Albuquerque Collegiate Charter School

Albuquerque, New Mexico

Neighborhood Impact Assessment

FINAL

January 14, 2025

Submitted to:

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Albuquerque Collegiate Charter School
Sunset Gardens Rd. SW/ 90th St. SW - Albuquerque, NM
DRAFT Neighborhood Impact Assessment

Executive Summary

Purpose

The purpose of this **Neighborhood Impact Assessment** (NIA) is to evaluate the potential impacts of the proposed Albuquerque Collegiate Charter School on the adjacent transportation network and on the on-campus and nearby off-campus populations. By addressing two primary objectives—transportation impacts and environmental considerations—this NIA will provide valuable insights and practical recommendations for maintaining a balance between development and the surrounding community's well-being.

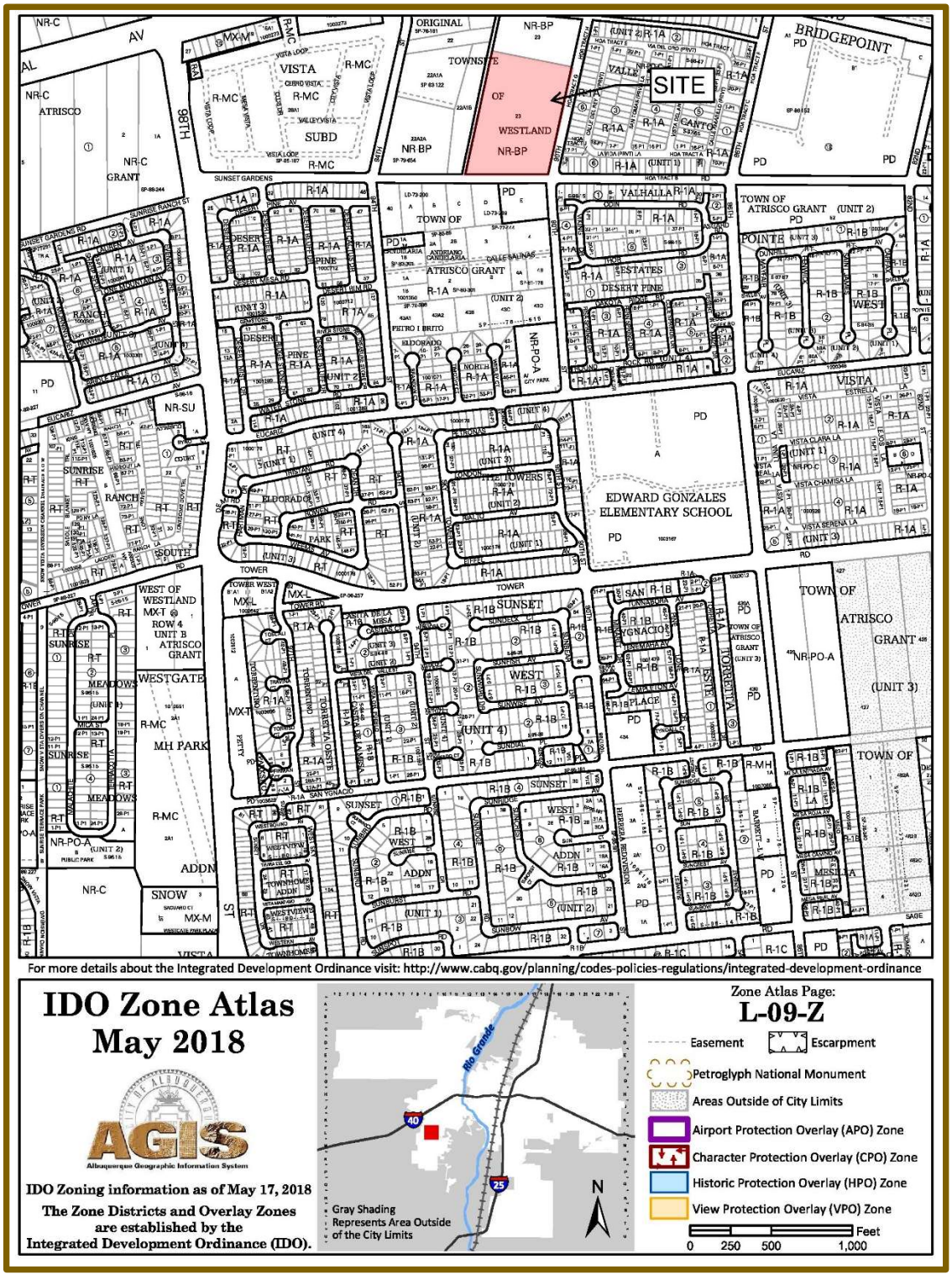
This study is prepared in accordance with the guidelines set by the City of Albuquerque (COA), Traffic Engineering Department.

Objectives

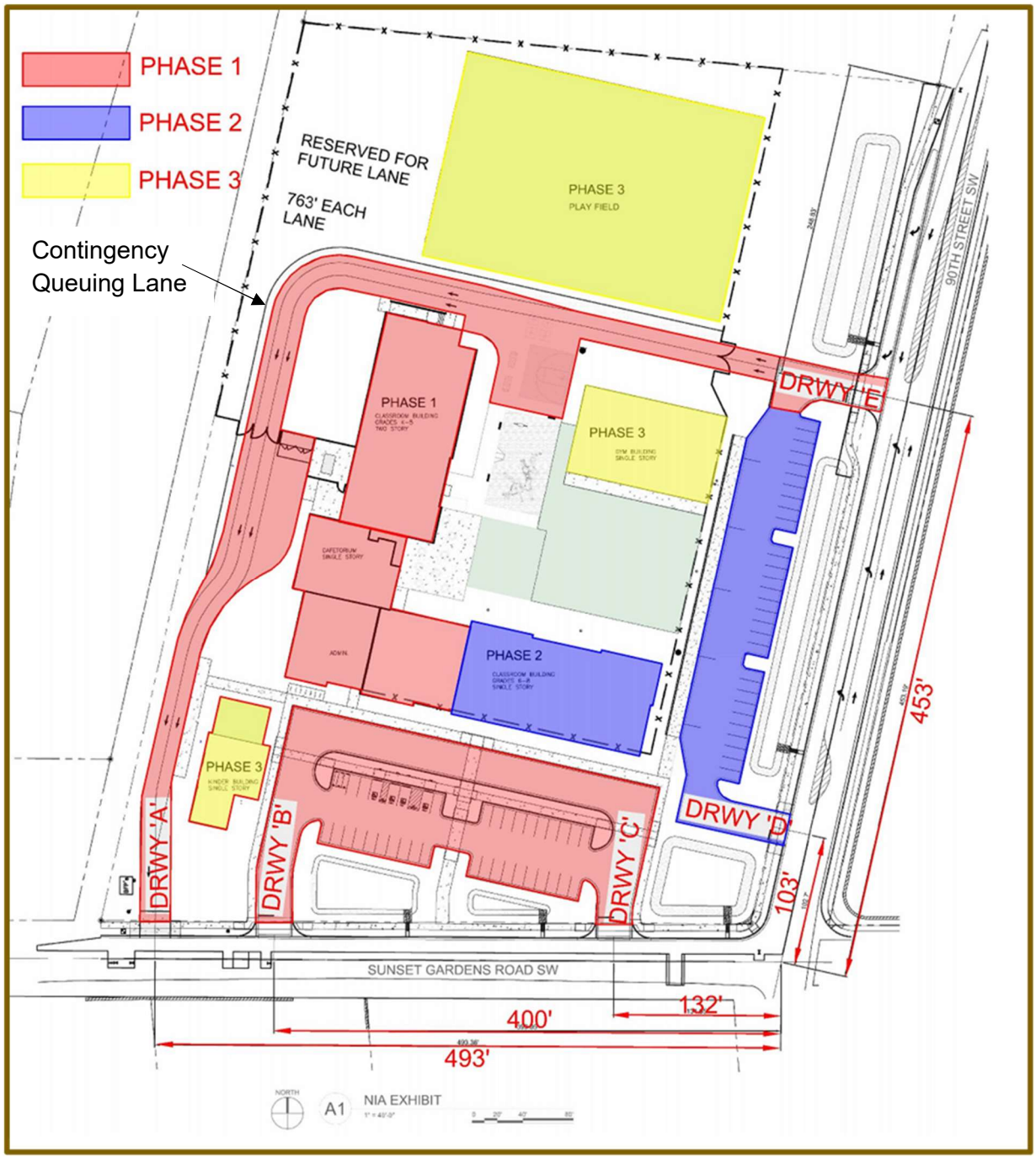
1. Assess the impact of the proposed commercial development on the transportation conditions in the adjacent area by evaluating how the development will affect traffic patterns, vehicle flow, and congestion levels both before (NO BUILD) and after (BUILD) implementation of the project.
2. Conduct a literature review of the potential environmental impacts, particularly noise and air pollution, caused by idling vehicles in queue lines during student drop-off and pick-up times (for a nearby school).
    a. Noise Pollution: Discuss the potential noise levels from vehicle engines idling during peak times and their effect on nearby residents, schools, or other sensitive areas.
    b. Air Pollution: Discuss the potential impact of emissions from idling vehicles, focusing on the potential health impacts on nearby pedestrians, students, and residents.
    c. Duration and Frequency: Determine the duration and frequency of the impact based on peak traffic periods, especially during school drop-off and pick-up times.
3. Assess proposed on-site and off-site queueing capacity and routing for vehicles entering and exiting the proposed development.
4. If negative impacts are identified, recommend actions to mitigate or prevent them. These recommendations may include additional lanes, or other infrastructure changes, better traffic management, dedicated queuing lanes, or the promotion of alternative transportation options to reduce vehicle congestion and queuing issues.

Project Description

The proposed commercial development is to be located within the City of Albuquerque, New Mexico at the northwest corner of Sunset Gardens Rd. SW and 90th Street. See location on the following COA zone atlas map.


SITE
EDWARD GONZALES ELEMENTARY SCHOOL
IDO Zone Atlas
May 2018
IDO Zoning information as of May 17, 2018
The Zone Districts and Overlay Zones are established by the Integrated Development Ordinance (IDO).
Zone Atlas Page:
L-09-Z
Easement
Escarpment
Petroglyph National Monument
Areas Outside of City Limits
Airport Protection Overlay (APO) Zone
Character Protection Overlay (CPO) Zone
Historic Protection Overlay (HPO) Zone
View Protection Overlay (VPO) Zone
Feet
0 250 500 1,000
Rio Grande
Gray Shading Represents Area Outside of the City Limits
N
For more details about the Integrated Development Ordinance visit: http://www.cabq.gov/planning/codes-policies-regulations/integrated-development-ordinance

The project is proposed as a charter school on 8.18 acres of vacant land in the northwest quadrant of Sunset Gardens Rd. SW and 90th Street SW in the City of Albuquerque. The school is planned to educate 610 students, grades pre-k thru 8th-Grade and will be accessed via two driveways and one Fire/Delivery Lane on Sunset Gardens Rd. & two driveways on 90th Street. Half of the students will be transported to and from the school using 6 buses. The other half will use personal vehicles as transportation. The project will be built in three phases over 5 years starting in 2025. See the Site Plan below.



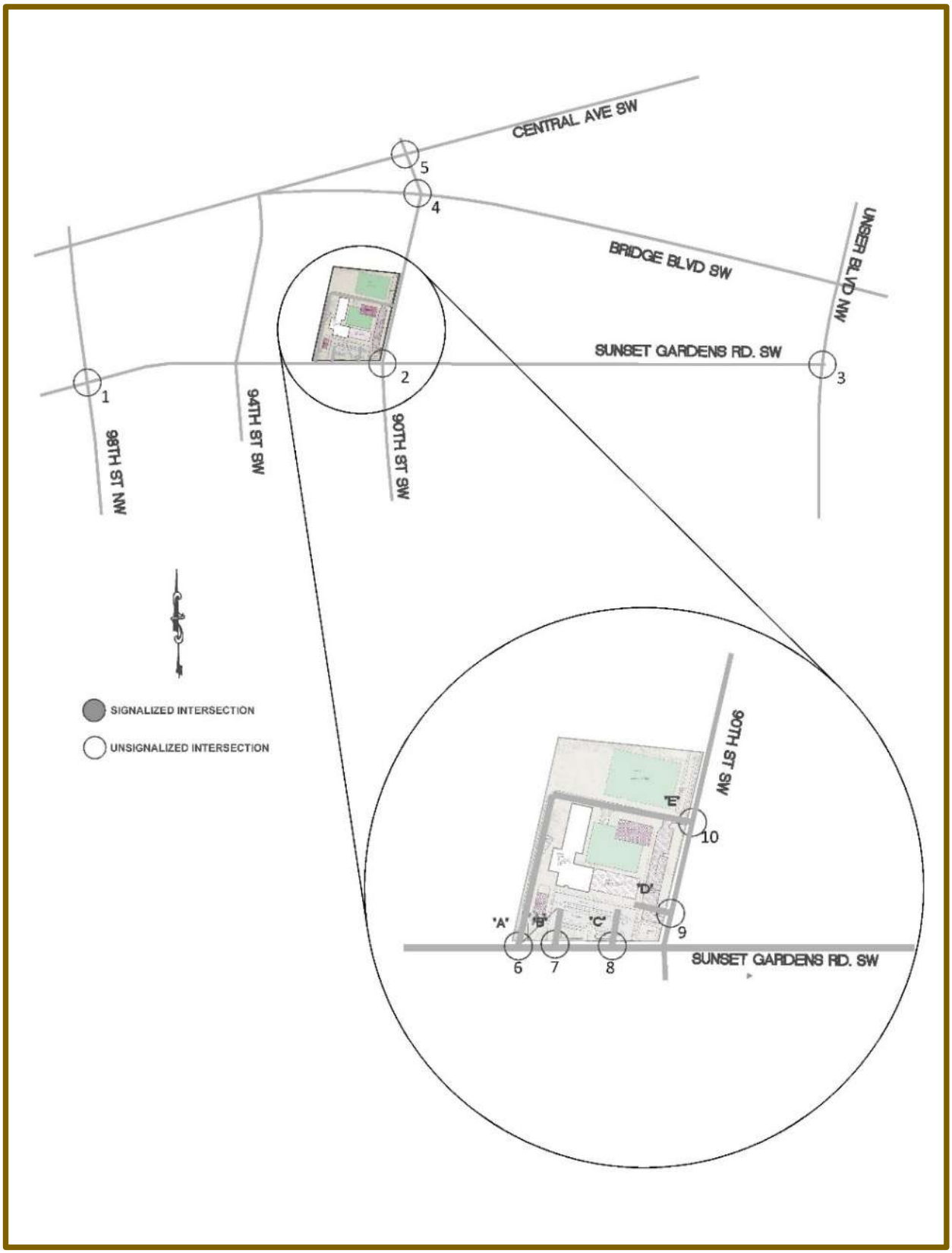
The site is undeveloped. Impacts to the study area intersections by the 610 daily weekday trips generated by the new development can be minimized with implementation of the recommended mitigations contained in this report.

The anticipated implementation year for the project is 2025 and the horizon year is 2035.

Study Area

The study area includes five existing unsignalized intersections (Intersections 1-5) and five proposed unsignalized driveways (Intersections 6 thru 10) as listed below and shown on the following map.

1. 98th St. & Sunset Gardens Rd. (Unsignalized)
2. 90th St. & Sunset Gardens Rd. (Unsignalized)
3. Unser Blvd. & Sunset Gardens Rd. (Unsignalized)
4. 90th St. & Bridge Blvd. (Unsignalized)
5. 98th Street & Central Blvd. (Unsignalized)
6. Sunset Gardens & Driveway A (Unsignalized – Right-out, Left-out ONLY)
7. Sunset Gardens Rd. & Driveway B (Unsignalized – Right-out, Left-out ONLY)
8. Sunset Gardens Rd. & Driveway C (Unsignalized – Right-in, Left-in ONLY)
9. 90th St. & Driveway D (Unsignalized – Right-out, Left-out ONLY)
10. 90th St. & Driveway E (Unsignalized – Right-in, Left-in ONLY)


CENTRAL AVE SW
BRIDGE BLVD SW
UNSER BLVD NW
SUNSET GARDENS RD. SW
98TH ST NW
94TH ST SW
90TH ST SW
1
2
3
4
5
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
90TH ST SW
'A'
'B'
'C'
'D'
'E'
6
7
8
9
10
SUNSET GARDENS RD. SW

Summary of Results

Analysis of the study area for this project was performed using Synchro 12 software developed by Trafficware, Inc., a CUBIC company. Reporting in this Neighborhood Impact Assessment are the HCM6 (Highway Capacity Manual, 6th Edition) reports from Synchro 12 software. Results of the analysis of the project's transportation study area are summarized in the following table:

HCM Results Summary Table

Albuquerque Collegiate Charter School - Albuquerque,NM

12/5/2024					2025 IMPLEMENTATION YEAR Capacity Analysis				2035 HORIZON YEAR Capacity Analysis			
					LOS, Delay (s/veh)[1]		QUEUEING ANALYSIS		LOS, Delay (s/veh)[1]		QUEUEING ANALYSIS	
Intersect. No.	Intersection Name	ACCESS TYPE	Existing Signalization/Control	Case	AM Peak	PM Peak	V/C>1?	QUEUE CAPACITY EXCEEDED?	AM Peak	PM Peak	V/C>1?	QUEUE CAPACITY EXCEEDED?
1	1: 98th St. & Sunset Gardens	N/A	Unsignalized/ 2-Way Stop Control	NO BUILD	C-18.7	D-33.5	NO	NO	C-19.8	E-38.4	NO	NO
				BUILD	F-84.7	D-34.7	NO	NO	F-109.3	E-40.0	NO	NO
				MITIGATED	F-77.6	D-31.3	NO	NO	F-95.0	E-40.0	NO	NO
2	2: 90th St. & Sunset Gardens	N/A	Unsignalized/ 2-Way Stop Control	NO BUILD	A-9.5	A-9.8	NO	NO	A-9.8	B-10.1	NO	NO
				BUILD	B-10.6	B-14.6	NO	NO	B-11.0	B-15.7	NO	NO
3	3: Unser Blvd. & Sunset Gardens	N/A	Unsignalized/ 2-Way Stop Control	NO BUILD	B-10.5	B-14.3	NO	NO	B-10.8	C-15.4	NO	NO
				BUILD	B-10.9	B-14.6	NO	NO	B-11.2	B-15.7	NO	NO
4	4: 90th St. & Bridge Blvd.	N/A	Signalized/ Actuated Coordinated	NO BUILD	B-12.5	B-12.6	NO	NO	B-14.1	B-14.4	NO	NO
				BUILD	C-17.8	B-13.4	NO	NO	C-21.8	B-15.4	NO	NO
5	5: 98th Street & Central Blvd	N/A	Signalized/ Actuated Coordinated	NO BUILD	C-15.6	D-25.6	NO	NO	C-17.0	D-33.2	NO	NO
				BUILD	C-17.8	D-27.5	NO	NO	C-20.5	E-36.2	NO	NO
6	6: Sunset Gardens & Drwy A	RO/LO - EXIT ONLY	Unsignalized/ 2-Way Stop Control	NO BUILD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				BUILD	A-9.4	A-8.8	NO	NO	A-9.5	A-8.9	NO	NO
7	7: Sunset Gardens & Drwy B	RO/LO- EXIT ONLY	Unsignalized/ 2-Way Stop Control	NO BUILD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				BUILD	A-9.5	A-8.8	NO	NO	A-9.6	A-8.9	NO	NO
8	8: Sunset Gardens & Drwy C	RI/LI - ENTER ONLY	Unsignalized/ 2-Way Stop Control	NO BUILD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				BUILD	A-8.4	A-8.4	NO	NO	A-8.3	A-8.4	NO	NO
9	9: 90th St. & Drwy D	RO/LO- EXIT ONLY	Unsignalized/ 2-Way Stop Control	NO BUILD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				BUILD	A-8.9	A-8.8	NO	NO	A-9.0	A-8.9	NO	NO
10	10: 90th St. & Drwy E	RI/LI - ENTER ONLY	Unsignalized/ 2-Way Stop Control	NO BUILD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				BUILD	A-7.7	A-8.6	NO	NO	A-8.4	A-8.6	NO	NO

1 - LOS = Level of Service as defined in the STATE ACCESS MANAGEMENT MANUAL, New Mexico State Highway and Transportation Department
2 - Data for movement with worst LOS &Delay
3 - HCM Multiple Period Analysis

Summary of Impacts and Recommendations

Impacts

1. **Intersection 1: 98th St. & Sunset Gardens Rd. (Unsignalized)**
   Moderate Impact by Development
   - The 2025 and 2035 Intersection Level of Service (LOS) degrades from LOS C (NO BUILD) to LOS F (BUILD) during the AM Peak Period based on the performance one movement, the westbound to southbound left-turn movement (WBL).
   - For the PM Peak Period LOS=D (2025) and LOS=E (2035) for NO BUILD and BUILD conditions.
   - Delays become significantly worse (66 seconds per vehicle for 2025 and 89 seconds per vehicle for 2035) for the WBL due to the traffic generated by the development and insufficient gap time on 98th St. to make an unsignalized left-turn.
   - Delays are reduced and queue lengths are shortened by striping the westbound approach to include one dedicated left-turn lane (WBL), 125-ft long, and one thru-right lane (WBTR) instead of the current configuration of one lane. The maximum required queue length for the WBL lane is three vehicles (75-ft) so 50-ft of surplus queue capacity is available with the mitigated geometry.
   - Since this is an unsignalized intersection, the only mitigation that could significantly improve the LOS would be to install a traffic signal. However, this would be excessive, as the movement typically operates at LOS = C or D for most of the time.
   - The volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.
   - The queue storage capacity is adequate for all lanes, so no additional lanes or lane extensions are necessary.

2. **Intersection 2: 90th St. & Sunset Gardens Rd. (Unsignalized)**
   Minimal Impact by Development,
   - The 2025 and 2035 Intersection LOS degrades from LOS=A (NO BUILD) to LOS=B (BUILD) during the AM and PM peak hours with the additional traffic generated by the development.
   - Delays for individual movements become worse by less than 5 seconds per vehicle.
   - The volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.
   - The queue storage capacity is adequate for all lanes, so no additional lanes or lane extensions are necessary.

3. **Intersection 3: Unser Blvd. & Sunset Gardens Rd. (Unsignalized)**
   Minimal Impact by Development,
   - The 2025 and 2035 Intersection LOS remains the same (LOS=B) from the NO BUILD to the BUILD condition during the AM and PM peak hours with the additional traffic generated by the development.
   - Delays for individual movements become worse by less than 2 seconds per vehicle.
   - The volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.
   - The queue storage capacity is adequate for all lanes, so no additional lanes or lane extensions are necessary.

4. **Intersection 4: 90th St. & Bridge Blvd. (Unsignalized)**
   Minimal Impact by Development,
   - The 2025 and 2035 Intersection LOS degrades from LOS=B (NO BUILD) to LOS=C (BUILD) during the AM peak period with the additional traffic generated by the development. LOS remains the same for the PM peak period (LOS=B)
   - Delays for individual movements become worse by less than 8 seconds per vehicle.
   - The volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.
   - The queue storage capacity is adequate for all lanes, so no additional lanes or lane extensions are necessary.

5. **Intersection 5: 98th Street & Central Blvd. (Unsignalized)**
   Minimal Impact by Development
   - From the NO BUILD to the BUILD condition, the Level of Service (LOS) remains the same except during the 2035 PM Peak Period when the LOS degrades from LOS=D to LOS=E. The intersection LOS is based on the performance of the worst performing movements, the southbound left-turn (SBL), and southbound thru (SBT).
   - Delays become worse during the PM peak period, especially for the SBL and SBT movements, due to insufficient gap time on Central Ave. to make an unsignalized left-turn. This is an existing problem not made significantly worse by traffic from the development. The development does not contribute any traffic to the SBL or NBL turn movements.
   - The volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion except for the SBT movement.
   - The queue storage capacity is adequate for all lanes, so no additional lanes or lane extensions are necessary.

6. **Intersections 6 thru 9: Driveways A thru D**
   Minimal Impact by Development
   - LOS and delays are acceptable (LOS=A) for all movements and existing queue capacities are sufficient.
   - No deceleration lanes are warranted.

7. **Intersection 10: 90th St. & Driveway E (Unsignalized – Right-in, Left-in ONLY)**
   Minimal Impact by Development
   - LOS and delays are acceptable (LOS=A) for all movements and existing queue capacities are sufficient.
   - A southbound right-turn lane 240-ft long (including transition) is warranted.
   - While a northbound left-turn lane is not warranted under the COA standards, it is recommended that a 200-ft long northbound left-turn lane (including transition) be added to mitigate potential delays caused by onsite student drop-off and pick-up. This will help prevent interference with local traffic. Additionally, a contingency plan to provide extra on-site queuing is recommended should queuing issues arise.

8. **Crash Analysis**: There were only five crashes at Intersection 1 over three years (2020 thru 2023). None of the crashes were fatal but three had injuries. There were no pedestrian or bicycle crashes. Driver attention was the top contributing factor to the crashes at this location.

9. **Environmental Impacts**:
   - Air Impacts: Only one contaminant, CO, indicates concentrations above EPA Air Quality Standards which is at the drop-off point. By the time the plume reaches the boundary of the site, concentrations are less than 2% of the standard. The simple model used for this assessment is limited to one point source (at the drop-off point) for all vehicles in the queue rather than a line of vehicles. This produces very conservative results since lower concentration sources stretched over the ¼-mile queueing route would disperse over a greater area with lower concentrations.
   - Noise Impacts: Noise levels from 66 queuing vehicles and the additional traffic generated by the development is expected to be less than 50 dBa in the neighborhoods directly adjacent to 90th St. and Sunset Gardens Rd.

Recommendations

1. **Intersection 1: 98th St. & Sunset Gardens Rd. (Unsignalized)**
   To improve performance of the intersection and to prevent westbound left-turning vehicles from blocking right-turning vehicles, it is recommended that the westbound approach be striped to include one dedicated left-turn lane, 125-ft long, and one thru-right lane. See conceptual striping plan on page 19 of this report.

2. **Intersections 2 thru 4 (Unsignalized)**
   No Mitigations Recommended

3. **Intersection 5: 98th Street & Central Blvd. (Unsignalized)**

No Mitigations Recommended: The poor LOS at this intersection is an existing problem not made significantly worse by traffic from the development and the development does not contribute traffic to the movements of concern. In the future, as the area becomes more developed, the COA should consider reducing or eliminating the median openings between 98th Street and Unser Boulevard to improve performance and safety along this corridor.

4. **Intersections 6 thru 9: Driveways A thru D**

   Assign traffic control personnel at the driveway during drop-off and pick-up times, develop a drop-off pick-up plan, and provide communication devices to traffic personnel to maintain smooth traffic flow and prevent conflicts between personal vehicles, pedestrians, and buses.

5. **Intersection 10: 90th St. & Driveway E (Unsignalized – Right-in, Left-in ONLY)**
   - Widen 90th St. as necessary 250-ft north of Driveway E to construct a 240-ft long (including transition) southbound right-turn deceleration lane and a 200-ft long (minimum) northbound left-turn lane (including transition).
   - A contingency plan to provide extra on-site queuing is recommended should queuing issues arise.
   - Assign traffic control personnel at the driveway during drop-off and pick-up times to maintain smooth traffic flow and prevent conflicts between personal vehicles, pedestrians, and buses.

6. **Noise and Emissions Reduction and Traffic Control Measures**
   - Assign traffic control personnel at the driveway during drop-off and pick-up times to maintain smooth traffic flow and prevent conflicts between personal vehicles, pedestrians, and buses.
   - Student Drop-Off/Pick-up is to be located on the west side of the site, 500-ft from residential populations on the east side of 90th St.
   - Buses will be provided to reduce personal vehicle use.
   - Parents queued to pick up students shall be instructed to wait for their children with their vehicles turned off when not actively in motion.
   - Personnel will be located at all drop-off/pick-up lane driveways and at the drop-off/pick-up zone to help keep traffic moving in an efficient manner.
   - Students will be made ready and systems we be put in place to make sure students enter and exit vehicles quickly to reduce queuing time.
   - Parents will be required to not allow students to sit in the front passenger seat so all students can enter and exit the vehicles on the driver's side (curb side) to prevent students from crossing between queuing vehicles or near vehicles in the passing lane.

7. **Off-site Improvements**
   - Provide curb and gutter; sidewalks; and ADA facilities designed in accordance with City of Albuquerque Design standards along project frontage.
   - Maintain site distances at Driveways.

Albuquerque Collegiate Charter School
Sunset Gardens Rd. SW/90th St. SW, Albuquerque, NM
DRAFT Neighborhood Impact Assessment

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    c. Duration and Frequency: Determine the duration and frequency of the impact based on peak traffic periods, especially during school drop-off and pick-up times.
3. Assess proposed on-site and off-site queueing capacity and routing for vehicles entering and exiting the proposed development.
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Project Description

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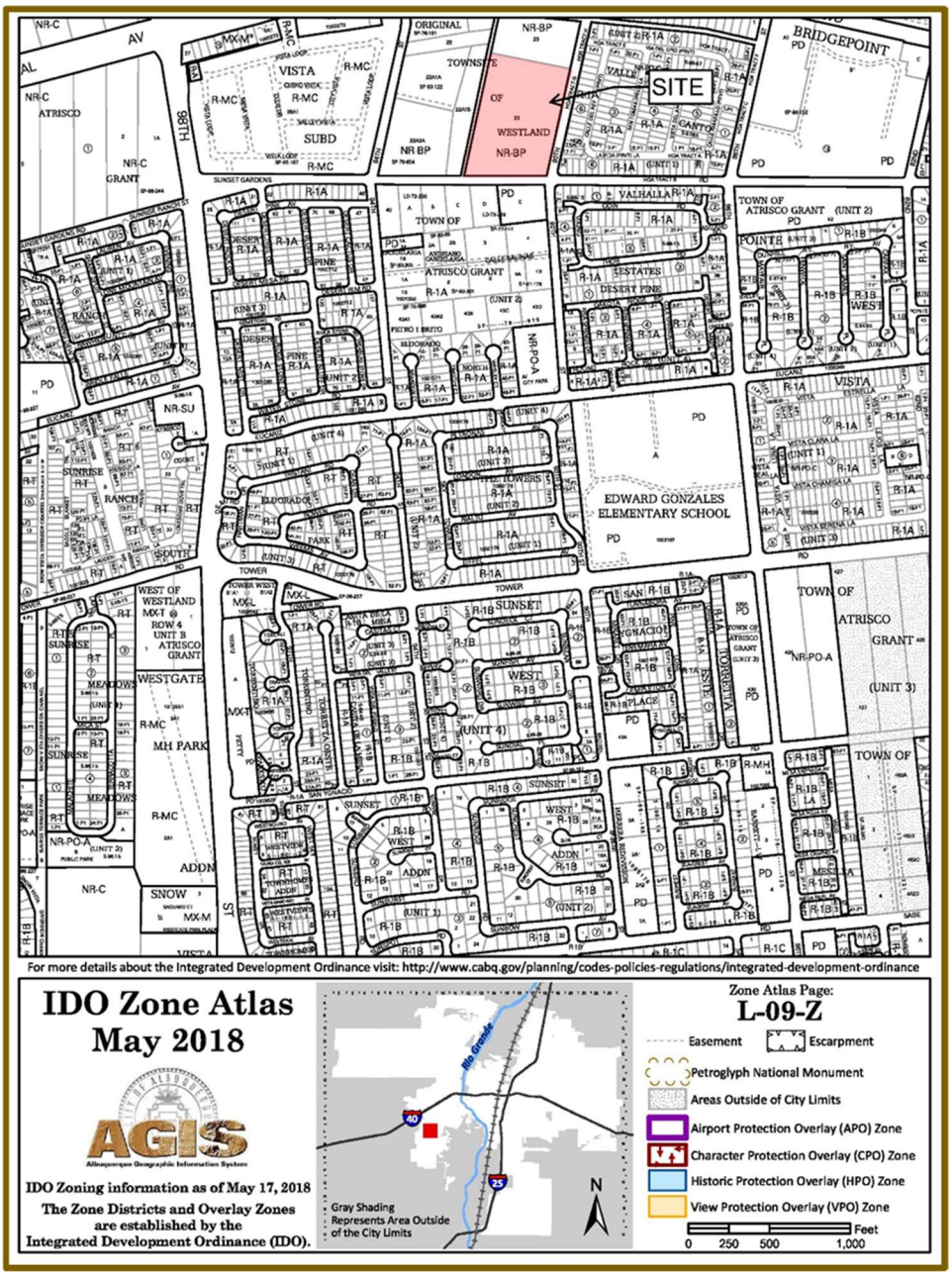

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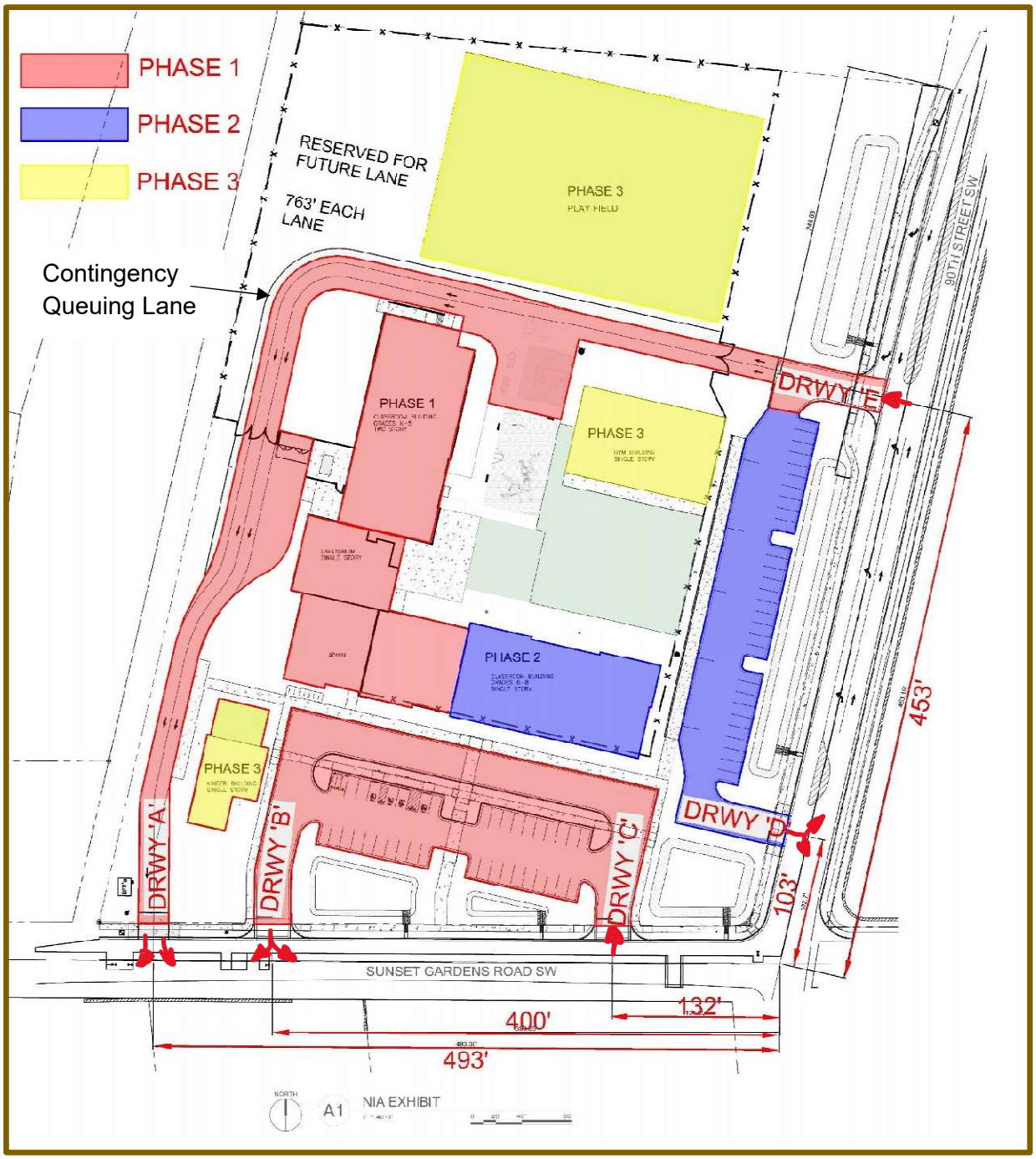

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The anticipated implementation year for the project is 2025 and the horizon year is 2035.

Access and Internal Site Circulation

The Albuquerque Collegiate School is to be accessed via five proposed driveways, three on Sunset Gardens Rd. and two on 90th St. Driveways “A”, “B”, and “D” are exit-only driveways and Driveways “C”, and “E” are enter-only driveways. See Site Plan on page 3 for the location of the driveways and distances to the Sunset Gardens Rd. & 90th St. intersection.

The internal roadway connecting Driveways "A" and "E" (Phase 1) will serve as both a queueing lane for drop-off/pick-up traffic and a fire lane. While vehicles are queued for drop-off or pick-up, the fire lane will be inaccessible to emergency vehicles. The total length of the onsite queue lanes will be 1526 ft or 61 vehicles. The total planned off-site queue capacity is 335-ft or 13 vehicles to be contained the proposed northbound and southbound deceleration lanes at Driveway E. As a contingency, space for a third queuing lane, 763-ft long, has been allocated as shown on the Site Plan on page 3. See Recommendations Section of the Executive Summary.

The drop-off/pick-up route will follow a counterclockwise circulation pattern, with the drop-off/pick-up curb located on the driver's side. Conventional configurations place the drop-off curb on the passenger side, allowing all students to exit safely onto the curb, away from moving vehicles. Although this configuration is unconventional, school personnel have indicated that a policy of not allowing front passengers will be conveyed to the parents to mitigate the risks associated with students exiting on the passenger side and navigating between queued vehicles. To encourage this policy, school personnel will be stationed at the drop-off area to remind students to exit on the driver's side, adjacent to the curb.

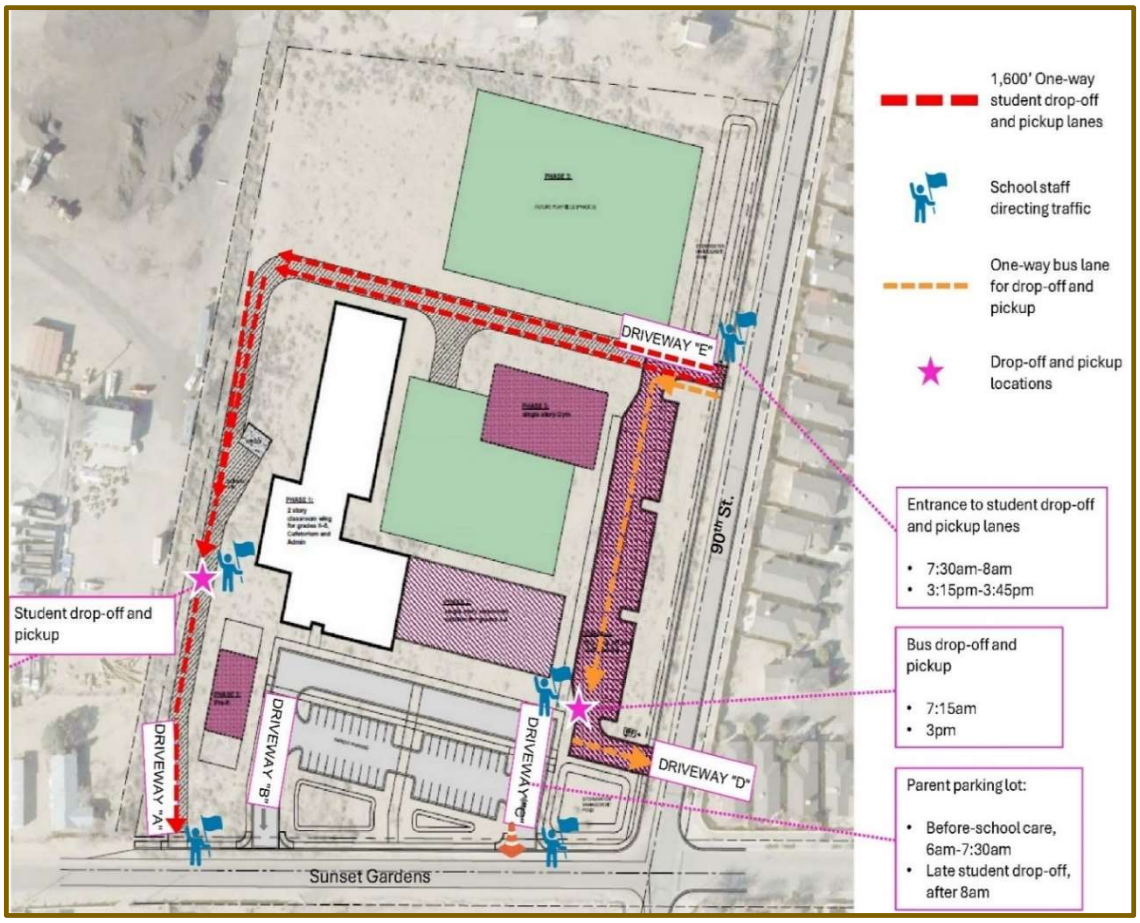
The parking area on the east side of the site (Phase 2) will be used for Bus drop-off/pick-up and staff parking.

The south parking area (Phase 1) will be used for Pre-k (50 Students) drop-off/pick-up and parent parking. The queue capacity of the PreK drop-off is 300-ft. or 12 vehicles.

Queue Capacity Summary

Total On-site Queuing = 1826-ft or 73 vehicles
Total Off-site Queuing = 335-ft or 13 vehicles
Total Queuing = 2161-ft or 86 vehicles
Contingency Queuing = 763-ft or 30 vehicles
Total Queuing with Contingency = 2924-ft or 116 vehicles

The site plan below shows the access locations and internal site traffic circulation.



Implementation Year and Horizon Year

The anticipated implementation year for this project is 2025 and the horizon year is 2035.

Study Area

Intersections

The study area includes five existing unsignalized public intersections (Intersections 1-5), and five proposed unsignalized private driveway intersections (Intersections 6 thru 10) as listed below and shown on the following map:

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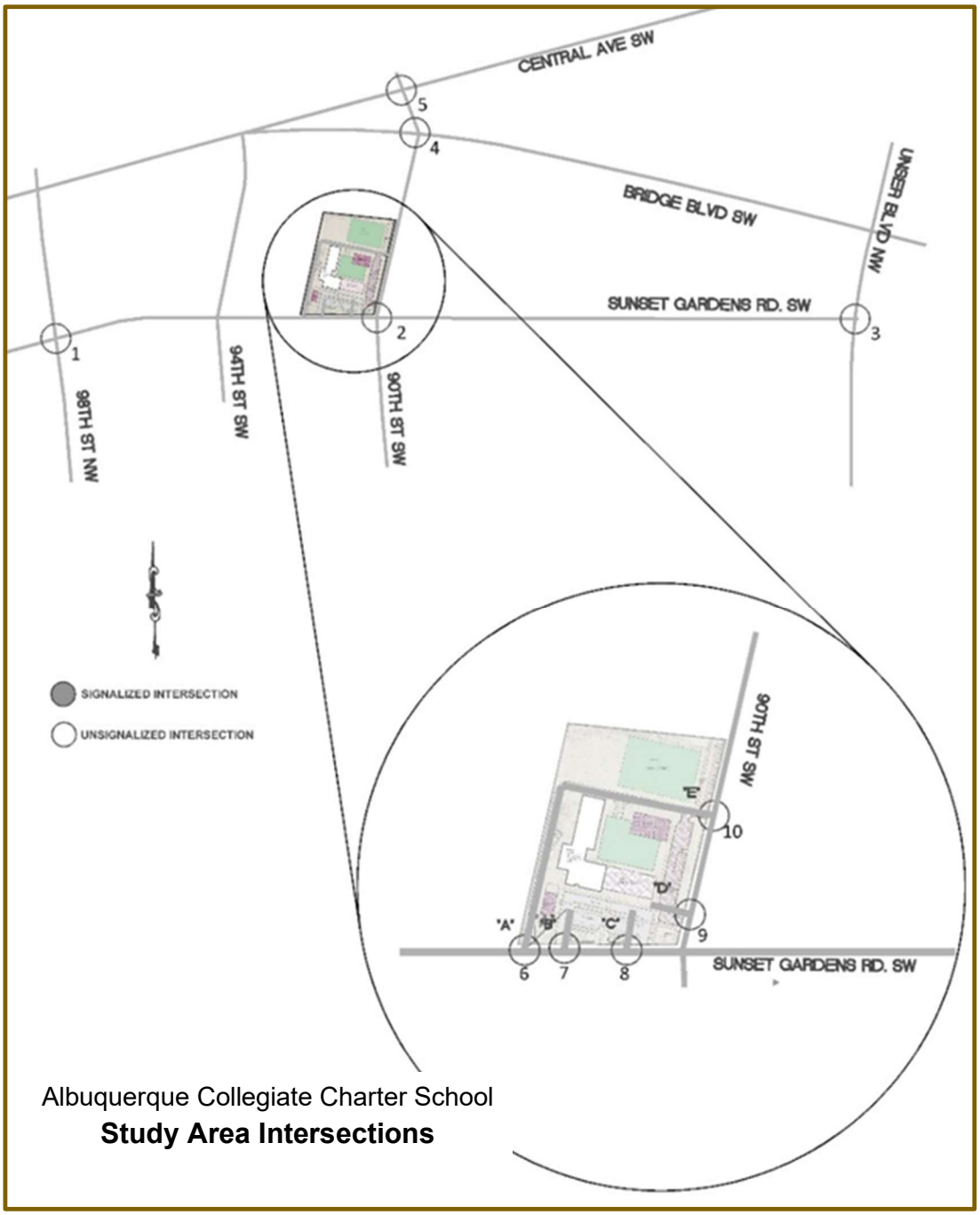


Albuquerque Collegiate Charter School
Study Area Intersections

Existing Land Uses

The land for the project is undeveloped. The parcel adjacent to the western boundary of the site is fully developed as a cement manufacturing operation. The parcel east of the site, on the eastern side of 90th Street, is a dense single-family residential subdivision. The northern and southern parcels are less densely developed with single family homes.

The influence area is a 3-mile radius from the development.

The site is zoned NR-BR, Non-residential, Business Park. The purpose of the NR-BP zone district is to accommodate a wide range of nonresidential uses in campus-like settings to buffer potential impacts on surrounding uses and adjacent areas. Allowable uses include a wide variety of office, commercial, research, industrial, distribution, showroom, processing, and institutional uses.

Other Planned or Approved Development and Transportation Improvements

There are no known planned or approved developments or transportation projects in the study area.

Existing Roadways and Bikeways

Unser Blvd. is classified as a **Regional Principal Arterial** roadway on the Mid-Region Council of Governments Long Range Roadway System map. It is a six-lane roadway with a raised divided median, curbs, and gutters. The posted speed limit is 40-mph. There are existing pedestrian facilities (sidewalks) on both sides of Unser Blvd. There are existing bike lanes in both directions and a bike/pedestrian path fronting the project. It has a bi-directional traffic flow of 27,400 Average Annual Weekday Traffic (AAWT).

Central Ave. is classified as a **Community Principal Arterial** roadway on the Mid-Region Council of Governments Long Range Roadway System map. It is a four-lane roadway with curbs and gutters and a raised median. The posted speed limit is 35-mph. There are pedestrian facilities along both sides of the road and bike lanes fronting the project in both directions. It has a bi-directional traffic flow of 14,500 AAWT in the study area.

Bridge Blvd. is classified as a **Major Collector** roadway on the Mid-Region Council of Governments Long Range Roadway System map. It is a two-lane roadway with curbs and gutters but no median. The posted speed limit is 40-mph. There are pedestrian facilities along both sides of the road and bike lanes fronting the project in both directions. It has a bi-directional traffic flow of 4,500 AAWT.

98th Street is classified as a **Community Principal Arterial** roadway on the Mid-Region Council of Governments Long Range Roadway System map. It is a four-lane roadway with a raised divided median, curbs, and gutters. The posted speed limit is 45-mph. There are existing pedestrian facilities (sidewalks) on both sides of 98th Street. There are existing bike lanes in both directions. It has a bi-directional traffic flow of 36,900 Average Annual Daily Traffic (AAWT).

90th St. is classified as a **Minor Collector** roadway on the Mid-Region Council of Governments Long Range Roadway System map. It is a two-lane roadway with no median, curbs, or gutters. The posted speed limit is 30-mph. There are existing pedestrian facilities (sidewalks) on the east side of 90th Street. There are no existing bike lanes. It has a bi-directional traffic flow of 11,400 Average Annual Daily Traffic (AAWT).

Sunset Gardens Rd. is classified as a **Minor Collector** roadway on the Mid-Region Council of Governments Long Range Roadway System map. It is a two-lane roadway with no median, curbs, or gutters. The posted speed limit is 30-mph. There are no existing pedestrian facilities or bike lanes. It has a bi-directional traffic flow of 810 Average Annual Daily Traffic (AAWT).

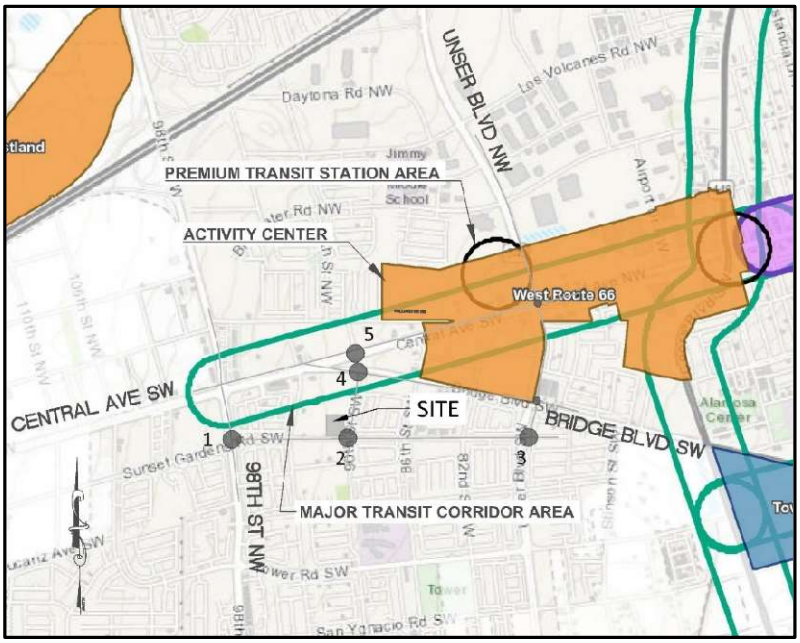
All existing intersections in the study area have adequate **lighting**.

ABC Comprehensive Plan Land Use and Transportation

The Albuquerque/Bernalillo County (ABC) Comprehensive Plan is primarily a land use document for growth and development within Albuquerque's municipal limits and unincorporated portions of Bernalillo County.

The site is located outside an Activity Center as defined in the ABC Comprehensive Plan.

A Major Transit Corridor runs along Central Ave. in the vicinity of the site. Major Transit Corridors are anticipated to be served by high frequency and local transit (e.g., Rapid Ride, local, and commuter buses). These corridors prioritize transit above other modes to ensure a convenient and efficient transit system. A Premium Transit Station is located near the intersection of Central Ave./Unser Blvd., less than 1-mille from the project. A map of the ABC Plan in the project area is shown below.



Portions of the regional transportation maps are provided in Appendix pages A-20 thru A-222 for information regarding 2019 Traffic Flow, Futures 2040 Long Range Roadway System, and Futures 2040 Long Range Bikeway System. There are no planned roadways or pedestrian facilities in the vicinity of the site. The bike lane on Bridge Blvd. is planned to be continued west of 86th St. past 90th St. to Central Ave.

Trips Generated by the Development

The Institute of Traffic Engineers' (ITE) Trip Generation Manual was used to determine the trips generated by the new Charter School. After examination of trips generated by private schools,

charter schools, and public schools, it was determined that this school best mimicked the trips generated by a Charter School (ITE CODE 538) during the AM drop-off period and a Private School (ITE CODE 532) during the PM pick-up period.

The following assumptions provided by the clients representative were used as a basis for the trips generated:

- Student enrollment at full buildout: 610 students
- School start time: 8:00am
- School dismissal time: 3:00 pm
- 25% of students (153 students) will take buses, 75% of students (457students) will use personal vehicles.
- 5-10% of students will be enrolled in before-school care and will use the A/E driveways.
- 50% of students will participate in after-school activities.
- Traffic control personnel will be employed at drop-off/pick-up lane entrances and exits to facilitate efficient flow of traffic.

A summary of the calculated trip generation rate projected for this project follows:

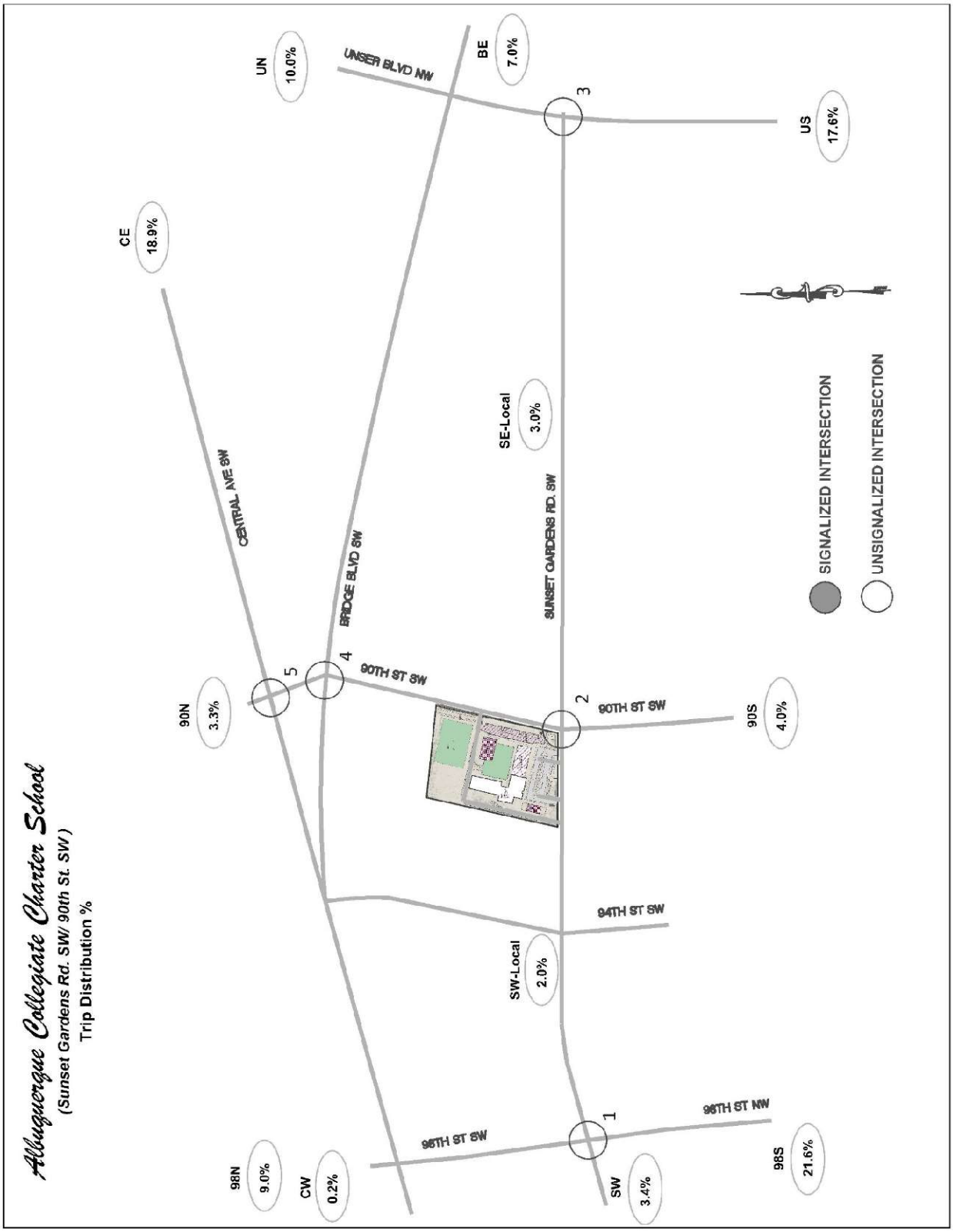
Albuquerque Collegiate Charter School

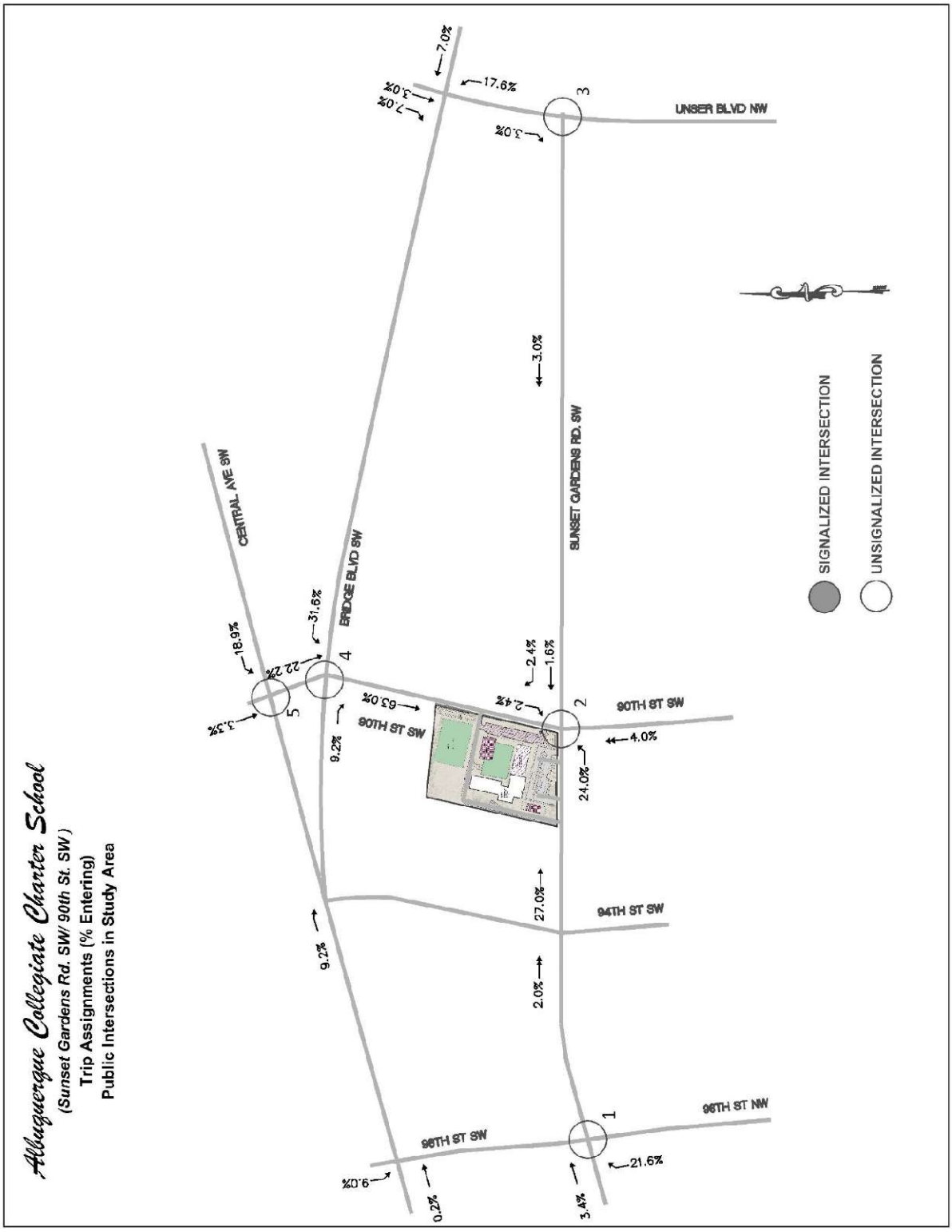
Trip Generation Data (ITE Trip Generation Manual - 11th Edition)

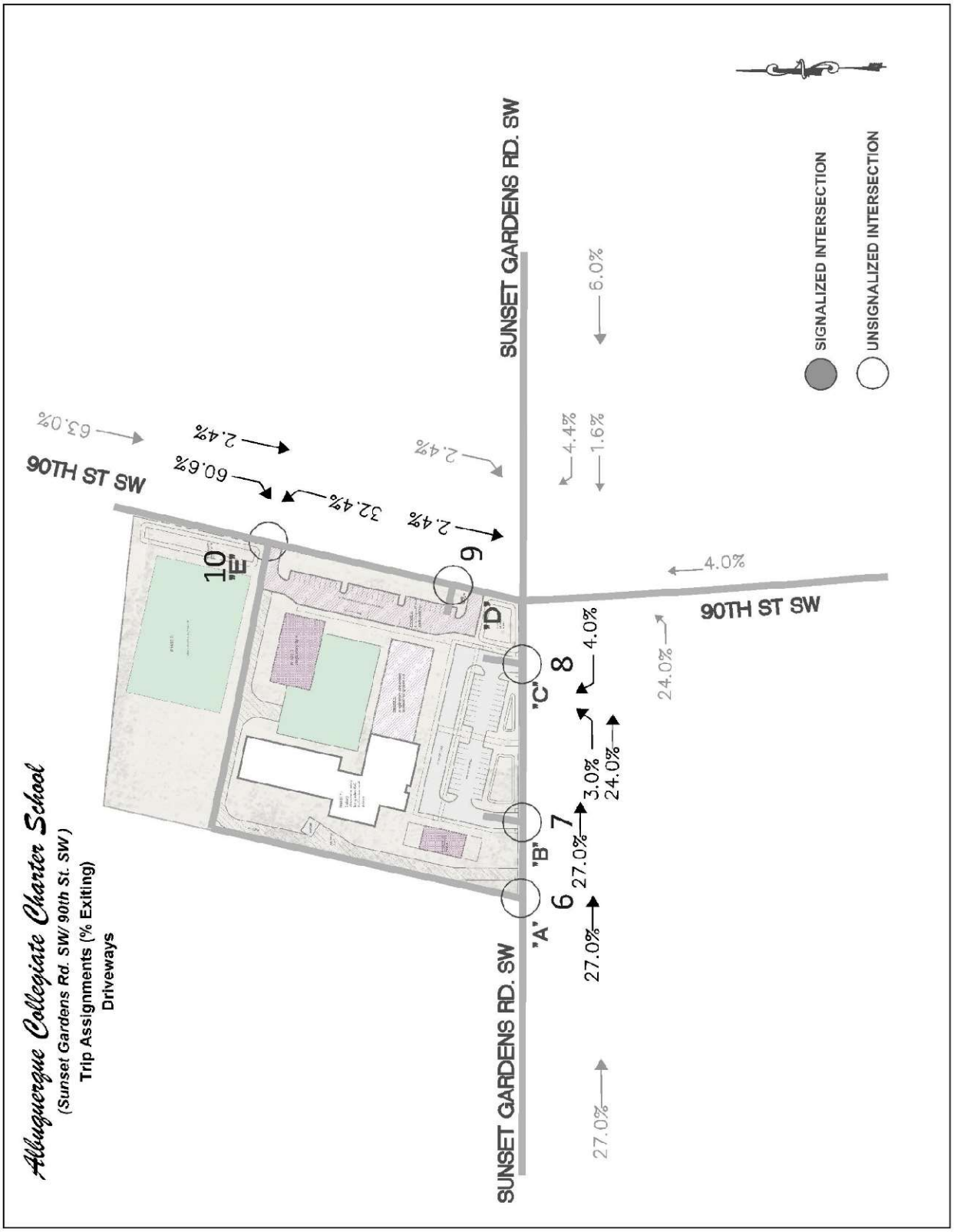
USE (ITE CODE)		24 HR VOL	A. M. PEAK HR.		P. M. PEAK HR.	
DESCRIPTION		*GROSS*	*ENTER*	*EXIT*	*ENTER*	*EXIT*
Summary Sheet	Units					
Charter K-12 (538)	610.00	506	258	248	-	-
Private K-12 (532)	610.00	104	-	-	45	59
Subtotal		**610**	**258**	**248**	**45**	**59**
Pass-By Trips	0%		*0*	*0*	*0*	*0*
Total Primary Trips			**258**	**248**	**45**	**59**

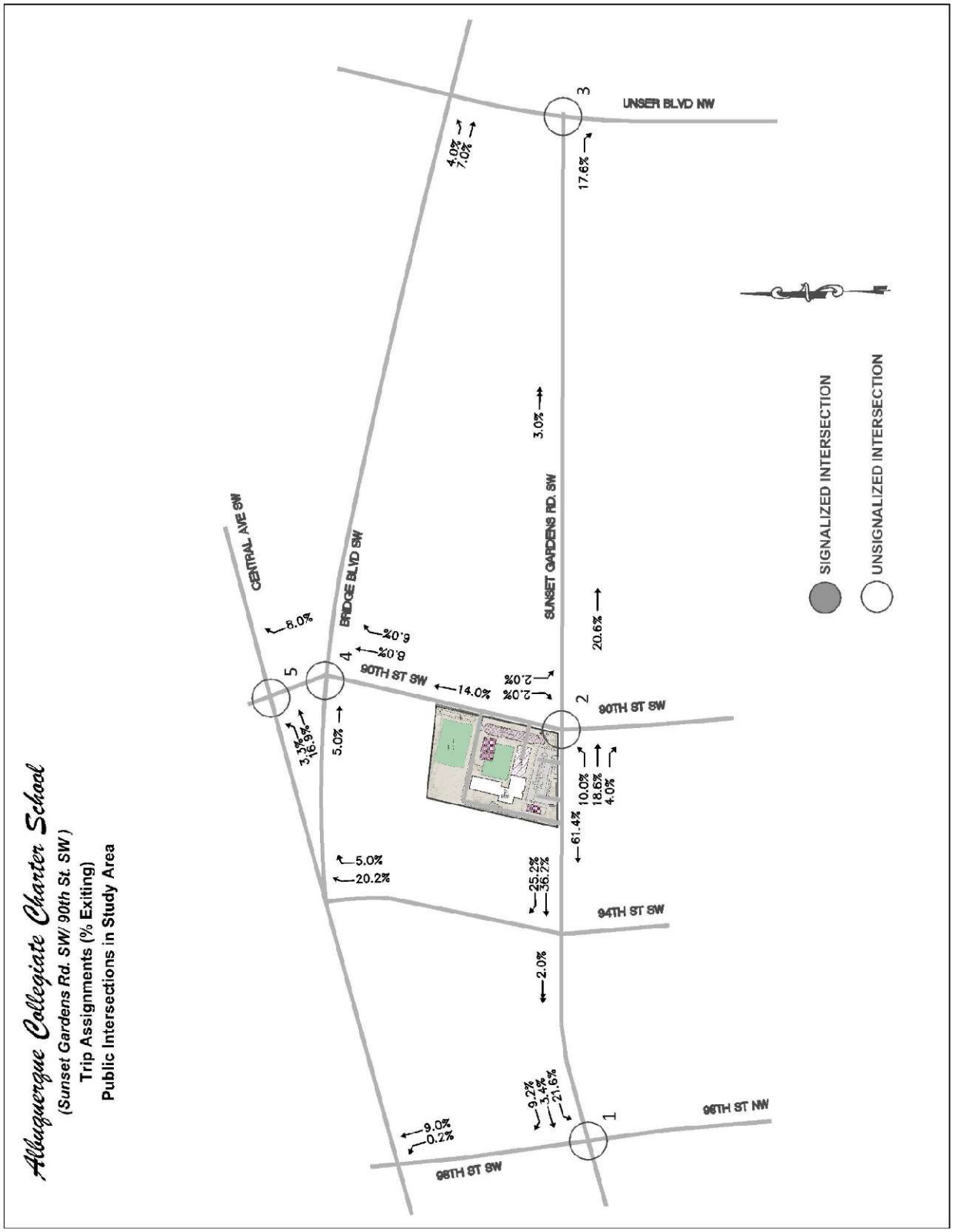
Trip Distribution

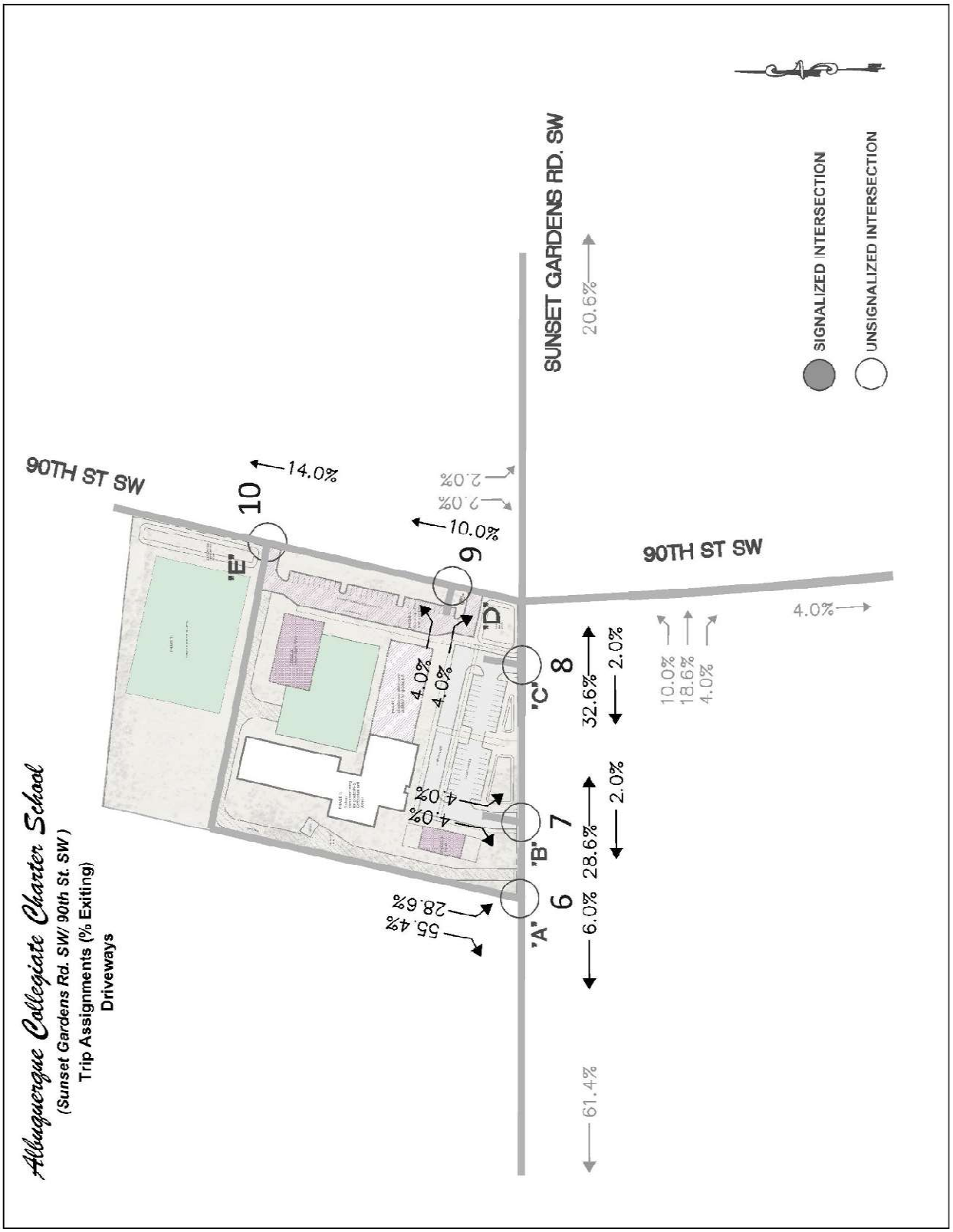
Trip Distribution and Trip Assignments of the newly generated traffic are based on interpolated 2016 and 2040 Socioeconomic Forecasts by Data Analysis Subzones (DASZ) for the Mid-Region of New Mexico as published by the Mid-Region Council of Governments (MRCOG). New Trips were distributed proportionally based on distribution of population withing a three-mile radius of the project. Given the abundance of public and public charter schools in Albuquerque, as well as the current geographic distribution of students across these schools, the influence area was adjusted from City-wide to within three miles of the school. Additionally, a second analysis was conducted using the City-Wide model, and the results were within 3% of those from the 3-mile model. Therefore, the analysis outcomes would be similar, and the recommendations would remain consistent regardless of the methodology used. See Appendix pages A-9 thru A-18 for trip distribution data and diagrams.


Albuquerque Collegiate Charter School
(Sunset Gardens Rd. SW/ 90th St. SW)
Trip Distribution %
UNSER BLVD NW
UN
10.0%
BE
7.0%
US
17.6%
CE
18.9%
CENTRAL AVE SW
BRIDGE BLVD SW
SUNSET GARDENS RD. SW
SE-Local
3.0%
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
90TH ST SW
90N
3.3%
90S
4.0%
94TH ST SW
SW-Local
2.0%
98TH ST SW
98TH ST NW
98N
9.0%
CW
0.2%
SW
3.4%
98S
21.6%
1
2
3
4
5


Albuquerque Collegiate Charter School
(Sunset Gardens Rd. SW/ 90th St. SW)
Trip Assignments (% Entering)
Public Intersections in Study Area
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
UNSER BLVD NW
SUNSET GARDENS RD. SW
CENTRAL AVE SW
BRIDGE BLVD SW
90TH ST SW
94TH ST SW
96TH ST SW
96TH ST NW
1
2
3
4
5
7.0%
17.6%
3.0%
7.0%
3.0%
3.0%
31.6%
18.9%
22.2%
3.3%
63.0%
9.2%
2.4%
1.6%
2.4%
4.0%
24.0%
27.0%
2.0%
9.2%
9.0%
0.2%
3.4%
21.6%


Albuquerque Collegiate Charter School
(Sunset Gardens Rd. SW/ 90th St. SW)
Trip Assignments (% Exiting)
Driveways
SUNSET GARDENS RD. SW
90TH ST SW
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
'A'
'B'
'C'
'D'
'E'
6
7
8
9
10
27.0%
3.0%
24.0%
4.0%
2.4%
32.4%
60.6%
63.0%
4.4%
1.6%
6.0%


Albuquerque Collegiate Charter School
(Sunset Gardens Rd. SW/ 90th St. SW)
Trip Assignments (% Exiting)
Public Intersections in Study Area
UNSER BLVD NW
CENTRAL AVE SW
BRIDGE BLVD SW
SUNSET GARDENS RD. SW
90TH ST SW
94TH ST SW
98TH ST SW
98TH ST NW
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
1
2
3
4
5
4.0%
7.0%
17.6%
3.0%
20.6%
8.0%
6.0%
8.0%
2.0%
2.0%
14.0%
5.0%
3.3%
16.9%
10.0%
18.6%
4.0%
61.4%
5.0%
20.2%
25.2%
36.2%
2.0%
9.2%
3.4%
21.6%
9.0%
0.2%


Albuquerque Collegiate Charter School
(Sunset Gardens Rd. SW/ 90th St. SW)
Trip Assignments (% Exiting)
Driveways
SUNSET GARDENS RD. SW
90TH ST SW
90TH ST SW
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
'A'
'B'
'C'
'D'
'E'
6
7
8
9
10
6.0%
28.6%
32.6%
61.4%
20.6%
14.0%
10.0%
2.0%
4.0%
10.0%
18.6%
4.0%
55.4%
28.6%

Traffic Volumes

Existing, NO BUILD, and BUILD traffic volumes used in the 2025 and 2035 analysis are presented in the tables in Appendix pages A-23 thru A-35 and A-36 thru A-48, respectively.

Existing Traffic Volumes

Existing traffic volumes are based on traffic counts collected in the field on Wednesday, October 23, 2024. Counts were collected at Intersections 1 (Sunset Gardens/98th), 2 (Sunset Gardens/90th), 3 (Sunset Gardens/Unser) , 4 (Bridge/90th), and 5 (Central/90th). Existing traffic volumes at the proposed driveways were extrapolated from the traffic counts at Intersection 2. Counts were taken at 15-minute intervals during the AM peak period (3-6am) and PM peak period (7-9am). See Appendix pages A-115 thru A-119 for the traffic count data.

NO BUILD Traffic Volumes

NO BUILD Traffic Volumes equal the sum of existing volumes, background growth volumes, and trips generated by other projects in the study area that have been recently approved or are under construction.

Background growth volumes are traffic volumes generated by applying background growth rates to the existing traffic volumes. Background growth rates are calculated using 2009 -2018 Average Weekday Traffic Flows (AWDT) published by the Mid-Region Council of Governments (MRCoG). Graphs of the AWDT values and the linear regression line shows growth rates at the study area intersections ranging from 0.5% to 3.3%. The growth rate graphs are presented in Appendix pages A-3 thru A-8.

There are no **trips generated by other developments** in the study area.

BUILD Traffic Volumes

BUILD Traffic Volumes are equal to the sum of the NO BUILD Traffic Volumes and the trips generated by the project. Project trips are distributed to each turning movement according to the trip distribution defined on the diagrams in the previous section.

Level of Service

Acceptable Level of Service (LOS) as defined in the City of Albuquerque Development Process Manual (DPM) for a Major Transit Corridor (Central Ave. project frontage) is shown in the table below. Also refer to page 5 for a map and definition of the center type and functional classification. All intersections in the Study Area must operate at LOS D or better other than Intersection 5 (Central/90th) which must operate at LOS E or better.

TABLE 7.5.88 **Desired LOS by Location and Corridor Type**

Functional Classification & Roadway Type	ABC Comp Plan Center Type						
	Transit Station Area	Downtown	Urban Center	Activity Center	Village Center	Employment Center	Outside Center
Premium Transit	E-F	E-F	E-F	E-F	E-F	E-F	E-F
Major Transit	E	E-F	E	E	D-E	D-E	D-E
Multi-modal	E	E	E	E	D-E	D-E	D-E
Commuter	E	E	D-E	D-E	D-E	D-E	D
Other Arterial	E	E	E	D-E	D-E	D-E	D
Minor Arterial	E	E	D-E	D-E	D-E	D	D
Collector	E	D-E	D	D	C-D	C-D	C-D

Capacity and Queuing Analysis Results

A capacity analysis of the study area intersections was conducted in accordance with the Highway Capacity Manual (HCM7) V.7. A single period analysis was conducted on the two driveway intersections using Synchro 12 (Version 12.2.4) modeling software. See Appendix pages A-49 thru A-114 for detailed results of the analysis. Summaries of the analysis results for the 2023 Implementation Year are presented in the following sections:

NOTE: Synchro does not compute an Intersection LOS for unsignalized intersections. So, the "Intersection LOS" reported in the following tables represent the worst performing movement in the intersection.

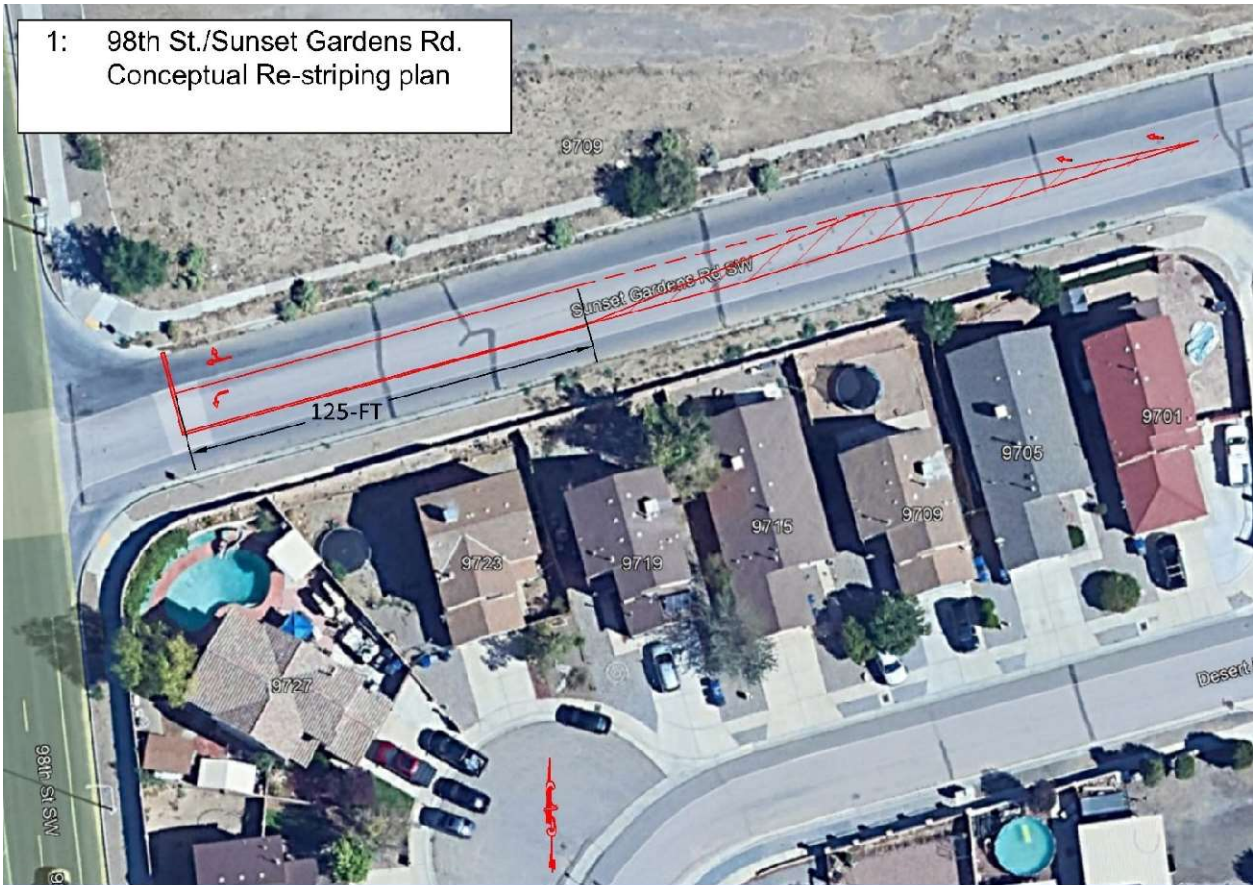
1: 98th St. & Sunset Gardens Rd.(Unsignalized)

Refer to Appendix A-55 thru A-66 for Synchro analysis reports.

Intersection 1 - Capacity Analysis

2025 and 2035 LOS (Capacity) Analysis of this intersection demonstrates that the proposed development will have moderate impact on the LOS and delays for the 2025 AM and PM BUILD conditions. The 2025 and 2035 Intersection Level of Service (LOS) degrades from LOS C (NO BUILD) to LOS F (BUILD) during the AM Peak Period based on the performance one movement, the westbound to southbound left-turn movement (WBL). For the PM Peak Period LOS=D (2025) and LOS=E (2035) for NO BUILD and BUILD conditions.

Delays become significantly worse (66 seconds per vehicle for 2025 and 89 seconds per vehicle for 2035) for the WBL due to the traffic generated by the development and insufficient gap time on 98th St. to make an unsignalized left-turn. Although the westbound approach is 36-ft wide, it is not striped, so it performs like a two-lane roadway with no dedicated left or right turn lanes. To improve performance of the intersection and to prevent westbound left-turning vehicles from blocking right-turning vehicles, it is recommended that the westbound approach be striped to include one dedicated left-turn lane, 125-ft long, and one thru-right lane. See conceptual striping plan below. The maximum queue length for the WBL lane with this mitigated geometry is three vehicles (75-ft) for the 2035 AM condition.



See results of the capacity analysis for 2025 and 2035 in the following tables.

Intersection 1 - Queuing Analysis

2025 and 2035 Queueing analysis indicates that storage capacity is adequate at all movements in the study area during the **2025** implementation year and **2035** horizon year; 95th percentile queue lengths are less than the existing lane lengths, so no additional lanes or lane extensions are necessary. Additionally, the volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.

Synchro Results Summary Sheet

1: 98th St. & Sunset Gardens

2025 Implementation Year

Unsignalized

Sunset Gardens	**EB (Sunset Gardens)**			**WB (Sunset Gardens)**			**NB (98th St.)**			**SB (98th St.)**		
98th St.	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0	<1>	0	0	<1>	0	1	2>	0	1	2>	0
AM Peak Hour												
NO BUILD Volumes	12	2	20	1	2	36	19	1,535	22	4	546	10
V/C Ratio		0.09			0.13		0.02			0.01		
Level-of-Service		C			C		A			B		
Control Delay (Seconds)		15.5			18.7		8.6			13.6		
Intersection LOS	**C-18.7**											
95th Percentile Queue (veh)		0.3			0.4		0.1			0.0		
BUILD Volumes	12	11	20	55	10	59	19	1,535	78	4	546	10
V/C Ratio		0.16			0.80		0.02			0.01		
Level-of-Service		C			F		A			B		
Control Delay (Seconds)		21.3			84.7		8.6			14.1		
Intersection LOS	**F-84.7**											
95th Percentile Queue (veh)		0.6			5.1		0.1			0.0		
Mitigage Lane Geometry	0	<1>	0	1	1>	0	1	2>	0	1	2>	0
BUILD MITIGATED Volumes	12	11	20	55	10	59	19	1,535	78	4	546	10
V/C Ratio		0.19		0.55	0.87		0.02			0.01		
Level-of-Service		C		F	C		A			B		
Control Delay (Seconds)		21.3		77.6	22.4		8.6			14.1		
Intersection LOS	**F-77.6**											
95th Percentile Queue (veh)		0.7		2.5	1.0		0.1			0.0		
PM Peak Hour												
NO BUILD Volumes	14	4	24	5	2	32	24	1,042	13	44	1,492	35
V/C Ratio		0.25			0.12		0.06			0.07		
Level-of-Service		D			C		B			B		
Control Delay (Seconds)		33.5			17.0		13.8			10.9		
Intersection LOS	**D-33.5**											
95th Percentile Queue (veh)		0.9			0.4		0.2			0.2		
BUILD Volumes	14	6	24	18	4	37	24	1,042	23	44	1,492	35
V/C Ratio		0.27			0.23		0.06			0.07		
Level-of-Service		D			C		B			B		
Control Delay (Seconds)		34.7			23.0		13.8			10.9		
Intersection LOS	**D-34.7**											
95th Percentile Queue (veh)		1.0			0.9		0.2			0.2		
Mitigage Lane Geometry	0	<1>	0	1	1>	0	1	2>	0	1	2>	0
BUILD MITIGATED Volumes	14	6	24	18	4	37	24	1,042	23	44	1,492	35
V/C Ratio		0.27		0.12	0.11		0.06			0.07		
Level-of-Service		D		D	C		B			B		
Control Delay (Seconds)		34.7		31.3	16.1		13.8			10.9		
Intersection LOS	**D-31.3**											
95th Percentile Queue (veh)		1.0		0.4	0.4		0.2			0.2		

Queue Lengths for WB approach to show effect of Mitigation (Restriping to add dedicated left-turn lane and thru-right lane)

Synchro Results Summary Sheet

1: 98th St. & Sunset Gardens

2035 Horizon Year

Unsignalized

Sunset Gardens	EB (Sunset Gardens)			WB (Sunset Gardens)			NB (98th St.)			SB (98th St.)		
98th St.	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0	<1>	0	0	<1>	0	1	2>	0	1	2>	0
AM Peak Hour												
NO BUILD Volumes	13	2	21	1	2	38	20	1,611	23	4	573	11
V/C Ratio		0.10			0.14		0.02			0.01		
Level-of-Service		C			C		A			B		
Control Delay (Seconds)		16.3			19.8		8.7			14.3		
Intersection LOS	**C-19.8**											
95th Percentile Queue (veh)		0.3			0.5		0.1			0.0		
BUILD Volumes	13	11	21	55	10	61	20	1,611	79	4	573	11
V/C Ratio		0.18			0.89		0.02			0.01		
Level-of-Service		C			F		A			B		
Control Delay (Seconds)		22.9			109.3		8.7			14.7		
Intersection LOS	**F-109.3**											
95th Percentile Queue (veh)		0.7			6.0		0.1			0.0		
Mitigage Lane Geometry	0	<1>	0	1	1>	0	1	2>	0	1	2>	0
BUILD Mitigated Volumes	13	11	21	55	10	61	20	1,611	79	4	573	11
V/C Ratio		0.18			0.97		0.02			0.01		
Level-of-Service		C		F	C		A			B		
Control Delay (Seconds)		22.9		95.0	24.1		8.7			14.7		
Intersection LOS	**F-95.0**											
95th Percentile Queue (veh)		0.7		2.9	1.1		0.1			0.0		
PM Peak Hour												
NO BUILD Volumes	15	4	25	5	2	34	25	1,094	14	46	1,567	37
V/C Ratio		0.29			0.13		0.06			0.07		
Level-of-Service		E			C		B			B		
Control Delay (Seconds)		38.4			17.8		14.5			11.2		
Intersection LOS	**E-38.4**											
95th Percentile Queue (veh)		1.1			0.4		0.2			0.2		
BUILD Volumes	15	6	25	18	4	39	25	1,094	24	46	1,567	37
V/C Ratio		0.31			0.25		0.06			0.07		
Level-of-Service		E			C		B			B		
Control Delay (Seconds)		40.0			24.8		14.5			11.3		
Intersection LOS	**E-40.0**											
95th Percentile Queue (veh)		1.2			1.0		0.2			0.2		
Mitigage Lane Geometry	0	<1>	0	1	1>	0	1	2>	0	1	2>	0
BUILD Mitigated Volumes	15	6	25	18	4	39	25	1,094	24	46	1,567	37
V/C Ratio		0.31		0.13	0.12		0.06			0.07		
Level-of-Service		E		D	C		B			B		
Control Delay (Seconds)		40.0		34.2	16.9		14.5			11.3		
Intersection LOS	**E-40.0**											
95th Percentile Queue (veh)		1.2		0.4	0.4		0.2			0.2		

Queue Lengths for WB approach to show effect of Mitigation (Restriping to add dedicated left-turn lane and thru-right lane)

2: 90th St. & Sunset Gardens (Signalized)

Refer to Appendix A-67 thru A-74 for Synchro analysis reports.

Intersection 2 - Capacity Analysis

2025 and 2035 LOS Analysis of this intersection demonstrates that the proposed development will have minimal impact on the LOS and delays for the 2025 and 2035 AM and PM BUILD conditions. Intersection LOS degrades from LOS=A (NO BUILD) to LOS=B (BUILD) during the AM and PM peak hours based on the performance of the EB approach. LOS remains at B or better for all other movements in the intersection. Delays for individual movements become worse by less than 2 seconds per vehicle.

See a summary of the capacity analysis for 2025 and 2035 in the following tables.

Intersection 2 – Queuing Analysis

2025 and 2035 Queueing analysis indicates that storage capacity is adequate at all movements in the study area during the **2025** implementation year and **2035** horizon year; 95th percentile queue lengths are less than the existing lane lengths, so no additional lanes or lane extensions are necessary. Additionally, the volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.

Synchro Results Summary Sheet

2: 90th St. & Sunset Gardens

2025 Implementation Year

Unsignalized

Sunset Gardens	**EB (Sunset Gardens)**			**WB (Sunset Gardens)**			**NB (90th St.)**			**SB (90th St.)**		
90th St.	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0	<1>	0	0	<1>	0	0	<1>	0	0	<1>	0
AM Peak Hour												
NO BUILD Volumes	6	15	0	0	11	4	0	60	1	2	24	12
V/C Ratio		0.03			0.02					0.00		
Level-of-Service		A			A		A			A	A	
Control Delay (Seconds)		9.5			9.4		0.0			7.3	0.0	
Intersection LOS	**A-9.5**											
95th Percentile Queue (veh)		0.1			0.1		0.0			0.0		
BUILD Volumes	93	61	10	0	15	10	0	70	1	7	24	23
V/C Ratio		0.20			0.03					0.01		
Level-of-Service		B			A		A			A	A	
Control Delay (Seconds)		10.6			9.4		0.0			7.4		
Intersection LOS	**B-10.6**											
95th Percentile Queue (veh)		0.8			0.1		0.0			0.0		
PM Peak Hour												
NO BUILD Volumes	1	17	4	5	15	0	1	36	10	9	54	7
V/C Ratio		0.03			0.03		0.00			0.01		
Level-of-Service		A			A		A	A		A	A	
Control Delay (Seconds)		9.6			9.8		7.3			7.3		
Intersection LOS	**A-9.8**											
95th Percentile Queue (veh)		0.1			0.1		0.0			0.0		
BUILD Volumes	18	28	6	5	16	1	1	38	10	10	54	9
V/C Ratio		0.07			0.03		0.00			0.01		
Level-of-Service		A			A		A	A		A	A	
Control Delay (Seconds)		9.8			9.8		7.3			7.3		
Intersection LOS	**A-9.8**											
95th Percentile Queue (veh)		0.2			0.1		0.0			0.0		

Synchro Results Summary Sheet

2: 90th St. & Sunset Gardens

2035 Horizon Year

Unsignalized

Sunset Gardens	**EB (Sunset Gardens)**			**WB (Sunset Gardens)**			**NB (90th St.)**			**SB (90th St.)**		
90th St.	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0	<1>	0	0	<1>	0	0	<1>	0	0	<1>	0
AM Peak Hour												
NO BUILD Volumes	8	20	0	0	15	5	0	79	1	3	31	16
V/C Ratio		0.04			0.03					0.00		
Level-of-Service		A			A		A			A	A	
Control Delay (Seconds)		9.8			9.6		0.0			7.4	0.0	
Intersection LOS	**A-9.8**											
95th Percentile Queue (veh)		0.1			0.1		0.0			0.0		
BUILD Volumes	95	66	10	0	19	11	0	89	1	8	31	27
V/C Ratio		0.22			0.04					0.01		
Level-of-Service		B			A		A			A	A	
Control Delay (Seconds)		11.0			9.7		0.0				7.4	
Intersection LOS	**B-11.0**											
95th Percentile Queue (veh)		0.8			0.1		0.0			0.0		
PM Peak Hour												
NO BUILD Volumes	1	22	5	7	20	0	1	48	14	12	71	10
V/C Ratio		0.04			0.04		0.00			0.01		
Level-of-Service		A			B		A	A		A	A	
Control Delay (Seconds)		9.9			10.1		7.4	0.0		7.4	0.0	
Intersection LOS	**B-10.1**											
95th Percentile Queue (veh)		0.1			0.1		0.0			0.0		
BUILD Volumes	18	33	7	7	21	1	1	50	14	13	71	12
V/C Ratio		0.08			0.04		0.00			0.01		
Level-of-Service		B			B		A	A		A	A	
Control Delay (Seconds)		10.1			10.1		7.4	0.0		7.4	0.0	
Intersection LOS	**B-10.1**											
95th Percentile Queue (veh)		0.2			0.1		0.0			0.0		

3: Unser Blvd. & Sunset Gardens (Existing: Unsignalized)

Refer to Appendix A-75 thru A-82 for Synchro analysis reports.

Intersection 3 – Capacity Analysis

2025 and 2035 LOS Analysis of this intersection demonstrates that the proposed development will have minimal impact on the LOS and delays for the 2025 AM and PM BUILD conditions. The 2025 and 2035 Intersection LOS remains the same (LOS=B) from the NO BUILD to the BUILD condition during the AM and PM peak hours with the additional traffic generated by the development. Delays for individual movements become worse by less than 2 seconds per vehicle.

See a summary of the capacity analysis for 2025 and 2035 in the following tables.

Intersection 3 – Queuing Analysis

2025 and 2035 Queueing analysis indicates that storage capacity is adequate at all movements in the study area during the **2025** implementation year and **2035** horizon year; 95th percentile queue lengths are less than the existing lane lengths, so no additional lanes or lane extensions are necessary. Additionally, the volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.

Synchro Results Summary Sheet

3: Unser Blvd. & Sunset Gardens

2025 Implementation Year

Unsignalized

Sunset Gardens	**EB (Sunset Gardens)**			**WB (Sunset Gardens)**			**NB (Unser)**			**SB (Unser)**		
Unser	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0		1				0	2			2	1
AM Peak Hour												
NO BUILD Volumes	0		24				0	1,244			628	22
V/C Ratio			0.04									
Level-of-Service			B									
Control Delay (Seconds)			10.5									
Intersection LOS	**B-10.5**											
95th Percentile Queue (veh)			0.1									
BUILD Volumes	0		68				0	1,244			628	30
V/C Ratio			0.10									
Level-of-Service			B									
Control Delay (Seconds)			10.9									
Intersection LOS	**B-10.9**											
95th Percentile Queue (veh)			0.3									
PM Peak Hour												
NO BUILD Volumes	0		12				0	784			1,348	59
V/C Ratio			0.03									
Level-of-Service			B									
Control Delay (Seconds)			14.3									
Intersection LOS	**B-14.3**											
95th Percentile Queue (veh)			0.1									
BUILD Volumes	0		22				0	784			1,348	60
V/C Ratio			0.06									
Level-of-Service			B									
Control Delay (Seconds)			14.6									
Intersection LOS	**B-14.6**											
95th Percentile Queue (veh)			0.2									

Synchro Results Summary Sheet

3: Unser Blvd. & Sunset Gardens

2035 Horizon Year

Unsignalized

Sunset Gardens	**EB (Sunset Gardens)**			**WB (Sunset Gardens)**			**NB (Unser)**			**SB (Unser)**		
Unser	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0		1				0	2			2	1
AM Peak Hour												
NO BUILD Volumes	0		27				0	1,368			690	24
V/C Ratio			0.04									
Level-of-Service			B									
Control Delay (Seconds)			10.8									
Intersection LOS	**B-10.8**											
95th Percentile Queue (veh)			0.1									
BUILD Volumes	0		71				0	1,368			690	32
V/C Ratio			0.11									
Level-of-Service			B									
Control Delay (Seconds)			11.2									
Intersection LOS	**B-11.2**											
95th Percentile Queue (veh)			0.4									
PM Peak Hour												
NO BUILD Volumes	0		13				0	861			1,482	64
V/C Ratio			0.04									
Level-of-Service			C									
Control Delay (Seconds)			15.4									
Intersection LOS	**C-15.4**											
95th Percentile Queue (veh)			0.1									
BUILD Volumes	0		23				0	861			1,482	65
V/C Ratio			0.06									
Level-of-Service			C									
Control Delay (Seconds)			15.7									
Intersection LOS	**B-15.7**											
95th Percentile Queue (veh)			0.2									

4: 90th St. & Bridge Blvd. (Unsignalized)

Refer to Appendix A-83 thru A-90 for Synchro analysis reports.

Intersection 4 – Capacity Analysis

2025 and 2035 LOS Analysis of this intersection demonstrates that the proposed development will have minimal impact on the LOS and delays for the 2025 AM and PM BUILD conditions. The 2025 and 2035 Intersection LOS remains the same (LOS=B) from the NO BUILD to the BUILD condition during the AM and PM peak hours with the additional traffic generated by the development. Delays for individual movements become worse by less than 8 seconds per vehicle.

See a summary of the capacity analysis for 2025 and 2035 in the following tables.

Intersection 4 – Queuing Analysis

2025 and 2035 Queueing analysis indicates that storage capacity is adequate at all movements in the study area during the **2025** implementation year and **2035** horizon year; 95th percentile queue lengths are less than the existing lane lengths, so no additional lanes or lane extensions are necessary. Additionally, the volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.

Synchro Results Summary Sheet

4: 90th St. & Bridge Blvd.

2025 Implementation Year

Unsignalized

Bridge Blvd.	**EB (Bridge Blvd.)**			**WB (Bridge Blvd.)**			**NB (90th St.)**			**SB (90th St.)**		
90th St.	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0	<1>	0	0	<1>	0	0	<1>	0	1	1>	0
AM Peak Hour												
NO BUILD Volumes	2	105	5	11	116	78	2	82	6	49	18	1
V/C Ratio	0.00			0.01				0.15		0.09	0.03	
Level-of-Service	A	A		A	A			B		B	B	
Control Delay (Seconds)	7.6	0.0		7.5	0.0			12.0		12.5	11.0	
Intersection LOS	**B-12.5**											
95th Percentile Queue (veh)	0.0			0.0				0.5		0.3	0.1	
BUILD Volumes	2	117	29	93	116	78	2	102	21	49	75	1
V/C Ratio	0.00			0.07				0.27		0.15	0.17	
Level-of-Service	A	A		A	A			C		C	B	
Control Delay (Seconds)		7.6			7.7			15.4		17.8	14.7	
Intersection LOS	**C-17.8**											
95th Percentile Queue (veh)	0.0			0.2				1.1		0.5	0.6	
PM Peak Hour												
NO BUILD Volumes	4	169	11	10	117	37	5	29	9	92	52	0
V/C Ratio	0.00			0.01				0.07		0.16	0.09	
Level-of-Service	A	A		A	A			B		B	B	
Control Delay (Seconds)	7.5	0.0		7.6	0.0			11.4		12.6	11.9	
Intersection LOS	**B-12.6**											
95th Percentile Queue (veh)	0.0			0.0				0.2		0.6	0.3	
BUILD Volumes	4	172	15	24	117	37	5	34	13	92	62	0
V/C Ratio	0.00			0.02				0.09		0.18	0.12	
Level-of-Service	A	A		A	A			B		B	B	
Control Delay (Seconds)	7.5	0.0		7.6	0.0			11.7		13.4	12.4	
Intersection LOS	**B-13.4**											
95th Percentile Queue (veh)	0.0			0.1				0.3		0.6	0.4	

Synchro Results Summary Sheet

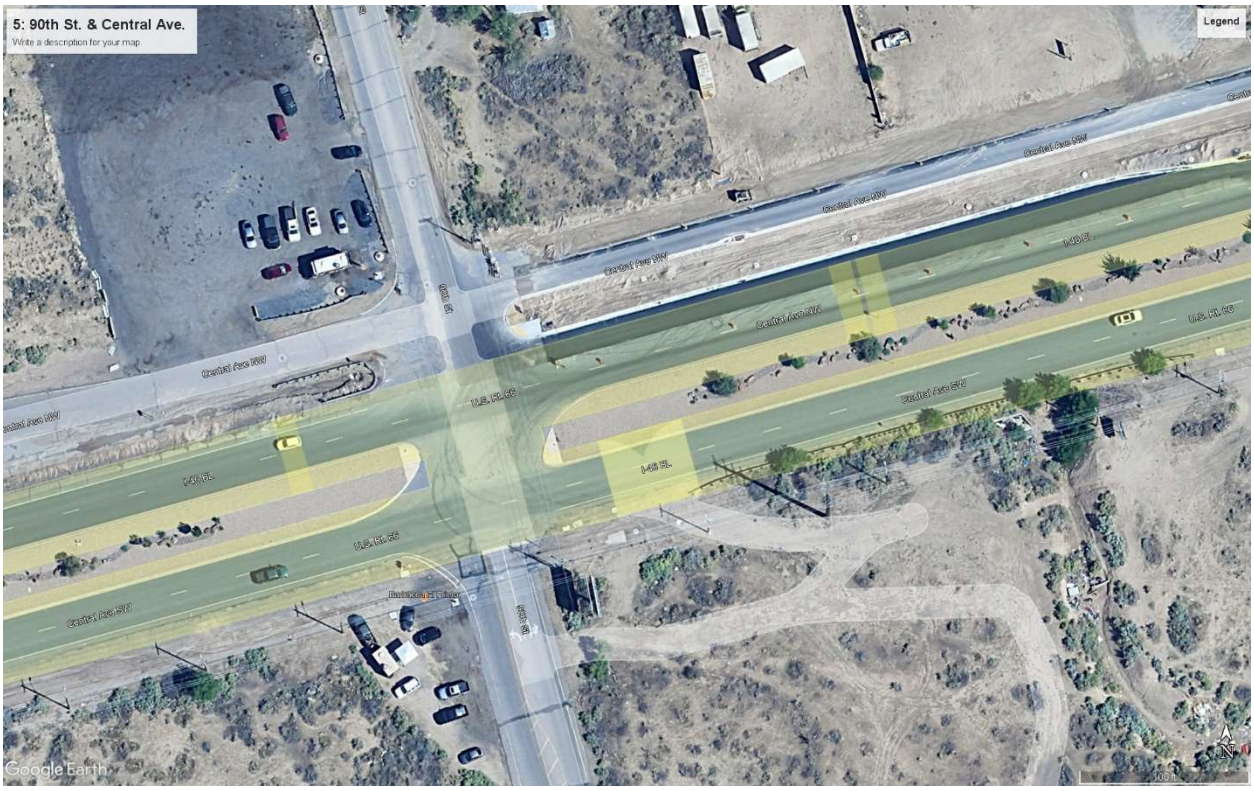
4: 90th St. & Bridge Blvd.

2035 Horizon Year

Unsignalized

Bridge Blvd.	**EB (Bridge Blvd.)**			**WB (Bridge Blvd.)**			**NB (90th St.)**			**SB (90th St.)**		
90th St.	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0	<1>	0	0	<1>	0	0	<1>	0	1	1>	0
AM Peak Hour												
NO BUILD Volumes	2	127	6	14	140	94	2	98	7	59	22	1
V/C Ratio	0.00			0.01				0.19		0.13	0.04	
Level-of-Service	A	A		A	A			B		B	B	
Control Delay (Seconds)	7.7	0.0		7.5	0.0			13.1		14.1	11.5	
Intersection LOS	**B-14.1**											
95th Percentile Queue (veh)	0.0			0.0				0.7		0.4	0.1	
BUILD Volumes	2	139	30	96	140	94	2	118	22	59	79	1
V/C Ratio	0.00			0.07				0.33		0.22	0.20	
Level-of-Service	A	A		A	A			C		C	C	
Control Delay (Seconds)	7.7	0.0		7.7	0.0			17.6		21.8	15.9	
Intersection LOS	**C-21.8**											
95th Percentile Queue (veh)	0.0			0.2				1.4		0.8	0.7	
PM Peak Hour												
NO BUILD Volumes	5	204	14	12	142	44	6	34	11	111	63	0
V/C Ratio	0.00			0.01				0.09		0.22	0.12	
Level-of-Service	A	A		A	A			B		B	B	
Control Delay (Seconds)	7.6	0.0		7.7	0.0			12.2		14.4	12.9	
Intersection LOS	**B-14.4**											
95th Percentile Queue (veh)	0.0			0.0				0.3		0.9	0.4	
BUILD Volumes	5	207	18	26	142	44	6	39	15	111	73	0
V/C Ratio	0.00			0.02				0.11		0.24	0.15	
Level-of-Service	A	A		A	A			B		C	B	
Control Delay (Seconds)	7.6	0.0		7,7	0.0			12.6		15.4	13.6	
Intersection LOS	**B-15.4**											
95th Percentile Queue (veh)	0.0			0.1				0.4		0.9	0.5	

5: 90th St. & Central Ave. (Unsignalized)



Refer to Appendix A-91 thru A-98 for Synchro analysis reports.

Intersection 5 – Capacity Analysis

2025 and 2035 LOS Analysis of this intersection demonstrates that the proposed development will have minimal impact on the LOS and delays for the 2025 and 2035 AM and PM BUILD conditions. From the NO BUILD to the BUILD condition, the Level of Service (LOS) degrades from LOS=C to LOS=D (2025) and LOS=E (2035) during the AM Peak Period based on the performance of the southbound left-turn (SBL) and southbound thru (SBT). For the PM Peak Period LOS=E only for the BUILD condition.

Delays become worse during the PM peak period, especially for the SBL and SBT movements, due to insufficient gap time on Central Ave. to make an unsignalized left-turn. This is an existing problem not made significantly worse by traffic from the development. The development does not contribute any traffic to the SBL turn movement.

See a summary of the capacity analysis for 2025 and 2035 in the following tables.

Intersection 5 – Queuing Analysis

2025 and 2035 Queueing analysis indicates that the queue storage capacity is adequate for all lanes, so no additional lanes or lane extensions are necessary. The volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.

Synchro Results Summary Sheet

5: 90th St. & Central Ave.

2025 Implementation Year

Unsignalized

Central Ave.	**EB (Central Ave.)**			**WB (Central Ave.)**			**NB (90th St.)**			**SB (90th St.)**		
90th St.	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0	<2>	0	0	<2>	0	1	1>	0	0	<1>	0
AM Peak Hour												
NO BUILD Volumes	4	474	5	3	245	22	15	105	35	21	59	10
V/C Ratio	0.00			0.00			0.04	0.29			0.20	
Level-of-Service	A	A		A	A		B	C			C	
Control Delay (Seconds)	7.8	0.0		8.3	0.0		14.0	15.6			15.1	
Intersection LOS	**C-15.6**											
95th Percentile Queue (veh)	0.0			0.0			0.1	1.2			0.7	
BUILD Volumes	12	516	5	52	245	22	15	105	55	21	68	10
V/C Ratio	0.01			0.05			0.05	0.36			0.27	
Level-of-Service	A	A		A	A		C	C			C	
Control Delay (Seconds)	7.8	0.1		8.6	0.3		16.2	17.8			18.6	
Intersection LOS	**C-17.8**											
95th Percentile Queue (veh)	0.0			0.2			0.1	1.6			1.1	
PM Peak Hour												
NO BUILD Volumes	12	439	2	11	495	28	6	43	27	53	127	29
V/C Ratio	0.01			0.01			0.02	0.16			0.55	
Level-of-Service	A	A		A	A		C	B			D	
Control Delay (Seconds)	8.5	0.1		8.3	0.1		17.2	14.7			25.6	
Intersection LOS	**D-25.6**											
95th Percentile Queue (veh)	0.0			0.0			0.1	0.6			3.2	
BUILD Volumes	14	449	2	20	495	28	6	43	32	53	128	29
V/C Ratio	0.01			0.02			0.02	0.17			0.58	
Level-of-Service	A	A		A	A		C	B			D	
Control Delay (Seconds)	8.5	0.1		8.3	0.2		17.8	14.8			27.5	
Intersection LOS	**D-27.5**											
95th Percentile Queue (veh)	0.0			0.1			0.1	0.6			3.5	

Synchro Results Summary Sheet

5: 90th St. & Central Ave.

2035 Horizon Year

Unsignalized

Central Ave.	EB (Central Ave.)			WB (Central Ave.)			NB (90th St.)			SB (90th St.)		
90th St.	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0	<2>	0	0	<2>	0	1	1>	0	0	<1>	0
AM Peak Hour												
NO BUILD Volumes	4	521	6	3	270	24	17	115	39	23	64	11
V/C Ratio	0.00			0.00			0.04	0.34			0.24	
Level-of-Service	A	A		A	A		B	C			C	
Control Delay (Seconds)	7.9	0.0		8.5	0.0		14.8	17.0			16.2	
Intersection LOS	**C-17.0**											
95th Percentile Queue (veh)	0.0			0.0			0.1	1.5			0.9	
BUILD Volumes	12	563	6	52	270	24	17	115	59	23	73	11
V/C Ratio	0.01			0.05			0.06	0.42			0.32	
Level-of-Service	A	A		A	A		C	C			C	
Control Delay (Seconds)	7.9	0.1		8.8	0.4		17.3	19.9			20.5	
Intersection LOS	**C-20.5**											
95th Percentile Queue (veh)	0.0			0.2			0.2	2.0			1.3	
PM Peak Hour												
NO BUILD Volumes	13	483	2	12	544	31	7	48	30	58	140	32
V/C Ratio	0.01			0.01			0.03	0.19			0.66	
Level-of-Service	A	A		A	A		C	C			D	
Control Delay (Seconds)	8.7	0.1		8.4	0.1		19.0	15.8			33.2	
Intersection LOS	**D-33.2**											
95th Percentile Queue (veh)	0.0			0.0			0.1	0.7			4.5	
BUILD Volumes	15	493	2	21	544	31	7	48	31	58	141	32
V/C Ratio	0.02			0.02			0.03	0.20			0.69	
Level-of-Service	A	A		A	A		C	C			E	
Control Delay (Seconds)	8.7	0.0		8.4	0.2		19.8	16.2			36.2	
Intersection LOS	**E-36.2**											
95th Percentile Queue (veh)	0.0			0.1			0.1	0.7			4.8	

6: Sunset Gardens / Driveway A (Unsignalized – Exit ONLY) - Proposed

Refer to Appendix A-99 thru A-102 for Synchro analysis reports.

2025 and 2035 LOS Analysis shows that LOS and delays are acceptable (LOS=D or better) for all movements.

2025 and 2035 Queueing analysis indicates that storage capacity is adequate at all movements in the study area during the **2025** implementation year and **2035** horizon year; 95th percentile queue lengths are less than the existing lane lengths, so no additional lanes or lane extensions are necessary. Additionally, the volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.

See a summary of the capacity analysis for 2025 and 2035 in the following tables.

Synchro Results Summary Sheet

6: Sunset Gardens & Drwy A

2025 Implementation Year

Unsignalized

Sunset Gardens / Driveway A	EB (Sunset Gardens)			WB (Sunset Gardens)			NB (Driveway A)			SB (Driveway A)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry		1			1					1		1
BUILD Volumes	0	92			21	0				71		137
V/C Ratio										0.08		0.13
Level-of-Service										A		A
Control Delay (Seconds)										9.4		8.9
Intersection LOS	**A-9.4**											
95th Percentile Queue (veh)										0.3		0.4
PM Peak Hour												
BUILD Volumes	0	34			19	0				17		33
V/C Ratio										0.02		0.03
Level-of-Service										A		A
Control Delay (Seconds)										8.8		8.5
Intersection LOS	**A-8.8**											
95th Percentile Queue (veh)										0.1		0.1

Synchro Results Summary Sheet

6: Sunset Gardens & Drwy A

2035 Horizon Year

Unsignalized

Sunset Gardens / Driveway A	EB (Sunset Gardens)			WB (Sunset Gardens)			NB (Driveway A)			SB (Driveway A)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry		1			1					1		1
AM Peak Hour												
BUILD Volumes	0	99			25	0				71		137
V/C Ratio										0.08		0.13
Level-of-Service										A		A
Control Delay (Seconds)										9.5		8.9
Intersection LOS	**A-9.5**											
95th Percentile Queue (veh)										0.3		0.4
PM Peak Hour												
BUILD Volumes	0	41			24	0				17		33
V/C Ratio										0.02		0.03
Level-of-Service										A		A
Control Delay (Seconds)										8.9		8.5
Intersection LOS	**A-8.9**											
95th Percentile Queue (veh)										0.1		0.1

7: Sunset Gardens / Driveway B (Unsignalized – Exit ONLY) – Proposed

Refer to Appendix A-103 thru A-106 for Synchro analysis reports.

2025 and 2035 LOS Analysis shows that LOS and delays are acceptable (LOS=D or better) for all movements.

2025 and 2035 Queueing analysis indicates that storage capacity is adequate at all movements in the study area during the **2025** implementation year and **2035** horizon year; 95th percentile queue lengths are less than the existing lane lengths, so no additional lanes or lane extensions are necessary. Additionally, the volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.

See results of the capacity analysis for 2025 and 2035 in the following tables.

Synchro Results Summary Sheet

7: Sunset Gardens & Drwy B

2025 Implementation Year

Unsignalized

Sunset Gardens / Driveway B	EB (Sunset Gardens)			WB (Sunset Gardens)			NB (Driveway B)			SB (Driveway B)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry		1			1					1		1
BUILD Volumes	0	163			16	0				10		10
V/C Ratio										0.01		0.01
Level-of-Service										A		A
Control Delay (Seconds)										9.5		8.4
Intersection LOS	**A-9.5**											
95th Percentile Queue (veh)										0.0		0.0

PM Peak Hour												
BUILD Volumes	0	51			16	0				2		2
V/C Ratio										0.00		0.00
Level-of-Service										A		A
Control Delay (Seconds)										8.8		8.4
Intersection LOS	**A-8.8**											
95th Percentile Queue (veh)										0.0		0.0

Synchro Results Summary Sheet

7: Sunset Gardens & Drwy B

2035 Horizon Year

Unsignalized

Sunset Gardens / Driveway B	EB (Sunset Gardens)			WB (Sunset Gardens)			NB (Driveway B)			SB (Driveway B)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry		1			1					1		1
AM Peak Hour												
BUILD Volumes	0	170			20	0				10		10
V/C Ratio										0.01		0.01
Level-of-Service										A		A
Control Delay (Seconds)										9.6		8.4
Intersection LOS	**A-9.6**											
95th Percentile Queue (veh)										0.0		0.0

PM Peak Hour												
BUILD Volumes	0	58			21	0				2		2
V/C Ratio										0.00		0.00
Level-of-Service										A		A
Control Delay (Seconds)										8.9		8.4
Intersection LOS	**A-8.9**											
95th Percentile Queue (veh)										0.0		0.0

8: Sunset Gardens / Driveway C (Unsignalized – Enter ONLY)

Refer to Appendix A-107 thru A-110 for Synchro analysis reports.

2025 and 2035 LOS Analysis shows that LOS and delays are acceptable (LOS=D or better) for all movements.

2025 and 2035 Queueing analysis indicates that storage capacity is adequate at all movements in the study area during the **2025** implementation year and **2035** horizon year; 95th percentile queue lengths are less than the existing lane lengths, so no additional lanes or lane extensions are necessary. Additionally, the volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.

See results of the capacity analysis for 2025 and 2035 in the following tables.

Synchro Results Summary Sheet

8: Sunset Gardens & Drwy C

2025 Implementation Year

Unsignalized

Sunset Gardens	**EB (Sunset Gardens)**			**WB (Sunset Gardens)**			**NB (Driveway C)**			**SB (Driveway C)**		
Driveway C	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry		<1			1>							
BUILD Volumes	8	155			16	10				0		
V/C Ratio	0.01											
Level-of-Service	A	A										
Control Delay (Seconds)	7.3	0.0										
Intersection LOS	**A-8.4**											
95th Percentile Queue (veh)	0.0											

PM Peak Hour												
BUILD Volumes	1	50			16	2				0		
V/C Ratio	0.00											
Level-of-Service	A	A										
Control Delay (Seconds)	7.3	0.0										
Intersection LOS	**A-8.4**											
95th Percentile Queue (veh)	0.0											

Synchro Results Summary Sheet

8: Sunset Gardens & Drwy C

2035 Horizon Year

Unsignalized

Sunset Gardens	**EB (Sunset Gardens)**			**WB (Sunset Gardens)**			**NB (Driveway C)**			**SB (Driveway C)**		
Driveway C	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry		<1			1>							
AM Peak Hour												
BUILD Volumes	8	162			20	10						
V/C Ratio	0.01											
Level-of-Service	A	A			A							
Control Delay (Seconds)	7.3	0.0			8.3							
Intersection LOS	**A-8.3**											
95th Percentile Queue (veh)	0.0				0.0							

PM Peak Hour												
BUILD Volumes	1	57			21	2						
V/C Ratio	0.00											
Level-of-Service	A	A			A							
Control Delay (Seconds)	7.3	0.0			8.4							
Intersection LOS	**A-8.4**											
95th Percentile Queue (veh)	0.0				0.0							

9: 90th St. / Driveway D (Unsignalized – Exit Only)

Refer to Appendix A-111 thru A-114 for Synchro analysis reports.

2025 and 2035 LOS Analysis shows that LOS and delays are acceptable (LOS=D or better) for all movements.

2025 and 2035 Queueing analysis indicates that storage capacity is adequate at all movements in the study area during the **2025** implementation year and **2035** horizon year; 95th percentile queue lengths are less than the existing lane lengths, so no additional lanes or lane extensions are necessary. Additionally, the volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.

Synchro Results Summary Sheet

9: 90th St. & Drwy D

2025 Implementation Year

Unsignalized

Driveway D / 90th St.	EB (Driveway D)			WB (Driveway D)			NB (90th St.)			SB (90th St.)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	1		1					1			1	
BUILD Volumes	10		10				0	115			24	0
V/C Ratio	0.02											
Level-of-Service	A											
Control Delay (Seconds)	8.9											
Intersection LOS	**A-8.9**											
95th Percentile Queue (veh)	0.1											

PM Peak Hour												
BUILD Volumes	2		2				0	49			53	0
V/C Ratio	0.00											
Level-of-Service	A											
Control Delay (Seconds)	8.8											
Intersection LOS	**A-8.8**											
95th Percentile Queue (veh)	0.0											

Synchro Results Summary Sheet

9: 90th St. & Drwy D

2035 Horizon Year

Unsignalized

Driveway D / 90th St.	EB (Driveway D)			WB (Driveway D)			NB (90th St.)			SB (90th St.)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	1		1					1			1	
AM Peak Hour												
BUILD Volumes	10		10				0	133			28	0
V/C Ratio	0.02											
Level-of-Service	A											
Control Delay (Seconds)	9.0											
Intersection LOS	**A-9.0**											
95th Percentile Queue (veh)	0.1											

PM Peak Hour												
BUILD Volumes	2		2				0	58			64	0
V/C Ratio	0.00											
Level-of-Service	A											
Control Delay (Seconds)	8.9											
Intersection LOS	**A-8.9**											
95th Percentile Queue (veh)	0.0											

10: 90th St. / Driveway E (Unsignalized – Enter ONLY)

Refer to Appendix A-115 thru A-118 for Synchro analysis reports.

2025 and 2035 LOS Analysis shows that LOS and delays are acceptable (LOS=D or better) for all movements.

2025 and 2035 Queueing analysis indicates that storage capacity is adequate at all movements in the study area during the **2025** implementation year and **2035** horizon year; 95th percentile queue lengths are less than the existing lane lengths, so no additional lanes or lane extensions are necessary. Additionally, the volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion. As a contingency, space for a third queuing lane with 763-ft. of queueing has been allocated on the site plan (see Site Plan on page 3).

See results of the capacity analysis for 2025 and 2035 in the following tables.

Synchro Results Summary Sheet

10: 90th St. & Drwy E

2025 Implementation Year

Unsignalized

Driveway E	**EB (Driveway E)**			**WB (Driveway E)**			**NB (90th St.)**			**SB (90th St.)**		
90th St.	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry							1	1			1	1
BUILD Volumes							84	125			24	156
V/C Ratio							0.06					
Level-of-Service							A					
Control Delay (Seconds)							7.7					
Intersection LOS	**A-7.7**											
95th Percentile Queue (veh)							0.2					

PM Peak Hour												
BUILD Volumes							15	51			53	27
V/C Ratio							0.01					
Level-of-Service							A					
Control Delay (Seconds)							7.4					
Intersection LOS	**A-8.6**											
95th Percentile Queue (veh)							0.0					

Synchro Results Summary Sheet

10: 90th St. & Drwy E

2035 Horizon Year

Unsignalized

Driveway E	**EB (Driveway E)**			**WB (Driveway E)**			**NB (90th St.)**			**SB (90th St.)**		
90th St.	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry							1	1			1	1
AM Peak Hour												
BUILD Volumes	0		1				84	143			28	156
V/C Ratio			0.00				0.06					
Level-of-Service			A				A					
Control Delay (Seconds)			8.4				7.8					
Intersection LOS	**A-8.4**											
95th Percentile Queue (veh)			0.0				0.2					

PM Peak Hour												
BUILD Volumes	0		1				15	60			64	27
V/C Ratio			0.00				0.01					
Level-of-Service			A				A					
Control Delay (Seconds)			8.6				7.4					
Intersection LOS	**A-8.6**											
95th Percentile Queue (veh)			0.0				0.0					

Deceleration Warrants

The City of Albuquerque Deceleration Lane Warrant Analysis of the Driveways 'A' thru 'E' demonstrates that deceleration lanes are warranted only at Driveway 'E' (Intersection 10). At this intersection, the development is responsible for constructing a new southbound right (SBR) deceleration lane with a minimum storage capacity of 240-ft and a northbound left-turn lane, including a 150-150 reverse curve transition. See table of results and the COA DPM Turn Lane Warrants Table 7.4.67 below.

City of Albuquerque Turn Lane Warrant

Albuquerque Collegiate Charter School

			Left Turn Warrant					Right Turn Warrant				
Access	Major Street	Speed Limit (Mph)	Left Turn Warrant Volume (veh/hr)[1]	Maximum Left Turn Volume (Veh/hr)	Left Turn Lane Warranted?	Minimum Storage Length (ft)[4]	Minimum Left-turn Transition Reverse Curve (ft)	Right Turn Warrant Volume (veh/hr)[1]	Maximum Right Turn Volume (Veh/hr)	Right Turn Lane Warranted?	Minimum Storage Length (ft)[3]	Minimum Left-turn Transition Reverse Curve (ft)
Driveway 'A'	Sunset Gardens	30	40	0	No	-	-	50	0	No	-	-
Driveway 'B'	Sunset Gardens	30	40	0	No	-	-	50	0	No	-	-
Driveway 'C'	Sunset Gardens	30	40	10	No	-	-	50	0	No	-	-
Driveway 'D'	90th St.	30	40	0	No	-	-	50	8	No	-	-
Driveway 'E'	90th St.	30	40	84	Yes	200	150-150	50	156	Yes	240	150-150

1. City of Albuquerque DPM, Table 7.4.67
2. City of Albuquerque DPM, Table 7.4.70
3. City of Albuquerque DPM, Table 7.4.68 (storage length includes transition)
4. Recommended off-site storage length (including transition) for increased queue capacity in pick-up/drop-off lanes

TABLE 7.4.67 **Turn Lane Warrants**

Left Turn		Right Turn	
Design Speed (MPH)	**Turning Volume per Hour**	**Design Speed (MPH)**	**Turning Volume per Hour**
25	50	25	60
30-40	40	30-40	50
45	30	45	45

7-4(I)(7)(iii)(f) Left-turn Lane Design

1. Where traffic is to be controlled by a traffic signal, the turn lane should be of sufficient length to store the turning vehicles and clear the equivalent lane volume of all other traffic on the approach, where feasible.
2. This length is necessary to ensure that full use of the turn lane will be achieved and that the queue of the other vehicles on the approach will not block vehicles from the turn lane.
3. The minimum left-turn lane transition length requirements are provided in TABLE 7.4.70.

TABLE 7.4.70 **Minimum Left-turn Lane Transition Length**

Design Speed of Roadway (MPH)	Lane Transition (ft.)
<35	150 - 150 Reverse Curve
35 – 40	300 - 150 Reverse Curve
45 – 50	600 - 300 Reverse Curve

Access Spacing

According to the COA DPM, Table 7.4.45, the minimum distance between a commercial street access and an intersection on a Local Roadway with a Local Roadway cross street is 25-ft for the departure lane and 25-ft for the approach lane. All access points to the site meet these criteria. The closest approach driveway (Driveway C) is 50-ft from the intersection of Sunset Gardens Rd/90th St. and the closest departure driveway (Driveway D) is 75-ft from Sunset Gardens Rd/90th St.

There is no criteria for the maximum number of commercial site access points along a local roadway but the minimum criterion for a collector is 1 access point per 100-ft. of frontage. Using this criterion and a site frontage length of 1170-ft, up to 11 access points are allowed. Five accesses are proposed for the site which is within the allowable criteria. See Table 7.4.46 from the COA DPM below.

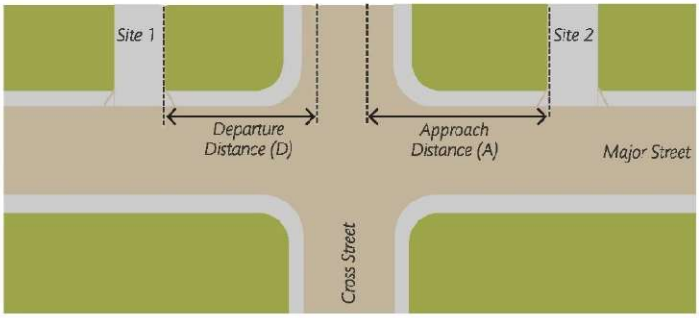


TABLE 7.4.45 **Minimum Distance Between Commercial Site Access and Intersection**

Type of Street	Cross Street Classes					
	Arterial		Collector		Local	
	A	D	A	D	A	D
Principal Arterial	300 ft.	200 ft.	200 ft.	150 ft.	150 ft.	100 ft.
Minor Arterial	200 ft.	150 ft.	150 ft.	100 ft.	100 ft.	100 ft.
Major Collector	150 ft.	150 ft.	100 ft.	100 ft.	75 ft.	75 ft.
Minor Collector	150 ft.	150 ft.	100 ft.	100 ft.	75 ft.	75 ft.
Local (additional distance may be required for queuing)	75 ft.	75 ft.	50 ft.	50 ft.	25 ft.	25 ft.

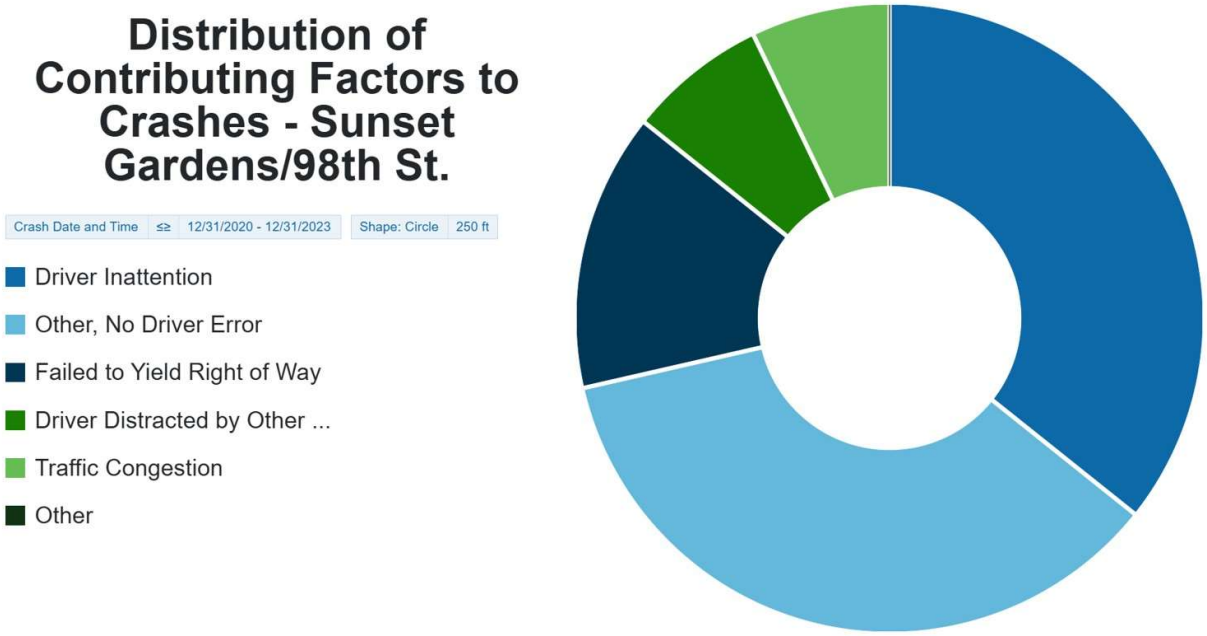
TABLE 7.4.46 **Maximum Number of Commercial Site Access Points per Site**

Type of Street	
Principal Arterials	1-2 access points per 300 ft. frontage
Minor Arterials	1-2 access points per 200 ft. frontage
Collectors	1 access point per 100 ft. frontage

Crash Analysis

As requested by the COA during the scoping meeting, only Intersection 1 (98th St. & Sunset Gardens Rd.) was analyzed for crashes. Crash data from 2020 to 2023 was extracted from the New Mexico Department of Transportation's AASHTOWare Safety Transportation Application. There were only five crashes at Intersection 1 over three years. None of the crashes were fatal but three had injuries. There were no pedestrian or bicycle crashes.

Below is a Pie Chart showing the distribution of Contributing Factors to crashes. Ignoring the category of "Other", Driver attention is the top contributing factor to the crashes at this location. A summary Table of the crash data is in Appendix pages A-129 thru A-131.

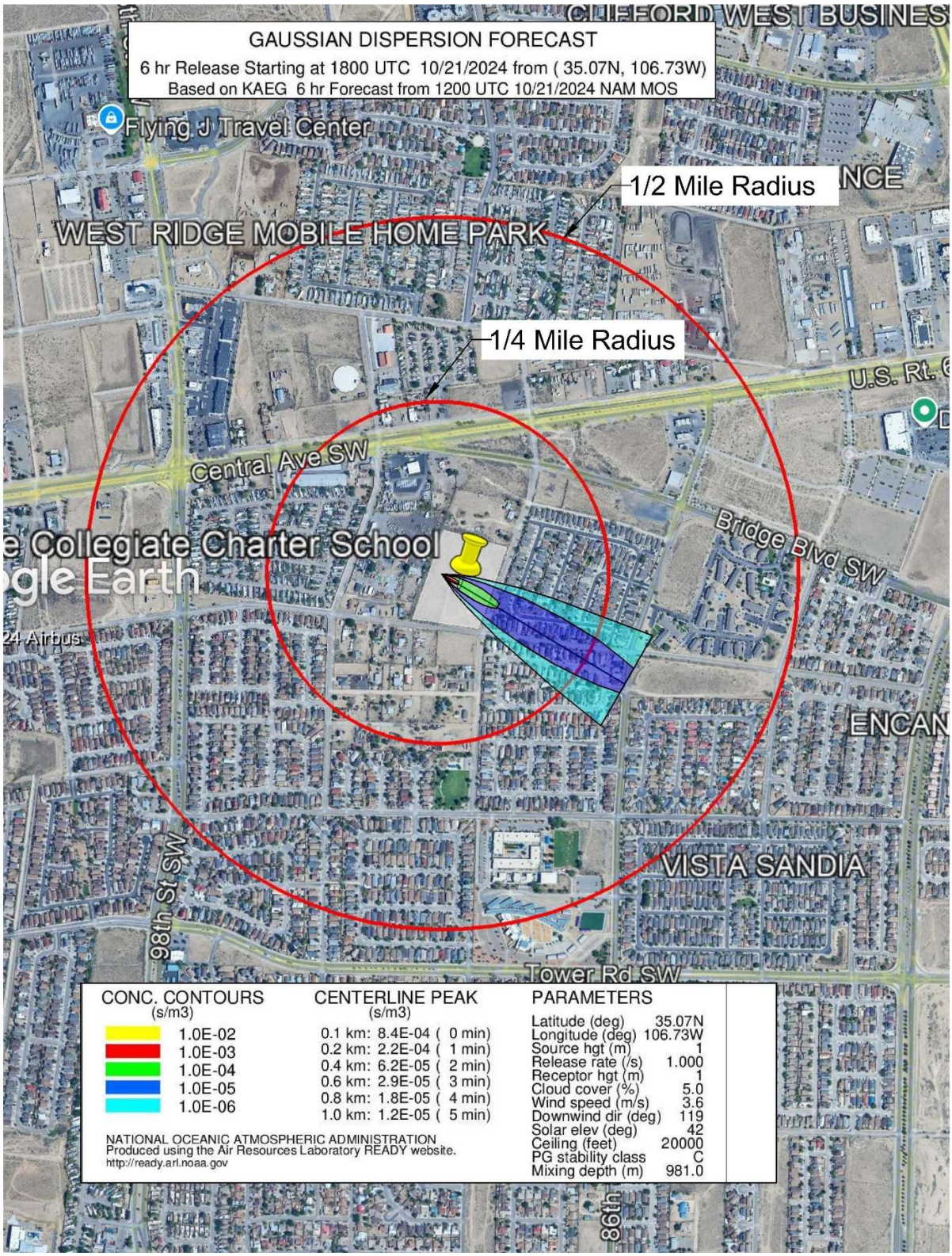


Environmental Impacts

Air Emissions Impact Assessment

Air Emissions from idling vehicles waiting in Queue lines to drop-off and pick-up students are approximated by using standard vehicle emissions published by the US Environmental Protection Agency (EPA) (U.S. Environmental Protection Agency. (2008, October). Idling vehicle emissions for passenger cars, light-duty trucks, and heavy-duty trucks (EPA420-F-08-025). Office of Transportation and Air Quality).

Although this report does not include air modeling, dispersion concentrations were approximated using the National Oceanic and Atmospheric Administration (NOAA) READY (Real-time Environmental Applications and Display sYstem). READY is a Transport and Dispersion Model based on the Gaussian plume model originally published in 1981 by Roland R. Draxler as NOAA Technical Memorandum ERL ARL-100, titled, "Forty-eight hour Atmospheric Dispersion Forecasts at Selected Locations in the United States." The program has been updated to produce quick forecasts of atmospheric dispersion via the web by combining the simple techniques of estimating dispersion from Bruce Turner's Workbook of Atmospheric Dispersion Estimates (1994,1969) with National Weather Service (NWS) forecasts of wind direction, wind speed, cloud cover, and cloud ceiling. The NWS forecasts come from the NAM and GFS Model Output Statistics (MOS), which are statistically derived surface conditions produced for over 1000 locations in the CONUS, Alaska, Puerto Rica, and Hawaii. The location used for this application was Kirkland Airforce Base in Albuquerque, NM. See a graphic representation of the Gaussian Air Dispersion plume below.


GAUSSIAN DISPERSION FORECAST
6 hr Release Starting at 1800 UTC 10/21/2024 from (35.07N, 106.73W)
Based on KAEG 6 hr Forecast from 1200 UTC 10/21/2024 NAM MOS
Flying J Travel Center
1/2 Mile Radius
WEST RIDGE MOBILE HOME PARK
1/4 Mile Radius
Central Ave SW
Bridge Blvd SW
Collegiate Charter School
VISTA SANDIA
98th St SW
Tower Rd SW
86th
CONC. CONTOURS (s/m3)
1.0E-02
1.0E-03
1.0E-04
1.0E-05
1.0E-06
CENTERLINE PEAK (s/m3)
0.1 km: 8.4E-04 (0 min)
0.2 km: 2.2E-04 (1 min)
0.4 km: 6.2E-05 (2 min)
0.6 km: 2.9E-05 (3 min)
0.8 km: 1.8E-05 (4 min)
1.0 km: 1.2E-05 (5 min)
PARAMETERS
Latitude (deg) 35.07N
Longitude (deg) 106.73W
Source hgt (m) 1
Release rate (/s) 1.000
Receptor hgt (m) 1
Cloud cover (%) 5.0
Wind speed (m/s) 3.6
Downwind dir (deg) 119
Solar elev (deg) 42
Ceiling (feet) 20000
PG stability class C
Mixing depth (m) 981.0
NATIONAL OCEANIC ATMOSPHERIC ADMINISTRATION
Produced using the Air Resources Laboratory READY website.
http://ready.arl.noaa.gov

The contaminants considered in the analysis include:

- Total Volatile Organic Compounds (VOC) – equivalent to THC plus aldehydes minus both methane and ethane
- Total Hydrocarbons (THC)
- Carbon Monoxide (CO)
- Nitrogen Oxides (Nox)
- Particulate Matter Under 2.5 Microns (PM 2.5)
- Particulate Matter Under 10 Microns (PM 10)

Also, the input to the model is limited to one point source (at the drop-off point) for all vehicles in the queue rather than a line of vehicles. This produces very conservative results since lower concentration sources stretched over the ¼-mile queueing route would disperse over a greater area with lower concentrations.

A table showing the results of the analysis is provided below.

Idle Emission Rates for Vehicles in Queue and Gaussian Dispersion Forecast

Albuquerque Collegiate Charter School

Number of Vehicles in Queue	66
Assumed Idle Time/vehicle (min)	15
Maximum Vehicles per hour	258

Contaminant	Idle Emission Rates per Vehicle [1,&2] grams/hr.	Emissions from vehicles in Queue during peak hour grams/hr	EPA Air Quality Standard (ppm)	Duration (hrs)	(NOAA)[3] Air Dispersion Forcast (ppm) Corresponding Dispersion Concentration Contours (See Dispersion Model Drawing) At Drop/off		Neighborhood		East of Site
					0.01	0.001	0.0001	0.00001	0.000001
VOC	2.68	176.88	Not Regulated	-	1.77	0.18	1.77E-02	1.77E-03	1.77E-04
THC	3.163	208.758	Not Regulated	-	2.09	0.21	2.1E-02	2.1E-03	2.1E-04
CO	71.225	4700.85	35	1	47.01	4.70	4.7E-01	4.7E-02	4.7E-03
NO_2	3.515	231.99	100	1	2.32	0.23	2.3E-02	2.3E-03	2.3E-04
PM 2.5	1.1	72.6	0.035	24	0.73	0.0726	7.3E-03	7.3E-04	7.3E-05
PM 10	1.196	78.936	0.015	24	0.78936	0.078936	7.9E-03	7.9E-04	7.9E-05

1 U.S. Environmental Protection Agency. (2008, October). *Idling vehicle emissions for passenger cars, light-duty trucks, and heavy-*

2 Data is Light-duty gasoline-fueled vehicles except PM 2.5 and PM 10 which is for Heavy Duty Vehicles since no data is available fo

3 National Oceanic and Atmospheric Administration (NOAA) - Gaussian Dispersion Forecast, 6hr. Release

Only one contaminant, CO, indicates concentrations above EPA Air Quality Standards which is at the drop-off point. By the time the plume reaches the boundary of the site, concentrations are less than 2% of the standard. As stated above this is a very conservative modeling approach and if there are further concerns over the emission levels from vehicles in the queue, an air model recommended by the EPA such as AERMOD or CALINE4 should be used.

Similar Environmental Studies

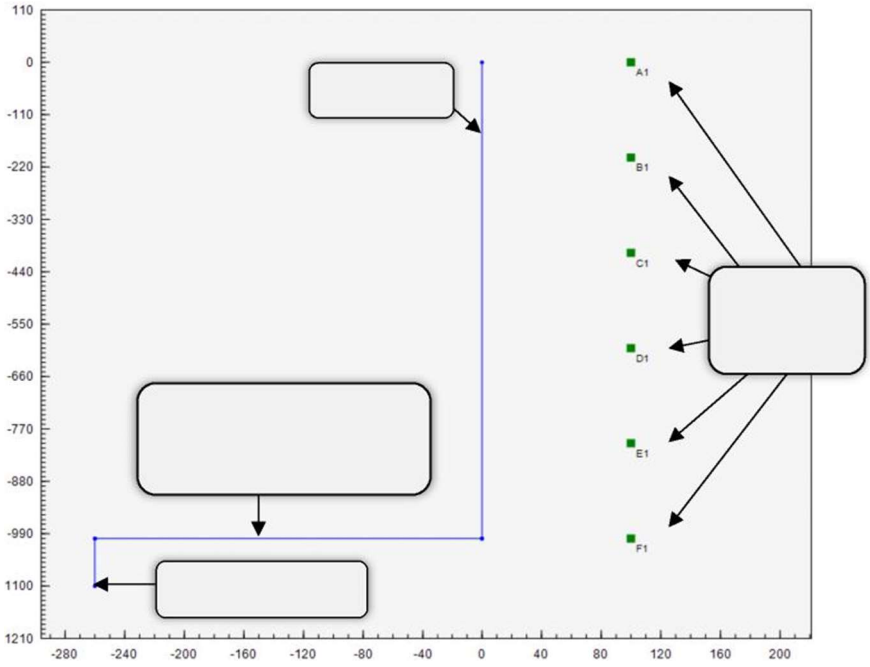
Lee Engineering performed air modeling using CALINE4 to model PM2.5 and CO dispersion along the study route for the MAS Charter School in SW Albuquerque. The school traffic is similar in traffic volume, traffic patterns, and orientation of the drop-off/pick-up lane to residential populations.

The table below summarizes the generated emission factors.

Table 14: Emission Factors, Annual Average

	PM 2.5 (µg /mile)	CO (g/mile)
7:30 AM - 8:30 AM	0.34	218.24
4:00 PM - 5:00 PM	0.34	267.00

Like the orientation of the traffic to the receptors for Albuquerque Collegiate Charter School, the figure below shows the link and receptor locations used to estimate PM2.5 and CO concentrations for the MAS . The blue links represent the vehicle travel path using the East Alley Loop. The green boxes are receptors located 100 feet from the East Alley Loop. The receptors were placed 100 feet from the emission source at 6 feet high. The 100-foot distance represents the distance from the center of the East Alley to the first row of houses abutting the alleyway, where concentrations will be high; concentrations dissipate with increasing distance from the source.



The table below contains the modeled concentrations at the receptor locations for AM and PM peak hours. Concentrations for both pollutants resulting from drop-off and pick-up activity are minimal. For comparison, the annual average PM2.5 concentration in Albuquerque for 2011-2020 was 6.14 µg/m3 and for CO was 1.15 ppm.

Emission concentrations at 100 feet from the source.

	PM 2.5 (µg/m^3)	CO (ppm)
7:30 AM - 8:30 AM	0.16	0.10
4:00 PM - 5:00 PM	0.11	0.07

Noise Impacts

Below is a portion of the National Transportation Noise Map showing the noise levels on and near roadways in the study area. The maximum acceptable equivalent continuous sound level for outdoor living is 55 dBa during the day.

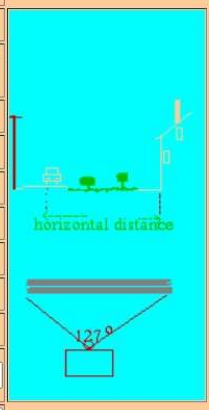
As shown on the map, roadways with low traffic volumes (<7000 Average Annual Weekday Traffic (AAWDT) such as Tower Rd. west of 98th St., have an equivalent continuous sound level of 45 to 50 dBA. Based on this example, noise levels from 66 queuing vehicles and the additional traffic generated by the development is expected to be less than 50 dBa adjacent to 90th St. and Sunset Gardens Rd. 90th St. has an AAWDT of 3900 based on AM BUILD peak hour traffic and Sunset Gardens Rd. has an AAWDT 2080 based on AM BUILD peak hour traffic.

Using a script developed from 2002 version of the Dutch Calculation Method that computes noise level in dBa at a given distance from a road, the noise level during the day during the peak traffic hour (AM) is 50 dBa.

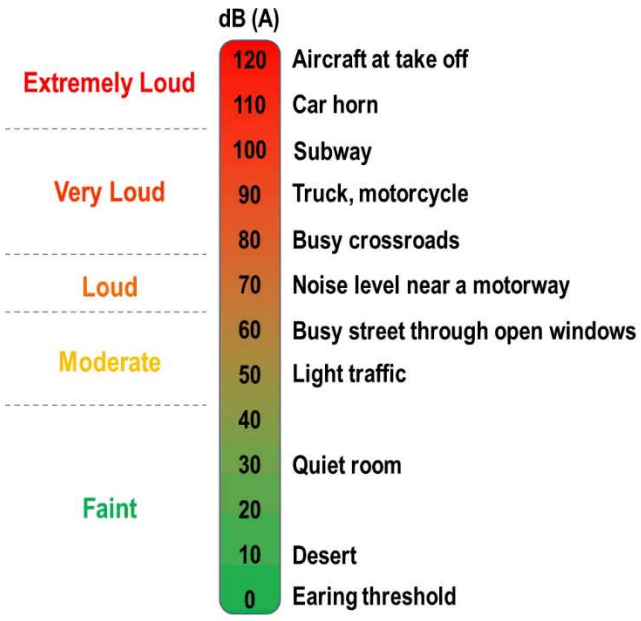
t barriers or obstacles. There is more explanation here.

Data on road				
Road traffic input data help	**Day: 7.00-22.00**	**Night: 22.00-7.00**		
Motorcycles per hour	0	0		
Cars per hour	389	93		
Speed cars	15	15	○ kilometers per hour	◉ miles per hour
Number of vans/hr	0	0		
Number of heavy trucks/hr	0	0		
Speed trucks	15	15		
Road surface *help*	Smooth asfalt			

data on geometry *help*	
Heigth of road	0
Horizontal distance in meters from **center** of road *Fill in 0 (zero, not blank!) when you want to calculate the distance for a given noise level*	50
Heigth of house or observer	5
View angle (127 grad= full view)	127
Fraction sound absorbing soil (0=all hard, non absorbing; 1= all absorbing)	0
Percentage reflection from opposite side (0=no surface; 1= all reflective).	0
Distance to reflective surface on opposite side	0
Heigth of reflecting object (must be at least 5 m)	0
Distance to intersection	0
Calculated Noise Level (Ldn) *(Or fill in (>40) if you want to calculate distance; distance must be set to zero)*	50
Night LAeq is	42



Click Here to Reset | Compute



Noise and Emissions Reduction Measures

- Student Drop-Off/Pick-up will be located on the west side of the site, 500-ft from residential populations on the east side of 90th St.

- Buses will be provided to reduce personal vehicle use.

- Parents queued to pick up students shall be instructed to wait for their children with their vehicles turned off when not actively in motion.

- Personnel will be located at all drop-off/pick-up lane driveways and at the drop-off/pick-up zone to help keep traffic moving in an efficient manner.

- Students will be made ready and systems we be put in place to make sure students enter and exit vehicles quickly to reduce queuing time.

Impacts and Recommendations

In summary, the proposed Albuquerque Collegiate Charter School will have a moderate adverse impact to the adjacent transportation system with implementation of the recommended mitigation measures presented in this report. A summary of the impacts and recommendations based on the results of the analysis, are stated below.

Summary of Impacts and Recommendations

Impacts

1. **Intersection 1: 98th St. & Sunset Gardens Rd. (Unsignalized)**
   Moderate Impact by Development
   - The 2025 and 2035 Intersection Level of Service (LOS) degrades from LOS C (NO BUILD) to LOS F (BUILD) during the AM Peak Period based on the performance one movement, the westbound to southbound left-turn movement (WBL).
   - For the PM Peak Period LOS=D (2025) and LOS=E (2035) for NO BUILD and BUILD conditions.
   - Delays become significantly worse (66 seconds per vehicle for 2025 and 89 seconds per vehicle for 2035) for the WBL due to the traffic generated by the development and insufficient gap time on 98th St. to make an unsignalized left-turn.
   - Delays are reduced and queue lengths are shortened by striping the westbound approach to include one dedicated left-turn lane (WBL), 125-ft long, and one thru-right lane (WBTR) instead of the current configuration of one lane. The maximum required queue length for the WBL lane is three vehicles (75-ft) so 50-ft of surplus queue capacity is available with the mitigated geometry.
   - Since this is an unsignalized intersection, the only mitigation that could significantly improve the LOS would be to install a traffic signal. However, this would be excessive, as the movement typically operates at LOS = C or D for most of the time.
   - The volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.
   - The queue storage capacity is adequate for all lanes, so no additional lanes or lane extensions are necessary.

2. **Intersection 2: 90th St. & Sunset Gardens Rd. (Unsignalized)**
   Minimal Impact by Development,
   - The 2025 and 2035 Intersection LOS degrades from LOS=A (NO BUILD) to LOS=B (BUILD) during the AM and PM peak hours with the additional traffic generated by the development.
   - Delays for individual movements become worse by less than 5 seconds per vehicle.

- The volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.
- The queue storage capacity is adequate for all lanes, so no additional lanes or lane extensions are necessary.

3. **Intersection 3: Unser Blvd. & Sunset Gardens Rd. (Unsignalized)**
   Minimal Impact by Development,
   - The 2025 and 2035 Intersection LOS remains the same (LOS=B) from the NO BUILD to the BUILD condition during the AM and PM peak hours with the additional traffic generated by the development.
   - Delays for individual movements become worse by less than 2 seconds per vehicle.
   - The volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.
   - The queue storage capacity is adequate for all lanes, so no additional lanes or lane extensions are necessary.

4. **Intersection 4: 90th St. & Bridge Blvd. (Unsignalized)**
   Minimal Impact by Development,
   - The 2025 and 2035 Intersection LOS degrades from LOS=B (NO BUILD) to LOS=C (BUILD) during the AM peak period with the additional traffic generated by the development. LOS remains the same for the PM peak period (LOS=B)
   - Delays for individual movements become worse by less than 8 seconds per vehicle.
   - The volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion.
   - The queue storage capacity is adequate for all lanes, so no additional lanes or lane extensions are necessary.

5. **Intersection 5: 98th Street & Central Blvd. (Unsignalized)**
   Minimal Impact by Development
   - From the NO BUILD to the BUILD condition, the Level of Service (LOS) remains the same except during the 2035 PM Peak Period when the LOS degrades from LOS=D to LOS=E. The intersection LOS is based on the performance of the worst performing movements, the southbound left-turn (SBL), and southbound thru (SBT).
   - Delays become worse during the PM peak period, especially for the SBL and SBT movements, due to insufficient gap time on Central Ave. to make an unsignalized left-turn. This is an existing problem not made significantly worse by traffic from the development. The development does not contribute any traffic to the SBL or NBL turn movements.
   - The volume-to-capacity (V/C) ratios for all lanes are less than 1 (V/C < 1), indicating minimal congestion except for the SBT movement.
   - The queue storage capacity is adequate for all lanes, so no additional lanes or lane extensions are necessary.

6. **Intersections 6 thru 9: Driveways A thru D**
   Minimal Impact by Development
   - LOS and delays are acceptable (LOS=A) for all movements and existing queue capacities are sufficient.
   - No deceleration lanes are warranted.

7. **Intersection 10: 90th St. & Driveway E (Unsignalized – Right-in, Left-in ONLY)**
   Minimal Impact by Development
   - LOS and delays are acceptable (LOS=A) for all movements and existing queue capacities are sufficient.
   - A southbound right-turn lane 240-ft long (including transition) and a 200-ft long northbound left-turn lane (including transition) are warranted under the COA standards.
   - A contingency plan to provide extra on-site queuing is recommended should queuing issues arise.

8. **Crash Analysis**: There were only five crashes at Intersection 1 over three years (2020 thru 2023). None of the crashes were fatal but three had injuries. There were no pedestrian or bicycle crashes. Driver attention was the top contributing factor to the crashes at this location.

9. **Environmental Impacts**:
   - Air Impacts: Only one contaminant, CO, indicates concentrations above EPA Air Quality Standards which is at the drop-off point. By the time the plume reaches the boundary of the site, concentrations are less than 2% of the standard. The simple model used for this assessment is limited to one point source (at the drop-off point) for all vehicles in the queue rather than a line of vehicles. This produces very conservative results since lower concentration sources stretched over the ¼-mile queueing route would disperse over a greater area with lower concentrations.
   - Noise Impacts: Noise levels from 66 queuing vehicles and the additional traffic generated by the development is expected to be less than 50 dBa in the neighborhoods directly adjacent to 90th St. and Sunset Gardens Rd.

Recommendations

1. **Intersection 1: 98th St. & Sunset Gardens Rd. (Unsignalized)**
   To improve performance of the intersection and to prevent westbound left-turning vehicles from blocking right-turning vehicles, it is recommended that the westbound approach be striped to include one dedicated left-turn lane, 125-ft long, and one thru-right lane. See conceptual striping plan on page 19 of this report.

2. **Intersections 2 thru 4 (Unsignalized)**
   No Mitigations Recommended

3. **Intersection 5: 98th Street & Central Blvd. (Unsignalized)**

   No Mitigations Recommended: The poor LOS at this intersection is an existing problem not made significantly worse by traffic from the development and the development does not contribute traffic to the movements of concern. In the future, as the area becomes more developed, the COA should consider reducing or eliminating the median openings between 98th Street and Unser Boulevard to improve performance and safety along this corridor.

4. **Intersections 6 thru 9: Driveways A thru D**

   Assign traffic control personnel at the driveway during drop-off and pick-up times, develop a drop-off pick-up plan, and provide communication devices to traffic personnel to maintain smooth traffic flow and prevent conflicts between personal vehicles, pedestrians, and buses.

5. **Intersection 10: 90th St. & Driveway E (Unsignalized – Right-in, Left-in ONLY)**
   - Widen 90th St. as necessary 250-ft north of Driveway E to construct a 240-ft long (including transition) southbound right-turn deceleration lane and a 200-ft long (minimum) northbound left-turn lane (including transition).
   - A contingency plan to provide extra on-site queuing is recommended should queuing issues arise.
   - Assign traffic control personnel at the driveway during drop-off and pick-up times to maintain smooth traffic flow and prevent conflicts between personal vehicles, pedestrians, and buses.

6. **Noise and Emissions Reduction and Traffic Control Measures**
   - Assign traffic control personnel at the driveway during drop-off and pick-up times to maintain smooth traffic flow and prevent conflicts between personal vehicles, pedestrians, and buses.
   - Student Drop-Off/Pick-up is to be located on the west side of the site, 500-ft from residential populations on the east side of 90th St.
   - Buses will be provided to reduce personal vehicle use.
   - Parents queued to pick up students shall be instructed to wait for their children with their vehicles turned off when not actively in motion.
   - Personnel will be located at all drop-off/pick-up lane driveways and at the drop-off/pick-up zone to help keep traffic moving in an efficient manner.
   - Students will be made ready and systems we be put in place to make sure students enter and exit vehicles quickly to reduce queuing time.
   - Parents will be required to not allow students to sit in the front passenger seat so all students can enter and exit the vehicles on the driver's side (curb side) to prevent students from crossing between queuing vehicles or near vehicles in the passing lane.

7. Off-site Improvements

- Provide curb and gutter; sidewalks; and ADA facilities designed in accordance with City of Albuquerque Design standards along project frontage.
- Maintain site distances at Driveways.

Appendix