18.4	20.8	21.5	15.8	17.9	-	37.5	199.8	21.8	27.8	23.7	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	B	B	B	B	B	-	D	D	C	C	C	-
6:50	B	B	B	B	B	-	D	D	C	C	C	-
7:05	C	C	C	B	B	-	C	F	B	C	C	-
7:20	B	C	C	B	B	-	D	F	C	C	C	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.05	-	0.16	0.09	-	-	1.00	0.49	0.21	0.13	-	-
6:50	0.09	-	0.17	0.09	-	-	1.00	0.49	0.00	0.13	-	-
7:05	0.14	-	0.66	0.17	-	-	0.95	4.4	0.17	0.11	-	-
7:20	0.13	-	0.26	0.06	-	-	1.14	2.47	0.2	0.11	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	58.6	14.5	6.7	54.9	12.7	6.2	36.4	41.3	38.8	117.9	41.4	43.4
6:50	48.9	18.7	9.8	52.8	25.4	13.2	31.4	36.2	33.6	192.4	36.3	35.8
7:05	43.5	18.9	9.7	52.8	32.5	18.9	31.5	36.3	33.7	310.1	36.4	26.9
7:20	43.5	15.1	7.4	53.8	22.7	16.1	36.4	41.3	38.7	654.9	41.4	25.7
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	E	B	A	D	B	A	D	D	D	F	D	D
6:50	D	B	A	D	C	B	C	D	C	F	D	D
7:05	D	B	A	D	C	B	C	D	C	F	D	C
7:20	D	B	A	D	C	B	D	D	D	F	D	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.11	-	0.02	0.16	-	0.05	0.33	-	0.33	0.55	-	0.24
6:50	0.34	-	0.04	0.17	-	0.1	0.3	-	0.3	0.96	-	0.34
7:05	0.64	-	0.04	0.17	-	0.1	0.3	-	0.3	1.36	-	0.32
7:20	0.62	-	0.04	0.17	-	0.14	0.33	-	0.33	2.31	-	0.1
Dennis Chavez & Unser												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:00	0	24.2	17.9	17.3	14.1	10.1	26.4	29.5	43.4	436.6	26.4	0
6:15	18.8	27.9	17.9	20.3	19.5	14	26.4	29.5	43.4	760.6	26.4	24.4
6:30	18.6	29.7	17.9	22.5	20.3	15.1	26.4	29.5	43.3	862.6	26.4	24.7
6:45	19.2	33.6	18.1	27.4	23.2	16	26.5	29.6	42.5	790.2	26.5	24.9
7:00	18.4	18.6	11.2	19.9	22.6	14.4	25.7	28.7	45.5	120.9	25.7	25.4
7:15	19.9	41.5	18.5	27.4	25.2	18.7	26.1	29.2	39.8	286.3	26.1	22.6
7:30	19.3	45.9	18.5	27.6	23.4	17.6	26.1	29.2	39.9	443	26.1	23.3
7:45	19.6	35.2	18.7	27.7	24	19.8	25.8	28.9	40	607.6	25.9	23.2
8:00	19.3	30.1	17.9	23	21.3	15.3	26.4	29.5	43.4	735.1	26.4	25.1
8:15	19	30	18	23	22.6	16.2	26.4	29.5	43.2	670.4	26.4	24.6
8:30	20.9	31.7	19	24.5	26.1	18.5	25.3	28.4	46.2	503	25.4	22.7
8:45	19.3	32.4	19	25.2	23	18.9	25.3	28.4	48	240.7	25.4	0
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:00	A	C	B	B	B	B	C	C	D	F	C	A
6:15	B	C	B	C	B	B	C	C	D	F	C	C
6:30	B	C	B	C	C	B	C	C	D	F	C	C
6:45	B	C	B	C	C	B	C	C	D	F	C	C
7:00	B	B	B	B	C	B	C	C	D	F	C	C
7:15	B	D	B	C	C	B	C	C	D	F	C	C
7:30	B	D	B	C	C	B	C	C	D	F	C	C
7:45	B	D	B	C	C	B	C	C	D	F	C	C
8:00	B	C	B	C	C	B	C	C	D	F	C	C
8:15	B	C	B	C	C	B	C	C	D	F	C	C
8:30	C	C	B	C	C	B	C	C	D	F	C	C
8:45	B	C	B	C	C	B	C	C	D	F	C	A
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:00	0.00	-	0.01	0.13	-	0.02	0.08	-	1.50	1.70	-	0.00
6:15	0.01	-	0.01	0.13	-	0.02	0.08	-	1.50	2.79	-	0.05
6:30	0.02	-	0.01	0.13	-	0.04	0.08	-	1.50	3.20	-	0.13
6:45	0.04	-	0.01	0.14	-	0.04	0.08	-	1.49	2.93	-	0.27
7:00	0.07	-	0.01	0.10	-	0.03	0.08	-	1.56	0.75	-	0.43
7:15	0.12	-	0.02	0.23	-	0.09	0.08	-	1.48	1.35	-	0.13
7:30	0.06	-	0.02	0.23	-	0.09	0.08	-	1.48	1.80	-	0.10
7:45	0.05	-	0.02	0.26	-	0.13	0.08	-	1.50	2.50	-	0.13
8:00	0.01	-	0.01	0.13	-	0.05	0.08	-	1.5	2.72	-	0.13
8:15	0.03	-	0.01	0.13	-	0.05	0.08	-	1.5	2.49	-	0.19
8:30	0.07	-	0.01	0.14	-	0.07	0.07	-	1.7	2	-	0.22
8:45	0.07	-	0.01	0.14	-	0.08	0.07	-	1.76	1.08	-	0.00
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:00	9.2	11.5	12.4	59.8	9	-	2445.9	48	45.8	1812.4	49.7	49.9
6:15	12.1	15.9	17.5	58.4	12.2	-	1894.4	42.9	44.4	2093.9	42.2	42.2
6:30	11.9	18	21.4	55.4	11	-	2347.9	45.6	41.3	2109.4	46.2	46.4
6:45	15.4	23.4	28.8	54.3	15.7	-	1725.4	55.9	34.1	2051.8	40.7	40.9
7:00	12.9	34.1	29.6	53.8	13.7	-	654.3	47.7	38.4	121.3	54.6	56.9
7:15	14.3	31.5	34.5	54.8	17.1	-	1121	54.3	37.4	337.8	41.4	41.5
7:30	14.5	36.8	48	54.8	17.1	-	1901.2	54.3	37.7	1076.5	59.5	60.5
7:45	13.8	35.2	29.1	53	16.7	-	1992.8	50.9	35	1863.2	46.7	47.3
8:00	12.6	18	20.5	54.9	13	-	2455.3	45.6	38.1	2200.5	54.3	56
8:15	13.6	19.2	21.5	53.3	15.4	-	2642.1	45.6	37.8	2315.7	46.4	47
8:30	11.7	17.6	20.2	53.2	12.7	-	3573.4	47.7	38.5	2318.1	50	50.4
8:45	13.8	20	22.7	53.5	14.9	-	3630.9	51.8	35.7	2318.8	47.7	48.3
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:00	A	B	B	E	A	-	F	D	D	F	D	D
6:15	B	B	B	E	B	-	F	D	D	F	D	D
6:30	B	B	C	E	B	-	F	D	D	F	D	D
6:45	B	C	C	D	B	-	F	E	D	F	D	D
7:00	B	C	C	D	B	-	F	D	D	F	D	E
7:15	B	C	C	D	B	-	F	D	D	F	D	D
7:30	B	D	F	D	B	-	F	D	D	F	E	E
7:45	B	D	C	D	B	-	F	D	D	F	D	D
8:00	B	B	C	D	B	-	F	D	D	F	D	E
8:15	B	B	C	D	B	-	F	D	D	F	D	D
8:30	B	B	C	D	B	-	F	D	D	F	D	D
8:45	B	B	C	D	B	-	F	D	D	F	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:00	0.01	-	-	0.18	0.06	-	14.55	-	-	6.88	-	-
6:15	0.01	-	-	0.21	0.14	-	15.63	-	-	7.90	-	-
6:30	0.01	-	-	0.3	0.12	-	15.94	-	-	8.21	-	-
6:45	0.03	-	-	0.37	0.29	-	13.99	-	-	7.79	-	-
7:00	0.06	-	-	0.4	0.27	-	5.53	-	-	1.01	-	-
7:15	0.08	-	-	0.35	0.38	-	9.5	-	-	2.15	-	-
7:30	0.08	-	-	0.35	0.39	-	11.7	-	-	5.34	-	-
7:45	0.08	-	-	0.47	0.47	-	12.91	-	-	7.63	-	-
8:00	0.02	-	-	0.33	0.27	-	14.67	-	-	8.52	-	-
8:15	0.05	-	-	0.44	0.37	-	17.53	-	-	8.76	-	-
8:30	0.04	-	-	0.44	0.26	-	21.22	-	-	8.78	-	-
8:45	0.04	-	-	0.43	0.27	-	23.01	-	-	8.77	-	-

Table 18: 2023 Build-Out Signalized Intersections PM Analysis Summary

Dennis Chavez & 118th

Delay (veh/p)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	10.5	12.5	11.8	9.2	7	-	47.5	39.3	31.1	32.9	36.2	-
14:30	9.5	11	10.5	8.5	6.2	-	47.6	37.8	33.7	33.6	36.8	-
14:45	10.1	12	11.3	9.5	6.8	-	47.4	36.7	32.1	32.3	36	-
15:00	9.2	10.8	10.3	8.6	5.6	-	47.9	40.2	33.2	34.1	37.4	-

Level of Service (LOS)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	B	B	B	A	A	-	D	D	C	C	D	-
14:30	A	B	B	A	A	-	D	D	C	C	D	-
14:45	B	B	B	A	A	-	D	D	C	C	D	-
15:00	A	B	B	A	A	-	D	D	C	C	D	-

Queue Storage Ratio (QSR)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	0.11	-	0.07	0.04	-	-	0.59	0.44	0.08	0.13	-	-
14:30	0.08	-	0.06	0.03	-	-	0.63	0.16	0.1	0.15	-	-
14:45	0.12	-	0.05	0.03	-	-	0.61	0.19	0.1	0.15	-	-
15:00	0.1	-	0.05	0.03	-	-	0.55	0.39	0.06	0.14	-	-

Dennis Chavez & 98th

Delay (veh/p)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	84.4	12.5	13.4	54.5	9.6	4.8	38.7	45.3	36.4	50.8	0	43.2
14:25	58.3	10.7	10.2	56	11.7	5.8	36.7	43	35.2	38.3	42.9	37.9
14:40	55.5	11	11.5	55.5	10.3	5.5	39.8	46.6	37	40	0	37.7
14:55	79.7	12.9	13	55.8	8.9	4.8	38.6	44.7	35.1	47.9	42.9	41.1

Level of Service (LOS)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	F	B	B	D	A	A	D	D	D	D	A	D
14:25	E	B	B	E	B	A	D	D	D	D	D	D
14:40	E	B	B	E	B	A	D	D	D	D	A	D
14:55	E	B	B	E	A	A	D	D	D	D	D	D

Queue Storage Ratio (QSR)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	0.05	-	0.18	0.33	-	0.06	0.24	-	0.23	0.1	-	0.14
14:25	0.15	-	0.04	0.3	-	0.05	0.33	-	0.22	0.2	-	0.08
14:40	0.22	-	0.07	0.36	-	0.06	0.24	-	0.23	0.16	-	0.08
14:55	0.06	-	0.13	0.38	-	0.06	0.24	-	0.22	0.08	-	0.09

Dennis Chavez & Unser

Delay (veh/p)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
15:00	19.3	26.8	19.8	17	17.4	11.7	35.3	38.4	28.4	1050.5	35	30.4
15:15	19.9	27.9	19.8	18.6	17.8	10.8	35.3	38.4	28.4	1141.5	35	33.1
15:30	20.2	26.3	19.8	16.4	18.5	10.8	35.3	38.4	28.4	1210.3	35	32.6
15:45	20.3	28.1	19.8	18.8	19.6	12.1	35.3	38.4	28.4	1237.3	35	30.7
16:00	16.8	13.7	11.8	11.6	12.9	10	34.5	37.7	31	220.7	34.2	30.8
16:15	19.7	32.8	20	26.3	18.6	14.8	35.5	38.7	27.2	670.3	35.3	31
16:30	21.3	31.6	20	24.1	21	14.2	35.5	39.2	27.2	1082	35.2	30.7
16:45	20.4	33.2	20	26.8	19	13.4	35.5	38.7	27.2	1170.8	35.3	31.4
17:00	21.6	27.2	19.8	17.6	21.2	12.7	35.3	38.4	28.4	1213.7	35	31
17:15	21.6	28	19.8	18.7	20.9	11.7	35.3	38.4	28.4	1307.7	35	32.1
17:30	21.3	27.3	19.8	17.7	20.7	12.2	35.3	38.4	28.4	1570.6	35	30.7
17:45	19.7	28.2	19.8	18.9	19.4	13.4	35.3	38.4	28.4	1853.4	35	29.8

Level of Service (LOS)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
15:00	B	C	B	B	B	B	D	D	C	F	C	C
15:15	B	C	B	B	B	B	D	D	C	F	C	C
15:30	C	C	B	B	B	B	D	D	C	F	C	C
15:45	C	C	B	B	B	B	D	D	C	F	C	C
16:00	B	B	B	B	B	B	C	D	C	F	C	C
16:15	B	C	B	C	B	B	D	D	C	F	D	C
16:30	C	C	B	C	C	B	D	D	C	F	D	C
16:45	C	C	B	C	B	B	D	D	C	F	D	C
17:00	C	C	C	B	C	B	D	D	C	F	C	C
17:15	C	C	B	B	C	B	D	D	C	F	C	C
17:30	C	C	B	B	C	B	D	D	C	F	C	C
17:45	B	C	B	B	B	B	D	D	C	F	C	C

Queue Storage Ratio (QSR)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
15:00	0.05	-	0.04	0.39	-	0.07	0.06	-	0.87	2.78	-	0.10
15:15	0.02	-	0.04	0.39	-	0.07	0.06	-	0.87	3.01	-	0.24
15:30	0.02	-	0.04	0.39	-	0.07	0.06	-	0.87	3.19	-	0.19
15:45	0.05	-	0.04	0.39	-	0.09	0.06	-	0.87	3.27	-	0.12
16:00	0.05	-	0.02	0.25	-	0.06	0.06	-	0.91	0.90	-	0.14
16:15	0.08	-	0.07	0.53	-	0.14	0.06	-	0.84	2.11	-	0.12
16:30	0.07	-	0.07	0.55	-	0.14	0.06	-	0.84	2.76	-	0.07
16:45	0.04	-	0.07	0.53	-	0.12	0.06	-	0.84	3.14	-	0.06
17:00	0.04	-	0.04	0.39	-	0.14	0.06	-	0.87	3.20	-	0.13
17:15	0.03	-	0.04	0.39	-	0.10	0.06	-	0.87	3.55	-	0.18
17:30	0.03	-	0.04	0.39	-	0.12	0.06	-	0.87	4.23	-	0.05
17:45	0.07	-	0.04	0.39	-	0.14	0.06	-	0.87	4.93	-	0.10

Dennis Chavez & Coors

Delay (veh/p)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
15:00	0.5	0.8	160.2	60.9	24	-	47	31.9	19.6	50.4	54	55.7
15:15	28.8	39.3	185.9	60	41.6	-	51.8	34.3	19.6	50.2	55.6	57
15:30	17.9	22.3	1996.5	70.1	114.1	-	57	30.8	17.5	50.2	58.8	60.4
15:45	29.7	38.3	170.5	56.8	246	-	43.4	37.5	21.3	49.7	52	53
16:00	32.3	43.1	235.2	64.7	83.4	-	57.5	32.5	20.3	48.5	64	66
16:15	31.1	119.6	307.9	66.4	117.6	-	53.3	32.3	17.3	51.3	55.8	57.1
16:30	33.2	154.9	394.7	97.5	147.1	-	57.4	29.7	17.2	49.7	66.5	67.9
16:45	30.7	197.5	314.3	62.9	228.9	-	54.3	33.0	18.3	50.4	59.6	61.5
17:00	26.6	33.9	326.9	54.2	404.1	-	54.9	28.2	18.5	50.9	67.8	69.6
17:15	20.8	26.6	674.5	54.1	580.1	-	54.7	29.6	19.1	51.3	61.3	63.1
17:30	30.1	38.6	171	53.9	814.1	-	54.6	29.8	19	50.8	62.2	63.9
17:45	17.2	22.1	2547.8	57.1	837.1	-	48.5	34.5	18.7	51	54.7	56

Level of Service (LOS)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
15:00	A	A	F	E	C	-	D	C	B	D	D	E
15:15	C	D	F	E	D	-	D	C	B	D	D	E
15:30	B	B	F	E	F	-	E	C	B	D	D	E
15:45	C	D	F	E	F	-	D	C	C	D	D	D
16:00	C	D	F	E	F	-	E	C	C	D	E	E
16:15	C	F	F	E	F	-	D	C	B	D	E	E
16:30	C	F	F	F	F	-	E	C	B	D	E	E
16:45	C	F	F	E	F	-	D	C	B	D	E	E
17:00	C	C	F	D	F	-	D	C	B	D	E	E
17:15	C	C	F	D	F	-	D	C	B	D	E	E
17:30	C	D	F	D	F	-	D	C	B	D	E	E
17:45	B	C	F	E	F	-	D	C	B	D	D	E

Queue Storage Ratio (QSR)

Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
15:00	0.00	-	-	0.79	0.72	-	1.29	-	-	0.59	-	-
15:15	0.05	-	-	0.73	1.11	-	1.45	-	-	0.62	-	-
15:30	0.02	-	-	0.89	2.01	-	1.66	-	-	0.62	-	-
15:45	0.06	-	-	0.77	3.6	-	1.21	-	-	0.69	-	-
16:00	0.08	-	-	0.63	1.7	-	1.62	-	-	0.84	-	-
16:15	0.11	-	-	0.91	2.17	-	1.52	-	-	0.47	-	-
16:30	0.12	-	-	0.99	2.08	-	1.59	-	-	0.70	-	-
16:45	0.17	-	-	0.69	3.36	-	1.52	-	-	0.60	-	-
17:00	0.04	-	-	0.38	4.52	-	1.46	-	-	0.52	-	-
17:15	0.04	-	-	0.38	6.54	-	1.51	-	-	0.46	-	-
17:30	0.06	-	-	0.4	8.35	-	1.49	-	-	0.53	-	-
17:45	0.03	-	-	0.69	9.82	-	1.34	-	-	0.50	-	-

Table 19: 2023 Build-Out Stop Control Intersections *Analysis Summary*

Amole Mesa & Messina									
		AM				PM			
Scenario	Movement	v/c	Delay	LOS	95th Percentile Queue	v/c	Delay	LOS	95th Percentile Queue
2023 Build-Out	EBL/T	0.08	7.60	A	0.30	0.04	7.60	A	0.10
	SBL/T/R	0.11	10.80	B	0.40	0.20	10.50	B	0.70
Amole Mesa & 98th									
2023 Build-Out	EBL	-	14.40	B	1.30	-	14.40	B	1.10
	EBT/R	-	10.40	B	0.40	-	10.90	B	0.30
	WBL/T/R	-	11.20	B	0.20	-	11.60	B	0.20
	NBL	-	10.70	B	0.30	-	11.80	B	0.70
	NBT	-	28.10	D	6.80	-	31.30	D	7.40
	NBR	-	9.00	A	0.10	-	9.20	A	0.10
	SBL	-	11.10	B	0.40	-	10.70	B	0.30
	SBT	-	12.90	B	1.40	-	14.90	B	2.30
	SBR	-	14.80	B	2.40	-	19.70	C	4.30
Colobel & 98th									
2023 Build-Out	EBL/T/R	0.55	17.20	C	3.40	0.34	15.40	C	1.50
	NBL/T	0.06	8.80	A	0.20	0.14	9.20	A	0.50
Dennis Chavez & Condershire									
2023 Build-Out	EBL/T/R	0.03	9.30	A	0.10	0.10	13.80	B	0.30
	WBL/T/R	0.02	13.60	B	0.00	0.02	10.10	B	0.10
	NBL/T/R	2.25	908.80	F	6.90	14.04	7147.00	F	11.60
	SBL/T/R	0.97	240.10	F	4.30	1.58	409.20	F	9.80

From the tables above, the following is summarized:

- Dennis Chavez Blvd & 118th St
    - Capacity Analysis:
        - Under background conditions, the intersection is expected to operate at a level of service of F during one multi-peak period in the AM peak hour. For the PM peak hour, similar to the 2020 background conditions, the intersection is expected to operate at an acceptable level of service. Failing individual movements in the AM peak hour were observed to include the northbound through movement for three multi-peak periods.
        - Under build conditions, the intersection and worst-case movements are expected to operate at LOS F for one multi-peak period in the AM. In the PM, the intersections are expected to operate at acceptable an acceptable level of

service. Failing individual movement is observed to be northbound through movement for two multi-peak periods. Traffic count data is only available from 15:00 to 18:00 hours.

- Queue Analysis:
  - Background queue conditions: QSR is overcapacity is observed to be over capacity for one multi-peak period in the AM for northbound left storage and three multi-peak periods for northbound through storage in the AM. For the PM peak hour, similar to the 2020 background conditions, the intersection is expected to operate at an acceptable level of service.
  - Under build conditions, QSR is overcapacity is observed to be over capacity for three multi-peak periods in the AM for northbound left storage and two multi-peak periods for northbound through storage in the AM. For the PM peak hour, similar to the 2023 background conditions, the intersection is expected to operate at an acceptable level of service.

- Dennis Chavez & 98th St
  - Capacity Analysis:
    - Under background conditions, the intersection is expected to operate at a level of service of F during one multi-peak period and level of service of E during one multi-peak period in the AM peak hour. For the PM peak hour, similar to the 2023 background conditions, the intersection is expected to operate at an acceptable level of service. Failing individual movements in the AM peak hour were observed to be the southbound left movement for 4 multi-peak periods at LOS F, the westbound left movement for one multi-peak period at LOS E, and LOS E for eastbound left for one multi-peak period. Failing individual movements in the PM peak hour were observed to be the eastbound left movement for two multi-peak periods at LOS E and two multi-peak periods at LOS F, and the westbound left movement for three multi-peak periods at LOS E.
    - Under build conditions, the intersection is expected to operate at a level of service of F during two multi-peak periods and LOS E during one multi-peak period in the AM peak hour. For the PM peak hour, similar to the 2023 background conditions, the intersection is expected to operate at an acceptable level of service. Failing individual movements in the AM peak hour were observed to be the southbound left movement for 4 multi-peak periods at LOS F, and LOS E for eastbound left for one multi-peak period. Failing individual movements in the PM peak hour were observed to be the eastbound left movement for three multi-peak periods at LOS E and one multi-peak period at LOS F, and the westbound left movement for three multi-peak periods at LOS E.
  - Queue Analysis:
    - Background queue conditions: QSR is overcapacity is observed to be over capacity for one multi-peak period in the AM for southbound left storage. QSR during the PM peaks is observed to be acceptable by existing storage lengths.
    - Under build conditions, QSR is overcapacity is observed to be over capacity for two multi-peak periods in the AM for southbound left storage. QSR during the PM peaks is observed to be acceptable by existing storage lengths.

- Dennis Chavez Blvd & Unser Blvd
  - Capacity Analysis:
    - Under background conditions, the intersection is expected to operate at a level of service of F during two multi-peak periods in the AM and level of service of E

during two multi-peak periods in the AM. For the PM peak hour, the intersection is expected to operate at a level of service of F during three multi-peak periods in the PM and level of service of E during one multi-peak period in the PM. Worst case movements in the AM peak hour are expected to include the southbound left with LOS F for 12 multi-peak periods. Traffic count data is collected from 06:00 to 09:00 hours. Worst case movements in the PM peak hour are expected to include the southbound left movement with LOS F for 12 multi-peak periods. Traffic count data is collected from 15:00 to 18:00 hours.

        - Under build conditions, the intersection is expected to operate at a level of service of F during three multi-peak periods in the AM. The worst-case movements are expected to operate at similar levels of service to background conditions with no major degradations in levels of service for AM peak hour. The intersection and worst-case movements are expected to operate at similar levels of service to background conditions with no major degradations in levels of service for PM peak hour.
    - Queue Analysis:
        - Background queue conditions: QSR is overcapacity is observed to be over capacity for 12 multi-peak periods in the AM for northbound right storage and 11 multi-peak periods for southbound left storage in the AM. In the PM, QSR is over capacity for 11 multi-peak periods for southbound left storage.
        - Under build conditions, Queue Storage Ratio is expected to see similar queueing conditions as under background conditions.
- Dennis Chavez Blvd & Coors Blvd
    - Capacity Analysis:
        - Background conditions: The intersection as a whole is expected to operate at LOS E for two multi-peak periods and LOS F in two multi-peak periods in the AM peak hours. For the PM peak hour, the intersection is expected to operate at a level of service of F during three multi-peak periods in the PM and level of service of E during one multi-peak period. Worst case movements in the AM peak hour are expected to include *the eastbound right movement*, LOS F for 12 multi-peak periods, *eastbound through movement*, LOS F for 4 multi-peak periods, *westbound left movement*, LOS E for three multi-peak periods, and *northbound left movement*, LOS F for one multi-peak period and LOS E for one multi-peak period. Traffic count data is collected from 06:00 to 09:00 hours. Worst case movements in the PM peak hour are expected to include *the eastbound right movement*, LOS F for 12 multi-peak periods, *eastbound through movement*, LOS F for three multi-peak periods, *westbound left movemen*t, LOS E for 9 multi-peak periods, *westbound through movement*, LOS F for 10 multi-peak periods, *southbound through movement*, LOS E for 10 multi-peak periods, *southbound right movement*, LOS E for 11 multi-peak periods, and *northbound left movement*, LOS F for one multi-peak period and LOS E for one multi-peak period.

        - Under build conditions, the intersection is expected to remain to fail with the level of service E and F in both the AM and PM peak hours. Worst case movements in the AM peak hour are expected to include *the eastbound right movement*, LOS F for one multi-peak period, *westbound left movement*, LOS E for three multi-peak periods, southbound left movement, LOS F for 12 multi-peak periods, southbound right movement, LOS E for three multi-peak periods, and

northbound left movement, LOS F for 12 multi-peaks. Traffic count data is collected from 06:00 to 09:00 hours. Worst case movements in the PM peak hour are expected to include *the eastbound right movement*, LOS F for 12 multi-peak periods, *eastbound through movement*, LOS F for three multi-peak periods, *westbound left movemen*t, LOS E for 8 multi-peak periods, and LOS F for one multi-peak period, *westbound through movement*, LOS F for 10 multi-peak periods, *southbound through movement*, LOS E for 7 multi-peak periods, *southbound right movement*, LOS E for 11 multi-peak periods, and *northbound left movement*, LOS E for three multi-peak periods.

- Queue Analysis:
  - Background queue conditions: QSR is observed to be over capacity for 8 multi-peak periods in the AM for northbound left storage and one multi-peak period in the southbound left storage. QSR in the PM is observed to be over capacity for 12 multi-peak periods for northbound left storage and 11 multi-peak periods in the westbound through storage.
  - Under build conditions, QSR is observed to be over capacity for 12 multi-peak periods in the AM for northbound left storage and 12 multi-peak periods in the southbound left storage. Queue Storage Ratio in the PM is expected to see similar queueing conditions as under background conditions.

- Amole Mesa Ave & Messina Dr
  - Capacity Analysis:
    - Background conditions: The intersection as a whole is expected to operate at an acceptable level of service with all movements operating at a LOS B or better in both the AM and PM peak hours.
    - Under build conditions, the intersection is expected to remain at an acceptable level of service with all movements operating at a LOS B or better in both the AM and PM peak hours.
  - Queue Analysis:
    - Background queue conditions: Queue Storage Ratio are expected to be accommodated existing storage lengths under both background and build conditions.
    - Under build conditions, Queue Storage Ratio is expected to see similar queueing conditions as under background conditions.
- Amole Mesa Ave & 98th St
  - Capacity Analysis:
    - Background conditions: The intersection as a whole is expected to operate at an acceptable level of service with all movement operating at a LOS D or better in both the AM and PM peak hours.
    - Under build conditions, the intersection and worst-case movements are expected to operate at similar levels of service with no change in levels of service.
  - Queue Analysis:
    - Background queue conditions: No queueing issues are expected for movements affected by the development.
    - Under build conditions, Queue Storage Ratio is expected to see similar queueing conditions as under background conditions.
- Colobel Ave & 98th St
  - Capacity Analysis:

        - Background conditions: The intersection as a whole is expected to operate at an acceptable level of service with all movement operating at a LOS C or better in both the AM and PM peak hours.
        - Under build conditions, the intersection and worst-case movements are expected to operate at similar levels of service with no change in levels of service.
    - Queue Analysis:
        - Background queue conditions: No queueing issues are expected under background or build conditions for the AM and PM peak hours under background conditions.
        - Under build conditions, the northbound right turn Queue Storage Ratio is expected to exceed existing storage capacities in the PM peak hour.
- Dennis Chavez Blvd & Condershire Dr
    - Capacity Analysis:
        - Background conditions: Similiar to background 2020, the intersection is operating at the level of service F for all movement in the northbound and southbound approaches.
        - Under build conditions, the intersection and worst-case movements are expected to operate at similar levels of service, LOS F, for all northbound and southbound movements.
    - Queue Analysis:
        - Background queue conditions: No queueing issues are expected under background or build conditions for the AM and PM peak hours under background conditions.
        - Under build conditions, Queue Storage Ratio is expected to be accommodated by existing storage lengths under both background and build conditions.

2025 Conditions

Table 20 provides an overall summary of the LOS and delays for each signalized intersection. Capacity analysis performed for 2025 conditions follows from Table 21 through Table 26. HCS models are included in the appendix. A summary of deficiencies by analysis scenario is provided on page 80. Recommended improvements are provided on page 91.

Table 20: 2025 Overall Intersection Conditions

Dennis Chavez & 98th											
2025 AM Background			2025 PM Background			2025 AM Build-Out			2025 PM Build-Out		
Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS
6:35	52.3	D	14:10	33.1	C	6:35	54.4	D	14:10	31.7	C
6:50	33.6	C	14:25	33.1	C	6:50	40.3	D	14:25	32.2	C
7:05	48.2	D	14:40	33	C	7:05	59.3	E	14:40	32.3	C
7:20	214.1	F	14:55	34.2	C	7:20	183.5	F	14:55	32.8	C
Dennis Chavez & Unser											
2025 AM Background			2025 PM Background			2025 AM Build-Out			2025 PM Build-Out		
Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS
7:00	50.1	D	16:00	55	E	7:00	50	D	16:00	56.1	E
7:15	101.9	F	16:15	145.8	F	7:15	102.2	F	16:15	129.7	F
7:30	136.4	F	16:30	162.2	F	7:30	135.1	F	16:30	168.9	F
7:45	198.2	F	16:45	172.3	F	7:45	191.7	F	16:45	179.1	F
Dennis Chavez & Coors											
2025 AM Background			2025 PM Background			2025 AM Build-Out			2025 PM Build-Out		
Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS
7:00	62.7	E	16:00	98.6	F	7:00	70.2	E	16:00	103.8	F
7:15	57.8	E	16:15	144	F	7:15	73	E	16:15	158.1	F
7:30	85.7	F	16:30	185.4	F	7:30	103.8	F	16:30	211	F
7:45	106.4	F	16:45	211.4	F	7:45	139.2	F	16:45	253.2	F

Table 21: 2025 Background Signalized Intersections AM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0	15.6	15.9	10.3	9.3	-	43.1	38	26.2	31.7	31.8	-
6:50	27.4	29.4	33	20.3	16.2	-	29.1	188.1	13.4	28.9	21.4	-
7:05	30.1	33.6	40.4	20.8	19.4	-	34.9	625.3	11.5	28.9	22.6	-
7:20	19.8	21.7	22.4	16.8	19.1	-	37.3	624.3	19.9	28.9	22.2	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	A	B	B	B	A	-	D	D	C	C	C	-
6:50	C	C	C	C	B	-	C	F	B	C	C	-
7:05	C	C	D	C	B	-	C	F	B	C	C	-
7:20	B	C	C	B	B	-	D	F	B	C	C	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.00	-	0.14	0.10	-	-	1.07	0.52	0.20	0.04	-	-
6:50	0.05	-	0.44	0.20	-	-	0.89	3.51	0.16	0.03	-	-
7:05	0.07	-	0.65	0.23	-	-	1.04	8.72	0.15	0.03	-	-
7:20	0.07	-	0.23	0.06	-	-	1.26	6.96	0.20	0.03	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	53.3	14.4	6.9	55.9	13.6	6.6	38.7	43.2	39.8	148.3	43.3	45
6:50	52.3	18.4	10.3	54.9	18.4	8.9	32.2	36.6	34.5	55.1	36.6	40.5
7:05	55.7	18.9	10.5	56.3	15.4	7.2	29.8	34.1	32.3	98.1	34.2	39.2
7:20	43.9	11.7	5.6	54	18.3	12.7	43.7	47.4	45.2	581.9	47.5	31
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	D	B	A	E	B	A	D	D	D	F	D	D
6:50	D	B	B	D	B	A	C	D	C	E	D	D
7:05	E	B	B	E	B	A	C	C	C	F	C	D
7:20	D	B	A	D	B	B	D	D	D	F	D	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.07	-	0.01	0.21	-	0.06	0.34	-	0.35	0.61	-	0.23
6:50	0.16	-	0.02	0.12	-	0.05	0.30	-	0.29	0.34	-	0.34
7:05	0.22	-	0.01	0.10	-	0.02	0.29	-	0.26	0.64	-	0.38
7:20	0.59	-	0.03	0.17	-	0.11	0.37	-	0.38	1.80	-	0.10
Dennis Chavez & Unser												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	20.4	19.5	14.8	20.1	25.1	23.2	25.3	28.4	50.7	124.2	25.4	25.2
7:15	20.2	38	21.3	28	25.9	25	25.8	28.9	39.4	300.4	25.9	22.3
7:30	19.7	52.2	21.3	29.1	23.5	23.3	25.8	28.9	39.6	468.4	25.9	23.4
7:45	19.6	39.8	21.3	28.3	23.4	26.4	25.8	28.9	39.8	642.1	25.9	23.5
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	C	B	B	C	C	C	C	C	D	F	C	C
7:15	C	D	C	C	C	C	C	C	D	F	C	C
7:30	C	D	C	C	C	C	C	C	D	F	C	C
7:45	C	C	C	C	C	C	C	C	D	F	C	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	0.07	-	0.01	0.19	-	0.07	0.08	-	1.8	0.78	-	0.45
7:15	0.12	-	0.02	0.27	-	0.12	0.08	-	1.49	1.39	-	0.11
7:30	0.04	-	0.02	0.27	-	0.11	0.08	-	1.5	1.85	-	0.08
7:45	0.04	-	0.02	0.27	-	0.15	0.08	-	1.5	2.49	-	0.11
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	20.1	78.4	84.5	53.6	21.2	-	106	36	29.2	50	48.2	49.3
7:15	18	85.5	76.2	54.4	20.8	-	81.1	44.8	35.7	48.5	47.8	48.2
7:30	21.3	167.1	166.3	54.5	24.7	-	37.1	47.6	36.3	53.7	42.4	42.6
7:45	17.6	235.8	229.9	52.7	20.8	-	35.6	46.4	34.3	49.1	44.6	44.8
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	C	F	F	D	C	A	F	D	C	D	D	D
7:15	B	F	E	D	C	A	F	D	D	D	D	D
7:30	C	F	F	D	C	A	D	D	D	D	D	D
7:45	B	F	F	D	C	A	D	D	C	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	0.07	-	-	0.42	0.37	-	2.65	-	-	0.66	-	-
7:15	0.07	-	-	0.36	0.42	-	2.09	-	-	0.89	-	-
7:30	0.06	-	-	0.36	0.48	-	1.11	-	-	1.28	-	-
7:45	0.07	-	-	0.49	0.54	-	0.93	-	-	0.94	-	-

Table 22: 2025 Background Signalized Intersections PM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	11.5	13.1	12.4	9.1	10.6	-	37.5	31.1	22.7	25.9	28.3	-
14:30	9.6	10.8	10.2	7.9	9.7	-	36.2	28.8	25	25.9	28.1	-
14:45	11.2	12.8	12	9.3	11	-	38	28.2	23.8	25.1	28.2	-
15:00	9.3	10.6	10	7.7	9	-	36.5	31.6	24.9	26.7	28.7	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	B	B	B	A	B	-	D	C	C	C	C	-
14:30	A	B	B	A	A	-	D	C	C	C	C	-
14:45	B	B	B	A	B	-	D	C	C	C	C	-
15:00	A	B	A	A	A	-	D	C	C	C	C	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	0.06	-	0.04	0.04	-	-	0.46	0.39	0.03	0.03	-	-
14:30	0.04	-	0.03	0.02	-	-	0.47	0.1	0.06	0.03	-	-
14:45	0.07	-	0.03	0.03	-	-	0.5	0.14	0.07	0.03	-	-
15:00	0.05	-	0.02	0.02	-	-	0.39	0.32	0.02	0.03	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	84.4	12.4	9.2	54.2	8.5	4.2	38.6	44.7	36.9	50.1	42.9	43
14:25	61.2	12.1	8.7	55.3	9	4	38.6	44.7	37.6	41.5	42.9	39
14:40	56.6	12.9	9.5	55.5	9.1	4.7	38.6	44.7	35.9	38.3	42.9	37.3
14:55	84	12.9	9.7	55.4	7.4	3.9	38.6	44.7	35.9	49	42.9	41.4
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	F	B	A	D	A	A	D	D	D	D	D	D
14:25	E	B	A	E	A	A	D	D	D	D	D	D
14:40	E	B	A	E	A	A	D	D	D	D	D	D
14:55	F	B	A	E	A	A	D	D	D	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	0.04	-	0.05	0.34	-	0.05	0.24	-	0.38	0.1	-	0.14
14:25	0.11	-	0.02	0.32	-	0.04	0.24	-	0.38	0.21	-	0.08
14:40	0.17	-	0.03	0.39	-	0.06	0.24	-	0.37	0.16	-	0.08
14:55	0.04	-	0.04	0.4	-	0.05	0.24	-	0.38	0.09	-	0.09
Dennis Chavez & Unser												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	18.1	15.8	12.8	15.7	22.7	19.8	32.4	35.5	31.3	181.9	31.3	27.8
16:15	20.4	30.4	20	21.7	20.8	16.5	33.3	36.4	28.2	538.6	32.2	28.2
16:30	22.9	29.4	20.1	22.6	23.8	16.5	33.1	36.2	28.4	798.7	32	27.9
16:45	21.4	30.9	20	21.6	21.4	14.9	33.2	36.3	28.2	839.4	32.1	28.5
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	B	B	B	B	C	B	C	D	C	F	C	C
16:15	C	C	C	C	C	B	C	D	C	F	C	C
16:30	C	C	C	C	C	B	C	D	C	F	C	C
16:45	C	C	C	C	C	B	C	D	C	F	C	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.06	-	0.03	0.33	-	0.12	0.06	-	1.02	0.85	-	0.14
16:15	0.08	-	0.07	0.47	-	0.16	0.06	-	0.96	1.95	-	0.11
16:30	0.07	-	0.07	0.54	-	0.17	0.06	-	0.97	2.44	-	0.08
16:45	0.04	-	0.07	0.47	-	0.14	0.06	-	0.96	2.57	-	0.06
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	33	47.5	349.4	68	107	0	58.2	32	19.9	48.4	67	69.1
16:15	32.3	218.5	528.5	69.9	173.6	0	53.8	31.8	16.6	51.2	57.1	58.4
16:30	34.2	322.4	728.2	110.9	212.8	0	60.2	29.8	17.3	49.6	79.9	81.6
16:45	33.3	573.6	758.4	66.5	314.5	0	54.9	32.5	16.7	50.2	61.6	63.6
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	C	D	F	E	F	A	E	C	B	D	E	E
16:15	C	F	F	E	F	A	D	C	B	D	E	E
16:30	C	F	F	F	F	A	E	C	B	D	E	F
16:45	C	F	F	E	F	A	D	C	B	D	E	E
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.10	-	-	0.65	1.96	-	1.67	-	-	0.86	-	-
16:15	0.09	-	-	0.96	2.75	-	1.56	-	-	0.48	-	-
16:30	0.09	-	-	1.07	2.70	-	1.68	-	-	0.71	-	-
16:45	0.17	-	-	0.72	4.14	-	1.56	-	-	0.62	-	-

Table 23: 2025 Background Stop Control Intersections Analysis Summary

Amole Mesa & Messina									
		AM				PM			
Scenario	Movement	v/c	Delay	LOS	95th Percentile Queue	v/c	Delay	LOS	95th Percentile Queue
2025 Background	EBL/T	0.08	7.60	A	0.30	0.04	7.60	A	0.10
	SBL/T/R	0.11	10.90	B	0.40	0.20	10.50	B	0.70
Amole Mesa & 98th									
2025 Background	EBL	-	14.80	B	1.40	-	14.70	B	1.20
	EBT/R	-	10.60	B	0.40	-	0.30	B	0.30
	WBL/T/R	-	11.40	B	0.20	-	0.20	B	0.20
	NBL	-	10.80	B	0.30	-	0.70	B	0.70
	NBT	-	30.30	D	7.30	-	8.00	D	8.00
	NBR	-	9.10	A	0.10	-	0.10	A	0.10
	SBL	-	11.20	B	0.40	-	0.10	B	0.10
	SBT	-	13.20	B	1.50	-	2.30	C	2.40
	SBR	-	15.50	C	2.60	-	2.30	C	5.10
Colobel & 98th									
2025 Background	EBL/T	0.08	7.60	A	0.30	0.04	7.60	A	0.10
	SBL/T/R	0.11	10.90	B	0.40	0.20	10.50	B	0.70
Dennis Chavez & Condershire									
2025 Background	EBL/T/R	0.03	9.40	A	0.10	0.10	14.10	B	0.30
	WBL/T/R	0.02	13.90	B	0.00	0.02	10.20	B	0.10
	NBL/T/R	2.83	1202.90	F	7.80	24.17	12438.50	F	12.70
	SBL/T/R	1.21	348.00	F	5.10	1.81	511.30	F	11.20

Table 24: 2025 Build-Out Signalized Intersections AM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	16.7	17.9	18.3	12.2	12.7	-	43.1	36.2	24.6	29.5	29.7	-
6:50	26.5	29	29.9	20.1	16.6	-	32.2	209.2	14.3	29	22	-
7:05	29.9	34.9	43.5	21.1	20.7	-	38.6	689.4	11.5	28.9	23	-
7:20	19.4	21.9	22.5	16.8	19.8	-	41.8	730.2	20.6	29	22.5	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	B	B	B	B	B	-	D	D	C	C	C	-
6:50	C	C	C	C	B	-	C	F	B	C	C	-
7:05	C	C	D	C	C	-	D	F	B	C	C	-
7:20	B	C	C	B	B	-	D	F	C	C	C	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.01	-	0.10	0.06	-	-	0.69	0.32	0.12	0.07	-	-
6:50	0.07	-	0.12	0.12	-	-	0.60	2.54	0.10	0.04	-	-
7:05	0.09	-	0.44	0.15	-	-	0.71	7.15	0.08	0.03	-	-
7:20	0.07	-	0.14	0.03	-	-	0.89	7.50	0.12	0.04	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	61.6	15	7.1	55.1	13.9	6.6	123.5	41.3	37.9	133.6	41.4	43.4
6:50	53	19.3	10.9	55.1	17.4	8.2	123.5	35.6	33.6	49.9	35.7	40.9
7:05	54.9	19.2	10.9	56.2	15.8	7.4	123.5	34.6	32.8	116.7	34.6	37.7
7:20	43.7	15	7.3	54	22.4	15.7	123.5	41.3	38.8	476.2	41.4	25.8
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	E	B	A	E	B	A	F	D	D	F	D	D
6:50	D	B	B	E	B	A	F	D	C	D	D	D
7:05	D	B	B	E	B	A	F	C	C	F	C	D
7:20	D	B	A	D	C	B	F	D	D	F	D	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.05	-	0.01	0.12	-	0.04	0.39	-	0.19	0.38	-	0.12
6:50	0.10	-	0.01	0.06	-	0.02	0.39	-	0.16	0.13	-	0.23
7:05	0.14	-	0.01	0.05	-	0.01	0.39	-	0.16	0.47	-	0.24
7:20	0.38	-	0.02	0.09	-	0.08	0.39	-	0.19	1.29	-	0.05
Dennis Chavez & Unser												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	20.8	21.4	13.3	20.8	30.9	17.1	25.5	28.6	42.6	126.9	25.5	25.1
7:15	20.2	38.7	18.7	28	25.9	19.1	25.8	28.9	39.4	305.6	25.9	22.3
7:30	20	53.4	19	28.9	24.1	18.2	25.5	28.5	40	464	25.5	22.9
7:45	20	35.4	19	28	24.2	20.2	25.5	28.5	40.1	636.2	25.5	23.1
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	C	C	B	C	C	B	C	C	D	F	C	C
7:15	C	D	B	C	C	B	C	C	D	F	C	C
7:30	C	D	B	C	C	B	C	C	D	F	C	C
7:45	B	D	B	C	C	C	C	C	D	F	C	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	0.04	-	0.01	0.11	-	0.03	0.04	-	1.06	0.56	-	0.23
7:15	0.06	-	0.01	0.15	-	0.06	0.04	-	1.01	1.16	-	0.05
7:30	0.02	-	0.01	0.15	-	0.06	0.04	-	1.04	1.73	-	0.04
7:45	0.03	-	0.01	0.15	-	0.09	0.04	-	1.04	2.32	-	0.06
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	19.7	93.7	106.6	53.6	21.3	-	106	36	29.2	50	48.2	49.3
7:15	18	127.7	119.2	54.4	20.8	-	81	44.8	35.9	48.5	47.8	48.1
7:30	21.3	216.2	217.9	54.5	24.7	-	37.6	47.6	36.3	53.7	43	43.3
7:45	18.3	313.9	321.3	51.9	20.8	-	35.9	46.3	33.7	49.1	45.7	45.9
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	B	F	F	D	C	A	F	D	C	D	D	D
7:15	B	F	F	D	C	A	F	D	D	D	D	D
7:30	C	F	F	D	C	A	D	D	D	D	D	D
7:45	B	F	F	D	C	A	D	D	C	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	0.04	-	-	0.23	0.2	-	1.81	-	-	0.37	-	-
7:15	0.04	-	-	0.2	0.24	-	1.53	-	-	0.52	-	-
7:30	0.04	-	-	0.2	0.28	-	0.68	-	-	0.81	-	-
7:45	0.05	-	-	0.31	0.33	-	0.6	-	-	0.55	-	-

Table 25: 2025 Build-Out Signalized Intersections PM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	12.3	14.3	13.3	10.2	10.7	-	47	36.9	27.7	30.8	34.6	-
14:30	9.4	11.6	11	10.3	12.6	-	47.2	36	31.8	32.4	36	-
14:45	12.4	14.4	13.5	10.9	10.6	-	46.7	32.6	27.9	28.9	33.6	-
15:00	9.8	11.1	10.6	8.5	8.4	-	48	39.5	31.6	33.5	37.2	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	B	B	B	B	B	-	D	C	C	C	C	-
14:30	A	B	B	B	B	-	D	D	C	C	D	-
14:45	B	B	B	B	B	-	D	C	C	C	C	-
15:00	A	B	B	A	A	-	D	D	C	C	D	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	0.09	-	0.04	0.05	-	-	0.63	0.48	0.07	0.07	-	-
14:30	0.48	-	0.04	0.03	-	-	0.65	0.15	0.09	0.09	-	-
14:45	0.11	-	0.04	0.04	-	-	0.67	0.19	0.1	0.09	-	-
15:00	0.08	-	0.04	0.03	-	-	0.53	0.42	0.03	0.08	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	79.4	14.7	8.3	54.4	9.6	4.7	37.1	43	34.1	45.1	41.2	40.7
14:25	59	16	8.8	55.5	10.1	4.5	37.1	43	36.1	38.8	41.2	36.8
14:40	55.7	15.6	8.4	55.7	10.6	5.3	37.1	43	34.3	36.7	41.2	34.8
14:55	84.8	13.4	7.4	55.2	8.7	4.4	37.1	43	34.3	44.3	41.2	39.8
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	E	B	A	D	A	A	D	D	C	D	D	D
14:25	E	B	A	E	B	A	D	D	D	D	D	D
14:40	E	B	A	E	B	A	D	D	C	D	D	C
14:55	F	B	A	E	A	A	D	D	C	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	0.06	-	0.05	0.34	-	0.06	0.23	-	0.19	0.08	-	0.14
14:25	0.13	-	0.03	0.32	-	0.04	0.23	-	0.38	0.20	-	0.07
14:40	0.20	-	0.03	0.40	-	0.06	0.23	-	0.35	0.16	-	0.07
14:55	0.05	-	0.03	0.40	-	0.06	0.23	-	0.37	0.07	-	0.09
Dennis Chavez & Unser												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	17.9	15.7	13.2	15.3	22.1	19	32.5	35.6	31.5	183.9	31.4	28
16:15	20.6	30.6	20.1	21.8	21.1	16.9	34	36.2	28.3	536.6	37.4	28.1
16:30	22.9	29.4	19.7	22.4	23.7	16	33.2	36.3	28.3	809	32.1	27.9
16:45	21.6	31.1	19.7	21.2	21.9	15.3	33.3	36.4	28.2	867.4	32.2	28.6
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	B	B	B	B	C	B	C	D	C	F	C	C
16:15	C	C	C	C	C	B	C	D	C	F	D	C
16:30	C	C	B	C	C	B	C	D	C	F	C	C
16:45	C	C	B	C	C	B	C	D	C	F	C	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.06	-	0.02	0.32	-	0.11	0.06	-	1.01	0.85	-	0.14
16:15	0.09	-	0.07	0.47	-	0.17	0.06	-	0.97	1.95	-	0.13
16:30	0.08	-	0.02	0.52	-	0.15	0.06	-	0.96	2.47	-	0.09
16:45	0.05	-	0.02	0.46	-	0.14	0.06	-	0.96	2.64	-	0.09
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	33.4	48.2	373.6	67.4	116.4	-	60.4	32.2	20	48.4	66.4	68.4
16:15	32.7	255.8	579.9	69.6	201.6	-	54.8	31.9	16.6	51.2	57	58.2
16:30	34.4	413.6	801.2	120.8	289	-	63.9	30	17.4	49.5	79.2	80.6
16:45	33.6	685	849.5	74.6	454.4	-	56.2	32.3	16.5	50.1	62.6	64.4
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	C	D	F	E	F	A	E	C	C	D	E	E
16:15	C	F	F	E	F	A	D	C	B	D	E	E
16:30	C	F	F	F	F	A	E	C	B	D	E	F
16:45	C	F	F	E	F	A	E	C	B	D	E	E
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.10	-	-	0.65	2.04	-	1.70	-	-	0.86	-	-
16:15	0.09	-	-	0.95	3.00	-	1.58	-	-	0.48	-	-
16:30	0.10	-	-	1.14	3.25	-	1.73	-	-	0.73	-	-
16:45	0.20	-	-	0.84	5.22	-	1.57	-	-	0.64	-	-

Table 26: 2025 Build-Out Stop Control Intersections Analysis Summary

Amole Mesa & Messina									
		AM				PM			
Scenario	Movement	v/c	Delay	LOS	95th Percentile Queue	v/c	Delay	LOS	95th Percentile Queue
2025 Build-Out	EBL/T	0.09	7.60	A	0.30	0.05	7.70	A	0.20
	SBL/T/R	0.12	11.10	B	0.40	0.22	10.70	B	0.90
Amole Mesa & 98th									
2025 Build-Out	EBL	-	15.30	C	1.50	-	15.10	C	1.30
	EBT/R	-	10.70	B	0.40	-	11.10	B	0.30
	WBL/T/R	-	11.50	B	0.20	-	11.90	B	0.20
	NBL	-	10.90	B	0.30	-	12.20	B	0.80
	NBT	-	33.40	D	0.80	-	36.80	E	8.60
	NBR	-	9.20	A	0.10	-	9.30	A	0.10
	SBL	-	11.40	B	0.50	-	10.50	B	0.10
	SBT	-	13.40	B	1.50	-	15.80	C	2.50
	SBR	-	16.00	C	2.70	-	24.10	C	5.60
Colobel & 98th									
2025 Build-Out	EBL/T/R	0.59	18.50	C	3.90	0.38	16.60	C	1.70
	NBL/T	0.06	8.90	A	0.20	0.16	9.40	A	0.50
Dennis Chavez & Condershire									
2025 Build-Out	EBL/T/R	0.03	9.40	A	0.10	0.10	14.20	B	0.30
	WBL/T/R	0.02	14.00	B	0.00	0.02	10.20	B	0.10
	NBL/T/R	3.08	1335.70	F	8.10	29.89	15390.30	F	13.10
	SBL/T/R	1.28	380.30	F	5.40	1.87	537.50	F	11.70

- Dennis Chavez Blvd & 118th St
  - Capacity Analysis:
    - Under background conditions, the intersection is expected to operate at a level of service of F during three multi-peak periods in the AM. For PM peak hour, the intersection similar to 2020 background, is operating at an acceptable level. Failing individual movements in the AM peak hour were observed to be northbound through movement of LOS F for three multi-peak periods.
    - Under build conditions, the intersection and worst-case movements are expected to operate at similar levels of service with no change in levels of service.
  - Queue Analysis:
    - Background queue conditions: QSR is observed to be over capacity for three multi-peak periods in the AM for the northbound through storage. No queueing

issues are expected for movements affected by the development in the PM peak hour.
        - Under build conditions, 95th percentile queueing is expected to see similar queueing conditions as under background conditions.
- Dennis Chavez & 98th St
    - Capacity Analysis:
        - Under background conditions, the intersection is expected to operate at a level of service of F during one multi-peak period in the AM. For PM peak hour, the intersection is expected to operate at an acceptable level of service. Failing individual movements in the AM peak hour were observed to be westbound left movement LOS E for two multi-peak periods, eastbound left movement LOS E for one multi-peak period, and southbound left movement LOS E for one multi-peak period and F for three multi-peak periods. Failing individual movements in the PM peak hour were observed to be westbound left movement LOS E for three multi-peak periods and eastbound left movement LOS F and LOS E for two multi-peak periods.
        - Under build conditions, the intersection is expected to operate at a level of service of F and LOS E during one multi-peak period in the AM. For the PM peak hour, the intersection and worst-case movements are expected to operate at similar levels of service to background conditions with no change in levels of service. Failing individual movements in the AM peak hour were observed to be westbound left movement LOS E for three multi-peak periods, eastbound left movement LOS E for one multi-peak period, northbound left movement LOS F for 4 multi-peak periods, and southbound left movement LOS F for three multi-peak periods.
    - Queue Analysis:
        - Background queue conditions: QSR is observed to be over capacity for one multi-peak period in the AM for the southbound left storage. No queueing issues are expected for movements affected by the development in the PM peak hour.
        - Under build conditions, 95th percentile queueing is expected to see similar queueing conditions as under background conditions.
- Dennis Chavez Blvd & Unser Blvd
    - Capacity Analysis:
        - Under background conditions, the intersection as a whole is expected to operate at a level of service of F for three multi-peak periods in the AM peak hour and for the PM peak hour, is expected to operate at LOS E for one multi-peak period and LOS F for three multi-peak periods. Worst case movements in the AM peak hour are expected to include southbound left movements, LOS F for four multi-peak periods. Worst case movements in the PM peak hour are expected to include the southbound left movement with a LOS F for 4 multi-peak periods.
        - Under build conditions, the intersection as a whole is expected to operate at a level of service of F for three multi-peak periods in the AM peak hour. During the PM peak hours, the intersection as a whole is expected to operate at a level of service of F for three multi-peak periods and LOS E for one multi-peak period. Worst case movements in the AM and PM peak hours are expected to include the southbound left movement with a LOS F for 4 multi-peak periods.
    - Queue Analysis:

        - Background queue conditions: QSR in the AM is observed to be over capacity for three multi-peak periods for the southbound left storage and 4 multi-peak periods for the northbound right movement. QSR in the PM is observed to be over capacity for one multi-peak period for northbound right storage and three multi-peak periods in the southbound left storage.
        - Under build conditions, 95th percentile queueing is expected to see similar queueing conditions as under background conditions.
- Dennis Chavez Blvd & Coors Blvd
    - Capacity Analysis:
        - Under background conditions, the intersection as a whole is expected to operate at LOS F and LOS E for two multi-peak periods in the AM peak hour. The intersection as a whole is expected to operate at LOS F for four multi-peak periods in the PM peak hour. Worst case movements in the AM peak hour are expected to include the eastbound through movement LOS F for four multi-peak periods, eastbound right movement LOS F for three multi-peak periods, and LOS E for one multi-peak period, and northbound left movement LOS F for two multi-peak periods. Worst case movements in the PM peak hour are expected to include the eastbound through movement LOS F for three multi-peak periods, eastbound right movement LOS F for four multi-peak periods, the westbound left movement for LOS F for one multi-peak period, and LOS E for three multi-peak periods, westbound through movement LOS F for four multi-peak periods, southbound through movement LOS E for four multi-peak periods, southbound right movement LOS F for one multi-peak period and LOS E for three multi-peak periods, and northbound left movement LOS E for two multi-peak periods.
        - Under build conditions, the intersection is expected to remain at failing levels of service with a LOS F in both the AM and PM peak hours. Worst case movements in the AM peak hour are expected to include the eastbound through movement LOS F for four multi-peak periods, eastbound right movement LOS F for four multi-peak periods, and northbound left movement LOS F for two multi-peak periods.
    - Queue Analysis:
        - Background queue conditions: QSR in the AM is observed to be over capacity for three multi-peak periods for the northbound left storage and one multi-peak period for the southbound left movement. QSR in the PM is observed to be over capacity for 4 multi-peak periods for northbound left storage, 4 multi-peak periods in the westbound through storage, and one multi-peak period in the westbound left storage.
        - Under build conditions, QSR in the AM is observed to be over capacity for two multi-peak periods for the northbound left storage. QSR in the PM is observed to be over capacity for 4 multi-peak periods for northbound left storage, 4 multi-peak periods in the westbound through storage, and one multi-peak period in the westbound left storage.
- Amole Mesa Ave & Messina Dr
    - Capacity Analysis:
        - Background conditions: The intersection as a whole is expected to operate at an acceptable level of service with all movements operating at a LOS B or better in both the AM and PM peak hours.

        - Under build conditions, the intersection is expected to remain at an acceptable level of service with all movements operating at a LOS B or better in both the AM and PM peak hours.
    - Queue Analysis:
        - Background queue conditions: No queueing issues are expected for movements affected by the development.
        - Under build conditions, 95th percentile queueing is expected to see similar queueing conditions as under background conditions.
- Amole Mesa Ave & 98th St
    - Capacity Analysis:
        - Background conditions: the intersection as a whole is expected to operate at an acceptable level of service with all movements operating at a LOS D or better in both the AM and PM peak hours.
        - Under build conditions, the intersection and worst-case movements are expected to operate at similar levels of service except for NBT operating at LOS E in the PM peak hour.
    - Queue Analysis:
        - Background queue conditions: No queueing issues are expected for movements affected by the development.
        - Under build conditions, 95th percentile queueing is expected to see similar queueing conditions as under background conditions.
- Colobel Ave & 98th St
    - Capacity Analysis:
        - Background conditions: The intersection as a whole is expected to operate at an acceptable level of service with all movements operating at a LOS B or better in both the AM and PM peak hours.
        - Under build conditions, the intersection and worst-case movements are expected to operate at similar levels of service with the worst operating movement at a LOS C.
    - Queue Analysis:
        - Background queue conditions: No queueing issues are expected under background or build conditions for the AM and PM peak hours under background conditions.
        - Under build conditions, the northbound right turn 95th percentile queue is expected to exceed existing storage capacities in the PM peak hour.
- Dennis Chavez Blvd & Condershire Dr
    - Capacity Analysis:
        - Background conditions: Background conditions: Similiar to background 2023, the intersection is operating at a level of service F for all northbound and southbound approach movements.
        - Under build conditions, the intersection and worst-case movements are expected to operate at similar levels of service for all northbound and southbound movements.
    - Queue Analysis:
        - Background queue conditions: No queueing issues are expected under background or build conditions for the AM and PM peak hours under background conditions.

- Under build conditions, the northbound right turn 95th percentile queueing is expected to exceed existing storage capacities in the PM peak hour.

2027 Full Build Conditions

Table 27 provides an overall summary of the LOS and delays for each signalized intersection. Capacity analysis performed for 2027 full build conditions follows from Table 28 through Table 34. HCS models are included in the appendix. A summary of deficiencies by analysis scenario is provided on page 80. Recommended improvements are provided on page 91.

Table 27: 2027 Overall Intersection Conditions

Dennis Chavez & 118th											
2027 AM Background			2027 PM Background			2027 AM Build-Out			2027 PM Build-Out		
Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS
6:35	23.5	C	14:15	25.2	C	6:35	30.2	C	14:15	26.2	C
6:50	132.5	F	14:30	24.3	C	6:50	163.8	F	14:30	25	C
7:05	434.4	F	14:45	23.8	C	7:05	513.2	F	14:45	24.8	C
7:20	221.3	F	15:00	26	C	7:20	285.3	F	15:00	27.1	C
Dennis Chavez & 98th											
2027 AM Background			2027 PM Background			2027 AM Build-Out			2027 PM Build-Out		
Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS
6:35	44.5	D	14:10	33.3	C	6:35	47.5	D	14:10	31.2	C
6:50	68.5	E	14:25	31.9	C	6:50	77.2	E	14:25	31	C
7:05	102.9	F	14:40	28.3	C	7:05	107.2	F	14:40	25.7	C
7:20	238.8	F	14:55	33.6	C	7:20	251	F	14:55	33.3	C
Dennis Chavez & Unser											
2027 AM Background			2027 PM Background			2027 AM Build-Out			2027 PM Build-Out		
Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS
7:00	56.4	E	16:00	81.9	F	7:00	58.1	F	16:00	91.1	F
7:15	118.2	F	16:15	198.9	F	7:15	131.4	F	16:15	251.1	F
7:30	168	F	16:30	90.6	F	7:30	186.7	F	16:30	69.9	E
7:45	242	F	16:45	108.1	F	7:45	267.3	F	16:45	135.1	F
Dennis Chavez & Coors											
2027 AM Background			2027 PM Background			2027 AM Build-Out			2027 PM Build-Out		
Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS	Time-Period	Delay	LOS
7:00	75.1	E	16:00	123.8	F	7:00	75.5	F	16:00	93.6	F
7:15	79.6	E	16:15	211.1	F	7:15	112	F	16:15	159.8	F
7:30	113.9	F	16:30	346.9	F	7:30	176.3	F	16:30	169.9	F
7:45	147.2	F	16:45	385.2	F	7:45	210	F	16:45	227.9	F

Table 28: 2027 Background Signalized Intersections AM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0	19.3	19.6	13.1	12	-	43.1	34.7	22.4	28.3	28.3	-
6:50	27.7	29.8	33.3	20.4	17	-	32.8	300.4	13.5	28.9	21.8	-
7:05	30.5	34.1	43.4	21	19.4	-	47.7	999.3	11.5	28.9	23.4	-
7:20	19.9	21.8	22.5	16.8	19.1	-	57.4	1172.7	20.2	28.9	22.8	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	A	B	B	B	B	-	D	C	C	C	C	-
6:50	C	C	C	C	B	-	C	F	B	C	C	-
7:05	C	C	D	C	B	-	D	F	B	C	C	-
7:20	B	C	C	B	B	-	E	F	C	C	C	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0	-	0.09	0.07	-	-	0.78	0.36	0.13	0.02	-	-
6:50	0.03	-	0.25	0.12	-	-	0.67	3.48	0.11	0.02	-	-
7:05	0.04	-	0.44	0.15	-	-	0.92	10.24	0.1	0.02	-	-
7:20	0.04	-	0.13	0.03	-	-	1.22	11.92	0.13	0.02	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	62.2	14.9	6.9	55	14.2	6.9	36.4	41.3	37.6	114.3	41.4	43.6
6:50	49.4	18.7	9.8	53	25	12.6	31.5	36.2	33.7	181.2	36.3	36.5
7:05	43.5	18.4	9.4	53.1	31.9	18.2	32.1	36.9	34.4	310.8	37	27.1
7:20	43.7	15.1	7.4	54.2	22.3	15.7	36.4	41.3	39.2	673.3	41.4	25.8
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	E	B	A	E	B	A	D	D	D	F	D	D
6:50	D	B	A	D	C	B	C	D	C	F	D	D
7:05	D	B	A	D	C	B	C	D	C	F	D	C
7:20	D	B	A	D	C	B	D	D	D	F	D	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.05	-	0.01	0.12	-	0.04	0.18	-	0.19	0.36	-	0.13
6:50	0.17	-	0.03	0.09	-	0.05	0.17	-	0.17	0.69	-	0.21
7:05	0.40	-	0.02	0.09	-	0.05	0.17	-	0.18	1.10	-	0.19
7:20	0.38	-	0.02	0.09	-	0.07	0.18	-	0.21	1.95	-	0.05
Dennis Chavez & Unser												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	21.1	21.4	12.7	21.1	32.1	18.1	25.3	28.4	50.9	147	25.4	25.4
7:15	20.7	38.8	29.3	28.3	27.7	20.4	25.3	28.4	45.5	377.7	25.4	21.6
7:30	20.2	52.2	19.1	28.9	24.4	18.4	25.3	28.4	45.8	592.5	25.4	22.8
7:45	20	35.8	19.1	28	24.2	20.9	25.3	28.4	44.9	815.5	25.4	23
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	C	C	B	C	C	B	C	C	D	F	C	C
7:15	C	D	C	C	C	C	C	C	D	F	C	C
7:30	C	D	B	C	C	B	C	C	D	F	C	C
7:45	C	D	B	C	C	C	C	C	D	F	C	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	0.05	-	0.01	0.11	-	0.00	0.04	-	1.27	0.63	-	0.26
7:15	0.07	-	0.67	0.15	-	0.07	0.04	-	1.21	1.44	-	0.06
7:30	0.02	-	0.01	0.15	-	0.06	0.04	-	1.21	2.18	-	0.04
7:45	0.03	-	0.01	0.15	-	0.1	0.04	-	1.18	2.96	-	0.06
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	19.8	101.2	116.8	53.6	21.6	-	115.9	36	29.1	49.9	48.5	49.7
7:15	18.3	140.3	132.8	54.4	21.4	-	109.6	45	35.5	48.7	47.3	47.7
7:30	21.7	243.4	246.8	54.5	25.5	-	37.5	48	36.4	54.1	47	47.4
7:45	18.1	336.7	347.2	52.5	21.5	-	36	46.2	34	49.3	44.6	44.8
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	B	F	F	D	C	A	F	D	C	D	D	D
7:15	B	F	F	D	C	A	F	D	D	D	D	D
7:30	C	F	F	D	C	A	D	D	D	D	D	D
7:45	B	F	F	D	C	A	D	D	C	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	0.04	-	-	0.23	0.21	-	1.93	-	-	0.37	-	-
7:15	0.05	-	-	0.2	0.25	-	1.93	-	-	0.53	-	-
7:30	0.04	-	-	0.2	0.3	-	0.7	-	-	0.83	-	-
7:45	0.05	-	-	0.28	0.34	-	0.56	-	-	0.56	-	-

Table 29: 2027 Background Signalized Intersections PM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	14.1	16.1	15.2	11.8	11.4	-	46.3	34.3	24.7	28.4	32.6	-
14:30	11.8	13.2	12.5	10.1	10.9	-	46.2	32.6	28.7	29.5	33.7	-
14:45	14.7	16.7	15.7	12.2	13.8	-	46	30.1	24.3	26.8	31.8	-
15:00	11.2	12.6	12	9.6	9.5	-	47	37	29	31.2	35.1	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	B	B	B	B	B	-	D	C	C	C	C	-
14:30	B	B	B	B	B	-	D	C	C	C	C	-
14:45	B	B	B	B	B	-	D	C	C	C	C	-
15:00	B	B	B	A	A	-	D	D	C	C	D	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	0.08	-	0.06	0.06	-	-	0.71	0.52	0.05	0.03	-	-
14:30	0.05	-	0.04	0.03	-	-	0.75	0.15	0.09	0.04	-	-
14:45	0.1	-	0.04	0.06	-	-	0.75	0.2	0.09	0.03	-	-
15:00	0.07	-	0.03	0.03	-	-	0.63	0.46	0.04	0.04	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	11	10.2	5.8	54.4	8.8	4.5	38.6	44.7	37.9	51.4	42.8	43.1
14:25	10.1	12.6	6.3	54.7	9	4.1	38.6	44.7	38.7	41.5	42.9	40
14:40	13.1	15.8	8	47.4	9.1	6.3	38.6	44.7	32.1	38.4	42.9	38.9
14:55	11.7	10.8	6	55.2	7.6	4.2	38.6	44.7	35.9	50.1	42.9	41.5
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	A	A	A	D	A	A	D	D	D	D	D	D
14:25	B	B	A	D	A	A	D	D	D	D	D	D
14:40	B	B	A	D	A	A	D	D	C	D	D	D
14:55	A	A	A	E	A	A	D	D	D	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	0.01	-	0.03	0.30	-	0.05	0.24	-	0.00	0.11	-	0.00
14:25	0.04	-	0.02	0.27	-	0.04	0.24	-	0.4	0.21	-	0.09
14:40	0.07	-	0.02	0.49	-	0.12	0.24	-	0.36	0.17	-	0.09
14:55	0.01	-	0.03	0.38	-	0.06	0.24	-	0.33	0.10	-	0.09
Dennis Chavez & Unser												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	20.1	19.8	15.8	177.7	21.4	20.6	30.1	33	60.4	185.5	29.8	26.4
16:15	21.9	31.3	20.2	366.8	24.1	20.5	30.4	33.3	60	531	30	26.2
16:30	38.4	22.1	20.2	445.6	34.3	28.3	30.1	33	57.5	357.8	29.9	27.3
16:45	23.1	31.9	20.2	536.7	24.9	19.2	30.4	33.3	60	102.9	30.1	26.5
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	B	B	F	F	C	C	C	E	E	F	C	B
16:15	C	C	F	F	C	C	C	E	E	F	C	C
16:30	C	C	F	F	C	C	C	E	E	F	C	C
16:45	C	C	F	F	B	C	C	E	E	F	C	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.07	-	0.03	1.07	-	0.11	0.06	-	1.38	0.92	-	0.14
16:15	0.09	-	0.07	1.72	-	0.19	0.06	-	1.36	2.05	-	0.12
16:30	0.49	-	0.07	1.89	-	0.21	0.06	-	1.35	1.25	-	0.81
16:45	0.04	-	0.08	2.43	-	0.18	0.06	-	1.35	0.56	-	0.06
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	21.9	32.8	76.2	63.5	29.4	-	536.9	58.2	28.3	293.4	145.4	147.9
16:15	24.3	36.9	84.4	109.3	34.8	-	1474.3	64.9	25.9	418.7	204.9	197.3
16:30	21.9	30.2	34.7	77.9	24.7	-	2392.5	60.8	25.8	424.5	270.4	259.3
16:45	26.7	26.3	36.8	68.6	44.4	-	3302.1	103.3	26.7	536.1	415.5	416.8
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	C	C	F	E	C	A	F	E	C	F	F	F
16:15	C	D	F	F	C	A	F	E	C	F	F	F
16:30	C	C	C	E	C	A	F	E	C	F	F	F
16:45	C	C	D	E	D	A	F	F	C	F	F	F
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.07	-	-	0.64	1.08	-	4.49	-	-	1.99	-	-
16:15	0.08	-	-	1.2	1.27	-	9.58	-	-	1.96	-	-
16:30	0.05	-	-	0.93	0.88	-	14.66	-	-	2.18	-	-
16:45	0.12	-	-	0.74	1.53	-	19.61	-	-	2.47	-	-

Table 30: 2027 Background Stop Control Intersections Analysis Summary

Amole Mesa & Messina									
		AM				PM			
Scenario	Movement	v/c	Delay	LOS	95th Percentile Queue	v/c	Delay	LOS	95th Percentile Queue
2027 Background	EBL/T	0.09	7.60	A	0.30	0.05	7.70	A	0.20
	SBL/T/R	0.12	11.10	B	0.40	0.23	10.80	B	0.90
Amole Mesa & 98th									
2027 Background	EBL	-	15.60	C	1.60	-	15.30	C	1.30
	EBT/R	-	10.80	B	0.40	-	11.20	B	0.40
	WBL/T/R	-	11.60	B	0.20	-	12.00	B	0.20
	NBL	-	11.00	B	0.30	-	12.40	B	0.80
	NBT	-	35.90	E	8.50	-	39.80	E	9.10
	NBR	-	9.20	A	0.10	-	9.40	A	0.10
	SBL	-	11.50	B	0.50	-	10.60	B	0.10
	SBT	-	13.70	B	1.60	-	16.30	C	2.60
	SBR	-	16.40	C	2.80	-	25.60	D	6.00
Colobel & 98th									
2027 Background	EBL/T/R	0.60	19.00	C	4.00	0.39	16.90	C	1.80
	NBL/T	0.07	8.90	A	0.20	0.16	9.40	A	0.60
Dennis Chavez & Condershire									
2027 Background	EBL/T/R	0.03	9.50	A	0.10	0.10	14.50	B	0.30
	WBL/T/R	0.02	14.30	B	0.10	0.03	10.30	B	0.10
	NBL/T/R	3.90	1763.30	F	8.90	73.01	37736.20	F	14.30
	SBL/T/R	1.56	519.40	F	6.10	2.15	671.30	F	13.10

Table 31: 2027 Full-Build Signalized Intersections AM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	12.4	13.2	13.4	39	5.5	-	50.9	46.7	30.6	42	45.1	-
6:50	32.7	35.5	40.9	54.1	17.6	-	40	370.8	11.5	29.2	23	-
7:05	34.6	39.3	52.9	43.7	19.8	-	72.2	1202.8	10.1	29.2	24.6	-
7:20	21.7	23.8	24.5	52.7	19.2	-	104.1	1499.2	20.1	29.2	24.2	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	B	B	B	D	A	-	D	D	C	D	D	-
6:50	C	D	D	D	B	-	D	F	B	C	C	-
7:05	C	D	D	D	B	-	E	F	B	C	C	-
7:20	C	C	C	D	B	-	F	F	C	C	C	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.01	-	0.07	0.13	-	-	0.13	0.12	0.17	0.02	-	-
6:50	0.04	-	0.28	0.23	-	-	0.76	3.86	0.10	0.12	-	-
7:05	0.05	-	0.46	0.24	-	-	1.14	11.50	0.09	0.10	-	-
7:20	0.04	-	0.13	0.07	-	-	1.59	14.03	0.13	0.12	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	60.9	15.3	7.4	55.5	13.5	6.8	36.8	41.3	37.7	129.2	41.4	44.2
6:50	49.3	20	10.2	53.1	26.1	13.1	31.4	35.7	33.1	218.2	35.8	36.2
7:05	44.8	20.8	10.6	53.1	33.5	18.9	30.8	35.1	32.5	334.1	35.2	27.5
7:20	43.6	15.7	7.6	54.1	22.8	15.8	36.8	41.3	38.7	719.5	41.4	25.9
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	E	B	A	E	B	A	D	D	D	F	D	D
6:50	D	B	B	D	C	B	C	D	C	F	D	D
7:05	D	C	B	D	C	B	C	D	C	F	D	C
7:20	D	B	A	D	C	B	D	D	D	F	D	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.02	-	0.01	0.12	-	0.04	0.18	-	0.18	0.40	-	0.14
6:50	0.08	-	0.03	0.09	-	0.05	0.16	-	0.16	0.81	-	0.23
7:05	0.20	-	0.03	0.09	-	0.05	0.16	-	0.16	1.16	-	0.24
7:20	0.14	-	0.02	0.09	-	0.06	0.18	-	0.18	1.89	-	0.06
Dennis Chavez & Unser												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	20.4	22	12.6	21	30.6	16.7	26.1	29.2	43.2	160.6	26.1	26.4
7:15	20.3	57.5	18.6	31.3	26.8	19.2	26	29.1	40.4	418.4	26.1	22.3
7:30	19.7	75.9	18.6	31.9	24.1	17.7	26	29.1	40.6	657.4	26.1	23.4
7:45	19.3	39.8	17.2	27	24	18.7	26	29.1	41.9	906.9	26.1	23.7
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	C	C	B	C	C	B	C	C	D	F	C	C
7:15	C	E	B	C	C	B	C	C	D	F	C	C
7:30	B	F	B	C	C	B	C	C	D	F	C	C
7:45	B	D	B	C	C	B	C	C	D	F	C	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	0.04	-	0.01	0.10	-	0.03	0.04	-	1.03	0.66	-	0.27
7:15	0.07	-	0.01	0.16	-	0.06	0.04	-	1.02	1.54	-	0.06
7:30	0.03	-	0.01	0.16	-	0.06	0.04	-	1.03	2.35	-	0.05
7:45	0.03	-	0.01	0.14	-	0.08	0.04	-	1.05	3.2	-	0.06
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	19.9	99.6	116.2	53.6	21.9	-	122.7	36	29	49.9	48.6	49.9
7:15	18.1	203.3	207.4	54.4	22.6	-	137.4	45	35.4	48.7	47.3	47.7
7:30	21.6	408.2	423.2	54.5	26.6	-	43.4	47.8	35.8	54.1	48.3	48.7
7:45	17.9	492.2	515.2	52.5	22.5	-	36.8	46.2	33.9	49.3	45.1	45.3
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	B	F	F	D	C	A	F	D	C	D	D	D
7:15	B	F	F	D	C	A	F	D	D	D	D	D
7:30	C	F	F	D	C	A	D	D	D	D	D	D
7:45	B	F	F	D	C	A	D	D	C	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	0.05	-	-	0.23	0.22	-	2.01	-	-	0.37	-	-
7:15	0.06	-	-	0.20	0.27	-	2.27	-	-	0.53	-	-
7:30	0.06	-	-	0.20	0.31	-	0.82	-	-	0.83	-	-
7:45	0.07	-	-	0.28	0.36	-	0.59	-	-	0.56	-	-

Table 32: 2027 Full-Build Signalized Intersections PM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	15.5	17.8	16.8	13.1	15.2	-	46	35.9	24.3	27.9	31.3	-
14:30	13.9	15.4	14.7	12.1	14.2	-	46	31.3	26.3	27	31.8	-
14:45	16.5	18.7	17.5	13.6	18.4	-	46.1	30.9	23.7	25.7	30.7	-
15:00	12.6	14.3	13.6	11.3	11.7	-	46.9	38	28.3	30.2	33.5	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	B	B	B	B	B	-	D	D	C	C	C	-
14:30	B	B	B	B	B	-	D	C	C	C	C	-
14:45	B	B	B	B	B	-	D	C	C	C	C	-
15:00	B	B	B	B	B	-	D	D	C	C	C	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	0.07	-	0.03	0.04	-	-	0.39	0.42	0.04	0.09	-	-
14:30	0.05	-	0.02	0.02	-	-	0.42	0.16	0.06	0.04	-	-
14:45	0.09	-	0.02	0.04	-	-	0.42	0.20	0.06	0.09	-	-
15:00	0.06	-	0.02	0.02	-	-	0.35	0.37	0.03	0.10	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	10.8	13.5	7.8	54.5	8.3	4.1	38.5	45	37.2	57.1	42.9	43.4
14:25	10.1	13.8	7.5	55	8.5	3.8	38.6	44.7	37.9	43.6	42.9	39.9
14:40	12.2	18.8	11.4	48	9.1	5.5	39.3	46	32.1	41.1	42.9	39.6
14:55	11.4	14.5	8.2	55.5	7.5	3.9	38.6	44.7	36.4	54.2	42.9	41.3
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	B	B	A	D	A	A	D	D	D	E	D	D
14:25	B	B	A	D	A	A	D	D	D	D	D	D
14:40	B	B	B	D	A	A	D	D	C	D	D	D
14:55	B	B	A	E	A	A	D	D	D	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	0.01	-	0.03	0.18	-	0.03	0.13	-	0.20	0.08	-	0.09
14:25	0.02	-	0.01	0.16	-	0.02	0.13	-	0.20	0.02	-	0.05
14:40	0.05	-	0.02	0.33	-	0.06	0.13	-	0.18	0.11	-	0.06
14:55	0.01	-	0.02	0.20	-	0.03	0.13	-	0.20	0.07	-	0.06
Dennis Chavez & Unser												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	19.5	21.2	15.6	68	20	17.9	35.5	38.7	27.2	307.1	35.3	31.6
16:15	20.3	30.8	18.6	53.5	20.3	16.1	35.6	38.8	27.1	917.9	35.3	31.4
16:30	27.2	34.3	20.2	178.4	29.5	19.5	30.2	33.1	27	664.9	35.4	42.5
16:45	21.7	36.4	20.1	181	20.9	13.9	35.6	38.9	27	495.9	35.4	31.4
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	B	C	B	F	C	B	D	D	C	F	D	C
16:15	C	C	B	D	C	B	D	D	C	F	D	C
16:30	C	C	C	F	C	B	C	C	C	F	D	D
16:45	C	D	C	F	C	B	D	D	C	F	D	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.04	-	0.01	0.63	-	0.10	0.04	-	0.50	0.81	-	0.09
16:15	0.04	-	0.03	0.53	-	0.12	0.04	-	0.50	2.31	-	0.08
16:30	0.05	-	0.04	0.84	-	0.14	0.03	-	0.50	2.08	-	0.67
16:45	0.03	-	0.04	1.25	-	0.11	0.04	-	0.50	1.27	-	0.04
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	33.2	46.9	290.6	69.9	130.4	-	85.5	32.3	19.8	48.3	68.2	70.3
16:15	31.4	231	446.1	73.7	328.7	-	98.8	31.1	15.9	51.2	59	60.4
16:30	33.2	206.2	431.3	115.7	509.8	-	115.1	30	17.4	49.6	82.7	84.3
16:45	33.1	256.3	332.1	73.6	788.7	-	150.1	31.1	16.6	50.2	64.6	66.6
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	C	D	F	E	F	A	F	C	B	D	E	E
16:15	C	F	F	E	F	A	F	C	B	D	E	E
16:30	C	F	F	F	F	A	F	C	B	D	F	F
16:45	C	F	F	E	F	A	F	C	B	D	E	E
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.05	-	-	0.39	1.60	-	1.49	-	-	0.50	-	-
16:15	0.12	-	-	0.64	3.30	-	1.68	-	-	0.27	-	-
16:30	0.07	-	-	0.72	4.73	-	1.80	-	-	0.40	-	-
16:45	0.10	-	-	0.48	6.60	-	2.20	-	-	0.35	-	-

Table 33: 2027 Full-Build Stop Control Intersections Analysis Summary

Amole Mesa & Messina									
		AM				PM			
Scenario	Movement	v/c	Delay	LOS	95th Percentile Queue	v/c	Delay	LOS	95th Percentile Queue
2027 Build-Out	EBL/T	0.09	7.60	A	0.30	0.06	7.70	A	0.20
	SBL/T/R	0.13	11.10	B	0.40	0.24	11.00	B	1.00
Amole Mesa & 98th									
2027 Build-Out	EBL	-	16.00	C	1.70	-	15.70	C	1.40
	EBT/R	-	10.90	B	0.40	-	11.30	B	0.40
	WBL/T/R	-	11.70	B	0.20	-	12.20	B	0.20
	NBL	-	11.10	B	0.30	-	12.50	B	0.80
	NBT	-	38.60	E	9.00	-	42.90	E	9.60
	NBR	-	9.30	A	0.10	-	9.50	A	0.10
	SBL	-	11.60	B	0.50	-	10.70	B	0.10
	SBT	-	13.90	B	1.60	-	16.70	C	2.70
	SBR	-	16.80	C	2.90	-	27.50	D	6.50
Colobel & 98th									
2027 Build-Out	EBL/T/R	0.62	19.70	C	4.30	0.45	18.30	C	2.30
	NBL/T	0.07	8.90	A	0.20	0.16	9.50	A	0.60
Dennis Chavez & Condershire									
2027 Build-Out	EBL/T/R	0.03	9.50	A	0.10	0.11	14.60	B	0.40
	WBL/T/R	0.02	14.30	B	0.10	0.03	10.30	B	0.10
	NBL/T/R	4.27	1957.60	F	9.20	96.42	49748.20	F	14.80
	SBL/T/R	1.66	568.60	F	6.40	2.19	685.40	F	13.40

- Dennis Chavez Blvd & 118th St
    - Capacity Analysis:
        - Under background conditions, the intersection is expected to operate at a level of service of F during three multi-peak periods in the AM peak hour. For the PM peak hour, the intersection is expected to operate at an acceptable level of service. Failing individual movements in the AM peak hour were observed to be northbound through movement LOS F for three multi-peak periods, and northbound left movement LOS E for one multi-peak period.
        - Under build conditions, the intersection and worst-case movements are expected to operate at similar levels of service for AM and PM peak hours. Failing individual movements in the AM peak hour were observed to be northbound through

movement LOS F for three multi-peak periods, and northbound left movement LOS E and LOS F for one multi-peak period.

- Queue Analysis:
  - Background queue conditions: QSR is observed to be over capacity for three multi-peak periods in the AM for the northbound through storage and the northbound left storage for one multi-peak period. No queueing issues are expected for movements affected by the development in the PM peak hour.
  - Under build conditions, QSR is observed to be over capacity for three multi-peak periods in the AM for the northbound through storage and the northbound left storage for two multi-peak periods. The 95th percentile queueing is expected to see similar queueing conditions as under background conditions for the PM peak hour.

- Dennis Chavez & 98th St
  - Capacity Analysis:
    - Under background conditions, the intersection is expected to operate at a level of service of F for two multi-peak periods and LOS E for one multi-peak period in the AM peak hour. For PM peak hour, the intersection, similar to 2025 background, is expected to operate at an acceptable level. Failing individual movements in the AM peak hour were observed to be the southbound left movement LOS F for 4 multi-peak periods, and eastbound left and westbound left movements LOS E for one multi-peak period. Failing individual movements in the PM peak hour were observed to be the westbound left movement LOS E for one multi-peak period.
    - Under build conditions, the intersection and worst-case movements are expected to operate at similar levels of service to background conditions. Failing individual movements in the PM peak hour were observed to be the westbound left and southbound left movements LOS E for one multi-peak period.
  - Queue Analysis:
    - Background queue conditions: QSR is observed to be over capacity for two multi-peak periods in the AM for the southbound left storage for two multi-peak periods. No queueing issues are expected for movements affected by the development in the PM peak hour.
    - Under build conditions, 95th percentile queueing is expected to see similar queueing conditions as under background conditions.
- Dennis Chavez Blvd & Unser Blvd
  - Capacity Analysis:
    - Under background conditions, the intersection as a whole is expected to operate at a level of service of F for three multi-peak periods in the AM peak hour and LOS E for one multi-peak period, and LOS F for 4 multi-peak periods in the PM peak hour. Failing individual movements in the AM peak hour were observed to be the southbound left movement LOS F for 4 multi-peak periods. Failing individual movements in the PM peak hour were observed to be the southbound left, eastbound right, and westbound left movements LOS F for 4 multi-peak periods, and northbound through and right movements LOS E for 4 multi-peak movements.
    - Under build conditions, the intersection and worst-case movements are expected to operate at similar levels of service to background conditions with failing levels of service. Failing individual movements in the AM peak hour were observed to

be the southbound left movement LOS F for 4 multi-peak periods and eastbound through movement LOS E and LOS F for one multi-peak period. Failing individual movements in the PM peak hour were observed to be the southbound left movement LOS F for 4 multi-peak periods, and westbound left movement LOS F for three multi-peak movements.

- Queue Analysis:
  - Background queue conditions: QSR in the AM is observed to be over capacity for three multi-peak periods for the southbound left storage and 4 multi-peak periods for the northbound right storage. QSR in the PM is observed to be over capacity for 4 multi-peak periods for northbound right storage, 4 multi-peak periods in the westbound left storage, and two multi-peak periods in the southbound left storage.
  - Under build conditions, 95th percentile queueing is expected to see similar queueing conditions as under background conditions. QSR in the PM is observed to be over capacity for three multi-peak periods for northbound left storage and one multi-peak period for westbound left storage.

- Dennis Chavez Blvd & Coors Blvd
  - Capacity Analysis:
    - Under background conditions, the intersection as a whole is expected to operate at LOS F and LOS E for two multi-peak periods in the AM and four multi-peak periods in the PM peak hour. Worst case movements in the AM peak hour are expected to include northbound left movements LOS F for two multi-peak periods, and eastbound right and eastbound left movements LOS F for 4 multi-peak periods. PM peak hour worst movements include eastbound right movement LOS F for two multi-peak periods, westbound left movement at LOS E for three multi-peak periods and LOS F for one multi-peak period, northbound left movement LOS F for 4 multi-peak periods, northbound through movement LOS E for three multi-peak periods and LOS F for one multi-peak period, and all southbound movements operating at LOS F.
    - Under build conditions, the intersection is expected to remain at failing levels of service with worst movements operating at a LOS F in both the AM and PM peak hours. PM peak hour worst movements include eastbound right movement LOS F for 4 multi-peak periods, eastbound through movement LOS F for three multi-peak periods, westbound left movement at LOS E for three multi-peak periods and LOS F for one multi-peak period, northbound left and westbound through movements LOS F for 4 multi-peak periods, and southbound through and right movements LOS E for three multi-peak periods and LOS F for one multi-peak period.
  - Queue Analysis:
    - Background queue conditions: QSR in the AM is observed to be over capacity for two multi-peak periods for the northbound left storage. QSR in the PM is observed to be over capacity for 4 multi-peak periods for northbound left storage, three multi-peak periods in the westbound through storage, one multi-peak period in the westbound left storage, and 4 multi-peak periods in the southbound left storage.
    - Under build conditions, 95th percentile queueing is expected to see similar queueing conditions as under background conditions. QSR in the PM is observed

to be over capacity for 4 multi-peak periods for northbound left and westbound through storage.

- Amole Mesa Ave & Messina Dr
    - Capacity Analysis:
        - Under background conditions, the intersection as a whole is expected to operate at an acceptable level of service with all movements operating at a LOS B or better in both the AM and PM peak hours.
        - Under build conditions, the intersection is expected to remain at an acceptable level of service with all movements operating at a LOS B or better in both the AM and PM peak hours.
    - Queue Analysis:
        - Under background conditions, no queueing issues are expected for movements affected by the development.
        - Under build conditions, 95th percentile queueing is expected to see similar queueing conditions as under background conditions.
- Amole Mesa Ave & 98th St
    - Capacity Analysis:
        - Under background conditions, the intersection as a whole is expected to operate at an acceptable level of service with all movements except northbound through operating at a LOS D in both the AM and PM peak hours.
        - Under build conditions, the intersection and worst-case movements are expected to operate at similar levels of service except for NBT operating at LOS E in the PM peak hour.
    - Queue Analysis:
        - Under background conditions, no queueing issues are expected for movements affected by the development.
        - Under build conditions, 95th percentile queueing is expected to see similar queueing conditions as under background conditions.
- Colobel Ave & 98th St
    - Capacity Analysis:
        - Under background conditions, the intersection as a whole is expected to operate at an acceptable level of service with all movements operating at a LOS C or better in both the AM and PM peak hours.
        - Under build conditions, the intersection and worst-case movements are expected to operate at similar levels of service with the worst operating movement at a LOS C.
    - Queue Analysis:
        - Under background conditions, no queueing issues are expected under background or build conditions for the AM and PM peak hours under background conditions.
        - Under build conditions, the northbound right turn 95th percentile queueing is expected under existing storage capacities in the PM peak hour.
- Dennis Chavez Blvd & Condershire Dr
    - Capacity Analysis:
        - Under background conditions, similar to background 2025, the intersection is expected to operate at a level of service F for all northbound and southbound approach movement.

        - Under build conditions, the intersection and worst-case movements are expected to operate at similar levels of service for all northbound and southbound movements.
    - Queue Analysis:
        - Background queue conditions: No queueing issues are expected under background or build conditions for the AM and PM peak hours under background conditions.
        - Under build conditions, the northbound right turn 95th percentile queueing is expected under existing storage capacities in the PM peak hour.

Horizon Year 2037

Table 34 provides an overall summary of the LOS and delays for each signalized intersection. Capacity analysis performed for 2037 Horizon Year conditions follows from Table 35 through Table 37. HCS models are included in the appendix. A summary of deficiencies by analysis scenario is provided on page 80. Recommended improvements are provided on page 91.

Table 34: 2037 Overall Intersection Conditions

Dennis Chavez & 118th					
2037 AM Horizon Year			2037 PM Horizon Year		
Time-Period	Delay	LOS	Time-Period	Delay	LOS
6:35	162.6	F	14:15	314.7	F
6:50	969.9	F	14:30	1217.1	F
7:05	3716.7	F	14:45	1777.4	F
7:20	4209.2	F	15:00	2130.6	F
Dennis Chavez & 98th					
2037 AM Horizon Year			2037 PM Horizon Year		
Time-Period	Delay	LOS	Time-Period	Delay	LOS
6:35	50.8	D	14:10	33.6	C
6:50	87.5	F	14:25	33.3	C
7:05	130.2	F	14:40	33	C
7:20	307.5	F	14:55	35.9	D
Dennis Chavez & Unser					
2037 AM Horizon Year			2037 PM Horizon Year		
Time-Period	Delay	LOS	Time-Period	Delay	LOS
7:00	102.6	F	16:00	130	F
7:15	289.1	F	16:15	281.7	F
7:30	477	F	16:30	424.1	F
7:45	726.1	F	16:45	577.5	F
Dennis Chavez & Coors					
2037 AM Horizon Year			2037 PM Horizon Year		
Time-Period	Delay	LOS	Time-Period	Delay	LOS
7:00	107.4	F	16:00	171.1	F
7:15	189.9	F	16:15	310.9	F
7:30	296.5	F	16:30	378.3	F
7:45	354.2	F	16:45	468.2	F

Table 35: 2037 Horizon Year Signalized Intersections AM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0	28.2	28.9	19.3	17.5	-	604	99.9	17.4	29	25.6	-
6:50	29.5	31.9	37	20.4	18	-	1996.8	1422.1	15.4	29	27.2	-
7:05	32.2	36.7	48.9	21.8	19.7	-	11876.5	4467.9	13.1	29	57.9	-
7:20	20.2	22.3	23	17	19.4	-	10483.5	6254.8	25.1	29	37.3	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	A	C	C	B	B	-	F	F	B	C	C	-
6:50	C	C	D	C	B	-	F	F	B	C	C	-
7:05	C	D	D	C	B	-	F	F	B	C	E	-
7:20	C	C	C	B	B	-	F	F	C	C	D	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.00	-	0.22	0.17	-	-	9.5	2.09	0.48	0.08	-	-
6:50	0.05	-	0.54	0.22	-	-	19.73	21.78	0.52	0.08	-	-
7:05	0.07	-	0.79	0.26	-	-	34.35	53.06	0.48	0.08	-	-
7:20	0.07	-	0.25	0.07	-	-	52.76	60.45	0.63	0.08	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	54	17	8.6	55	17.1	7.8	36.4	41.3	37.3	153.7	41.4	41.2
6:50	49.7	21.5	10.5	53.1	28.8	14	30.3	34.9	31.8	278	34.9	34.9
7:05	48.1	21.5	10.5	53.1	34.8	19	30.4	35.1	31.9	451.5	35	26.8
7:20	43	16.1	7.4	54.3	24.3	16.9	36.4	41.3	38.6	971.3	41.4	24.7
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	D	B	A	E	B	A	D	D	D	F	D	D
6:50	D	C	B	D	C	B	C	C	C	F	C	C
7:05	D	C	B	D	C	B	C	D	C	F	D	C
7:20	D	B	A	D	C	B	D	D	D	F	D	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
6:35	0.16	-	0.01	0.22	-	0.09	0.33	-	0.30	0.70	-	0.24
6:50	0.34	-	0.04	0.17	-	0.11	0.29	-	0.22	1.34	-	0.36
7:05	0.66	-	0.05	0.17	-	0.10	0.29	-	0.22	1.97	-	0.35
7:20	0.64	-	0.04	0.17	-	0.15	0.33	-	0.31	3.31	-	0.09
Dennis Chavez & Unser												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	21.1	42.5	17.3	26.7	30.7	17	25.8	28.9	42.9	304.8	25.9	27
7:15	20.4	121.6	18.4	32.4	26.9	19.7	26.2	29.3	39.1	897.9	26.3	22.7
7:30	19.6	295.7	18.4	31.5	24.1	17.8	26.2	29.3	39.3	1459	26.3	23.8
7:45	19.5	410.9	18.4	30.1	23.9	20.3	26.2	29.3	39.4	2046.4	26.3	24.1
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	C	D	B	C	C	B	C	C	D	F	C	C
7:15	C	F	B	C	C	B	C	C	D	F	C	C
7:30	B	F	B	C	C	B	C	C	D	F	C	C
7:45	B	F	B	C	C	C	C	C	D	F	C	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	0.10	-	0.02	0.16	-	0.05	0.08	-	1.52	1.65	-	0.57
7:15	0.13	-	0.02	0.28	-	0.11	0.08	-	1.46	3.74	-	0.14
7:30	0.04	-	0.02	0.28	-	0.10	0.08	-	1.46	5.49	-	0.10
7:45	0.04	-	0.02	0.28	-	0.15	0.08	-	1.46	7.66	-	0.14
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	21	165.1	192.9	53.1	23.5	-	158.8	36.1	28.7	49.4	50.8	52.3
7:15	20.8	398.9	410	53.8	24.9	-	224.1	46.1	33.8	49.9	43.9	44.2
7:30	24.6	770	800.4	53.9	30	-	100.5	50.7	35	56.3	48	48.4
7:45	20.5	903.8	953.9	52.1	25.4	-	35.7	45.5	32.5	50.6	43	43.2
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	C	F	F	D	C	A	F	D	C	D	D	D
7:15	C	F	F	D	C	A	F	D	C	D	D	D
7:30	C	F	F	D	C	A	F	D	D	E	D	D
7:45	C	F	F	D	C	A	D	D	C	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	0.08	-	-	0.46	0.43	-	3.62	-	-	0.74	-	-
7:15	0.08	-	-	0.40	0.51	-	4.09	-	-	1.00	-	-
7:30	0.08	-	-	0.40	0.58	-	2.17	-	-	1.45	-	-
7:45	0.09	-	-	0.54	0.66	-	1.03	-	-	1.05	-	-

Table 36: 2037 Horizon Year Signalized Intersections PM Analysis Summary

Dennis Chavez & 118th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	22.2	25.4	23.8	18.4	20.1	-	2003.4	70	17.7	28.3	112.6	-
14:30	19.6	21.7	20.5	16.7	20.2	-	5943.1	26	21.3	21.1	141.1	-
14:45	19.1	22	20.5	16.8	19.7	-	9993.1	27.2	21.4	21.5	173.7	-
15:00	19.5	22	20.7	16.8	19.6	-	13686.7	41.3	20.1	25.2	242.9	-
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	C	C	C	B	C	-	F	E	B	C	F	-
14:30	B	C	C	B	C	-	F	C	C	C	F	-
14:45	B	C	C	B	B	-	F	C	C	C	F	-
15:00	B	C	C	B	B	-	F	D	C	C	F	-
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:15	0.06	-	0.04	0.06	-	-	3.78	1.17	0.05	0.04	-	-
14:30	0.04	-	0.03	0.03	-	-	11.06	0.17	0.10	0.04	-	-
14:45	0.07	-	0.02	0.03	-	-	18.54	0.25	0.11	0.04	-	-
15:00	0.06	-	0.02	0.03	-	-	25.37	0.73	0.04	0.04	-	-
Dennis Chavez & 98th												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	82.5	17.3	10.4	52.5	13.5	8.9	38.6	44.7	45.3	61.2	42.9	43.3
14:25	53.9	14.3	8.2	53.9	10.7	4.6	38.6	44.7	45.5	45.1	42.9	37.1
14:40	50.3	15.6	9.1	54.5	10.6	5.4	38.6	44.7	45.7	39.8	42.9	34.8
14:55	75.8	12.9	7.3	55.5	7.7	4	38.6	44.7	45.7	59.2	42.9	41.3
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	F	B	B	D	B	A	D	D	D	D	D	D
14:25	D	B	A	D	B	A	D	D	D	D	D	D
14:40	D	B	A	D	B	A	D	D	D	D	D	D
14:55	E	B	A	E	A	A	D	D	D	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
14:10	0.03	-	0.04	0.28	-	0.15	0.13	-	0.19	0.1	-	0.09
14:25	0.1	-	0.02	0.16	-	0.02	0.13	-	0.21	0.03	-	0.05
14:40	0.15	-	0.02	0.21	-	0.04	0.13	-	0.21	0.11	-	0.05
14:55	0.03	-	0.02	0.2	-	0.03	0.13	-	0.21	0.1	-	0.06
Dennis Chavez & Unser												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	23.3	21.1	14.5	19.6	32.7	29.3	25.4	29.3	192.9	355.2	0	25.5
16:15	24.6	28.5	18.2	28.6	29.8	35.5	27.3	30	145.9	846.9	26.9	23.6
16:30	24.1	30.8	20	20	23.2	15.8	35.5	38.7	27.2	1823.6	35.3	31
16:45	21.8	32.6	19.9	23.5	20.9	14.9	35.5	38.7	27.3	2363.4	35.3	31.5
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	C	C	B	B	C	C	C	C	F	F	A	C
16:15	C	C	B	C	C	D	C	C	F	F	C	C
16:30	C	C	B	B	C	B	D	D	C	F	D	C
16:45	C	C	B	C	C	B	D	D	C	F	D	C
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.04	-	0.02	0.12	-	0.17	0.22	-	3.36	1.13	-	0.10
16:15	0.05	-	0.03	0.23	-	0.21	0.03	-	2.48	3.07	-	0.08
16:30	0.04	-	0.04	0.41	-	0.15	0.04	-	0.50	4.57	-	0.06
16:45	0.02	-	0.04	0.44	-	0.14	0.04	-	0.50	5.90	-	0.05
Dennis Chavez & Coors												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	32.4	85.4	629	74.4	183	-	109.4	35	20	49.4	92.3	94.3
16:15	33	594.4	979.4	204.9	497.8	-	190.7	29.5	16.3	50.8	65.9	67.2
16:30	33.3	788	1249.6	402.8	721.2	-	252.6	32.1	18.2	49	112.7	114.1
16:45	32.4	1035.3	1280.8	433.9	1065.1	-	314	33.4	17	49.7	158.6	137.4
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	C	F	F	E	F	A	F	C	C	D	F	F
16:15	C	F	F	F	F	A	F	C	B	D	E	E
16:30	C	F	F	F	F	A	F	C	B	D	F	F
16:45	C	F	F	F	F	A	F	C	B	D	F	F
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.07	-	-	0.46	1.97	-	1.74	-	-	0.57	-	-
16:15	0.07	-	-	1.11	4.59	-	2.67	-	-	0.3	-	-
16:30	0.06	-	-	1.98	6.64	-	3.37	-	-	0.44	-	-
16:45	0.09	-	-	2.12	8.95	-	4.08	-	-	0.39	-	-

Table 37: 2037 Horizon Year Stop Control Intersections Analysis Summary

Amole Mesa & Messina									
		AM				PM			
Scenario	Movement	v/c	Delay	LOS	95th Percentile Queue	v/c	Delay	LOS	95th Percentile Queue
2037 Horizon Year	EBL/T	0.11	7.70	A	0.40	0.06	7.70	A	0.20
	SBL/T/R	0.14	11.50	B	0.50	0.27	11.30	B	1.10
Amole Mesa & 98th									
2037 Horizon Year	EBL	-	17.70	C	2.00	-	16.80	C	1.60
	EBT/R	-	11.60	B	0.50	-	11.80	B	0.40
	WBL/T/R	-	12.40	B	0.30	-	12.70	B	0.30
	NBL	-	11.70	B	0.50	-	13.30	B	0.90
	NBT	-	61.90	F	12.70	-	70.30	F	13.70
	NBR	-	9.70	A	0.20	-	9.80	A	70.30
	SBL	-	12.20	B	0.60	-	10.90	B	9.80
	SBT	-	15.50	C	2.00	-	19.00	C	10.90
	SBR	-	20.10	C	3.80	-	37.20	E	37.20
Colobel & 98th									
2037 Horizon Year	EBL/T/R	0.71	24.70	C	5.80	0.48	20.20	C	2.50
	NBL/T	0.08	9.10	A	0.20	0.18	9.80	A	0.70
Dennis Chavez & Condershire									
2037 Horizon Year	EBL/T/R	0.03	9.80	A	0.10	0.13	16.50	C	0.50
	WBL/T/R	0.02	15.90	C	0.10	0.04	10.90	B	0.10
	NBL/T/R	8.68	4071.70	F	14.30	>100	>50000	F	>15.00
	SBL/T/R	3.99	1679.30	F	11.80	>3.0	>700	F	>15.00

- Dennis Chavez Blvd & 118th St
    - Capacity Analysis:
        - Horizon year conditions: The intersection is expected to operate at a level of service of F during 4 multi-peak periods in both the AM and PM peak hours. Failing individual movements in the AM peak hour were observed to be the northbound left movement LOS F for four multi-peak periods, and northbound through movement LOS F for 4 multi-peak periods. For the PM peak hour, northbound left movement LOS F for 4 multi-peak periods, northbound through movement LOS E for one multi-peak period, and southbound through movement LOS F for 4 multi-peak periods.
    - Queue Analysis:
        - Horizon year queue conditions: Queueing issues are expected for northbound left movements and northbound through movements for AM and PM peak hours.
- Dennis Chavez & 98th St

- Capacity Analysis:
  - Horizon year conditions: The intersection is expected to operate at a level of service of F for three multi-peak periods in the AM. For PM peak hour, the intersection is expected to operate at an acceptable level. Failing individual movements in the AM peak hour were observed to be the southbound left movement LOS F for four multi-peak periods, and westbound left movement LOS E for one multi-peak period. Failing individual movements for PM peak hour include westbound left movement LOS E for one multi-peak period and eastbound left movement LOS E and LOS F for one multi-peak period.
- Queue Analysis:
  - Horizon year queue conditions: Queuing issues are expected for AM southbound left movement for 4 multi-peak periods. No queueing issues are expected for PM movements affected by the development.

- Dennis Chavez Blvd & Unser Blvd
  - Capacity Analysis:
    - Horizon year conditions: The intersection as a whole is expected to operate at a failing level of service F in both AM and PM peak hours. Worst case movements in the AM and PM peak hours are expected to include eastbound through movement LOS F for three multi-peak periods, and southbound left movement LOS F for four multi-peak periods. For the PM peak hour, southbound left movement LOS F for four multi-peak periods and northbound right movement LOS F for two multi-peak periods.
  - Queue Analysis:
    - Horizon year queue conditions: Queueing and overcapacity issues are expected for northbound right movement and southbound left movement LOS.
- Dennis Chavez Blvd & Coors Blvd
  - Capacity Analysis:
    - Horizon year conditions: The intersection as a whole is expected to operate at LOS F for four multi-peak periods for both AM and PM peak hours. The majority of movements in all directions are LOS D or worse.
  - Queue Analysis:
    - Horizon year queue conditions: Queueing issues are expected for northbound left and southbound left movements in the AM peak hours. Overcapacity issues for the PM peak are also expected for the westbound left and through movement, and northbound left.
- Amole Mesa Ave & Messina Dr
  - Capacity Analysis:
    - Horizon year conditions: The intersection as a whole is expected to operate at an acceptable level of service with all movements operating at a LOS B or better in both the AM and PM peak hours.
  - Queue Analysis:
    - Horizon year queue conditions: No queueing issues are expected for movements affected by the development.
- Amole Mesa Ave & 98th St
  - Capacity Analysis:
    - Horizon year conditions: The intersection as a whole is expected to operate at an acceptable level of service with all movements except northbound through operating at a LOS F in both the AM and PM peak hours.

    - Queue Analysis:
        - Horizon year queue conditions: Queueing and overcapacity issues are expected for northbound through movement affected by the development.
- Colobel Ave & 98th St
    - Capacity Analysis:
        - Horizon year conditions: The intersection as a whole is expected to operate at an acceptable level of service with all movements operating at a LOS C or better in both the AM and PM peak hours.
    - Queue Analysis:
        - Horizon year queue conditions: Queueing and overcapacity issues are expected for the eastbound leg in the AM and PM peak hours during the horizon year.
- Dennis Chavez Blvd & Condershire Dr
    - Capacity Analysis:
        - Horizon year conditions: Similiar to background 2027, the intersection is expected to operate at a level of service F for all northbound and southbound approach movement.
    - Queue Analysis:
        - Horizon year queue conditions: Queueing and overcapacity issues are expected for the horizon year AM and PM peak hours for all northbound and southbound movement.

Summary of Capacity & Queueing Deficiencies

The following table presents a summary of deficiencies for the study intersections.

Table 38: Summary of Deficiencies

Intersection	Movement	Scenario									
		AM Existing	PM Existing	2023 AM Background / Buildout	2023 PM Background / Buildout	2025 AM Background / Buildout	2025 PM Background / Buildout	2027 AM Background / Buildout	2027 PM Background / Buildout	2037 AM Horizon Year	2037 AM Horizon Year
Dennis Chavez & 118th	WBL	-	-	-	-	-	-	-	-	-	-
	NBL	-	-	-	-	-	-	/F	-	F	F
	NBT	F	-	F/F	-	F/F	-	F/F	-	F	F
	SBT	-	-	-	-	-	-	-	-	E	F
Intersection	Movement	Scenario									
		AM Existing	PM Existing	2023 AM Background / Buildout	2023 PM Background / Buildout	2025 AM Background / Buildout	2025 PM Background / Buildout	2027 AM Background / Buildout	2027 PM Background / Buildout	2037 AM Horizon Year	2037 PM Horizon Year
Dennis Chavez & 98th	EBL	-	-	E/E	F/F	E/E	F/F	E/E	F/F	F	F
	WBL	-	-	E	E/E	E/E	E/E	E/E	E	E	E
	NBL	-	-	-	-	/F	-	/F	-	F	-
	SBL	E	-	F/F	-	F/F	-	F/F	/E	F	E
	SBT	-	-	-	-	-	-	-	-	-	-
Intersection	Movement	Scenario									
		AM Existing	PM Existing	2023 AM Background / Buildout	2023 PM Background / Buildout	2025 AM Background / Buildout	2025 PM Background / Buildout	2027 AM Background / Buildout	2027 PM Background / Buildout	2037 AM Horizon Year	2037 PM Horizon Year
Dennis Chavez & Unser	EBT	-	-	-	-	-	-	/F	-	F	-
	EBR	-	-	-	-	-	-	-	F	-	-
	WBL	-	-	-	-	-	-	-	F/F	-	-
	NBL	-	-	-	-	-	-	-	F	-	-
	NBT	-	-	-	-	-	-	-	F	-	-
	NBR		-	-	-		-	-	-	-	F
	SBL	E	-	F/F	F/F	F/F	F/F	F/F	F/F	F	F
	SBT	-	-	-	-	-	-	-	F	-	-
	SBR	-	-	-	-	-	-	-	F	-	-
Intersection	Movement	Scenario									
		AM Existing	PM Existing	2023 AM Background / Buildout	2023 PM Background / Buildout	2025 AM Background / Buildout	2025 PM Background / Buildout	2027 AM Background / Buildout	2027 PM Background / Buildout	2037 AM Horizon Year	2037 PM Horizon Year
Dennis Chavez & Coors	EBT	-	-	F	F/F	F/F	F/F	F/F	F/F	F	F
	EBR	-	-	F/F	F/F	F/F	F/F	F/F	F/F	F	F
	WBL	-	-	E/E	E/F	-	F/F	-	F/F	-	F
	WBT	-	F	-	F/F	-	F/F	-	-	-	F
	WBR	-	-	-	-	-	-	-	-	-	-
	NBL	F	-	F/F	E/E	F/F	E/E	F/F	F/F	F	F
	NBT	-	-	-	-	-	-	-	-	-	-
	SBL	-	-	/F	-	-	-	-	-	F	-
	SBT	-	E	-	E/E	-	E/E	-	/F	-	F
	SBR	E	E	/E	E/E	-	F/F	-	/F	-	F
Intersection	Movement	Scenario									
		AM Existing	PM Existing	2023 AM Background / Buildout	2023 PM Background / Buildout	2025 AM Background / Buildout	2025 PM Background / Buildout	2027 AM Background / Buildout	2027 PM Background / Buildout	2037 AM Horizon Year	2037 PM Horizon Year
Amole Mesa & 98th	NBT	-	-	-	-	-	/E	E/E	E/E	F	F
	SBR	-	-	-	-	-	-	-	-	-	E
Intersection	Movement	Scenario									
		AM Existing	PM Existing	2023 AM Background / Buildout	2023 PM Background / Buildout	2025 AM Background / Buildout	2025 PM Background / Buildout	2027 AM Background / Buildout	2027 PM Background / Buildout	2037 AM Horizon Year	2037 PM Horizon Year
Dennis Chavez & Condershire	NBL	F	F	F/F	F/F	F/F	F/F	F/F	F/F	F/F	F/F
	NBT	F	F	F/F	F/F	F/F	F/F	F/F	F/F	F/F	F/F
	NBR	F	F	F/F	F/F	F/F	F/F	F/F	F/F	F/F	F/F
	SBL	F	F	F/F	F/F	F/F	F/F	F/F	F/F	F/F	F/F
	SBT	F	F	F/F	F/F	F/F	F/F	F/F	F/F	F/F	F/F
	SBR	F	F	F/F	F/F	F/F	F/F	F/F	F/F	F/F	F/F

CRASH SUMMARY & IHSDM PREDICTIVE CRASH METHOD

CRASH SUMMARY

Aggregate crash data were obtained for the study area for the most recently available five years of data. This included the years 2014 to 2018. Crashes were then summarized by year, type, lighting conditions, severity, and cause. To compare and summarize trends, crashes were grouped by major streets and divided into the following:

- Dennis Chavez Blvd
    - Dennis Chavez Blvd & 118th St
    - Between 118th St & 98th St
    - Dennis Chavez Blvd & 98th St
    - Between 98th St & Unser Blvd
    - Dennis Chavez Blvd & Unser Blvd
    - Between Unser Blvd & Condershire Dr
    - Dennis Chavez Blvd & Condershire Dr
    - Between Condershire Dr & Coors Blvd
    - Dennis Chavez Blvd & Coors Blvd
- 98th St
    - Between Dennis Chavez Blvd & Colobel Ave
    - 98th St & Colobel Ave
    - Between Colobel Ave & Amole Mesa Ave
    - 98th St & Amole Mesa Ave
- Amole Mesa Ave
    - Between 98th St & Messina Dr
    - Amole Mesa Ave & Messina Dr
    - Between Messina Dr & 118th St
- 118th St
    - Amole Mesa Ave & 118th St
    - Between Amole Mesa Ave & Dennis Chavez Blvd

Dennis Chavez Blvd

Table 39 below summarizes crashes occurring along Dennis Chavez Blvd for the project area.

Table 39: Dennis Chavez Blvd Crash Summary

	Crash Summary	DENNIS CHAVEZ BLVD								
		Dennis Chavez Blvd & 118th St	Between 118th St & 98th St	Dennis Chavez Blvd & 98th St	Between 98th St & Unser Blvd	Dennis Chavez Blvd & Unser Blvd	Between Unser Blvd & Condershire Dr	Dennis Chavez Blvd & Condershire Dr	Between Condershire Dr & Coors Blvd	Dennis Chavez Blvd & Coors Blvd
	Total Crashes	40	7	24	1	36	0	18	2	280
By Year	2014	2	1	2	0	5	0	2	1	51
	2015	6	1	4	0	4	0	2	0	57
	2016	10	2	6	0	8	0	2	0	57
	2017	13	2	5	0	8	0	7	0	59
	2018	9	1	7	1	11	0	5	1	56
By Type	Fixed Object	2	0	2	0	4	0	1	0	11
	Invalid Code	3	0	2	0	6	0	0	0	19
	Left Blank	2	1	4	0	2	0	0	0	13
	Other (Non-Collision)	2	0	0	0	0	0	0	0	0
	Other (Object)	1	0	0	0	3	0	0	0	2
	Other Vehicle - All Others/Entering At Angle	1	0	2	0	2	0	2	0	19
	Other Vehicle - Both Going Straight/Entering At Angle	0	0	1	0	0	0	0	0	3
	Other Vehicle - Both Turn Left/Entering At Angle	0	0	0	0	0	0	0	0	0
	Other Vehicle - Both Turn Right/Entering At Angle	0	0	0	0	0	0	0	0	5
	Other Vehicle - From Opposite Direction	3	0	0	0	2	0	1	1	28
	Other Vehicle - From Opposite Direction/All Others	0	0	0	0	0	0	0	0	0
	Other Vehicle - From Opposite Direction/Both Going Straight	0	0	0	0	0	0	0	0	0
	Other Vehicle - From Opposite Direction/Head-On Collision	0	0	0	0	0	0	1	0	0
	Other Vehicle - From Opposite Direction/One Left Turn	2	1	0	0	0	0	0	0	8
	Other Vehicle - From Opposite Direction/Sideswipe Collision	0	0	0	0	0	0	1	0	2
	Other Vehicle - From Same Direction/All Others	0	0	0	0	1	0	0	0	1
	Other Vehicle - From Same Direction/Both Going Straight	5	0	4	0	2	0	5	0	42
	Other Vehicle - From Same Direction/Both Turn Left	0	0	0	0	0	0	0	0	1
	Other Vehicle - From Same Direction/Both Turn Right	0	0	0	0	0	0	0	0	3
	Other Vehicle - From Same Direction/One Left Turn	1	0	0	0	0	0	0	0	4
	Other Vehicle - From Same Direction/One Right Turn	0	0	1	0	0	0	0	0	1
	Other Vehicle - From Same Direction/One Stopped	0	0	2	0	3	0	0	1	15
	Other Vehicle - From Same Direction/Rear End Collision	6	1	4	1	6	0	3	0	45
	Other Vehicle - From Same Direction/Sideswipe Collision	2	2	0	0	1	0	1	0	8
	Other Vehicle - From Same Direction/Vehicle Backing	0	0	0	0	0	0	0	0	3
	Other Vehicle - One Left Turn/Entering At Angle	8	1	1	0	2	0	3	0	31
	Other Vehicle - One Vehicle/Leave Driveway Access	0	0	0	0	0	0	0	0	1
	Other Vehicle - One Vehicle/Making A U-Turn	0	1	0	0	0	0	0	0	0
	Other Vehicle - One Vehicle/Stopped Traffic	1	0	0	0	0	0	0	0	5
	Overturn/Rollover	0	0	1	0	2	0	0	0	4
	Parked Vehicle	0	0	0	0	0	0	0	0	4
	Pedalcyclist	0	0	0	0	0	0	0	0	0
	Pedestrian	0	0	0	0	0	0	0	0	1
	Vehicle on Other Road	1	0	0	0	0	0	0	0	1
	% Other Vehicle - From Same Direction	35%	43%	46%	100%	36%	0%	50%	50%	44%
	% Other Vehicle - From Opposite Direction	13%	14%	0%	0%	6%	0%	17%	50%	14%
	% Other Vehicle - One Left Turn/Entering At Angle	20%	14%	4%	0%	6%	0%	17%	0%	11%
By Lighting Conditions	Day	29	6	11	1	22	0	14	1	158
	Dawn/Dusk	2	0	2	0	2	0	0	0	12
	Dark	6	0	4	0	5	0	4	1	73
	Invalid Code/Not Specified	3	1	7	0	7	0	0	0	37
	% Day	73%	86%	46%	100%	61%	0%	78%	50%	56%
By Severity	PDO	28	5	19	0	21	0	9	1	211
	Injury	12	2	5	1	15	0	9	1	69
	Fatality	0	0	0	0	0	0	0	0	0
	% Property Damage Only	70%	71%	79%	0%	58%	0%	50%	50%	75%
	% Injury	30%	29%	21%	100%	42%	0%	50%	50%	25%
By Cause	Alcohol/Drug Involved	4	0	2	0	1	0	0	0	12
	Avoid No Contact - Other	0	0	1	0	1	0	0	0	1
	Avoid No Contact - Vehicle	1	0	0	0	2	0	0	0	11
	Defective Tires	0	0	0	0	1	0	0	0	0
	Disregarded Traffic Signal	4	1	0	0	2	0	0	0	12
	Driver Inattention	9	0	7	0	7	0	6	0	85
	Drove Left Of Center	1	0	0	0	0	0	1	0	2
	Excessive Speed	1	0	1	0	3	0	2	1	15
	Failed to Yield Right of Way	2	1	1	1	0	0	3	0	32
	Following Too Closely	4	2	1	0	5	0	3	1	33
	Improper Backing	0	0	0	0	2	0	0	0	4
	Improper Lane Change	2	1	0	0	0	0	0	0	5
	Improper Overtaking	0	1	0	0	0	0	0	0	1
	Inadequate Brakes	0	0	0	0	0	0	0	0	1
	Made Improper Turn	4	0	2	0	0	0	0	0	3
	Missing Data	4	1	6	0	7	0	1	0	41
	None	1	0	0	0	3	0	0	0	8
	Other - No Driver Error	2	0	1	0	0	0	0	0	3
	Other Improper Driving	0	0	0	0	1	0	0	0	1
	Other Mechanical Defect	0	0	0	0	0	0	0	0	3
	Passed Stop Sign	0	0	0	0	0	0	1	0	1
	Road Defect	0	0	0	0	0	0	0	0	1
	Speed Too Fast for Conditions	1	0	2	0	1	0	1	0	5
	% Driver Inattention	*23%*	*0%*	*29%*	*0%*	*19%*	*0%*	*33%*	*0%*	*30%*
	% Following Too Closely	*10%*	*29%*	*4%*	*0%*	*14%*	*0%*	*17%*	*50%*	*12%*
	% Failed to Yield Right of Way	*5%*	*14%*	*4%*	*100%*	*0%*	*0%*	*17%*	*0%*	*11%*
	% Excessive Speed	*3%*	*0%*	*4%*	*0%*	*8%*	*0%*	*11%*	*50%*	*5%*

From the table shown above, the following observations are made:

- Dennis Chavez Blvd &118th St
    - The most common classification of a vehicle crash is observed to be Other Vehicle - From the Same Direction.
    - For the years 2014 to 2018, 40 crashes were reported.
    - A majority of the crashes at this intersection occurred during the daylight hours totaling 73% of crashes.
    - No fatal crashes were reported from 2014 to 2018. However, 30% of the crashes reported involved injuries.
    - The most common cause of crashes is observed to be Driver Inattention.
- Between 118th St & 98th St
    - The most common classification of a vehicle crash is observed to be Other Vehicle - From the Same Direction.
    - For the years 2014 to 2018, 7 crashes were reported.
    - A majority of the crashes at this intersection occurred during the daylight hours totaling 86% of crashes.
    - No fatal crashes were reported from 2014 to 2018. However, 29% of the crashes reported involved injuries.
    - The most common cause of crashes is observed to be Following Too Closely.
- Dennis Chavez Blvd & 98th St
    - The most common classification of a vehicle crash is observed to be Other Vehicle - From the Same Direction.
    - For the years 2014 to 2018, 24 crashes were reported.
    - A majority of the crashes at this intersection occurred during the daylight hours totaling 46% of crashes.
    - No fatal crashes were reported from 2014 to 2018. However, 21% of crashes reported involved injuries.
    - The most common cause of crashes is observed to be Driver Inattention.
- Between 98th St & Unser Blvd
    - The most common classification of a vehicle crash is observed to be Other Vehicle - From the Same Direction.
    - For the years 2014 to 2018, 1 crash was reported.
    - The only crash at this intersection occurred during the daylight hours.
    - No fatal crashes were reported from 2014 to 2018. However, the only crash reported involved injuries.
    - The cause of the crash reported is observed to be Failed to Yield Right of Way.
- Dennis Chavez Blvd & Unser Blvd
    - The most common classification of a vehicle crash is observed to be Other Vehicle - From the Same Direction.
    - For the years 2014 to 2018, 36 crashes were reported.
    - A majority of the crashes at this intersection occurred during the daylight hours totaling 36% of crashes.
    - No fatal crashes were reported from 2014 to 2018. However, 42% of the crashes reported involved injuries.
    - The most common cause of crashes is observed to be Driver Inattention.
- Between Unser Blvd & Condershire Dr

    - No crashes were reported for this part of the corridor from 2014 to 2018.
- Dennis Chavez Blvd & Condershire Dr
    - The most common classification of a vehicle crash is observed to be Other Vehicle - From the Same Direction.
    - For the years 2014 to 2018, 18 crashes were reported.
    - A majority of the crashes at this intersection occurred during the daylight hours totaling 78% of crashes.
    - No fatal crashes were reported from 2014 to 2018. However, 50% of the crashes reported involved injuries.
    - The most common cause of crashes is observed to be Driver Inattention.
- Between Condershire Dr & Coors Blvd
    - The most common classification of a vehicle crash is observed to be Other Vehicle - From the Same Direction and Other Vehicle - From Opposite Direction.
    - For the years 2014 to 2018, 2 crashes were reported.
    - A majority of the crashes at this intersection occurred during the daylight hours totaling 50% of crashes.
    - No fatal crashes were reported from 2014 to 2018. However, 50% of the crashes reported involved injuries.
    - The most common cause of crashes is observed to be Following Too Closely or Excessive Speed.
- Dennis Chavez Blvd & Coors Blvd
    - The most common classification of a vehicle crash is observed to be Other Vehicle - From the Same Direction.
    - For the years 2014 to 2018, 280 crashes were reported.
    - A majority of the crashes at this intersection occurred during the daylight hours totaling 56% of crashes.
    - No fatal crashes were reported from 2014 to 2018. However, 25% of the crashes reported involved injuries.
    - The most common cause of crashes is observed to be Driver Inattention.

98th St, Amole Mesa Ave, and 118th St

Table 40 below summarizes crashes occurring along 98th St, Amole Mesa Ave, and 118th St for the project area.

Table 40: 98th St, Amole Mesa Ave, and 118th St Crash Summary

	Crash Summary	98TH ST				AMOLE MESA AVE			118TH ST	
		Between Dennis Chavez Blvd & Colobel Ave	98th St & Colobel Ave	Between Colobel Ave & Amole Mesa Ave	98th St & Amole Mesa Ave	Between 98th St & Messina Dr	Amole Mesa Ave & Messina Dr	Between Messina Dr & 118th St	Amole Mesa Ave & 118th St	Between Amole Mesa Ave & Dennis Chavez Blvd
	Total Crashes	4	23	0	28	8	3	2	4	6
By Year	2014	0	4	0	4	1	1	1	0	2
	2015	1	6	0	9	1	1	0	0	0
	2016	0	5	0	2	0	1	0	3	2
	2017	2	1	0	5	2	0	1	0	2
	2018	1	7	0	8	4	0	0	1	0
By Type	Fixed Object	0	1	0	1	0	0	0	2	2
	Invalid Code	0	3	0	1	0	0	1	0	0
	Left Blank	0	2	0	0	1	0	0	0	0
	Other (Non-Collision)	0	0	0	1	0	0	0	0	0
	Other (Object)	1	0	0	0	0	0	0	0	0
	Other Vehicle - All Others/Entering At Angle	2	3	0	2	3	0	0	1	0
	Other Vehicle - Both Going Straight/Entering At Angle	0	1	0	0	0	1	0	0	0
	Other Vehicle - Both Turn Left/Entering At Angle	0	1	0	0	0	0	0	0	0
	Other Vehicle - Both Turn Right/Entering At Angle	0	0	0	0	0	0	0	0	0
	Other Vehicle - From Opposite Direction	0	3	0	4	0	0	0	0	0
	Other Vehicle - From Opposite Direction/All Others	0	0	0	1	0	0	0	0	0
	Other Vehicle - From Opposite Direction/Both Going Straight	0	1	0	2	1	0	0	0	0
	Other Vehicle - From Opposite Direction/Head-On Collision	0	0	0	0	0	0	0	0	0
	Other Vehicle - From Opposite Direction/One Left Turn	0	0	0	0	0	0	0	0	0
	Other Vehicle - From Opposite Direction/Sideswipe Collision	0	0	0	1	0	1	0	0	0
	Other Vehicle - From Same Direction/All Others	0	0	0	0	0	0	0	0	0
	Other Vehicle - From Same Direction/Both Going Straight	0	2	0	3	0	0	0	0	1
	Other Vehicle - From Same Direction/Both Turn Left	0	0	0	0	0	0	0	0	0
	Other Vehicle - From Same Direction/Both Turn Right	0	0	0	0	0	0	0	0	0
	Other Vehicle - From Same Direction/One Left Turn	0	0	0	0	0	0	0	0	0
	Other Vehicle - From Same Direction/One Right Turn	0	0	0	0	0	0	0	0	0
	Other Vehicle - From Same Direction/One Stopped	0	0	0	0	0	0	0	0	0
	Other Vehicle - From Same Direction/Rear End Collision	0	3	0	2	1	0	0	1	1
	Other Vehicle - From Same Direction/Sideswipe Collision	0	0	0	0	0	0	0	0	0
	Other Vehicle - From Same Direction/Vehicle Backing	0	0	0	1	0	1	0	0	0
	Other Vehicle - One Left Turn/Entering At Angle	1	2	0	8	1	0	1	0	2
	Other Vehicle - One Vehicle/Leave Driveway Access	0	1	0	0	0	0	0	0	0
	Other Vehicle - One Vehicle/Making A U-Turn	0	0	0	0	0	0	0	0	0
	Other Vehicle - One Vehicle/Stopped Traffic	0	0	0	0	0	0	0	0	0
	Overturn/Rollover	0	0	0	0	1	0	0	0	0
	Parked Vehicle	0	0	0	0	0	0	0	0	0
	Pedalcyclist	0	0	0	1	0	0	0	0	0
	Pedestrian	0	0	0	0	0	0	0	0	0
	Vehicle on Other Road	0	0	0	0	0	0	0	0	0
	% Other Vehicle - From Same Direction	0%	22%	0%	21%	13%	33%	0%	25%	33%
	% Other Vehicle - From Opposite Direction	0%	17%	0%	29%	13%	33%	0%	0%	0%
	% Other Vehicle - One Left Turn/Entering At Angle	25%	9%	0%	29%	13%	0%	50%	0%	33%
By Lighting Conditions	Day	2	16	0	21	5	3	1	4	4
	Dawn/Dusk	0	1	0	0	0	0	0	0	0
	Dark	2	2	0	4	3	0	0	0	1
	Invalid Code/Not Specified	0	4	0	3	0	0	1	0	1
	% Day	50%	70%	0%	75%	63%	100%	50%	100%	67%
By Severity	PDO	3	14	0	12	6	3	1	4	5
	Injury	1	9	0	16	2	0	1	0	1
	Fatality	0	0	0	0	0	0	0	0	0
	% Property Damage Only	75%	61%	0%	43%	75%	100%	50%	100%	83%
	% Injury	25%	39%	0%	57%	25%	0%	50%	0%	17%
By Cause	Alcohol/Drug Involved	0	0	0	0	0	0	0	0	0
	Avoid No Contact - Other	0	0	0	1	0	0	0	0	0
	Avoid No Contact - Vehicle	0	0	0	0	0	0	0	0	0
	Defective Tires	0	0	0	0	0	0	0	0	0
	Disregarded Traffic Signal	0	1	0	0	1	1	0	0	0
	Driver Inattention	1	6	0	8	2	1	0	2	3
	Drove Left Of Center	0	0	0	0	1	1	0	0	0
	Excessive Speed	0	2	0	0	1	0	0	0	0
	Failed to Yield Right of Way	1	3	0	10	0	0	1	0	1
	Following Too Closely	1	4	0	2	1	0	0	0	1
	Improper Backing	0	0	0	1	0	0	0	0	0
	Improper Lane Change	0	0	0	0	0	0	0	0	0
	Improper Overtaking	0	0	0	0	0	0	0	0	0
	Inadequate Brakes	0	0	0	0	0	0	0	0	0
	Made Improper Turn	0	0	0	0	0	0	0	0	1
	Missing Data	0	5	0	3	1	0	1	1	0
	None	1	0	0	0	0	0	0	1	0
	Other - No Driver Error	0	2	0	0	0	0	0	0	0
	Other Improper Driving	0	0	0	0	0	0	0	0	0
	Other Mechanical Defect	0	0	0	0	0	0	0	0	0
	Passed Stop Sign	0	0	0	3	1	0	0	0	0
	Road Defect	0	0	0	0	0	0	0	0	0
	Speed Too Fast for Conditions	0	0	0	0	0	0	0	0	0
	% Driver Inattention	25%	26%	0%	29%	25%	33%	0%	50%	50%
	% Following Too Closely	25%	17%	0%	7%	13%	0%	0%	0%	17%
	% Failed to Yield Right of Way	25%	13%	0%	36%	0%	0%	50%	0%	17%
	% Excessive Speed	0%	9%	0%	0%	13%	0%	0%	0%	0%

From the table shown above, the following observations are made:

- Between Dennis Chavez Blvd & Colobel Ave:
    - The most common classification of a vehicle crash is observed to be Other Vehicle - All Others/Entering At Angle.
    - For the years 2014 to 2018, 4 crashes were reported.
    - Two crashes were reported during the day, and two crashes were reported at night.
    - No fatal crashes were reported from 2014 to 2018. However, 25% of the crashes reported involved injuries.
    - The most common causes of crashes are observed to be Driver Inattention, Following Too Closely, and Failed to Yield Right of Way.
- 98th St & Colobel Ave:
    - The most common classification of a vehicle crash is observed to be Other Vehicle - From the Same Direction.
    - For the years 2014 to 2018, 23 crashes were reported.
    - A majority of the crashes at this intersection occurred during the daylight hours totaling 70% of crashes.
    - No fatal crashes were reported from 2014 to 2018. However, 39% of the crashes reported involved injuries.
    - The most common causes of crashes are observed to be Driver Inattention.
- Between Colobel Ave & Amole Mesa Ave:
    - No crashes were reported for this part of the corridor from 2014 to 2018.
- 98th St & Amole Mesa Ave:
    - The most common classifications of vehicle crashes are observed to be Other Vehicle - From Opposite Direction and Other Vehicle - One Left Turn/Entering At Angle.
    - For the years 2014 to 2018, 28 crashes were reported.
    - A majority of the crashes at this intersection occurred during the daylight hours totaling 75% of crashes.
    - No fatal crashes were reported from 2014 to 2018. However, 57% of the crashes reported involved injuries.
    - The most common causes of crashes are observed to be Failed to Yield Right of Way.
- Between 98th St & Messina Dr:
    - The most common classifications of vehicle crashes are observed to Other Vehicle - From the Same Direction, Other Vehicle - From Opposite Direction, or Other Vehicle - One Left Turn/Entering At Angle.
    - For the years 2014 to 2018, 8 crashes were reported.
    - A majority of the crashes at this intersection occurred during the daylight hours totaling 63% of crashes.
    - No fatal crashes were reported from 2014 to 2018. However, 25% of the crashes reported involved injuries.
    - The most common causes of crashes are observed to be Driver Inattention.
- Amole Mesa Ave & Messina Dr:
    - The most common classifications of vehicle crashes are observed to Other Vehicle - From the Same Direction, Other Vehicle - From Opposite Direction, or Other Vehicle - Both Going Straight/Entering At Angle.
    - For the years 2014 to 2018, 3 crashes were reported.

    - All of the crashes at this intersection occurred during the daylight hours.
    - No fatal or injury-related crashes were reported from 2014 to 2018.
    - The most common causes of crashes are observed to be Driver Inattention.
- Between Messina Dr & 118th St:
    - The most common classifications of vehicle crashes are observed to Other Vehicle - One Left Turn/Entering At Angle.
    - For the years 2014 to 2018, 2 crashes were reported.
    - One crash occurred during the daylight hours totaling 50% of crashes.
    - No fatal crashes were reported from 2014 to 2018. However, 50% of the crashes reported involved injuries.
    - The most common causes of crashes are observed to be Failed to Yield Right of Way.
- Amole Mesa Ave & 118th St:
    - The most common classifications of vehicle crashes are observed to Fixed Object.
    - For the years 2014 to 2018, 4 crashes were reported.
    - All of the crashes at this intersection occurred during the daylight hours.
    - No fatal or injury crashes were reported from 2014 to 2018.
    - The most common causes of crashes are observed to be Driver Inattention.
- Between Amole Mesa Ave & Dennis Chavez Blvd:
    - The most common classifications of vehicle crashes are observed to be Other Vehicle - From Same Direction and Other Vehicle - One Left Turn/Entering At Angle.
    - For the years 2014 to 2018, 6 crashes were reported.
    - A majority of the crashes at this intersection occurred during the daylight hours totaling 67% of crashes.
    - No fatal crashes were reported from 2014 to 2018. However, 17% of the crashes reported involved injuries.
    - The most common causes of crashes are observed to be Driver Inattention.

Highway Safety Manual Predictive Crash Method

Using existing roadway configurations and existing traffic conditions, an Interactive Highway Safety Design Manual (IHSDM) model, based on Highway Safety Manual Safety Performance Functions (SPF), was developed for the intersections of Dennis Chavez Blvd & 118th St, Dennis Chavez Blvd & 98th St, Dennis Chavez Blvd & Unser Blvd, Dennis Chavez & Condershire Dr, and Dennis Chavez & Coors Blvd. Crash rates and total expected crash frequencies were predicted for a 5-year period to be consistent with historical crash data review period in the previous section. Table 41 shows the results of the IHSDM analysis and compares the calculated results to crash data detailed in the intersection crash analysis section of this report. The following intersections were not analyzed because Average Annual Daily Traffic data is not available for local roadways: 98th & Colobel Ave, 98th & Amole Mesa Ave, and Amole Mesa Ave & Messina Dr. Output sheets from the IHSDM software can be found in the Appendix.

Table 41: IHSDM Predictive Crash Analysis

Location	IHSDM Analysis		Crash Data (From Intersection Crash Summary)	
	Predicted Total Crashes in 5 Year Period	Predicted No. of Crashes/Year	Total Crashes in 5 Year Period	Average Crash Rate (crashes/year)
Dennis Chavez Blvd & 118th St	22.64	4.53	40	8
Dennis Chavez Blvd & 98th St	23.36	4.67	24	5
Dennis Chavez Blvd & Unser Blvd	29.94	5.99	36	7
Dennis Chavez & Condershire Dr	19.87	3.97	18	4
Dennis Chavez & Coors Blvd	264.22	52.84	280	56

As shown in Table 41, the intersections are observed to have slightly higher actual crash rates and total crashes than are predicted by the IHSDM software. It is noted that IHSDM software uses various factors as default inputs that are based on national trends, and the state of New Mexico has not yet developed local calibration adjustments. This lack of calibration would explain some of the differences between observed and predicted crash frequencies. In addition, the predictive model is focused primarily on the volume of demand, traffic control, and lane geometry. However, it does not account for other local factors that may impact crash frequency.

DEVELOPMENT SITE SIGHT SPECIFIC OBSERVATIONS AND RECOMMENDATIONS

SITE ACCESS SIGHT DISTANCE EVALUATION

The following presents a narrative detailing recommended intersection sight distance requirement for the development. Intersection sight distance requirements were calculated based on the 2018 AASHTO "Green Book" chapter 9.5. Two sight distance cases were used for this analysis:

- Case B1 – A stopped vehicle turning left from a minor street approach onto a major road.
- Case B2 – A stopped vehicle turning right from a minor street approach onto a major road.

Intersection sight distances were calculated based on the following assumptions:

- Required intersection sight distance for Case B1 at all four access driveways were calculated based on the design vehicle crossing a single lane of traffic and median two-way left turn lane on an undivided roadway.
- Required intersection sight distance for Case B2 at all four access driveways were calculated based on the design vehicle crossing into the nearest lane of traffic.

Due to the nature of this development, a single passenger vehicle was used as the design vehicle. Values shown below in Table 42 were rounded up to the nearest 5-foot increment. Formulas, values, and calculations used in the sight distance analysis can be found in the appendix.

Table 42: Sight Distance Requirements

Case	Location	Speed	Sight Distance
Case B1 – Turning Left	Both Driveways on Amole Mesa	35 MPH	390 FT
Case B2 – Turning Right	Both Driveways on Amole Mesa	35 MPH	335 FT
Case B1 – Turning Left	Access Driveway on 118th	35 MPH	390 FT
Case B2 – Turning Right	Access Driveway on 118th	35 MPH	335 FT
Case B1 – Turning Left	Access Driveway on Colobel	35 MPH	390 FT
Case B2 – Turning Right	Access Driveway on Colobel	35 MPH	335 FT

Using the values shown above, it is recommended that all development driveways adhere to the sight distance provisions detailed in the AASHTO "Green Book." An area bounded by the above sight distances with the decision point placed 14.5 feet back from the edge of the shoulder midway between the outbound driving lane should be maintained clear of any obstructions.

Auxiliary Lane Analysis

NMDOT auxiliary lane warrants were reviewed for the four site access driveways. Table 17.B-1 was used to determine if auxiliary lanes are warranted, and Formula 9-1 was used to determine deceleration length and taper length, if applicable. The results of this analysis are shown below in Table 43. 2027 Full-Build turning movement volumes and full build-out trips were used in the analysis.

Table 43: Auxiliary Lane Analysis

Turning Lane	Turning Volume AM(PM)	Through Volume AM(PM)	Warrant Result (Table 17.B-2)	Required Deceleration Length (per Table 18.K-1)	Required Taper Length (per Table 18.K-1)
NBR at Feliz Way/Amole Mesa Driveway	42(28)	14(9)	Not Required	N/A	N/A
NBR at Cedro Way/Amole Mesa Driveway	42(28)	56(37)	Not Required	N/A	N/A
SBR at Crestone Way/Colobel Driveway	28(18)	5(16)	Not Required	N/A	N/A
WBR at Aspire Way/118th Driveway	14(9)	19(64)	Not Required	N/A	N/A

Based on the above table, auxiliary lanes are not required at the four site access driveways for the Aspire.

Signal Warrant Analysis

A planning level signal warrant analysis based on traffic volumes has been completed for the intersection of 98th St and Amole Mesa using current (adjusted) traffic volumes and forecasted traffic volumes with site trips according to the procedures set forth in the *2009 Manual on Uniform Traffic Control Devices (MUTCD)* for warrants 1 and 2 to analyze the effects of current and future traffic volumes on the intersection. It is noted that the analyses performed were performed using adjusted and forecasted data that do not meet MUTCD

data stipulations to definitively determine the need for a traffic signal. MUTCD recommends that non adjusted or forecasted traffic counts be collected as the need for a traffic signal is evaluated.

The following table presents the results for the scenarios:

98th St & Amole Mesa	2009 MUTCD Warrants Satisfied									
	Warrant 1 (8 Hour)	Warrant 2 (4 Hour)	Warrant 3B (Peak Hour)	Warrant 4 (Pedestrian)	Warrant 5 (School Crossing)	Warrant 6 (Coordinated Signal System)	Warrant 7 (Crash)	Warrant 8 (Roadway Network)	Warrant 9 (Intersection Near a Grade Crossing)	All-Way Stop Control
2020 Existing Conditions	✗	✗	Not Analyzed							
2027 without Site Trips	✗	✗								
2027 with Site Trips	✓	✓								
2037 Horizon (no site trips)	✓	✗								

✗ Not Satisfied

✓ Satisfied

Figure 14: Planning Level Signal Warrant Analysis

As summarized above, a traffic signal is not warranted undercurrent (adjusted) traffic volumes but could be warranted in the future as traffic volumes grow. It is therefore recommended that, if desired, a true traffic signal warrant analysis be performed in the future and when traffic volumes return to non-COVID-19 conditions. It is noted that the MUTCD requires a full signal warrant analysis using un-forecasted and un-adjusted traffic volumes to be satisfied prior to the activation of a traffic signal.

CAPACITY MITIGATIONS AND STREET IMPROVEMENTS

As shown in the capacity analysis, a general corridor-wide capacity issue is observed to exist on Dennis Chavez Blvd. This contributes to poor levels of service on both Dennis Chavez Blvd and side streets restrict possible near-term improvements as any additional auxiliary lanes feeding Dennis Chavez Blvd would not have receiving lanes departing intersections. Currently, Dennis Chavez Blvd is shown in the MRCOG 2040 plan to be widened with an additional eastbound and westbound travel lane; however, funding has not yet been programmed in the current STIP. Widening of Dennis Chavez would be anticipated to include additional eastbound and westbound travel lane(s) and thereby have significant impacts at each traffic signal and intersection. Additional lanes would mitigate poor levels of service and allow for auxiliary lanes to be constructed at intersections. It is therefore recommended that the NMDOT & Bernalillo County consider developing a future project to widen Dennis Chavez Blvd. It should be noted that these overcapacity conditions, specifically due to lack of through capacity on Dennis Chavez Blvd/Dennis Chavez Blvd, carry through all phased build-out analyses and thus, the proposed Aspire Development is not solely responsible for those associated movements and intersections operating at an unacceptable LOS and/or over capacity. As a widening project on Rio Bravo has not been developed or funded, capacity analysis did not consider additional lanes on Rio Bravo or at the Dennis Chavez Blvd & Coors Blvd intersection in intersection

geometries. The following table and paragraph below details capacity mitigations and recommendations for each intersection.

Dennis Chavez Blvd & 118th St

Under full build conditions, the intersection as a whole is expected to operate at acceptable levels of service. However, several capacity issues are expected for individual movements. These include the northbound left turn, northbound through, northbound right, and southbound through movements. It is therefore recommended that the traffic signal be periodically re-time and adjusted as developments in the surrounding area are constructed. It is also noted that the development does not contribute traffic to the northbound left and right movements. Additional through lanes and right turn lanes are not recommended at this intersection as receiving lanes is not currently present departing the intersection. Additionally, it is understood that Bernalillo County is in the process of designing minor signal improvements to add flashing yellow arrow left turns at the intersection. However, the details of this project are not currently finalized.

Dennis Chavez Blvd & 98th St

Under full build conditions, the intersection as a whole is expected to operate at acceptable levels of service. However, capacity issues are expected for the southbound left turn. It is therefore recommended that an additional southbound left-turn lane be constructed, and the traffic signal to be re-timed upon completion of construction.

It is understood that a construction project to add additional lanes at 98th & Dennis Chavez Blvd is currently underway as part of the Ceja Vista development. Current construction efforts are widening the intersection to accommodate additional lane geometry, including a southbound left-turn auxiliary lane, eastbound and westbound through lanes, and northbound lanes. It is understood that while the project is constructing an additional southbound left turn lane, the additional lanes will not have receiving lanes on Dennis Chavez Blvd outside of the intersection and, therefore, will not be activated until Dennis Chavez is widened. Auxiliary lanes being constructed therefore satisfy the above recommendation.

Dennis Chavez Blvd & Unser Blvd

Under full build conditions, the intersection as a whole is expected to operate at acceptable levels of service. However, capacity issues are expected for the southbound left and turns. It is therefore recommended that an additional southbound left turn auxiliary lane be constructed at the intersection. Currently, space exists between the southbound right turn lane and the southbound left-turn lane that could be used as an additional left-turn lane; however, no receiving lane existing departing the intersection. Therefore, it is recommended that this space be used for an additional southbound left turn lane upon the widening of Dennis Chavez Blvd and that the traffic signal be re-timed upon completion of construction. It is noted that the development does not contribute traffic to this movement.

Dennis Chavez & Condershire Blvd

No recommended improvements as deficiencies exist under 2020 conditions, and the development is not anticipated to contribute traffic to the failing side-street movements.

Dennis Chavez & Coors Blvd

Under full build conditions, the intersection as a whole is expected to operate at acceptable levels of service. However, capacity issues are expected for the following movements:

- Eastbound through
- Eastbound right
- Westbound left
- Westbound through

- Northbound left
- Northbound through
- Southbound left
- Southbound right

Therefore, the following recommendations are made:

- For the eastbound through, it is recommended that the signal be re-timed with the completion of other improvements. It is noted that recommendations below for the eastbound right turn will reduce traffic in the through lane, thereby improving levels of service.
- For the eastbound right turn lane, it is recommended that a right turn auxiliary lane be constructed. The development's traffic volume contribution to this movement, based on the fully constructed development, is calculated to be approximately 4.82% of the movement's total combined peak hour traffic volume (53 total peak trips / 1,100 total peak hour vehicles). It is concluded that the project contributes so few trips to this movement, compared to background traffic volumes, that the development should not be responsible for the entirety of the mitigation costs.
- For the westbound left turn, it is recommended that additional capacity be added by restriping existing pavement, currently configured as a striped median between the through and left-turn lane, into an additional left-turn lane. It is also recommended that signal control for this movement be changed from protected-permitted to protected only.
- For the westbound through, it is recommended that the signal be re-timed with the completion of other improvements. It is noted that recommendations to add additional capacity for the eastbound through/right and westbound left turns would free additional green time at the traffic signal that could be added to the westbound through movement.
- For the northbound left turn, it is noted that traffic generated by the Development site is anticipated to utilize this movement. However, no mitigations such as an additional turn lane are recommended at this time for this movement as the westbound departure of the intersection is currently a single lane departure leading to a single directional lane roadway. Possibility exists to add an additional turn lane and construct a merge point west of the intersection; however, this could cause additional safety issues and traffic slow-downs due to vehicles merging on a high-speed roadway. Therefore, dual left-turn lanes for the north to west movement are not recommended until Dennis Chavez has been widened to accommodate dual movements.
- For the northbound through, it is recommended that the signal be re-timed with the completion of other improvements. It is noted that recommendations to add additional capacity for other movements would free additional green time at the traffic signal that could be added to the northbound through movement.
- For the southbound left, it is recommended that the signal be re-timed with the completion of other improvements. It is noted that the southbound left-turn current utilizes dual-auxiliary lanes, and recommendations to add additional capacity for other movements would free additional green time at the traffic signal that could be added to the southbound left-turn movement.
- For the southbound right is recommended that a right turn auxiliary lane be constructed. The development's traffic volume contribution to this movement, based on the fully constructed development, is calculated to be approximately 1.59% of the movement's total combined peak hour traffic volume (4 total peak trips / 252 total peak hour vehicles). It is concluded that the project contributes so few trips to this movement, compared to background traffic volumes, that the development should not be responsible for the entirety of the mitigation costs.

The following table shows mitigated conditions at the intersection. It is noted that the westbound left turn is expected to experience a failing level of service in at least one 15-minute period. No further mitigations

are recommended at this time as no receiving lane is present for an additional lane and, as stated previously, is attributed to a regional traffic issue.

Table 44: Coors Blvd 2027 Mitigated Conditions

Dennis Chavez & Coors Blvd AM Mitigated												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	15.7	29.8	-	55	21	-	64.3	34.3	34.8	37.5	49.7	45.5
7:15	13.6	25.4	-	54.5	19	-	42.6	44.4	43.5	38.3	49.3	46.5
7:30	15.1	30.6	-	54.5	21	-	37	47	46.9	34.4	46.7	38.7
7:45	12.1	18.8	-	54.7	17.5	-	36.1	47.4	45.1	36.8	47.6	43.7
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	B	C	A	E	C	A	E	C	C	D	D	D
7:15	B	C	A	D	B	A	D	D	D	D	D	D
7:30	B	C	A	D	C	A	D	D	D	C	D	D
7:45	B	B	A	D	B	A	D	D	D	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7:00	0.02	-	-	0.12	0.22	-	1.55	-	-	0.32	-	0.21
7:15	0.03	-	-	0.1	0.24	-	1.01	-	-	0.46	-	0.16
7:30	0.02	-	-	0.1	0.27	-	0.72	-	-	0.62	-	0.11
7:45	0.03	-	-	0.14	0.31	-	0.59	-	-	0.47	-	0.12
Dennis Chavez & Coors Blvd PM Mitigated												
Delay (veh/p)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	29.7	27.8	-	20.6	57.3	-	32.2	36.8	32.3	52.9	45.2	42.6
16:15	31.4	27.2	-	20	73.6	-	32.1	33.5	29.6	56	46.1	40.4
16:30	30.1	30.4	-	22.7	53.7	-	33.2	31.9	28.2	54.3	43.5	38
16:45	31	26.2	-	20	95.1	-	31.8	36.2	29.8	55	45.4	42.4
Level of Service (LOS)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	C	C	A	C	E	A	C	D	C	D	D	D
16:15	C	C	A	B	F	A	C	C	C	E	D	D
16:30	C	C	A	C	D	A	C	C	C	D	D	D
16:45	C	C	A	C	F	A	C	D	C	D	D	D
Queue Storage Ratio (QSR)												
Time-Period	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
16:00	0.06	-	-	0.09	0	-	0.92	-	-	0.55	-	0.55
16:15	0.11	-	-	0.14	0	-	0.9	-	-	0.29	-	0.25
16:30	0.06	-	-	0.14	0	-	0.9	-	-	0.43	-	0.41
16:45	0.09	-	-	0.1	0	-	0.88	-	-	0.38	-	0.5

98TH ST & AMOLE MESA RD

It is recommended that a traffic signal warrant analysis be performed for the intersection once traffic volumes return to non-COVID conditions. See the signal warrant section for more details.

98TH ST & COLOBEL ST

No recommended improvements.