

AGUA FRIA LOT 38 DEVELOPMENT

TRAFFIC IMPACT ANALYSIS

FINAL SUBMITTAL

OCTOBER 17, 2024

Prepared For:

Cold Water Development Fund QOZF, LLC

106 Faithway St

Santa Fe, NM 87501

Prepared By:

Bohannon  **Huston**

Engineering

Spatial Data

Advanced Technologies



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Prepared by:

Bohannon Huston, Inc.

7500 Jefferson St NE

Courtyard Two

Albuquerque, NM 87109

Prepared for:

Cold Water Development Fund QOZF, LLC

106 Faithway St

Santa Fe, NM 87501

Carl D. Vermillion, PE, PTOE, RSP1

Date

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I. INTRODUCTION AND SUMMARY

Cold Water Development Fund QOZF proposes to develop Lot 38, situated southwest of the Agua Fria and Broadmoor Blvd intersection. The proposed development will include 130 multi-family housing units.

A. STUDY PURPOSE

The purpose of the traffic study is to determine the impacts of the proposed development on the surrounding roadway network, evaluate the operation of the proposed site entrances, and to recommend any mitigation measures that may be necessary to support additional traffic generated by the new development.

B. EXECUTIVE SUMMARY

1. SITE LOCATION AND STUDY AREA

The site is located northeast of the Agua Fria and Siler intersection in Santa Fe, New Mexico. A vicinity map and proposed site plan are shown in Figure 1.

The study area consists of the following intersections:

- Agua Fria Street and Siler Road (existing 4-way signalized intersection)
- Agua Fria Street and Harrison Road (existing 4-way unsignalized intersection)
- Agua Fria Street and Siler Park Lane (existing 3-way unsignalized intersection)
- Siler Road & Siler Park Lane (existing 3-way unsignalized intersection)
- Agua Fria Street and North Site Entrance (future 3-way unsignalized intersection)

The intersection evaluations include analysis for the AM and PM peak hours for the following traffic conditions:

- Existing traffic (2024)
- 2027 Completion Year without the proposed site development (2027 No Build)
- 2027 Completion Year with the proposed site development (2027 Build)
- 2042 Horizon Year without the proposed site development (2042 No Build)
- 2042 Horizon Year with the proposed side development (2042 Build)

2. PRINCIPAL FINDINGS

The traffic analysis found that all intersections operate overall acceptably in the 2024 Existing, 2027 No Build and 2027 Build conditions.

In the 2042 No Build and Build scenarios, the westbound thru movement at the signalized intersection, Agua Fria and Siler, will operate at LOS F in the PM peak hour. Since the first occurrence of this appears in the no build scenario, the development is not responsible for this and further assessments as the horizon year nears is recommended.

A dedicated right turn lane was evaluated based on the SAMM, the Santa Fe TIA Guidelines, and AASHTO. A right turn lane on Agua Fria and the proposed access point is required based on the SAMM, but is not required based on the Santa Fe TIA Guidelines. Based on AASHTO requirements, if a turn lane is provided it specifies a desirable deceleration distance of 205 feet for a speed of 35 MPH. It also describes that it is not practical on many facilities to provide the full length of deceleration length in the turn lane due to constraints such as right-of-way, distance available between adjacent intersections, and storage needs. As right-of-way constraints exist along Agua Fria, this concern was evaluated to determine a length of right turn deceleration distance that could be included along the frontage of the development property. From the edge of the property to the access point an approximately 110-foot-long deceleration lane would be able to be constructed. If the adjacent properties are ever developed in the future, the City of Santa Fe may extend this turn lane to the full 205 feet if determined appropriate at that time. It is our professional recommendation that a right turn lane should be constructed at the access point of the proposed development and that this deceleration lane should be 110 feet in length.

Additionally left turn lanes were evaluated based on the SAMM, Santa Fe TIA Guidelines, and AASHTO. The westbound left on Agua Fria at the proposed access point does not meet the SAMM volumes during the AM peak hour but does meet the guidance in the PM peak hour. The Santa Fe TIA Guidelines show this left turn lane being warranted due to the high volume on Agua Fria in this area. As a two-way left turn lane is present along Agua Fria to serve the accesses along it, the existing lanes should remain so that all access points in the vicinity may be served.

3. RECOMMENDATIONS

- Installation of the proposed access point at Agua Fria should include the two-way left turn lane at the intersection. This two-way left turn lane should remain in place to serve the westbound left users into the site.

- An eastbound dedicated right turn lane is recommended at the proposed access point. This right turn lane shall be 110 feet in length along the frontage of the proposed development property.
- All designs shall satisfy the Manual on Uniform Traffic Control Devices (MUTCD) and the City of Santa Fe requirements.



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II. PROPOSED DEVELOPMENT

A. LAND USE AND INTENSITY

The proposed development is a 130-unit multi-family residential subdivision.

The development is located east of the Agua Fria and Siler intersection. The study area is not developed.

B. DEVELOPMENT PHASING AND TIMING

The project is expected to be developed by 2027.

III. STUDY AREA CONDITIONS

A. STUDY AREA

The study area consists of the following intersections:

- Agua Fria Street and Siler Road (existing 4-way signalized intersection)
- Agua Fria Street and Harrison Road (existing 3-way unsignalized intersection)
- Agua Fria Street and Siler Park Lane (existing 3-way unsignalized intersection)
- Siler Road & Siler Park Lane (existing 3-way unsignalized intersection)
- Agua Fria Street and North Site Entrance (future 3-way unsignalized intersection)

B. SITE ACCESSIBILITY

The development will include the main access on Agua Fria Street, approximately 0.3 miles east of the Agua Fria and Siler intersection. The development will also have a gated emergency access off of Cooks Road. This emergency access will not have assigned use as part of this study. The site access location on Agua Fria Street is an existing roadway with one lane in each direction and center two-way left turning lane, future 3-way intersection.

The primary routes to the site are anticipated to be either Agua Fria Street, Siler Road or Harrison Road.

C. DATA SOURCES

The data used in this report consist of the traffic volumes described below, aerial photography and mapping from Google Earth®, as well as information provided by Cleland Traffic Counts.

IV. EXISTING CONDITIONS ANALYSIS

A. BACKGROUND

Roadway federal classification is updated approximately every four years. The classification process involves local governments, the Mid Region Council of Governments (MRCOG), New Mexico Department of Transportation (NMDOT), and the Federal Highway Administration (FHWA). The 2024 MRCOG Roadway Functional Classification Map classifies roadways based on their function. Roadways are subject to design guidance based on their functional classification, design speed, or based on Comprehensive Plan corridor designations.

1. ADJACENT ROADWAYS

The following are adjacent roadways:

- Agua Fria Street is a minor arterial with one lane in each direction and a two-way left turn lane. Agua Fria has a posted speed limit of 35 miles per hour (MPH). Agua Fria provides regional connectivity within the greater Santa Fe area, serving as a link between major/minor roadways which travel north-south directions, including Highway 285 and I-25. Sidewalks and bicycle lanes exist along Agua Fria in this area.
- Siler Road is a minor arterial, with one lane in each direction and a two-way left turn lane. Siler Road has a posted speed limit of 30 MPH. Siler provides regional connectivity within Santa Fe, serving as a connector roadway to NM 14 which leads to Tijeras and I-40 to the south, or I-25 to the south, or US 285 to the northeast. Sidewalks and bicycle lanes exist along Agua Fria in this area.
- Harrison Road is a local roadway with speedhumps no centerline striping. Harrison Road has a posted speed limit of 25 MPH. Sidewalk, curb and gutter exist along Harrison Road in this area.
- Siler Park Lane is a local roadway with no centerline striping or posted speed limit. It has an assumed speed limit of 25 MPH. Siler Park Lane has curb and gutter. No sidewalk or bike paths exist along Siler Park Lane.
- Cooks Road is a local roadway with no centerline striping or posted speed limit. Cooks Road has sidewalk, curb and gutter. Bike lanes/paths do not exist along Cooks Road.

2. MULTI-MODAL CONDITIONS

The Santa Fe Bikeways and Trails map includes designated bicycle lanes on both sides of Agua Fria from Siler to Avenida Cristobal Colon. This map also includes Agua Fria

as a shared use-higher traffic roadway where it does not denote bike lanes or shoulders. Siler Road also includes a bike lane/shoulders from Cerrillos Road to Alameda. Additionally, the bikeways and trails map shows Rufina and Harrison as shared use with lower traffic/speed.

The Santa Fe river trail is located along the north banks of the Santa Fe river, which runs parallel to the north of Agua Fria through the project limits. The nearest access to this trail is currently at Siler Road with many additional access points along the 10 mile trail. Additional access points are in discussion at the City but are not yet under construction.

The Santa Fe Trails bus system currently has an active route along Agua Fria Street, which passes the proposed development. The system map denotes this route as route 1 with the nearest bus stop being located east of the intersection of Agua Fria and Siler.

Additionally, Cerrillos Road has route 2 running along it within a mile of the proposed development. This route has the closest bus stop located at Cerrillos Road and Siler.

B. EXISTING TRAFFIC CONDITIONS

Traffic counts for the intersections analyzed in the study area were collected on March 19, 2024, and March 20, 2024. Existing traffic counts are included in Appendix A. The counts included 6-hour turning movement counts. Build traffic for the proposed subdivisions was estimated by counting the houses, developing trip generation, and distributing those trips onto the Build roadway network, similar to a normal traffic study.

C. LEVEL OF SERVICE DEFINITIONS

The *Highway Capacity Manual Seventh Edition (HCM)* defines Level of Service (LOS) for signalized and un-signalized intersections in Table 1 as follows:

Table 1 LOS Definitions			
Level of Service	Definition	Signalized (sec/veh)	Unsignalized (sec/veh)
A	Most vehicles do not stop	<10	<10
B	Some vehicles stop	>10 and <20	>10 and <15
C	Significant numbers of vehicles stop	>20 and <35	>15 and <25
D	Many vehicles stop	>35 and <55	>25 and <35
E	Limit of acceptable delay	>55 and <80	>35 and <50
F	Unacceptable delay	>80	>50

The City of Santa Fe has established LOS D as the generally acceptable level of service in urban areas. When intersections operate below this level, improvements are considered, where feasible. Other critical movements are also desired to have LOS D or better if possible.

D. EXISTING INTERSECTION CAPACITY ANALYSIS

The traffic volume for all existing intersections were analyzed using Highway Capacity Software version 7 (HCS7), which uses the intersection methodology from the Seventh Edition of the Highway Capacity Manual (HCM). Existing traffic volumes are shown in Figure 2. Individual intersection output for the existing conditions analysis is included in Appendix B. The results are summarized in Table 2 and Table 3.

The signalized intersection of Agua Fria Street and Siler Road operates at an acceptable level of service in the AM and PM peak hours.

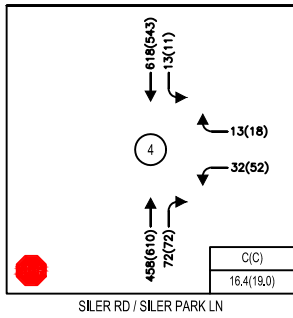
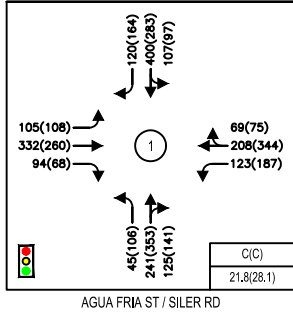
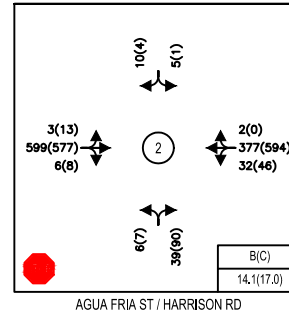
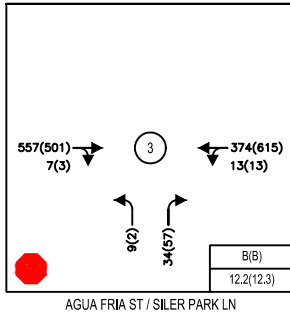
Table 2 Existing Signalized Intersection Results						
	2024 AM Peak			2024 PM Peak		
Intersection/Movement	Delay (sec)	V/C	LOS	Delay (sec)	V/C	LOS
Agua Fria & Siler	21.8	0.80	C	28.1	0.88	C
* – HCM 95 th percentile queue rounded to next 25-foot increment						

The unsignalized intersections operate at acceptable levels of service in the AM and PM peak hours with a LOS no worse than C. The Results for the unsignalized intersections are shown in Table 3.

Table 3 Existing Unsignalized Intersection Results								
Intersection/Movement	2024 AM Peak				2024 PM Peak			
	Delay (sec)	V/C	Queue* (ft)	LOS	Delay (sec)	V/C	Queue* (ft)	LOS
Agua Fria & Harrison								
Eastbound Approach	8.1	0.00	0	A	8.8	0.01	0	A
Westbound Approach	8.9	0.04	25	A	8.9	0.05	25	A
Northbound Approach	14.1	0.11	25	B	15.3	0.23	25	C
Southbound Approach	13.3	0.04	25	B	17.0	0.03	25	C
Agua Fria & Siler Park Lane								
Westbound Approach	8.7	0.01	0	A	8.7	0.01	0	A
Northbound Approach	12.2	0.02	25	B	12.3	0.02	25	B
Siler Road & Siler Park Lane								
Westbound Approach	16.4	0.13	25	C	19.0	0.23	25	C
Southbound Approach	0.4	0.01	0	A	0.4	0.01	0	A
* – HCM 95 th percentile queue rounded to next 25-foot increment								

LEGEND

- Thru Lanes
(# as indicated)
- Turning Lanes
(# as indicated)
- 1234(1234) AM(PM) Traffic Counts
- X(X) AM(PM) Level of Service (LOS)



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V. PROJECTED TRAFFIC

A. SITE TRAFFIC FORECASTING

1. TRIP GENERATION

Generated trips are broken down into three types; 1) primary, 2) pass-by trips, and 3) diverted link. The Trip Generation report defines these trips as follows:

- **Primary Trips** – These trips are made for the specific purpose of visiting the generator. The stop at that generator is the primary reason for the trip. For example, a home to shopping to home combination of trips is a primary trip set.
- **Pass-by Trips** – These trips are made as intermediate stops on the way from an origin to a primary trip generation. Pass-by trips are attracted from the traffic passing the site on an adjacent street that contains direct access to the generator site. These trips do not require a diversion from another roadway. For example, stopping at the store on the way home from work is an example of a pass-by trip. No pass-by trips were used in this analysis.
- **Diverted Linked Trips** – These trips are attracted from the traffic volume on the roadway within the vicinity of the generator, but which require a diversion from that roadway to another roadway to gain access to the site. The roadways could include streets or freeways adjacent to the generator, but without access to the generator. For this study, the diverted link trips have been included in with the primary trips.

This study evaluates primary trips only.

The trip generation based on the 10th Edition of the Institute of Transportation engineer's (ITE) Trip Generation Manual is shown in Table 4 below with the following considerations. The trip generation is based on the peak hour of the adjacent street traffic.

Table 4 Trip Generation							
Land Use	ITE Code	Size	Daily	AM Enter	AM Exit	PM Enter	PM Exit
Multi-Family Housing (Low-Rise)	220	130	909	15	48	48	28

2. TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution was determined using a modified gravity model that considered a region-wide travel shed for employment trips. As the development is residential, standard traffic analysis assumes the trips in the peak hour to be primarily employment trips, so the destinations for the AM trips are employment locations, with the origins the site. In the PM peak hour, the destination is the site, and the origins are the employment locations.

The gravity model uses the locations of employment, which are weighted by the number of jobs in the Subareas in the Albuquerque and Santa Fe Metropolitan area divided by their distance from the site. This means that employment locations closer to the site are considered more likely, with those farther away to be less likely, depending on how many jobs are in each Subarea.

The gravity model utilized socioeconomic data obtained from the Mid Region Council of Governments (MRCOG), which included population and employment estimates for each subarea within the Albuquerque and Santa Fe Metropolitan Planning Area to develop the trip distribution.

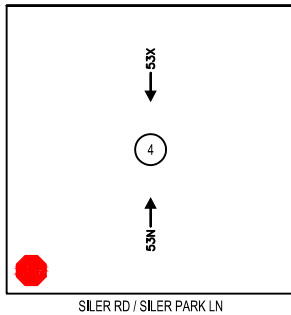
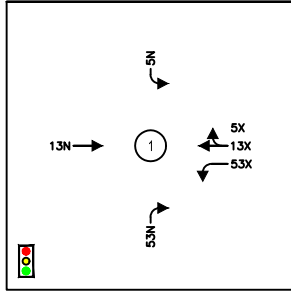
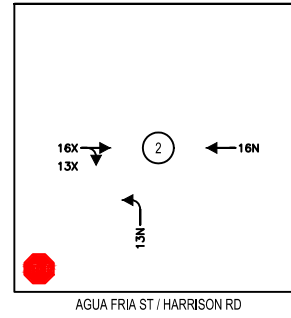
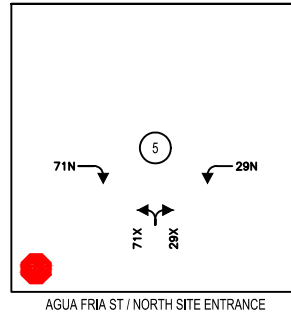
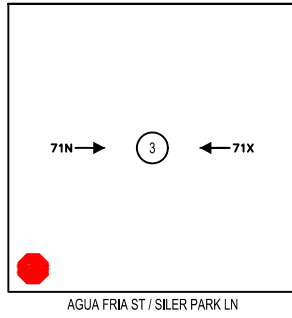
Spreadsheets showing the development of the trip distribution are included in Appendix C. Trip distribution percentages are shown in Figure 3.

3. TRAFFIC PROJECTIONS

A background growth rate of 1% was applied to provide an estimate of potential future growth of traffic at all intersections evaluated. The growth rate determination and data are summarized in the spreadsheets included in Appendix C.

LEGEND

- ↑↑↑ Thru Lanes (# as indicated)
- ↩↪ Turning Lanes (# as indicated)
- N Entering
- X Exiting



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VI. TRAFFIC AND IMPROVEMENT ANALYSIS

The following section will discuss the results of the future year traffic analysis. The intersection capacity analysis was completed using HCS7 which implements the Highway Capacity Manual procedures.

1. 2027 NO BUILD INTERSECTION CAPACITY ANALYSIS

The 2027 No Build analysis assumes that the proposed development is not completed in the 2027 and 2042 time periods. Figure 4 shows the 2027 No Build Results. Table 5 and Table 6 show the No Build results. The HCS outputs are included in Appendix D.

The study found that the signalized intersection, Agua Fria Street and Siler Road, operates at acceptable levels of service, LOS C in the AM and PM peak hours for the 2027 No Build condition.

For the 2027 No Build scenario the signalized intersection of Agua Fria Street and Siler operates at LOS C in both the AM and PM peak hours. Table 5 shows the No Build Signalized Results.

Table 5 2027 No Build Signalized Intersection Results						
Intersection	2027 AM Peak			2027 PM Peak		
	Delay	V/C	LOS	Delay	V/C	LOS
Agua Fria & Siler	22.6	0.81	C	30.0	0.90	C
* – HCM 95 th percentile queue rounded to next 25-foot increment						

The study found that all unsignalized intersections operate at acceptable levels of service in the 2027 No Build condition with all movements at LOS C or better for both AM and PM peak hours.

For the 2027 No Build condition, the Agua Fria and Harrison intersection has eastbound and westbound approaches that are expected to operate at a LOS A in the AM and PM peak hours. The northbound and southbound approaches are expected to operate at a LOS B in the AM peak hour and LOS C in the PM peak hour.

The Agua Fria and Siler Park Lane intersection produced results that the westbound approach is expected to operate at a LOS A in the AM and PM peak hour while the northbound approach is expected to operate at a LOS B during both peak hours.

The Siler and Siler Park Lane intersection is expected to operate at a LOS C for the westbound approach in both the AM and PM peak hour. The Southbound approach is expected to operate at a LOS A in both the AM and PM peak hour.

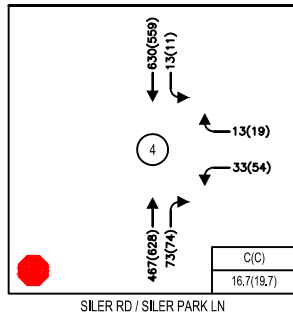
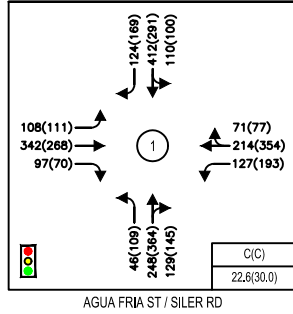
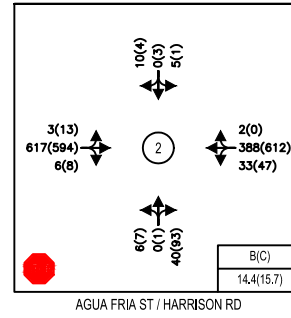
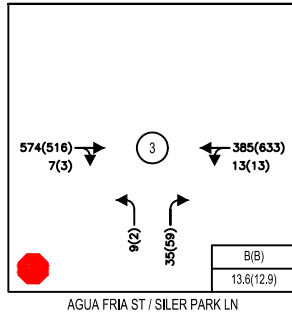
Table 6 | 2027 No Build Unsignalized Intersection Results

Intersection/Movement	2027 AM Peak				2027 PM Peak			
	Delay (sec)	V/C	Queue* (ft)	LOS	Delay (sec)	V/C	Queue* (ft)	LOS
Agua Fria & Harrison								
Eastbound Approach	8.1	0.00	0	A	8.9	0.01	0	A
Westbound Approach	9.0	0.04	25	A	9.0	0.05	25	A
Northbound Approach	14.4	0.11	25	B	15.7	0.24	25	C
Southbound Approach	13.6	0.04	25	B	17.4	0.03	25	C
Agua Fria & Siler Park Lane								
Westbound Approach	8.8	0.01	0	A	8.6	0.01	0	A
Northbound Approach	13.6	0.10	25	B	12.9	0.13	25	B
Siler Road & Siler Park Lane								
Westbound Approach	16.7	0.14	25	C	19.7	0.25	50	C
Southbound Approach	8.7	0.01	0	A	0.4	0.01	0	A

* – HCM 95th percentile queue rounded to next 25-foot increment

LEGEND

- Thru Lanes
(# as indicated)
- Turning Lanes
(# as indicated)
- 1234(1234) AM(PM) Traffic Counts
- X(X) AM(PM) Level of Service (LOS)



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2. 2027 BUILD INTERSECTION CAPACITY ANALYSIS

The trips generated by the site (Table 4) were assigned to the intersections using the trip percentages and associated volumes, shown in Figure 3. These trips were added to the 2027 No Build traffic projections.

The study found that the signalized intersection, Agua Fria and Siler will operate at acceptable levels of service in the 2027 Build condition with a LOS C in both the AM and PM peak hour.

The 2027 Build capacity analysis is shown in Table 7 and Table 8. The individual intersection output is included in Appendix E.

Table 7 2027 Build Signalized Intersection Results						
Intersection	2027 AM Peak			2027 PM Peak		
	Delay	V/C	LOS	Delay	V/C	LOS
Agua Fria & Siler	23.4	0.82	C	32.1	0.92	C
* – HCM 95 th percentile queue rounded to next 25-foot increment						

For the 2027 Build condition at Agua Fria and Harrison Road, the eastbound and westbound approaches are expected to operate at LOS A in the AM and PM peak hour. The northbound and southbound movements are expected to operate at LOS B in the AM peak hour and LOS C in the PM peak hour.

Under the 2027 Build condition at Agua Fria and Siler Park Lane the westbound approach is expected to operate at a LOS A in both the AM and PM peak hour while the northbound approach is expected to operate at LOS B in both the AM and PM peak hours.

At the Siler Road & Siler Park Lane intersection the westbound approach is expected to degrade to LOS C in the PM peak hour. All other movements operate at acceptable Levels of Service in both the AM and PM peak hour.

Table 8 2027 Build Unsignalized Intersection Results								
Intersection/Movement	2027 AM Peak				2027 PM Peak			
	Delay (sec)	V/C	Queue* (ft)	LOS	Delay (sec)	V/C	Queue* (ft)	LOS
Agua Fria & Harrison								
Eastbound Approach	8.1	0.00	0	A	8.9	0.01	0	A
Westbound Approach	9.1	0.04	25	A	9.0	0.05	25	A
Northbound Approach	14.8	0.12	25	B	16.9	0.27	50	C
Southbound Approach	13.7	0.04	25	B	17.6	0.03	25	C
Agua Fria & Siler Park Lane								
Westbound Approach	8.8	0.01	0	A	8.7	0.01	0	A
Northbound Approach	13.8	0.10	25	B	13.3	0.13	25	B
Siler Road & Siler Park Lane								
Westbound Approach	17.0	0.14	25	C	20.4	0.26	25	C
Southbound Approach	8.7	0.01	0	A	9.4	0.01	0	A
Agua Fria & North Site Entrance								
Westbound Approach	8.9	0.00	0	A	9.0	0.02	0	A
Northbound Approach	15.6	0.13	25	C	16.8	0.09	25	C

* – HCM 95th percentile queue rounded to next 25-foot increment

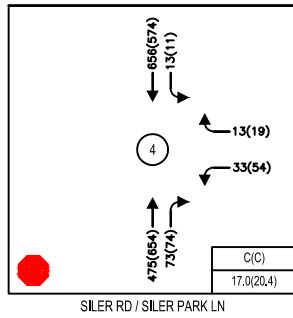
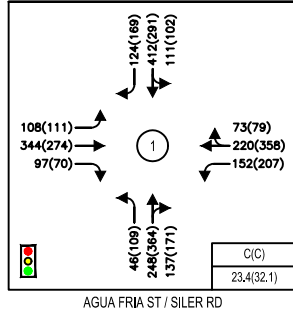
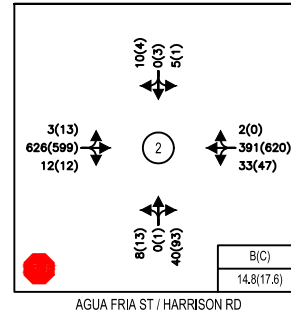
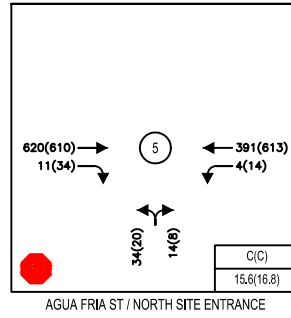
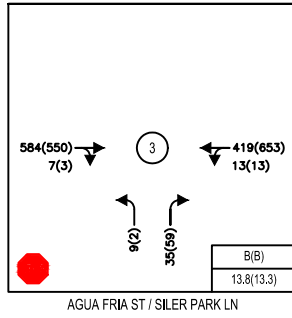
LEGEND

↑↑↑ Thru Lanes
(# as indicated)

↙↘ Turning Lanes
(# as indicated)

1234(1234) AM(PM) Traffic Counts

X(X) AM(PM) Level of Service (LOS)



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3. 2042 NO BUILD INTERSECTION CAPACITY ANALYSIS

The 2042 Horizon Year No Build analysis assumes the proposed development is completed in the 2027 time period. Figure 6 shows the 2042 Horizon Year No Build Results. Table 9 and Table 10 show a summary of the No Build results. The HCS outputs are included in Appendix F.

The traffic analysis found that the signalized intersection, Agua Fria Street and Siler Road operate overall acceptably for the 2042 No Build condition in the AM and PM peak hours however, during the PM peak hour the westbound movement degrades to LOS F due to the background traffic growth. This decline in operation is not due to the development traffic.

Table 9 2042 Horizon Year No Build Signalized Intersection Results						
Intersection	2042 AM Peak			2042 PM Peak		
	Delay	V/C	LOS	Delay	V/C	LOS
Agua Fria & Siler	31.8	0.87	C	51.9	1.16	D**
* – HCM 95 th percentile queue rounded to next 25-foot increment						
** - Movements of LOS F						

The traffic analysis found in the 2042 No Build condition all unsignalized intersections operate at acceptable Levels of Service in both the AM and PM peak hours.

For the 2042 No Build condition the Agua Fria Street and Harrison Road is expected to continue to operate at acceptable conditions. All movements at this intersection are expected to continue to operate at acceptable levels of service.

For the Agua Fria Street and Siler Park Lane intersection also continues to operate acceptably. All movement continue to operate at acceptable level of service.

The Siler Road & Siler Park Lane intersection continues to operate with all movements operating at acceptable Levels of Service in both the AM and PM peak hours.

Table 10 2042 Horizon Year No Build Unsignalized Intersection Results								
Intersection/Movement	2042 AM Peak				2042 PM Peak			
	Delay (sec)	V/C	Queue* (ft)	LOS	Delay (sec)	V/C	Queue* (ft)	LOS
Agua Fria & Harrison								
Eastbound Approach	8.3	0.00	0	A	9.3	0.02	25	A
Westbound Approach	9.5	0.05	25	A	9.5	0.07	25	A
Northbound Approach	16.6	0.15	25	C	19.2	0.33	50	C
Southbound Approach	15.4	0.05	25	C	20.6	0.04	25	C
Agua Fria & Siler Park Lane								
Westbound Approach	9.1	0.02	25	A	8.9	0.02	25	A
Northbound Approach	15.3	0.14	25	C	14.4	0.17	25	B
Siler Road & Siler Park Lane								
Westbound Approach	19.6	0.19	25	C	22.3	0.26	25	C
Southbound Approach	9.1	0.02	25	A	9.9	0.02	25	A
* – HCM 95 th percentile queue rounded to next 25-foot increment								

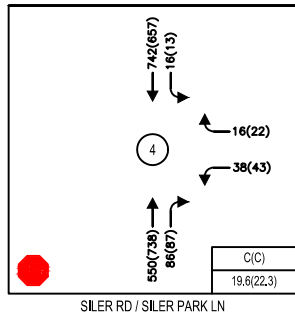
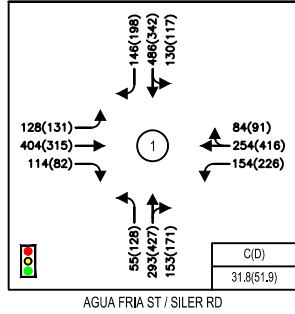
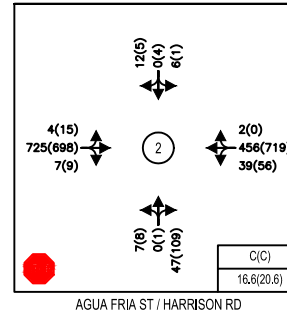
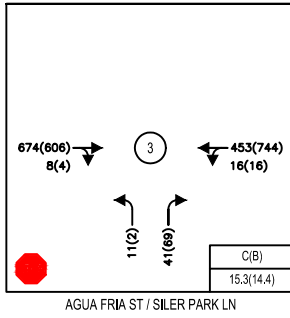
LEGEND

↑↑↑ Thru Lanes
(# as indicated)

↙↘ Turning Lanes
(# as indicated)

1234(1234) AM(PM) Traffic Counts

X(X) AM(PM) Level of Service (LOS)



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4. 2042 BUILD INTERSECTION CAPACITY ANALYSIS

The trips generated by the site (Table 4) were assigned to the intersections using the trip percentages and associated volumes, shown in Figure 3. These trips were added to the 2042 Horizon Year No Build traffic projections shown in Appendix G 2042 Build Intersection Capacity Analysis. Figure 7 shows the 2042 Build Traffic Volumes and a summary of the results are shown in Table 11 and Table 12. The individual intersection output is included in Appendix G.

The 2042 Horizon Year Build traffic analysis found that the signalized intersection, Agua Fria and Siler continues to have a deficient movement during the PM peak hour. The westbound thru movement operates at a LOS F in the PM peak hour with a delay of 151.4 seconds per vehicle. This deficiency is also noted in the No build scenario and therefore is not caused by the development traffic.

Table 11 2042 Horizon Year Build Signalized Intersection Results						
Intersection	2042 AM Peak			2042 PM Peak		
	Delay	V/C	LOS	Delay	V/C	LOS
Agua Fria & Siler	33.2	0.88	C	56.8	1.20	E**
* – HCM 95 th percentile queue rounded to next 25-foot increment						
** - Movements of LOS F						

For the 2042 Build condition, the study found that all unsignalized intersections operate at an acceptable Level of Service in both the AM and PM peak hours.

The eastbound and westbound approaches at the Agua Fria and Harrison intersection operate at a LOS A in the AM and PM peak hour. The northbound and southbound approaches operate at a LOS C in the AM and PM peak hour.

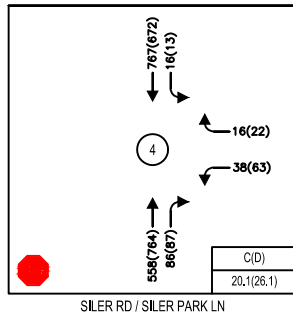
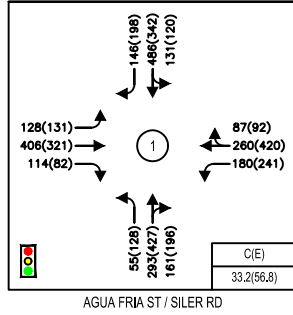
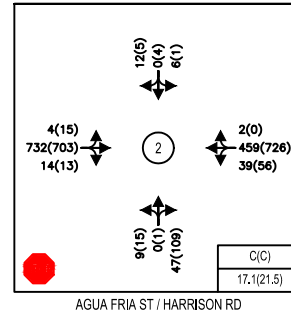
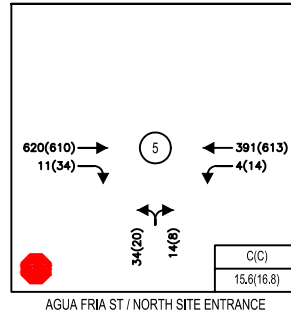
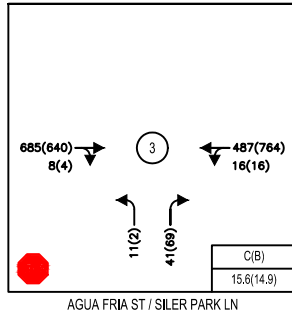
At the Agua Fria Street and Siler Park Lane intersection, all movements operate at acceptable Levels of Service in both the AM and PM peak hours.

At the Siler Road & Siler Park Lane intersection, the westbound approach is expected to degrade to LOS D in the PM peak hour. All other movements operate better than LOS D in both the AM and PM peak hours.

Table 12 2042 Horizon Year Build Unsignalized Intersection Results								
Intersection/Movement	2042 AM Peak				2042 PM Peak			
	Delay (sec)	V/C	Queue* (ft)	LOS	Delay (sec)	V/C	Queue* (ft)	LOS
Agua Fria & Harrison								
Eastbound Approach	8.3	0.00	0	A	9.3	0.02	25	A
Westbound Approach	9.5	0.05	25	A	9.5	0.07	25	A
Northbound Approach	17.1	0.17	25	C	21.5	0.38	50	C
Southbound Thru Approach	15.5	0.05	25	C	20.9	0.04	25	C
Agua Fria & Siler Park Lane								
Westbound Approach	9.2	0.02	25	A	9.0	0.02	25	A
Northbound Approach	15.6	0.14	25	C	14.9	0.17	25	B
Siler Road & Siler Park Lane								
Westbound Approach	20.1	0.20	25	C	26.1	0.36	50	D
Southbound Approach	9.1	0.02	25	A	10.0	0.02	25	A
Agua Fria & North Site Entrance								
Westbound Approach	8.9	0.00	0	A	9.0	0.02	25	A
Northbound Approach	15.6	0.13	25	C	16.8	0.09	25	C
* – HCM 95 th percentile queue rounded to next 25-foot increment								

LEGEND

- Thru Lanes
(# as indicated)
- Turning Lanes
(# as indicated)
- 1234(1234) AM(PM) Traffic Counts
- X(X) AM(PM) Level of Service (LOS)



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B. TURN LANE EVALUATION

Analyses of the state access management manual (SAMM), comparisons to Transportation Impact Analysis (TIA) Guidelines by the City of Santa Fe, and AASHTO documentation were completed to determine the need to install new right turn or left turn lanes at several of the intersections included in the study area.

Included in decision making for these deceleration lanes was the safety analysis for the Agua Fria Street Corridor Study that was recently completed. This section of the study is included in Appendix C for reference. This safety analysis showed 308 accidents over a 10-year period with 71% of those accidents being rear-end collisions. The FHWA Highway Safety Programs suggests countermeasures that address specific types of crashes. A counter measure that is suggested to help address rear end crashes attributed to turning vehicles hit from behind is providing turning lanes at intersections. As the turn lane evaluation looked at several guidance documents based on national standards, New Mexico standards, and City of Santa Fe standards, a recommendation will take all available information and follow a best practice to help decrease the amount of rear end collisions along Agua Fria creating a safer environment for the traveling public.

Agua Fria has a posted speed limit of 35 MPH, and the development will see a volume of 11 vehicles in the AM peak hour and 34 vehicles during the PM peak hour taking an eastbound right into the site. During both peak hours, a dedicated right turn lane is required based on the SAMM criteria. The Santa Fe TIA Guidelines have different vehicle volumes for the requirement of dedicated right turn lanes, and therefore the major road volume criteria is not met for a right turn lane for a two-lane roadway at 35 MPH. For this right turn lane, the deceleration length is calculated based on AASHTO recommendations. With a speed of 35 MPH, AASHTO states that a deceleration distance of 205 feet is needed. The Santa Fe guidelines and AASHTO also state that a moderate amount of deceleration within the through lanes is acceptable. Due to existing right-of-way constraints along Agua Fria, the length from the edge of the property to the access point is the limiting factor without requiring right of way acquisitions to adjacent property owners. The length of deceleration lane, which includes the taper, that would fit into this area is approximately 110 feet. This would mean that a vehicle would slow to 25 MPH in the through lane with the remainder of deceleration occurring in the dedicated right turn lane. Since the SAMM criteria warrants this right turn lane, it is recommended to install this dedicated right turn lane with a length of 110 feet along the frontage of the proposed development. If development of the adjacent property occurs in the future, the City of Santa Fe may recommend extending this turn lane to the full 205-foot requirement.

The development will also see a volume of 4 vehicles in the AM peak hour and 14 vehicles during the PM peak hour entering the development via a westbound left movement. The AM peak hour does not require a dedicated turn lane although the

PM peak hour does meet the threshold requiring a left turn lane per the SAMM. The Santa Fe TIA Guidelines show the volume criteria is met for a left turn lane for a two-lane roadway at 35 MPH. As a two way left turn lane is present along Agua Fria to serve the accesses along it, the existing lanes should remain so that all access points in the vicinity may be served.

The signalized intersection of Agua Fria and Siler Road was also looked at closer to determine the need for dedicated right turning lanes. The SAMM states that one of the purposes of speed change lanes at signalized intersections are to improve intersection operational efficiency. The intersection operates acceptably during the opening year of 2027 but the westbound includes declines in 2042 due to background growth even without the additional traffic generated by the development. In the horizon year it may be beneficial to take a closer look at this movement to determine if a dedicated westbound right turning lane should be installed at this intersection. Using the Santa Fe TIA Guidelines, the major road volume criteria is not met for a right turn lane for a two-lane roadway at 35 MPH. Alternative mitigation efforts should be explored prior to 2042.

According to the SAMM, the intersection of Siler Road and Siler Park Lane meets the threshold for a dedicated northbound right turning lane in existing conditions during both AM and PM peak hours. The Santa Fe TIA Guidelines show the major road volume criteria is not met for a right turn lane for a two-lane roadway at 35 MPH. Since this turn lane is not required based on the Santa Fe TIA Guidelines, we recommend this not be installed. Additionally, since this is in existing conditions this right turn lane should not be the responsibility of the developer.

Agua Fria and Siler Park Lane was also evaluated and does not require an eastbound dedicated right turn lane at the intersection based on the SAMM. A westbound dedicated left turn lane is required based on the SAMM. There is an existing westbound left turn lane at this intersection with a length of approximately 50 feet. Additionally, this area includes a two way left turn lane that could be used to extend this left turn lane if needed. The Santa Fe TIA Guidelines for turning lane requirements indicated the major road volume criteria is not met for a right turn lane for a two-lane roadway at 35 MPH. The traffic volume is met for a dedicated left turn lane for a two-way roadway at 35 MPH. The operational analysis shows that the westbound left at this location will not see a queue develop during either peak hour. The Santa Fe TIA Guidelines state that the minimum turn bay length of 50 feet shall be provided. Since this is met for the westbound left turn lane, additional length is not required. Additionally, no trips associated with the development are assigned to this movement, so these turn lanes at this intersection should not be the responsibility of the developer.

The applicable tables from the SAMM and Santa Fe TIA Guidelines criteria is included in Appendix C for reference

VII. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

The traffic analysis found that all intersections operate overall acceptably in the 2024 Existing, 2027 No Build and 2027 Build conditions.

In the 2042 No Build and Build scenarios, the westbound thru movement at the signalized intersection, Agua Fria and Siler, will operate at LOS F in the PM peak hour. Since the first occurrence of this appears in the no build scenario, the development is not responsible for this and further assessments as the horizon year nears is recommended.

A dedicated right turn lane was evaluated based on the SAMM, the Santa Fe TIA Guidelines, and AASHTO. A right turn lane on Agua Fria and the proposed access point is required based on the SAMM, but is not required based on the Santa Fe TIA Guidelines. AASHTO requirements state that if a turn lane is provided it specifies a desirable deceleration distance of 205 feet for a speed of 35 MPH. It states that it is not practical on many facilities to provide the full length of deceleration length in the turn lane due to constraints such as right-of-way, distance available between adjacent intersections, and storage needs. As right-of-way constraints exist along Agua Fria, this concern was evaluated to determine a length of right turn deceleration distance that could be included along the frontage of the development property. From the edge of the property to the access point an approximately 110-foot-long deceleration lane would be able to be constructed. If the adjacent properties are ever developed in the future, the City of Santa Fe may extend this turn lane to the full 205 feet if determined appropriate at that time. It is our professional recommendation that a right turn lane should be constructed at the access point of the proposed development and that this deceleration lane should be 110 feet in length.

Additionally left turn lanes were evaluated based on the SAMM, Santa Fe TIA Guidelines, and AASHTO. The westbound left on Agua Fria at the proposed access point does not meet the SAMM volumes during the AM peak hour but does meet the guidance in the PM peak hour. The Santa Fe TIA Guidelines show this left turn lane being warranted due to the high volume on Agua Fria in this area. As a two-way left turn lane is present along Agua Fria to serve the accesses along it, the existing lanes should remain so that all access points in the vicinity may be served.

B. RECOMMENDATIONS

- Installation of the proposed access point at Agua Fria should include the two-way left turn lane at the intersection. This two-way left turn lane should remain in place to serve the westbound left users into the site.

- An eastbound dedicated right turn lane is required at the proposed access point. This right turn lane shall be 110 feet in length along the frontage of the proposed development property.
- All designs shall satisfy the Manual on Uniform Traffic Control Devices (MUTCD) and the City of Santa Fe requirements.

**APPENDIX A
EXISTING DATA**

Cleland Counts

1441 Camino Cerritos S.E.
Albuquerque, New Mexico 87123
(505) 414-0465

Counter R.C.

File Name : Agua Fria St. and Siler Rd.
Site Code : 03192024
Start Date : 3/19/2024
Page No : 1

Groups Printed- Cars - Trucks - Buses

Start Time	Agua Fria St. Eastbound						Agua Fria St. Westbound						Siler Rd. Northbound						Siler Rd. Southbound						Int. Total
	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	
06:00 AM	2	15	2	0	0	19	1	4	2	0	1	8	3	7	10	0	0	20	1	7	2	0	0	10	57
06:15 AM	8	21	12	0	0	41	5	9	6	0	0	20	2	6	7	0	0	15	1	22	4	0	0	27	103
06:30 AM	5	25	19	0	0	49	9	9	3	0	0	21	1	27	8	0	0	36	5	22	5	0	0	32	138
06:45 AM	9	44	13	0	0	66	7	14	5	0	0	26	3	14	18	0	0	35	10	26	5	0	0	41	168
Total	24	105	46	0	0	175	22	36	16	0	1	75	9	54	43	0	0	106	17	77	16	0	0	110	466
07:00 AM	11	25	7	0	0	43	11	17	5	0	0	33	3	27	13	0	0	43	9	36	10	0	0	55	174
07:15 AM	8	51	17	0	0	76	20	25	13	0	0	58	6	32	21	0	0	59	15	45	15	0	0	75	268
07:30 AM	27	54	21	0	0	102	21	33	15	0	0	69	9	57	30	0	0	96	17	73	18	0	0	108	375
07:45 AM	25	89	23	0	0	137	35	63	16	0	1	115	11	64	28	0	0	103	26	99	35	1	1	162	517
Total	71	219	68	0	0	358	87	138	49	0	1	275	29	180	92	0	0	301	67	253	78	1	1	400	1334
08:00 AM	25	77	23	0	0	125	33	46	16	0	0	95	11	52	27	0	1	91	32	112	33	0	0	177	488
08:15 AM	23	79	27	0	0	129	25	52	18	0	0	95	12	65	25	0	0	102	31	102	24	0	0	157	483
08:30 AM	32	87	21	0	0	140	30	47	19	1	0	97	11	60	45	0	0	116	18	87	28	0	0	133	486
08:45 AM	29	78	16	0	0	123	24	42	6	1	0	73	14	69	41	0	1	125	20	72	18	0	0	110	431
Total	109	321	87	0	0	517	112	187	59	2	0	360	48	246	138	0	2	434	101	373	103	0	0	577	1888
*** BREAK ***																									
03:00 PM	35	60	15	0	0	110	40	78	13	1	1	133	19	82	38	0	0	139	18	75	33	0	0	126	508
03:15 PM	35	53	19	0	0	107	43	85	19	1	0	148	29	74	43	1	0	147	18	61	30	0	0	109	511
03:30 PM	21	67	12	0	0	100	40	72	18	0	0	130	15	65	38	0	0	118	19	93	37	0	0	149	497
03:45 PM	19	72	24	0	0	115	30	65	13	0	0	108	27	69	36	0	0	132	28	92	35	1	0	156	511
Total	110	252	70	0	0	432	153	300	63	2	1	519	90	290	155	1	0	536	83	321	135	1	0	540	2027
04:00 PM	16	76	13	0	0	105	38	74	17	0	0	129	18	67	39	0	0	124	24	77	19	0	0	120	478
04:15 PM	22	66	21	0	0	109	38	83	15	0	0	136	25	87	40	0	0	152	24	67	40	0	0	131	528
04:30 PM	25	77	11	0	0	113	36	77	18	0	0	131	21	81	43	0	1	146	21	56	40	0	0	117	507
04:45 PM	31	59	23	1	0	114	57	88	15	0	0	160	26	79	31	2	1	139	23	87	37	0	0	147	560
Total	94	278	68	1	0	441	169	322	65	0	0	556	90	314	153	2	2	561	92	287	136	0	0	515	2073
05:00 PM	24	63	14	0	0	101	38	92	16	1	0	147	33	91	38	0	0	162	29	64	36	0	0	129	539
05:15 PM	28	61	20	0	0	109	56	87	26	0	0	169	26	102	29	0	1	158	24	76	51	0	0	151	587
05:30 PM	30	54	18	0	0	102	43	78	14	0	0	135	21	76	38	0	0	135	22	68	36	1	0	127	499
05:45 PM	30	63	8	0	0	101	45	85	16	0	0	146	16	62	35	1	0	114	19	55	21	0	0	95	456
Total	112	241	60	0	0	413	182	342	72	1	0	597	96	331	140	1	1	569	94	263	144	1	0	502	2081
Grand Total	520	1416	399	1	0	2336	725	1325	324	5	3	2382	362	1415	721	4	5	2507	454	1574	612	3	1	2644	9869
Apprch %	22.3	60.6	17.1	0	0		30.4	55.6	13.6	0.2	0.1		14.4	56.4	28.8	0.2	0.2		17.2	59.5	23.1	0.1	0		
Total %	5.3	14.3	4	0	0	23.7	7.3	13.4	3.3	0.1	0	24.1	3.7	14.3	7.3	0	0.1	25.4	4.6	15.9	6.2	0	0	26.8	
Cars	517	1404	395	1	0	2317	722	1315	324	5	3	2369	356	1402	706	4	5	2473	451	1557	610	3	1	2622	9781
% Cars	99.4	99.2	99	100	0	99.2	99.6	99.2	100	100	100	99.5	98.3	99.1	97.9	100	100	98.6	99.3	98.9	99.7	100	100	99.2	99.1

Cleland Counts

1441 Camino Cerritos S.E.
 Albuquerque, New Mexico 87123
 (505) 414-0465

File Name : Agua Fria St. and Siler Rd.
 Site Code : 03192024
 Start Date : 3/19/2024
 Page No : 2

Groups Printed- Cars - Trucks - Buses

	Agua Fria St. Eastbound						Agua Fria St. Westbound						Siler Rd. Northbound						Siler Rd. Southbound						Int. Total
	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	
Trucks	2	4	3	0	0	9	0	1	0	0	0	1	5	12	5	0	0	22	1	15	0	0	0	16	48
% Trucks	0.4	0.3	0.8	0	0	0.4	0	0.1	0	0	0	0	1.4	0.8	0.7	0	0	0.9	0.2	1	0	0	0	0.6	0.5
Buses	1	8	1	0	0	10	3	9	0	0	0	12	1	1	10	0	0	12	2	2	2	0	0	6	40
% Buses	0.2	0.6	0.3	0	0	0.4	0.4	0.7	0	0	0	0.5	0.3	0.1	1.4	0	0	0.5	0.4	0.1	0.3	0	0	0.2	0.4

Cleland Counts

1441 Camino Cerritos S.E.
Albuquerque, New Mexico 87123
(505) 414-0465

File Name : Agua Fria St. and Siler Rd.
Site Code : 03192024
Start Date : 3/19/2024
Page No : 3

Start Time	Agua Fria St. Eastbound				Agua Fria St. Westbound				Siler Rd. Northbound				Siler Rd. Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 AM to 12:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	25	89	23	137	35	63	16	114	11	64	28	103	26	99	35	160	514
08:00 AM	25	77	23	125	33	46	16	95	11	52	27	90	32	112	33	177	487
08:15 AM	23	79	27	129	25	52	18	95	12	65	25	102	31	102	24	157	483
08:30 AM	32	87	21	140	30	47	19	96	11	60	45	116	18	87	28	133	485
Total Volume	105	332	94	531	123	208	69	400	45	241	125	411	107	400	120	627	1969
% App. Total	19.8	62.5	17.7		30.8	52	17.2		10.9	58.6	30.4		17.1	63.8	19.1		
PHF	.820	.933	.870	.948	.879	.825	.908	.877	.938	.927	.694	.886	.836	.893	.857	.886	.958
Cars	103	329	92	524	123	207	69	399	45	239	121	405	105	396	119	620	1948
% Cars	98.1	99.1	97.9	98.7	100	99.5	100	99.8	100	99.2	96.8	98.5	98.1	99.0	99.2	98.9	98.9
Trucks	2	2	2	6	0	0	0	0	0	2	2	4	1	4	0	5	15
% Trucks	1.9	0.6	2.1	1.1	0	0	0	0	0	0.8	1.6	1.0	0.9	1.0	0	0.8	0.8
Buses	0	1	0	1	0	1	0	1	0	0	2	2	1	0	1	2	6
% Buses	0	0.3	0	0.2	0	0.5	0	0.3	0	0	1.6	0.5	0.9	0	0.8	0.3	0.3
Peak Hour Analysis From 12:15 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	25	77	11	113	36	77	18	131	21	81	43	145	21	56	40	117	506
04:45 PM	31	59	23	113	57	88	15	160	26	79	31	136	23	87	37	147	556
05:00 PM	24	63	14	101	38	92	16	146	33	91	38	162	29	64	36	129	538
05:15 PM	28	61	20	109	56	87	26	169	26	102	29	157	24	76	51	151	586
Total Volume	108	260	68	436	187	344	75	606	106	353	141	600	97	283	164	544	2186
% App. Total	24.8	59.6	15.6		30.9	56.8	12.4		17.7	58.8	23.5		17.8	52	30.1		
PHF	.871	.844	.739	.965	.820	.935	.721	.896	.803	.865	.820	.926	.836	.813	.804	.901	.933
Cars	108	259	68	435	186	342	75	603	106	353	138	597	97	281	164	542	2177
% Cars	100	99.6	100	99.8	99.5	99.4	100	99.5	100	100	97.9	99.5	100	99.3	100	99.6	99.6
Trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0.7	0.2	0	0	0	0	0.0
Buses	0	1	0	1	1	2	0	3	0	0	2	2	0	2	0	2	8
% Buses	0	0.4	0	0.2	0.5	0.6	0	0.5	0	0	1.4	0.3	0	0.7	0	0.4	0.4

Cleland Counts

1441 Camino Cerritos S.E.
Albuquerque, New Mexico 87123
(505) 414-0465

Counter R.C.

File Name : Agua Fria St. and Harrison Rd.
Site Code : 03202024
Start Date : 3/20/2024
Page No : 1

Groups Printed- Cars - Trucks - Buses

Start Time	Agua Fria St. Eastbound						Agua Fria St. Westbound						Harrison Rd. Northbound						Boylan Ln. Southbound						Int. Total						
	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total							
06:00 AM	1	16	0	0	0	17	0	14	0	0	0	14	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	33
06:15 AM	1	27	0	0	0	28	1	15	0	0	0	16	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	46
06:30 AM	0	35	2	0	0	37	0	15	1	0	0	16	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	54
06:45 AM	9	48	0	0	0	57	0	36	1	0	0	37	1	0	4	0	0	5	1	0	2	0	0	0	3	0	0	0	0	3	102
Total	11	126	2	0	0	139	1	80	2	0	0	83	3	0	7	0	0	10	1	0	2	0	0	0	3	0	0	0	0	235	
07:00 AM	5	46	0	0	0	51	4	37	1	0	0	42	1	1	1	0	0	3	1	0	0	0	0	0	1	0	0	0	0	1	97
07:15 AM	1	76	1	0	0	78	4	46	1	0	0	51	0	0	4	0	0	4	3	0	3	0	0	0	6	0	0	0	0	6	139
07:30 AM	0	70	0	0	0	70	3	48	0	0	0	51	1	0	6	0	0	7	1	0	5	0	0	0	6	0	0	0	0	6	134
07:45 AM	2	151	2	0	0	155	13	97	1	0	0	111	3	0	9	0	0	12	1	0	4	0	0	0	5	0	0	0	0	5	283
Total	8	343	3	0	0	354	24	228	3	0	0	255	5	1	20	0	0	26	6	0	12	0	0	0	18	0	0	0	0	653	
08:00 AM	0	148	1	0	0	149	8	94	0	0	0	102	0	0	13	0	0	13	2	0	3	0	0	0	5	0	0	0	0	5	269
08:15 AM	1	132	1	0	0	134	6	93	0	0	0	99	1	0	6	0	0	7	1	0	3	0	0	0	4	0	0	0	0	4	244
08:30 AM	0	168	2	0	0	170	5	93	1	1	0	100	2	0	11	0	0	13	1	0	0	1	0	0	2	0	0	0	0	2	285
08:45 AM	1	150	2	0	0	153	7	83	0	0	0	90	2	0	9	0	0	11	0	0	1	0	0	0	1	0	0	0	0	1	255
Total	2	598	6	0	0	606	26	363	1	1	0	391	5	0	39	0	0	44	4	0	7	1	0	0	12	0	0	0	0	1053	
*** BREAK ***																															
03:00 PM	2	125	1	0	0	128	5	108	0	0	0	113	0	1	12	0	0	13	0	0	1	0	0	0	1	0	0	0	0	1	255
03:15 PM	4	108	3	0	0	115	8	133	1	0	0	142	3	0	13	0	0	16	0	0	1	0	0	0	1	0	0	0	0	1	274
03:30 PM	9	130	2	0	0	141	7	149	2	0	0	158	3	1	10	0	0	14	3	0	6	0	0	0	9	0	0	0	0	9	322
03:45 PM	2	129	2	0	1	134	8	135	2	0	0	145	2	0	15	0	0	17	2	0	4	0	0	0	6	0	0	0	0	6	302
Total	17	492	8	0	1	518	28	525	5	0	0	558	8	2	50	0	0	60	5	0	12	0	0	0	17	0	0	0	0	1153	
04:00 PM	1	141	4	0	0	146	16	133	1	0	0	150	0	0	16	0	0	16	0	1	4	0	0	0	5	0	0	0	0	5	317
04:15 PM	0	131	1	1	0	133	7	159	0	0	0	166	2	0	12	0	0	14	0	0	2	0	0	0	2	0	0	0	0	2	315
04:30 PM	0	131	2	0	0	133	7	150	0	0	0	157	1	1	24	0	0	26	0	1	1	0	0	0	2	0	0	0	0	2	318
04:45 PM	11	141	3	0	0	155	13	126	0	0	0	139	1	0	29	0	0	30	1	0	0	0	0	0	1	0	0	0	0	1	325
Total	12	544	10	1	0	567	43	568	1	0	0	612	4	1	81	0	0	86	1	2	7	0	0	0	10	0	0	0	0	1275	
05:00 PM	2	150	1	0	0	153	12	156	0	1	1	170	3	0	20	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	346
05:15 PM	0	155	2	0	0	157	14	162	0	0	1	177	2	0	17	0	0	19	0	2	3	0	0	0	5	0	0	0	0	5	358
05:30 PM	0	128	4	1	0	133	3	121	0	0	1	125	2	1	13	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	274
05:45 PM	0	114	2	0	0	116	7	114	0	1	0	122	1	0	8	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	247
Total	2	547	9	1	0	559	36	553	0	2	3	594	8	1	58	0	0	67	0	2	3	0	0	0	5	0	0	0	0	1225	
Grand Total	52	2650	38	2	1	2743	158	2317	12	3	3	2493	33	5	255	0	0	293	17	4	43	1	0	0	65	0	0	0	0	5594	
Apprch %	1.9	96.6	1.4	0.1	0		6.3	92.9	0.5	0.1	0.1		11.3	1.7	87	0	0		26.2	6.2	66.2	1.5	0								
Total %	0.9	47.4	0.7	0	0	49	2.8	41.4	0.2	0.1	0.1	44.6	0.6	0.1	4.6	0	0	5.2	0.3	0.1	0.8	0	0	1.2							
Cars	52	2620	37	2	1	2712	158	2294	12	3	3	2470	33	5	251	0	0	289	17	4	43	1	0	65	65	0	0	0	0	5536	
% Cars	100	98.9	97.4	100	100	98.9	100	99	100	100	100	99.1	100	100	98.4	0	0	98.6	100	100	100	100	0	100	100	0	0	0	0	99	

Cleland Counts

1441 Camino Cerritos S.E.
 Albuquerque, New Mexico 87123
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File Name : Agua Fria St. and Harrison Rd.
 Site Code : 03202024
 Start Date : 3/20/2024
 Page No : 2

Groups Printed- Cars - Trucks - Buses

	Agua Fria St. Eastbound						Agua Fria St. Westbound						Harrison Rd. Northbound						Boylan Ln. Southbound						Int. Total
	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	
Trucks	0	11	1	0	0	12	0	7	0	0	0	7	0	0	1	0	0	1	0	0	0	0	0	0	20
% Trucks	0	0.4	2.6	0	0	0.4	0	0.3	0	0	0	0.3	0	0	0.4	0	0	0.3	0	0	0	0	0	0	0.4
Buses	0	19	0	0	0	19	0	16	0	0	0	16	0	0	3	0	0	3	0	0	0	0	0	0	38
% Buses	0	0.7	0	0	0	0.7	0	0.7	0	0	0	0.6	0	0	1.2	0	0	1	0	0	0	0	0	0	0.7

Cleland Counts

1441 Camino Cerritos S.E.
Albuquerque, New Mexico 87123
(505) 414-0465

Counter R.C.

File Name : Agua Fria St. and Siler Park Ln.
Site Code : 03192024
Start Date : 3/19/2024
Page No : 1

Groups Printed- Cars - Trucks - Buses

Start Time	Agua Fria St. Eastbound						Agua Fria St. Westbound						Siler Park Ln. Northbound						Int. Total	
	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total		
06:00 AM	0	23	0	0	0	23	0	7	0	0	0	7	0	0	0	0	0	0	0	30
06:15 AM	0	34	0	0	0	34	0	22	0	0	0	22	0	0	0	0	0	0	0	56
06:30 AM	0	43	1	0	1	45	1	23	0	0	0	24	0	0	2	0	0	2	2	71
06:45 AM	0	60	7	0	0	67	3	24	0	0	0	27	0	0	1	0	0	1	1	95
Total	0	160	8	0	1	169	4	76	0	0	0	80	0	0	3	0	0	3	3	252
07:00 AM	0	42	6	0	0	48	4	38	0	0	0	42	1	0	2	0	0	3	3	93
07:15 AM	0	88	0	0	0	88	3	64	0	0	0	67	1	0	0	0	0	1	1	156
07:30 AM	0	96	2	0	2	100	5	75	0	0	0	80	0	0	3	0	0	3	3	183
07:45 AM	0	149	0	0	0	149	3	102	0	0	0	105	1	0	9	0	0	10	10	264
Total	0	375	8	0	2	385	15	279	0	0	0	294	3	0	14	0	0	17	17	696
08:00 AM	0	132	3	0	0	135	5	100	0	0	0	105	2	0	9	0	0	11	11	251
08:15 AM	0	134	2	0	0	136	3	88	0	0	0	91	3	0	7	0	0	10	10	237
08:30 AM	0	142	2	0	0	144	2	84	0	1	0	87	3	0	9	0	0	12	12	243
08:45 AM	0	139	2	0	1	142	4	78	0	0	0	82	1	0	10	0	0	11	11	235
Total	0	547	9	0	1	557	14	350	0	1	0	365	9	0	35	0	0	44	44	966
*** BREAK ***																				
03:00 PM	0	108	1	0	0	109	4	136	0	1	0	141	2	0	6	0	0	8	8	258
03:15 PM	0	116	2	0	1	119	6	149	0	2	0	157	3	0	10	0	0	13	13	289
03:30 PM	0	123	1	0	2	126	5	132	0	1	0	138	0	0	18	0	0	18	18	282
03:45 PM	0	146	1	0	0	147	5	99	0	0	0	104	6	0	13	0	0	19	19	270
Total	0	493	5	0	3	501	20	516	0	4	0	540	11	0	47	0	0	58	58	1099
04:00 PM	0	138	3	0	0	141	4	138	0	0	0	142	9	0	19	0	0	28	28	311
04:15 PM	0	127	2	0	1	130	5	151	0	0	0	156	1	0	16	0	0	17	17	303
04:30 PM	0	140	0	0	2	142	3	147	0	0	0	150	0	0	16	0	1	17	17	309
04:45 PM	0	104	2	1	0	107	4	141	0	0	0	145	1	0	7	0	0	8	8	260
Total	0	509	7	1	3	520	16	577	0	0	0	593	11	0	58	0	1	70	70	1183
05:00 PM	0	130	0	1	0	131	1	156	0	1	0	158	0	0	17	0	0	17	17	306
05:15 PM	0	127	1	0	1	129	5	171	0	0	0	176	1	0	17	0	1	19	19	324
05:30 PM	0	130	1	0	0	131	1	154	0	0	0	155	0	0	5	0	0	5	5	291
05:45 PM	0	119	1	0	1	121	2	127	0	0	0	129	2	0	6	0	1	9	9	259
Total	0	506	3	1	2	512	9	608	0	1	0	618	3	0	45	0	2	50	50	1180
Grand Total	0	2590	40	2	12	2644	78	2406	0	6	0	2490	37	0	202	0	3	242	242	5376
Apprch %	0	98	1.5	0.1	0.5		3.1	96.6	0	0.2	0		15.3	0	83.5	0	1.2			
Total %	0	48.2	0.7	0	0.2	49.2	1.5	44.8	0	0.1	0	46.3	0.7	0	3.8	0	0.1	4.5		
Cars	0	2562	40	2	12	2616	78	2392	0	6	0	2476	37	0	200	0	3	240	240	5332
% Cars	0	98.9	100	100	100	98.9	100	99.4	0	100	0	99.4	100	0	99	0	100	99.2	99.2	99.2

Cleland Counts

1441 Camino Cerritos S.E.
 Albuquerque, New Mexico 87123
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File Name : Agua Fria St. and Siler Park Ln.
 Site Code : 03192024
 Start Date : 3/19/2024
 Page No : 2

Groups Printed- Cars - Trucks - Buses

	Agua Fria St. Eastbound						Agua Fria St. Westbound						Siler Park Ln. Northbound						Int. Total
	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	
Trucks	0	7	0	0	0	7	0	2	0	0	0	2	0	0	2	0	0	2	11
% Trucks	0	0.3	0	0	0	0.3	0	0.1	0	0	0	0.1	0	0	1	0	0	0.8	0.2
Buses	0	21	0	0	0	21	0	12	0	0	0	12	0	0	0	0	0	0	33
% Buses	0	0.8	0	0	0	0.8	0	0.5	0	0	0	0.5	0	0	0	0	0	0	0.6

Cleland Counts

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(505) 414-0465

File Name : Agua Fria St. and Siler Park Ln.
Site Code : 03192024
Start Date : 3/19/2024
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Start Time	Agua Fria St. Eastbound				Agua Fria St. Westbound				Siler Park Ln. Northbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 AM to 12:00 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	0	149	0	149	3	102	0	105	1	0	9	10	264
08:00 AM	0	132	3	135	5	100	0	105	2	0	9	11	251
08:15 AM	0	134	2	136	3	88	0	91	3	0	7	10	237
08:30 AM	0	142	2	144	2	84	0	86	3	0	9	12	242
Total Volume	0	557	7	564	13	374	0	387	9	0	34	43	994
% App. Total	0	98.8	1.2		3.4	96.6	0		20.9	0	79.1		
PHF	.000	.935	.583	.946	.650	.917	.000	.921	.750	.000	.944	.896	.941
Cars	0	548	7	555	13	373	0	386	9	0	34	43	984
% Cars	0	98.4	100	98.4	100	99.7	0	99.7	100	0	100	100	99.0
Trucks	0	5	0	5	0	0	0	0	0	0	0	0	5
% Trucks	0	0.9	0	0.9	0	0	0	0	0	0	0	0	0.5
Buses	0	4	0	4	0	1	0	1	0	0	0	0	5
% Buses	0	0.7	0	0.7	0	0.3	0	0.3	0	0	0	0	0.5
Peak Hour Analysis From 12:15 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	0	140	0	140	3	147	0	150	0	0	16	16	306
04:45 PM	0	104	2	106	4	141	0	145	1	0	7	8	259
05:00 PM	0	130	0	130	1	156	0	157	0	0	17	17	304
05:15 PM	0	127	1	128	5	171	0	176	1	0	17	18	322
Total Volume	0	501	3	504	13	615	0	628	2	0	57	59	1191
% App. Total	0	99.4	0.6		2.1	97.9	0		3.4	0	96.6		
PHF	.000	.895	.375	.900	.650	.899	.000	.892	.500	.000	.838	.819	.925
Cars	0	497	3	500	13	611	0	624	2	0	57	59	1183
% Cars	0	99.2	100	99.2	100	99.3	0	99.4	100	0	100	100	99.3
Trucks	0	0	0	0	0	1	0	1	0	0	0	0	1
% Trucks	0	0	0	0	0	0.2	0	0.2	0	0	0	0	0.1
Buses	0	4	0	4	0	3	0	3	0	0	0	0	7
% Buses	0	0.8	0	0.8	0	0.5	0	0.5	0	0	0	0	0.6

Cleland Counts

1441 Camino Cerritos S.E.
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Counter R.C.

File Name : Siler Rd. and Siler Park Ln.
Site Code : 03192024
Start Date : 3/19/2024
Page No : 1

Groups Printed- Cars - Trucks - Buses

Start Time	Siler Park Ln. Westbound						Siler Rd. Northbound						Siler Rd. Southbound						Int. Total
	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	
06:00 AM	0	0	0	0	0	0	0	24	3	0	0	27	0	11	0	0	0	11	38
06:15 AM	0	0	0	0	0	0	0	18	3	0	0	21	2	34	0	0	0	36	57
06:30 AM	1	0	3	0	0	4	0	36	5	0	0	41	3	50	0	0	0	53	98
06:45 AM	1	0	0	0	0	1	0	38	7	0	1	46	2	47	0	0	0	49	96
Total	2	0	3	0	0	5	0	116	18	0	1	135	7	142	0	0	0	149	289
07:00 AM	2	0	0	0	0	2	0	44	9	0	0	53	0	55	0	0	0	55	110
07:15 AM	3	0	0	0	0	3	0	66	4	0	0	70	1	78	0	0	0	79	152
07:30 AM	6	0	0	0	0	6	0	103	9	0	1	113	0	117	0	0	0	117	236
07:45 AM	8	0	3	0	0	11	0	121	17	0	0	138	4	153	0	0	0	157	306
Total	19	0	3	0	0	22	0	334	39	0	1	374	5	403	0	0	0	408	804
08:00 AM	5	0	3	0	0	8	0	97	15	0	2	114	5	165	0	0	0	170	292
08:15 AM	9	0	4	0	0	13	0	99	16	0	1	116	2	149	0	0	0	151	280
08:30 AM	10	0	3	0	0	13	0	141	24	0	0	165	2	151	0	0	0	153	331
08:45 AM	7	0	2	0	0	9	0	121	16	0	3	140	3	103	0	0	0	106	255
Total	31	0	12	0	0	43	0	458	71	0	6	535	12	568	0	0	0	580	1158
*** BREAK ***																			
03:00 PM	15	0	5	0	0	20	0	143	19	0	0	162	7	121	0	0	0	128	310
03:15 PM	15	0	3	0	0	18	0	146	19	1	2	168	2	122	0	0	0	124	310
03:30 PM	20	0	3	0	0	23	0	127	21	0	0	148	5	143	0	0	0	148	319
03:45 PM	13	0	4	0	0	17	0	136	16	0	0	152	1	134	0	1	0	136	305
Total	63	0	15	0	0	78	0	552	75	1	2	630	15	520	0	1	0	536	1244
04:00 PM	18	0	6	0	0	24	0	135	14	0	0	149	5	130	0	0	0	135	308
04:15 PM	18	0	7	0	0	25	0	147	14	0	1	162	6	119	0	0	0	125	312
04:30 PM	17	0	3	0	0	20	0	143	21	0	0	164	4	114	0	0	0	118	302
04:45 PM	7	0	7	0	0	14	0	144	15	1	2	162	1	158	0	1	0	160	336
Total	60	0	23	0	0	83	0	569	64	1	3	637	16	521	0	1	0	538	1258
05:00 PM	13	0	3	0	0	16	0	172	19	1	1	193	1	122	0	0	0	123	332
05:15 PM	15	0	5	0	0	20	0	151	17	0	1	169	5	149	0	0	0	154	343
05:30 PM	14	0	2	0	0	16	0	146	3	0	0	149	2	128	0	1	0	131	296
05:45 PM	5	0	1	0	0	6	0	113	9	0	1	123	1	102	0	0	0	103	232
Total	47	0	11	0	0	58	0	582	48	1	3	634	9	501	0	1	0	511	1203
Grand Total	222	0	67	0	0	289	0	2611	315	3	16	2945	64	2655	0	3	0	2722	5956
Apprch %	76.8	0	23.2	0	0		0	88.7	10.7	0.1	0.5		2.4	97.5	0	0.1	0		
Total %	3.7	0	1.1	0	0	4.9	0	43.8	5.3	0.1	0.3	49.4	1.1	44.6	0	0.1	0	45.7	
Cars	219	0	64	0	0	283	0	2582	311	3	13	2909	63	2630	0	3	0	2696	5888
% Cars	98.6	0	95.5	0	0	97.9	0	98.9	98.7	100	81.2	98.8	98.4	99.1	0	100	0	99	98.9

Cleland Counts

1441 Camino Cerritos S.E.
 Albuquerque, New Mexico 87123
 (505) 414-0465

File Name : Siler Rd. and Siler Park Ln.
 Site Code : 03192024
 Start Date : 3/19/2024
 Page No : 2

Groups Printed- Cars - Trucks - Buses

	Siler Park Ln. Westbound						Siler Rd. Northbound						Siler Rd. Southbound						Int. Total
	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	Left	Thru	Right	Bikes	Peds	App. Total	
Trucks	3	0	3	0	0	6	0	18	3	0	3	24	1	19	0	0	0	20	50
% Trucks	1.4	0	4.5	0	0	2.1	0	0.7	1	0	18.8	0.8	1.6	0.7	0	0	0	0.7	0.8
Buses	0	0	0	0	0	0	0	11	1	0	0	12	0	6	0	0	0	6	18
% Buses	0	0	0	0	0	0	0	0.4	0.3	0	0	0.4	0	0.2	0	0	0	0.2	0.3

Cleland Counts

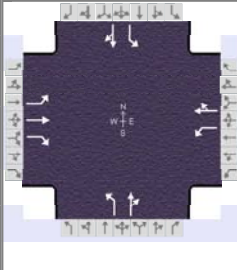
1441 Camino Cerritos S.E.
Albuquerque, New Mexico 87123
(505) 414-0465

File Name : Siler Rd. and Siler Park Ln.
Site Code : 03192024
Start Date : 3/19/2024
Page No : 3

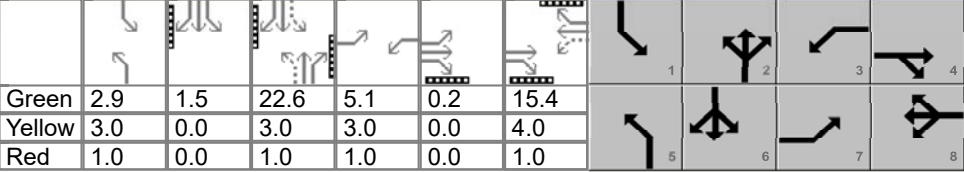
Start Time	Siler Park Ln. Westbound				Siler Rd. Northbound				Siler Rd. Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 AM to 12:00 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	8	0	3	11	0	121	17	138	4	153	0	157	306
08:00 AM	5	0	3	8	0	97	15	112	5	165	0	170	290
08:15 AM	9	0	4	13	0	99	16	115	2	149	0	151	279
08:30 AM	10	0	3	13	0	141	24	165	2	151	0	153	331
Total Volume	32	0	13	45	0	458	72	530	13	618	0	631	1206
% App. Total	71.1	0	28.9		0	86.4	13.6		2.1	97.9	0		
PHF	.800	.000	.813	.865	.000	.812	.750	.803	.650	.936	.000	.928	.911
Cars	31	0	12	43	0	452	72	524	13	614	0	627	1194
% Cars	96.9	0	92.3	95.6	0	98.7	100	98.9	100	99.4	0	99.4	99.0
Trucks	1	0	1	2	0	4	0	4	0	4	0	4	10
% Trucks	3.1	0	7.7	4.4	0	0.9	0	0.8	0	0.6	0	0.6	0.8
Buses	0	0	0	0	0	2	0	2	0	0	0	0	2
% Buses	0	0	0	0	0	0.4	0	0.4	0	0	0	0	0.2
Peak Hour Analysis From 12:15 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	17	0	3	20	0	143	21	164	4	114	0	118	302
04:45 PM	7	0	7	14	0	144	15	159	1	158	0	159	332
05:00 PM	13	0	3	16	0	172	19	191	1	122	0	123	330
05:15 PM	15	0	5	20	0	151	17	168	5	149	0	154	342
Total Volume	52	0	18	70	0	610	72	682	11	543	0	554	1306
% App. Total	74.3	0	25.7		0	89.4	10.6		2	98	0		
PHF	.765	.000	.643	.875	.000	.887	.857	.893	.550	.859	.000	.871	.955
Cars	52	0	18	70	0	608	72	680	11	539	0	550	1300
% Cars	100	0	100	100	0	99.7	100	99.7	100	99.3	0	99.3	99.5
Trucks	0	0	0	0	0	0	0	0	0	1	0	1	1
% Trucks	0	0	0	0	0	0	0	0	0	0.2	0	0.2	0.1
Buses	0	0	0	0	0	2	0	2	0	3	0	3	5
% Buses	0	0	0	0	0	0.3	0	0.3	0	0.6	0	0.5	0.4

APPENDIX B
2024 EXISTING INTERSECTION CAPACITY ANALYSIS

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	BHI			Duration, h	0.250	
Analyst	MG	Analysis Date	Apr 9, 2024	Area Type	Other	
Jurisdiction	SANTA FE	Time Period	EXISTING AM PEAK HOUR	PHF	0.96	
Urban Street	Agua Fria Street	Analysis Year	2024	Analysis Period	1 > 7:00	
Intersection	Agua Fria & Siler Road	File Name	1_EXAM AF-S.xus			
Project Description	EXISTING					

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	105	332	94	123	208	69	45	241	125	107	400	120

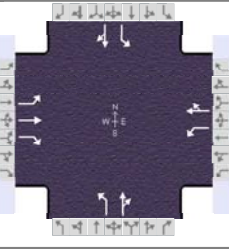
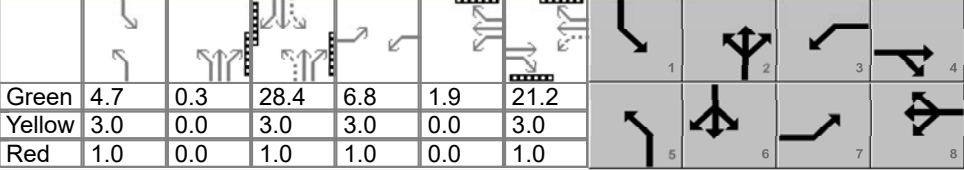
Signal Information																								
Cycle, s	64.6	Reference Phase	2	Green	2.9	1.5	22.6	5.1	0.2	15.4	Yellow	3.0	0.0	3.0	3.0	0.0	4.0	Red	1.0	0.0	1.0	1.0	0.0	1.0
Offset, s	0	Reference Point	End	Uncoordinated	Yes	Simult. Gap E/W	On	Force Mode	Fixed	Simult. Gap N/S	On													

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	9.3	20.6	9.1	20.4	6.9	26.6	8.3	28.0
Change Period, (Y+R _c), s	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.3	4.2	4.4	4.2	4.4
Queue Clearance Time (g _s), s	5.9	13.1	5.4	11.3	3.0	13.5	4.5	19.4
Green Extension Time (g _e), s	0.2	2.5	0.3	2.6	0.1	4.6	0.3	4.5
Phase Call Probability	0.86	1.00	0.90	1.00	0.57	1.00	0.87	1.00
Max Out Probability	0.00	0.14	0.00	0.09	0.00	0.00	0.00	0.01

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	109	346	98	128	289		47	381		111	542	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1885	1585	1810	1818		1810	1776		1781	1810	
Queue Service Time (g _s), s	3.9	11.1	3.2	3.4	9.3		1.0	11.5		2.5	17.4	
Cycle Queue Clearance Time (g _c), s	3.9	11.1	3.2	3.4	9.3		1.0	11.5		2.5	17.4	
Green Ratio (g/C)	0.08	0.24	0.24	0.32	0.24		0.40	0.35		0.42	0.37	
Capacity (c), veh/h	147	455	383	297	434		256	621		404	674	
Volume-to-Capacity Ratio (X)	0.744	0.760	0.256	0.431	0.665		0.183	0.614		0.276	0.804	
Back of Queue (Q), ft/ln (95 th percentile)	85	212	52	60	175		18	200		43	284	
Back of Queue (Q), veh/ln (95 th percentile)	3.3	8.4	2.0	2.4	7.0		0.7	8.0		1.7	11.3	
Queue Storage Ratio (RQ) (95 th percentile)	0.68	1.69	0.42	0.50	1.46		0.14	1.49		0.48	3.16	
Uniform Delay (d ₁), s/veh	29.1	22.9	19.9	17.7	22.3		14.8	17.5		12.9	18.2	
Incremental Delay (d ₂), s/veh	7.2	2.6	0.3	1.0	2.1		0.3	1.2		0.4	2.3	
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	36.3	25.5	20.2	18.7	24.5		15.2	18.7		13.3	20.5	
Level of Service (LOS)	D	C	C	B	C		B	B		B	C	
Approach Delay, s/veh / LOS	26.7	C		22.7	C		18.3	B		19.3	B	
Intersection Delay, s/veh / LOS	21.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.92	B	1.90	B	2.09	B
Bicycle LOS Score / LOS	1.40	A	1.18	A	1.19	A	1.57	B

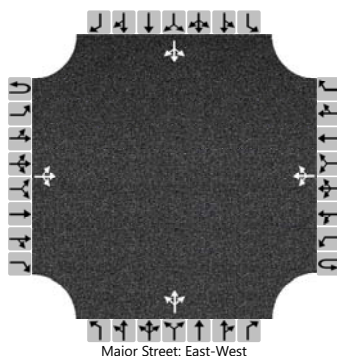
HCS Signalized Intersection Results Summary

General Information					Intersection Information											
Agency	BHI				Duration, h	0.250										
Analyst	MG	Analysis Date	Apr 9, 2024		Area Type	Other										
Jurisdiction	SANTA FE		Time Period	PM PEAK HOUR	PHF	0.93										
Urban Street	Agua Fria Street		Analysis Year	2024	Analysis Period	1 > 7:00										
Intersection	Agua Fria & Siler Road		File Name	1_EXPM AF-S.xus												
Project Description	EXISTING															
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					108	260	68	187	344	75	106	353	141	97	283	164
Signal Information																
Cycle, s	79.3	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	Yes	Simult. Gap E/W	On													
Force Mode	Fixed	Simult. Gap N/S	On													
Green	4.7	0.3	28.4	6.8	1.9	21.2										
Yellow	3.0	0.0	3.0	3.0	0.0	3.0										
Red	1.0	0.0	1.0	1.0	0.0	1.0										
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase					7	4	3	8	5	2	1	6				
Case Number					2.0	3.0	1.1	4.0	1.1	4.0	1.1	4.0				
Phase Duration, s					10.8	25.2	12.7	27.2	9.0	32.7	8.7	32.4				
Change Period, (Y+R _c), s					4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0				
Max Allow Headway (MAH), s					4.1	4.4	4.1	4.4	4.2	4.5	4.2	4.5				
Queue Clearance Time (g _s), s					7.1	12.3	8.3	20.6	5.1	23.4	4.9	21.0				
Green Extension Time (g _e), s					0.2	3.0	0.5	1.6	0.3	5.2	0.3	5.3				
Phase Call Probability					0.92	1.00	0.99	1.00	0.92	1.00	0.90	1.00				
Max Out Probability					0.00	0.16	0.01	0.98	0.00	0.03	0.00	0.02				
Movement Group Results					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h					116	280	73	201	451		114	531		104	481	
Adjusted Saturation Flow Rate (s), veh/h/ln					1781	1885	1585	1810	1841		1810	1793		1781	1768	
Queue Service Time (g _s), s					5.1	10.3	2.9	6.3	18.6		3.1	21.4		2.9	19.0	
Cycle Queue Clearance Time (g _c), s					5.1	10.3	2.9	6.3	18.6		3.1	21.4		2.9	19.0	
Green Ratio (g/C)					0.09	0.26	0.26	0.37	0.28		0.42	0.36		0.42	0.36	
Capacity (c), veh/h					153	481	405	430	515		314	649		255	633	
Volume-to-Capacity Ratio (X)					0.761	0.581	0.181	0.467	0.875		0.363	0.819		0.409	0.759	
Back of Queue (Q), ft/ln (95 th percentile)					112	202	48	115	365		57	352		54	312	
Back of Queue (Q), veh/ln (95 th percentile)					4.4	8.0	1.9	4.6	14.6		2.3	14.0		2.1	12.4	
Queue Storage Ratio (RQ) (95 th percentile)					0.89	1.61	0.38	0.96	3.04		0.42	2.61		0.60	3.46	
Uniform Delay (d ₁), s/veh					35.5	25.9	23.1	18.8	27.3		16.8	23.0		18.1	22.5	
Incremental Delay (d ₂), s/veh					7.6	1.1	0.2	0.8	13.3		0.7	3.1		1.1	1.9	
Initial Queue Delay (d ₃), s/veh					0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh					43.1	27.0	23.3	19.6	40.6		17.5	26.1		19.2	24.4	
Level of Service (LOS)					D	C	C	B	D		B	C		B	C	
Approach Delay, s/veh / LOS					30.4		C	34.1		C	24.6		C	23.5		C
Intersection Delay, s/veh / LOS					28.1						C					
Multimodal Results					EB			WB			NB			SB		
Pedestrian LOS Score / LOS					1.92		B	1.92		B	1.91		B	2.10		B
Bicycle LOS Score / LOS					1.26		A	1.56		B	1.55		B	1.45		A

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & HARRISON		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2024			North/South Street	HARRISON ROAD		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	EXISTING						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		3	599	6		32	377	2		6	0	39		5	0	10	
Percent Heavy Vehicles (%)		2				1				4	4	4		0	0	0	
Proportion Time Blocked																	
Percent Grade (%)										0				0			
Right Turn Channelized																	
Median Type Storage					Left + Thru						1						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.11				7.14	6.54	6.24		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.21				2.21				3.54	4.04	3.34		3.50	4.00	3.30

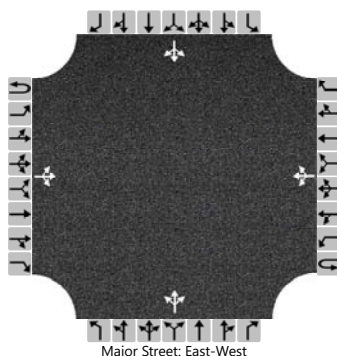
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		3				34					47					16	
Capacity, c (veh/h)		1162				950					442					449	
v/c Ratio		0.00				0.04					0.11					0.04	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.4					0.1	
95% Queue Length, Q ₉₅ (ft)											10.3					2.5	
Control Delay (s/veh)		8.1	0.0	0.0		8.9	0.4	0.4			14.1					13.3	
Level of Service (LOS)		A	A	A		A	A	A			B					B	
Approach Delay (s/veh)		0.1				1.1				14.1					13.3		
Approach LOS		A				A				B					B		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & HARRISON		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2024			North/South Street	HARRISON ROAD		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.94		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	EXISTING						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		13	577	8		46	594	0		7	1	90		1	3	4
Percent Heavy Vehicles (%)		1				1				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.11				4.11				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.21				3.50	4.00	3.30		3.50	4.00	3.30

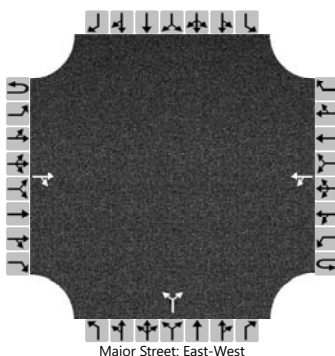
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				49					104					9	
Capacity, c (veh/h)		958				964					452					309	
v/c Ratio		0.01				0.05					0.23					0.03	
95% Queue Length, Q ₉₅ (veh)		0.0				0.2					0.9					0.1	
95% Queue Length, Q ₉₅ (ft)											22.5					2.5	
Control Delay (s/veh)		8.8	0.2	0.2		8.9	0.7	0.7			15.3					17.0	
Level of Service (LOS)		A	A	A		A	A	A			C					C	
Approach Delay (s/veh)	0.4				1.3				15.3				17.0				
Approach LOS	A				A				C				C				

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2024			North/South Street	SILER PARK LANE		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.94		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	EXISTING						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			557	7		13	374			0		9				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

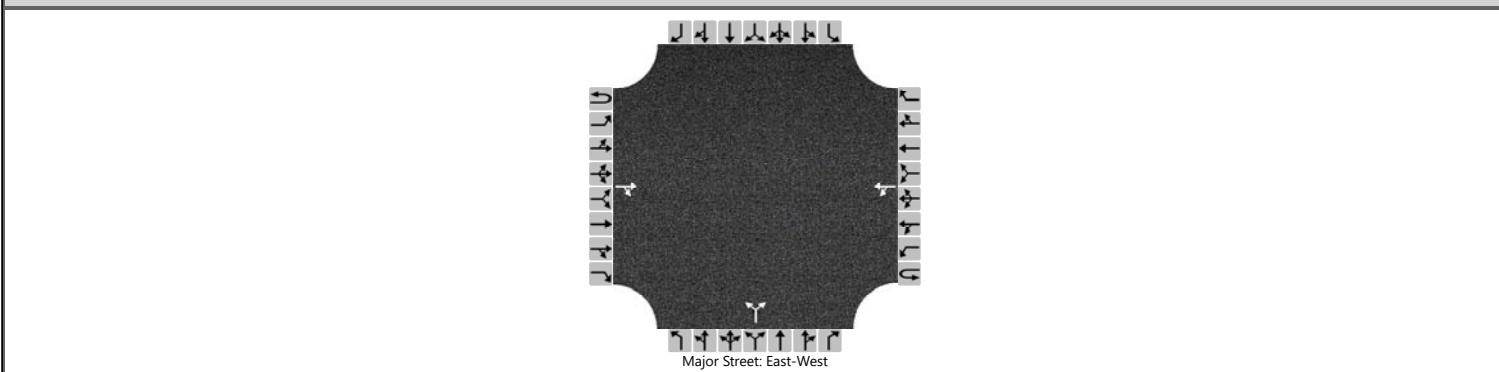
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						14					10					
Capacity, c (veh/h)						985					507					
v/c Ratio						0.01					0.02					
95% Queue Length, Q ₉₅ (veh)						0.0					0.1					
95% Queue Length, Q ₉₅ (ft)						0.0					2.5					
Control Delay (s/veh)						8.7	0.2				12.2					
Level of Service (LOS)						A	A				B					
Approach Delay (s/veh)					0.4				12.2							
Approach LOS					A				B							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2024			North/South Street	SILER PARK LANE		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.93		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	EXISTING						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			557	7		13	374			0		9				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.10					6.40		6.20			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.20					3.50		3.30			

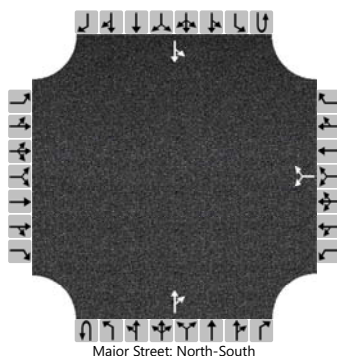
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						14						10				
Capacity, c (veh/h)						980						503				
v/c Ratio						0.01						0.02				
95% Queue Length, Q ₉₅ (veh)						0.0						0.1				
95% Queue Length, Q ₉₅ (ft)						0.0						2.5				
Control Delay (s/veh)						8.7	0.2					12.3				
Level of Service (LOS)						A	A					B				
Approach Delay (s/veh)					0.4				12.3							
Approach LOS					A				B							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	SILER ROAD & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	SILER ROAD		
Analysis Year	2024			North/South Street	SILER PARK LANE		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.91		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	EXISTING						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration							LR					TR		LT			
Volume (veh/h)						32		13			458	72		13	618		
Percent Heavy Vehicles (%)						1		1						1			
Proportion Time Blocked																	
Percent Grade (%)						0											
Right Turn Channelized																	
Median Type Storage						Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2							4.1		
Critical Headway (sec)						6.41		6.21							4.11		
Base Follow-Up Headway (sec)						3.5		3.3							2.2		
Follow-Up Headway (sec)						3.51		3.31							2.21		

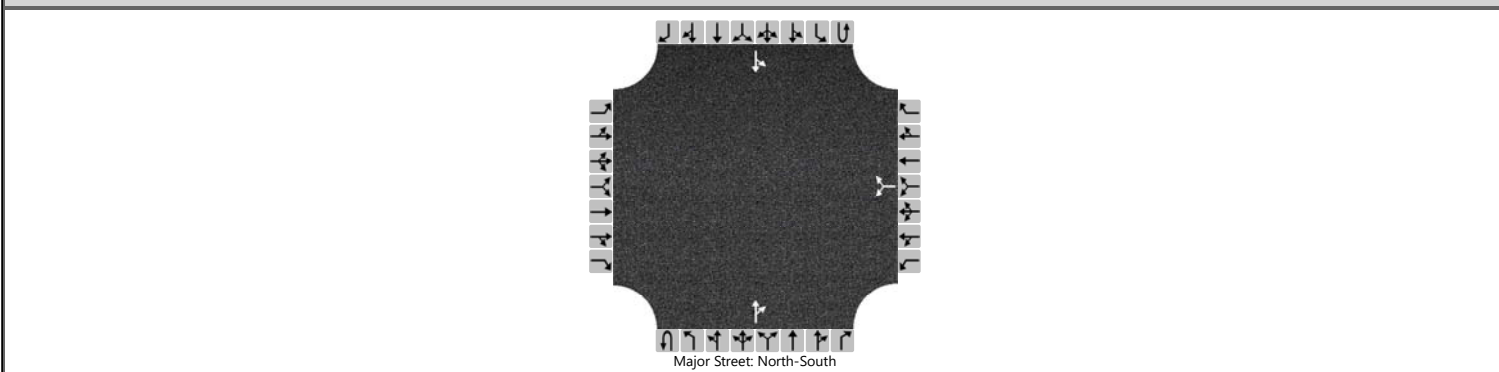
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						49									14		
Capacity, c (veh/h)						366									999		
v/c Ratio						0.13									0.01		
95% Queue Length, Q ₉₅ (veh)						0.5									0.0		
95% Queue Length, Q ₉₅ (ft)						12.6									0.0		
Control Delay (s/veh)						16.4									8.7	0.2	
Level of Service (LOS)						C									A	A	
Approach Delay (s/veh)						16.4								0.4			
Approach LOS						C								A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	SILER ROAD & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	SILER ROAD		
Analysis Year	2024			North/South Street	SILER PARK LANE		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.91		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	EXISTING						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						52		18			610	72		11	543	
Percent Heavy Vehicles (%)						0		0						1		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

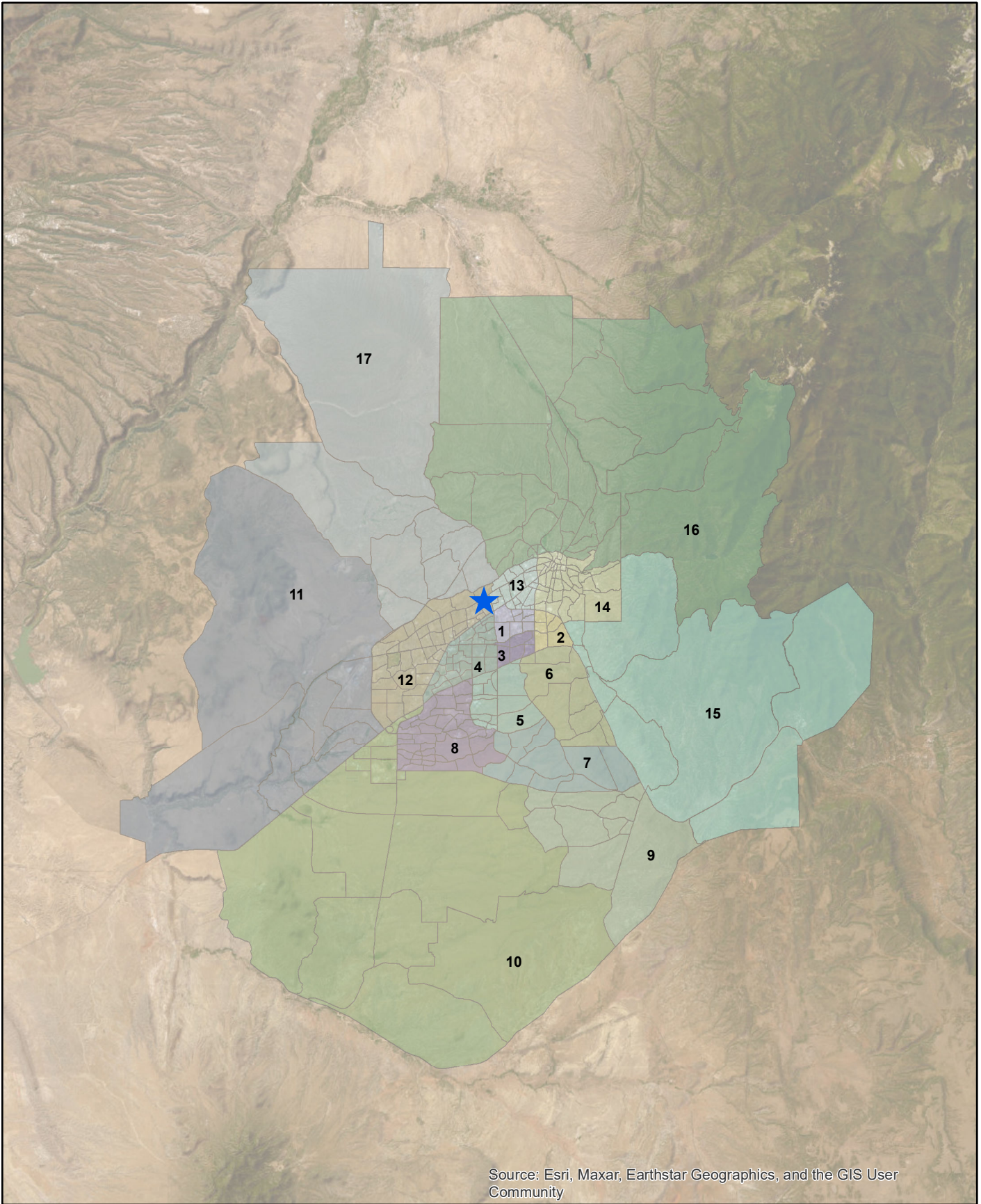
Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.21		

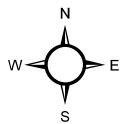
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						77								12		
Capacity, c (veh/h)						334								866		
v/c Ratio						0.23								0.01		
95% Queue Length, Q ₉₅ (veh)						0.9								0.0		
95% Queue Length, Q ₉₅ (ft)						22.6								0.0		
Control Delay (s/veh)						19.0								9.2	0.2	
Level of Service (LOS)						C								A	A	
Approach Delay (s/veh)					19.0								0.4			
Approach LOS					C								A			

APPENDIX C
TURNING MOVEMENT DEVELOPMENT



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



**AGUA FRIA RESIDENTIAL TRIP DISTRIBUTION
EMPLOYMENT BY AGGREGATED TAZ
2024**

Aggregated TAZ's	Employees			DISTANCE (D)	EMP./DIST. 2024	% 2024	Agua Fria Road - To/From East % Employment/D		
	2015	2040	2024				% Utilizing	Dist. Utilizing	EMP/Dist
1	3,453	2,540	3,149	1.41	2,233	11.53%	5%	0.58%	112
2	1,986	1,822	1,931	2.88	671	3.46%			
3	1,298	1,776	1,457	2.25	648	3.35%			
4	4,183	8,318	5,561	2.34	2,377	12.27%			
5	325	417	356	4.03	88	0.46%			
6	248	345	280	5.02	56	0.29%			
7	42	38	41	7.09	6	0.03%			
8	1,350	1,792	1,497	5.57	269	1.39%			
9	655	654	655	11.01	59	0.31%	15%	0.05%	9
10	1,082	1,094	1,086	10.13	107	0.55%			
11	399	1,984	927	7.4	125	0.65%			
12	6,827	8,904	7,519	3.25	2,314	11.95%			
13	5,956	4,456	5,456	1.39	3,925	20.27%	30%	6.08%	1,178
14	23,927	18,392	22,082	3.76	5,873	30.33%	30%	9.10%	1,762
15	552	551	552	7.18	77	0.40%	30%	0.12%	23
16	2,748	2,613	2,703	5.65	478	2.47%	20%	0.49%	96
17	326	376	343	6.07	56	0.29%			
TOTALS =	55,357	56,072	55,595		19,362	100.00%		16%	

2015 and 2040 Santa Fe Tmodel Socioeconomic Forecasts

ABQ values from MRCOG 2040 Forecasts - Distance adjusted to reflect estimated percentage from Albuquerque

**AGUA FRIA RESIDENTIAL TRIP DISTRIBUTION
EMPLOYMENT BY AGGREGATED TAZ
2024**

Aggregated TAZ's	Employees			DISTANCE (D)	EMP./DIST. 2024	% 2024	Agua Fria Road - To/From West % Employment/D		
	2015	2040	2024				% Utilizing	Dist. Utilizing	EMP/Dist
1	3,453	2,540	3,149	1.41	2,233	11.53%			
2	1,986	1,822	1,931	2.88	671	3.46%			
3	1,298	1,776	1,457	2.25	648	3.35%			
4	4,183	8,318	5,561	2.34	2,377	12.27%	25%	3.07%	594
5	325	417	356	4.03	88	0.46%			
6	248	345	280	5.02	56	0.29%	5%	0.01%	3
7	42	38	41	7.09	6	0.03%			
8	1,350	1,792	1,497	5.57	269	1.39%	60%	0.83%	161
9	655	654	655	11.01	59	0.31%			
10	1,082	1,094	1,086	10.13	107	0.55%	80%	0.44%	86
11	399	1,984	927	7.4	125	0.65%	65%	0.42%	81
12	6,827	8,904	7,519	3.25	2,314	11.95%	65%	7.77%	1,504
13	5,956	4,456	5,456	1.39	3,925	20.27%			
14	23,927	18,392	22,082	3.76	5,873	30.33%			
15	552	551	552	7.18	77	0.40%			
16	2,748	2,613	2,703	5.65	478	2.47%			
17	326	376	343	6.07	56	0.29%	70%	0.20%	40
TOTALS =	55,357	56,072	55,595		19,362	100.00%		13%	

2015 and 2040 Santa Fe Tmodel Socioeconomic Forecasts

ABQ values from MRCOG 2040 Forecasts - Distance adjusted to reflect estimated percentage from Albuquerque

**AGUA FRIA RESIDENTIAL TRIP DISTRIBUTION
EMPLOYMENT BY AGGREGATED TAZ
2024**

Aggregated TAZ's	Employees			DISTANCE (D)	EMP./DIST. 2024	% 2024	Siler Road - To/From North % Employment/D		
	2015	2040	2024				% Utilizing	Dist. Utilizing	EMP/Dist
1	3,453	2,540	3,149	1.41	2,233	11.53%			
2	1,986	1,822	1,931	2.88	671	3.46%			
3	1,298	1,776	1,457	2.25	648	3.35%			
4	4,183	8,318	5,561	2.34	2,377	12.27%			
5	325	417	356	4.03	88	0.46%			
6	248	345	280	5.02	56	0.29%			
7	42	38	41	7.09	6	0.03%			
8	1,350	1,792	1,497	5.57	269	1.39%			
9	655	654	655	11.01	59	0.31%			
10	1,082	1,094	1,086	10.13	107	0.55%			
11	399	1,984	927	7.4	125	0.65%	5%	0.03%	6
12	6,827	8,904	7,519	3.25	2,314	11.95%	5%	0.60%	116
13	5,956	4,456	5,456	1.39	3,925	20.27%	5%	1.01%	196
14	23,927	18,392	22,082	3.76	5,873	30.33%	5%	1.52%	294
15	552	551	552	7.18	77	0.40%	10%	0.04%	8
16	2,748	2,613	2,703	5.65	478	2.47%	80%	1.98%	383
17	326	376	343	6.07	56	0.29%	30%	0.09%	17
TOTALS =	55,357	56,072	55,595		19,362	100.00%		5%	

2015 and 2040 Santa Fe Tmodel Socioeconomic Forecasts

ABQ values from MRCOG 2040 Forecasts - Distance adjusted to reflect estimated percentage from Albuquerque

**AGUA FRIA RESIDENTIAL TRIP DISTRIBUTION
EMPLOYMENT BY AGGREGATED TAZ
2024**

Aggregated TAZ's	Employees			DISTANCE (D)	EMP./DIST. 2024	% 2024	Siler Road - To/From South % Employment/D		
	2015	2040	2024				% Utilizing	Dist. Utilizing	EMP/Dist
1	3,453	2,540	3,149	1.41	2,233	11.53%	50%	5.77%	1,117
2	1,986	1,822	1,931	2.88	671	3.46%	70%	2.42%	469
3	1,298	1,776	1,457	2.25	648	3.35%	70%	2.34%	453
4	4,183	8,318	5,561	2.34	2,377	12.27%	60%	7.36%	1,426
5	325	417	356	4.03	88	0.46%	70%	0.32%	62
6	248	345	280	5.02	56	0.29%	75%	0.22%	42
7	42	38	41	7.09	6	0.03%	70%	0.02%	4
8	1,350	1,792	1,497	5.57	269	1.39%	25%	0.35%	67
9	655	654	655	11.01	59	0.31%	60%	0.18%	36
10	1,082	1,094	1,086	10.13	107	0.55%	15%	0.08%	16
11	399	1,984	927	7.4	125	0.65%	25%	0.16%	31
12	6,827	8,904	7,519	3.25	2,314	11.95%	25%	2.99%	578
13	5,956	4,456	5,456	1.39	3,925	20.27%	60%	12.16%	2,355
14	23,927	18,392	22,082	3.76	5,873	30.33%	60%	18.20%	3,524
15	552	551	552	7.18	77	0.40%	55%	0.22%	42
16	2,748	2,613	2,703	5.65	478	2.47%			
17	326	376	343	6.07	56	0.29%			
TOTALS =	55,357	56,072	55,595		19,362	100.00%		53%	

2015 and 2040 Santa Fe Tmodel Socioeconomic Forecasts

ABQ values from MRCOG 2040 Forecasts - Distance adjusted to reflect estimated percentage from Albuquerque

**AGUA FRIA RESIDENTIAL TRIP DISTRIBUTION
EMPLOYMENT BY AGGREGATED TAZ
2024**

Aggregated TAZ's	Employees			DISTANCE (D)	EMP./DIST. 2024	%	Harrison Road - To/From South % Employment/D		
	2015	2040	2024				% Utilizing	Dist. Utilizing	EMP/Dist
1	3,453	2,540	3,149	1.41	2,233	11.53%	45%	5.19%	1,005
2	1,986	1,822	1,931	2.88	671	3.46%	30%	1.04%	201
3	1,298	1,776	1,457	2.25	648	3.35%	30%	1.00%	194
4	4,183	8,318	5,561	2.34	2,377	12.27%	15%	1.84%	356
5	325	417	356	4.03	88	0.46%	30%	0.14%	26
6	248	345	280	5.02	56	0.29%	20%	0.06%	11
7	42	38	41	7.09	6	0.03%	30%	0.01%	2
8	1,350	1,792	1,497	5.57	269	1.39%	15%	0.21%	40
9	655	654	655	11.01	59	0.31%	25%	0.08%	15
10	1,082	1,094	1,086	10.13	107	0.55%	5%	0.03%	5
11	399	1,984	927	7.4	125	0.65%	5%	0.03%	6
12	6,827	8,904	7,519	3.25	2,314	11.95%	5%	0.60%	116
13	5,956	4,456	5,456	1.39	3,925	20.27%	5%	1.01%	196
14	23,927	18,392	22,082	3.76	5,873	30.33%	5%	1.52%	294
15	552	551	552	7.18	77	0.40%	5%	0.02%	4
16	2,748	2,613	2,703	5.65	478	2.47%			
17	326	376	343	6.07	56	0.29%			
TOTALS =	55,357	56,072	55,595		19,362	100.00%		13%	

2015 and 2040 Santa Fe Tmodel Socioeconomic Forecasts

ABQ values from MRCOG 2040 Forecasts - Distance adjusted to reflect estimated percentage from Albuquerque

**AGUA FRIA RESIDENTIAL TRIP DISTRIBUTION
EMPLOYMENT BY AGGREGATED TAZ
2024**

Aggregated TAZ's	Employees			DISTANCE (D)	EMP./DIST. 2024	%			
	2015	2040	2024						
1	3,453	2,540	3,149	1.41	2,233	11.53%	11.53%	0.00%	100%
2	1,986	1,822	1,931	2.88	671	3.46%	3.46%	0.00%	100%
3	1,298	1,776	1,457	2.25	648	3.35%	3.35%	0.00%	100%
4	4,183	8,318	5,561	2.34	2,377	12.27%	12.27%	0.00%	100%
5	325	417	356	4.03	88	0.46%	0.46%	0.00%	100%
6	248	345	280	5.02	56	0.29%	0.29%	0.00%	100%
7	42	38	41	7.09	6	0.03%	0.03%	0.00%	100%
8	1,350	1,792	1,497	5.57	269	1.39%	1.39%	0.00%	100%
9	655	654	655	11.01	59	0.31%	0.31%	0.00%	100%
10	1,082	1,094	1,086	10.13	107	0.55%	0.55%	0.00%	100%
11	399	1,984	927	7.4	125	0.65%	0.65%	0.00%	100%
12	6,827	8,904	7,519	3.25	2,314	11.95%	11.95%	0.00%	100%
13	5,956	4,456	5,456	1.39	3,925	20.27%	20.27%	0.00%	100%
14	23,927	18,392	22,082	3.76	5,873	30.33%	30.33%	0.00%	100%
15	552	551	552	7.18	77	0.40%	0.40%	0.00%	100%
16	2,748	2,613	2,703	5.65	478	2.47%	2.47%	0.00%	100%
17	326	376	343	6.07	56	0.29%	0.29%	0.00%	100%
TOTALS =	55,357	56,072	55,595		19,362	100.00%	100.00%	0.00%	0%

2015 and 2040 Santa Fe Tmodel Socioeconomic Forecasts

ABQ values from MRCOG 2040 Forecasts - Distance adjusted to reflect estimated percentage from Albuquerque

Record	1 of 1	Goto Record	10
Location ID	22874	MPO ID	181811
Type	SPOT	HPMS ID	
On NHS	No	On HPMS	No
LRS ID	FL4735P	LRS Loc Pt.	2.501431
SF Group	09	Route Type	Two-Way Roadway
AF Group	09	Route	FL4735
GF Group	09	Active	Yes
Class Dist Grp	09	Category	
Seas Class Grp	Statewide		
WIM Group	FC-NOT-1		
QC Group	Perm		
Fractl Class	(4) Minor Arterial	Milepost	
Located On	AGUA FRIA ST		
Loc On Alias	JCT. MAEZ		

STATION DATA [Show Data](#)

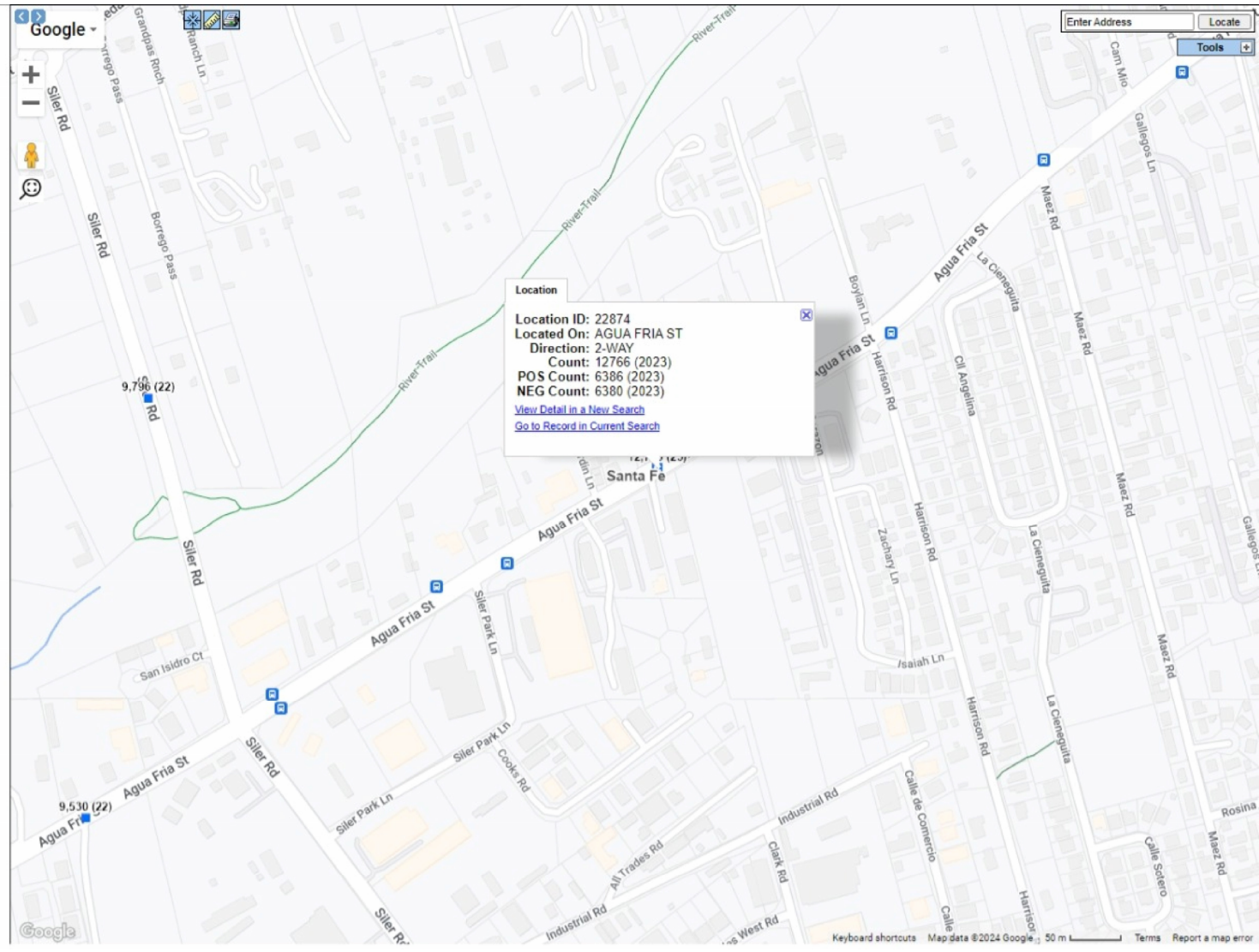
Directions: **2-WAY** **NEG** **POS**

Year	AAADT	DHV-30	K %	D %	PA	BC	Src
2022	10,417	1,166	11	52	9,782 (94%)	635 (6%)	
2021	11,217	1,180	11	50	10,578 (94%)	639 (6%)	
2020	10,021	1,120	11	52	9,320 (93%)	701 (7%)	
2019	11,705			53	11,213 (96%)	492 (4%)	
2018	11,416	1,236	11	53	11,019 (97%)	397 (3%)	

Model Year	Model AADT	AM PHV	AM PPV	MD PHV	MD PPV	PM PHV	PM PPV	NT PHV	NT PPV

Date	Int	Total
Sun 4/30/2023	15	12,459
Sun 4/23/2023	15	12,088
Sun 4/16/2023	15	12,508
Sun 4/9/2023	15	10,864
Sat 4/8/2023	15	14,235
Wed 3/29/2023	15	12,766
Tue 3/28/2023	15	12,725
Mon 3/27/2023	15	12,421
Sun 3/26/2023	15	7,825
Sat 3/25/2023	15	10,093

Year	Annual Growth
2022	-7%
2021	12%
2020	-14%
2019	3%
2018	-6%
2017	-13%
2016	21%
2015	0%
2014	-3%
2013	-7%



AGUA FRIA, LOT 38 DEVELOPMENT
EXISTING & PROJECTED TURNING MOVEMENTS

INTERSECTION: Agua Fria Street & Siler Road

AM Peak Hour

	Eastbound Agua Fria			Westbound Agua Fria			Northbound Siler			Southbound Siler		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2024)	105	332	94	123	208	69	45	241	125	107	400	120
Background Growth	3	10	3	4	6	2	1	7	4	3	12	4
No Build (2027)	108	342	97	127	214	71	46	248	129	110	412	124
Entering		2							8	1		
Exiting				25	6	2						
Build (2027)	108	344	97	152	220	73	46	248	137	111	412	124
Background Growth	19	62	17	27	40	13	8	45	25	20	74	22
No Build (2042 Horizon Year)	128	404	114	154	254	84	55	293	153	130	486	146
Entering		2							8	1		
Exiting				25	6	2						
Build (2042 Horizon Year)	128	406	114	180	260	87	55	293	161	131	486	146
<i>PHF</i>	0.96			0.96			0.96			0.96		
<i>HV %</i>	1.3			0.3			1.5			1.1		

PM Peak Hour

	Eastbound Agua Fria			Westbound Agua Fria			Northbound Siler			Southbound Siler		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2024)	108	260	68	187	344	75	106	353	141	97	283	164
Background Growth	3	8	2	6	10	2	3	11	4	3	8	5
No Build (2027)	111	268	70	193	354	77	109	364	145	100	291	169
Entering		6							25	2		
Exiting				15	4	1						
Build (2027)	111	274	70	207	358	79	109	364	171	102	291	169
Background Growth	19	47	12	34	62	14	19	64	25	17	51	30
No Build (2042 Horizon Year)	131	315	82	226	416	91	128	427	171	117	342	198
Entering		6							25	2		
Exiting				15	4	1						
Build (2042 Horizon Year)	131	321	82	241	420	92	128	427	196	120	342	198
<i>PHF</i>	0.93			0.93			0.93			0.93		
<i>HV %</i>	0.2			0.5			0.5			0.4		
growth rates	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Trip Distribution % Enter		13.0%							53.0%	5.0%		
Trip Distribution % Exit				53.0%	13.0%	5.0%						

AGUA FRIA, LOT 38 DEVELOPMENT
EXISTING & PROJECTED TURNING MOVEMENTS

INTERSECTION: Agua Fria Street & Harrison Road

AM Peak Hour

	Eastbound Agua Fria			Westbound Agua Fria			Northbound Harrison			Southbound Harrison		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2024)	3	599	6	32	377	2	6		39	5		10
Background Growth		18	0	1	11	0	0		1	0		
No Build (2027)	3	617	6	33	388	2	6		40	5		10
Entering					2		2					
Exiting		8	6									
Build (2027)	3	625	12	33	391	2	8		40	5		10
Background Growth	1	108	1	6	68		1		7	1		2
No Build (2042 Horizon Year)	4	725	7	39	456	2	7		47	6		12
Entering					2		2					
Exiting		8	6									
Build (2042 Horizon Year)	4	732	14	39	459	2	9		47	6		12
<i>PHF</i>	0.95			0.95			0.95			0.95		
<i>HV %</i>	1.5			1.4			4.4			0		

PM Peak Hour

	Eastbound Agua Fria			Westbound Agua Fria			Northbound Harrison			Southbound Harrison		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2024)	13	577	8	46	594		7	1	90	1	3	4
Background Growth		17		1	18				3			
No Build (2027)	13	594	8	47	612		7	1	93	1	3	4
Entering					8		6					
Exiting		4	4									
Build (2027)	13	599	12	47	620		13	1	93	1	3	4
Background Growth	2	104	1	8	107		1		16		1	1
No Build (2042 Horizon Year)	15	698	9	56	719	0	8	1	109	1	4	5
Entering					8		6					
Exiting		4	4									
Build (2042 Horizon Year)	15	703	13	56	726	0	15	1	109	1	4	5
<i>PHF</i>	0.94			0.94			0.94			0.94		
<i>HV %</i>	0.5			0.8			0			0		
growth rates	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Trip Distribution % Enter					16.0%		13.0%					
Trip Distribution % Exit		16.0%	13.0%									

**AGUA FRIA, LOT 38 DEVELOPMENT
EXISTING & PROJECTED TURNING MOVEMENTS**

INTERSECTION: Siler Road & Siler Park Lane

AM Peak Hour

	Eastbound Siler Park			Westbound Siler Park			Northbound Siler			Southbound Siler		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2024)				32		13		458	72	13	618	
Background Growth				1				9	1		12	
No Build (2027)				33		13		467	73	13	630	
Entering								8				
Exiting											25	
Build (2027)				33		13		475	73	13	656	
Background Growth				6		2		82	13	2	111	
No Build (2042 Horizon Year)				38		16		550	86	16	742	
Entering								8				
Exiting											25	
Build (2042 Horizon Year)				38		16		558	86	16	767	

PHF 0.91 0.91 0.91 0.91
 HV % 4.4 1.2 2 0.6

PM Peak Hour

	Eastbound Siler Park			Westbound Siler Park			Northbound Siler			Southbound Siler		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2024)				52		18		610	72	11	543	
Background Growth				2		1		18	2	0	16	
No Build (2027)				54		19		628	74	11	559	
Entering								25				
Exiting											15	
Build (2027)				54		19		654	74	11	574	
Background Growth				9		3		110	13	2	98	
No Build (2042 Horizon Year)				63		22		738	87	13	657	
Entering								25				
Exiting											15	
Build (2042 Horizon Year)				63		22		764	87	13	672	

PHF 0.96 0.96 0.96 0.96
 HV % 0 0.3 2 0.7

growth rates 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0% 1.0%

Trip Distribution % Enter								53.0%				
Trip Distribution % Exit											53.0%	

<p align="center">Table 17.B-1 Criteria for Deceleration Lanes on URBAN TWO-LANE HIGHWAYS</p>						
<p align="center">Turning Volume¹ (vph)</p>	<p align="center">LEFT-TURN DECELERATION LANE</p>			<p align="center">RIGHT-TURN DECELERATION LANE</p>		
	<p align="center">Minimum Directional Volume in the Through Lane (vphpl)²</p>			<p align="center">Minimum Directional Volume in the Through Lane (vphpl)²</p>		
	≤ 30 mph	35 to 45 mph	45 to 55 mph	≤ 30 mph	35 to 40 mph	45 to 55 mph
< 5	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required
5	510	450	330	1,080	610	360
10	390	330	210	700	400	240
15	320	250	150	500	280	170
20	270	200	120	380	210	140
25	230	160	100	300	180	120
30	200	130	Required	250	160	110
35	170	110	Required	220	150	100
40	150	Required	Required	200	140	Required
45	130	Required	Required	190	Required	Required
≥ 46	Required	Required	Required	Required	Required	Required
	<p><i>Left-turn Deceleration Lanes are Required on Urban Two-lane Highways for the following Left-turn Volumes:</i></p> <ul style="list-style-type: none"> • ≤ 30 mph : 46 vph or more • 35 to 40 mph : 36 vph or more • 45 to 55 mph : 26 vph or more 			<p><i>Right-turn Deceleration Lanes are Required on Urban Two-lane Highways for the following Right-turn Volumes:</i></p> <ul style="list-style-type: none"> • ≤ 30 mph : 46 vph or more • 35 to 40 mph : 41 vph or more • 45 to 55 mph : 36 vph or more 		
<p><i>Notes:</i></p> <ol style="list-style-type: none"> 1. Use linear interpolation for turning volumes between 5 and 45 vph. 2. The directional volume in the through lane includes through vehicles and turning vehicles. 						

FIGURE 1. LEFT TURN LANE WARRANT CRITERIA

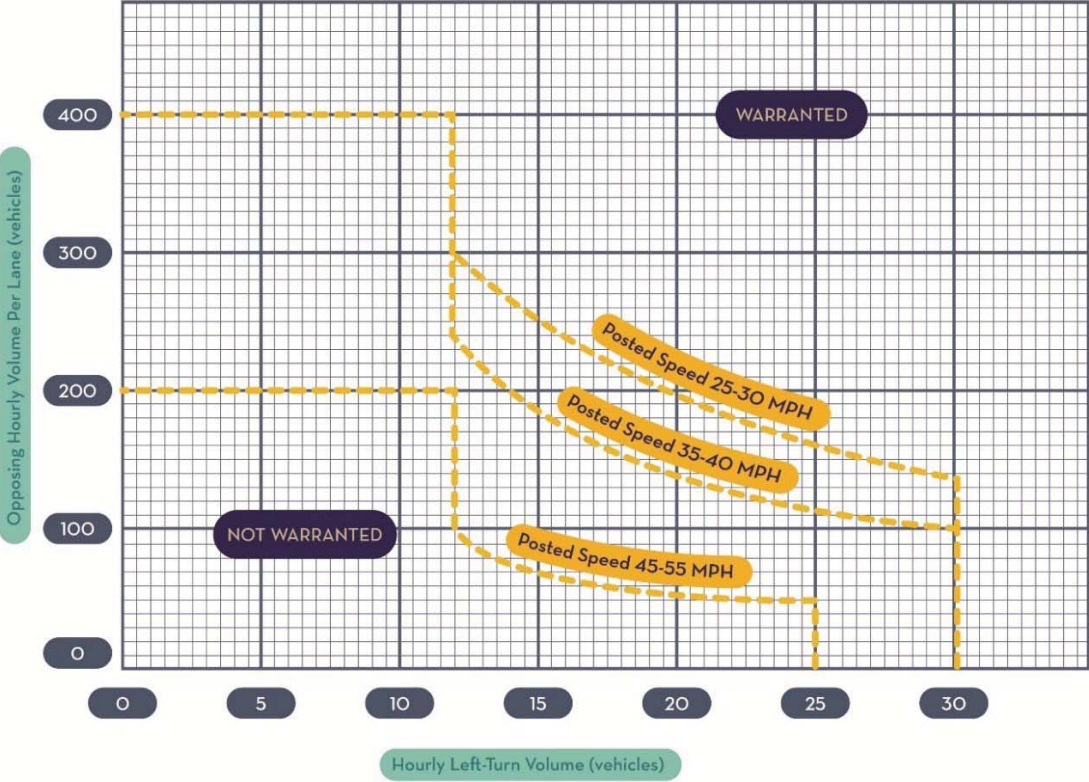
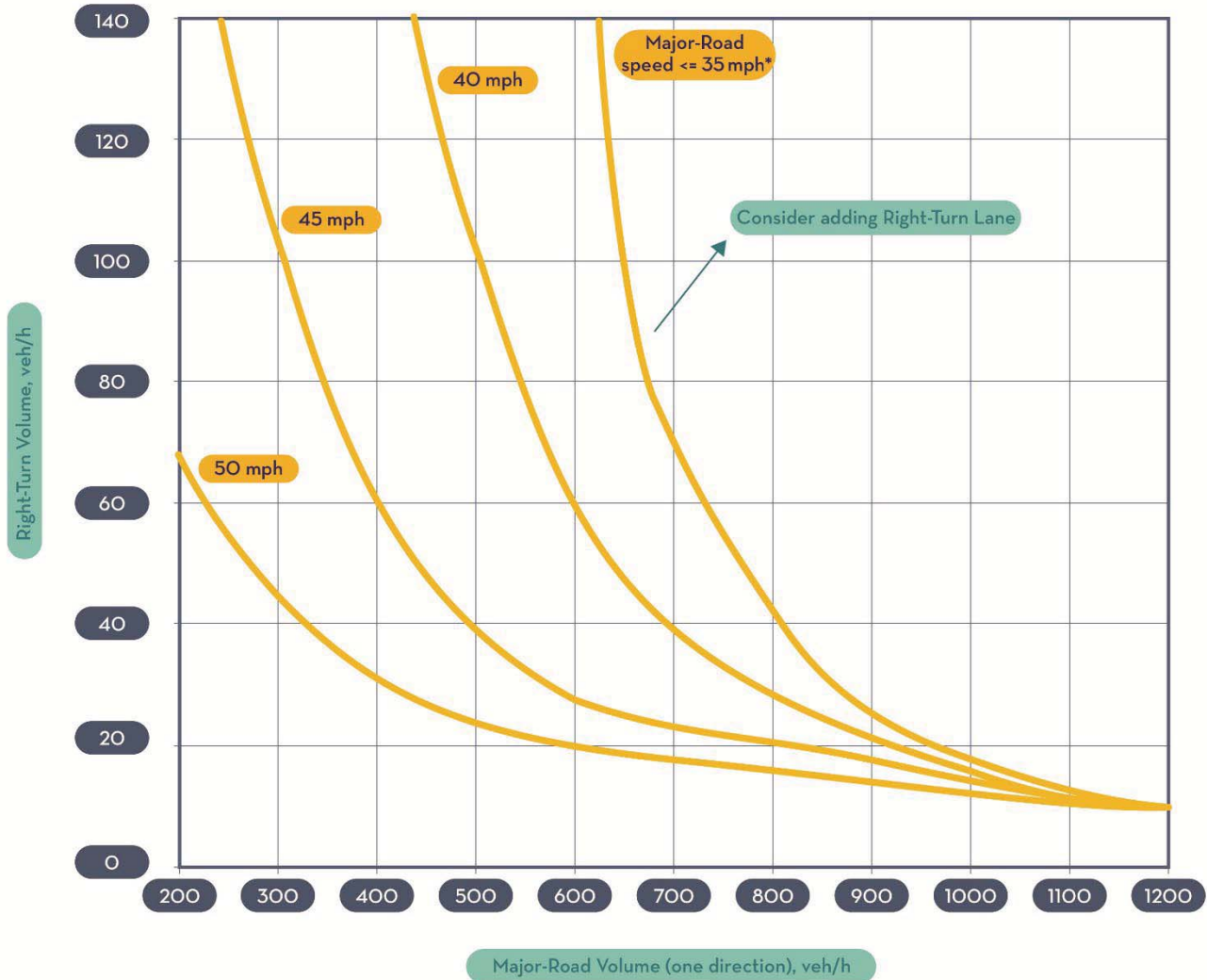


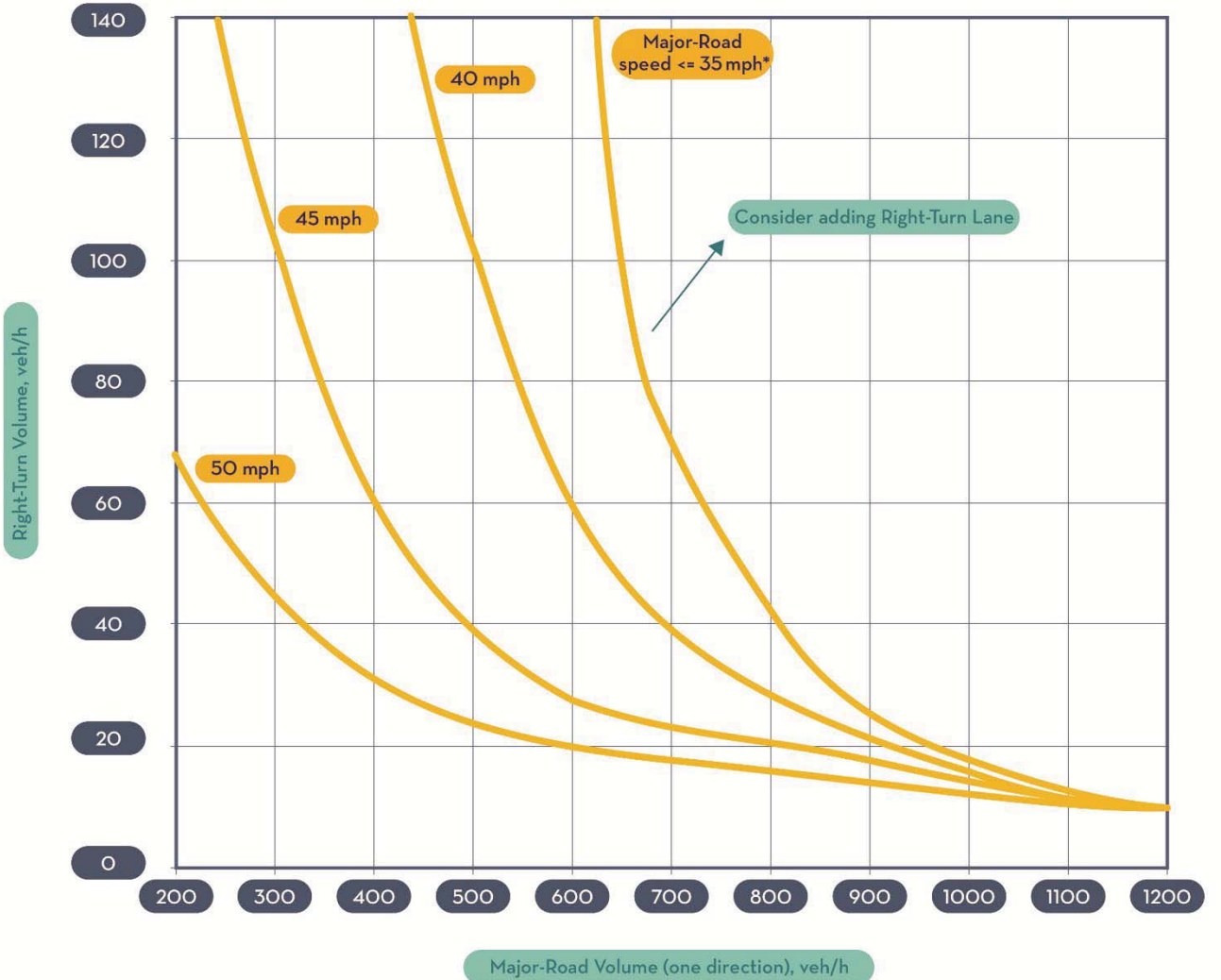
FIGURE 2. RIGHT TURN LANE CRITERIA FOR TWO-LANE ROADWAY



**Right-turn lanes are not typically considered for roadways posted at 25 mph, but certain circumstances may warrant their consideration:*

- *Right-turning volume of 50 vph or greater*
- *At the City Traffic Engineer, or designee's discretion*

FIGURE 3. RIGHT TURN LANE CRITERIA FOR FOUR+ LANE ROADWAY



*Right-turn lanes are not typically considered for roadways posted at 25 mph, but certain circumstances may warrant their consideration:

- Right-turning volume of 50 vph or greater
- At the City Traffic Engineer, or designee's discretion

Turn Lane Dimensions

The minimum turn lane width is 10 feet unless approved by City Staff. A separate turn lane consists of a taper plus a full width auxiliary lane. The design of turn lanes is to be based on the speed at which drivers turn into the lane, the speed to which drivers must reduce to turn into the driveway, and the required vehicular storage length. Other special considerations include the volume of trucks that will use the turn lane and the steepness of an ascending or descending grade. The TIA should recommend turn lane location and provide the required turn lane length associated with each, demonstrating that turn lane design objectives can be achieved within known current and future anticipated constraints.

Required turn lane length elements are outlined in **Table 1**.

TABLE 1. TURN LANE LENGTH REQUIREMENTS

Posted speed limit	Left turn deceleration lane	Right turn deceleration lane
<40mph (See Note 1.)	Taper + storage	Taper + storage
≥40mph (See Note 2.)	Decel. Length	Decel. Length

Notes for Table 1:

Note 1: Storage length should be provided from operational analyses. Storage length should be provided from operational analyses. Storage length should be calculated as the 95th percentile queue length rounded up to the nearest 25 feet with a 50-foot minimum length.

When operational analyses are not applicable (e.g., for turning movements that are uncontrolled), utilize the deceleration distance for the auxiliary lane length. Using guidance from the latest AASHTO Green Book for “Deceleration Lanes”, accept a moderate amount of deceleration within the through lanes and utilize the taper length as part of the deceleration within the through lanes. Deceleration rates greater than 6.5 ft/s² may be used where practical. A minimum bay length of 50 feet shall be provided.

Note 2: Deceleration length should be calculated based on the distance required to brake from the posted speed of the roadway to a stop and includes the appropriate taper based upon the posted speed. Utilize recommended deceleration distances for “Lane Change and Deceleration Distance” provided by the latest AASHTO Green Book.

If the noted design requirements for full movement access spacing and/or turn lanes cannot be met, driveway turning movement restrictions may be imposed. The restriction may be for left-turn movements in or out of the driveway or right-turns in or out. Turning restrictions may be imposed for driveways that are too close to signalized intersections, or where existing driveways or roadway characteristics may increase accident potential or at locations with a history of high accident rates.

17. MULTIMODAL REVIEW

The 2022 City of Santa Fe Multimodal Transition Plan includes two overarching goals:

Goal 1. Move Santa Fe towards a city where all elements of an active life can be achieved without the need for a private automobile.



2.3 Safety Analysis

2.3.1 Crash Records (2010-2020)

Historical crash data was provided by the City of Santa Fe for the most recent ten years available (2010 to 2020). The crash data requested was for the study area on Agua Fria Street from Siler Road to Osage Avenue. The crash data was analyzed to identify any crash trends within the study limits.

There was a total of 308 reported crashes within the study limits. **Table 9** summarizes the total crash severity. The full crash data can be found in **Appendix C**.

Table 9: Total Crashes (2010-2020)

Year	Crash Severity			Total
	Fatal	Injury	PDO*	
2010	0 (0%)	10 (33%)	20 (67%)	30 (100%)
2011	0 (0%)	12 (37%)	20 (63%)	32 (100%)
2012	0 (0%)	5 (28%)	13 (72%)	18 (100%)
2013	0 (0%)	6 (29%)	15 (71%)	21 (100%)
2014	0 (0%)	4 (17%)	19 (83%)	23 (100%)
2015	0 (0%)	17 (53%)	15 (47%)	32 (100%)
2016	0 (0%)	23 (42%)	32 (58%)	55 (100%)
2017	0 (0%)	7 (30%)	16 (70%)	23 (100%)
2018	0 (0%)	6 (21%)	22 (79%)	28 (100%)
2019	0 (0%)	9 (35%)	17 (65%)	26 (100%)
2020	0 (0%)	4 (20%)	16 (80%)	20 (100%)
Total	0 (0%)	103 (33%)	205 (67%)	308 (100%)

*PDO – Property Damage Only

The following observations were concluded from the historical crash data:

- Out of the total crashes in the ten-year period, none of them resulted in a fatal crash, 33% (103 crashes) resulted in injury with no fatalities and 67% (205 crashes) resulted in property damage only (PDO).
- Approximately 88% (272 crashes) of all the crashes had as classification collision with other vehicle, and 7% (21 crashes) were classified as collision with a fixed object.
- About 80% (246 crashes) of all the crashes occurred during daylight conditions, 11% (35 crashes) occurred during dark-lighted conditions, 3% (11 crashes) occurred in unknown conditions, 3% (10 crashes) occurred during dusk conditions, 2% (5 crashes) occurred during dark-not-lighted conditions, and 1% (1 crashes) occurred during dawn conditions.
- Close to 94% (290 crashes) of all crashes occurred during clear weather conditions, 3% (9 crashes) occurred in unknown weather conditions, 1.3% (4 crashes) occurred in snowing weather conditions, 1.3% (4 crashes) occurred in raining weather conditions, and 0.4% (1 crashes) occurred in other weather conditions.
- From the total crashes, 6% (18 crashes) were alcohol related and 1% (2 crashes) were related to drug involvement.

Physical conditions during crashes such as lighting, and weather did not indicate any strong influence on crashes.



Table 10: Lighting Conditions

Lighting Conditions	Crash Count
Daylight	246 (80%)
Dark & Low Light*	51 (17%)
Unknown	11 (3%)
Total	308 (100%)

*Dark & Low Light include the following light conditions: Dark-Not Lighted, Dark-Lighted, Dawn and Dusk.

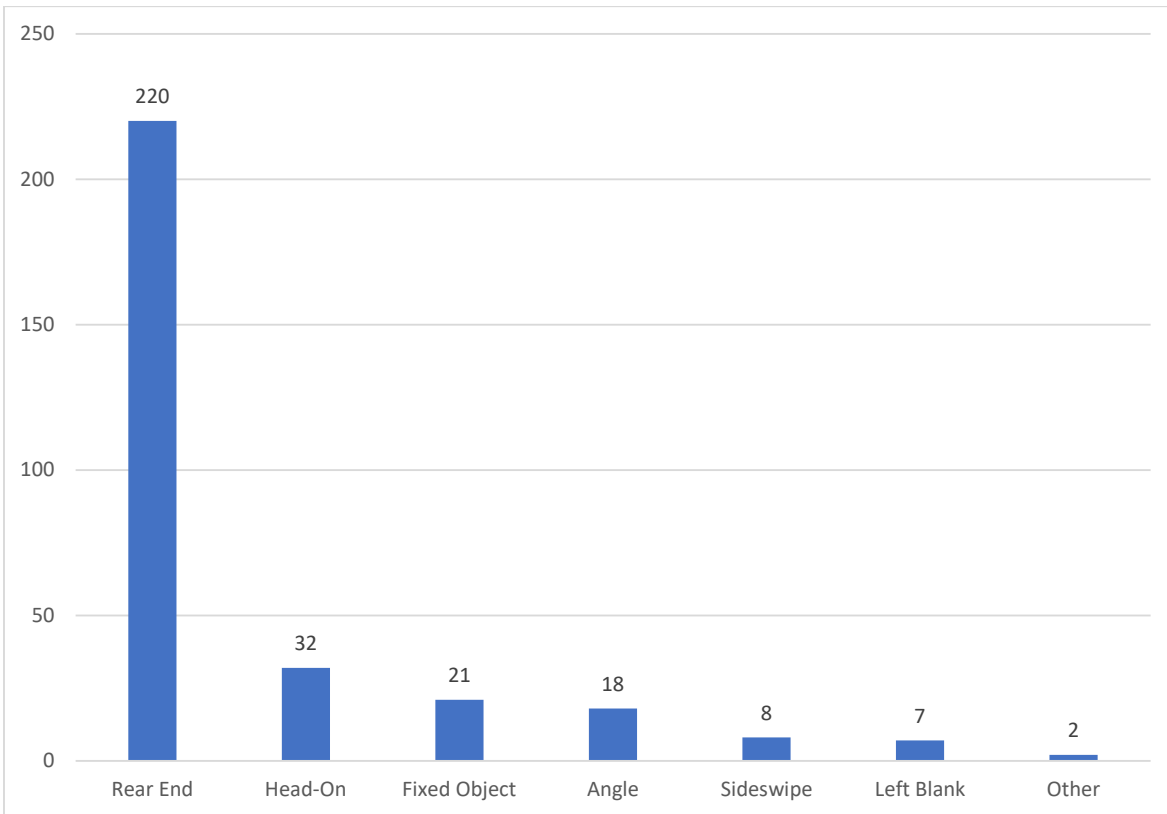


Figure 7: Crash Type Summary



Figure 8: Crash Heat Map



Agua Fria Street Corridor Study

The following intersections were analyzed further based on the historical crash data provided:

1. Agua Fria Street and Siler Road
2. Agua Fria Street and Siler Park Lane
3. Agua Fria Street and Harrison Road
4. Agua Fria Street and La Cieneguita
5. Agua Fria Street and Maez Road
6. Agua Fria Street and Camino Carlos Rael
7. Agua Fria Street and Calle Carmilita
8. Agua Fria Street and Ferguson Lane
9. Agua Fria Street and Camino de Chelly
10. Agua Fria Street and Osage Avenue

In addition, sight triangles were analyzed for Intersections #2 through #8. The AASHTO 2018 *Policy on Geometric Design of Highways and Streets, 7th Edition*, has standards for departure sight triangles. Measured from the stop bar on the side street for instance on one end and to the center of the through lane on the other end. These were used to determine if a stopped vehicle on a minor roadway has sufficient sight distance from the intersection to enter or cross a major roadway.

Intersection #1 – Agua Fria Street and Siler Road

The intersection of Agua Fria Street and Siler Road had a total of 130 reported crashes. From the crash data, it was reported that 83 of the crashes were rear end and 27 crashes were angle. The pedalcyclist car crash happened in 2015 and was contributed to following too closely, it occurred on a clear day during daylight, information provided did not indicate any strong influences. From the total, 88 of the collisions were reported as property damage only and 42 were injury only. Seven crashes at this intersection were alcohol related.

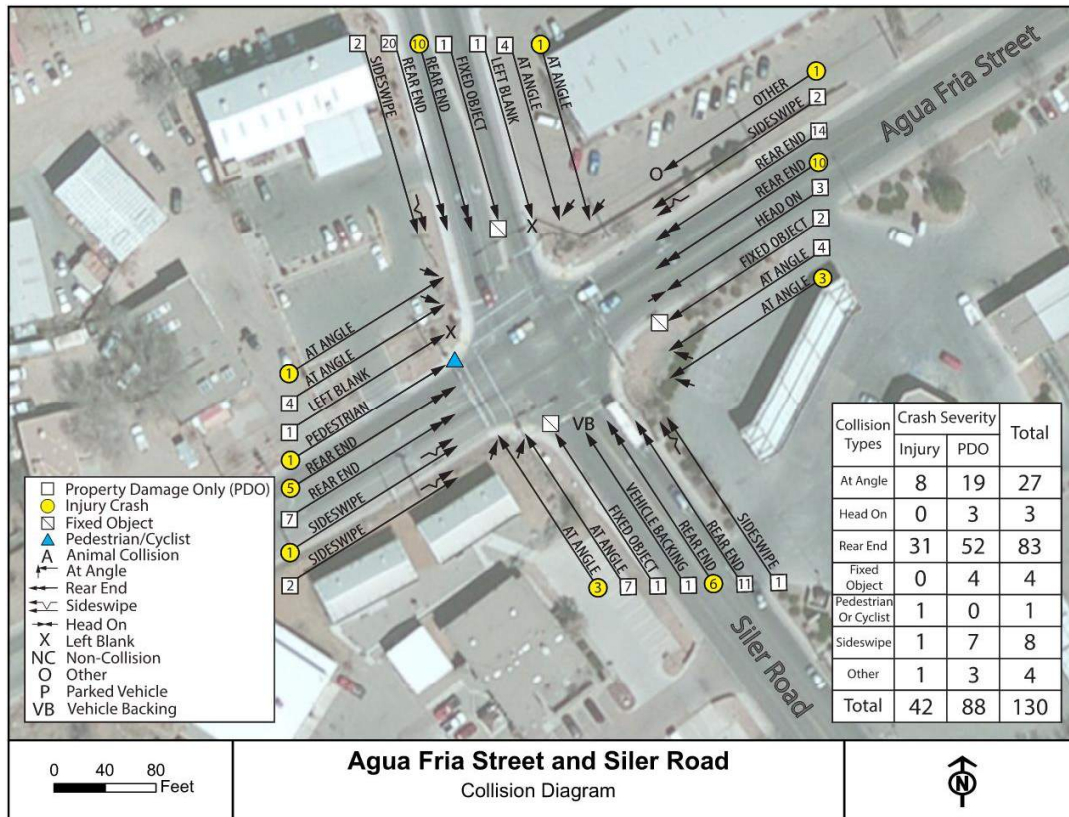




Figure 9: Intersection #1 – Agua Fria Street and Siler Road – Crash Types and Crash Severity

Intersection #2 – Agua Fria Street and Siler Park Lane

Five crashes were reported at the intersection of Agua Fria Street and Siler Park Lane, two were reported as rear end, one as entering at an angle, one as head-on and one as a collision with a parked vehicle. Two crashes were reported as injury with no fatalities and three were reported as property damage only. Two crashes at this intersection were alcohol related.



Figure 10: Intersection #2 – Agua Fria Street and Siler Park Lane – Crash Types and Crash Severity

Intersection #2 - Sight Distance Analysis

Stopping sight distance was used instead of the intersection sight distance since according to AASHTO, “if the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient distance to anticipate and avoid collisions.” Intersection Control Case B was used to determine the sight triangles at the intersection of Agua Fria Street and Siler Park Lane. The vertex of the sight triangle is measured 14.5-ft from the edge of traveled way as described in AASHTO.

Case B1 – Left Turn from Stop

Case B1 is for a vehicle stopped at a minor street, trying to make a left-turn onto the major street. According to AASHTO (Table 9-7), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Agua Fria Street
Corridor Study



Figure 11 shows the sight triangles for the Siler Park Lane northbound approach. The vegetation at the corner reduces and inhibits the view of the sight triangle.

Case B2 – Right Turn from Stop

Case B2 is for a vehicle stopped at a minor street, trying to make a right-turn onto the major street. According to AASHTO (Table 9-9), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 11 shows the sight triangles for the Siler Park Lane northbound approach. There are trees and a fence at the corner property that obstructs the sight triangle (see Figure 37).

It is recommended that objects within the sight triangle will need to be kept below 3-ft.

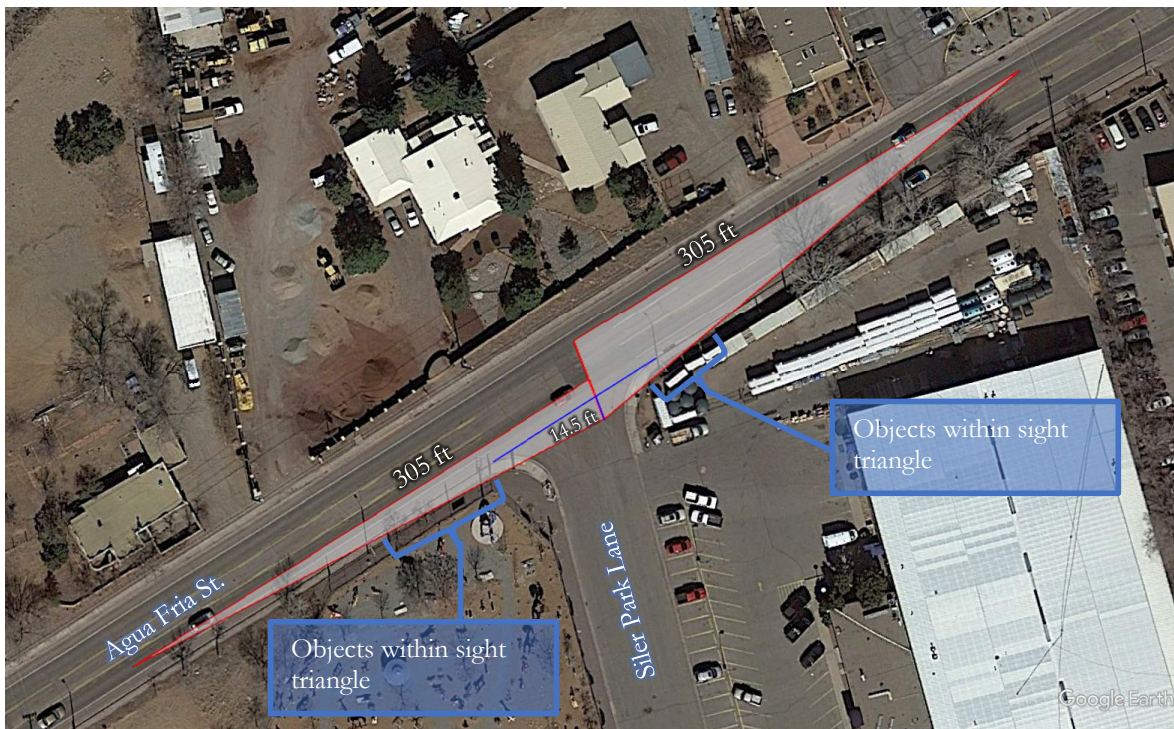


Figure 11: Intersection #2 – Agua Fria Street and Siler Park Lane Northbound Approach Sight Distance



Intersection #3 – Agua Fria Street and Harrison Road

Six total crashes were reported at the intersection of Agua Fria Street and Harrison Road, three were reported as rear end, one as a collision with a fixed object, one as head-on, and one as a collision with a parked vehicle. The crash involving a cyclist was in 2013 and contributed to the driver disregarding the traffic signal, it occurred on a clear day during daylight, information provided did not indicate any strong influences. Two crashes were reported as injury with no fatalities and four were reported as property damage only. For this intersection, none of the crashes were alcohol related.



Figure 12: Intersection #3 – Agua Fria Street and Harrison Road – Crash Types and Crash Severity

Intersection #3 - Sight Distance Analysis

Stopping sight distance was used instead of the intersection sight distance. Intersection Control Case B was used to determine the sight triangles at the intersection of Agua Fria Street and Harrison Road. The vertex of the sight triangle is measured 14.5-ft from the edge of traveled way as described in AASHTO.

Case B1 – Left Turn from Stop

Case B1 is for a vehicle stopped at a minor street, trying to make a left-turn onto the major street. According to AASHTO (Table 9-7), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 13 shows the sight triangles for the Harrison Road northbound approach. There are no objects within the sight triangle. Figure 14 shows the sight triangles for the Boylan Lane southbound approach. There are no objects within the sight triangle.



Case B2 – Right Turn from Stop

Case B2 is for a vehicle stopped at a minor street, trying to make a right-turn onto the major street. According to AASHTO (Table 9-9), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 13 shows the sight triangles for the Harrison Road northbound approach. There are no objects within the sight triangle. **Figure 14** shows the sight triangles for the Boylan Lane southbound approach. A bus stop sign can be found within the sight triangle that is over 3-ft in height, however, it does not block the view of the driver.



Figure 13: Intersection #3 – Agua Fria Street and Harrison Road Southbound Approach Sight Distance

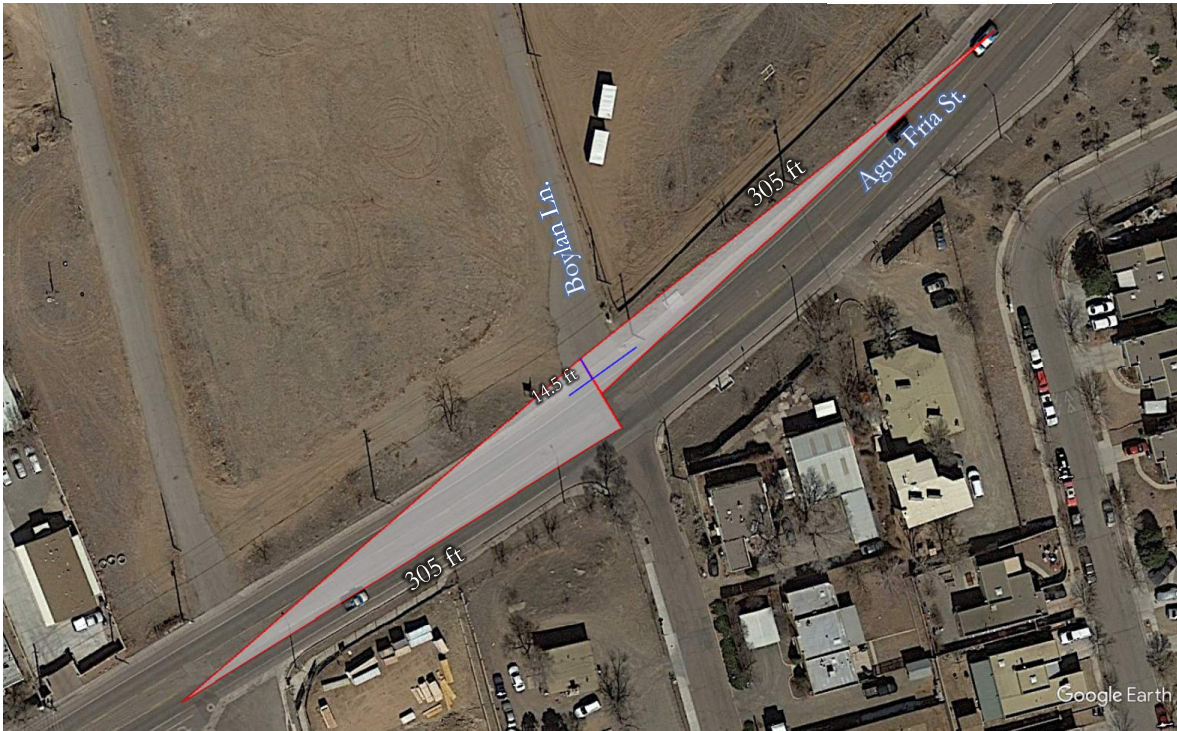


Figure 14: Intersection #3 – Agua Fria Street and Boylan Ln. Southbound Approach Sight Distance



Intersection #4 – Agua Fria Street and La Cieneguita

Four total crashes were reported at the Agua Fria Street and La Cieneguita intersection, one was reported as rear end, one as head-on and one crash with no information regarding crash classification or analysis (left blank), and one as a collision with a parked vehicle. One crash was reported as injury with no fatalities and three were reported as property damage only. For this intersection, none of the crashes were alcohol related.



Figure 15: Intersection #4 – Agua Fria Street and La Cieneguita– Crash Types and Crash Severity

Intersection #4 - Sight Distance Analysis

Stopping sight distance was used instead of the intersection sight distance. Intersection Control Case B was used to determine the sight triangles at the intersection of Agua Fria Street and La Cieneguita. The vertex of the sight triangle is measured 14.5-ft from the edge of traveled way as described in AASHTO.

Case B1 – Left Turn from Stop

Case B1 is for a vehicle stopped at a minor street, trying to make a left-turn onto the major street. According to AASHTO (Table 9-7), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 16 shows the sight triangles for the La Cieneguita northbound approach. There are no objects within the sight triangle.



Case B2 – Right Turn from Stop

Case B2 is for a vehicle stopped at a minor street, trying to make a right-turn onto the major street. According to AASHTO (Table 9-9), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 16 shows the sight triangles for the La Cieneguita northbound approach. There are no objects within the sight triangle.

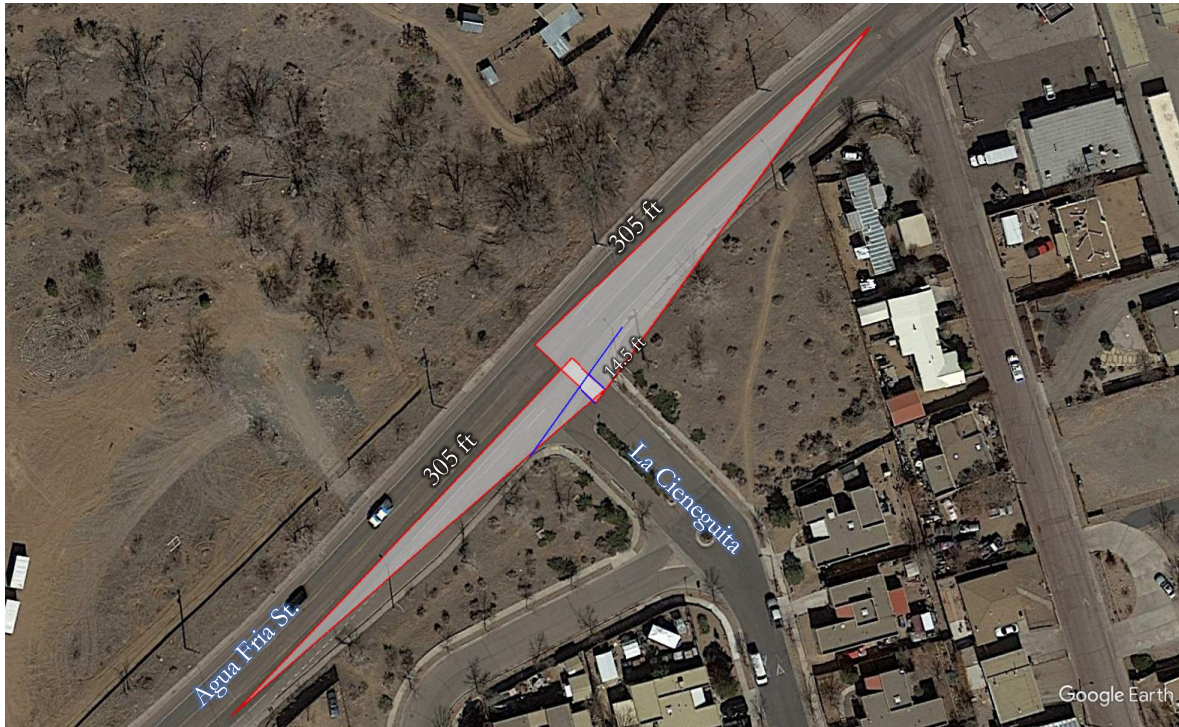


Figure 16: Intersection #4 – Agua Fria Street and La Cieneguita Northbound Approach Sight Distance



Intersection #5 – Agua Fria Street and Maez Road

The intersection of Agua Fria Street and Maez Road had a total of sixteen (16) crashes. Seven crashes were reported as entering at an angle, five as rear end, two as sideswipe, one as a collision with a pedalcyclist and one crashes with no information regarding crash classification or analysis (left blank). The crash that involved a cyclist happened in 2016 with a contributing factor of driver inattention, it occurred on a clear day during daylight, information provided did not indicate any strong influences. Eight of these collisions were property damage only and eight were injury only. For this intersection, none of the crashes were alcohol related.

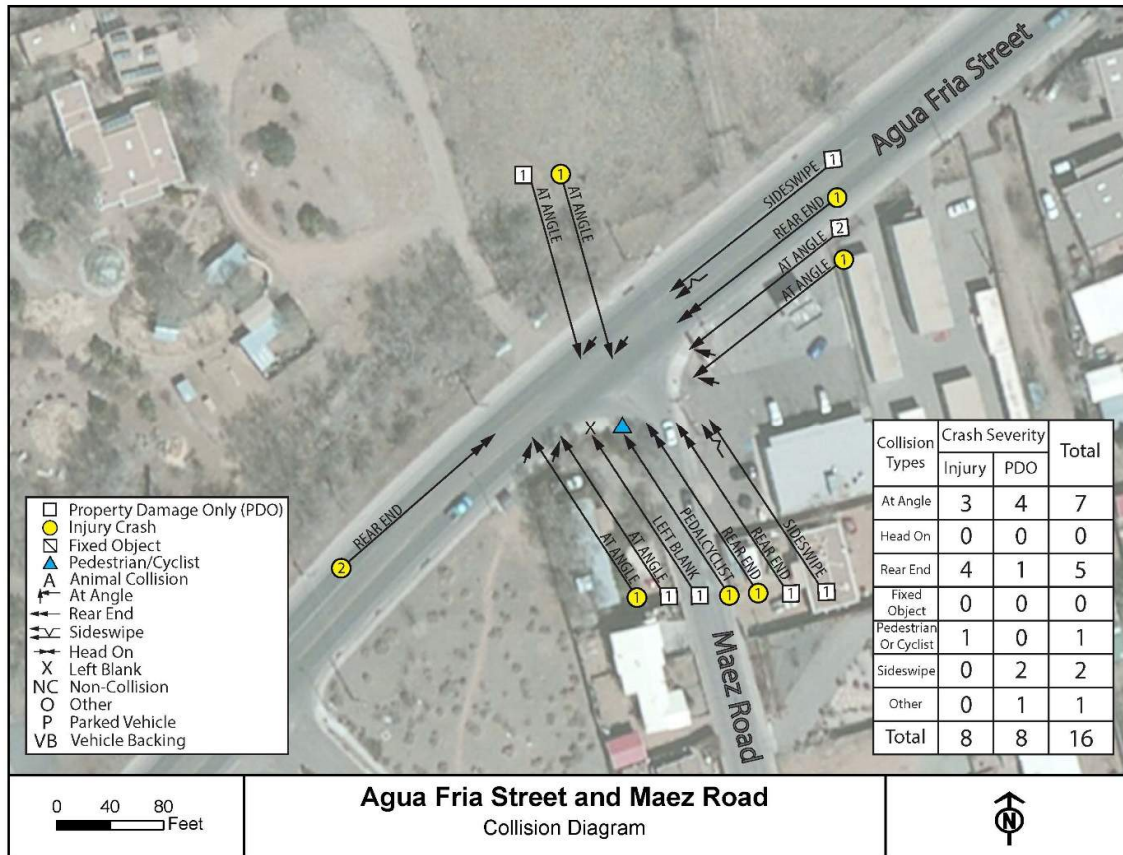


Figure 17: Intersection #5 – Agua Fria Street and Maez Road – Crash Types and Crash Severity

Intersection #5 - Sight Distance Analysis

Stopping sight distance was used instead of the intersection sight distance. Intersection Control Case B was used to determine the sight triangles at the intersection of Agua Fria Street and Maez Road. The vertex of the sight triangle is measured 14.5-ft from the edge of traveled way as described in AASHTO.

Case B1 – Left Turn from Stop

Case B1 is for a vehicle stopped at a minor street, trying to make a left-turn onto the major street. According to AASHTO (Table 9-7), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 18 shows the sight triangles for the Maez Road northbound approach. There are no objects within the sight triangle.



Case B2 – Right Turn from Stop

Case B2 is for a vehicle stopped at a minor street, trying to make a right-turn onto the major street. According to AASHTO (Table 9-9), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 18 shows the sight triangles for the Maez Road northbound approach. There are objects over 3-ft in height within the sight triangle, which reduces and inhibits the view of the sight triangle.



Figure 18: Intersection #5 – Agua Fria Street and Maez Road Northbound Approach Sight Distance



Intersection #6 – Agua Fria Street and Camino Carlos Rael

Two crashes were observed at the intersection of Agua Fria Street and Camino Carlos Rael, one was reported as a rear end collision, and one as a collision with a fixed object. Both crashes were reported as property damage only. One of the crashes was alcohol related.



Figure 19: Intersection #6 – Agua Fria Street and Camino Carlos Rael – Crash Types and Crash Severity

Intersection #6 - Sight Distance Analysis

Stopping sight distance was used instead of the intersection sight distance. Intersection Control Case B was used to determine the sight triangles at the intersection of Agua Fria Street and Camino Carlos Rael. The vertex of the sight triangle is measured 14.5-ft from the edge of traveled way as described in AASHTO.

Case B1 – Left Turn from Stop

Case B1 is for a vehicle stopped at a minor street, trying to make a left-turn onto the major street. According to AASHTO (Table 9-7), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 20 shows the sight triangles for the Camino Carlos Rael southbound approach. There is a rock wall at the corner property that obstructs the sight triangle.

Agua Fria Street
Corridor Study



Case B2 – Right Turn from Stop

Case B2 is for a vehicle stopped at a minor street, trying to make a right-turn onto the major street. According to AASHTO (Table 9-9), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 20 shows the sight triangles for the Camino Carlos Rael southbound approach. There is a wood fence at the corner property that obstructs the sight triangle (see **Figure 39**).

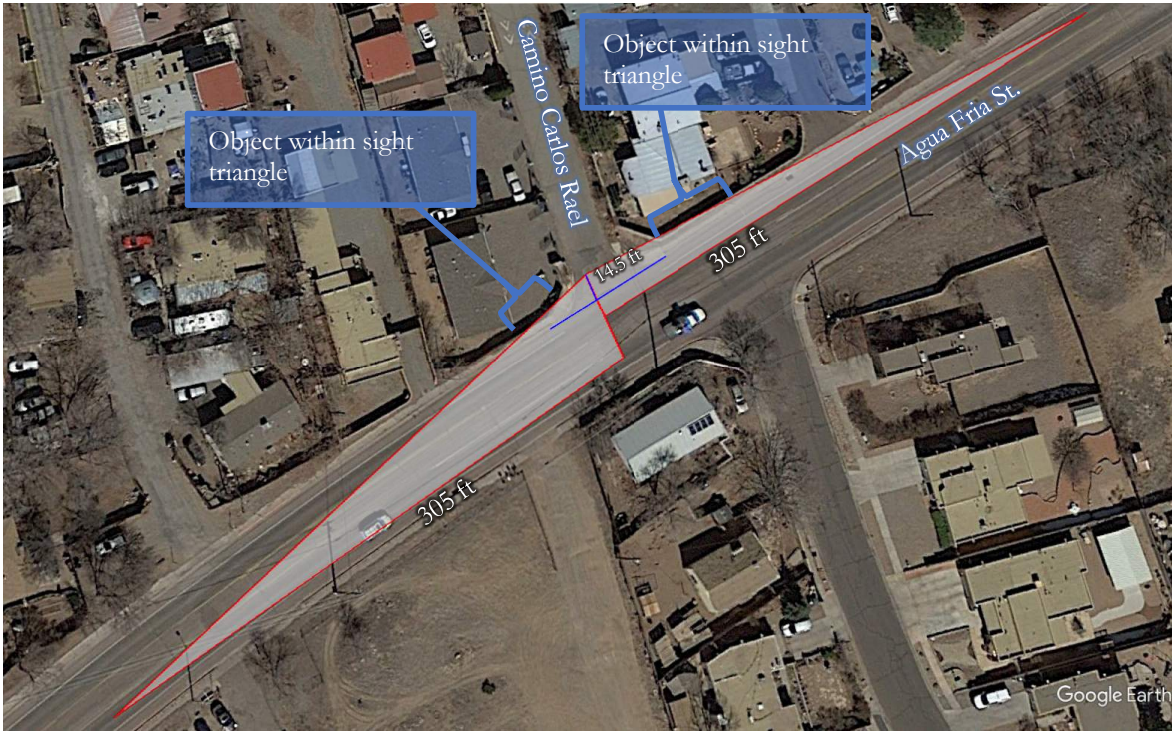


Figure 20: Intersection #6 – Agua Fria Street and Camino Carlos Rael Southbound Approach Sight Distance



Intersection #7 – Agua Fria Street and Calle Carmilita

Six crashes were reported at the intersection of Agua Fria Street and Calle Carmilita. Two were reported as rear end, one as sideswipe, one as head-on, one as a collision with a fixed object and one crash had no information regarding crash classification or analysis (left blank). Five crashes were reported as injury with no fatalities and one was reported as property damage only. One crash at this intersection was alcohol related.

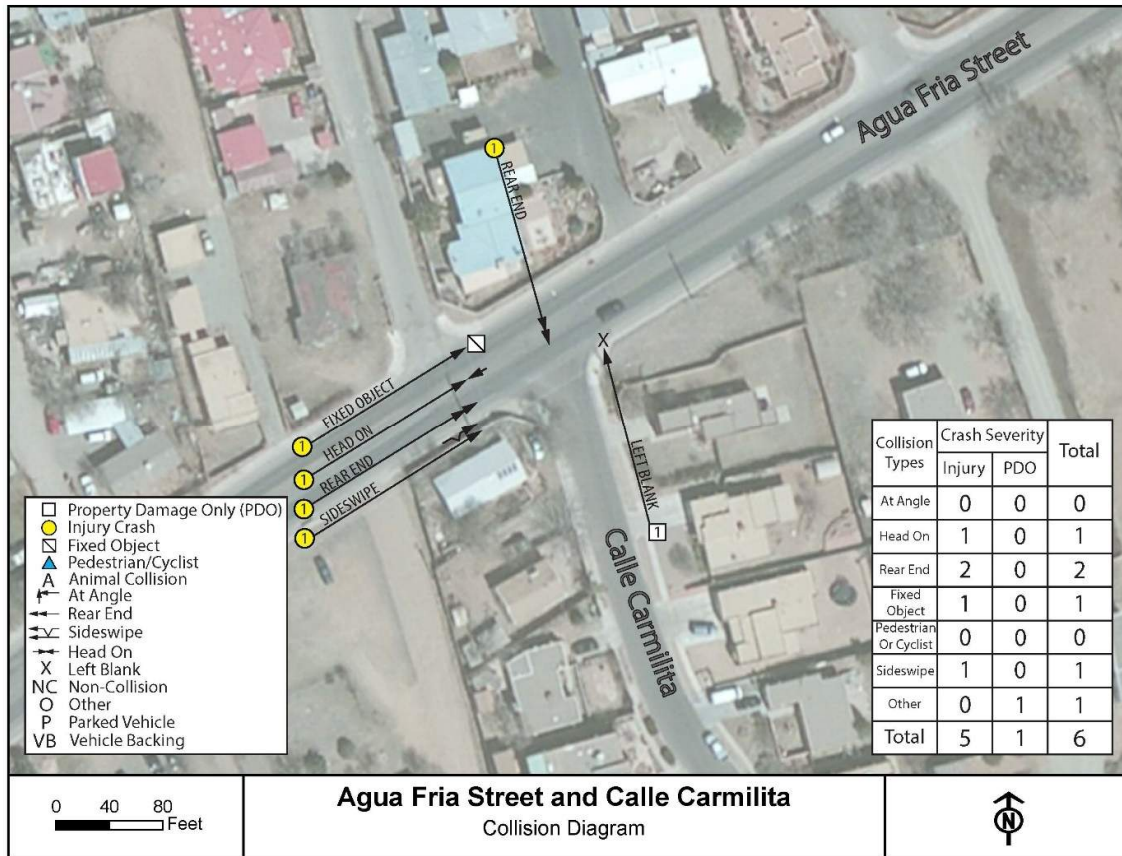


Figure 21: Intersection #7 – Agua Fria Street and Calle Carmilita – Crash Types and Crash Severity

Intersection #7 - Sight Distance Analysis

Stopping sight distance was used instead of the intersection sight distance. Intersection Control Case B was used to determine the sight triangles at the intersection of Agua Fria Street and Calle Carmilita. The vertex of the sight triangle is measured 14.5-ft from the edge of traveled way as described in AASHTO.

Case B1 – Left Turn from Stop

Case B1 is for a vehicle stopped at a minor street, trying to make a left-turn onto the major street. According to AASHTO (Table 9-7), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 22 shows the sight triangles for the Calle Carmilita northbound approach. There are no objects within the sight triangle.

Agua Fria Street
Corridor Study



Case B2 – Right Turn from Stop

Case B2 is for a vehicle stopped at a minor street, trying to make a right-turn onto the major street. According to AASHTO (Table 9-9), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 22 shows the sight triangles for the Calle Carmilita northbound approach. There is a concrete wall at the corner property that obstructs the sight triangle (see Figure 40).



Figure 22: Intersection #7 – Agua Fria Street and Calle Carmilita. Northbound Approach Sight Distance



Intersection #8 – Agua Fria Street and Ferguson Lane

No crashes were reported at this intersection during the ten-year timeframe that was analyzed.



Figure 23: Intersection #8 – Agua Fria Street and Ferguson Lane – Crash Types and Crash Severity

Intersection #8 - Sight Distance Analysis

Stopping sight distance was used instead of the intersection sight distance. Intersection Control Case B was used to determine the sight triangles at the intersection of Agua Fria Street and Ferguson Lane. The vertex of the sight triangle is measured 14.5-ft from the edge of traveled way as described in AASHTO.

Case B1 – Left Turn from Stop

Case B1 is for a vehicle stopped at a minor street, trying to make a left-turn onto the major street. According to AASHTO (Table 9-7), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 24 shows the sight triangles for the Ferguson Lane southbound approach. There is a block wall that obstructs the sight triangle (see Figure 41). Figure 25 shows the sight triangles for the Agua Fria Street northbound approach.

Case B2 – Right Turn from Stop

Case B2 is for a vehicle stopped at a minor street, trying to make a right-turn onto the major street. According to AASHTO (Table 9-9), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Agua Fria Street
Corridor Study



Figure 24 shows the sight triangles for the Ferguson Lane southbound approach. There is a block wall within the sight triangle. Figure 25 shows the sight triangles for the Agua Fria Street northbound approach. There are no objects within the sight triangle.



Figure 24: Intersection #8 – Agua Fria Street and Ferguson Lane Southbound Approach Sight Distance



Figure 25: Intersection #8 – Agua Fria Street and Agua Fria Street Northbound Approach Sight Distance



Intersection #9 – Agua Fria Street and Camino de Chelly

The intersection of Agua Fria Street and Camino de Chelly had a total of fifteen (15) crashes. It was reported that 11 of the crashes were classified as rear end, two as sideswipe and two as a collision with a fixed object. Eight of the crashes were classified as injury crash only and seven as property damage crashes. For this intersection, none of the crashes were alcohol related.

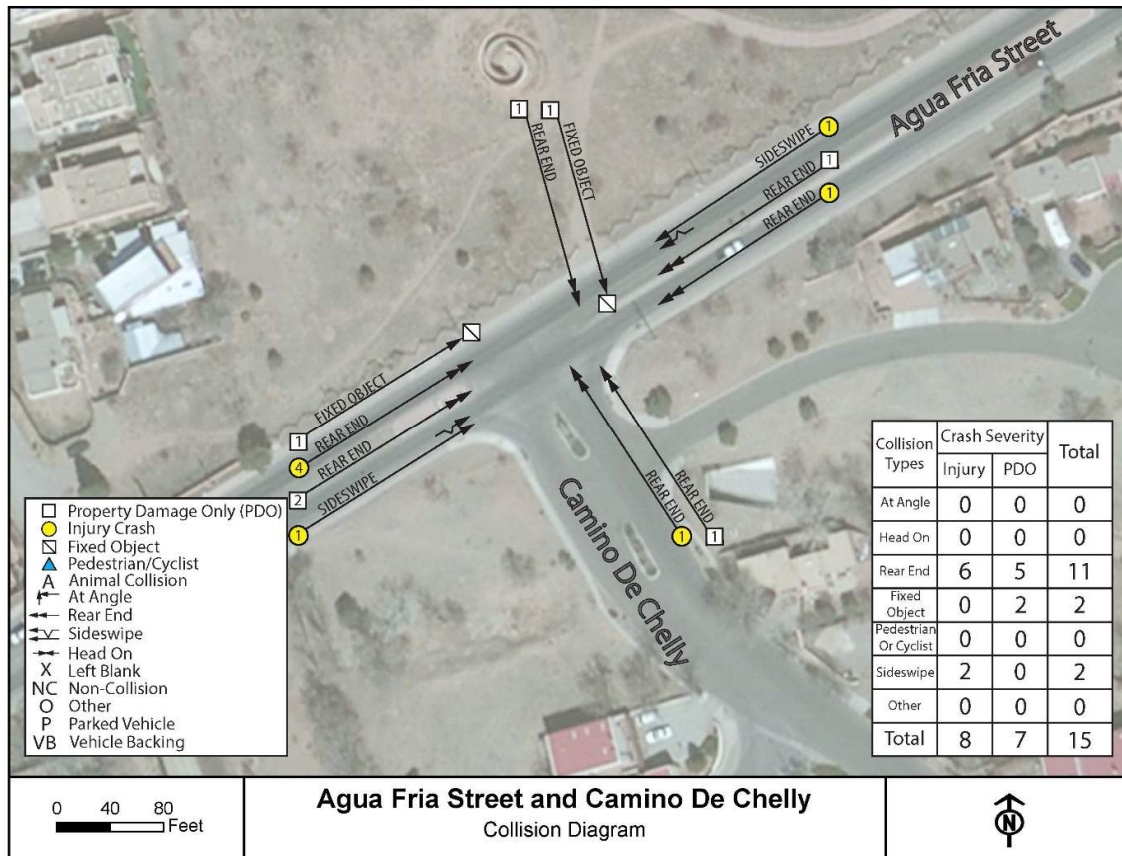


Figure 26: Intersection #9 – Agua Fria Street and Camino de Chelly – Crash Types and Crash Severity

Intersection #9 - Sight Distance Analysis

Stopping sight distance was used instead of the intersection sight distance. Intersection Control Case B was used to determine the sight triangles at the intersection of Agua Fria Street and Camino De Chelly. The vertex of the sight triangle is measured 14.5-ft from the edge of traveled way as described in AASHTO.

Case B1 – Left Turn from Stop

Case B1 is for a vehicle stopped at a minor street, trying to make a left-turn onto the major street. According to AASHTO (Table 9-7), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 27 shows the sight triangles for the Camino De Chelly northbound approach. There are no objects within the sight triangle.



Case B2 – Right Turn from Stop

Case B2 is for a vehicle stopped at a minor street, trying to make a right-turn onto the major street. According to AASHTO (Table 9-9), the stopping sight distance for a passenger car should be at least 305-ft for a roadway with a design speed of 40 mph.

Figure 27 shows the sight triangles for the Camino De Chelly northbound approach. There are no objects within the sight triangle.



Figure 27: Intersection #9 – Agua Fria Street and Camino De Chelly Northbound Approach Sight Distance



Intersection #10 – Agua Fria Street and Osage Avenue

The intersection of Agua Fria Street and Osage Avenue had a total of 86 reported crashes. From the crash data, it was reported that 68 of the crashes were rear end, eight crashes were entering at an angle, six crashes were with fixed objects, and two had no information regarding crash classification or analysis (left blank). Out of the total crashes, 63 of the crashes were reported at property damage only and 23 were reported at injury only. Six crashes at this intersection were alcohol related.

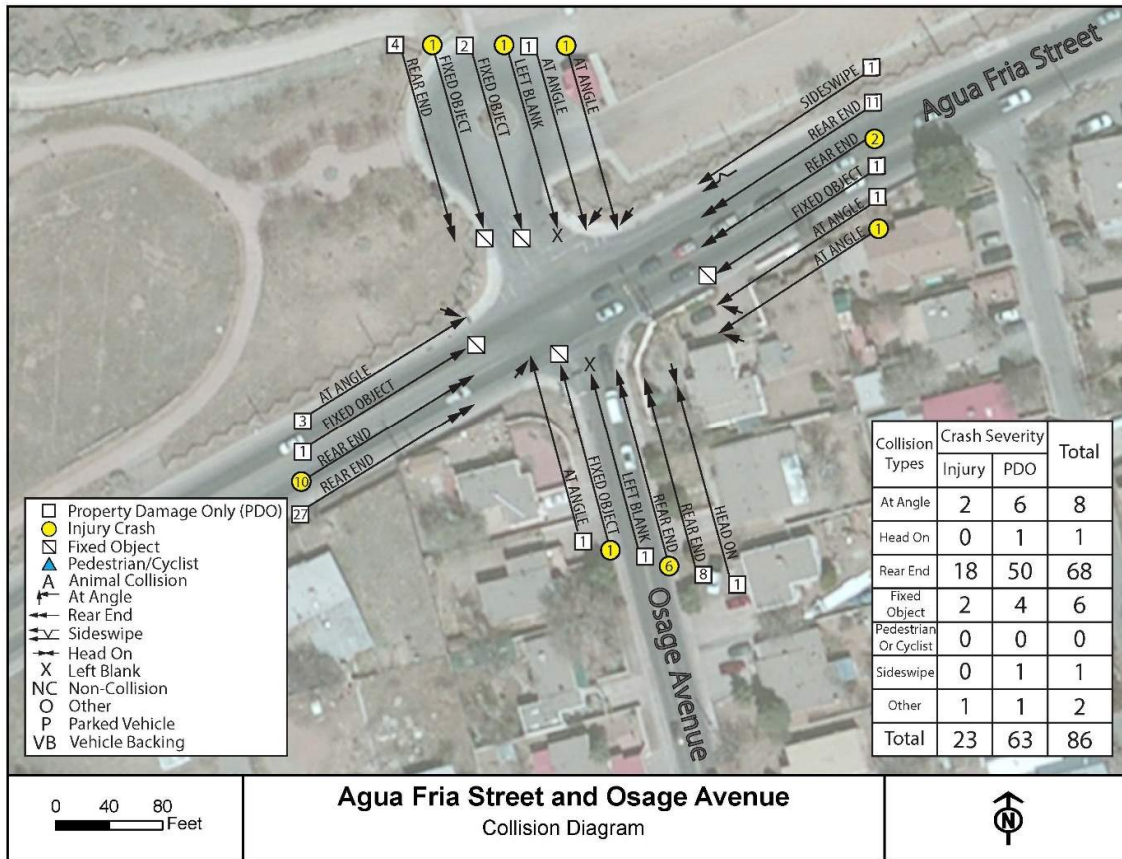
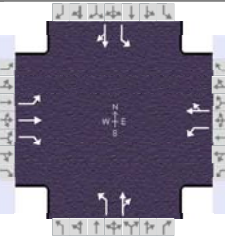


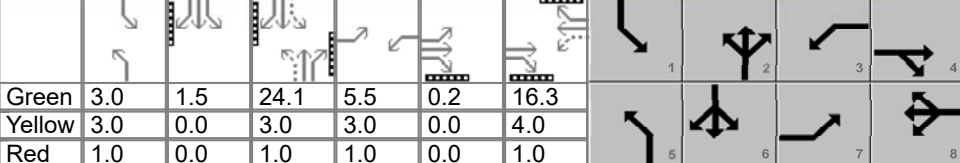
Figure 28: Intersection #10 – Agua Fria Street and Osage Avenue – Crash Types and Crash Severity

APPENDIX D
2027 NO BUILD INTERSECTION CAPACITY ANALYSIS

HCS Signalized Intersection Results Summary

General Information					Intersection Information					
Agency	BHI				Duration, h	0.250				
Analyst	MG	Analysis Date	Apr 9, 2024		Area Type	Other				
Jurisdiction	SANTA FE	Time Period	AM PEAK HOUR		PHF	0.96				
Urban Street	Agua Fria Street		Analysis Year	2027	Analysis Period	1 > 7:00				
Intersection	Agua Fria & Siler Road		File Name	1_2027NBAM AF-S.xus						
Project Description	NO BUILD									

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	108	342	97	127	214	71	46	248	129	110	412	124

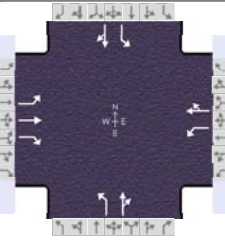
Signal Information												
Cycle, s	67.5	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	9.7	21.5	9.5	21.3	7.0	28.1	8.4	29.6
Change Period, (Y+R _c), s	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.3	4.2	4.4	4.2	4.4
Queue Clearance Time (g _s), s	6.2	13.9	5.6	12.0	3.1	14.4	4.7	20.8
Green Extension Time (g _e), s	0.2	2.5	0.3	2.6	0.1	4.8	0.3	4.7
Phase Call Probability	0.88	1.00	0.92	1.00	0.59	1.00	0.88	1.00
Max Out Probability	0.00	0.19	0.00	0.12	0.00	0.00	0.00	0.01

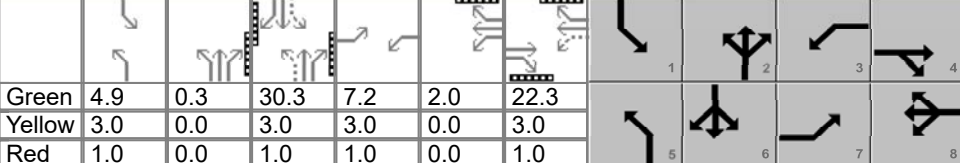
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	113	356	101	132	297		48	393		115	558	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1885	1585	1810	1818		1810	1776		1781	1810	
Queue Service Time (g _s), s	4.2	11.9	3.5	3.6	10.0		1.1	12.4		2.7	18.8	
Cycle Queue Clearance Time (g _c), s	4.2	11.9	3.5	3.6	10.0		1.1	12.4		2.7	18.8	
Green Ratio (g/C)	0.08	0.24	0.24	0.32	0.24		0.40	0.36		0.42	0.38	
Capacity (c), veh/h	151	460	387	293	438		250	635		399	686	
Volume-to-Capacity Ratio (X)	0.747	0.774	0.261	0.451	0.678		0.192	0.618		0.287	0.813	
Back of Queue (Q), ft/ln (95 th percentile)	91	228	56	66	190		20	214		46	304	
Back of Queue (Q), veh/ln (95 th percentile)	3.6	9.0	2.2	2.6	7.6		0.8	8.5		1.8	12.1	
Queue Storage Ratio (RQ) (95 th percentile)	0.73	1.82	0.45	0.55	1.59		0.15	1.58		0.51	3.38	
Uniform Delay (d ₁), s/veh	30.3	23.9	20.7	18.4	23.3		15.3	17.9		13.3	18.9	
Incremental Delay (d ₂), s/veh	7.2	3.1	0.4	1.1	2.2		0.4	1.2		0.4	2.4	
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	37.5	26.9	21.0	19.5	25.5		15.7	19.1		13.7	21.3	
Level of Service (LOS)	D	C	C	B	C		B	B		B	C	
Approach Delay, s/veh / LOS	27.9	C		23.7	C		18.8	B		20.0	B	
Intersection Delay, s/veh / LOS	22.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.92	B	1.90	B	2.09	B
Bicycle LOS Score / LOS	1.43	A	1.20	A	1.21	A	1.60	B

HCS Signalized Intersection Results Summary

General Information					Intersection Information								
Agency	BHI				Duration, h	0.250							
Analyst	MG	Analysis Date	Apr 9, 2024		Area Type	Other							
Jurisdiction	SANTA FE	Time Period	PM PEAK HOUR		PHF	0.93							
Urban Street	Agua Fria Street	Analysis Year	2027		Analysis Period	1> 7:00							
Intersection	Agua Fria & Siler Road	File Name	1_2027NBPM AF-S.xus										
Project Description	NO BUILD												

Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	111	268	70	193	354	77	109	364	145	100	291	169

Signal Information												
Cycle, s	83.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
Green	4.9	0.3	30.3	7.2	2.0	22.3						
Yellow	3.0	0.0	3.0	3.0	0.0	3.0						
Red	1.0	0.0	1.0	1.0	0.0	1.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	11.2	26.3	13.3	28.3	9.2	34.5	8.9	34.3
Change Period, (Y+R _c), s	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0
Max Allow Headway (MAH), s	4.1	4.4	4.1	4.4	4.2	4.5	4.2	4.5
Queue Clearance Time (g _s), s	7.5	13.2	8.8	22.1	5.3	25.1	5.1	22.5
Green Extension Time (g _e), s	0.3	3.0	0.5	1.1	0.3	5.4	0.3	5.5
Phase Call Probability	0.94	1.00	0.99	1.00	0.93	1.00	0.92	1.00
Max Out Probability	0.00	0.20	0.01	1.00	0.00	0.05	0.00	0.03

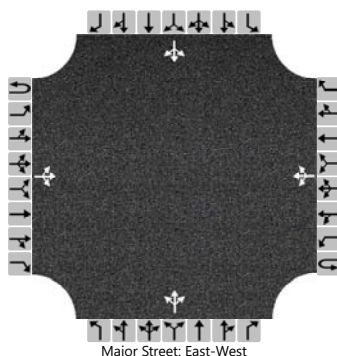
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	119	288	75	208	463		117	547		108	495	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1885	1585	1810	1841		1810	1793		1781	1768	
Queue Service Time (g _s), s	5.5	11.2	3.1	6.8	20.1		3.3	23.1		3.1	20.5	
Cycle Queue Clearance Time (g _c), s	5.5	11.2	3.1	6.8	20.1		3.3	23.1		3.1	20.5	
Green Ratio (g/C)	0.09	0.26	0.26	0.37	0.28		0.43	0.37		0.42	0.36	
Capacity (c), veh/h	156	484	407	424	517		309	660		250	645	
Volume-to-Capacity Ratio (X)	0.767	0.596	0.185	0.489	0.897		0.380	0.829		0.431	0.767	
Back of Queue (Q), ft/ln (95 th percentile)	120	217	52	126	404		61	378		58	333	
Back of Queue (Q), veh/ln (95 th percentile)	4.7	8.6	2.0	5.0	16.2		2.4	15.0		2.3	13.2	
Queue Storage Ratio (RQ) (95 th percentile)	0.96	1.73	0.42	1.05	3.37		0.45	2.80		0.65	3.70	
Uniform Delay (d ₁), s/veh	37.1	27.1	24.1	19.7	28.8		17.5	23.9		18.9	23.3	
Incremental Delay (d ₂), s/veh	7.7	1.3	0.2	0.9	16.8		0.8	3.5		1.2	2.0	
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	44.8	28.4	24.4	20.5	45.6		18.2	27.4		20.1	25.3	
Level of Service (LOS)	D	C	C	C	D		B	C		C	C	
Approach Delay, s/veh / LOS	31.8	C		37.9	D		25.8	C		24.3	C	
Intersection Delay, s/veh / LOS	30.0			C			C			C		

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	1.92	B	1.91	B	2.10	B
Bicycle LOS Score / LOS	1.28	A	1.59	B	1.58	B	1.48	A

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & HARRISON		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2027			North/South Street	HARRISON ROAD		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	NO BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		3	617	6		33	388	2		6	0	40		5	0	10
Percent Heavy Vehicles (%)		2				1				4	4	4		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.11				7.14	6.54	6.24		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.21				2.21				3.54	4.04	3.34		3.50	4.00	3.30

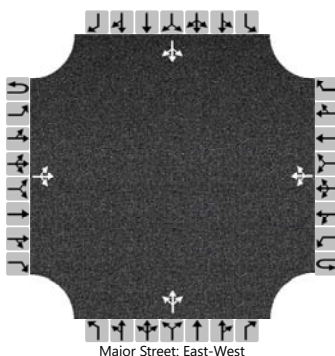
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		3				35					48					16
Capacity, c (veh/h)		1151				934					431					437
v/c Ratio		0.00				0.04					0.11					0.04
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.4					0.1
95% Queue Length, Q ₉₅ (ft)											10.3					2.5
Control Delay (s/veh)		8.1	0.0	0.0		9.0	0.4	0.4			14.4					13.6
Level of Service (LOS)		A	A	A		A	A	A			B					B
Approach Delay (s/veh)		0.1			1.1					14.4			13.6			
Approach LOS		A			A					B			B			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & HARRISON		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2027			North/South Street	HARRISON ROAD		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.94		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	NO BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		13	594	8		47	612	0		7	1	93		1	3	4
Percent Heavy Vehicles (%)		1				1				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.11				4.11				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.21				3.50	4.00	3.30		3.50	4.00	3.30

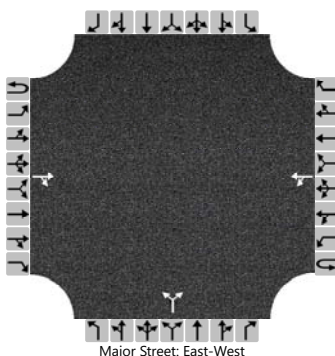
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				50					107					9
Capacity, c (veh/h)		942				950					442					299
v/c Ratio		0.01				0.05					0.24					0.03
95% Queue Length, Q ₉₅ (veh)		0.0				0.2					0.9					0.1
95% Queue Length, Q ₉₅ (ft)											22.5					2.5
Control Delay (s/veh)		8.9	0.2	0.2		9.0	0.7	0.7			15.7					17.4
Level of Service (LOS)		A	A	A		A	A	A			C					C
Approach Delay (s/veh)		0.4				1.3				15.7				17.4		
Approach LOS		A				A				C				C		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG	Intersection	AGUA FRIA & SILER PARK LANE				
Agency/Co.	BHI	Jurisdiction	SANTA FE				
Date Performed	4/5/2024	East/West Street	AGUA FRIA STREET				
Analysis Year	2027	North/South Street	SILER PARK LANE				
Time Analyzed	AM PEAK HOUR	Peak Hour Factor	0.94				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	NO BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			574	7		13	385			9		35				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.10					6.40		6.20			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.20					3.50		3.30			

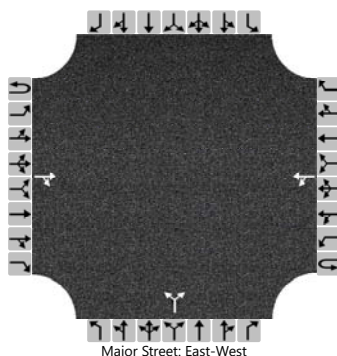
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						14						47				
Capacity, c (veh/h)						970						467				
v/c Ratio						0.01						0.10				
95% Queue Length, Q ₉₅ (veh)						0.0						0.3				
95% Queue Length, Q ₉₅ (ft)						0.0						7.5				
Control Delay (s/veh)						8.8	0.2					13.6				
Level of Service (LOS)						A	A					B				
Approach Delay (s/veh)						0.4						13.6				
Approach LOS						A						B				

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2027			North/South Street	SILER PARK LANE		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.93		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	NO BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			516	3		13	633			2		59				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.10					6.40		6.20			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.20					3.50		3.30			

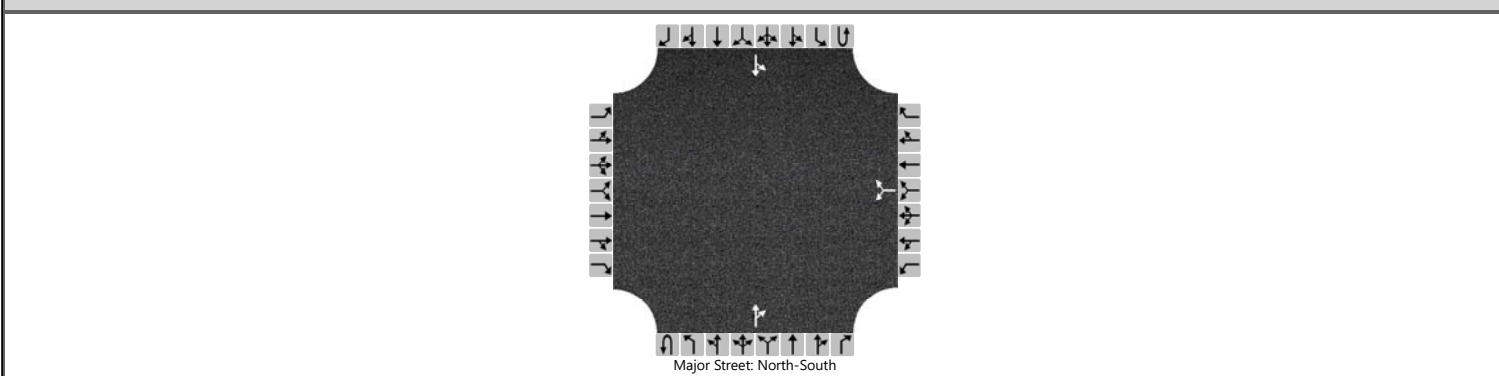
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						14						66				
Capacity, c (veh/h)						1021						523				
v/c Ratio						0.01						0.13				
95% Queue Length, Q ₉₅ (veh)						0.0						0.4				
95% Queue Length, Q ₉₅ (ft)						0.0						10.0				
Control Delay (s/veh)						8.6	0.2					12.9				
Level of Service (LOS)						A	A					B				
Approach Delay (s/veh)					0.4				12.9							
Approach LOS					A				B							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	SILER ROAD & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	SILER ROAD		
Analysis Year	2027			North/South Street	SILER PARK LANE		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.91		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	NO BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration							LR					TR		LT			
Volume (veh/h)						33		13			467	73		13	630		
Percent Heavy Vehicles (%)						1		1						1			
Proportion Time Blocked																	
Percent Grade (%)						0											
Right Turn Channelized																	
Median Type Storage						Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2							4.1		
Critical Headway (sec)						6.41		6.21							4.11		
Base Follow-Up Headway (sec)						3.5		3.3							2.2		
Follow-Up Headway (sec)						3.51		3.31							2.21		

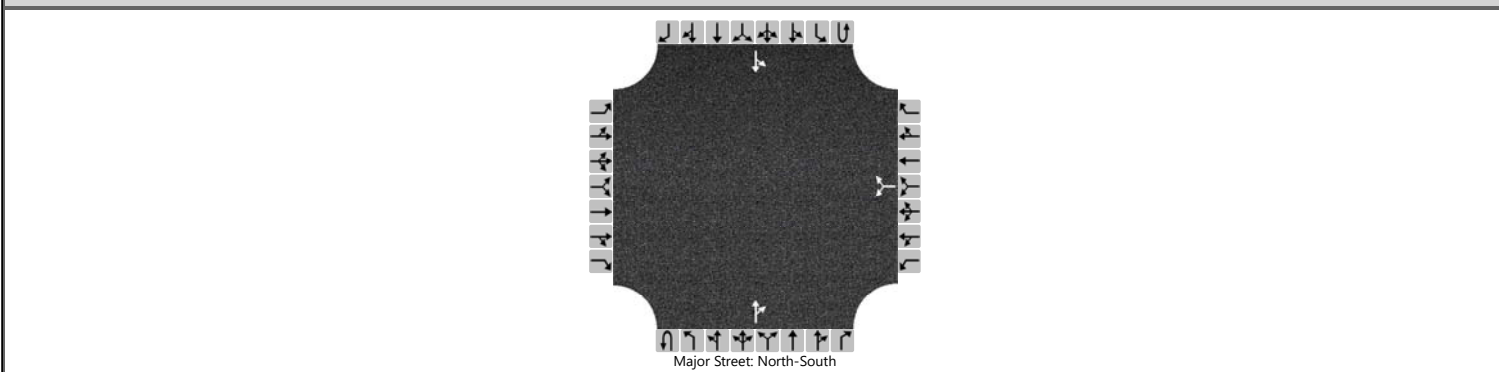
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						51									14		
Capacity, c (veh/h)						359									990		
v/c Ratio						0.14									0.01		
95% Queue Length, Q ₉₅ (veh)						0.5									0.0		
95% Queue Length, Q ₉₅ (ft)						12.6									0.0		
Control Delay (s/veh)						16.7									8.7	0.2	
Level of Service (LOS)						C									A	A	
Approach Delay (s/veh)						16.7								0.4			
Approach LOS						C								A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	SILER ROAD & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	SILER ROAD		
Analysis Year	2027			North/South Street	SILER PARK LANE		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.91		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	NO BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration							LR					TR		LT			
Volume (veh/h)						54		19			628	74		11	559		
Percent Heavy Vehicles (%)						0		0						1			
Proportion Time Blocked																	
Percent Grade (%)						0											
Right Turn Channelized																	
Median Type Storage						Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2							4.1		
Critical Headway (sec)						6.40		6.20							4.11		
Base Follow-Up Headway (sec)						3.5		3.3							2.2		
Follow-Up Headway (sec)						3.50		3.30							2.21		

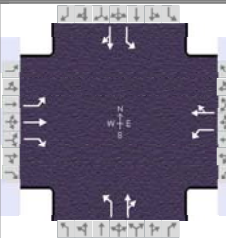
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						80									12		
Capacity, c (veh/h)						325									850		
v/c Ratio						0.25									0.01		
95% Queue Length, Q ₉₅ (veh)						1.0									0.0		
95% Queue Length, Q ₉₅ (ft)						25.1									0.0		
Control Delay (s/veh)						19.7									9.3	0.2	
Level of Service (LOS)						C									A	A	
Approach Delay (s/veh)						19.7								0.4			
Approach LOS						C								A			

APPENDIX E
2027 BUILD INTERSECTION CAPACITY ANALYSIS

HCS Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	BHI			Duration, h	0.250		
Analyst	MG	Analysis Date	Apr 9, 2024	Area Type	Other		
Jurisdiction	SANTA FE	Time Period	AM PEAK HOUR	PHF	0.96		
Urban Street	Agua Fria Street	Analysis Year	2027	Analysis Period	1 > 7:00		
Intersection	Agua Fria & Siler Road	File Name	1_2027BAM AF-S.xus				
Project Description	BUILD						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	108	344	97	152	220	73	46	248	137	111	412	124

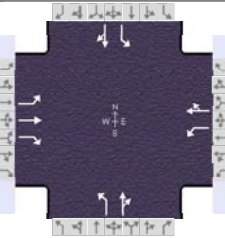
Signal Information				Signal Timing (s)																			
Cycle, s	70.0	Reference Phase	2	Green	3.0	1.6	24.8	5.9	0.7	18.0	Yellow	3.0	0.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Offset, s	0	Reference Point	End	Red	1.0	0.0	1.0	1.0	0.0	1.0	Red	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0
Uncoordinated	Yes	Simult. Gap E/W	On																				
Force Mode	Fixed	Simult. Gap N/S	On																				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	9.9	22.0	10.6	22.7	7.0	28.8	8.6	30.4
Change Period, (Y+R _c), s	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.3	4.2	4.4	4.2	4.4
Queue Clearance Time (g _s), s	6.3	14.5	6.5	12.6	3.1	15.3	4.8	21.5
Green Extension Time (g _e), s	0.2	2.4	0.4	2.6	0.1	4.9	0.3	4.8
Phase Call Probability	0.89	1.00	0.95	1.00	0.61	1.00	0.90	1.00
Max Out Probability	0.00	0.22	0.00	0.14	0.00	0.01	0.00	0.02

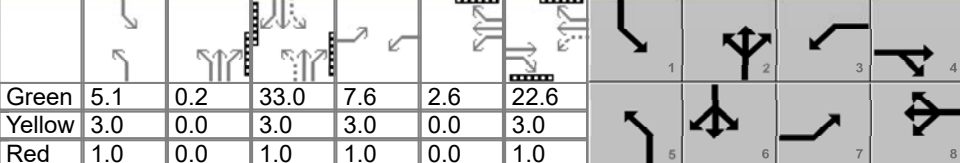
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	113	358	101	158	305		48	401		116	558	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1885	1585	1810	1818		1810	1772		1781	1810	
Queue Service Time (g _s), s	4.3	12.5	3.6	4.5	10.6		1.1	13.3		2.8	19.5	
Cycle Queue Clearance Time (g _c), s	4.3	12.5	3.6	4.5	10.6		1.1	13.3		2.8	19.5	
Green Ratio (g/C)	0.08	0.24	0.24	0.34	0.25		0.40	0.35		0.42	0.38	
Capacity (c), veh/h	150	458	385	340	460		243	628		385	683	
Volume-to-Capacity Ratio (X)	0.749	0.782	0.262	0.465	0.664		0.197	0.638		0.301	0.818	
Back of Queue (Q), ft/ln (95 th percentile)	95	240	59	81	198		21	228		49	317	
Back of Queue (Q), veh/ln (95 th percentile)	3.7	9.5	2.3	3.2	7.9		0.8	9.0		1.9	12.6	
Queue Storage Ratio (RQ) (95 th percentile)	0.76	1.92	0.47	0.67	1.65		0.15	1.68		0.55	3.52	
Uniform Delay (d ₁), s/veh	31.4	24.8	21.5	18.2	23.6		16.0	18.9		14.0	19.7	
Incremental Delay (d ₂), s/veh	7.3	3.7	0.4	1.0	2.0		0.4	1.3		0.4	2.5	
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	38.7	28.5	21.8	19.2	25.6		16.4	20.2		14.4	22.2	
Level of Service (LOS)	D	C	C	B	C		B	C		B	C	
Approach Delay, s/veh / LOS	29.3	C		23.4	C		19.8	B		20.8	C	
Intersection Delay, s/veh / LOS	23.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	1.92	B	1.90	B	2.09	B
Bicycle LOS Score / LOS	1.43	A	1.25	A	1.23	A	1.60	B

HCS Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	BHI			Duration, h	0.250	
Analyst	MG	Analysis Date	Apr 9, 2024	Area Type	Other	
Jurisdiction	SANTA FE	Time Period	PM PEAK HOUR	PHF	0.93	
Urban Street	Agua Fria Street	Analysis Year	2027	Analysis Period	1 > 7:00	
Intersection	Agua Fria & Siler Road	File Name	1_2027BPM AF-S.xus			
Project Description	BUILD					

Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	111	274	70	207	358	79	109	364	171	102	291	169

Signal Information												
Cycle, s	87.2	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
Green	5.1	0.2	33.0	7.6	2.6	22.6						
Yellow	3.0	0.0	3.0	3.0	0.0	3.0						
Red	1.0	0.0	1.0	1.0	0.0	1.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	11.6	26.6	14.2	29.3	9.3	37.3	9.1	37.0
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0
Max Allow Headway (MAH), s	4.1	4.4	4.1	4.4	4.2	4.5	4.2	4.5
Queue Clearance Time (g_s), s	7.7	14.2	9.7	23.6	5.4	27.7	5.2	23.1
Green Extension Time (g_e), s	0.3	2.9	0.5	0.6	0.3	5.5	0.3	5.7
Phase Call Probability	0.94	1.00	1.00	1.00	0.94	1.00	0.93	1.00
Max Out Probability	0.00	0.26	0.02	1.00	0.00	0.08	0.00	0.04

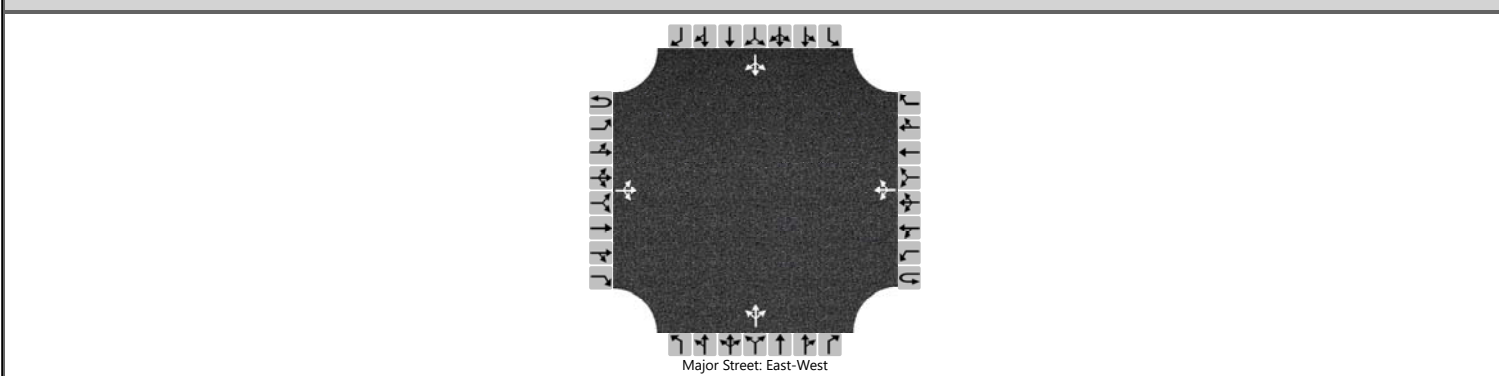
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	119	295	75	223	470		117	575		110	495	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1885	1585	1810	1840		1810	1783		1781	1768	
Queue Service Time (g_s), s	5.7	12.2	3.3	7.7	21.6		3.4	25.7		3.2	21.1	
Cycle Queue Clearance Time (g_c), s	5.7	12.2	3.3	7.7	21.6		3.4	25.7		3.2	21.1	
Green Ratio (g/C)	0.09	0.25	0.25	0.37	0.28		0.44	0.38		0.44	0.38	
Capacity (c), veh/h	155	467	393	414	512		320	680		241	670	
Volume-to-Capacity Ratio (X)	0.772	0.630	0.191	0.538	0.918		0.366	0.846		0.455	0.738	
Back of Queue (Q), ft/ln (95 th percentile)	127	236	56	144	444		63	421		61	340	
Back of Queue (Q), veh/ln (95 th percentile)	5.0	9.4	2.2	5.8	17.8		2.5	16.7		2.4	13.5	
Queue Storage Ratio (RQ) (95 th percentile)	1.02	1.89	0.45	1.20	3.70		0.46	3.12		0.68	3.78	
Uniform Delay (d_1), s/veh	39.0	29.3	25.9	20.8	30.6		17.5	24.7		19.7	23.4	
Incremental Delay (d_2), s/veh	7.9	1.9	0.2	1.1	21.1		0.7	4.8		1.3	1.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	47.0	31.1	26.2	21.9	51.6		18.2	29.5		21.0	25.0	
Level of Service (LOS)	D	C	C	C	D		B	C		C	C	
Approach Delay, s/veh / LOS	34.2		C	42.1		D	27.6		C	24.3		C
Intersection Delay, s/veh / LOS	32.1						C					

Multimodal Results	EB		WB		NB		SB	
	Score	LOS	Score	LOS	Score	LOS	Score	LOS
Pedestrian LOS Score / LOS	1.92	B	1.92	B	1.91	B	2.10	B
Bicycle LOS Score / LOS	1.29	A	1.63	B	1.63	B	1.48	A

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & HARRISON		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2027			North/South Street	HARRISON ROAD		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		3	626	12		33	391	2		8	0	40		5	0	10
Percent Heavy Vehicles (%)		2				1				4	4	4		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.11				7.14	6.54	6.24		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.21				2.21				3.54	4.04	3.34		3.50	4.00	3.30

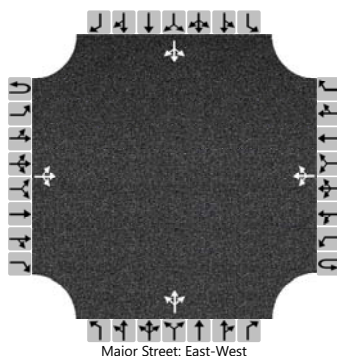
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		3				35					51					16
Capacity, c (veh/h)		1148				922					416					432
v/c Ratio		0.00				0.04					0.12					0.04
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.4					0.1
95% Queue Length, Q ₉₅ (ft)											10.3					2.5
Control Delay (s/veh)		8.1	0.0	0.0		9.1	0.4	0.4			14.8					13.7
Level of Service (LOS)		A	A	A		A	A	A			B					B
Approach Delay (s/veh)		0.1			1.1					14.8			13.7			
Approach LOS		A			A					B			B			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & HARRISON		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2027			North/South Street	HARRISON ROAD		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.94		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		13	599	12		47	620	0		13	1	93		1	3	4
Percent Heavy Vehicles (%)		1				1				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.11				4.11				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.21				3.50	4.00	3.30		3.50	4.00	3.30

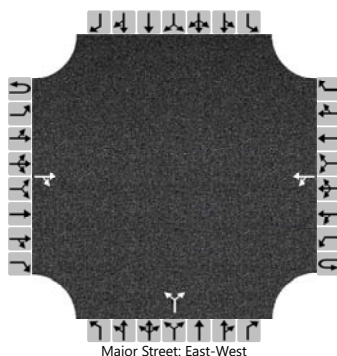
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				50					114					9
Capacity, c (veh/h)		936				942					414					295
v/c Ratio		0.01				0.05					0.27					0.03
95% Queue Length, Q ₉₅ (veh)		0.0				0.2					1.1					0.1
95% Queue Length, Q ₉₅ (ft)											27.5					2.5
Control Delay (s/veh)		8.9	0.2	0.2		9.0	0.8	0.8			16.9					17.6
Level of Service (LOS)		A	A	A		A	A	A			C					C
Approach Delay (s/veh)		0.4				1.3				16.9				17.6		
Approach LOS		A				A				C				C		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG	Intersection	AGUA FRIA & SILER PARK LANE				
Agency/Co.	BHI	Jurisdiction	SANTA FE				
Date Performed	4/5/2024	East/West Street	AGUA FRIA STREET				
Analysis Year	2027	North/South Street	SILER PARK LANE				
Time Analyzed	AM PEAK HOUR	Peak Hour Factor	0.94				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			584	7		13	419			9		35				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

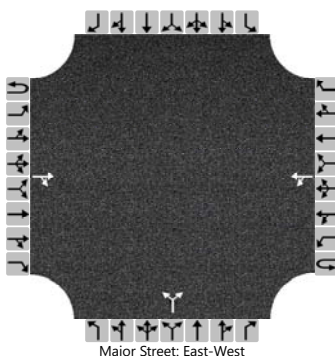
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						14						47				
Capacity, c (veh/h)						962						458				
v/c Ratio						0.01						0.10				
95% Queue Length, Q ₉₅ (veh)						0.0						0.3				
95% Queue Length, Q ₉₅ (ft)						0.0						7.5				
Control Delay (s/veh)						8.8	0.2					13.8				
Level of Service (LOS)						A	A					B				
Approach Delay (s/veh)					0.4				13.8							
Approach LOS					A				B							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2027			North/South Street	SILER PARK LANE		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.93		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			550	3		13	653			2		59				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

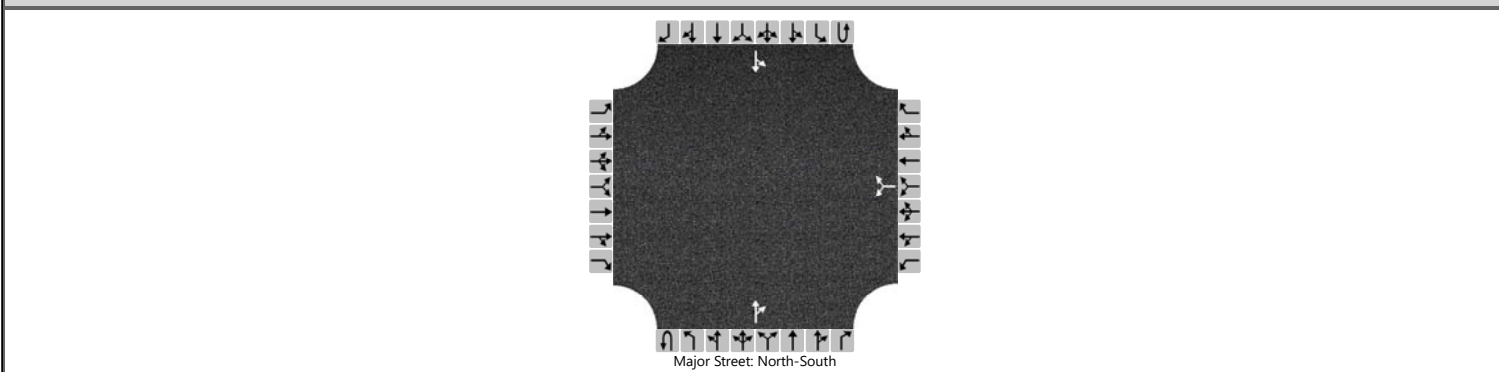
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						14						66				
Capacity, c (veh/h)						990						499				
v/c Ratio						0.01						0.13				
95% Queue Length, Q ₉₅ (veh)						0.0						0.5				
95% Queue Length, Q ₉₅ (ft)						0.0						12.5				
Control Delay (s/veh)						8.7	0.2					13.3				
Level of Service (LOS)						A	A					B				
Approach Delay (s/veh)					0.4				13.3							
Approach LOS					A				B							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	SILER ROAD & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	SILER ROAD		
Analysis Year	2027			North/South Street	SILER PARK LANE		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.91		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						33		13			475	73		13	656	
Percent Heavy Vehicles (%)						1		1						1		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.41		6.21						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.51		3.31						2.21		

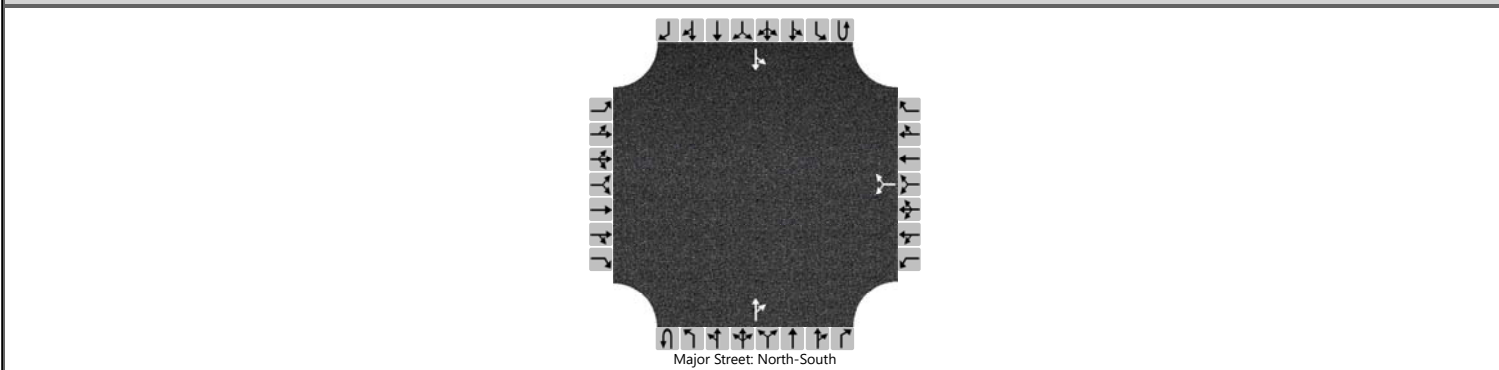
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						51								14		
Capacity, c (veh/h)						350								982		
v/c Ratio						0.14								0.01		
95% Queue Length, Q ₉₅ (veh)						0.5								0.0		
95% Queue Length, Q ₉₅ (ft)						12.6								0.0		
Control Delay (s/veh)						17.0								8.7	0.2	
Level of Service (LOS)						C								A	A	
Approach Delay (s/veh)					17.0								0.4			
Approach LOS					C								A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	SILER ROAD & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	SILER ROAD		
Analysis Year	2027			North/South Street	SILER PARK LANE		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.91		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration							LR					TR		LT			
Volume (veh/h)						54		19			654	74		11	574		
Percent Heavy Vehicles (%)						0		0						1			
Proportion Time Blocked																	
Percent Grade (%)						0											
Right Turn Channelized																	
Median Type Storage						Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.21		

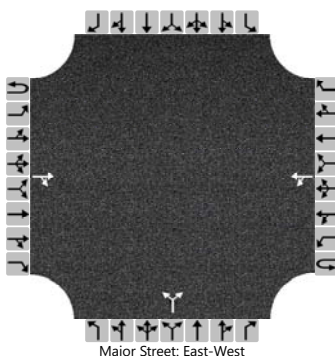
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						80								12			
Capacity, c (veh/h)						314								829			
v/c Ratio						0.26								0.01			
95% Queue Length, Q ₉₅ (veh)						1.0								0.0			
95% Queue Length, Q ₉₅ (ft)						25.1								0.0			
Control Delay (s/veh)						20.4								9.4	0.2		
Level of Service (LOS)						C								A	A		
Approach Delay (s/veh)						20.4								0.4			
Approach LOS						C								A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA-NORTH SITE ENTRANCE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2027			North/South Street	NORTH SITE ENTRANCE		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.94		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			620	11		4	391			34		14				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

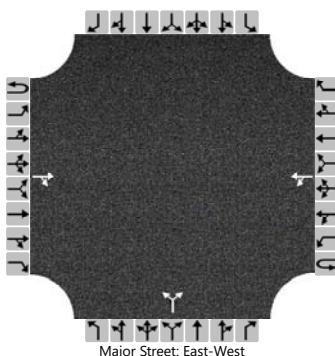
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					4					51						
Capacity, c (veh/h)					919					390						
v/c Ratio					0.00					0.13						
95% Queue Length, Q ₉₅ (veh)					0.0					0.4						
95% Queue Length, Q ₉₅ (ft)					0.0					10.2						
Control Delay (s/veh)					8.9	0.1				15.6						
Level of Service (LOS)					A	A				C						
Approach Delay (s/veh)					0.1				15.6							
Approach LOS					A				C							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA-NORTH SITE ENTRANCE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2027			North/South Street	NORTH SITE ENTRANCE		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.94		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			610	34		14	613			20		8				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type Storage					Left Only								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

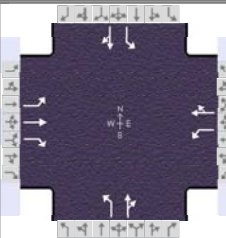
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					15					30						
Capacity, c (veh/h)					908					335						
v/c Ratio					0.02					0.09						
95% Queue Length, Q ₉₅ (veh)					0.0					0.3						
95% Queue Length, Q ₉₅ (ft)					0.0					7.6						
Control Delay (s/veh)					9.0	0.2				16.8						
Level of Service (LOS)					A	A				C						
Approach Delay (s/veh)					0.4					16.8						
Approach LOS					A					C						

APPENDIX F
2042 NO BUILD INTERSECTION CAPACITY ANALYSIS

HCS Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	BHI			Duration, h	0.250		
Analyst	MG	Analysis Date	Apr 9, 2024	Area Type	Other		
Jurisdiction	SANTA FE	Time Period	AM PEAK HOUR	PHF	0.96		
Urban Street	Agua Fria Street	Analysis Year	2042	Analysis Period	1 > 7:00		
Intersection	Agua Fria & Siler Road	File Name	1_2042NBAM AF-S.xus				
Project Description	NO BUILD						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	128	404	114	154	254	84	55	293	153	130	486	146

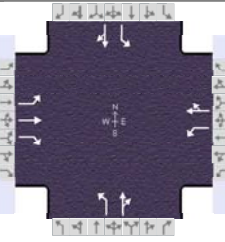
Signal Information				Signal Timing (s)																				
Cycle, s	87.8	Reference Phase	2	Green	3.8	2.3	34.4	7.9	0.5	21.9	Yellow	3.0	0.0	3.0	3.0	0.0	4.0	Red	1.0	0.0	1.0	1.0	0.0	1.0
Offset, s	0	Reference Point	End																					
Uncoordinated	Yes	Simult. Gap E/W	On																					
Force Mode	Fixed	Simult. Gap N/S	On																					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	12.4	27.5	11.9	26.9	7.8	38.4	10.1	40.7
Change Period, (Y+R _c), s	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.3	4.2	4.4	4.2	4.4
Queue Clearance Time (g _s), s	8.4	20.8	7.6	17.8	3.6	21.0	5.9	31.3
Green Extension Time (g _e), s	0.3	1.6	0.4	2.3	0.1	5.9	0.4	5.3
Phase Call Probability	0.96	1.00	0.98	1.00	0.75	1.00	0.96	1.00
Max Out Probability	0.00	1.00	0.00	0.56	0.00	0.03	0.00	0.14

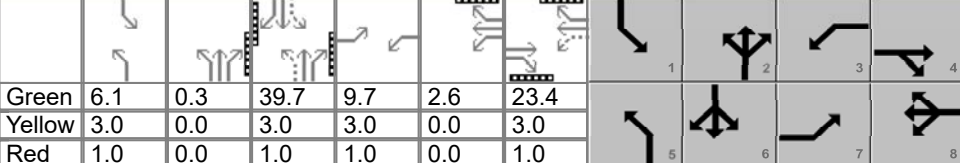
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	133	421	119	160	352		57	465		135	658	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1885	1585	1810	1819		1810	1776		1781	1810	
Queue Service Time (g _s), s	6.4	18.8	5.3	5.6	15.8		1.6	19.0		3.9	29.3	
Cycle Queue Clearance Time (g _c), s	6.4	18.8	5.3	5.6	15.8		1.6	19.0		3.9	29.3	
Green Ratio (g/C)	0.10	0.26	0.26	0.34	0.25		0.44	0.39		0.46	0.42	
Capacity (c), veh/h	171	482	406	263	455		209	696		369	756	
Volume-to-Capacity Ratio (X)	0.780	0.872	0.293	0.610	0.775		0.275	0.668		0.367	0.870	
Back of Queue (Q), ft/ln (95 th percentile)	142	383	90	110	300		31	311		71	478	
Back of Queue (Q), veh/ln (95 th percentile)	5.6	15.2	3.6	4.4	12.0		1.2	12.4		2.8	19.0	
Queue Storage Ratio (RQ) (95 th percentile)	1.13	3.06	0.72	0.92	2.50		0.23	2.31		0.79	5.32	
Uniform Delay (d ₁), s/veh	38.9	31.3	26.3	23.7	30.7		19.7	22.0		16.1	23.4	
Incremental Delay (d ₂), s/veh	7.5	13.7	0.4	2.3	6.7		0.7	1.3		0.6	6.3	
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	46.4	45.0	26.7	26.0	37.4		20.4	23.4		16.7	29.7	
Level of Service (LOS)	D	D	C	C	D		C	C		B	C	
Approach Delay, s/veh / LOS	42.1		D	33.8		C	23.0		C	27.5		C
Intersection Delay, s/veh / LOS	31.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	1.93	B	1.91	B	2.10	B
Bicycle LOS Score / LOS	1.60	B	1.33	A	1.35	A	1.80	B

HCS Signalized Intersection Results Summary

General Information					Intersection Information								
Agency	BHI				Duration, h	0.250							
Analyst	MG	Analysis Date	Apr 9, 2024		Area Type	Other							
Jurisdiction	SANTA FE	Time Period	PM PEAK HOUR		PHF	0.93							
Urban Street	Agua Fria Street	Analysis Year	2042		Analysis Period	1 > 7:00							
Intersection	Agua Fria & Siler Road	File Name	1_2042NBPM AF-S.xus										
Project Description	NO BUILD												

Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	131	315	82	226	416	91	128	427	171	117	342	198

Signal Information													
Cycle, s	97.8	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	Yes	Simult. Gap E/W	On										
Force Mode	Fixed	Simult. Gap N/S	On										
	Green	6.1	0.3	39.7	9.7	2.6	23.4						
	Yellow	3.0	0.0	3.0	3.0	0.0	3.0						
	Red	1.0	0.0	1.0	1.0	0.0	1.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	13.7	27.4	16.2	30.0	10.4	44.0	10.1	43.7
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0
Max Allow Headway (MAH), s	4.1	4.4	4.1	4.4	4.2	4.5	4.2	4.5
Queue Clearance Time (g_s), s	9.6	18.5	11.7	27.0	6.3	34.3	6.0	30.4
Green Extension Time (g_e), s	0.3	2.5	0.5	0.0	0.3	5.7	0.4	6.2
Phase Call Probability	0.98	1.00	1.00	1.00	0.98	1.00	0.97	1.00
Max Out Probability	0.01	0.69	0.07	1.00	0.00	0.28	0.00	0.18

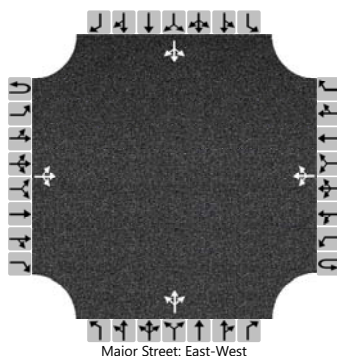
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	141	339	88	243	545		138	643		126	581	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1885	1585	1810	1841		1810	1793		1781	1768	
Queue Service Time (g_s), s	7.6	16.5	4.4	9.7	25.0		4.3	32.3		4.0	28.4	
Cycle Queue Clearance Time (g_c), s	7.6	16.5	4.4	9.7	25.0		4.3	32.3		4.0	28.4	
Green Ratio (g/C)	0.10	0.23	0.23	0.36	0.26		0.47	0.41		0.47	0.41	
Capacity (c), veh/h	176	432	363	363	470		291	734		231	718	
Volume-to-Capacity Ratio (X)	0.801	0.784	0.243	0.669	1.159		0.473	0.876		0.544	0.809	
Back of Queue (Q), ft/ln (95 th percentile)	168	327	78	189	838		81	536		77	456	
Back of Queue (Q), veh/ln (95 th percentile)	6.6	13.0	3.1	7.6	33.5		3.2	21.2		3.0	18.1	
Queue Storage Ratio (RQ) (95 th percentile)	1.34	2.61	0.62	1.58	6.98		0.60	3.97		0.86	5.07	
Uniform Delay (d_1), s/veh	43.1	35.4	30.8	25.1	36.4		19.7	26.6		21.9	25.7	
Incremental Delay (d_2), s/veh	8.1	7.5	0.3	2.1	92.9		1.2	8.4		2.0	4.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	51.3	42.9	31.1	27.2	129.3		20.9	35.0		23.9	30.1	
Level of Service (LOS)	D	D	C	C	F		C	D		C	C	
Approach Delay, s/veh / LOS	43.1		D	97.9		F	32.5		C	29.0		C
Intersection Delay, s/veh / LOS	51.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.93	B	1.91	B	2.10	B
Bicycle LOS Score / LOS	1.42	A	1.79	B	1.78	B	1.65	B

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & HARRISON		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2042			North/South Street	HARRISON ROAD		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	NO BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	725	7		39	456	2		7	0	47		6	0	12
Percent Heavy Vehicles (%)		2				1				4	4	4		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.11				7.14	6.54	6.24		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.21				2.21				3.54	4.04	3.34		3.50	4.00	3.30

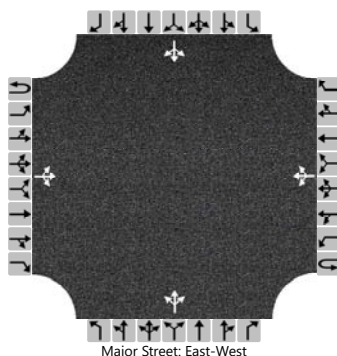
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				41					57					19	
Capacity, c (veh/h)		1083				847					368					366	
v/c Ratio		0.00				0.05					0.15					0.05	
95% Queue Length, Q ₉₅ (veh)		0.0				0.2					0.5					0.2	
95% Queue Length, Q ₉₅ (ft)											12.9					5.0	
Control Delay (s/veh)		8.3	0.1	0.1		9.5	0.6	0.6			16.6					15.4	
Level of Service (LOS)		A	A	A		A	A	A			C					C	
Approach Delay (s/veh)	0.1				1.3				16.6				15.4				
Approach LOS	A				A				C				C				

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & HARRISON		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2042			North/South Street	HARRISON ROAD		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.94		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	NO BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		15	698	9		56	719	0		8	1	109		1	4	5
Percent Heavy Vehicles (%)		1				1				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.11				4.11				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.21				3.50	4.00	3.30		3.50	4.00	3.30

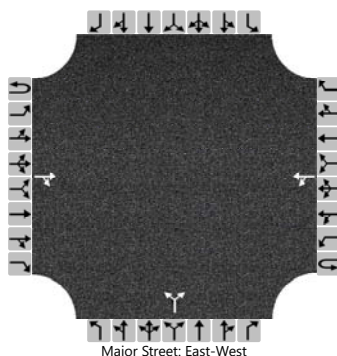
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		16				60					126					11
Capacity, c (veh/h)		855				863					377					241
v/c Ratio		0.02				0.07					0.33					0.04
95% Queue Length, Q ₉₅ (veh)		0.1				0.2					1.4					0.1
95% Queue Length, Q ₉₅ (ft)											35.0					2.5
Control Delay (s/veh)		9.3	0.3	0.3		9.5	1.1	1.1			19.2					20.6
Level of Service (LOS)		A	A	A		A	A	A			C					C
Approach Delay (s/veh)		0.5				1.7				19.2				20.6		
Approach LOS		A				A				C				C		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2042			North/South Street	SILER PARK LANE		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.94		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	NO BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			674	8		16	453			11		41				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.10					6.40		6.20			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.20					3.50		3.30			

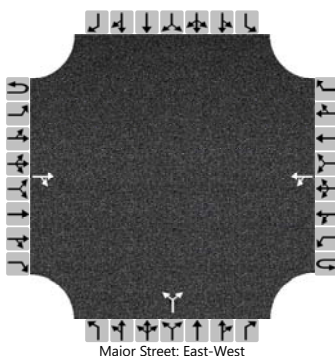
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						17						55				
Capacity, c (veh/h)						885						404				
v/c Ratio						0.02						0.14				
95% Queue Length, Q ₉₅ (veh)						0.1						0.5				
95% Queue Length, Q ₉₅ (ft)						2.5						12.5				
Control Delay (s/veh)						9.1	0.2					15.3				
Level of Service (LOS)						A	A					C				
Approach Delay (s/veh)					0.5				15.3							
Approach LOS					A				C							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2042			North/South Street	SILER PARK LANE		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.93		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	NO BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			606	4		16	744			2		69				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.10					6.40		6.20			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.20					3.50		3.30			

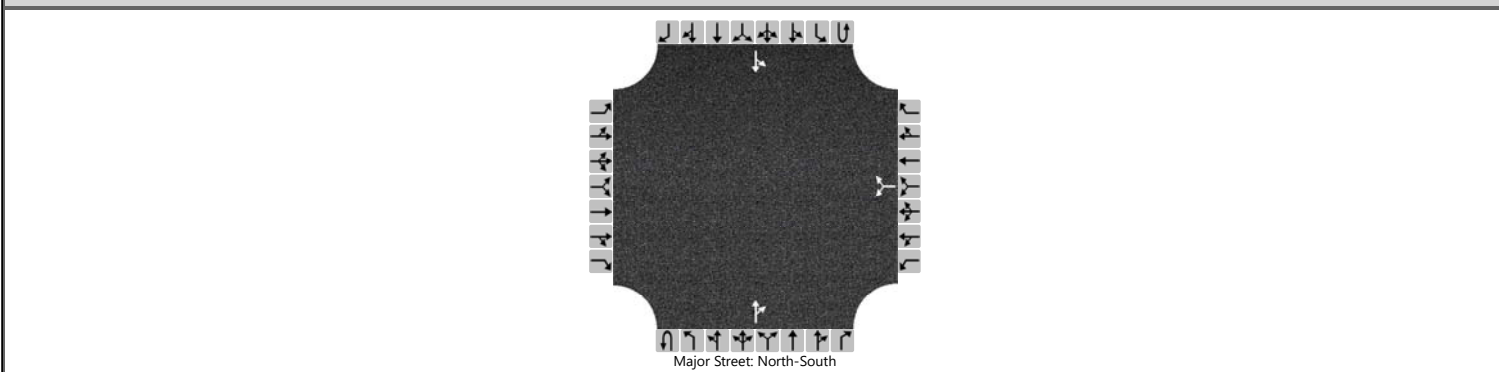
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						17						76				
Capacity, c (veh/h)						940						461				
v/c Ratio						0.02						0.17				
95% Queue Length, Q ₉₅ (veh)						0.1						0.6				
95% Queue Length, Q ₉₅ (ft)						2.5						15.0				
Control Delay (s/veh)						8.9	0.3					14.4				
Level of Service (LOS)						A	A					B				
Approach Delay (s/veh)					0.5				14.4							
Approach LOS					A				B							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	SILER ROAD & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	SILER ROAD		
Analysis Year	2042			North/South Street	SILER PARK LANE		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.91		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	NO BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound					
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R		
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6		
Number of Lanes		0	0	0		0	1	0		0	1	0		0	1	0		
Configuration							LR					TR		LT				
Volume (veh/h)						38		16			550	86		16	742			
Percent Heavy Vehicles (%)						1		1						1				
Proportion Time Blocked																		
Percent Grade (%)						0												
Right Turn Channelized																		
Median Type Storage						Left + Thru									1			

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.41		6.21						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.51		3.31						2.21		

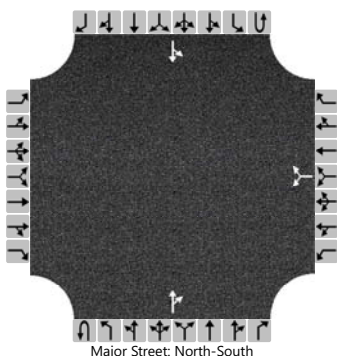
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						59								18				
Capacity, c (veh/h)						305								904				
v/c Ratio						0.19								0.02				
95% Queue Length, Q ₉₅ (veh)						0.7								0.1				
95% Queue Length, Q ₉₅ (ft)						17.7								2.5				
Control Delay (s/veh)						19.6								9.1	0.3			
Level of Service (LOS)						C								A	A			
Approach Delay (s/veh)						19.6									0.5			
Approach LOS						C									A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	SILER ROAD & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	SILER ROAD		
Analysis Year	2042			North/South Street	SILER PARK LANE		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.91		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	NO BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration							LR					TR		LT			
Volume (veh/h)						43		22			738	87		13	657		
Percent Heavy Vehicles (%)						0		0						1			
Proportion Time Blocked																	
Percent Grade (%)						0											
Right Turn Channelized																	
Median Type Storage						Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2							4.1		
Critical Headway (sec)						6.40		6.20							4.11		
Base Follow-Up Headway (sec)						3.5		3.3							2.2		
Follow-Up Headway (sec)						3.50		3.30							2.21		

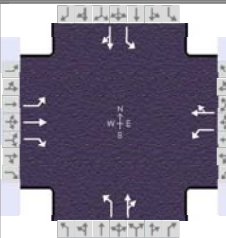
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						71									14		
Capacity, c (veh/h)						279									756		
v/c Ratio						0.26									0.02		
95% Queue Length, Q ₉₅ (veh)						1.0									0.1		
95% Queue Length, Q ₉₅ (ft)						25.1									2.5		
Control Delay (s/veh)						22.3									9.9	0.3	
Level of Service (LOS)						C									A	A	
Approach Delay (s/veh)						22.3								0.5			
Approach LOS						C								A			

APPENDIX G
2042 BUILD INTERSECTION CAPACITY ANALYSIS

HCS Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	BHI			Duration, h	0.250		
Analyst	MG	Analysis Date	Apr 9, 2024	Area Type	Other		
Jurisdiction	SANTA FE	Time Period	AM PEAK HOUR	PHF	0.96		
Urban Street	Agua Fria Street	Analysis Year	2042	Analysis Period	1 > 7:00		
Intersection	Agua Fria & Siler Road	File Name	1_2042BAM AF-S.xus				
Project Description	BUILD						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	128	406	114	180	260	87	55	293	161	131	486	146

Signal Information				Phase Diagrams											
Cycle, s	90.7	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	Yes	Simult. Gap E/W	On												
Force Mode	Fixed	Simult. Gap N/S	On												
		Green		3.8	2.4	35.3	8.6	0.5	24.0						
		Yellow		3.0	0.0	3.0	3.0	0.0	3.0						
		Red		1.0	0.0	1.0	1.0	0.0	1.0						

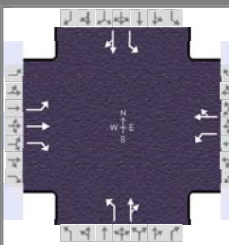
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	12.6	28.0	13.2	28.5	7.8	39.3	10.2	41.7
Change Period, (Y+R _c), s	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.3	4.2	4.4	4.2	4.4
Queue Clearance Time (g _s), s	8.6	21.6	8.8	18.7	3.7	22.2	6.1	32.3
Green Extension Time (g _e), s	0.3	1.4	0.4	2.2	0.1	6.0	0.4	5.3
Phase Call Probability	0.97	1.00	0.99	1.00	0.76	1.00	0.97	1.00
Max Out Probability	0.00	1.00	0.01	0.67	0.00	0.04	0.00	0.17

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	133	423	119	188	361		57	473		136	658	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1885	1585	1810	1818		1810	1772		1781	1810	
Queue Service Time (g _s), s	6.6	19.6	5.5	6.8	16.7		1.7	20.2		4.1	30.3	
Cycle Queue Clearance Time (g _c), s	6.6	19.6	5.5	6.8	16.7		1.7	20.2		4.1	30.3	
Green Ratio (g/C)	0.10	0.25	0.25	0.36	0.26		0.43	0.39		0.46	0.42	
Capacity (c), veh/h	170	479	402	299	472		203	689		356	752	
Volume-to-Capacity Ratio (X)	0.784	0.883	0.295	0.627	0.766		0.283	0.686		0.384	0.875	
Back of Queue (Q), ft/ln (95 th percentile)	146	403	94	132	314		32	331		75	499	
Back of Queue (Q), veh/ln (95 th percentile)	5.8	16.0	3.7	5.3	12.6		1.3	13.1		2.9	19.8	
Queue Storage Ratio (RQ) (95 th percentile)	1.17	3.22	0.75	1.10	2.62		0.24	2.45		0.83	5.55	
Uniform Delay (d ₁), s/veh	40.2	32.6	27.3	23.7	31.1		20.5	23.1		16.9	24.4	
Incremental Delay (d ₂), s/veh	7.7	15.6	0.4	2.2	6.9		0.8	1.5		0.7	7.0	
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	47.9	48.2	27.7	25.8	38.0		21.2	24.6		17.6	31.4	
Level of Service (LOS)	D	D	C	C	D		C	C		B	C	
Approach Delay, s/veh / LOS	44.5		D	33.8		C	24.2		C	29.0		C
Intersection Delay, s/veh / LOS	33.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.93	B	1.91	B	2.10	B
Bicycle LOS Score / LOS	1.60	B	1.39	A	1.36	A	1.80	B

HCS Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	BHI			Duration, h	0.250		
Analyst	MG	Analysis Date	Apr 9, 2024	Area Type	Other		
Jurisdiction	SANTA FE	Time Period	PM PEAK HOUR	PHF	0.93		
Urban Street	Agua Fria Street	Analysis Year	2042	Analysis Period	1> 7:00		
Intersection	Agua Fria & Siler Road	File Name	1_2042BPM AF-S.xus				
Project Description	BUILD						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	131	321	82	241	420	92	128	427	196	120	342	198

Signal Information				Signal Phases									
Cycle, s	100.8	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	6.3	0.2	42.3	9.9	3.4	22.8			
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	3.0	0.0	3.0	3.0	0.0	3.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	0.0	1.0	1.0	0.0	1.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	13.9	26.8	17.3	30.1	10.5	46.5	10.3	46.3
Change Period, (Y+R _c), s	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0
Max Allow Headway (MAH), s	4.1	4.4	4.1	4.4	4.2	4.5	4.2	4.5
Queue Clearance Time (g _s), s	9.8	19.7	12.8	27.2	6.3	37.1	6.1	30.6
Green Extension Time (g _e), s	0.3	2.0	0.5	0.0	0.3	5.3	0.4	6.4
Phase Call Probability	0.98	1.00	1.00	1.00	0.98	1.00	0.97	1.00
Max Out Probability	0.01	0.86	0.15	1.00	0.00	0.40	0.00	0.20

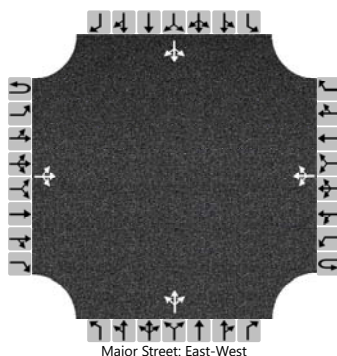
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	141	345	88	259	551		138	670		129	581	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1885	1585	1810	1840		1810	1784		1781	1768	
Queue Service Time (g _s), s	7.8	17.7	4.7	10.8	25.2		4.3	35.1		4.1	28.6	
Cycle Queue Clearance Time (g _c), s	7.8	17.7	4.7	10.8	25.2		4.3	35.1		4.1	28.6	
Green Ratio (g/C)	0.10	0.22	0.22	0.36	0.25		0.48	0.42		0.48	0.42	
Capacity (c), veh/h	175	407	342	352	459		303	752		224	742	
Volume-to-Capacity Ratio (X)	0.803	0.849	0.258	0.737	1.200		0.455	0.891		0.577	0.783	
Back of Queue (Q), ft/ln (95 th percentile)	173	363	82	212	914		81	582		80	457	
Back of Queue (Q), veh/ln (95 th percentile)	6.8	14.4	3.2	8.5	36.6		3.3	23.1		3.2	18.2	
Queue Storage Ratio (RQ) (95 th percentile)	1.39	2.90	0.66	1.76	7.62		0.60	4.31		0.89	5.08	
Uniform Delay (d ₁), s/veh	44.5	38.0	32.9	26.3	37.9		19.4	27.0		22.6	25.3	
Incremental Delay (d ₂), s/veh	8.3	12.4	0.4	4.1	109.2		1.1	10.4		2.3	4.0	
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	52.8	50.4	33.2	30.4	147.1		20.5	37.4		25.0	29.3	
Level of Service (LOS)	D	D	C	C	F		C	D		C	C	
Approach Delay, s/veh / LOS	48.3		D	109.8		F	34.5		C	28.5		C
Intersection Delay, s/veh / LOS	56.8						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.93	B	1.91	B	2.10	B
Bicycle LOS Score / LOS	1.44	A	1.82	B	1.82	B	1.66	B

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & HARRISON		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2042			North/South Street	HARRISON ROAD		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	732	14		39	459	2		9	0	47		6	0	12
Percent Heavy Vehicles (%)		2				1				4	4	4		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.11				7.14	6.54	6.24		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.21				2.21				3.54	4.04	3.34		3.50	4.00	3.30

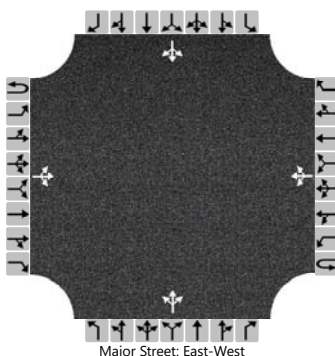
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				41					59				19	
Capacity, c (veh/h)		1080				836					356				362	
v/c Ratio		0.00				0.05					0.17				0.05	
95% Queue Length, Q ₉₅ (veh)		0.0				0.2					0.6				0.2	
95% Queue Length, Q ₉₅ (ft)											15.5				5.0	
Control Delay (s/veh)		8.3	0.1	0.1		9.5	0.6	0.6			17.1				15.5	
Level of Service (LOS)		A	A	A		A	A	A			C				C	
Approach Delay (s/veh)		0.1			1.3			17.1			15.5					
Approach LOS		A			A			C			C					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & HARRISON		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2042			North/South Street	HARRISON ROAD		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.94		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		15	703	13		56	726	0		15	1	109		1	4	5
Percent Heavy Vehicles (%)		1				1				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.11				4.11				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.21				3.50	4.00	3.30		3.50	4.00	3.30

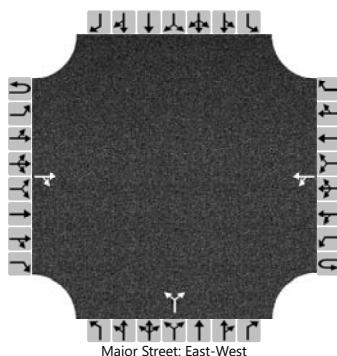
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		16				60					133					11
Capacity, c (veh/h)		850				856					350					237
v/c Ratio		0.02				0.07					0.38					0.04
95% Queue Length, Q ₉₅ (veh)		0.1				0.2					1.7					0.1
95% Queue Length, Q ₉₅ (ft)											42.5					2.5
Control Delay (s/veh)		9.3	0.3	0.3		9.5	1.2	1.2			21.5					20.9
Level of Service (LOS)		A	A	A		A	A	A			C					C
Approach Delay (s/veh)		0.5				1.8				21.5				20.9		
Approach LOS		A				A				C				C		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2042			North/South Street	SILER PARK LANE		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.94		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			685	8		16	487			11		41				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

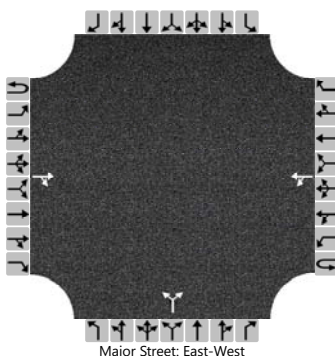
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						17					55					
Capacity, c (veh/h)						876					396					
v/c Ratio						0.02					0.14					
95% Queue Length, Q ₉₅ (veh)						0.1					0.5					
95% Queue Length, Q ₉₅ (ft)						2.5					12.5					
Control Delay (s/veh)						9.2	0.3				15.6					
Level of Service (LOS)						A	A				C					
Approach Delay (s/veh)					0.5				15.6							
Approach LOS					A				C							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2042			North/South Street	SILER PARK LANE		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.93		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			640	4		16	764			2		69				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type Storage							Left + Thru									1

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.10					6.40		6.20			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.20					3.50		3.30			

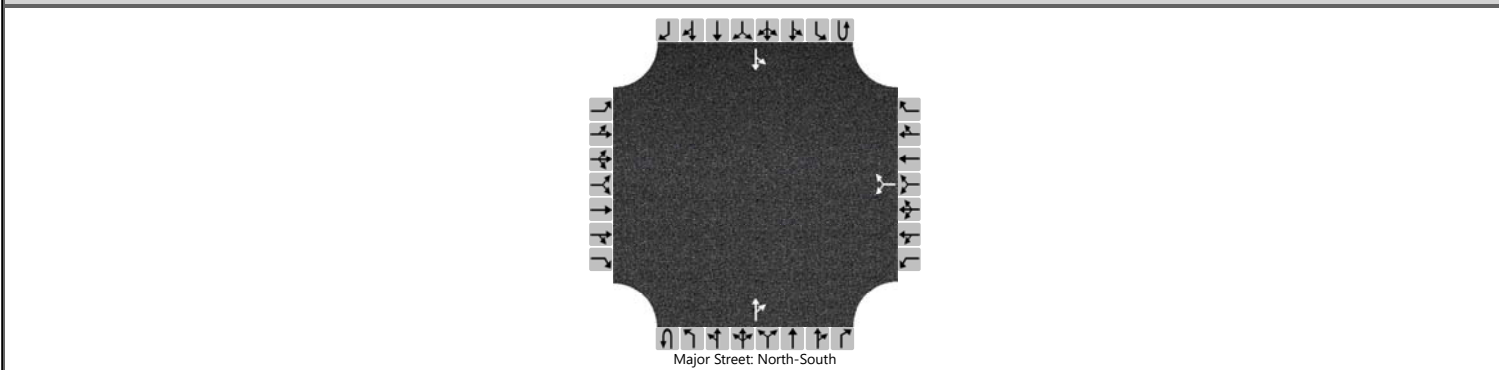
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						17						76				
Capacity, c (veh/h)						911						439				
v/c Ratio						0.02						0.17				
95% Queue Length, Q ₉₅ (veh)						0.1						0.6				
95% Queue Length, Q ₉₅ (ft)						2.5						15.0				
Control Delay (s/veh)						9.0	0.3					14.9				
Level of Service (LOS)						A	A					B				
Approach Delay (s/veh)								0.5					14.9			
Approach LOS								A					B			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	SILER ROAD & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	SILER ROAD		
Analysis Year	2042			North/South Street	SILER PARK LANE		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.91		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0	
Configuration							LR					TR		LT			
Volume (veh/h)						38		16			558	86		16	767		
Percent Heavy Vehicles (%)						1		1						1			
Proportion Time Blocked																	
Percent Grade (%)						0											
Right Turn Channelized																	
Median Type Storage						Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2							4.1		
Critical Headway (sec)						6.41		6.21							4.11		
Base Follow-Up Headway (sec)						3.5		3.3							2.2		
Follow-Up Headway (sec)						3.51		3.31							2.21		

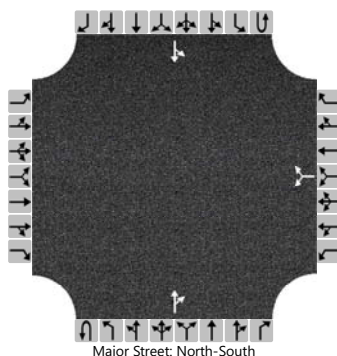
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						59									18		
Capacity, c (veh/h)						297									897		
v/c Ratio						0.20									0.02		
95% Queue Length, Q ₉₅ (veh)						0.7									0.1		
95% Queue Length, Q ₉₅ (ft)						17.7									2.5		
Control Delay (s/veh)						20.1									9.1	0.3	
Level of Service (LOS)						C									A	A	
Approach Delay (s/veh)						20.1								0.5			
Approach LOS						C								A			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	SILER ROAD & SILER PARK LANE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	SILER ROAD		
Analysis Year	2042			North/South Street	SILER PARK LANE		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.91		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						63		22			764	87		13	672	
Percent Heavy Vehicles (%)						0		0						1		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2							4.1		
Critical Headway (sec)						6.40		6.20							4.11		
Base Follow-Up Headway (sec)						3.5		3.3							2.2		
Follow-Up Headway (sec)						3.50		3.30							2.21		

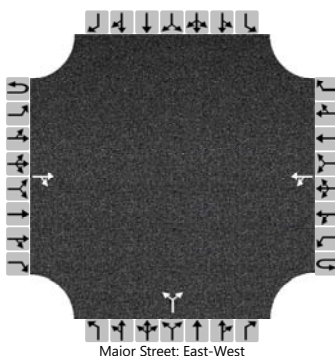
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						93									14		
Capacity, c (veh/h)						262									738		
v/c Ratio						0.36									0.02		
95% Queue Length, Q ₉₅ (veh)						1.5									0.1		
95% Queue Length, Q ₉₅ (ft)						37.6									2.5		
Control Delay (s/veh)						26.1									10.0	0.3	
Level of Service (LOS)						D									A	A	
Approach Delay (s/veh)					26.1								0.5				
Approach LOS					D								A				

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA-NORTH SITE ENTRANCE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2042			North/South Street	NORTH SITE ENTRANCE		
Time Analyzed	AM PEAK HOUR			Peak Hour Factor	0.94		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			620	11		4	391			34		14				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.12					6.42		6.22			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.22					3.52		3.32			

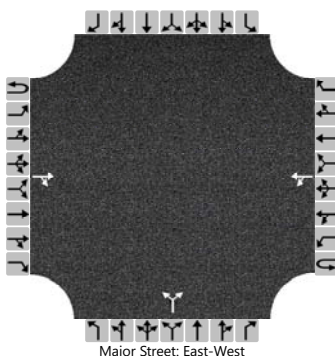
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					4						51					
Capacity, c (veh/h)					919						390					
v/c Ratio					0.00						0.13					
95% Queue Length, Q ₉₅ (veh)					0.0						0.4					
95% Queue Length, Q ₉₅ (ft)					0.0						10.2					
Control Delay (s/veh)					8.9	0.1					15.6					
Level of Service (LOS)					A	A					C					
Approach Delay (s/veh)					0.1				15.6							
Approach LOS					A				C							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MG			Intersection	AGUA FRIA-NORTH SITE ENTRANCE		
Agency/Co.	BHI			Jurisdiction	SANTA FE		
Date Performed	4/5/2024			East/West Street	AGUA FRIA STREET		
Analysis Year	2042			North/South Street	NORTH SITE ENTRANCE		
Time Analyzed	PM PEAK HOUR			Peak Hour Factor	0.94		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	BUILD						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			610	34		14	613			20		8				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.12					6.42		6.22			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.22					3.52		3.32			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					15						30					
Capacity, c (veh/h)					908						335					
v/c Ratio					0.02						0.09					
95% Queue Length, Q ₉₅ (veh)					0.0						0.3					
95% Queue Length, Q ₉₅ (ft)					0.0						7.6					
Control Delay (s/veh)					9.0	0.2					16.8					
Level of Service (LOS)					A	A					C					
Approach Delay (s/veh)					0.4				16.8							
Approach LOS					A				C							