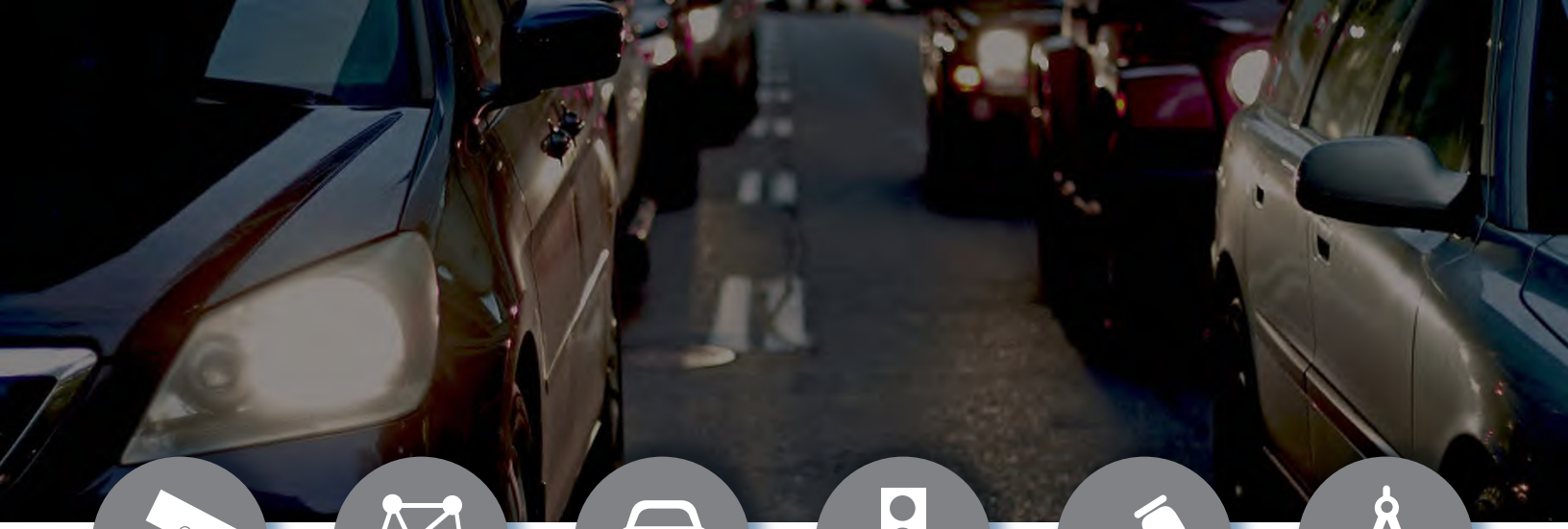

TRAFFIC IMPACT STUDY

Mesa Del Sol, LLC
Maxeon Site

Draft Report
January 2024

Prepared for
Mesa Del Sol, LLC

HT#S17D001
Received 1/19/2024

LEE ENGINEERING

8220 San Pedro Drive NE, Suite 150
Albuquerque, NM 87113

(505) 338-0988

leeengineering.com

Traffic Impact Study (TIS)
for Maxeon Solar Technologies, Ltd.
within Mesa Del Sol, Albuquerque, NM

DRAFT Report

January 2024

Prepared for:

Mesa Del Sol, LLC

Prepared By:

LEE ENGINEERING

EXECUTIVE SUMMARY

The following contains a Traffic Impact Study (TIS) for Maxeon Solar Technologies Ltd., a solar manufacturing company planned within the Mesa Del Sol master planned community in Albuquerque, NM. Lee Engineering has completed this report for Mesa Del Sol, LLC. All analyses and items contained herein conform to a scoping meeting held on 8/1/2023 and documents outlined in the Request for Proposal and corresponding Scope of Work requirements dated 9/7/2023.

Site Location and Study Area

The proposed 1.6 MSF manufacturing campus is planned on approximately 125 acres, part of a 500-acre area originally identified in the Mesa Del Sol (MDS) Community Master Plan as a potential Active Adult Community area, centrally located on the eastern portion of the greater MDS community. The Active Adult Community area has recently gained approval for conversion to an Employment Center land use, with corresponding updates being prepared for all other master plan documents. The subject site is planned for the southwest quarter of the property, which is currently unserved by the existing roadway network.

Study Area intersections include:

1. I-25 Rio Bravo Interchange
2. Rio Bravo Blvd / University Blvd
3. University Blvd / Crick Crossing
4. Bobby Foster Rd / Broadway Blvd
5. Bobby Foster Rd / Los Picaros Rd
6. Bobby Foster Rd / University Blvd
7. Site Driveways

Study Area Roadway Segments include:

1. University Blvd
2. Bobby Foster Rd
3. Crick Crossing

Development Description and Timing

A preliminary site layout plan for the site has been provided that details the anticipated traffic conditions anticipated for the site, although refinement of the layout plan is ongoing. The Maxeon campus is proposed to be built in a single construction phase beginning in 2024, with substantial completion anticipated for opening in late 2025. However, site completion and full build-out/employment is not expected until 2027. For the purposes of this study, a 2027 Opening Year has been assumed. Network improvements indicated for the opening year are intended to be in place before the site opening in 2025 or 2027. It is noted that construction-related traffic, including trucks and labor vehicles, is anticipated for late 2024. Trips generated by the construction activities are to be accommodated by temporary facilities until additional development occurs within the general area and underground facilities can be established. Under this temporary condition, a 2-lane roadway is adequate to accommodate all Maxeon site traffic.

Per the client's information, the site is to employ 1,203 workers split between shift (778 employees) and non-shift (425 employees) workers at site opening, dropping slightly in later years as operations become more efficient. The site is planned to generate 1,213 truck trips per week or 242 trips per day, assuming a 5-day work week.

Analysis scenarios for this study include:

- Existing (2023) – Field counted Existing traffic volumes.
- Build-Out No-Build (2027) – 2023 traffic volumes projected from the Existing traffic volumes via the application of a growth factor developed from NMDOT MS2 data plus traffic generated from site-adjacent developments planned to be in place and operational by 2027.
- Build-Out Total (2027) – 2027 No-Build volumes and the proposed development's trip generation traffic volumes.
- Horizon No-Build (2037) – 2037 traffic volumes projected from the Existing traffic volumes via the application of a growth factor developed from NMDOT MS2 data plus traffic generated from site-adjacent developments planned to be in place and operational by 2027.
- Horizon Total (2037) – 2037 No-Build volumes and the proposed development's trip generation traffic volumes.

Summary of Findings

Presently, only two routing options are available to MDS site-generated traffic to access the regional street network, via Bobby Foster Road and University Boulevard. Ultimately, additional routing options will become available in the future, including interchange opportunities along the I-25 corridor at the NM 47 interchange, at the extension of Mesa De Sol Boulevard, and at Bobby Foster Road. However, for the purposes of this analysis, only the two existing travel paths have been considered. As part of the routing options, six existing intersections have been identified for analysis and included as part of the study area. Details and recommendations regarding the study intersection and site access driveways are included in the body of this report. Below are the highlights of the report findings:

2023 Existing Conditions

- All existing study area intersections currently operate at acceptable service levels during both AM and PM peak hours.
- Two travel paths are currently available to drivers entering and exiting the MDS community, via University Boulevard at its intersection with Rio Bravo Boulevard (access to I-25) and Bobby Foster Road, a 3-lane roadway that is stop-controlled with its intersection at Broadway Boulevard. These 2 roadways (3 lanes of capacity) accommodate existing traffic volumes in an acceptable manner. During the higher-volume PM peak hour, a total of 881 vehicle trips were identified to enter and exit the MDS community from these 2 locations.

2027 Background Traffic Development

- Pre-study discussions with local agencies indicated 4 site-adjacent developments to be considered as part of the 2027 background traffic conditions. Three of the four developments were considered while the Valle Del Sol project was not, noting the unlikelihood 30% of the entire development can be constructed prior to the opening of the Maxeon site. In total, these 3 developments account for 2,035 vehicle trips entering and exiting the MDS community during the PM peak hour.
- In addition to the site-adjacent development, existing traffic at the study area intersections were increased by 4% per year to account for the ambient growth of the area for the 2027 No-Build condition. This growth was similar to the rates used within the site-adjacent TIA's although this rate of growth may overestimate conditions/movements not associated with the MDS area.

Opening Year, 2027 No-Build Conditions

- Improvements associated with the Montage Units, Bernalillo County Regional Recreational Complex, and Albuquerque Studios developments, along with on-going community development, will result in University Boulevard becoming a 4-lane divided arterial from Rio Bravo Boulevard to Bobby

Foster/Eastman Crossing and improve Bobby Foster Road to a divided 4-lane roadway from University Boulevard west to the west end of the Montage Units development. Intersection improvements to University Boulevard will shift the existing Bobby Foster Road segment to align with Eastman Crossing (recently completed) and improve the intersections at University/Crick and University/Bobby Foster/Eastman.

- Intersection analysis of the study area intersections indicate 5 of the 6 study intersections and all but 1 individual movement will continue to operate at acceptable levels of service (LOS D or better) with the indicated improvements and background traffic volumes. The only intersection/movement not operating well is the Bobby Foster westbound left-turn movement to Broadway Boulevard. The stop-controlled movement is estimated to operate at LOS F, but with a V/C ratio of 0.76 or less. With increased traffic from the site-adjacent developments and estimated increase to through traffic volume on Broadway (study growth higher then estimated MRCOG growth), this intersection should be monitored to determine if and when a control change from minor-street stop to signalized control is warranted and appropriate.

Traffic Signal Needs Assessment

- Planning level analysis of the University/Crick, Broadway/Bobby Foster, and Bobby Foster/Los Picaros intersections indicate the MUTCD volume warrants (Warrants 1 and 2) are not met for the 2023 Existing conditions.
- The volume warrants are met at University/Crick and Broadway/Bobby Foster for the 2027 No-Build condition. Signalized control at these locations should be considered/monitored to determine if and when a change from minor-street stop control to signalized control is warranted and best accommodate estimated demand.

Site Development

- The site is projected for substantial opening in 2025, although the complete build-out of the campus is not estimated until 2027. At site opening (assumed full build-out), the 1.6 MSF campus is estimated to generate 3,159 daily trips, 337 AM peak hour trips, and 306 PM peak hour trips, 10% of trips assumed to be truck traffic. It is assumed all vehicles will arrive and depart via University Boulevard along a temporary roadway path to Crick Crossing and eventually University Boulevard to exit MDS.
- A preliminary site layout plan has been provided showing 4 total site driveways, including; a bike/emergency vehicle access on Maxeon Way near University Boulevard, a truck access on Maxeon Way at the far east end of the property, a mid-block main site access on University Boulevard for all passenger-related vehicles, and a full access driveway at the far south end of the property, to be used by passenger vehicles and trucks exiting from the MODCO building. The driveways appear to be appropriately located but require continued refinement to account for potential turn lanes, storage lengths, and swept path designs.

Opening Year, 2027 Build Conditions

- With the addition of the site-generated trips at the study area intersections and the assumption of signalized control at the Broadway/Bobby Foster intersection, all intersections and individual movements in both peak hours are estimated to operate at LOS D or better. No mitigation is required to accommodate the Maxeon site traffic.
- Although not planned nor programmed, analysis has assumed University Boulevard to be extended south of Stryker Road to the Maxeon campus, if only in a temporary paved manner due to current construction momentum within MDS and potential secondary access route. If this travel route is not available to Maxeon passenger vehicles, all approaching and departing site-generated traffic will be confined to Crick Crossing. This would result in an additional 206 AM southbound to eastbound left-

turn vehicles in the higher AM peak-hour at the University/Crick intersection or 491 total left-turn vehicles. Dual left-turn movements may be required without the temporary extension of University Boulevard through the Community Center area although supplemental analysis indicates acceptable operation. In the PM peak-hour, 160 additional right-turn vehicles from westbound Crick Crossing to University Boulevard is not anticipated to have a significant impact to conditions. If required, the existing "hatched" center lane area could be used for a second right-turn lane or future shared through/right lane.

2037 Background Traffic Development

- Development of the 2037 Background traffic estimate was based on volumes identified in the Studios TIA's for conditions within the MDS area. These volumes were supplemented by volumes from the Recreational Complex, Phase I of the Valle Del Sol project, and the growth of non-site traffic at a rate of 4% per year. The combination of all volumes resulted in a conservative (high) estimate of background traffic volumes to estimate study area conditions. Upon analysis, the methodology used to estimate conditions over-estimated traffic volumes due to the likelihood of double counting, over-estimating non-site traffic growth, and not considering the impacts of site-interaction and alternative travel mode reductions.

Horizon Year, 2037 No-Build Conditions

- Analysis of the study area intersections resulted 4 of the 6 intersections operating at overall LOS F in the AM or PM peak hour. The 2 intersections to operate acceptably were the University/Rio Bravo and the University/Crick location, although some individual movements operate at LOS E/F and/or have 95th percentile queue that exceed turn bay storage lengths.

Horizon Year, 2037 Build Conditions

- Three improvements were assumed from No-Build to Build conditions with the addition of the Maxeon site traffic. One was associated with the redesign of the Bobby Foster/Los Picaros intersection from the west leg intersecting the north/south road to having the north leg intersect a curved west to south roadway. The second improvement assumed a continuous 6-lane divided University Boulevard and the third was a timing change at the University/Rio Bravo intersection. Overall, the results still indicated LOS E/F operations.
- No mitigation was attempted to improve intersection operations in the 2037 Build scenario. A more detailed analysis of MDS traffic volume conditions (via model analysis) and non-site volumes contributions will be required to best analyze horizon year conditions as too many variables and assumptions were made to estimate volumes 14 years into the future.
- Under analyzed volume conditions, it is estimated that a 6-lane University Boulevard and a 4-lane Bobby Foster Road may be able to accommodate vehicle demand. Analysis indicates the 5 inbound/outbound lanes would operate at a V/C ratio of 0.83 indicating the two existing access points leading into and out of the MDS area may be nearing their capacity threshold and a third access should be considered for volume conditions exceeding the analyzed.

Site Specific Conditions

- A site layout plan for the Maxeon development has been provided. Initially, access to the site will be provided via a temporary roadway, located within the median area of Mesa Del Sol and University Boulevards while by-passing the Community Center area. The temporary roadway can be constructed as a 2-lane facility since it will be used entirely by Maxeon and demand will not exceed capacity.
- All driveways are anticipated to meet COA DMP volume warrants for auxiliary turn lanes.

- The Maxeon driveways appear to be appropriately located but not provided in adequate detail to determine left- and right-turn deceleration lanes designs, truck swept paths, throat distances, or driveway widths. The site design should consider the impacts of these elements as they may be beneficial under the current temporary design and will be required once the adjacent roadway features become more defined.

Assessment of Parcel Land Use Change

- It is estimated that the 500-acre change from Active Adult Community to Employment Center will result in 6,607 more daily trips, 1,069 more AM and 958 more PM peak hour trips. This is based on the difference in trips generated from 2,000 units of Senior Adult Housing – Single-Family (LUC #251) and 3.267 MSF of Industrial Park (LUC #130).
- In all, the additional 6,607 daily trips or 3,304 directional trips is about 30% of the capacity of a single arterial roadway lane, assuming all trips use University Boulevard. However, when assessing direction volumes, the additional vehicles may require an additional MDS inbound and outbound lane than previously considered.

Recommendations and Mitigation Measures

No mitigation measures are identified for the 2023 Existing, 2027 No-Build, or 2027 Build scenarios. All intersections and roadways as they currently exist or as planned/programmed for improvements will accommodate estimated peak-hour traffic volumes acceptably. One intersection, Broadway Boulevard and Bobby Foster Road, does show the westbound left-turn movement at the stop-controlled approach to operate at LOS F in both AM and PM peak hours during the background condition. Although the movement has elevated delays, the movement operates with a maximum V/C ratio of 0.76, indicating some movement capacity is available. This intersection should be monitored to determine if and when one or more MUTCD signal warrants are met for potential conversion to signalized control.

For the 2037 Horizon Year, significant growth within and at the study intersections has been estimated. The methodology used to develop the volume conditions may overestimate movement demand at many locations, and therefore, specific recommendations and mitigation measures are not appropriate. The results do indicate eventual growth within the MDS community will require a 3rd access point between the study area and the regional roadway network. As estimated, 2037 volumes require a 6-lane University Boulevard and a 4-lane Bobby Foster Road to accommodate vehicles entering and existing the MDS area, although individual intersections indicate poor operation. A 3rd point of access should be considered for this time period to help alleviate demand at these 2 locations. The 3rd point of access, Avenue D with access to I-25, may help alleviate demand along University Boulevard and Bobby Foster Road such that 2027 planned/programmed improvements along these two roadway may be sufficient in the future condition.

SUMMARY OF RECOMMENDATIONS

The following presents a summary of recommendations included in this report.

Agencies

- An update to the MRCOG transportation model in this area may be appropriate to help better forecast 2037 horizon year conditions at the intersections adjacent to the site.
- Continue to monitor the intersections of Broadway Boulevard/Bobby Foster Road and University Boulevard/Crick Crossing to determine if and when a change from minor-street stop control to

signalized control may be warranted and appropriate. Analysis indicates by 2027, MUTCD Warrants 1 and 2 will be met at both locations.

- Continue to monitor the development within the MDS community and capacity leading into and out of the area. Results indicate acceptable operational conditions through 2027 but by 2037, the two current access points may fail, requiring a 3rd access route.

MDS Developers

- An update to the MDS transportation model may be appropriate to help better estimate 2037 horizon year conditions within the community and the intersections adjacent to the site.
- Analysis indicates by 2037, University Boulevard will need 3 directional lanes to accommodate peak-hour traffic, although internal intersections show poor operational conditions due to high turn movement volumes. Signal coordination may improve conditions along this major corridor.
- By 2037, poor operational conditions at the study area intersections are noted. Continued development of the internal roadway network will improve conditions by reducing turn movements that are concentrated at specific intersection locations. A third access point between MDS and the adjacent regional roadway network may be appropriate as development within the community grows.

Maxeon Developers

- The proposed location for the site is currently unserved by the existing road network. It is believed that access to and from the site can be accommodated in a 2-lane temporary manner, without having to construct the full-width of the roadway system leading to and from the site. Adjacent to the site, half-street improvements are required.
- Peak-hour volumes will likely meet COA DPM warrants for right- and left-turn deceleration lanes at all site access points.
- Driveways appear to be appropriately located a sufficient distance away from intersecting roadways to minimize conflicts associated with turn movements, vehicle queue, and other non-site related conditions.
- Passenger vehicles and truck traffic to the extent possible, should be accommodated separately. As proposed, the site plan appears to meet this condition.
- Driveways should be constructed to accommodate the design vehicle being served. No visual obstruction should be placed within the intersection sight visibility triangles that would obscure vision to approaching vehicles, as calculated using the AASHTO methodology.
- The security check point appears to be located a sufficient distance away from the intersecting roadway such that vehicle queue will not impede other site and non-site movements.

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INTRODUCTION

This report details the procedures and findings of a Traffic Impact Study (TIS) performed by Lee Engineering for Maxeon Solar Technologies, Ltd. and Mesa Del Sol, LLC. This report and the analyses herein were performed for a proposed 1.6 MSF manufacturing campus to be located within the greater Mesa Del Sol (MDS) community in Albuquerque, NM. The site is to be constructed on the southwest 125 acres of a 500-acre area previously identified as an Active Adult Community that has been re-designated and approved as an Employment Center. This study examines the following:

1. Impacts of the proposed development on the study area intersections.
2. Improvements required to accommodate the proposed campus.
3. Traffic-related impacts of re-designating the 500-acre Active Adult Community to Employment Center.

The scope of this report and the analyses performed were completed in agreement with a scoping meeting held on 8/1/2023 and documents outlined in the Request for Proposal and corresponding Scope of Work requirements dated 9/7/2023, included in Appendix A. Analysis procedures, conclusions, and recommendations for this study were developed according to the *Highway Capacity Manual 6th Edition*, the *Manual on Uniform Traffic Control Devices, 2009 Edition* and the current edition of the *Development Process Manual, City of Albuquerque, 2020 Edition*.

Single-phase construction of the Maxeon campus is anticipated to begin in 2024, with an opening year planned for 2025. Site completion and full employment are not anticipated until 2026/27, although production activity is expected to ramp up quickly after the initial opening. For the purposes of this study, 2027 has been considered the Opening Year, allowing site-specific roadway improvements to be in place prior to full employment. A preliminary site layout plan has been provided detailing some of the campus features and operations, although some of the text may not be updated. The site is planned to have access on University Boulevard to accommodate passenger-related trips while truck-related traffic is to enter off of east/west collector roadway on the north side of the site, identified as Maxeon Way for the purposes of this report. Depending upon the truck's purpose, a portion of the trucks will be directed out onto University Boulevard (all MODCO building trucks) while the others will exit at the same entry point onto Maxeon Way. All trucks, upon a more robust development of the MDS roadway network, will be routed away from University Boulevard and the adjacent residential-friendly Community Center area via a future roadway on the east side of the employment center area that will permit access to University Boulevard at Crick Crossing where access to the regional roadway network can be gained. Based on the site's construction schedule and estimated number of site-generated trips, AM and PM peak-hour traffic analyses were conducted for the following time periods and conditions:

Traffic Analysis Time Periods and Conditions

- Existing (2023) – Field counted existing traffic volumes.
- Opening Year, No-Build (2027) – 2027 traffic volumes projected from the Existing traffic volumes via the application of a 4-year growth factor developed from NMDOT MS2 data plus traffic generated from site-adjacent developments planned to be in place and operational by 2027.
- Opening Year, Total (2027) – 2027 No-Build volumes and the proposed development's site-generated traffic.
- Horizon Year, No-Build (2037) – 2037 traffic volumes from previous traffic impact studies using MDS transportation model output for internal MDS intersection movements plus applying a 14-year growth factor developed from NMDOT MS2 data for non-MDS volume movements.
- Horizon Year, Total (2037) – 2037 No-Build volumes and the proposed development's site-generated traffic.

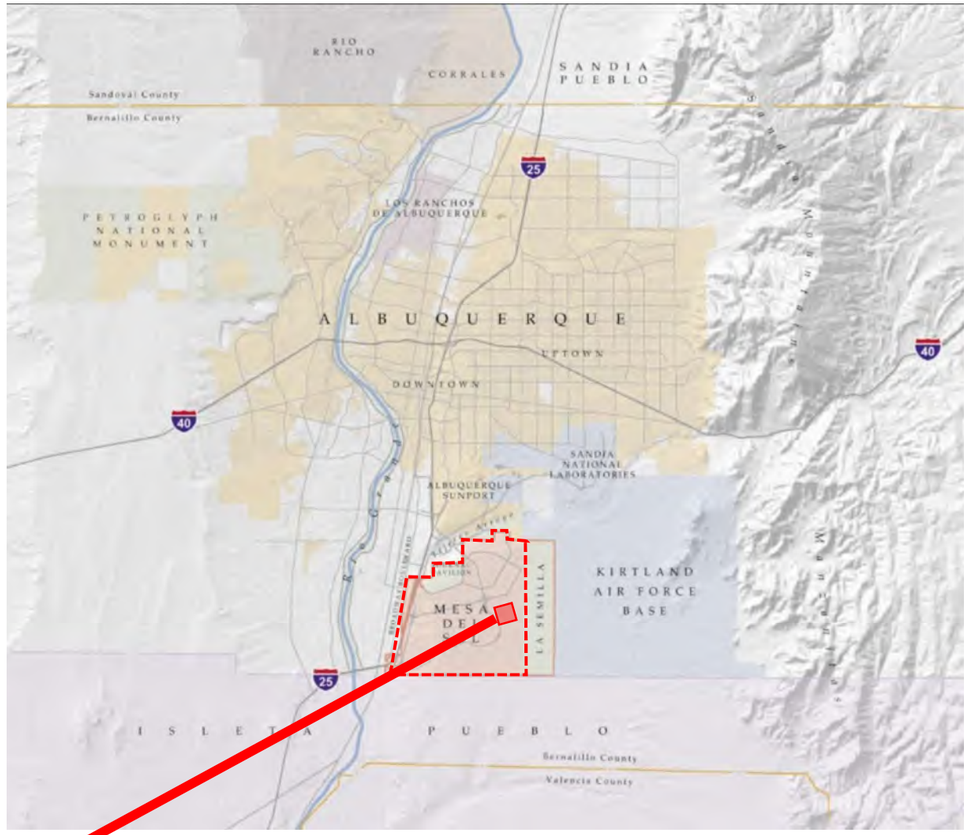
In addition, an assessment of traffic volume conditions was also conducted for the greater MDS area, noting the change in land use designation from a lower trip-generating Active Adult Community to a higher-generating Employment Center has been approved. This analysis reviews roadway classification, volumes, and impacts on bicycles and pedestrians compared to the original MDS Community Master Plan.

PROJECT LOCATION & SITE PLAN

The Maxeon campus is within the Phase II area of the MDS master development planned area, situated on the east side of University Boulevard and south of a proposed east/west industrial collector roadway to be identified as Maxeon Way for the purposes of this report. **Figure 1** shows a vicinity map of the general area and location of the site, positioned at the southwest corner of the new Employment Center land use area, south of the Community Center and University of New Mexico/educational land use areas, and east and north of designated residential areas. **Figure 2** provides a preliminary site layout plan of the campus. At this time, the roadway network leading to and immediately adjacent to the site is undeveloped. In the general vicinity of the project, University Boulevard currently terminates about 1 mile to the north, just after its division from a boulevard configuration to the one-way couplet designation at the north end of the Community Center area, while other east/west roadways (Crick Crossing and Eastman Crossing) terminate east of University Boulevard serving the existing businesses that have been constructed along these roadways. The roadway network to serve the Maxeon campus is expected to be constructed in a temporary 2-lane undivided manner until more infill development occurs.

The proposed development plan is for a 1.6 MSF campus on 125 acres of property, equal to a development intensity of 0.294 (1.6 MSF / 5.45 MSF). A total of 4 access points are planned, 2 each on University Boulevard and Maxeon Way (Road #3 in Figure 2), all proposed as full-movement driveways. The main campus entrance accommodating employee and visitor traffic (identified as driveway D1) is located near the mid-point of the complex on University Boulevard. This location provides the most direct access to the front entrance of the facility and its parking areas. The second driveway on University Boulevard (D2) is located near the southwest corner of the property, providing access to the south end of the site's parking facility while also acting as an exit for site trucks that use the MODCO dock area. The Maxeon group anticipates 50% of the site's passenger vehicles to enter and exit from each of the two University driveways, potentially due to designated shift work parking areas. In review of the driveways located off the collector roadway on the north side of the property, the west driveway (D3) is planned for bicycle and emergency access only. The northeast driveway (D4), located at the far east end of the facility, will accommodate all inbound trucks and deliveries. Inbound trucks not destined to the MODCO building will exit the facility at the D4 driveway while all MODCO destined truck traffic will exit a gate-controlled area to the D2 southwest driveway. The northeast access point will have a guard house located internally to the campus with a truck turnaround area to eliminate potential vehicle queue on Maxeon Way and help control on-site operations.

Enlargement Area



Site Location

Not to scale

Vicinity Map

Figure 1

GE MDS SMP

SITE TRAFFIC

MAXEON SITE/PROPERTY LINE

FENCE LINE

ACCESS EASEMENT ACROSS LINEAR PARK

PNM PROPERTY AND TRANSMISSION LINE EASMENT

D1 CAMPUS MAIN ENTRANCE, ASSOCIATES & VISITORS ENTRANCE/FRONT DOOR
- ~50% Shift & Non-Shift Worker Vehicles In & Out Per Day

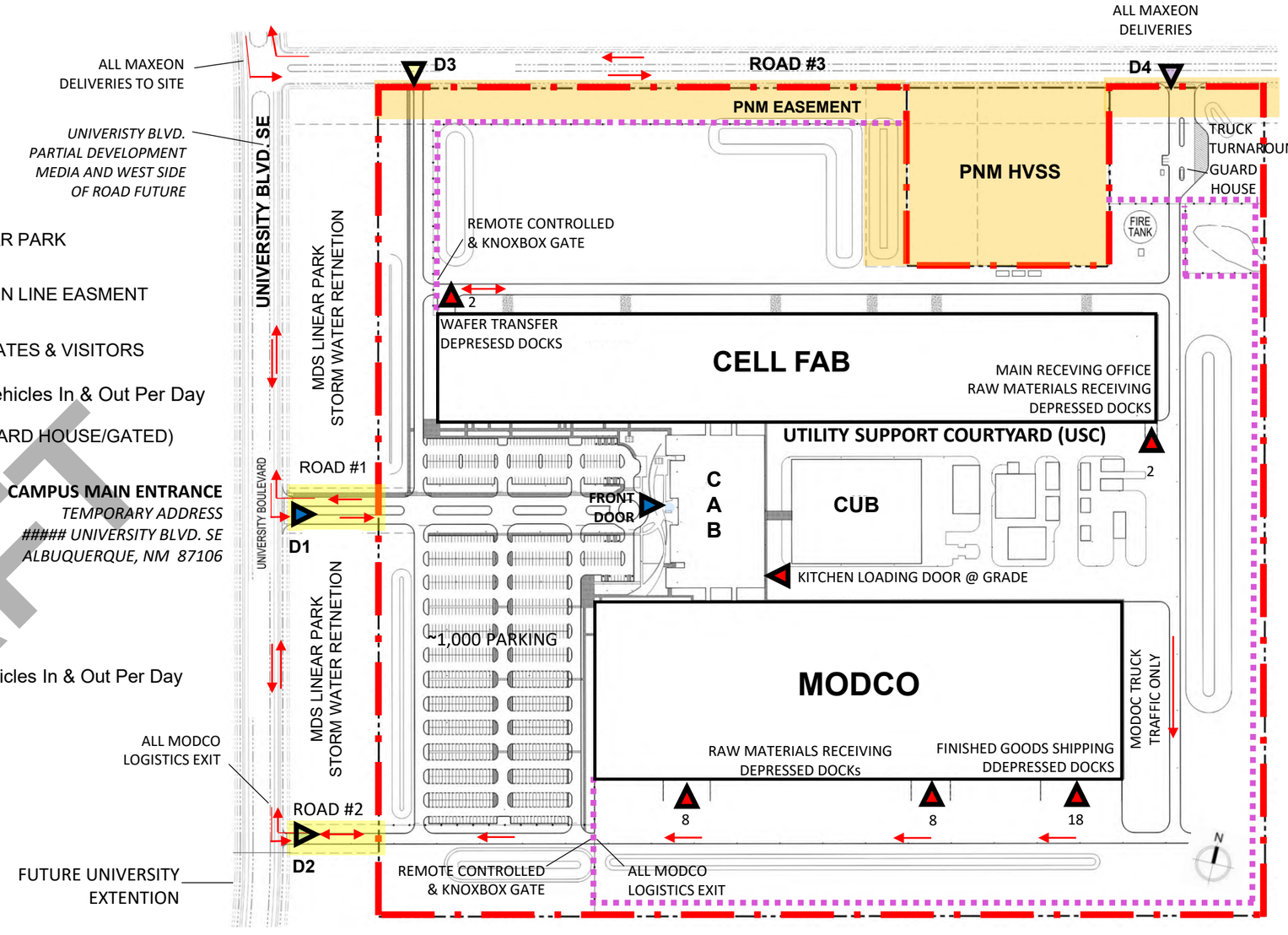
D2 (D1) MAIN SERVICE ENTRANCE (GUARD HOUSE/GATED)
- 100% Service Traffic In
- 20 ft Modco Container In
- 40 ft. Wafer Containers In & Out
- FTL Solid Waste In & Out
- Chem & Gas Trucks In & Out

D3 FIRE & BICYCLE ACCESS

D4 ASSOCIATES ENTRANCE & MODCO LOGISTICS SHIPPING EXIT
- ~50% Shift & Non-Shift Worker Vehicles In & Out Per Day
- 100% Modco truck exits per day.
  - 20 ft Containers Out
  - 40 ft Containers Out
  - FLT Finished Goods Out

RECEIVING/SHIPPING DOCKS

CAMPUS MAIN ENTRANCE
TEMPORARY ADDRESS
UNIVERSITY BLVD. SE
ALBUQUERQUE, NM 87106



UNIVERISTY BLVD. PARTIAL DEVELOPMENT MEDIA AND WEST SIDE OF ROAD FUTURE

Note:
Site layout plan provided by client

Not to scale

maxeon

STUDY AREA, AREA LAND USE, AND STREETS NARRATIVE SUMMARY

STUDY AREA

The study area is defined as the existing major street intersections and roadway network leading into and out of Mesa Del Sol. The following intersections were identified for analysis during the scoping meeting:

1. I-25 Rio Bravo Interchange
2. Rio Bravo Blvd / University Blvd
3. University Blvd / Crick Ave
4. Bobby Foster Rd / Broadway Blvd
5. Bobby Foster Rd / Los Picaros Rd
6. Bobby Foster Rd / University Blvd
7. Site Driveways

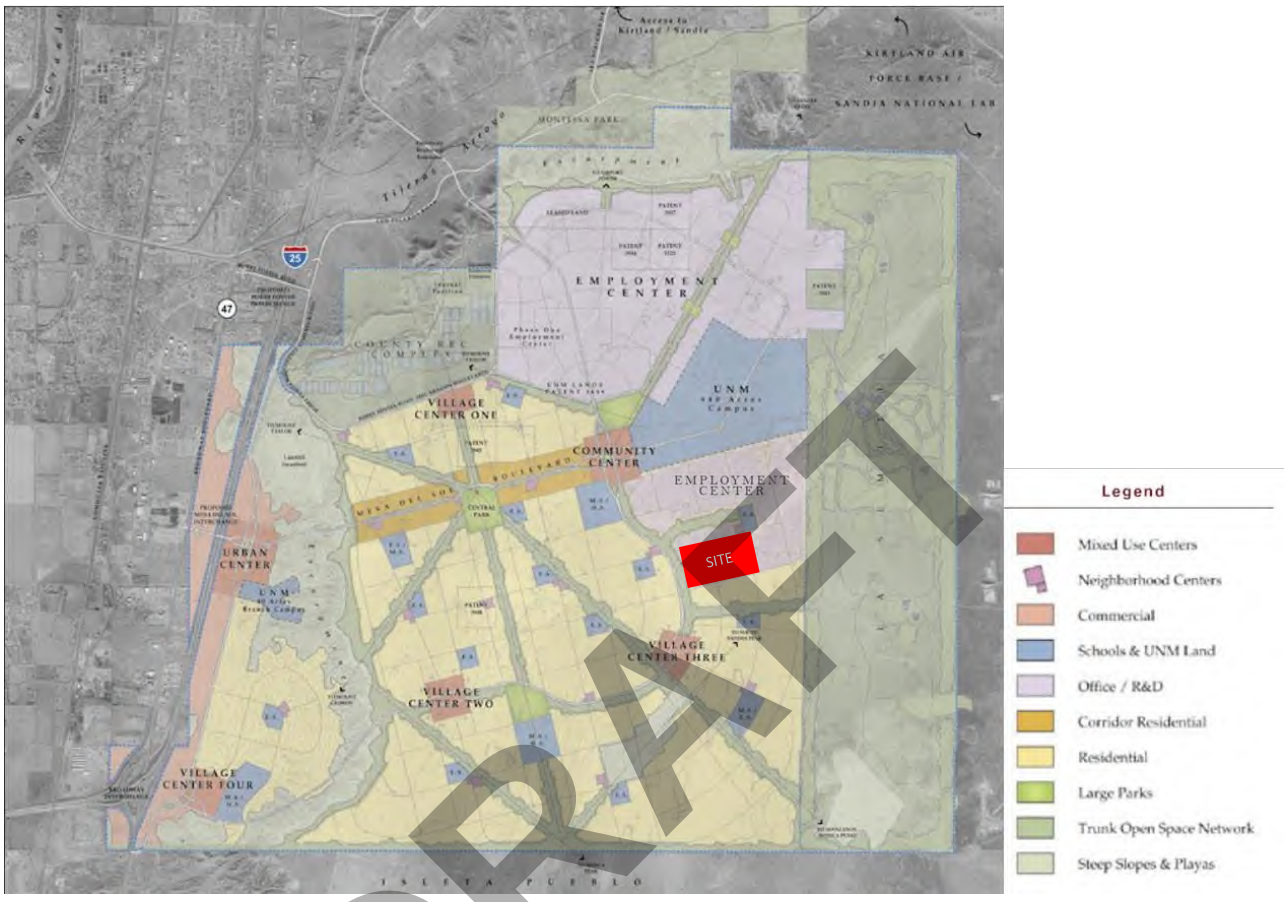
AREA LAND USE

The development will be located within a newly established Employment Center land use area, previously indicated in the original master planned document at Active Adult Community. At this time, no current developments are located adjacent to the site and the property surrounding the proposed development is vacant. Land uses adjacent to and surrounding the site consist of the following:

- North and East: Employment Center.
- South and West: Residential Communities

Figure 3 is an excerpt of the land use areas from the recently updated MDS master plan material.

Figure 3: MDS Updated Land Use Plan



STREETS

Figure 4 presents the latest roadway network layout and roadway classification designations for the MDS area to be used for this study. The following details the existing characteristics and features of the study area street network. Current conditions may not reflect proposed conditions identified within the latest Level B Plan report.

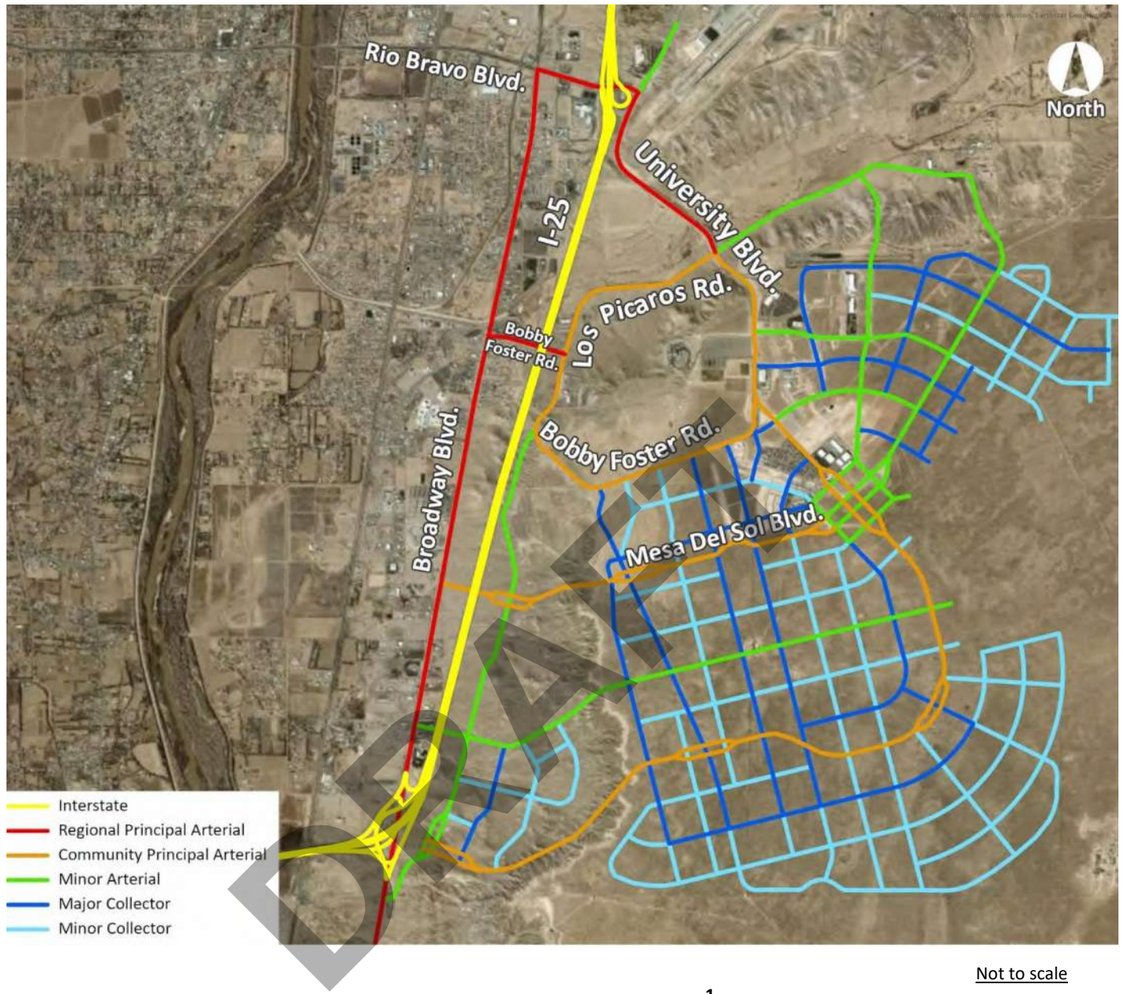
University Boulevard (University Boulevard SE) is one of the primary access routes within the MSD development. The north/south roadway is designated as a future Transit Boulevard originating north of Sunport Boulevard and the Sunport Airport southward through the heart of the MDS community and adjacent to the newly designated employment center, eventually turning westward through the residential areas to tie into the I-25/NM 47 interchange. The roadway cross-section is proposed for two centralized high-capacity transit lanes (optional) adjacent to 12-foot medians/transit stations and directional roadway sections accommodating 2 to 3 travel lanes and a bike lane. Outside of the auto/bike lanes includes landscape, sidewalk, and optional property access and parking lanes within a 150- or 209-foot ROW width. The lighted roadway has a posted 35 mph speed limit. Currently, University Boulevard terminates within MDS at Stryker Road, at the north end of the Community Center area.

From information contained within the NMDOT *Transportation Data Management System* and its online MS2 database, traffic volume on University Boulevard south of Rio Bravo Boulevard has remained nearly constant from 2017 to 2022, having a daily volume of less than 5,000 vehicles per day (VPD).

Rio Bravo Boulevard (NM 500) is classified as a Principal Arterial from its intersection with University Boulevard, its I-25 intersection area, continuing westward to its intersection with NM 47 and beyond. This roadway has undergone recent improvements in 2018 to increase roadway capacity by adding auxiliary lanes and continuous flow on/off ramps to minimize stops and delays. A two-way multi-mode path exists on the south side of the lighted roadway connecting to the pathway on University Boulevard. The posted speed limit is 45 mph.

Bobby Foster Road is an east/west 3-lane roadway (1 eastbound, 2 westbound) approximately 3 miles in length, connecting University Boulevard in the east to NM 47 (Broadway Road) in the west. The roadway has a rural cross-section design without bike lanes, sidewalks, or lighting. The roadway is undergoing improvement to a divided 4-lane facility as newer development (Montage Units) near University Boulevard is constructed. The roadway provides access to a limited number of facilities, including a railroad/excavation company, Isleta amphitheater and sports fields, and recent commercial developments near University Boulevard. The speed limit on Bobby Foster south of Los Picaros Road is 35 mph with an annual average daily traffic (AADT) volume of less than 600 VPD as indicated on the MS2 website. No pedestrian, bicycle, or roadway lighting facilities are present.

Crick Crossing (Crick Avenue) is a proposed 4-lane primary roadway traversing the northeast portion of MDS beginning in the northwest at University Boulevard. The roadway is currently completed from University Boulevard east to Watson Drive (0.3 mile) as a 25-mph roadway, where it transitions to an undivided 2-lane roadway for the next 0.4 miles before terminating at Hawking Drive. This roadway is not currently designated as a truck route, but in its interim, it is anticipated to accommodate all truck traffic and potentially all passenger vehicle traffic to and from the proposed Maxeon campus as it is extended through the northeast employment area to Mesa Del Sol Boulevard.



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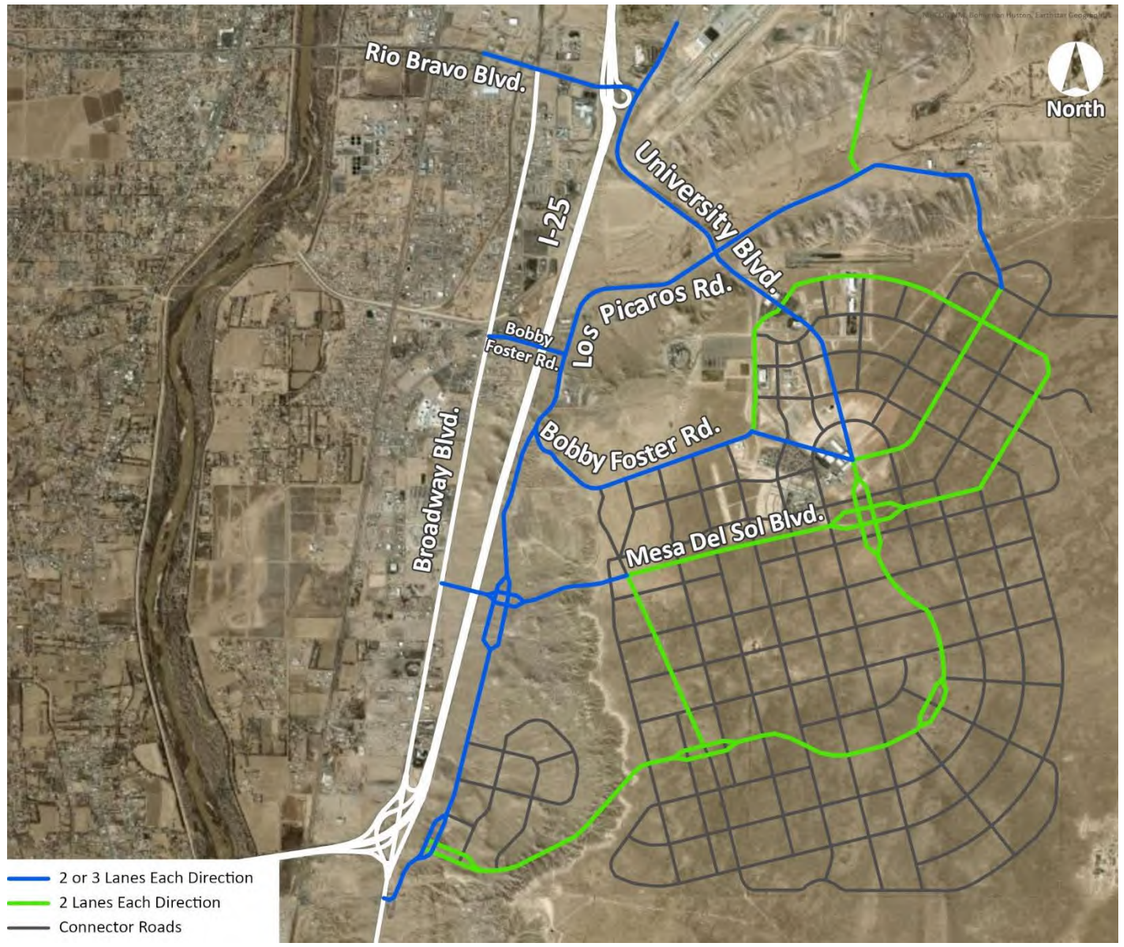
Functional Classification[1]



Not to scale

Auto Circulation[2]

Notes:

1. According to the online GIS Long Range Roadway System feature service.
2. According to the MDS Level A Plan (Figure 3-1) amended in February 2023.
3. Roadway networks may/or may not match depending on sources (Level Plan A, Level Plan B, and Long-Range GIS map)

INTERSECTIONS

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

Rio Bravo & I-25 On/Off Ramps. This is a signalized intersection with channelized, uncontrolled directional ramps. The eastbound approach provides separate, 2-lane through movement approaches, one toward University Boulevard and the other to the I-25 northbound on-ramp. A channelized eastbound right-turn lane to I-25 southbound is also provided, uncontrolled by the traffic signal. The westbound approach accommodates 2 through lanes and a westbound left-turn lane. The southbound approach (from I-25 southbound) has 2 left-turn lanes and a 2-lane channelized right-turn movement that is uncontrolled. The northbound approach (from I-25 northbound) has separate left and right-turn lanes. This intersection operates with adaptive system control under NMDOT jurisdiction.

Rio Bravo & University Boulevard. This signalized intersection is located about 0.25 miles east of the Rio Bravo/I-25 intersection, providing dual left- and dual right-turn lanes at its eastbound approach to University Boulevard. Channelized dual left-turn lanes and two through lanes exist at the intersection's northbound approach, while an exclusive right-turn lane and two through lanes exist at the southbound approach. This intersection is under the control of Bernalillo County.

University Boulevard and Crick Crossing. This intersection is currently the first intersection south (2 miles) of the Rio Bravo/University intersection. The intersection operates as minor-street stop control, with University Boulevard being the uncontrolled north/south major street. The southbound approach has a 200-foot channelized left-turn lane, a single through lane, and a right-turn drop lane toward the amphitheater/parking lot immediately south of Crick Crossing. In the northbound direction, a left-turn lane and a single shared through/right-turn lane exists. The stop-controlled east leg has separate left and right turn lanes.

University Boulevard and Bobby Foster Road. Located one-half mile south of Crick Crossing, this 3-legged intersection is minor-street stop controlled for movements from the Bobby Foster west leg. Both northbound and southbound University Boulevard have channelized left-turn lanes, a through lane, and a shared through/right lane. Currently, the east leg is just a driveway apron for future development. The west Bobby Foster leg will likely be converted to a driveway for the future sports fields once the Bobby Foster approach is relocated opposite Eastman Crossing.

Bobby Foster Road and Los Picaros Road. This is a 3-legged All-Way stop-controlled intersection. The eastbound (Bobby Foster) and southbound (Los Picaros) approaches are single-lane approaches, while the northbound (Bobby Foster) approach has separate left and through lanes.

Bobby Foster Road and Broadway Boulevard. This is a 3-legged intersection one-half mile west of Los Picaros Road, traveling over I-25 without access to the freeway. The Bobby Foster east leg forms the stem of the T-intersection with a stop-controlled left-turn lane and an uncontrolled channelized right-turn lane (no observable pavement markings or sign), although vehicles may have knocked down any sign control since there are an extensive number of off-track tire marks through this area. The southbound Broadway Blvd approach has a left-turn lane and two through lanes, while the northbound approach has two through lanes and a right-turn lane.

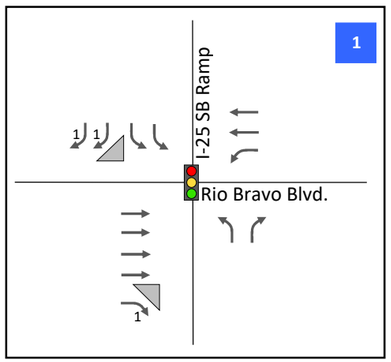
Figure 5 shows the existing lane configurations and traffic control for the study intersections.

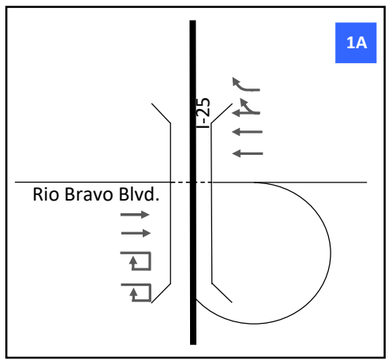
Not to scale

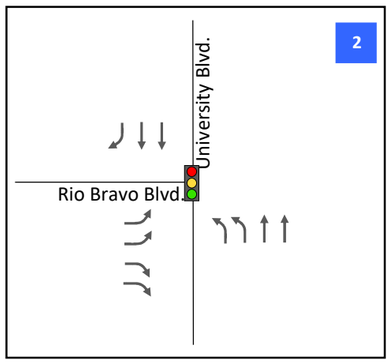
LEGEND

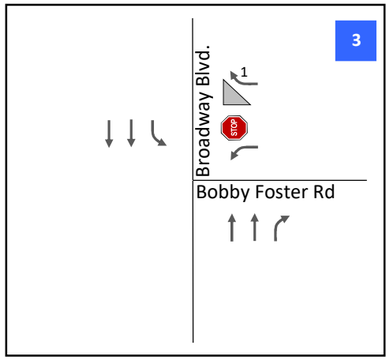
#	Intersection Identifier
	Intersection Lane Configuration

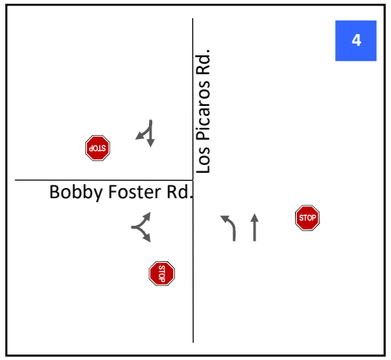
Notes:
1. Uncontrolled
2. Drop Lane to Amphitheater
3. Turn Lane to Future Driveway

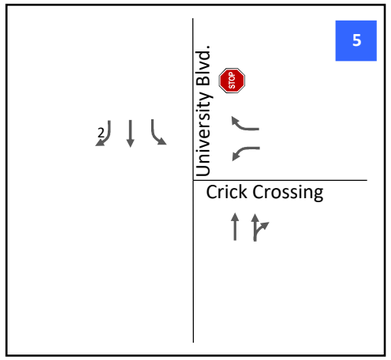


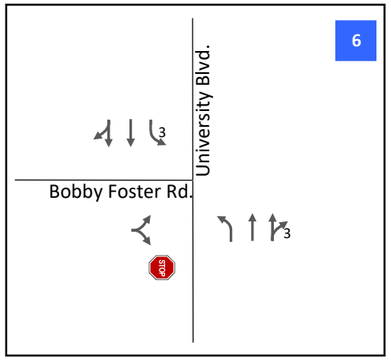












BICYCLE, PEDESTRIAN, AND TRANSIT FACILITIES

Multi-modal transportation remains an important element within MDS. Bike lanes and pedestrian facilities are located throughout the community to help reduce dependency on individual motorized travel and also provide a sense of community. Bike lanes, buffered sidewalks, and/or high-capacity transit facilities are integrated within the area's roadway cross-sections and continue to be expanded as new development and the roadway network are constructed. At this time, no transit service is provided within MDS. **Figure 6** is a representative multi-modal map of the MDS network, planned for the community, taken from the most recent MDS CMP Level A Plan report (February 2023).

DATA COLLECTION

The following section details the data collection used in subsequent analyses of this report. The data discussed below was collected via machine/video recordings of the intersections.

INTERSECTION TURNING MOVEMENT COUNTS

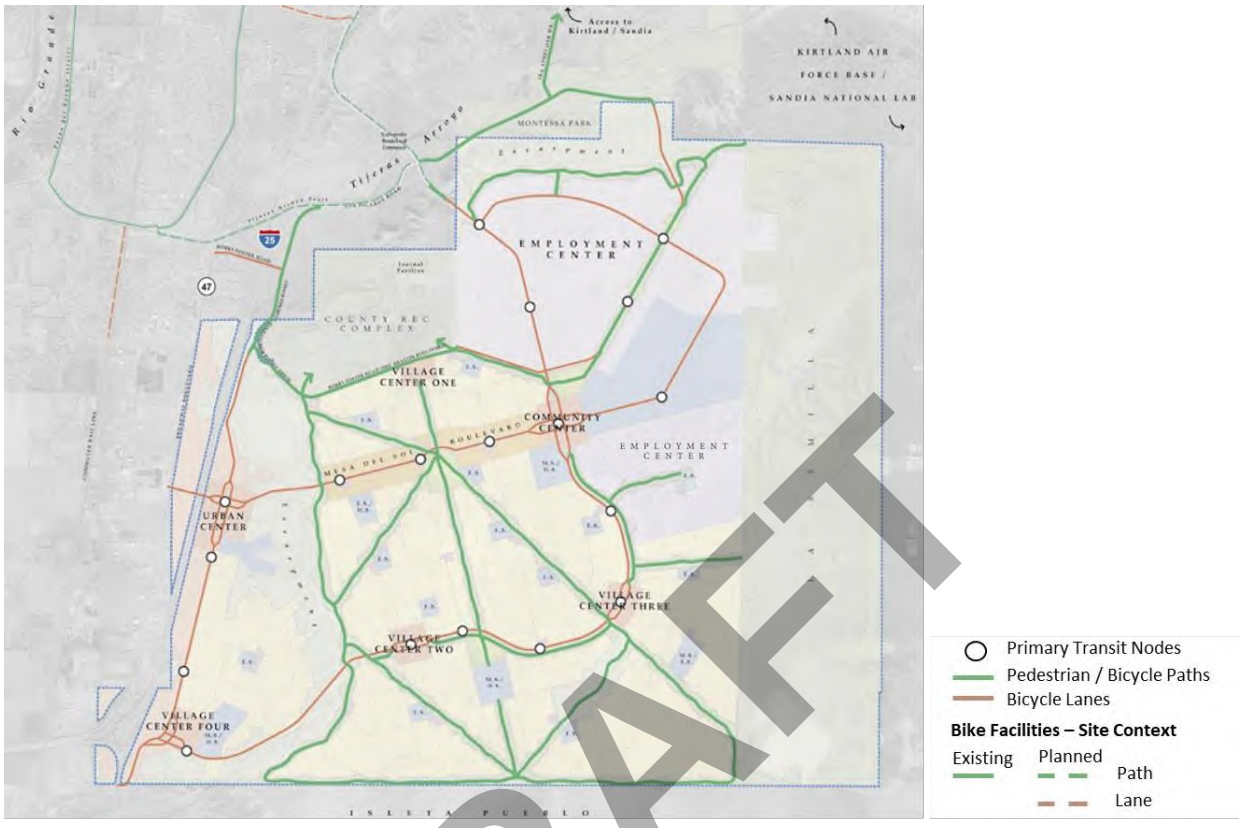
Turning movement counts for the study intersections were collected for three separate peak-periods: 6:00 AM to 9:00 AM, 11:00 AM to 2:00 PM, and 3:30 PM to 6:30 PM, on Thursday, October 19, 2023. A review of the count data indicated the PM period showed an influx of vehicles from the north, heading to a concert at the Isleta Amphitheater. A subsequent PM peak period was recounted the following Thursday at the Rio Bravo Road intersections with I-25 and University Boulevard to capture more typical movement patterns. The information obtained from the re-count was then "flowed" southward to the University/Crick intersection. No changes to the northbound traffic flow were made, although analysis indicates slightly higher northbound demand occurred outside of peak-hour conditions. It is anticipated that a slight volume increase occurred along the Bobby Foster segments during the PM peak time period as well. However, overall directional volumes were relatively low at these locations, and downward adjustments to the volumes were not deemed beneficial.

Results of the data collection effort resulted in system-wide peak-hour conditions beginning at 6:45 AM and 3:45 PM. Complete turning movement counts can be found in Appendix B, and network AM and PM peak hour turning movement counts at the study area intersections are shown graphically in **Figure 7**.

PEDESTRIAN AND BICYCLE DATA

As part of the intersection counts, pedestrian and bicycle information was also obtained. **Table 1** presents the number of pedestrians and bicycles identified crossing within the crosswalks or the approaches where no crosswalks exist during peak-hour conditions. The results indicate very few bikes and pedestrians were identified at the study intersections. Overall, only 3 intersections saw pedestrian or bicycle activity, the highest at the University/Crick intersection, where 4 pedestrians crossed the south approach. When the analysis is expanded to include the entire 9 hours of data collection, a grand total of 51 bike or pedestrian crossings were identified, including 35 pedestrian crossings at the University/Crick intersection, which included the evening peak period when an amphitheater concert was scheduled. Outside of that location and time period, a total of 13 bicycles and 3 pedestrian crossings were captured during the 9-hour period at the other 5 study intersection locations.

Figure 6: MDS Planned Multi-Modal Network

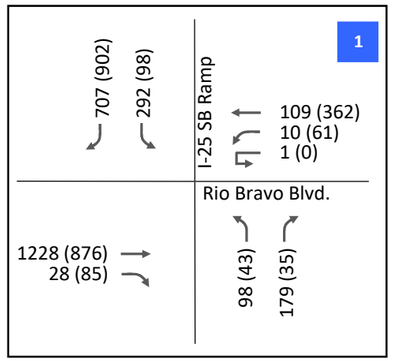


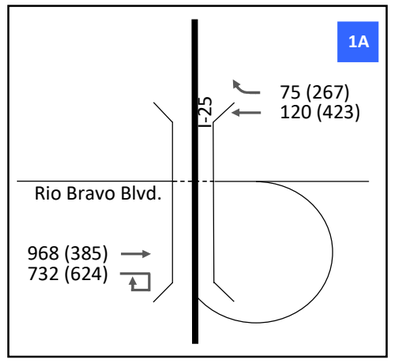
Not to scale

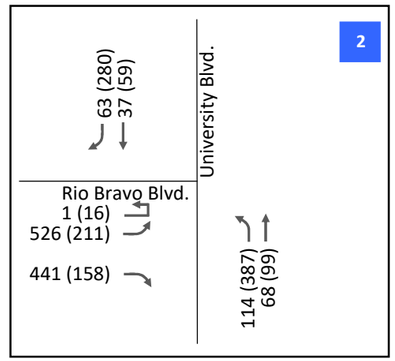
LEGEND

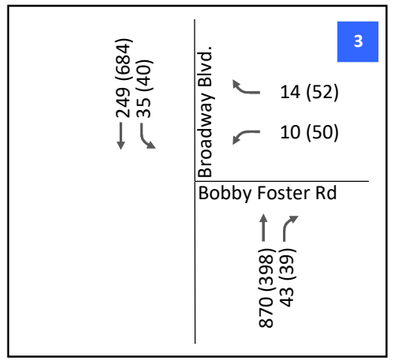
#	Intersection Identifier
XX (XX)	AM (PM) Peak-Hour Volume
	Intersection Approach Movement

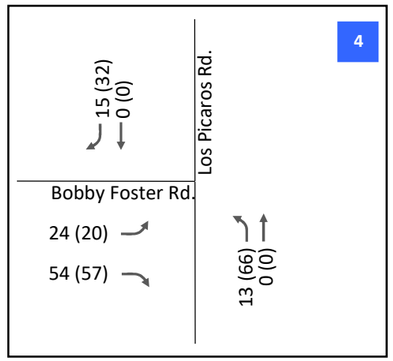
Peak Hour Start Times:
AM Peak Hour: 6:45 AM
PM Peak Hour: 3:45 PM

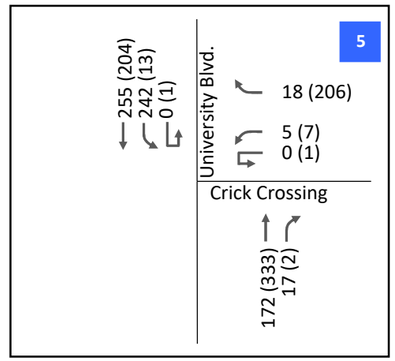












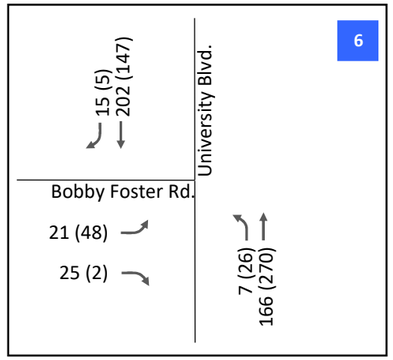


Table 1. Pedestrian and Bicycle Peak-Hour Crossing at Study Area Intersection

Existing Year 2023					
Study Intersection	**Approach Leg**	**Bike / Ped Crossings within X-Walk**			
		AM Pk. Hr.		**PM Pk. Hr.**	
		Bike	**Ped**	**Bike**	**Ped**
Rio Bravo Blvd & I-25	North[1]	0	0	0	0
	South	0	0	0	0
	East[1]	0	0	0	0
	West[1]	0	0	0	0
	Total	**0**	**0**	**0**	**0**
Rio Bravo Blvd & University Blvd	North[1]	0	0	0	0
	South[1]	0	0	0	0
	East[2]	0	0	0	0
	West	0	0	1	0
	Total	**0**	**0**	**1**	**0**
Bobby Foster Rd & Broadway Blvd*	North[1]	0	0	0	0
	South[1]	0	0	0	0
	East[1]	0	0	0	0
	West[2]	0	0	0	0
	Total	**0**	**0**	**0**	**0**
Bobby Foster Rd & Los Picaros Rd*	North[1]	0	0	0	0
	South[1]	0	0	0	0
	East[2]	0	0	0	0
	West[1]	0	1	0	0
	Total	**0**	**1**	**0**	**0**
University Blvd & Crick Crossing*	North[1]	0	0	0	0
	South[1]	0	0	0	4
	East[1]	0	0	0	0
	West[1]	0	0	0	0
	Total	**0**	**0**	**0**	**4**
Bobby Foster Rd & University Blvd*	North[1]	0	0	0	0
	South[1]	0	0	0	0
	East[1]	0	0	0	0
	West[1]	0	0	0	0
	Total	**0**	**0**	**0**	**0**

Notes:
1. Crosswalk does not exist at this approach
2. Approach leg and crosswalk does not exist for this apporach.

EXISTING CONDITIONS: LEVEL OF SERVICE, CAPACITY, QUEUING

INTERSECTION CAPACITY ANALYSIS

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

Table 2 below, reproduced from the *Highway Capacity Manual 6th Edition*, shows delay thresholds and the associated Level of Service assigned to delay ranges for both signalized and unsignalized intersections. Generally, a LOS of D or better is considered an acceptable level of service.

Table 2. LOS Criteria for Signalized and Unsignalized Intersections

Level of Service	Average Control Delay (sec/veh)	
	Unsignalized	Signalized
A	≤10	<10
B	>10 – 15	>10 –20
C	>15 – 25	>20 – 35
D	>25 – 35	>35 – 55
E	>35 – 50	>55 – 80
F	>50	>80

The volume to capacity (V/C) ratio is a performance measure that shows the ratio of traffic volume to the lane group capacity. A V/C ratio greater than 1.00 indicates that demand creates a residual queue for the analysis period.

Queueing is reported in vehicles, with a base assumption of 25 feet queue length per vehicle. Queues are reported for the 95th percentile. It should be noted that 95th percentile queues are statistically expected to occur only 5% of the time. It is also noted that unreported average queueing at an intersection would statistically be much shorter than 95th percentile queueing. At signalized intersections, the 95th percentile queue may only occur for 1 cycle during a 60-minute period, assuming the intersection has a 120-second cycle length or longer (30 or fewer total cycles) or 5 times out of 100 total cycles.

As outlined in the MDS Master Community plan, acceptable levels of service (LOS) are defined as LOS D or better. Based on procedures outlined in the Highway Capacity Manual (HCM, 6th Edition), intersection delay and level of service for stop-controlled intersections are reported as the delay and level of service for the worst-case movement at each intersection. At signalized locations, the operation of the intersection as a whole best represents conditions. At both signalized and unsignalized locations, an individual movement may operate with elevated delays (LOS E/F) but with a V/C ratio below 0.80, indicating movement capacity is

available. In these cases, movements operating at LOS E/F with a V/C less than 0.80 will be considered to be operating acceptably. Detailed output sheets for all analysis scenarios can be found in Appendix C.

INTERSECTION AND QUEUE ANALYSIS

Based on the methods outlined in the HCM, the *Highway Capacity Software* (HCS) was used to analyze the performance at both signalized and unsignalized study intersections. Delay, LOS, V/C, and 95th percentile queue lengths (in vehicles) are presented to provide an indication of how the study area intersections are performing. The results of the intersection analysis for the 2023 Existing AM and PM peak-hours are shown in **Table 3**.

Table 3. Existing Year HCS Result Summary

Existing Year 2023														
Study Intersection	Queue, Delay, V/C, and LOS										Intersection LOS			
			AM				PM				AM		PM	
	Movement	Auxiliary Lane Length (ft)	95th Percentile Queue (ft)	Delay (sec)	V/C	LOS	95th Percentile Queue (ft)	Delay (sec)	V/C	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1. Rio Bravo Blvd & I-25 (Signalized)	EBT	-	247	21.5	0.41	C	158	17.0	0.27	B	20.5	C	11.1	B
	EBR	-		0.0		A		0.0		A				
	WBL	700	12	40.3	0.03	D	73	41.7	0.20	D				
	WBT	-	17	5.0	0.05	A	46	4.1	0.14	A				
	NBL	300	126	47.3	0.41	D	57	50.2	0.25	D				
	NBR	-	206	43.9	0.51	D	38	40.0	0.10	D				
	SBL	-	192	50.1	0.61	D	63	50.2	0.29	D				
	SBR	-		0.0		A		0.0		A				
2. Rio Bravo Blvd & University Blvd (Signalized)	EBL	300	46	8.9	0.44	A	25	10.8	0.20	B	8.6	A	9.8	A
	EBR	-	33	7.5	0.40	A	13	7.0	0.13	A				
	NBL	350	10	9.8	0.12	A	35	9.1	0.30	A				
	NBT	-	5	8.4	0.06	A	7	7.3	0.07	A				
	SBT	-	4	12.7	0.07	B	8	13.7	0.09	B				
	SBR	140	2	12.6	0.03	B	32	14.8	0.37	B				
3. Bobby Foster Rd & Broadway Blvd (MSS)*	WBL		5	32.2	0.08	D	18	21.6	0.20	C	32.2	D	21.6	C
	WBR		3	12.9	0.03	B	5	10.0	0.07	A				
	SBL		5	10.9	0.06	B	3	8.4	0.04	A				
4. Bobby Foster Rd & Los Picaros Rd (AWS)	EBT		8	7.0	-	A	8	7.2	-	A	8.4	A	8.6	A
	NBL		3	8.4	-	A	8	8.6	-	A				
	NBT		0	7.4	-	-	0	7.4	-	-				
	SBL		0	6.6	-	A	3	6.8	-	A				
5. University Blvd & Crick Ave (MSS)*	WBL		3	25.5	0.03	D	0	12.6	0.02	B	25.5	D	12.6	B
	WBR		3	9.1	0.02	A	28	11.0	0.27	B				
	SBL		18	8.3	0.19	A	0	8.4	0.01	A				
6. Bobby Foster Rd & University Blvd (MSS)*	EBT		8	11.3	0.09	B	5	10.5	0.07	B	11.3	A	10.5	B
	NBL		3	7.7	0.02	A	0	8.1	0.01	A				
	SBL		0	7.8	0.00	A	0	7.6	0.00	A				

Note: AWS = All-Way Stop Control, MSS = Minor-Street Stop Control

**Intersection LOS and delay for stop-controlled intersection, results are reported as the worst case movement*

From the above table, the following observations are made for the Existing Year capacity analysis summary:

LOS Results

- All intersections are observed to operate in an overall acceptable manner during the AM and PM peak hours, at LOS D or better.
- All individual movements at the 6 study intersections operate at LOS D or better. The most delayed movements within the study area are the northbound and southbound left-turn movements at the Rio Bravo/I-25 intersection, both operating at LOS D with 50.2 seconds of delay in the afternoon peak hour. Although movement delay is elevated, results show low V/C ratios (maximum value 0.61), with the overall intersection operating at LOS C with only 20.5 seconds of delay. Noting this intersection operates with an adaptive control system, it is likely the left-turn movements operate better than indicated.

Queuing Results

- All left- and right-turn vehicle queues are contained within the turn bay storage length provided.
- Through movement queues, do not block vehicle access to the left- or right-turn bays nor impact upstream intersections.

FUTURE TRAFFIC CONDITIONS AND ANALYSIS YEARS

PROJECT IMPLEMENTATION YEAR

The proposed Maxeon site is planned for construction beginning in 2024. Substantial completion of the site is estimated for 2025, when partial employment and some facility production is expected to occur. Full buildout is anticipated for 2026/27. For the purpose of providing a conservative analysis, a 2027 Opening Year has been assumed. However, for all site and roadway related elements, any identified improvements should be in-place at site opening.

This project analyzes the 2027 Opening Year and 2037 Horizon Year, with and without site traffic.

SITE TRAFFIC

TRIP GENERATION, THE CLIENT PROVIDED GUIDANCE

The client has provided some information regarding the employment and truck-related activities associated with the proposed project. The information provided is shown in **Table 4.** From a review of this table, the client estimates the site to generate a total of 1,213 truck trips per week. Assuming the campus is to operate 5 days per week, 243 truck trips per day are estimated. Additionally, assuming 10% of the trips occur during peak-hour conditions (per ITE Truck Time of Day Distribution for LUC 140), 12 entering and 12 exiting trucks can be expected. For simplicity, an equal number of entering and exiting trucks have been assumed, although the total number of inbound and outbound trips may not be equal.

Employee trips have been broken down between shift and non-shift workers. The numbers provided for this category indicate employment equal to 1,183 people for the post-construction year 2027. Although specific shift times have not been provided, it is assumed the facility will operate around the clock in 3 shifts. Assuming an equal split in shift workers, 252 employees per shift can be expected. All non-shift workers (425 employees) are assumed to work a typical 8- to 10-hour workday, starting anywhere between 6 AM and 9 AM and leaving between 3 PM and 6 PM, equal to about 142 employees arriving or departing in any one hour.

Table 4. Client Provided Trip Generation Data

OPERATIONS	2024	2025	2026	2027	2028	2029	2030
Inbound (containers) weekly							
40 ft containers, wafer		1	5	10	10	11	11
20 ft container modco		718	718	718	718	718	718
40 ft container modco		40	40	40	40	40	40
chemical & gas truck loads		81	81	81	81	81	81
Outbound (truckloads) weekly							
FTL finished goods		308	308	308	308	308	308
FTL solid waste		56	56	56	56	56	56
Total vehicle trips/wk		**1204**	**1208**	**1213**	**1213**	**1214**	**1214**
Employee Personally Driven Vehicles daily							
Shift workers in/out		221	778	758	748	674	674
Non-Shift workers in/out		234	425	425	425	425	425
Total workers in/out per day		**455**	**1203**	**1183**	**1173**	**1099**	**1099**

CONSTRUCTION	2024	2025	2026
Inbound (truckloads) weekly			
Construction Materials	150	130	0
Facilities equipment	60	80	0
Mfg Tools Modco	0	17	0
Mfg Tools cell fab	1	22	43
Outbound (truckloads) weekly			
Construction Waste	30	50	0
Total vehicle trips/wk	**241**	**299**	**43**
Construction Workers Personally Driven Vehicles daily			
Non-Shift workers in/out	2700	2900	0
Total workers in/out per day	**2700**	**2900**	**0**

Based on the assumed trip conditions identified by the client, 394 employee-related trip ends (252 shift employees plus 142 non-shift employees) could be assumed during the morning and afternoon peak hours plus 12 inbound and 12 outbound trucks.

TRIP GENERATION, ITE ESTIMATE

A second alternative in estimating traffic generated from the proposed site used the procedures and methodologies provided in the *Trip Generation* Manual, 11th Edition by the Institute of Transportation Engineers (ITE), the state of the practice publication in estimating a site's trip-generating characteristics when more specific data is not known. Land Use Code #140, Manufacturing, was selected as the most representative land use for the subject site. Trips were calculated based on two potential independent variables: 1000 SF of building area and number of employees. **Table 5** provides the trip generation results using the ITE method.

Reviewing the table, the trips generated based on the 1.6 MSF of the building area appear to significantly overestimate conditions based on the client-provided data. Trips using the total employment count (1,183 employees) as the independent variable appear to result in a more reasonable approximation of the client-provided information. ITE indicates about 10% of the peak-hour trips are truck-related; however, to act as a conservative estimate, it was assumed the truck data provided by the client is in addition to the employee-based trips. When combining both trip estimates, the total number of vehicle trip ends at Opening/Buildout is estimated to be 3,158 daily trip ends, 337 trip ends (240 in, 97 out) occurring in the AM peak-hour, and 306 trip ends (116 in, 190 out) during the evening peak-hour. It is noted that the results may be higher for the peak-hour of the roadway and trips during other hours.

For the purposes of this study, the ITE values based on employee data will be used to estimate site-generated traffic from the proposed Maxeon development. Additionally, all trips are assumed to be newly generated vehicle trips. No reduction due to alternative travel modes, pass-by traffic, or internal-site interaction has been assumed to act as a conservative (high) estimate of traffic volume conditions.

Table 5. ITE Trip Generation Estimate

Maxeon Solar Technologies						
Land Use: (140) Manufacturing, Building Area						
# of Units	**Daily**		**AM Peak Roadway**		**PM Peak Roadway**	
1600	**Enter**	**Exit**	**Enter**	**Exit**	**Enter**	**Exit**
Dir. Dist.	50%	50%	76%	24%	31%	69%
Trips	3800	3800	827	261	367	817
	7600		1088		1184	
Land Use: (140) Manufacturing, Employees						
# of Units	**Daily**		**AM Peak Roadway**		**PM Peak Roadway**	
1183	**Enter**	**Exit**	**Enter**	**Exit**	**Enter**	**Exit**
Dir. Dist.	50%	50%	73%	27%	37%	63%
Trips	1458	1458	228	85	104	178
	2915		313		282	
Client Provided Truck Traffic Volumes						
# of Units	**Daily**		**AM Peak Roadway**		**PM Peak Roadway**	
	Enter	**Exit**	**Enter**	**Exit**	**Enter**	**Exit**
Dir. Dist.	50%	50%	50%	50%	50%	50%
Trips	122	121	12	12	12	12
	243		24		24	
Total Trips						
# of Units	**Daily**		**AM Peak Roadway**		**PM Peak Roadway**	
	Enter	**Exit**	**Enter**	**Exit**	**Enter**	**Exit**
Dir. Dist.	50%	50%	71%	29%	38%	62%
Trips	1580	1579	240	97	116	190
	3158		337		306	

All Units		
	# of Trips	**Equation**
Daily	7600	T = 4.75 (X)
AM Pk	1088	T = 0.68 (X)
PM Pk	1184	T = 0.74 (X)

	# of Trips	**Equation**
Daily	2915	Ln(T) = 0.89 Ln(X) + 1.68
AM Pk	313	T = 0.24 (X) + 29.47
PM Pk	282	T = 0.21 (X) + 33.45

Source: ITE Trip Generation, 11th Edition

	# of Trips	**Equation**
Daily	243	1213 Weekly Truck Trips
AM Pk	24	10% of Daily Trips
PM Pk	24	10% of Daily Trips

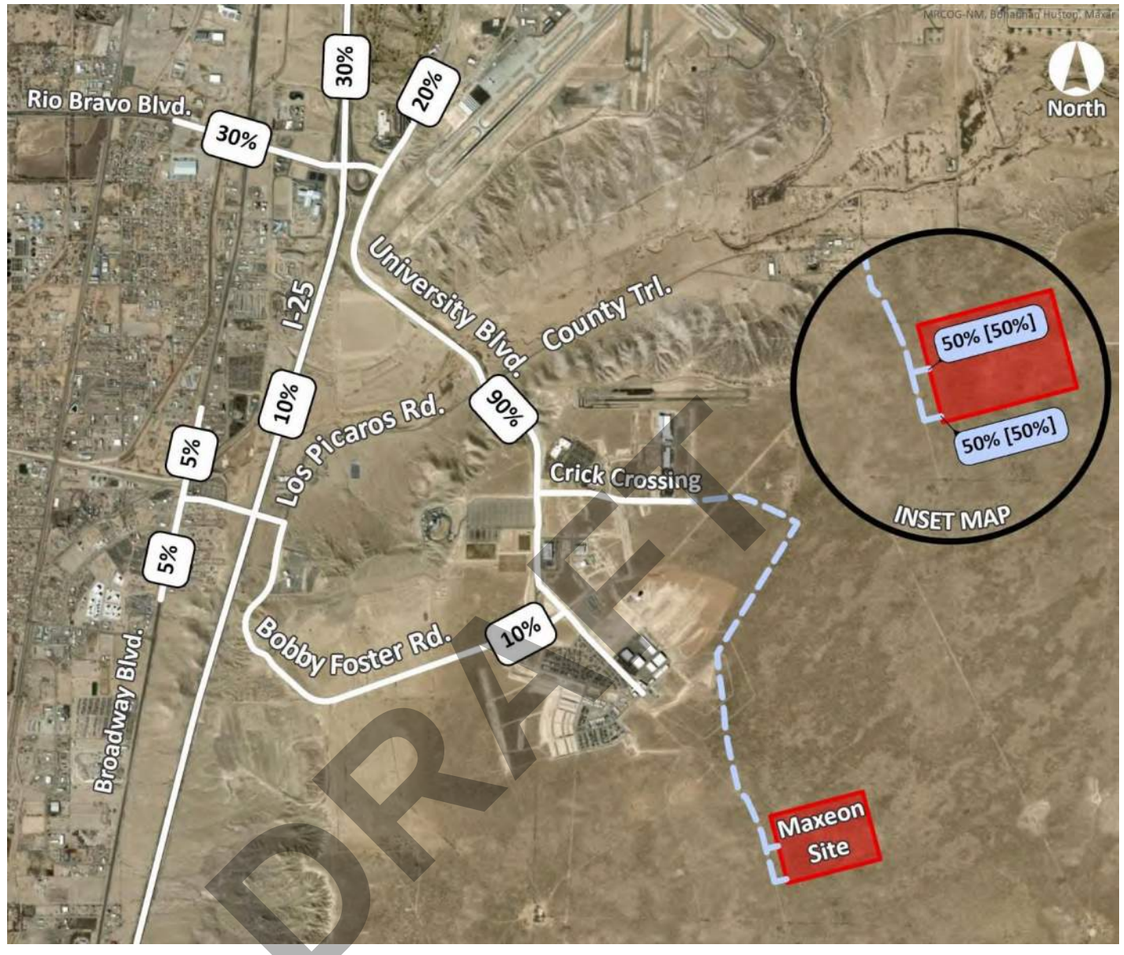
Source: Client Provided Estimate

TRIP DISTRIBUTION AND ASSIGNMENT

Proposed site-generated traffic was distributed through the MDS roadway network and outside of the study area based on existing traffic volumes entering and exiting the study area, along with some engineering judgment. Both employee-related passenger vehicle trips and truck trips were estimated separately. **Figure 8** shows the trip distribution percentages and travel routes estimated for both vehicle types.

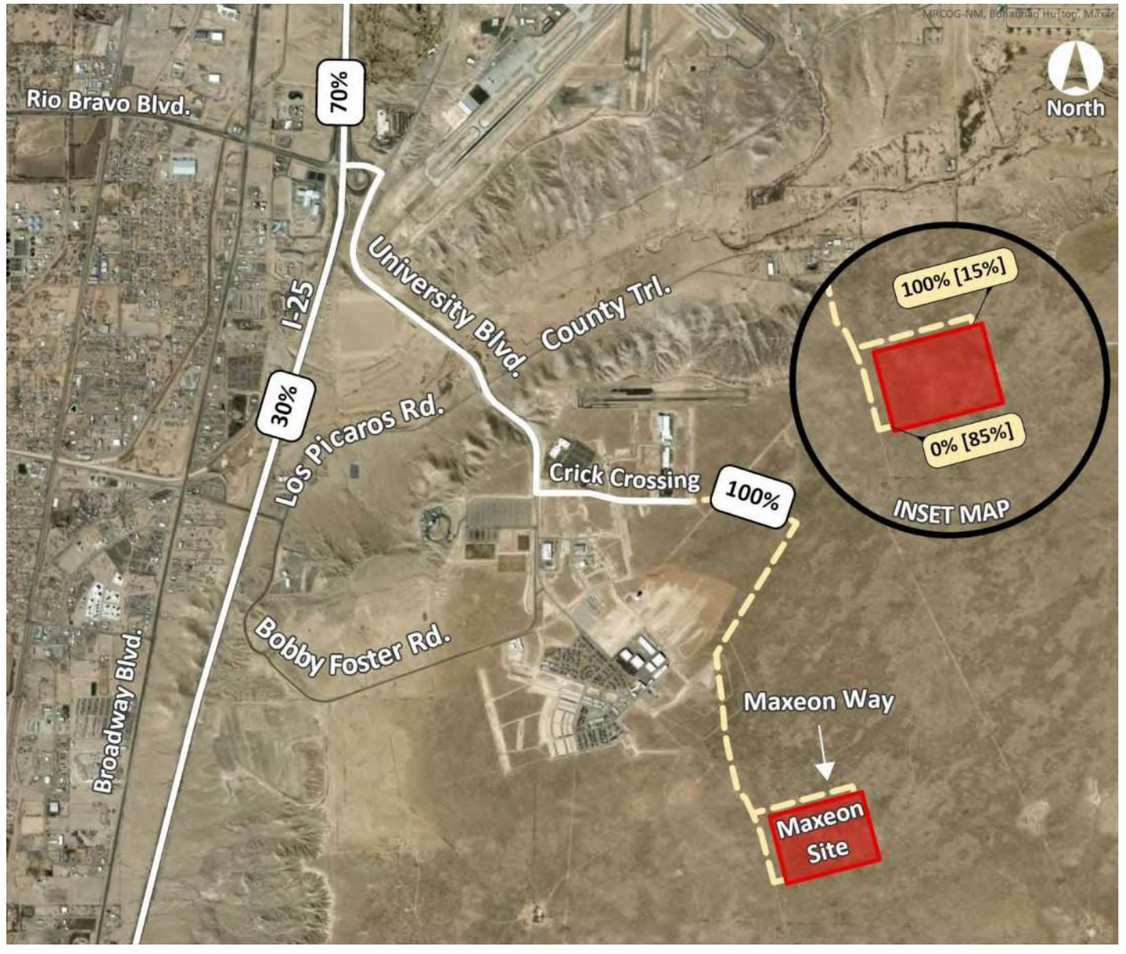
For the purposes of the 2027 analysis, it has been assumed a more direct interim extension of University Boulevard through the Community Center area will be available for Maxeon employee/visitor passenger vehicle traffic to use as construction momentum within the MDS area continues and possible second option for emergency considerations. If this extension is not available, all Maxeon passenger vehicles along with all truck traffic will continue along their original temporary route (blue, dashed line), reaching University Boulevard at Crick Crossing.

When combining the distribution percentages with the ITE trip generation values, the AM and PM peak hour traffic volumes on the MDS roadway network can be estimated along with the turn movement volumes at the study intersections. **Figure 9** and **10** show the vehicle assignment for the Maxeon development at Opening Year/Buildout as analyzed within the report. If the more direct University Boulevard extension to Maxeon is not provided for passenger vehicles by 2027 (albeit in a temporary manner), the site assignment at Intersections 5 and 6A, as shown in the bottom right side of Figure 9 (red dashed outline), would result. All other traffic volumes at the other intersections would remain the same. It is also noted Eastman Crossing does not extend east to Mesa Del Sol Boulevard, terminating within the ABQ Studio area, and is not a routing option for Maxeon traffic.



Not to scale

Site Traffic Distribution, Passenger Vehicles



Not to scale

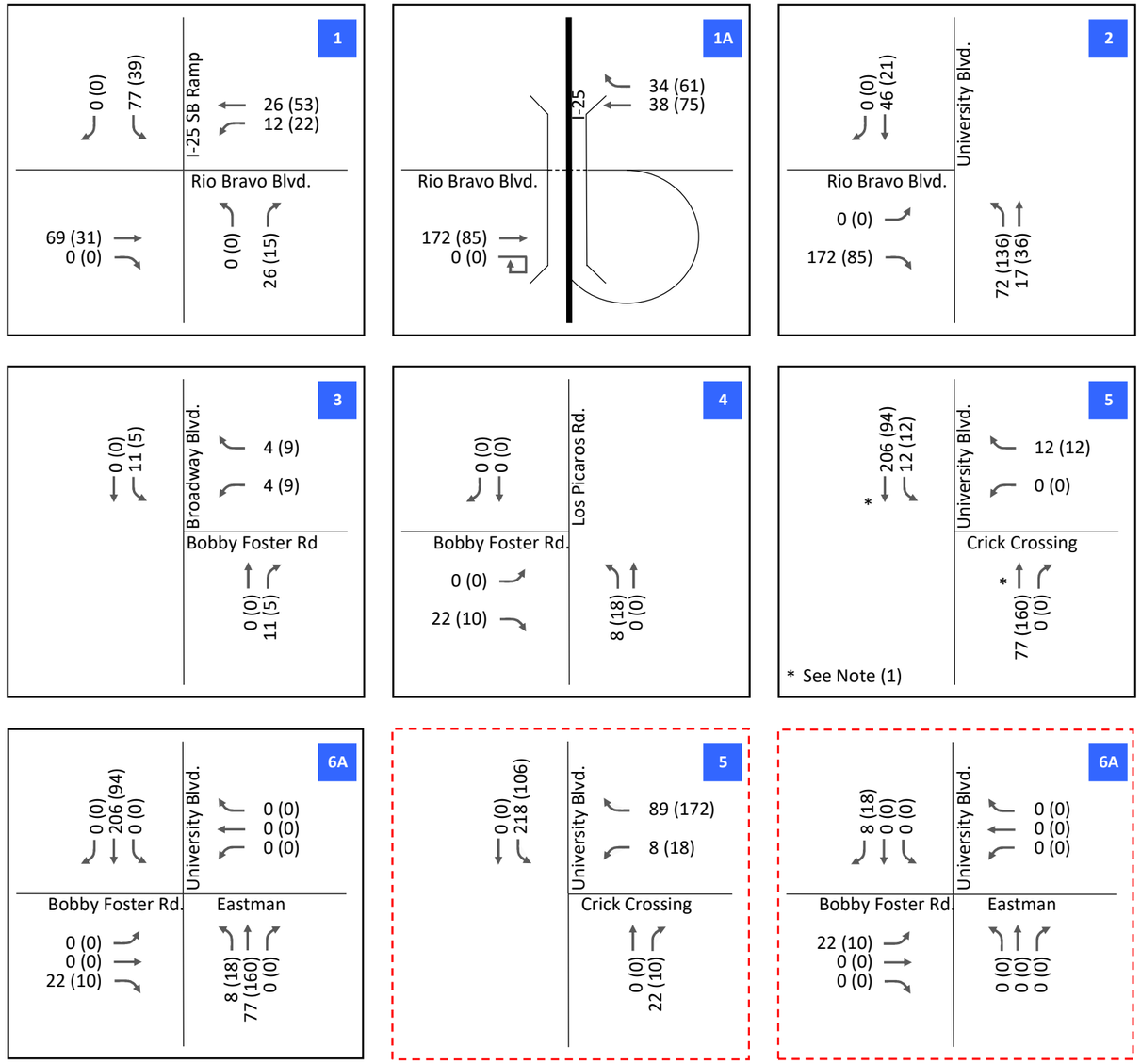
Site Traffic Distribution, Trucks

LEGEND

- Existing Roadways
- Temporary Roadway, Passenger Vehicle Route
- Temporary Roadway, Truck Route
- XX% [XX%] Passenger Vehicles, Inbound [Outbound]
- XX% [XX%] Trucks, Inbound [Outbound]

Note:
For analysis purposes of the 2027 and 2037 conditions, all inbound and outbound passenger vehicle traffic was assumed to use a future extension of University Boulevard.

Not to scale

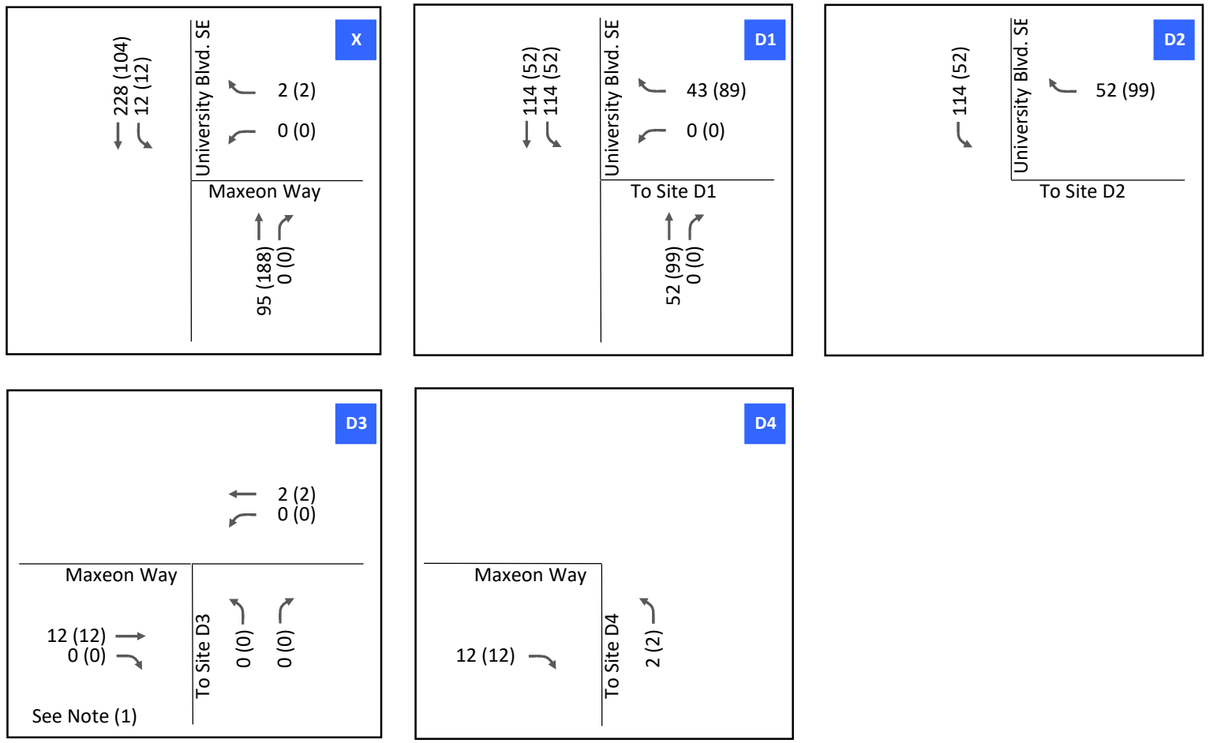


LEGEND

#	Intersection Identifier
	Intersection Identifier without temporary University Boulevard route
XX (XX)	AM (PM) Peak-Hour Volume
	Intersection Approach Movement

Notes:

1. For analysis purposes of the 2027 and 2037 conditions, all inbound and outbound passenger vehicles were assumed to use direct University Boulevard route.
2. Driveway 3 serves as bicycle and emergency access only.
3. Some rounding may have occurred.



LEGEND

#	Intersection Identifier
XX (XX)	AM (PM) Peak-Hour Volume
	Intersection Approach Movement

Not to scale

Notes:

1. Driveway 3 serves as bicycle and emergency access only.
2. Some rounding may have occurred.

NON-SITE TRAFFIC FORECASTING, NEAR-TERM (2027)

Near-term traffic growth within a study area comprises two components, trips generated from site-adjacent developments and the ambient growth of the local community.

SITE ADJACENT DEVELOPMENTS

As part of the scoping process for this project, 4 developments were identified that may be constructed and generate traffic prior to the opening year of the Maxeon site. The 4 developments include:

1. Valle Del Sol (Sunport South Development)
2. Montage Units (MDS Elementary School)
3. Bernalillo County Regional Recreational Complex
4. Albuquerque Studios (Phase II)

The latest TIA's for each development were provided for review and inclusion within this report. The following comments are provided upon review of the 4 projects:

1. Valle Del Sol. This report was prepared in 2016 and indicated the project to be 30% developed by 2025, including 70,000 SF of office building, 165,000 SF of Warehousing, 134,000 SF of Industrial Park, and 184,000 SF of Shopping Center. Based on a recent field visit to the area, no site activity was identified. Therefore, this development is likely behind the Maxeon development schedule and will not be included in the 2027 Background conditions. Additionally, the other 3 reports (report dates between 6/2021 and 7/2022) did not include the Valle Del Sol trip contributions within their reports.
2. Montage Units. Although only the elementary school portion of the development was to be considered, additional development within the Montage Units area appears to be progressing. Therefore, for the purposes of this study and consistency with the other two developments, a full build-out of the Montage Units area was considered.
3. Both the Recreational Complex and the Albuquerque Studios reports were completed nearly at the same time and appear to include the influence of the other development. For near-term conditions, traffic volumes appeared similar, although long-term intersection volumes did not. For the purposes of this report, the intersection volumes associated with the Studios report at University/Crick and University/Bobby Foster/Eastman Crossing for Buildout conditions were assumed. Any turn volume at the University/Bobby Foster/Eastman Crossing that was higher within the Recreational Complex report was replaced with the higher volume to provide a conservative estimate of traffic conditions.
4. Because the more recent TIA reports did not include the Valle Del Sol report, the traffic volumes associated with Phase I of that report were not included within the near-term volumes of this report for consistency. However, the Phase 1 volumes were added to the 2037 Background volumes.

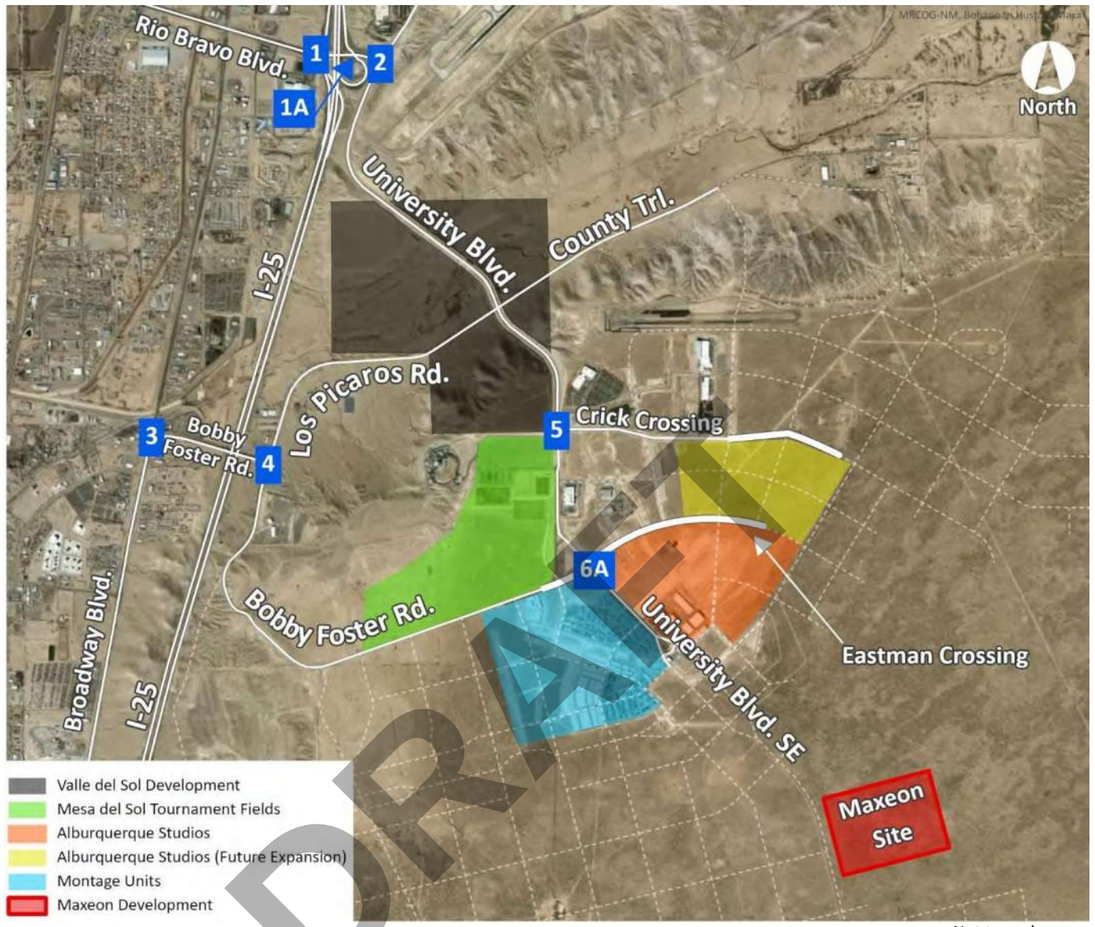
Figure 11 provides a composite of the site-generated trips from the three projects to be included as part of the 2027 Background conditions. It is noted that some of the site-generated traffic had to be estimated (based on current distribution patterns) for intersection locations not included within each individual report.

AMBIENT GROWTH

For consistency with the other report, traffic growth within the study area was assumed to increase at a rate of 4% per year. This value was checked for reasonableness, comparing MRCOG 2016 model volumes to 2040 model volumes on University Boulevard only and also for all access points leading into the MDS area. Results indicate a yearly straight-line growth on University Boulevard south of Rio Bravo to increase at a rate between 4% to 5% per year. In comparing total MDS in/out roadway segment volumes, an overall average growth rate of approximately 7% per year is calculated. Based on the comparison, a 4% per year overall growth rate appears reasonable and was used to estimate traffic growth at all study area locations. To estimate 2027 conditions, existing peak-hour traffic volumes were increased by a factor of 1.17 (4% for 4 years) and presented in **Figure 12**.

2027 BACKGROUND TRAFFIC VOLUMES

The combination of the adjacent development volume and the ambient growth of the community results in the non-site (background) traffic volumes for the 2027 opening year of the site. **Figure 13** presents these volumes, the summation of Figures 11 and 12.



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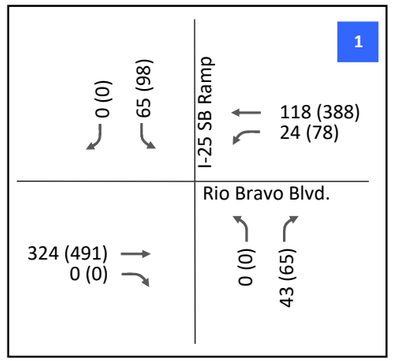
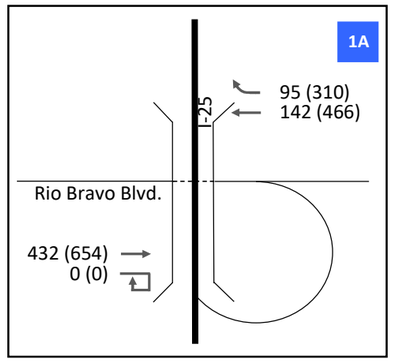
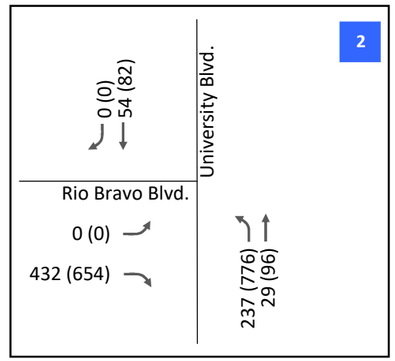
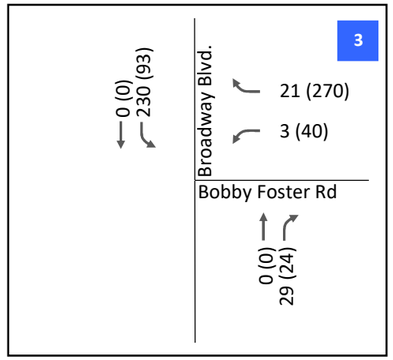
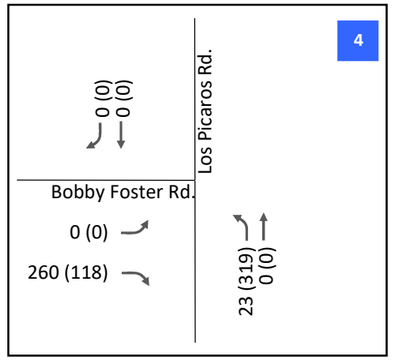
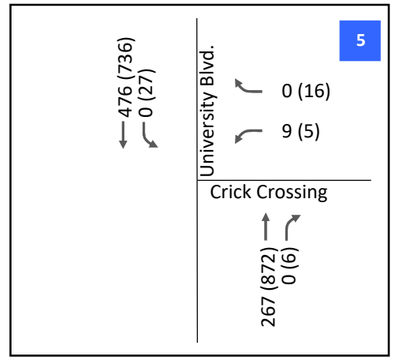


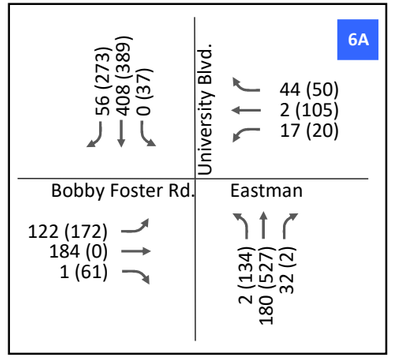












LEGEND

#	Intersection Identifier
XX (XX)	AM (PM) Peak-Hour Volume
	Intersection Approach Movement

Notes:

1. The Valle del Sol development Phase 1 not considered part of 2027 background conditions.
2. Future conditions realign Bobby Foster with Eastman Crossing alignment.
3. Volumes may not "flow" between intersections due to development driveways.

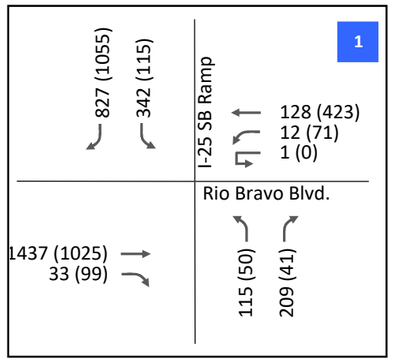
Not to scale

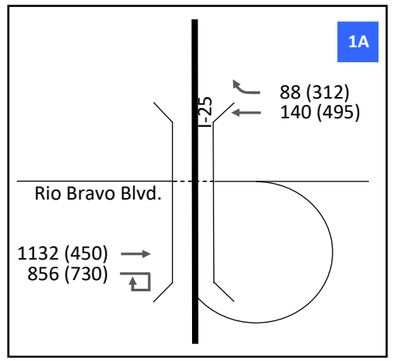
LEGEND

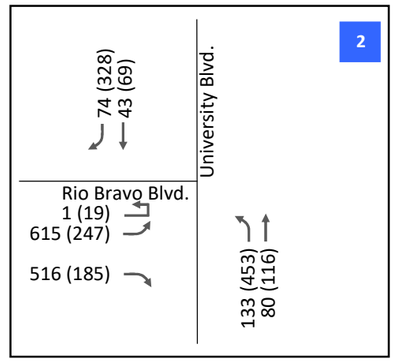
#	Intersection Identifier
XX (XX)	AM (PM) Peak-Hour Volume
	Intersection Approach Movement

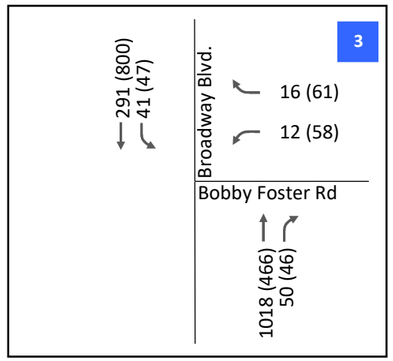
Notes:

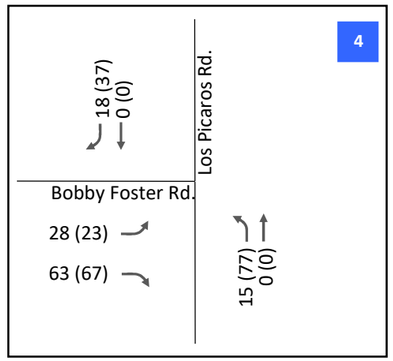
1. Ambient growth is 4% per year.
2. Volumes are 1.17 times (+17%) the volumes displayed in Figure 7.
3. Future conditions realign Bobby Foster with Eastman Crossing alignment.
4. Some rounding may have occurred.

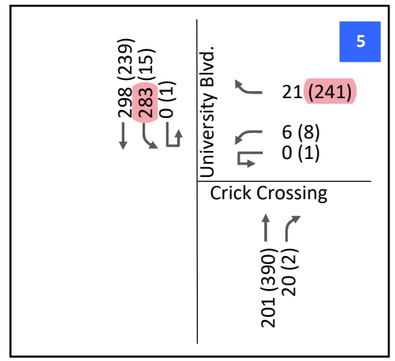


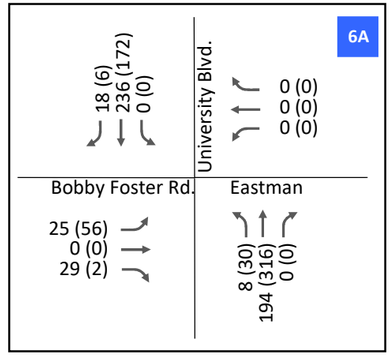












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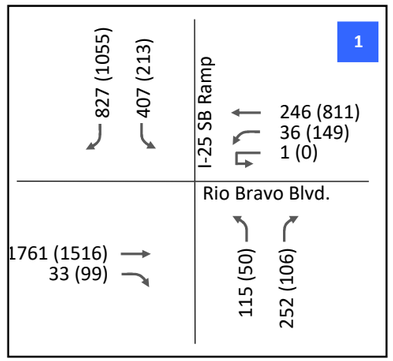
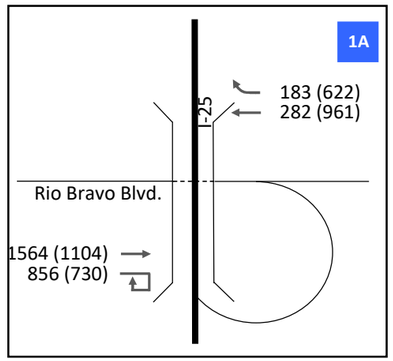
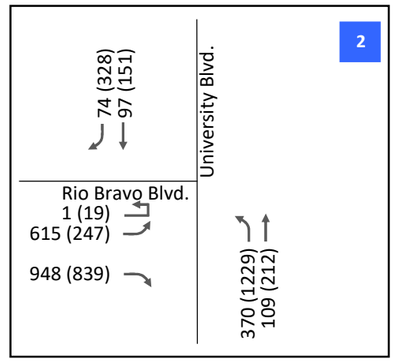
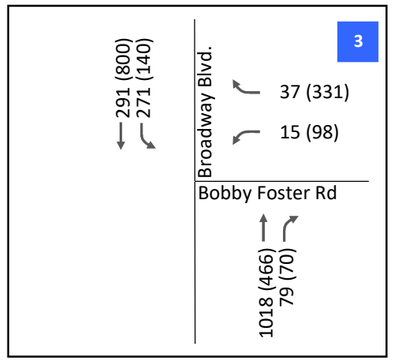
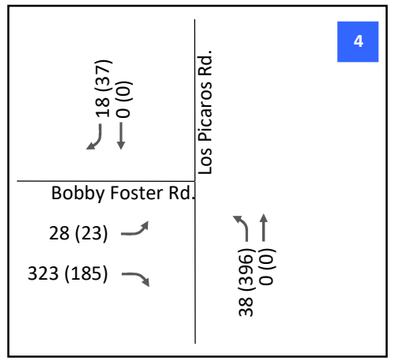
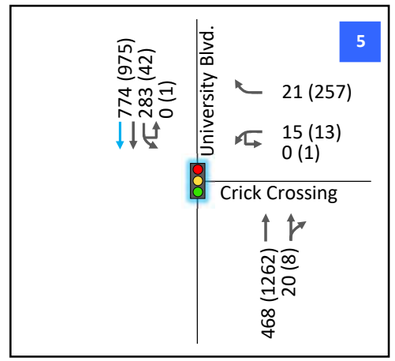


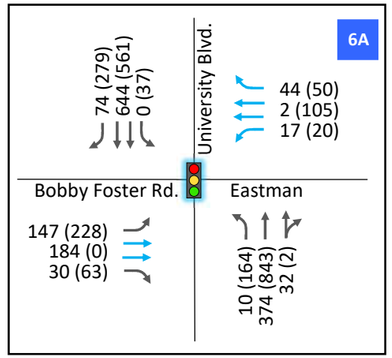












LEGEND

#	Intersection Identifier
XX (XX)	AM (PM) Peak-Hour Volume
	Intersection Movements
	New Movements/ Control

Notes:

1. Volumes are a summation of values from Figure 10 + Figure 11.
2. Some rounding may have occurred.
3. Intersection changes compared to the 2023 existing conditions in blue.
4. Only intersection 5 and 6A show new lane configurations. Other intersections same as existing.

Background (2027) Opening Year Traffic Volumes

Figure 13

PLANNED/PROGRAMMED ROADWAY IMPROVEMENTS FOR 2027

Shown as part of the background volume figure, a number of intersection lane configuration changes are anticipated prior to the Maxeon site opening due to the on-going development within MDS. The following changes from the 2023 Existing condition to the 2027 Background condition are noted:

- The Bobby Foster Road approach to University Boulevard (Int. 6) will be realigned from its current location to align with Eastman Crossing. It is noted that this improvement is now complete as of the end of 2023.
- The lane configurations at the new University/Bobby Foster/Eastman intersection (Int. 6A) will be improved and the intersection signalized. Although no Work Order is currently in place for the signalization of this intersection, the previous Mesa Del Sol Tournament Fields and ABQ Studios TIA's indicated the intersection under stop control would operate with LOS F movements. Both reports included signalized analysis of this intersection and recommended signalized control and construction to ultimate geometric conditions be considered.
- Although University Boulevard improvements are on-going between Crick Crossing and Eastman Crossing, the TIA for both the Recreational Complex and Albuquerque Studios did not indicate modification of the University Boulevard/Crick Crossing (Int. 5) location although analysis indicated LOS F operation in 2026 under existing minor-street stop-controlled operation. Due to the on-going construction of University Boulevard to a 4-lane divided segment and elevated peak-hour traffic volumes estimated at this location, lane configuration changes and an upgrade to signalized control have been assumed.
- Although neither planned nor programmed, University Boulevard has been assumed for extension between its current termination point at Stryker Road to the Maxeon site. This assumption is based on the current construction momentum within MDS, a second routing option for emergency purposes, and shorter travel distance it would provide. Only Maxeon passenger vehicles are assumed to use this travel route.

NON-SITE TRAFFIC FORECASTING, 10-YEAR HORIZON (2037)

The approach to estimate peak-hour volumes for the 10-year horizon after site opening varies from the near-term method. Because of the complexities associated with new roadway segments and other developments planned and operating prior to this time period, the following methodology was used to provide consistency between previous and future TIA's:

- Used 2036 Buildout year volumes found in the Albuquerque Studios TIA at the University/Crick and the University/Bobby Foster/Eastman Crossing intersections as base conditions.
- Substitute turn movement volumes from the Recreational Complex TIA if higher than the Studios turn movement volume.
- Add Phase I traffic volumes from the Valle Del Sol development.
- Flow the traffic volumes to the other intersection locations based on existing distribution percentages.
- Assume any intersection movements not impacted by non-site traffic to increase from 2027 conditions at 4% per year.

As a result of the above methodology, **Figure 14** presents the 2037 Horizon Year No-Build traffic volumes for the study area intersections. It is noted that this methodology may overestimate volume conditions through double counting and elevating turn and through movement volumes not associated with MDS traffic (i.e., Broadway Boulevard through movements at Bobby Foster Road) to values higher than what can be reasonably expected without significant off-site development.

PLANNED/PROGRAMMED ROADWAY IMPROVEMENTS FOR 2037

Similar to Opening Year changes, the following roadway improvements within the MDS community have been considered as part of the intersection analysis of this time period, as reflected in Figure 14:

- The west leg of the University/Crick intersection constructed along with approach widening to accommodate additional approach lanes.
- Changes to the east and west approach legs at the University/Bobby Foster/Eastman Crossing intersection.
- With Phase 1 construction of Valle Del Sol, an interchange constructed between University Boulevard and Los Picaros Road/County Trail to maintain grade separation but provide access between the two road segments.

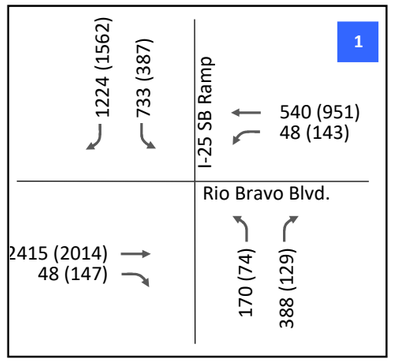
Not to scale

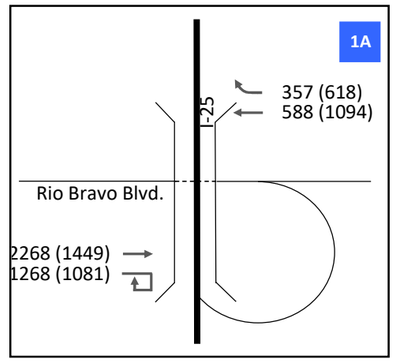
LEGEND

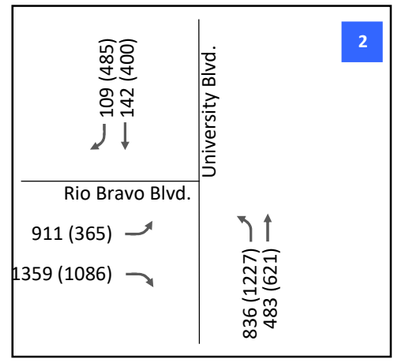
#	Intersection Identifier
XX (XX)	AM (PM) Peak-Hour Volume
	Intersection Movements
	New Movements/ Control

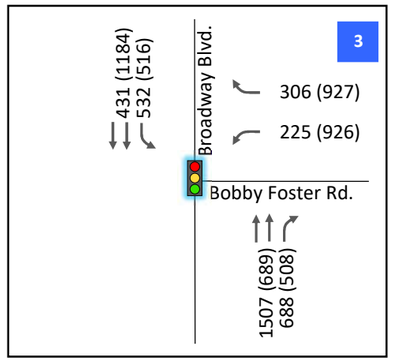
Notes:

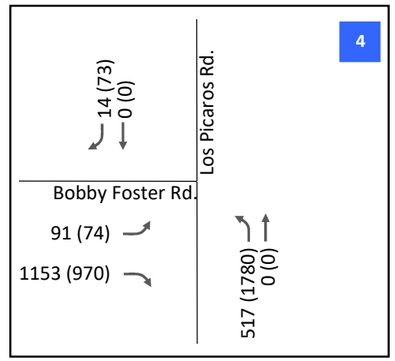
1. Some rounding may have occurred.
2. Intersection changes compared to the 2023 existing conditions in blue.
3. Only intersection 5 and 6A show new lane configurations. Other intersections same as 2027 conditions.
4. Broadway/Bobby Foster signalized controlled per 2027 mitigation.

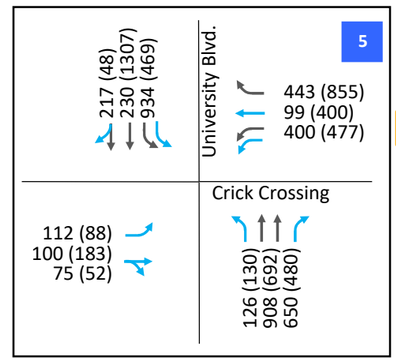


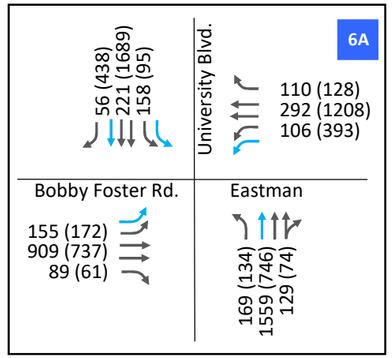












Maxeon Solar TIS - DRAFT

Background (2037) Horizon Year Traffic Volumes

Figure 14

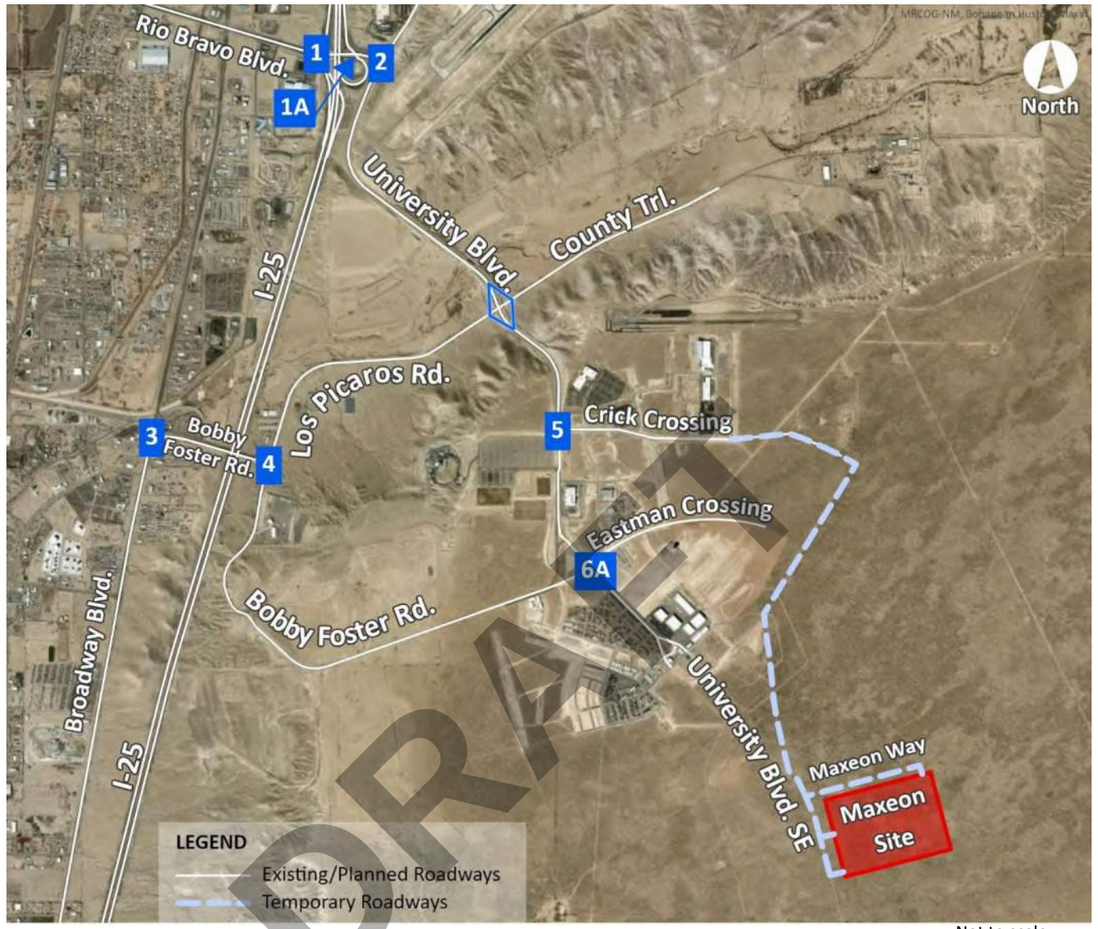
Opening Year and Horizon Year Total Traffic Estimates

TOTAL TRAFFIC VOLUME ESTIMATE, 2027 OPENING YEAR

To estimate the total volume conditions for the Opening year of the Maxeon campus, the AM and PM peak-hour site-generated volumes shown in Figure 10 were added to the volumes displayed in Figure 13. **Figure 15** provides the 2027 Total traffic volume estimate for the study area intersections.

TOTAL TRAFFIC VOLUME ESTIMATE, 2037 HORIZON YEAR

To estimate the total volume conditions with the Maxeon site 10 years after site opening, the AM and PM peak-hour site-generated volumes shown in Figure 10 were added to the volumes displayed in Figure 14. **Figure 16** provides the total volumes at the study area intersections for 2037.



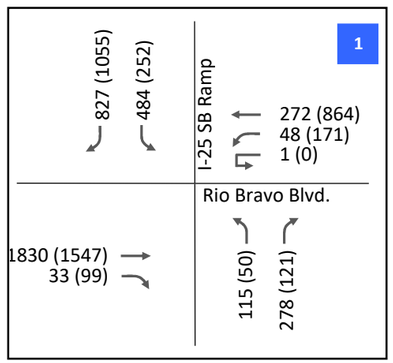
Not to scale

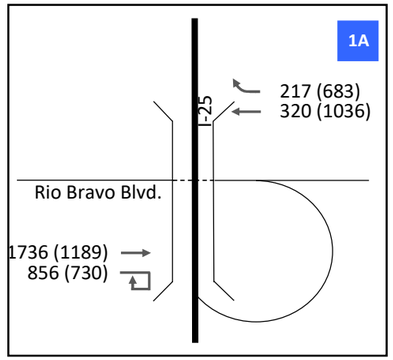
LEGEND

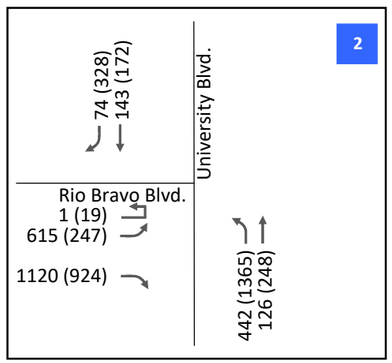
#	Intersection Identifier
XX (XX)	AM (PM) Peak-Hour Volume
	Intersection Approach Movement

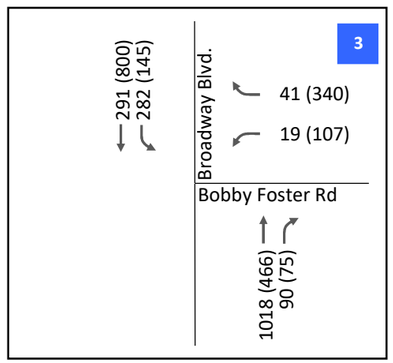
Notes:

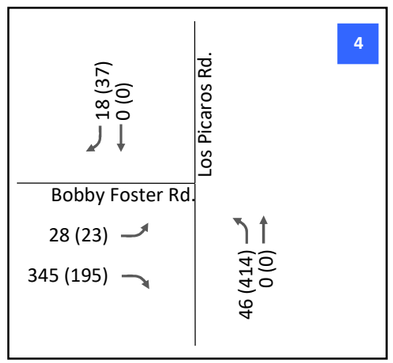
1. Volumes are a summation of values from Figure 9 + Figure 12.
2. Some rounding may have occurred.

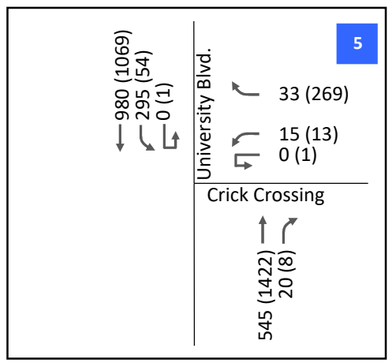


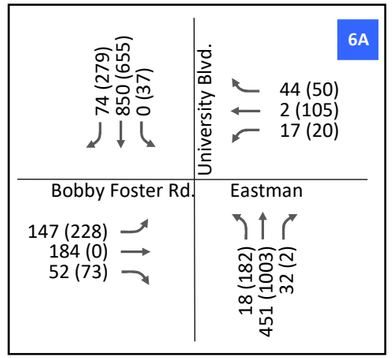


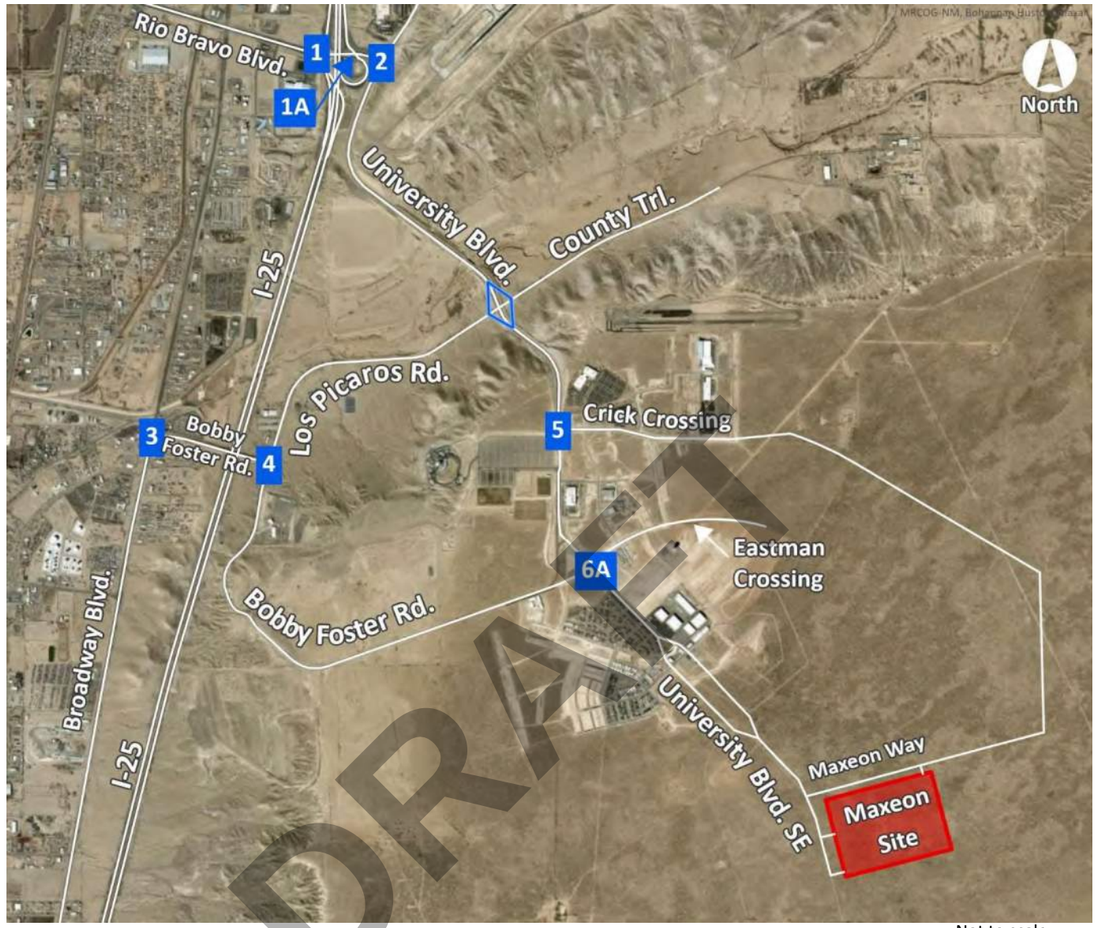












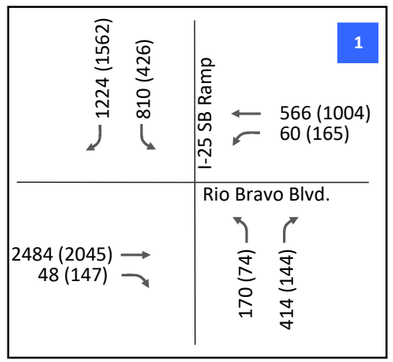
Not to scale

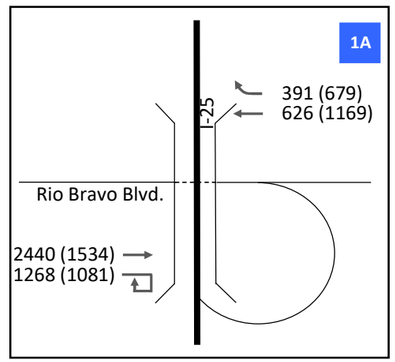
LEGEND

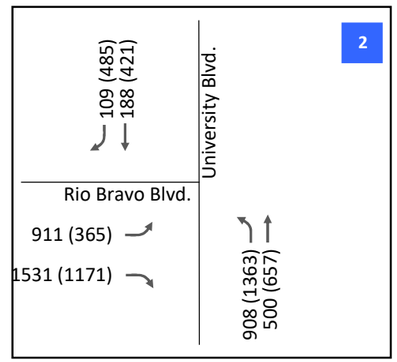
#	Intersection Identifier
XX (XX)	AM (PM) Peak-Hour Volume
	Intersection Approach Movement

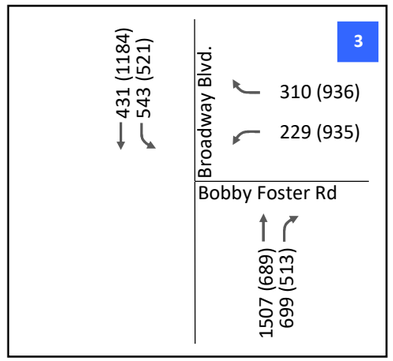
Notes:

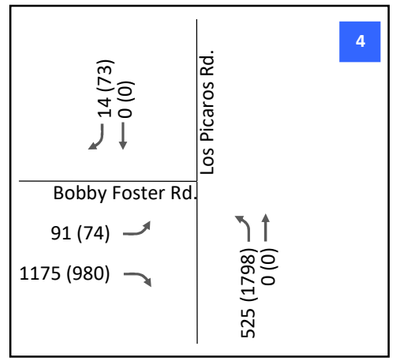
1. Volumes are a summation of values from Figure 9 + Figure 13.
2. Roadways reflect potential 2037 conditions without temporary facilities.
3. Some rounding may have occurred.

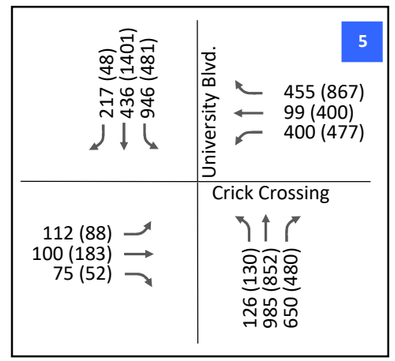


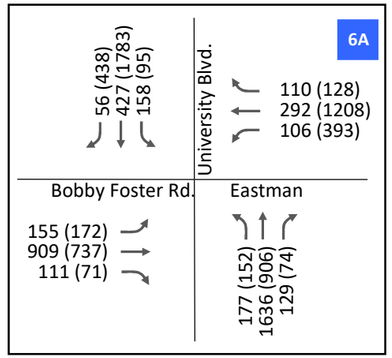












TRAFFIC ANALYSIS OF OPENING AND HORIZON YEARS

As performed for the 2023 Existing conditions, a Level of Service (LOS) and queueing analysis was performed for the future year conditions with and without the estimated Maxeon site traffic. The analysis for each traffic scenario used the same procedures and assumptions, with the following 2 exceptions:

- Existing conditions used captured peak-hour factors for each individual intersection movement as part of the analysis. Future year analyses used a default peak-hour factor (0.92) due to uncertainty of volumes conditions created from increased volumes, other influences, and for consistency with other TIA reports that were conducted for MDS.
- Existing conditions used captured heavy-truck percentages for each individual intersection movement. Future year analyses used a flat 5% truck percentage for all movements at the two Rio Bravo intersections and for the southbound to eastbound left-turn and the westbound to northbound right-turn movements at the intersection of University Boulevard and Crick Crossing. Truck percentages at all other locations were assumed at 2%.

OPENING YEAR CONDITIONS, 2027 NO-BUILD

Table 6 summarizes the intersection delay, level of service, and queueing estimated for the 2027 No-Build condition, including any lane configuration and intersection control changes emphasized in the previous section. The LOS and queue results are highlighted below.

LOS Results

- The results indicate 5 of the 6 intersections are anticipated to operate with overall acceptable service levels (LOS D or better), in both the AM and PM peak-hours. The only intersection shown to operate poorly under the estimated conditions is the Broadway/Bobby Foster intersection. In both morning and afternoon peak periods, the westbound left-turn movement is estimated to operate at LOS F. Although delays are elevated for this movement, the V/C ratio is estimated at 0.51 in the AM and 0.76 in the PM indicating some movement capacity may be available. However, with traffic volumes estimated to increase in future years, a traffic signal (or roundabout) should likely be considered for this location.
- All individual movements, except for the westbound left turn at Broadway/Bobby Foster, are estimated to operate at acceptable LOS D or better conditions during the peak hours.

Queue Results

- All left- and right-turn vehicle queues are contained within the turn bay storage length provided.
- Through movement queues do not block vehicle access to the left- or right-turn bays nor impact upstream intersections.

2027 NO-BUILD MITIGATION

To mitigate the poor operation at the Broadway Boulevard/Bobby Foster Road location, intersection control was changed from minor-street stop to signalized control having a 3-phase operation with a westbound right-turn overlap. The HCS summary results for the AM and PM peak hours assuming uncoordinated semi-actuated control are not presented but presented as part of the 2027 Total traffic conditions in the next section of the report.

Table 6. HCS Results Summary, 2027 No-Build

Opening Year 2027, No-Build														
Study Intersection	Queue, Delay, V/C, and LOS										Intersection LOS			
			AM				PM				AM		PM	
	Movement	Auxiliary Lane Length (ft)	95th Percentile Queue (ft)	Delay (sec)	V/C	LOS	95th Percentile Queue (ft)	Delay (sec)	V/C	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1. Rio Bravo Blvd & I-25 (Signalized)	EBT	-	380	28.1	0.63	C	283	19.4	0.46	B	24.6	C	14.7	B
	EBR	-	-	0.0	-	A	-	0.0	-	A				
	WBL	700	41	40.9	0.11	D	190	44.4	0.49	D				
	WBT	-	46	6.9	0.11	A	124	5.0	0.32	A				
	NBL	300	137	43.1	0.36	D	66	50.4	0.30	D				
	NBR	-	315	53.6	0.74	D	119	41.8	0.30	D				
	SBL	-	248	47.6	0.66	D	147	54.8	0.63	D				
	SBR	-	-	0.0	-	A	-	0.0	-	A				
2. Rio Bravo Blvd & University Blvd (Signalized)	EBL	300	90	11.2	0.48	B	49	15.5	0.26	B	10.6	B	13.1	B
	EBR	-	115	9.0	0.68	A	97	7.4	0.54	A				
	NBL	350	50	11.9	0.34	B	223	15.6	0.81	B				
	NBT	-	13	9.8	0.09	A	21	7.2	0.12	A				
	SBT	-	18	17.2	0.17	B	35	20.9	0.30	C				
	SBR	140	5	16.9	0.06	B	66	22.6	0.58	C				
3. Bobby Foster Rd & Broadway Blvd (MSS)*	WBL		60	218.8	0.51	F	168	99.5	0.76	F	218.8	F	99.5	F
	WBR		8	13.3	0.08	B	70	14.3	0.48	B				
	SBL		75	17.5	0.51	C	13	9.2	0.15	A				
4. Bobby Foster Rd & Los Picaros Rd (AWS)*	EBT		5	7.2	-	A	33	9.9	-	A	8.2	A	19.6	C
	NBL		5	8.2	-	A	133	19.6	-	C				
	NBT		0	7.3	-	-	0	7.8	-	-				
	SBL		3	6.6	-	A	5	7.9	-	A				
5. University Blvd & Crick Crossing (Signalized)	WBL	350	15	42.5	0.22	D	11	30.2	0.04	C	2.8	A	12.5	B
	WBR		21	43.2	0.34	D	270	50.0	0.88	D				
	NBT		42	3.2	0.17	A	263	10.6	0.53	B				
	NBR		41	3.2	0.17	A	258	10.6	0.53	B				
	SBL	600	11	1.7	0.35	A	9	8.1	0.13	A				
	SBT		6	1.1	0.25	A	121	5.0	0.38	A				
6A. Bobby Foster Rd/Eastman Crossing & University Blvd (Signalized)	EBL	300	70	22.9	0.75	C	149	27.9	0.80	C	15.7	B	22.5	C
	EBT	-	33	15.5	0.24	B	0	0.0	0.00	-				
	EBR	300	10	15.0	0.09	B	32	19.4	0.17	B				
	WBL	300	13	41.2	0.74	D	20	51.7	0.79	D				
	WBT	-	0	18.5	0.01	B	33	27.3	0.32	C				
	WBR	300	18	19.2	0.23	B	32	27.7	0.34	C				
	NBL	300	7	32.3	0.53	C	110	29.6	0.77	C				
	NBT	-	49	9.9	0.26	A	212	18.3	0.66	B				
	NBR	-	48	9.9	0.26	A	208	18.3	0.66	B				
	SBL	300	0	0.0	0.00	-	28	36.3	0.68	D				
	SBT	-	124	16.5	0.70	B	156	21.4	0.62	C				
	SBR	300	24	14.0	0.18	B	161	22.5	0.70	C				

Note: AWS = All-Way Stop Control, MSS = Minor-Street Stop Control

**Intersection LOS and delay for stop-controlled intersection, results are reported as the worst case movement*

Opening Year Conditions, 2027 Total Traffic

Table 7 summarizes the intersection delay, level of service, and queueing for 2027 Build conditions. The analysis was performed using the traffic volumes shown in Figure 15 and the same intersection conditions as the no-build scenario, except at the intersection of Broadway/Bobby Foster which assumed for signalized control to mitigate the poor operational conditions under minor-street stop control in the background condition. The LOS and queue results are highlighted below.

Table 7. HCS Results Summary, 2027 Total Traffic Condition

Opening Year 2027, Total													
Study Intersection	Queue, Delay, V/C, and LOS										Intersection LOS			
			AM				PM				AM		PM	
	Movement	Auxiliary Lane Length (ft)	95th Percentile Queue (ft)	Delay (sec)	V/C	LOS	95th Percentile Queue (ft)	Delay (sec)	V/C	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1. Rio Bravo Blvd & I-25 (Signalized)	EBT	-	410	30.4	0.68	C	392	36.1	0.70	D	26.9	C	22.0	C
	EBR	-	-	0.0	-	A	-	0.0	-	A				
	WBL	700	54	39.6	0.14	D	220	46.0	0.56	D				
	WBT	-	52	7.0	0.12	A	275	14.3	0.44	B				
	NBL	300	137	43.1	0.36	D	52	33.3	0.11	C				
	NBR	-	340	52.5	0.75	D	137	42.2	0.34	D				
	SBL	-	302	52.8	0.78	D	133	34.9	0.28	C				
	SBR	-	-	0.0	-	A	-	0.0	-	A				
2. Rio Bravo Blvd & University Blvd (Signalized)	EBL	300	98	11.4	0.45	B	51	15.5	0.25	B	11.7	B	18.0	B
	EBR	-	163	10.2	0.74	B	112	7.4	0.57	A				
	NBL	350	73	13.5	0.42	B	327	26.3	0.92	C				
	NBT	-	17	10.9	0.10	B	28	7.8	0.14	A				
	SBT	-	31	19.8	0.27	B	43	22.5	0.35	C				
	SBR	140	6	19.1	0.06	B	71	24.2	0.61	C				
3. Bobby Foster Rd & Broadway Blvd (Signalized)	WBL		19	41.3	0.21	D	84	28.0	0.25	C	4.9	A	17.2	B
	WBR		41	43.3	0.50	D	359	55.0	0.91	D				
	NBT		81	4.4	0.38	A	88	10.1	0.23	B				
	NBR		12	3.1	0.08	A	27	9.1	0.08	A				
	SBL		3	3.1	0.51	A	34	6.4	0.22	A				
	SBT		1	1.0	0.10	A	103	6.5	0.33	A				
4. Bobby Foster Rd & Los Picaros Rd (AWS)*	EBT		45	8.7	-	A	35	10.2	-	B	8.9	A	21.5	C
	NBL		5	8.9	-	A	150	21.5	-	C				
	NBT		0	8.0	-	-	0	7.9	-	-				
	SBL		3	7.3	-	A	5	8.0	-	A				
5. University Blvd & Crick Crossing (Signalized)	WBL	350	15	41.7	0.19	D	11	29.7	0.04	C	3.2	A	13.7	B
	WBR		33	43.4	0.45	D	286	52.0	0.89	D				
	NBT		52	3.5	0.20	A	322	12.6	0.61	B				
	NBR		51	3.6	0.20	A	316	12.6	0.61	B				
	SBL	600	14	2.0	0.39	A	16	10.4	0.19	B				
	SBT		13	1.4	0.32	A	145	5.5	0.42	A				
6A. Bobby Foster Rd/Eastman Crossing & University Blvd (Signalized)	EBL	300	80	25.4	0.76	C	158	29.4	0.81	C	16.2	B	23.3	B
	EBT	-	39	17.8	0.25	B	0	0.0	0.00	-				
	EBR	300	22	17.5	0.16	B	40	20.8	0.20	C				
	WBL	300	15	45.1	0.75	D	21	54.3	0.80	D				
	WBT	-	1	21.2	0.01	C	35	29.0	0.33	C				
	WBR	300	22	22.1	0.25	C	34	29.4	0.36	C				
	NBL	300	12	32.1	0.57	C	128	30.6	0.79	C				
	NBT	-	67	9.6	0.29	A	260	19.3	0.73	B				
	NBR	-	65	9.6	0.30	A	256	19.3	0.73	B				
	SBL	300	0	0.0	0.00	-	30	38.3	0.69	D				
	SBT	-	184	16.9	0.76	B	196	22.5	0.69	C				
	SBR	300	25	13.3	0.15	B	167	22.7	0.66	C				

Note: AWS = All-Way Stop Control, MSS = Minor-Street Stop Control

**Intersection LOS and delay for stop-controlled intersection, results are reported as the worst case movement*

From the above table, the following conclusions are made for the 2027 Opening Year conditions with site-generated traffic:

LOS Results

- All intersections within the study area are estimated to operate with overall acceptable LOS conditions (LOS C or better) in both the AM and PM peak hours.
- The change in intersection control from minor-street stop to signalized control at Broadway/Bobby Foster results in the intersection operating with an overall LOS A/B during peak-hour conditions.

- All individual movements with the site-added traffic are estimated to operate at LOS D or better in both AM and PM peak hours.

Queue Results

- All left- and right-turn vehicle queues are contained within the turn bay storage length provided.
- Through movement queues do not block vehicle access to the left- or right-turn bays nor impact upstream intersections, except for the northbound right-turn movement at the Rio Bravo/I-25 intersection during the AM peak hour. In this instance, the 95th percentile queue extends past the left-turn storage bay by 40 feet. Assuming a 120-second cycle, this condition is only expected to occur once every 60-minute period. During this occasion, sufficient shoulder width exists that would permit left-turn vehicles to use the shoulder area to bypass the stopped vehicles. A small reallocation of green time to the northbound right-turn movement would reduce the queue length and permit an unblocked condition.

Horizon Year Conditions, 2037 No-Build

Due to the poor operation of many movements, many through movement queues are estimated to be long with back of queue distances extending past the right- and left-turn bay storage areas. At locations where vehicles can access the turn bays, vehicle queues are expected to extend past their indicated turn bay lengths. Overall, a total of 11 movements in both the AM and PM peak hours are estimated to exceed their turn bay lengths or be blocked from entering the turn bay due to the through movement queue.

Table 8 summarizes the intersection delay, level of service, and queueing under 2037 No-Build conditions, which has incorporated the lane configurations, intersection control, and traffic volume shown in Figure 14. The LOS and queue results are highlighted below.

LOS Results

- Overall, most intersections for the estimated background lane configurations, intersection control, and traffic volumes are identified to operate at unacceptable levels of service in both AM and PM peak hours, with many individual movements exceeding capacity.
- The only intersections operating at LOS D or better is the Rio Bravo/University intersection although 1 movement in the AM peak hour (eastbound left) is operating at LOS F while the northbound left and the southbound right have 95th percentile queue lengths that exceed their current turn bay lengths.
- The only intersection under stop control, Bobby Foster/Los Picaros, shows excessive delays in both peak hours with the traffic volumes estimates at this location and will require modification to accommodate the vehicle demand.

Queue Results

- Due to the poor operation of many movements, many through movement queues are estimated to be long with back of queue distances extending past the right- and left-turn bay storage areas. At locations where vehicles can access the turn bays, vehicle queues are expected to extend past their indicated turn bay lengths. Overall, a total of 11 movements in both the AM and PM peak hours are estimated to exceed their turn bay lengths or be blocked from entering the turn bay due to the through movement queue.

Table 8. HCS Results Summary, 2037 Horizon Year, No-Build

Horizon Year 2037, No-Build														
Study Intersection	Queue, Delay, V/C, and LOS										Intersection LOS			
			AM				PM				AM		PM	
	Movement	Auxiliary Lane Length (ft)	95th Percentile Queue (ft)	Delay (sec)	V/C	LOS	95th Percentile Queue (ft)	Delay (sec)	V/C	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1. Rio Bravo Blvd & I-25 (Signalized)	EBT	-	551	32.2	0.83	C	530	40.9	0.87	D	60.7	E	22.9	C
	EBR	-	-	0.0	-	A	-	0.0	-	A				
	WBL	700	57	40.3	0.14	D	193	46.0	0.43	D				
	WBT	-	104	7.0	0.23	A	292	13.7	0.47	B				
	NBL	300	219	47.5	0.49	D	80	32.9	0.15	C				
	NBR	-	909	199.3	1.05	F	143	40.6	0.34	D				
	SBL	-	962	231.1	1.09	F	211	36.1	0.40	D				
	SBR	-	-	0.0	-	A	-	0.0	-	A				
2. Rio Bravo Blvd & University Blvd (Signalized)	EBL	300	743	117.9	1.02	F	133	24.1	0.37	C	51.4	D	18.5	B
	EBR	-	571	31.9	0.92	C	246	11.1	0.64	B				
	NBL	350	393	39.8	0.90	D	336	20.2	0.89	C				
	NBT	-	99	8.9	0.23	A	121	9.9	0.32	A				
	SBT	-	60	27.7	0.15	C	173	33.7	0.66	C				
	SBR	140	19	26.9	0.05	C	174	35.4	0.72	D				
3. Bobby Foster Rd & Broadway Blvd (Signalized)	WBL		195	32.0	0.58	C	8828	1604.5	1.87	F	125.2	F	699.9	F
	WBR		309	48.8	0.89	D	9305	1883.7	2.02	F				
	NBT		1259	150.5	1.06	F	218	21.3	0.48	C				
	NBR		1478	210.3	1.09	F	391	34.9	0.80	C				
	SBL		827	124.2	1.02	F	283	29.2	0.88	C				
	SBT		44	5.0	0.18	A	223	10.6	0.53	B				
4. Bobby Foster Rd & Los Picaros Rd (AWS)	EBT		2245	464.4	-	F	1658	349.7	-	F	351.5	F	915.5	F
	NBL		435	89.1	-	F	4560	1284.5	-	F				
	NBT		0	9.1	-	-	0	9.2	-	-				
	SBL		3	9.7	-	A	13	10.6	-	B				
5. University Blvd & Crick Crossing (Signalized)	EBL	150	153	55.0	0.74	E	165	79.4	0.72	E	54.1	D	157.7	F
	EBT	-	271	76.3	0.86	E	267	37.8	0.41	D				
	WBL	350	260	53.7	0.86	D	359	66.9	0.89	E				
	WBT	-	116	42.9	0.31	D	393	31.7	0.56	C				
	WBR	-	360	24.5	0.60	C	1109	62.2	0.96	E				
	NBL	180	171	56.4	0.81	E	321	152.0	0.93	F				
	NBT	-	514	54.0	0.91	D	468	60.8	0.85	E				
	NBR	500	889	84.2	0.98	F	553	44.0	0.78	D				
	SBL	600	574	61.3	0.94	E	379	77.5	0.90	E				
	SBT	-	161	17.7	0.25	B	2693	429.0	1.20	F				
	SBR	-	152	18.0	0.28	B	2643	433.2	1.20	F				
6A. Bobby Foster Rd/Eastman Crossing & University Blvd (Signalized)	EBL	300	97	49.7	0.50	D	140	66.5	0.75	E	38.6	D	116.3	F
	EBT	-	478	46.4	0.88	D	525	70.3	0.93	E				
	EBR	300	84	30.1	0.19	C	75	40.3	0.17	D				
	WBL	300	65	48.4	0.34	D	282	60.4	0.84	E				
	WBT	-	140	30.9	0.28	C	2101	354.6	1.17	F				
	WBR	300	105	30.6	0.24	C	147	34.4	0.28	C				
	NBL	300	126	19.2	0.26	B	140	41.8	0.76	D				
	NBT	-	500	38.3	0.87	D	257	31.1	0.43	C				
	NBR	-	110	25.6	0.23	C	72	27.4	0.13	C				
	SBL	300	99	49.8	0.51	D	73	61.2	0.41	E				
	SBT	-	69	30.2	0.15	C	740	61.6	0.97	E				
	SBR	300	52	30.0	0.13	C	520	46.6	0.81	D				

Note: AWS = All-Way Stop Control, MSS = Minor-Street Stop Control

**Intersection LOS and delay for stop-controlled intersection, results are reported as the worst case movement*

2037 NO-BUILD MITIGATION

Mitigation of no-build conditions have not been performed. Discussion of mitigation alternatives are discussed in the 2037 Build scenario.

HORIZON YEAR CONDITIONS, 2037 TOTAL TRAFFIC

Table 9 summarizes the intersection delay, level of service, and queue conditions under the estimated 2037 Build conditions. No changes to lane configurations or intersection controls (other than potential green time reallocation) were made from Background conditions, except at the following locations:

- Bobby Foster Road and Los Picaros Road. The intersection was assumed to be "improved" to eliminate the east to south and north to west turn volumes by reconstructing the intersection to make Bobby Foster a curved roadway segment, eliminating the stop control associated with these two continuous legs and to add an island area to "Tee" the Los Picaros approach leg at the curve apex, permitting a staged left-turn movement.
- A third northbound and southbound through lane was added to University Boulevard at the Crick Crossing intersection, resulting in a continuous 3-lane directional roadway.

The peak-hour traffic volumes shown in Figure 15 were substituted into the HCS software and analyzed. The LOS and queue results are highlighted below.

LOS Results

- With the added site-generated traffic volumes added to the background conditions, the intersections without any modifications (Rio Bravo/I-25, Broadway/Bobby Foster, University/Bobby foster/Eastman) show increased delays and indicated above, show increased delays and LOS operation F during the AM and/or PM peak hour.
- At locations where improvements were made, Rio Bravo/University – timing optimization, Bobby Foster/Los Picaros – roadway realignment, University/Crick – Added 3rd N/S through lanes, HCS results improved compared to the Background analysis.
    - At Rio Bravo/University, the timing change resulted in this intersection operating at LOS C in both peak periods.
    - At Bobby Foster/Los Picaros, the realignment resulted in only the southbound left movement in the PM peak hour to operate at LOS F, although no traffic is identified to make this movement. Additional analysis indicated 53 vehicles could make the left-turn, at LOS F, but with its V/C at 0.80 indicating potential, acceptable operation.
    - At University/Crick, the added 3rd north/south through lane resulted in overall LOS D operation in both AM and PM peak hours although some LOS E and one LOS F movement is identified.

Queue Results

- At least 2 movements at each intersection shows that the left- or right-turn movement queue exceeded the existing turn bay length. Additionally, some through movement queues extended past the end of the left or right turn storage bay indicating some turn demand may not be serviced during the subsequent green indication.

Table 9. HCS Results Summary, 2037 Horizon Year, Total Traffic Condition

Mitigated Horizon Year 2037, Total													
Study Intersection	Queue, Delay, V/C, and LOS										Intersection LOS			
			AM				PM				AM		PM	
	Movement	Auxiliary Lane Length (ft)	95th Percentile Queue (ft)	Delay (sec)	V/C	LOS	95th Percentile Queue (ft)	Delay (sec)	V/C	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1. Rio Bravo Blvd & I-25 (Signalized)	EBT	-	575	33.3	0.85	C	653	63.1	-	E	97.8	F	31.8	C
	EBR	-	-	0.0	-	A	-	0.0	0.98	A				
	WBL	700	72	40.9	0.17	D	230	50.4	0.55	D				
	WBT	-	110	7.0	0.24	A	326	15.1	0.55	B				
	NBL	300	219	47.5	0.49	D	81	33.2	0.17	C				
	NBR	-	1248	303.7	1.12	F	163	41.5	0.42	D				
	SBL	-	1604	422.1	1.20	F	235	37.9	0.50	D				
	SBR	-	-	0.0		A	-	0.0	-	A				
2. Rio Bravo Blvd & University Blvd (Signalized)	EBL	300	369	30.9	0.79	C	166	34.6	0.62	C	24.6	C	27.0	C
	EBR	-	450	18.1	0.87	B	543	48.0	0.96	D				
	NBL	350	372	33.3	0.89	C	293	16.8	0.87	B				
	NBT	-	123	12.5	0.27	B	75	5.2	0.28	A				
	SBT	-	90	36.3	0.34	D	136	21.0	0.35	C				
	SBR	140	21	33.9	0.09	C	380	33.6	0.91	C				
3. Bobby Foster Rd & Broadway Blvd (Signalized)	WBL	300	198	31.9	0.58	C	8292	1510.3	1.82	F	136.0	F	684.3	F
	WBR	300	314	49.3	0.89	D	9484	1919.0	2.04	F				
	NBT	-	1260	150.6	1.06	F	216	21.3	0.48	C				
	NBR	-	1645	238.0	1.10	F	398	35.6	0.81	D				
	SBL	-	999	161.4	1.05	F	292	30.8	0.88	C				
	SBT	-	44	5.1	0.18	A	223	10.6	0.53	B				
4. Bobby Foster Rd & Los Picaros Rd (AWS)*	EBT		2318	479.9	-	F	1690	356.9	-	F	364.2	F	929.1	F
	NBL		455	94.6	-	F	4620	1301.8	-	F				
	NBT		0	9.1	-	-	0	9.2	-	-				
	SBL		3	9.7	-	A	13	10.6	-	B				
4. Bobby Foster Rd & Los Picaros Rd (MSS-MITIGATED)*	EBL		8	9.0	0.10	A	28	21.8	0.27	C	35.8	E	54.8	F
	SBL/R		0	19.9	0.00	C	0	54.8	0.00	F				
	SBR		3	10.2	0.02	B	35	26.0	0.32	D				
5. University Blvd & Crick Crossing (Signalized)	EBL	150	153	55.4	0.74	E	141	65.2	0.70	E	50.1	D	52.5	D
	EBT		273	77.1	0.86	E	263	37.6	0.43	D				
	WBL	350	262	54.1	0.86	D	331	57.6	0.88	E				
	WBT		117	43.1	0.31	D	388	31.8	0.54	C				
	WBR		371	24.8	0.62	C	1165	70.5	0.98	E				
	NBL	180	172	56.7	0.81	E	215	71.4	0.84	E				
	NBT		334	39.1	0.69	D	361	52.0	0.75	D				
	NBR	500	908	87.5	0.98	F	543	43.9	0.79	D				
	SBL	600	589	63.1	0.95	E	333	57.5	0.88	E				
	SBT		152	17.5	0.24	B	560	46.7	0.87	D				
	SBR		153	18.0	0.28	B	550	48.2	0.87	D				
6A. Bobby Foster Rd/Eastman Crossing & University Blvd (Signalized)	EBL	300	98	50.6	0.51	D	142	67.4	0.76	E	39.6	D	128.1	F
	EBT	-	488	48.0	0.89	D	531	71.6	0.93	E				
	EBR	300	2	31.2	0.24	C	89	41.1	0.20	D				
	WBL	300	66	49.3	0.35	D	284	60.9	0.84	E				
	WBT	-	143	31.5	0.29	C	2110	355.8	1.17	F				
	WBR	300	2	31.2	0.24	C	148	34.7	0.28	C				
	NBL	300	135	19.9	0.32	B	197	63.3	0.87	E				
	NBT	-	540	40.4	0.89	D	313	32.6	0.52	C				
	NBR	-	110	25.4	0.22	C	73	27.4	0.13	C				
	SBL	300	100	50.7	0.52	D	74	61.8	0.42	E				
	SBT	-	139	31.3	0.29	C	1014	109.7	1.02	F				
	SBR	300	52	29.8	0.12	C	525	47.2	0.81	D				

Note: AWS = All-Way Stop Control, MSS = Minor-Street Stop Control

**Intersection LOS and delay for stop-controlled intersection, results are reported as the worst case movement*

Capacity Mitigations and Street Improvements, 2037 Horizon Year

As shown in the above section, significant capacity and queueing issues are anticipated for the 2037 Horizon year, partially due to the methodology used to estimate the traffic volumes and due to the limited access points leading into and out of the MDS area. The following comments are provided as a result of the analysis:

- The assumption of a 4% per year background traffic growth rate for movements at intersection locations not impacted by site-generated traffic is likely an over estimation and the intersections on the exterior of the study area will likely perform better than indicated. For example, the MRCOG 2016/2040 traffic model for Broadway Boulevard near Bobby Foster Road indicates a -3% total growth for the 24-year period while this report's methodology assumed a though traffic growth on Broadway Boulevard between 2023 and 2037 of 73.2% (4% per year for 14 years). Other movements at the Rio Bravo/I-25 and Rio Bravo/University intersections also included movements using the same elevated growth rate.
- A likely double counting of vehicles within the MDS area occurred. In an attempt to conservatively estimate volumes (to expand the volume conditions above the Albuquerque Studios analysis where intersection operations were acceptable), the use of maximum turn movement volumes between the Studios and the Recreational Complex TIA's was used. Additionally, trips associated with Phase I of the Valle Del Sol were added, no site-interaction was assumed for the Maxeon development, and no trip reduction associated with alternative travel modes considered.
- Currently, only two points of access are available to enter and exit MDS, University Boulevard to the north and Bobby Foster Road to the west. These remain the only points of access in the 2037 analysis. In the updated MDS Level A Plan, additional access points are being considered, including interchanges with I-25 at Bobby Foster Road and at Mesa Del Sol Boulevard. Other access points, such as Ira Sprector Road to access the airport area and the improvements near the I-25/NM47 interchange area remain. As can be shown from the results in **Table 10**, the 2037 Background volume demand exceeds roadway capacity leading from the MDS area. At a minimum, a 3rd University Boulevard travel lane (6 travel lanes) would result in a V/C ratio of 0.79, just under typically acceptable conditions. The addition of the Maxeon site traffic (190 outbound PM trips per ITE estimate), would result in a total V/C = 0.83, adding to the constraints at the intersection locations without additional points of access.

Table 10. Roadway Capacity Summary, 2037 No-Build Volumes

Roadway	Classification	Daily Capacity (per Lane)	Number of Directional Lanes	Daily 1-Way Capacity	Peak-hour Capacity	Peak-Hour Volume at Capacity	Estimated 2037 No-Build Peak-Hour Volume	V/C Ratio
University Boulevard, 4-Lane Divided Roadway								
Univeristy Blvd	Arterial	11000	2	22000	10%	2200	1848	0.84
Bobby Foster	Collector	6600	2	13200	10%	1320	1780	1.35
					Total	**3520**	**3628**	**1.03**
University Boulevard, 6-Lane Divided Roadway								
Univeristy Blvd	Arterial	11000	3	33000	10%	3300	1848	0.56
Bobby Foster	Collector	6600	2	13200	10%	1320	1780	1.35
					Total	**4620**	**3818**	**0.83**

Overall, the above results, assuming both site and site-adjacent developments are constructed and generate the number of trips indicated, capacity constraints are estimated for the 2037 Horizon year. This could be mitigated by putting another MDS access point in operation. Based on development patterns, it appears the

I-25/Mesa Del Sol Boulevard interchange would best accommodate traffic due to its centralized location and proximity to developing areas. Additionally, a more detailed analysis of traffic volumes for the 2037 Horizon Year could be developed noting network changes and conditions that were not likely modeled as part of the Recreational Complex and Studios TIA's. If the estimated volumes used in this report are deemed as appropriate, analysis of the 2037 conditions will need to be studied in more detail.

TRAFFIC SIGNAL NEEDS ASSESSMENT

A planning level traffic signal warrant assessment was conducted for the existing stop-controlled intersections that are not planned for signalized control in the immediate future: University/Crick, Broadway/Bobby Foster, and Bobby Foster/Los Picaros. The 3 intersections were evaluated for the 2023 Existing, 2027 Background, and 2027 Total conditions to help determine if and when MUTCD signal installation warrants may be met. Only the volume-based warrants, Warrants 1A and 1B (Eight-Hour Volume) and Warrant 2 (Four-Hour Volume) were evaluated. Analysis at the Broadway/Bobby Foster intersection used the 70% threshold values since the posted speed limit on Broadway Boulevard is 55 mph while the University/Crick and Bobby Foster/Los Picaros intersections were evaluated using the 100% values. The MUTCD criteria for each warrant are provided as shown. As part of the analysis, 0% of minor-street right-turn volumes were removed from the analysis to act as a conservative case for potential signal control at the intersections.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

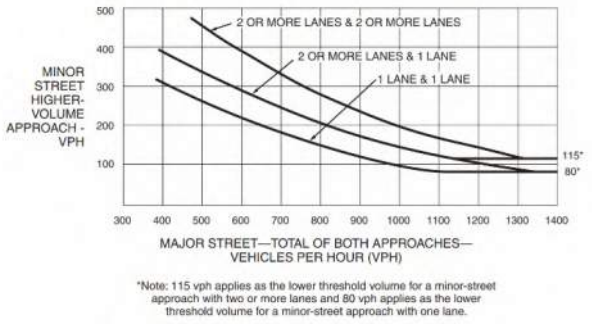
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

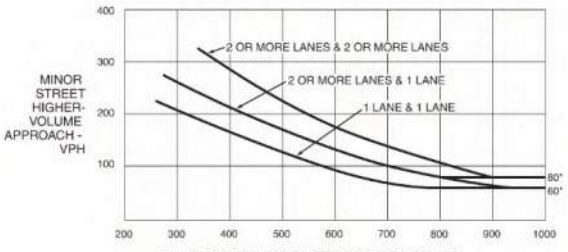
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

To estimate 4th-and 8th-highest hour volumes at the intersections, the higher of the AM and PM peak hour volumes from the appropriate volume figures (Figures 7, 13, and 15) were used, then adjusted based on rule-of-thumb factors. **Table 11** summarizes the results of the analysis.

Table 11. Planning Level Signal Warrant Needs Assessment

	2023 Existing			2027 No Build			2027 Total		
	1st Highest Hour	4th Highest Hour	8th Highest Hour	1st Highest Hour	4th Highest Hour	8th Highest Hour	1st Highest Hour	4th Highest Hour	8th Highest Hour
Period / Factor	--	0.8508	0.7419	--	0.8508	0.7419	--	0.8508	0.7419
AM/PM HIGHEST VOLUME PEAK HOUR									
University/Crick (2-lane, 2-lane) 100% Threshold									
Major Rd	552	470	349	2287	1946	1444	2553	2172	1611
Minor Rd	213	181	134	270	230	171	282	240	178
Warrant 1A Met	--	--	No	--	--	No	--	--	No
Warrant 1B Met	--	--	No	--	--	**YES**	--	--	**YES**
Warrant 2 Met	--	No	--	--	**YES**	--	--	**YES**	--
Broadway/Bobby Foster (2-lane, 2-lane) 70% threshold									
Major Rd	1161	988	733	1476	1256	932	1486	1264	938
Minor Rd	102	87	65	429	365	271	447	380	282
Warrant 1A Met	--	--	No	--	--	**YES**	--	--	**YES**
Warrant 1B Met	--	--	No	--	--	**YES**	--	--	**YES**
Warrant 2 Met	--	No	--	--	**YES**		--	**YES**	
Bobby Foster/Los Picaros (2-lane, 1-Lane) 100% Threshold									
Major Rd	98	83	62	433	368	273	451	384	285
Minor Rd	77	66	49	208	177	131	218	185	137
Warrant 1A Met	--	--	No	--	--	No	--	--	No
Warrant 1B Met	--	--	No	--	--	No	--	--	No
Warrant 2 Met	--	No	--	--	No	--	--	No	--

The results of the above table indicate:

- All three intersections operating under stop-controlled conditions today do not meet the MUTCD volume warrant thresholds.
- Under 2027 No-Build conditions considering site-adjacent development traffic and 4 years of ambient background traffic growth, the intersection volumes at University/Crick and Broadway/Bobby Foster are estimated to meet Warrants 1 and 2, indicating signalized control could be an acceptable mitigation alternative for these locations. Volume warrants could be met prior to 2027, but a change from stop-control to signalized control should only be conducted if and when one or more MUTCD warrants are met. At the intersection of Bobby Foster/Los Picaros, intersection volumes are not estimated to meet signal warrant threshold values for this time period.
- Under 2027 Total traffic conditions, the intersection of Bobby Foster/Los Picaros (assuming Bobby Foster west leg as the Minor Street) still does not meet either of the MUTCD volume thresholds. It is noted, however, that other modifications could be implemented if the intersection is performing poorly. One such option could be to realign the intersection to eliminate the 90-degree intersection and install a gradual eastbound to southbound curve with Los Picaros intersecting the roadway at the curve apex.

A signal assessment for the 2037 traffic conditions was not conducted noting the 14-year time horizon and potential access alternatives that may become available to the MDS community, shifting travel patterns and circulation characteristics.

DEVELOPMENT SITE SPECIFIC OBSERVATIONS AND RECOMMENDATIONS

SITE ACCESS SIGHT DISTANCE, TRUCK DRIVEWAYS

The following presents recommended intersection sight distance requirements for the access driveways serving the development's truck driveways. Intersection sight distance requirements were calculated based on the 2018 AASHTO "Green Book" chapter 9.5. The design vehicle used was a combination truck.

- Case B1 – A stopped vehicle making a crossing maneuver or left turn from a minor street approach onto a major road.
- Case B2 – A stopped vehicle making a right turn from a minor street approach onto a major road.

Intersection sight distances were calculated based on the following:

1. A 2-lane Industrial connector roadway (D2 cross-section) anticipated for Maxeon Way.
2. A primary street section, a 2-lane divided Boulevard (1A-2a cross-section) anticipated for University Boulevard adjacent to the site.

Values shown below in **Table 12** were rounded up to the nearest 5-foot increment. Formulas, values, and calculations used in the sight distance analysis can be found in Appendix D.

Table 12. Sight Distance Recommendations, Truck Driveways

Case	Roadway	Speed	Sight Distance
Case B1 – Turning Left	Connector Industrial	35 MPH	595 ft
Case B2 – Turning Right	Connector Industrial	35 MPH	545 ft
Case B1 – Turning Left	Arterial	45 MPH	855 ft
Case B2 – Turning Right	Arterial	45 MPH	695 ft

It is noted that sight distances for left-turning or crossing vehicles may be higher if turn lanes exist.

SITE ACCESS SIGHT DISTANCE, EMPLOYEE/VISITOR DRIVEWAYS

The following presents recommended intersection sight distance requirements for the access driveways serving the development's employee-related driveways. Intersection sight distance requirements were calculated based on the 2018 AASHTO "Green Book" chapter 9.5. The design vehicle used was a passenger vehicle.

- Case B1 – A stopped vehicle making a crossing maneuver or left turn from a minor street approach onto a major road.
- Case B2 – A stopped vehicle making a right turn from a minor street approach onto a major road.

Intersection sight distances were calculated based on a Primary street section, a 2-lane divided Boulevard (1A-2a cross-section) anticipated for University Boulevard adjacent to the site. It is noted that the intersection sight distance would be reduced for a lower hierarchy roadway with less lanes or with a lower posted speed limit (Maxeon Way).

Values shown below in **Table 13** were rounded up to the nearest 5-foot increment. Formulas, values, and calculations used in the sight distance analysis can be found in Appendix D.

Table 13. Sight Distance Recommendations, Employee/Visitor Driveways

Case	Roadway	Speed	Sight Distance
Case B1 – Turning Left	Boulevard	45 MPH	565 ft
Case B2 – Turning Right	Boulevard	45 MPH	430 ft

It is noted that sight distances for left-turning or crossing vehicles may be higher if turn lanes or medians are present. It is recommended that all development driveways adhere to the sight distance provisions detailed in the AASHTO "Green Book". An area bounded by the above sight distances with the decision point placed 14.5 feet back from the edge of the shoulder midway between the outbound driving lane should be maintained clear of any obstructions.

Noting the MDS roadway network is assumed to be relatively flat without significant horizontal or vertical curvature per the surrounding topography and layout design, it is anticipated that all site driveways can provide adequate sight visibility to exiting drivers.

Auxiliary Lane Considerations

The following presents a review of the turn lane warrant criteria to be considered at the site's access locations. **Table 14** below, a reprint of Table 7.4.67 from the City of Albuquerque's *Development Process Manual (DPM)*, shows the turn lane warrants for left and right-turn auxiliary lanes, based on estimated turn volumes and design speed of the roadway.

In considering the ITE trip generation estimate for the site, approximately 320 inbound passenger vehicles are estimated for the higher AM peak period. Noting employee traffic could potentially arrive within a more compressed 30-minute time-period prior to the start of work, any driveways serving an employee parking lot will likely meet criteria for both left- and right-turn deceleration lanes to be installed. Further, any driveway serving as an industrial/truck access should also be considered for a deceleration lane to help in maneuvering, trailing vehicles, and other factors (reducing braking and acceleration, noise) associated with truck operations.

Table 14. COA DMP Table 7.4.67 – Turn Lane Warrants

TABLE 7.4.67 **Turn Lane Warrants**			
Left Turn		**Right Turn**	
Design Speed (MPH)	**Turning Volume per Hour**	**Design Speed (MPH)**	**Turning Volume per Hour**
25	50	25	60
30-40	40	30-40	50
45	30	45	45

Access Spacing Considerations

Required minimum distances between commercial site access and intersections along with the total number of site driveways were analyzed using criteria defined in the COA DPM. Criteria is shown for all roadway segment types and potential site driveway locations. Access spacing standards from the COA's DPM Table 7.4.45 and 7.4.46 were captured below in **Table 15.**

Table 15. Access Spacing and Number of Driveways Standards

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

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

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

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

Based on the 125-acre site and near square-shaped perimeter of the property, it can be calculated that the site will have approximately 2,333 feet of frontage adjacent to each roadway. Noting the approach and departure distances indicated in the above table (A and D columns) 7 total driveways with a 300-foot spacing could be installed on University Boulevard while as many at 23 driveways with a 100-foot spacing could be installed on adjacent collector roadways (Maxeon Way). The number of possible driveways appear to be excessive for the Maxeon development while the proximity of driveways to adjacent cross-streets and between other driveways appear too close to accommodate potential high-volume employee lots and/or truck traffic. As proposed, the site layout presented in Figure 2 only indicates three vehicle driveways and one bicycle/emergency access proposed for the site. The minimal number of proposed driveways limits the location of turning vehicles and number of conflict areas, thus increasing safety. It is recommended that access to and from University Boulevard be consolidated, to the extent possible, noting this roadway is geared toward mobility opposed to access. Driveways should consider the potential influx or outflow associated with concentrated vehicle activity prior to work start and end times, eliminate interlocking turn movements, and provide sufficient spacing to prevent vehicles from blocking other internal and external site-adjacent movements. Truck and employee/visitor driveways have been appropriately separated, to the extent possible, for safety. The approach to the security gate/guard house area should be sufficiently located to accommodate projected truck ingress demand thus helping to mitigate potential vehicle queue under extended security operations.

When considering the design of the auxiliary lanes, Section 7-4 of the COA DPM can be referenced, indicating minimum storage lengths and taper designs for right- and left-turn conditions. Due to the temporary nature of the study area, this analysis has not been performed. However, the site design should take into account both left- and right-turn auxiliary lanes will likely be required at each access point.

Site Access Recommendations

It is recommended that the first driveways adjacent to any intersection locations (if proposed within 330 feet of an intersection) be designed for right-in/right-out (RIRO) while more interior driveways can be three-quarter or full access. As currently positioned, the driveways appear to be appropriately located. Driveways and driveway widths should be designed to accommodate the swept path of the design vehicle they are to serve such that no off-tracking or vehicles crossing into opposing travel lanes occur. All outbound driveway locations should provide adequate intersection sight distance requirements without any signage, landscaping, or other roadway feature being located within the visibility triangle that would obscure vision to approaching vehicles, bicycles, or pedestrians. Driveway throat lengths appear to have been maximized to the extent possible to minimize potential blockage of adjacent on-site drive aisles. Outbound approaches should have separate left- and right-turn lanes to accommodate the proposed turn movements.

Deceleration lanes, as warranted per the COA DMP, should be constructed and if appropriate for the roadway conditions.

ROADWAY CAPACITY EVALUATION

Daily traffic volumes along the analyzed roadway network have been reviewed for the 2027 Total and the 2037 Total traffic to determine if the roadway cross-section can accommodate the estimated traffic demand in an appropriate manner. **Table 16** presents the capacity estimates for the roadways within the MDS planned to be used by site-generated traffic. The roadways have been examined based maximum volume range indicated in the MDS Community Master Plan.

For the 2027 condition, it is anticipated that temporary 2-lane roadways will be constructed between the site and existing roadway termini locations to accommodate site traffic until additional development fronting the roadways or a more defined understanding of the development intensity within the new Employment Center area is obtained. By 2037, the roadway segments are anticipated to be constructed to ultimate design.

Table 16. Roadway Capacity and Volume Estimate

				2027 Opening Year				2037 Horizon Year			
Roadway	Segment	Classification	Daily Capacity (per Lane)	Total Number of Lanes (2027)	Daily 2-Way Capacity (Est.)	Estimated Daily Volume	V/C Ratio	Total Number of Lanes (2037)	Daily 2-Way Capacity (Est.)	Estimated 2037 Daily Volume	V/C Ratio
Univeristy Blvd	N of Crick Crossing	Arterial	11000	4	44000	28150	64%	6	66000	37370	57%
Univeristy Blvd	Bet. Crick and Eastman	Arterial	8800	4	35200	22520	64%	6	52800	35220	67%
Univeristy Blvd	Eastman to Couplet	Arterial	8800	4	35200	19350	55%	4	35200	33790	96%
Univeristy Blvd	Couplet to Site	Arterial	8800	2	17600	0	0%	4	35200	3130	9%
Bobby Foster Rd	W of Calder Loop	Collector	6600	2	13200	8670	66%	4	26400	27780	105%
Bobby Foster Rd	E of Calder Loop	Collector	6600	4	26400	6090	23%	4	26400	27780	105%
Crick Crossing	W of Watson Drive	Arterial	10250	4	41000	3630	9%	4	41000	28880	70%
Crick Crossing	E of Watson Drive	Arterial (Temp. Roadway)	10250	2	20500	240	1%	2	20500	240	1%
Maxeon Way	E of University Blvd	Collector (Ind.)	6000	2	12000	2918	24%	2	12000	2918	24%

Note: Daily volumes estimated at 10x peak hour volume, Figure 14 & Figure 15.

The above results indicate the following:

- A two-lane roadway is adequate to accommodate site-generated traffic from the existing roadway terminus locations to the subject site.
- All but one roadway cross-section is appropriately designed for the estimated future conditions. The Bobby Foster roadway segments west of University Boulevard are estimated to be over-capacity in the 2037 Total traffic condition if other access points between the MDS community and outside roadway network is not constructed.
- One roadway segment, University Boulevard from Eastman Crossing south to the couplet, is estimated to operate near capacity of a 4-lane roadway, with a V/C ratio of 0.96.

It is noted that estimated volumes, especially for the 2037 Horizon, may or may not come to fruition since the addition of new roadway segments and other developments that may or may not develop at indicated intensities or generate the number of vehicle trips estimated. The above results do provide insight to future planning considerations needed to alleviate volumes on the roadway segments at or nearing capacity.

MITIGATION AND IMPROVEMENTS

Based on the analysis conducted as part of this report, the following mitigation and improvement considerations are provided:

- Intersection #1, Rio Bravo/I-25 Intersection. No improvements are identified. However, poor operational conditions by the 2037 Horizon year are noted for the northbound right-turn and southbound left-turn movements toward MDS since this is the only/closest freeway access. A second I-25 interchange into the MDS area should be considered to help alleviate conditions as the community continues to grow.
- Intersection #2, Rio Bravo/University. The southbound right-turn storage lane may require lengthening by 2037. Signal timing adjustments may be required to best accommodate demand and minimize vehicle queue conditions.
- Intersection #3, Broadway Boulevard and Bobby Foster Road. This intersection should continue to be monitored to determine if and when signalized control is warranted at this location. Analysis indicated the existing stop-controlled condition will fail in the 2027 background condition while MUTCD volumes Warrants 1 and 2 are anticipated to be met.
- Intersection #4, Bobby Foster/Los Picaros. This 90-degree all-way stop intersection is estimated to fail in the 2037 No-build condition. There are multiple mitigation options possible for this location, including signalized control or introducing a horizonal curve to the roadway that will eliminate the need for Bobby Foster traffic to stop. The curved roadway section could incorporate a divided median area permitting left-turn movements from Los Picaros Road to make a staged left-turn movement under minor-street stop control, which could eventually become signalized if and when needed. A future roadway connection over/under I-25 (between Bobby Foster and the future Mesa Del Sol Boulevard, Avenue D) that will connect MDS in a more direct manner to Broadway Boulevard may eliminate or change the above improvement consideration.
- Intersection #5, University/Crick. Construction along University Boulevard is on-going that will result in a 4-lane divided roadway segment by 2027 while the east leg of Crick Crossing has been recently widened/improved. This intersection should continue to be monitored to determine if and when signalized control is warranted at this location. Previous analysis (by others) indicated the existing stop-controlled condition will fail in the 2027 background condition while MUTCD volumes Warrants 1 and 2 are anticipated to be met for this condition. In the 2037 scenario, 3 north/south through lanes should be considered for University Boulevard, dependent upon MDS community growth and potential additional access points to the regional roadway network.

Note: For the 2027 Total condition, although not planned nor programmed, analysis has assumed University Boulevard to be extended south of Stryker Road to the Maxeon campus*, if only in a temporary manner. If this travel route is not available to Maxeon passenger vehicles, all approaching and departing site-generated traffic will be confined to Crick Crossing. This would result in an additional 206 southbound to eastbound left-turn vehicles in the higher AM peak-hour at the University/Crick intersection or 491 total left-turn vehicles. Dual left-turn movements may be required without the temporary extension of University Boulevard through the Community Center area although supplemental analysis indicates a single left-turn lane will operate acceptably under the increased volume condition. In the PM peak-hour, 160 additional right-turn vehicles from westbound Crick Crossing to University Boulevard are not anticipated to have a significant impact to conditions. If required, the existing "hatched" center lane area could be used for a second right-turn lane or future shared through/right lane*.

- Intersection #6, University/Bobby Foster/Eastman. Construction along University Boulevard is on-going that will result in a 4-lane divided roadway segment by 2027 with the west leg of Bobby Foster realigned to Eastman Crossing and intersection improvements completed. It is noted that Eastman Crossing, a part of the ABQ Studios study, does not extend to Mesa Del Sol Boulevards and is not available for Maxeon site traffic. In 2037, poor operational conditions for the westbound and southbound through movements are anticipated. A second I-25 interchange into the MDS area should be considered to help alleviate conditions as the community continues to grow.
- University Boulevard. The soon to be completed 4-lane divided roadway is estimated to be sufficient for near-term conditions. By 2037 without any additional new MDS access points, estimated volumes indicate a 3rd north/south lane will be needed.
- University Boulevard adjacent to site. No changes to University Boulevard adjacent to the site are noted.
- Maxeon Way. A 2-lane collector industrial cross-section for this roadway is appropriate if driveways/access points to future developments are managed and additional roadways will serve the employment center area. Consideration to add a continuous two-way center turn lane may be appropriate to improve operational conditions if this is the only east/west roadway serving the employment center noting it could operate near capacity thresholds as Maxeon daily traffic (3,158 vehicles) is 26% of the 12,000 vehicle daily capacity while the site comprises 25% (125 Ac / 500 Ac) of the entire employment area.
- Temporary Roadways. These roadways in the interim, can be constructed in a 2-lane temporary manner to accommodate the site-generated traffic generated from the Maxeon development. As planned, the temporary roadways are not anticipated to be paved. The temporary roadway along Mesa Del Sol and University Boulevards are planned within the median areas, permitting future roadway construction and installation of utilities to be completed without significant interruption.

ASSESSMENT OF PARCEL LAND USE CHANGE

TRIP GENERATION

Recently, the 500-acre land use area previously identified as Adult Active Community, located southeast of the Community Center area, has been approved for change to Employment Center. The Active Adult Community was originally proposed as residential with an average 7 DU's/acre condition was changed to a lower 4 DU's/acre associated with "active adult" or residential community use in 2021.

To determine the impact of this land use change to traffic volume and other mobility conditions, the following methodology has been considered:

- Trip generation for the previous 500-acre Active Adult Community will be based on 4 DU's per acre or 2,000 total residential units. ITE Lane Use Code #251, Senior Adult Housing – Single-Family will be used for trip generation purposes.
- The Employment Center was considered to be more reflective of an industrial area opposed to office. Trip generation has been based on two components, estimated trips generated from the 125-acre Maxeon site and a floor-to-area ratio (FAR) of 0.20, or 3.27 MSF of building area for the remaining 375 acres. ITE Lane Use Code #130, Industrial Park has been used for trip generation purposes for the unknown 375-acre area.

Table 17 provides the change in trip generation for the land use redesignation from Adult Active Community to Employment Center. The results are summarized below:

- A total of 6,607 more daily vehicle trips can be anticipated from the 500-acre Employment Center compared to Active Adult Community.
- During the AM peak hour of the roadway, 1,096 more trips are anticipated, 1,016 inbound and 53 more outbound trips.
- In the afternoon peak hour, 958 more trips are expected, 80 inbound and 878 more outbound vehicles.
- Ten percent of all Employment Center trips are estimated to be truck trips, whereas 0 truck trips could be considered as part of the Adult Active Community. In all, 661 daily, 107 AM and 96 PM peak-hour truck trips can be expected.

Table 17. Trip Generation Land Use Difference

ADULT ACTIVE COMMUNITY (PRIOR)						
Land Use: (#251) Senior Adult Housing - Single Family						
# of Units	Daily		AM Peak Roadway		PM Peak Roadway	
2000	Enter	Exit	Enter	Exit	Enter	Exit
Dir. Dist.	50%	50%	33%	67%	61%	39%
Trips	3781	3780	125	254	280	179
	7561		379		459	

All Units		
Period	# of Trips	Equation
Daily	7561	LN(T) = 0.85 LN(X) + 2.47
AM Pk	379	LN(T) = 0.76 LN(X) + 0.16
PM Pk	459	LN(T) = 0.78 LN(X) + 0.20

Source: ITE Trip Generation, 11th Edition

EMPLOYMENT CENTER (PROPOSED)						
Land Use: Maxeon Facility (Table 5)						
# of Units	Daily		AM Peak Roadway		PM Peak Roadway	
	Enter	Exit	Enter	Exit	Enter	Exit
Dir. Dist.	50%	50%	71%	29%	38%	62%
Trips	1579	1579	240	97	116	190
	3158		337		306	
Land Use: (#130) Industrial Park						
# of Units	Daily		AM Peak Roadway		PM Peak Roadway	
3267.0	Enter	Exit	Enter	Exit	Enter	Exit
Dir. Dist.	50%	50%	81%	19%	22%	78%
Trips	5505	5505	901	210	244	867
	11010		1111		1111	

Period	# of Trips	Equation
Daily	3158	From Table 5
AM Pk	337	From Table 5
PM Pk	306	From Table 5

Period	# of Trips	Equation
Daily	11010	T = 3.37 (X) + 0
AM Pk	1111	T = 0.34 (X) + 0
PM Pk	1111	T = 0.34 (X) + 0

Source: ITE Trip Generation, 11th Edition

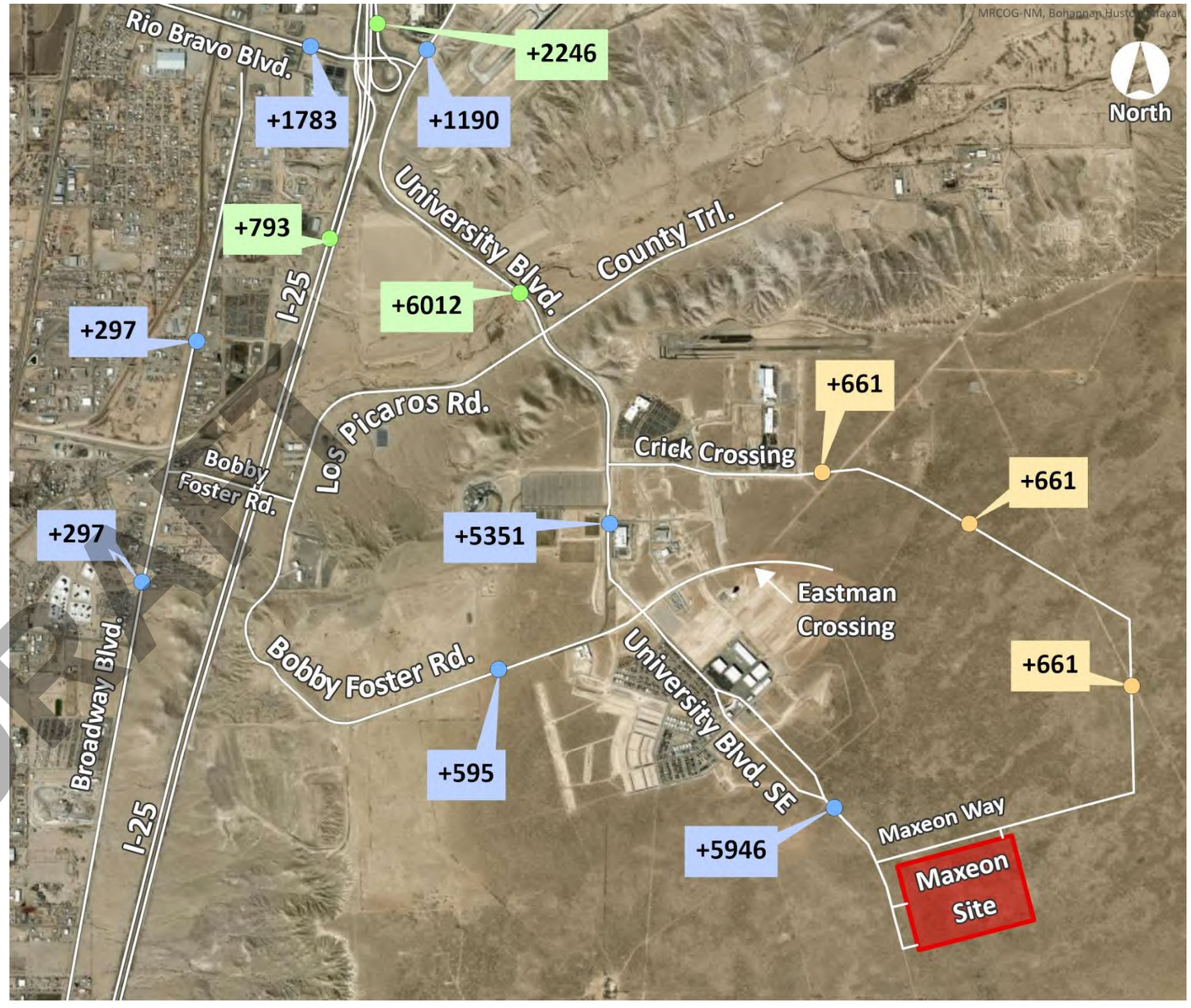
EMPLOYMENT CENTER (TOTAL)						
	Daily		AM Peak Roadway		PM Peak Roadway	
	Enter	Exit	Enter	Exit	Enter	Exit
Dir. Dist.	50%	50%	79%	21%	25%	75%
Trips	7084	7084	1141	307	360	1057
	14168		1448		1417	

TRIP DIFFERENTIAL BETWEEN LAND USES						
# of Units	Daily		AM Peak Roadway		PM Peak Roadway	
	Enter	Exit	Enter	Exit	Enter	Exit
Trips	3303	3304	1016	53	80	878
	6607		1069		958	

Distribution and Assignment

In distributing and assigning the additional vehicle trips generated from the change in designation, it can simply be assumed that all passenger and truck-based trips will distribute onto the MDS roadway network as estimated in Figure 8. Applying the distribution factors to the trip generation differentials, **Figure 17** displays the change in daily trips due to the 500-acre land use reassignment.

In reviewing the results of Figure 17, it can be anticipated the employment center will add approximately 6,000 more daily trips (3,000 directional trips) on University Boulevard and 600 more daily trips to Bobby Foster Road. When adding these vehicles to the 2037 Horizon Year daily estimates presented in Table 16, a 6-lane University Boulevard cross-section can accommodate the additional vehicle trips. However, in the section south of Eastman Crossing and within the couplet area where only 2 directional lanes are provided, demand may exceed the available capacity.



LEGEND

- Passenger Vehicles
- Trucks
- Trucks + Pax. Vehicles

Note:
Roadways reflect potential 2037 conditions without temporary facilities.

Not to Scale

Change In Daily Traffic Volume, Active Adult Community to Employment Center

Figure 17

LEE ENGINEERING

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

The following presents a summary of results and conclusions generated from the analysis conducted in this report.

2023 Existing Conditions

- All existing study area intersections currently operate at acceptable service levels during both AM and PM peak hours.
- Two travel paths are currently available to drivers entering and exiting the MDS community, via University Boulevard at its intersection with Rio Bravo Boulevard (access to I-25) and Bobby Foster Road, a 3-lane roadway that is stop-controlled with its intersection at Broadway Boulevard. These 2 roadways (3 lanes of capacity) accommodate existing traffic volumes in an acceptable manner. During the higher-volume PM peak hour, a total of 881 vehicle trips were identified to enter and exit the MDS community from these 2 locations.

2027 Background Traffic Development

- Pre-study discussions with local agencies indicated 4 site-adjacent developments to be considered as part of the 2027 background traffic conditions. Three of the four developments were considered while the Valle Del Sol project was not, noting the unlikelihood 30% of the entire development can be constructed prior to the opening of the Maxeon site. In total, these 3 developments account for 2,035 vehicle trips entering and exiting the MDS community during the PM peak hour.
- In addition to the site-adjacent development, existing traffic at the study area intersections were increased by 4% per year to account for the ambient growth of the area for the 2027 No-Build condition. This growth was similar to the rates used within the site-adjacent TIA's although this rate of growth may overestimate conditions/movements not associated with the MDS area.

Opening Year, 2027 No-Build Conditions

- Improvements associated with the Montage Units, Bernalillo County Regional Recreational Complex, and Albuquerque Studios developments, along with on-going community development, will result in University Boulevard becoming a 4-lane divided arterial from Rio Bravo Boulevard to Bobby Foster/Eastman Crossing and improve Bobby Foster Road to a divided 4-lane roadway from University Boulevard west to the west end of the Montage Units development. Intersection improvements to University Boulevard will shift the existing Bobby Foster Road segment to align with Eastman Crossing and improve the intersections at University/Crick and University/Bobby Foster/Eastman.
- Intersection analysis of the study area intersections indicate 5 of the 6 study intersections and all but 1 individual movement will continue to operate at acceptable levels of service (LOS D or better) with the indicated improvements and background traffic volumes. The only intersection/movement not operating well is the Bobby Foster westbound left-turn movement to Broadway Boulevard. The stop-controlled movement is estimated to operate at LOS F, but with a V/C ratio of 0.76 or less. With increased traffic from the site-adjacent developments and estimated increase to through traffic volume on Broadway (study growth higher then estimated MRCOG growth), this intersection should be monitored to determine if and when a control change from minor-street stop to signalized control is warranted and appropriate.

Traffic Signal Needs Assessment

- Planning level analysis of the University/Crick, Broadway/Bobby Foster, and Bobby Foster/Los Picaros intersections indicate the MUTCD volume warrants (Warrants 1 and 2) are not met for the 2023 Existing conditions.

- The volume warrants are met at University/Crick and Broadway/Bobby Foster for the 2027 No-Build condition. Signalized control at these locations should be considered/monitored to determine if and when a change from minor-street stop control to signalized control is warranted and best accommodate estimated demand.

Site Development

- The site is projected for substantial opening in 2025, although the complete build-out of the campus is not estimated until 2027. At site opening (assumed full build-out), the 1.6 MSF campus is estimated to generate 3,159 daily trips, 337 AM peak hour trips, and 306 PM peak hour trips, 10% of trips assumed to be truck traffic. It is assumed all vehicles will arrive and depart via University Boulevard along a temporary roadway path to Crick Crossing and eventually University Boulevard to exit MDS.
- A preliminary site layout plan has been provided showing 4 total site driveways, including; a bike/emergency vehicle access on Maxeon Way near University Boulevard, a truck access on Maxeon Way at the far east end of the property, a mid-block main site access on University Boulevard for all passenger-related vehicles, and a full access driveway at the far south end of the property, to be used by passenger vehicles and trucks exiting from the MODCO building. The driveways appear to be appropriately located but require continued refinement to account for potential turn lanes, storage lengths, and swept path designs.

Opening Year, 2027 Build Conditions

- With the addition of the site-generated trips at the study area intersections and the assumption of signalized control at the Broadway/Bobby Foster intersection, all intersections and individual movements in both peak hours are estimated to operate at LOS D or better. No mitigation is required to accommodate the Maxeon site traffic.
- Although not planned nor programmed, analysis has assumed University Boulevard to be extended south of Stryker Road to the Maxeon campus, if only in a temporary paved manner due to current construction momentum within MDS and potential secondary access route. If this travel route is not available to Maxeon passenger vehicles, all approaching and departing site-generated traffic will be confined to Crick Crossing. This would result in an additional 206 AM southbound to eastbound left-turn vehicles in the higher AM peak-hour at the University/Crick intersection or 491 total left-turn vehicles. Dual left-turn movements may be required without the temporary extension of University Boulevard through the Community Center area although supplemental analysis indicates acceptable operation. In the PM peak-hour, 160 additional right-turn vehicles from westbound Crick Crossing to University Boulevard is not anticipated to have a significant impact to conditions. If required, the existing “hatched” center lane area could be used for a second right-turn lane or future shared through/right lane.

2037 Background Traffic Development

- Development of the 2037 Background traffic estimate was based on volumes identified in the Studios TIA’s for conditions within the MDS area. These volumes were supplemented by volumes from the Recreational Complex, Phase I of the Valle Del Sol project, and the growth of non-site traffic at a rate of 4% per year. The combination of all volumes resulted in a conservative (high) estimate of background traffic volumes to estimate study area conditions. Upon analysis, the methodology used to estimate conditions over-estimated traffic volumes due to the likelihood of double counting, over-estimating non-site traffic growth, and not considering the impacts of site-interaction and alternative travel mode reductions.

Horizon Year, 2037 No-Build Conditions

- Analysis of the study area intersections resulted 4 of the 6 intersections operating at overall LOS F in the AM or PM peak hour. The 2 intersections to operate acceptably were the University/Rio Bravo and the University/Crick location, although some individual movements operate at LOS E/F and/or have 95th percentile queue that exceed turn bay storage lengths.

Horizon Year, 2037 Build Conditions

- Three improvements were assumed from No-Build to Build conditions with the addition of the Maxeon site traffic. One was associated with the redesign of the Bobby Foster/Los Picaros intersection from the west leg intersecting the north/south road to having the north leg intersect a curved west to south roadway. The second improvement assumed a continuous 6-lane divided University Boulevard and the third was a timing change at the University/Rio Bravo intersection. Overall, the results still indicated LOS E/F operations.
- No mitigation was attempted to improve intersection operations in the 2037 Build scenario. A more detailed analysis of MDS traffic volume conditions (via model analysis) and non-site volumes contributions will be required to best analyze horizon year conditions as too many variables and assumptions were made to estimate volumes 14 years into the future.
- Under analyzed volume conditions, it is estimated that a 6-lane University Boulevard and a 4-lane Bobby Foster Road may be able to accommodate vehicle demand. Analysis indicates the 5 inbound/outbound lanes would operate at a V/C ratio of 0.83 indicating the two existing access points leading into and out of the MDS area may be nearing their capacity threshold and a third access should be considered for volume conditions exceeding the analyzed.

Site Specific Conditions

- A site layout plan for the Maxeon development has been provided. Initially, access to the site will be provided via a temporary roadway, located within the median area of Mesa Del Sol and University Boulevards while by-passing the Community Center area. The temporary roadway can be constructed as a 2-lane facility since it will be used entirely by Maxeon and demand will not exceed capacity.
- All driveways are anticipated to meet COA DMP volume warrants for auxiliary turn lanes.
- The Maxeon driveways appear to be appropriately located but not provided in adequate detail to determine left- and right-turn deceleration lanes designs, truck swept paths, throat distances, or driveway widths. The site design should consider the impacts of these elements as they may be beneficial under the current temporary design and will be required once the adjacent roadway features become more defined.

Assessment of Parcel Land Use Change

- It is estimated that the 500-acre change from Active Adult Community to Employment Center will result in 6,607 more daily trips, 1,069 more AM and 958 more PM peak hour trips. This is based on the difference in trips generated from 2,000 units of Senior Adult Housing – Single-Family (LUC #251) and 3.267 MSF of Industrial Park (LUC #130).
- In all, the additional 6,607 daily trips or 3,304 directional trips is about 30% of the capacity of a single arterial roadway lane, assuming all trips use University Boulevard. However, when assessing direction volumes, the additional vehicles may require an additional MDS inbound and outbound lane than previously considered.

The following presents a summary of recommendations for the agencies, MDS developers, and the Maxeon Developer.

Agencies

- An update to the MRCOG transportation model in this area may be appropriate to help better forecast 2037 horizon year conditions at the intersections adjacent to the site.
- Continue to monitor the intersections of Broadway Boulevard/Bobby Foster Road and University Boulevard/Crick Crossing to determine if and when a change from minor-street stop control to signalized control may be warranted and appropriate. Analysis indicates by 2027, MUTCD Warrants 1 and 2 will be met at both locations.
- Continue to monitor the development within the MDS community and capacity leading into and out of the area. Results indicate acceptable operational conditions through 2027 but by 2037, the two current access points may fail, requiring a 3rd access route.

MDS Developers

- An update to the MDS transportation model may be appropriate to help better estimate 2037 horizon year conditions within the community and the intersections adjacent to the site.
- Analysis indicates by 2037, University Boulevard will need 3 directional lanes to accommodate peak-hour traffic, although internal intersections show poor operational conditions due to high turn movement volumes. Signal coordination may improve conditions along this major corridor.
- By 2037, poor operational conditions at the study area intersections are noted. Continued development of the internal roadway network will improve conditions by reducing turn movements that are concentrated at specific intersection locations. A third access point between MDS and the adjacent regional roadway network may be appropriate as development within the community grows.

Maxeon Developers

- The proposed location for the site is currently unserved by the existing road network. It is believed that access to and from the site can be accommodated in a 2-lane temporary manner, without having to construct the full-width of the roadway system leading to and from the site. Adjacent to the site, half-street improvements are required.
- Peak-hour volumes will likely meet COA DPM warrants for right- and left-turn deceleration lanes at all site access points.
- Driveways appear to be appropriately located a sufficient distance away from intersecting roadways to minimize conflicts associated with turn movements, vehicle queue, and other non-site related conditions.
- Passenger vehicles and truck traffic to the extent possible, should be accommodated separately. As proposed, the site plan appears to meet this condition.
- Driveways should be constructed to accommodate the design vehicle being served. No visual obstruction should be placed within the intersection sight visibility triangles that would obscure vision to approaching vehicles, as calculated using the AASHTO methodology.
- The security check point appears to be located a sufficient distance away from the intersecting roadway such that vehicle queue will not impede other site and non-site movements.

TECHNICAL APPENDICES

APPENDIX A	**SCOPING MATERIALS**
APPENDIX B	**TURNING MOVEMENT COUNT DATA**
APPENDIX C	**HCS CAPACITY OUTPUT SHEETS**
APPENDIX D	**SIGHT DISTANCE CALCULATIONS**
APPENDIX E	**MISCELLANEOUS MATERIALS**

APPENDIX A SCOPING MATERIALS

Mesa del Sol, LLC
A New Mexico Corp.
Master Developer of Mesa del Sol
5700 University Blvd SE, Suite 300
Albuquerque, NM 87106

RFP

Project: Mesa del Sol Traffic Study
Requested Quote: Traffic Study

Request Date: 9/7/20
Due Date: 9/21/2023
Contact: Tom Schmidt
Contact #: 505-238-0700
Contact e-mail: tom@sc3development.com

Documents Provided:

- **SC3 Development Master Agreement**
- **Scope of Work**

Scope of work requested: Please provide a proposal based on the attached documents for Traffic Study for the above-mentioned project.
Proposal should consider the following:

- 500 Ac parcel South of Town Center is now part of the Employment Center and will be home to Maxeon Solar Manufacturing with employment of 1800 employees and significant truck traffic.
- All conditions listed in the attached scope of work.
- Contractor will be required to include a schedule for the construction of this project with their bid proposal. The schedule will need to include all tasks associated with completing the work on time per the dates listed under the **Schedule** section in this RFP.

Schedule:

- Because of a very tight development schedule being imposed by Maxeon development, we are looking for a completed Traffic Study by early November.
- SC3 Development will award this project on Friday September 22nd, 2023.
- The contractor will provide SC3 Development an up-to-date detailed construction schedule for the project weekly on Tuesday by

Bid Format:

- Please provide a construction schedule including earliest start date and overall duration with your proposal.
- Also, please be prepared to provide your proposal in an electronic
- Proposals can be sent directly to Tom Schmidt at SC3 Development; contact information is listed above.

Thank you in advance for your proposal,

Tom Schmidt
Project Coordinator
SC3 Development

MDS Land Use Change TIA Scope

Active Adult Living changed to Employment Center

Background

The Mesa del Sol Level A and Level B Community Master Plan have been updated to change 500 acres of planned use from an Active Adult Residential to an Employment Center (February 2023). See the employment center shown in the lower right corner of the Exhibit below. The traffic impact study required is herein scoped to address changes necessary to the transportation plan and the site-specific improvements necessary for the Maxeon Solar Manufacturing development .

Details for the development are provided below and within the following scope.

a. 160 acres of the employment center is planned for Maxeon Solar Manufacturing
    i. Trip data will be finalized within the study. See the trip generation section below.
b. The employment center development has been established, and this study will identify any site-specific modifications that are necessary for the transportation system. Specifically, trucks should not be routed through the Town Center.
c. Access alignment around the Town Center. Potential east side roadway alignment to access Crik Crossing.
    i. Signal Warrant Analysis at University and Crik Crossing
    ii. SB Site Distance

Exhibit 1 Employment Center location.

Scoping

A scoping meeting was held on Tuesday, August 1, 2023, with the NMDOT, Bernalillo County, the City of Albuquerque, SC3 Development, and Lee Engineering to establish the study expectations and roles.

Roles

The City of Albuquerque is the primary reviewing agency.

Bernalillo County is also a reviewing agency.

The NMDOT will not be a reviewing agency, though they are to be updated on study findings.

Known Developments

The Agencies have provided the following list of known developments that need to be addressed within the study:

- ABQ Studios
- MDS Elementary School
- Athletic Complex
- Sunport South Development (Bernalillo County)

Known Studies

- Netflix TIA
- A302360 - Mesa Del Sol Interchange

Evaluation Years

- 2023 Existing Conditions
- 2027 No-Build
- 2027 Buildout
- 2037 Horizon, defined as buildout plus ten years.

Analysis Software

Synchro, Vistro, or HCS. Transmodeler is not required.

Study Area

Signalized Intersections

- I25 Rio Bravo Interchange
- Rio Bravo Blvd / University Blvd

Unsignalized Intersections

- Bobby Foster / Broadway Blvd
- Bobby Foster Rd / Los Picaros Rd
- Bobby Foster / University Blvd
- University Blvd / Crick Crossing Ave
- Site Driveways

Master Plan Assumptions to be defined

- Live-work assumptions
- Multimodal Split
    - Transit
    - Bikes and Pedestrians

Preliminary Trip Generation

- Maxeon 160 acres
    - Preliminary Employee Estimate
        - 1,800 employees
    - Preliminary Square-feet
        - 1.9 million sq-ft
    - Heavy vehicles – 550 Weekly Trucks (Assumes deadhead) (Maxeon provided)
- Remaining 340 acres to assume similar development intensities.

Trip Distribution

- Passenger Cars – Proportional distribution based on I25 / Rio Bravo / University traffic counts
- Heavy vehicles – Maxeon provided O-D estimates

Miscellaneous

Include agency review fees:

- CABQ $1,300
- County $0
- NMDOT N/A

APPENDIX B TURNING MOVEMENT COUNTS

NM352.02 - MDS-Employment Center Study - TMC

Thu Oct 26, 2023
Full Length (3 PM-7 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1126538, Location: 35.023637, -106.639186

Provided by: Lee Engineering
8220 San Pedro Drive NE, Suite 150,
Albuquerque, NM, 87113, US

Leg Direction	Rio Bravo Eastbound						Rio Bravo Westbound						
Time	R	T	L	U	**App**	Ped*	HR	R	T	L	U	**App**	Ped*
2023-10-26 3:00PM	4	235	0	0	**239**	0	89	0	78	18	0	**185**	0
3:15PM	6	241	0	0	**247**	0	71	0	88	8	0	**167**	0
3:30PM	20	210	0	0	**230**	0	71	0	89	23	0	**183**	0
3:45PM	20	220	0	0	**240**	0	51	0	72	2	0	**125**	0
Hourly Total	50	906	0	0	**956**	0	282	0	327	51	0	**660**	0
4:00PM	16	214	0	0	**230**	0	65	0	100	9	0	**174**	0
4:15PM	19	207	0	0	**226**	0	72	0	87	20	0	**179**	0
4:30PM	30	235	0	0	**265**	0	79	0	103	30	0	**212**	0
4:45PM	24	183	0	0	**207**	0	47	0	82	16	0	**145**	0
Hourly Total	89	839	0	0	**928**	0	263	0	372	75	0	**710**	0
5:00PM	27	199	0	0	**226**	0	60	0	78	12	0	**150**	0
5:15PM	23	214	0	0	**237**	0	48	0	74	15	0	**137**	0
5:30PM	14	201	0	0	**215**	0	48	0	51	15	0	**114**	0
5:45PM	17	169	0	0	**186**	0	40	0	41	14	0	**95**	0
Hourly Total	81	783	0	0	**864**	0	196	0	244	56	0	**496**	0
6:00PM	9	175	0	0	**184**	0	51	0	48	7	0	**106**	0
6:15PM	20	210	0	0	**230**	0	40	0	43	6	0	**89**	0
6:30PM	4	171	0	0	**175**	0	58	0	41	5	0	**104**	0
6:45PM	7	165	0	0	**172**	0	55	0	33	2	0	**90**	0
Hourly Total	40	721	0	0	**761**	0	204	0	165	20	0	**389**	0
Total	260	3249	0	0	**3509**	0	945	0	1108	202	0	**2255**	0
% Approach	7.4%	92.6%	0%	0%	**-**	-	41.9%	0%	49.1%	9.0%	0%	**-**	-
% Total	2.6%	32.6%	0%	0%	**35.2%**	-	9.5%	0%	11.1%	2.0%	0%	**22.6%**	-
Lights	249	3131	0	0	**3380**	-	925	0	1093	198	0	**2216**	-
% Lights	95.8%	96.4%	0%	0%	**96.3%**	-	97.9%	0%	98.6%	98.0%	0%	**98.3%**	-
Articulated Trucks and Single-Unit Trucks	11	113	0	0	**124**	-	19	0	11	4	0	**34**	-
% Articulated Trucks and Single-Unit Trucks	4.2%	3.5%	0%	0%	**3.5%**	-	2.0%	0%	1.0%	2.0%	0%	**1.5%**	-
Buses	0	5	0	0	**5**	-	1	0	3	0	0	**4**	-
% Buses	0%	0.2%	0%	0%	**0.1%**	-	0.1%	0%	0.3%	0%	0%	**0.2%**	-
Bicycles on Road	0	0	0	0	**0**	-	0	0	1	0	0	**1**	-
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0.1%	0%	0%	**0%**	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

NM352.02 - MDS-Employment Center Study - TMC

Thu Oct 26, 2023
Full Length (3 PM-7 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1126538, Location: 35.023637, -106.639186

Provided by: Lee Engineering
8220 San Pedro Drive NE, Suite 150,
Albuquerque, NM, 87113, US

Leg	I-25 Northbound						I-25 Southbound						
Direction													
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2023-10-26 3:00PM	9	0	7	0	**16**	1	246	0	7	0	**253**	0	**693**
3:15PM	8	0	10	0	**18**	0	235	0	16	0	**251**	0	**683**
3:30PM	8	0	10	0	**18**	0	235	0	16	0	**251**	0	**682**
3:45PM	13	0	11	0	**24**	0	255	0	24	0	**279**	0	**668**
Hourly Total	38	0	38	0	**76**	1	971	0	63	0	**1034**	0	**2726**
4:00PM	6	0	18	0	**24**	0	224	0	26	0	**250**	0	**678**
4:15PM	5	0	9	0	**14**	0	208	0	26	0	**234**	0	**653**
4:30PM	11	0	5	0	**16**	0	215	0	22	0	**237**	0	**730**
4:45PM	11	0	6	0	**17**	0	200	0	31	0	**231**	0	**600**
Hourly Total	33	0	38	0	**71**	0	847	0	105	0	**952**	0	**2661**
5:00PM	8	0	5	0	**13**	0	265	0	28	0	**293**	0	**682**
5:15PM	11	0	6	0	**17**	0	249	0	23	0	**272**	0	**663**
5:30PM	2	0	7	0	**9**	0	239	0	27	0	**266**	0	**604**
5:45PM	5	0	7	0	**12**	0	216	0	26	0	**242**	0	**535**
Hourly Total	26	0	25	0	**51**	0	969	0	104	0	**1073**	0	**2484**
6:00PM	1	0	9	0	**10**	0	186	0	21	0	**207**	0	**507**
6:15PM	1	0	10	0	**11**	0	205	0	26	0	**231**	0	**561**
6:30PM	3	0	5	0	**8**	0	214	0	15	0	**229**	0	**516**
6:45PM	5	0	4	0	**9**	0	216	0	16	0	**232**	0	**503**
Hourly Total	10	0	28	0	**38**	0	821	0	78	0	**899**	0	**2087**
Total	107	0	129	0	**236**	1	3608	0	350	0	**3958**	0	**9958**
% Approach	45.3%	0%	54.7%	0%	**-**	-	91.2%	0%	8.8%	0%	**-**	-	-
% Total	1.1%	0%	1.3%	0%	**2.4%**	-	36.2%	0%	3.5%	0%	**39.7%**	-	-
Lights	105	0	117	0	**222**	-	3394	0	341	0	**3735**	-	9553
% Lights	98.1%	0%	90.7%	0%	**94.1%**	-	94.1%	0%	97.4%	0%	**94.4%**	-	95.9%
Articulated Trucks and Single-Unit Trucks	2	0	12	0	**14**	-	206	0	8	0	**214**	-	386
% Articulated Trucks and Single-Unit Trucks	1.9%	0%	9.3%	0%	**5.9%**	-	5.7%	0%	2.3%	0%	**5.4%**	-	3.9%
Buses	0	0	0	0	**0**	-	8	0	1	0	**9**	-	18
% Buses	0%	0%	0%	0%	**0%**	-	0.2%	0%	0.3%	0%	**0.2%**	-	0.2%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	0%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	100%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

NM352.02 - MDS-Employment Center Study - TMC

Thu Oct 26, 2023
PM Peak (3:45 PM - 4:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1126538, Location: 35.023637, -106.639186

Provided by: Lee Engineering
8220 San Pedro Drive NE, Suite 150,
Albuquerque, NM, 87113, US

Leg	Rio Bravo						Rio Bravo						
Direction	Eastbound						Westbound						
Time	R	T	L	U	**App**	Ped*	HR	R	T	L	U	**App**	Ped*
2023-10-26 3:45PM	20	220	0	0	**240**	0	51	0	72	2	0	**125**	0
4:00PM	16	214	0	0	**230**	0	65	0	100	9	0	**174**	0
4:15PM	19	207	0	0	**226**	0	72	0	87	20	0	**179**	0
4:30PM	30	235	0	0	**265**	0	79	0	103	30	0	**212**	0
Total	85	876	0	0	**961**	0	267	0	362	61	0	**690**	0
% Approach	8.8%	91.2%	0%	0%	**-**	-	38.7%	0%	52.5%	8.8%	0%	**-**	-
% Total	3.1%	32.1%	0%	0%	**35.2%**	-	9.8%	0%	13.3%	2.2%	0%	**25.3%**	-
PHF	0.708	0.932	-	-	**0.907**	-	0.845	-	0.879	0.508	-	**0.814**	-
Lights	82	847	0	0	**929**	-	262	0	360	61	0	**683**	-
% Lights	96.5%	96.7%	0%	0%	**96.7%**	-	98.1%	0%	99.4%	100%	0%	**99.0%**	-
Articulated Trucks and Single-Unit Trucks	3	27	0	0	**30**	-	5	0	2	0	0	**7**	-
% Articulated Trucks and Single-Unit Trucks	3.5%	3.1%	0%	0%	**3.1%**	-	1.9%	0%	0.6%	0%	0%	**1.0%**	-
Buses	0	2	0	0	**2**	-	0	0	0	0	0	**0**	-
% Buses	0%	0.2%	0%	0%	**0.2%**	-	0%	0%	0%	0%	0%	**0%**	-
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

NM352.02 - MDS-Employment Center Study - TMC

Thu Oct 26, 2023
PM Peak (3:45 PM - 4:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1126538, Location: 35.023637, -106.639186

Provided by: Lee Engineering
8220 San Pedro Drive NE, Suite 150,
Albuquerque, NM, 87113, US

Leg / Direction	I-25 Northbound						I-25 Southbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2023-10-26 3:45PM	13	0	11	0	**24**	0	255	0	24	0	**279**	0	**668**
4:00PM	6	0	18	0	**24**	0	224	0	26	0	**250**	0	**678**
4:15PM	5	0	9	0	**14**	0	208	0	26	0	**234**	0	**653**
4:30PM	11	0	5	0	**16**	0	215	0	22	0	**237**	0	**730**
Total	35	0	43	0	**78**	0	902	0	98	0	**1000**	0	**2729**
% Approach	44.9%	0%	55.1%	0%	**-**	-	90.2%	0%	9.8%	0%	**-**	-	**-**
% Total	1.3%	0%	1.6%	0%	**2.9%**	-	33.1%	0%	3.6%	0%	**36.6%**	-	**-**
PHF	0.673	-	0.597	-	**0.813**	-	0.884	-	0.942	-	**0.896**	-	0.935
Lights	35	0	40	0	**75**	-	839	0	97	0	**936**	-	2623
% Lights	100%	0%	93.0%	0%	**96.2%**	-	93.0%	0%	99.0%	0%	**93.6%**	-	96.1%
Articulated Trucks and Single-Unit Trucks	0	0	3	0	**3**	-	60	0	0	0	**60**	-	100
% Articulated Trucks and Single-Unit Trucks	0%	0%	7.0%	0%	**3.8%**	-	6.7%	0%	0%	0%	**6.0%**	-	3.7%
Buses	0	0	0	0	**0**	-	3	0	1	0	**4**	-	6
% Buses	0%	0%	0%	0%	**0%**	-	0.3%	0%	1.0%	0%	**0.4%**	-	0.2%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States 87113
5053380988 zbaiamonte@lee-eng.com

Count Name: NM352.02 - MDS-Employment Center Study
Site Code:
Start Date: 10/26/2023

Turning Movement Data

Start Time	Rio Bravo Eastbound					University Blvd Northbound					University Blvd Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
3:00 PM	4	44	13	1	61	0	117	20	0	137	0	13	62	0	75	273
3:15 PM	2	53	18	0	73	0	99	18	0	117	0	15	71	0	86	276
3:30 PM	4	48	25	0	77	0	105	21	0	126	0	8	69	0	77	280
3:45 PM	5	49	38	1	92	0	58	17	0	75	0	17	72	0	89	256
Hourly Total	15	194	94	2	303	0	379	76	0	455	0	53	274	0	327	1085
4:00 PM	3	53	45	0	101	0	98	24	0	122	0	15	57	0	72	295
4:15 PM	4	49	33	0	86	0	108	28	0	136	0	11	66	0	77	299
4:30 PM	4	60	42	0	106	0	123	30	0	153	0	16	85	0	101	360
4:45 PM	4	46	51	1	101	0	55	16	0	71	0	15	75	0	90	262
Hourly Total	15	208	171	1	394	0	384	98	0	482	0	57	283	0	340	1216
5:00 PM	8	66	42	0	116	0	78	14	0	92	0	17	67	0	84	292
5:15 PM	5	53	35	0	93	1	54	20	0	75	0	20	81	0	101	269
5:30 PM	2	43	29	0	74	0	50	8	0	58	0	15	58	0	73	205
5:45 PM	4	35	27	0	66	0	45	21	0	66	0	21	44	0	65	197
Hourly Total	19	197	133	0	349	1	227	63	0	291	0	73	250	0	323	963
6:00 PM	4	26	29	1	59	0	43	18	0	61	1	10	58	0	69	189
6:15 PM	12	29	32	0	73	0	39	5	0	44	0	7	39	0	46	163
6:30 PM	3	25	18	0	46	0	64	10	0	74	0	5	38	0	43	163
6:45 PM	10	21	20	0	51	0	68	12	0	80	0	9	15	0	24	155
Hourly Total	29	101	99	1	229	0	214	45	0	259	1	31	150	0	182	670
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	78	700	497	4	1275	1	1204	282	0	1487	1	214	958	0	1173	3935
Approach %	6.1	54.9	39.0	-	-	0.1	81.0	19.0	-	-	0.1	18.2	81.7	-	-	-
Total %	2.0	17.8	12.6	-	32.4	0.0	30.6	7.2	-	37.8	0.0	5.4	24.3	-	29.8	-
Lights	75	681	492	-	1248	1	1186	279	-	1466	1	212	926	-	1139	3853
% Lights	96.2	97.3	99.0	-	97.9	100.0	98.5	98.9	-	98.6	100.0	99.1	96.7	-	97.1	97.9
Buses	1	0	1	-	2	0	1	1	-	2	0	0	1	-	1	5
% Buses	1.3	0.0	0.2	-	0.2	0.0	0.1	0.4	-	0.1	0.0	0.0	0.1	-	0.1	0.1
Trucks	2	19	4	-	25	0	17	1	-	18	0	1	29	-	30	73
% Trucks	2.6	2.7	0.8	-	2.0	0.0	1.4	0.4	-	1.2	0.0	0.5	3.0	-	2.6	1.9
Bicycles on Road	0	0	0	-	0	0	0	1	-	1	0	1	2	-	3	4
% Bicycles on Road	0.0	0.0	0.0	-	0.0	0.0	0.0	0.4	-	0.1	0.0	0.5	0.2	-	0.3	0.1
Bicycles on Crosswalk	-	-	-	4	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-

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Albuquerque, New Mexico, United States 87113
5053380988 zbaiamonte@lee-eng.com

Count Name: NM352.02 - MDS-Employment Center Study
Site Code:
Start Date: 10/26/2023

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Rio Bravo Eastbound					University Blvd Northbound					University Blvd Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	3	53	45	0	101	0	98	24	0	122	0	15	57	0	72	295
4:15 PM	4	49	33	0	86	0	108	28	0	136	0	11	66	0	77	299
4:30 PM	4	60	42	0	106	0	123	30	0	153	0	16	85	0	101	360
4:45 PM	4	46	51	1	101	0	55	16	0	71	0	15	75	0	90	262
Total	15	208	171	1	394	0	384	98	0	482	0	57	283	0	340	1216
Approach %	3.8	52.8	43.4	-	-	0.0	79.7	20.3	-	-	0.0	16.8	83.2	-	-	-
Total %	1.2	17.1	14.1	-	32.4	0.0	31.6	8.1	-	39.6	0.0	4.7	23.3	-	28.0	-
PHF	0.938	0.867	0.838	-	0.929	0.000	0.780	0.817	-	0.788	0.000	0.891	0.832	-	0.842	0.844
Lights	15	207	169	-	391	0	381	96	-	477	0	56	275	-	331	1199
% Lights	100.0	99.5	98.8	-	99.2	-	99.2	98.0	-	99.0	-	98.2	97.2	-	97.4	98.6
Buses	0	0	1	-	1	0	0	1	-	1	0	0	0	-	0	2
% Buses	0.0	0.0	0.6	-	0.3	-	0.0	1.0	-	0.2	-	0.0	0.0	-	0.0	0.2
Trucks	0	1	1	-	2	0	3	1	-	4	0	1	8	-	9	15
% Trucks	0.0	0.5	0.6	-	0.5	-	0.8	1.0	-	0.8	-	1.8	2.8	-	2.6	1.2
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States 87113
5053380988 zbaiamonte@lee-eng.com

Count Name: NM352.02 MDS
Site Code:
Start Date: 10/19/2023

Turning Movement Data

Start Time	Bobby Foster Westbound					Broadway Northbound					Broadway Southbound					Int. Total
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	
6:00 AM	0	2	1	0	3	0	64	7	0	71	0	4	41	0	45	119
6:15 AM	0	2	0	0	2	0	80	4	0	84	0	2	55	0	57	143
6:30 AM	0	2	0	0	2	0	140	7	0	147	0	4	66	0	70	219
6:45 AM	0	2	0	0	2	0	173	10	0	183	0	7	78	0	85	270
Hourly Total	0	8	1	0	9	0	457	28	0	485	0	17	240	0	257	751
7:00 AM	0	2	4	0	6	0	200	9	0	209	0	9	53	0	62	277
7:15 AM	0	2	4	0	6	0	263	17	0	280	0	11	55	0	66	352
7:30 AM	0	4	6	0	10	0	234	7	0	241	0	8	63	0	71	322
7:45 AM	0	2	5	0	7	0	157	9	0	166	0	12	71	0	83	256
Hourly Total	0	10	19	0	29	0	854	42	0	896	0	40	242	0	282	1207
8:00 AM	0	1	1	0	2	0	147	8	0	155	0	8	53	0	61	218
8:15 AM	0	7	3	0	10	0	151	21	0	172	0	14	70	0	84	266
8:30 AM	0	8	12	0	20	0	116	12	0	128	0	17	63	0	80	228
8:45 AM	0	10	7	0	17	0	94	5	0	99	0	16	50	0	66	182
Hourly Total	0	26	23	0	49	0	508	46	0	554	0	55	236	0	291	894
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	5	6	0	11	1	73	4	0	78	0	10	63	0	73	162
11:15 AM	0	5	8	0	13	0	78	6	0	84	1	7	80	0	88	185
11:30 AM	0	8	11	0	19	0	97	5	0	102	0	13	81	0	94	215
11:45 AM	0	7	15	0	22	0	92	6	0	98	0	8	102	0	110	230
Hourly Total	0	25	40	0	65	1	340	21	0	362	1	38	326	0	365	792
12:00 PM	0	7	11	0	18	0	96	13	0	109	1	14	91	0	106	233
12:15 PM	0	4	8	0	12	0	91	9	0	100	0	11	109	0	120	232
12:30 PM	0	2	8	0	10	0	103	4	0	107	0	12	78	0	90	207
12:45 PM	0	6	16	0	22	0	96	2	0	98	0	9	112	0	121	241
Hourly Total	0	19	43	0	62	0	386	28	0	414	1	46	390	0	437	913
1:00 PM	0	3	11	0	14	0	113	4	0	117	0	14	110	0	124	255
1:15 PM	0	10	15	0	25	0	110	8	0	118	0	8	116	0	124	267
1:30 PM	0	5	7	0	12	0	108	8	0	116	0	11	95	0	106	234
1:45 PM	0	3	16	0	19	0	98	5	0	103	0	5	95	0	100	222
Hourly Total	0	21	49	0	70	0	429	25	0	454	0	38	416	0	454	978
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:30 PM	0	14	15	0	29	0	151	9	0	160	0	11	145	0	156	345
3:45 PM	0	22	14	0	36	0	87	8	0	95	0	7	135	0	142	273
Hourly Total	0	36	29	0	65	0	238	17	0	255	0	18	280	0	298	618
4:00 PM	0	7	17	0	24	0	117	7	0	124	0	11	170	0	181	329

4:15 PM	0	6	17	0	23	0	101	16	0	117	0	13	171	0	184	324
4:30 PM	0	15	4	0	19	0	93	8	0	101	0	9	208	0	217	337
4:45 PM	0	11	9	0	20	0	108	10	0	118	0	11	150	0	161	299
Hourly Total	0	39	47	0	86	0	419	41	0	460	0	44	699	0	743	1289
5:00 PM	0	5	5	0	10	0	110	11	0	121	0	18	146	0	164	295
5:15 PM	0	1	9	0	10	0	98	26	0	124	0	13	143	0	156	290
5:30 PM	0	3	5	0	8	0	101	25	0	126	0	23	139	0	162	296
5:45 PM	0	4	3	0	7	0	63	27	0	90	0	33	122	0	155	252
Hourly Total	0	13	22	0	35	0	372	89	0	461	0	87	550	0	637	1133
6:00 PM	0	0	4	0	4	0	77	45	0	122	0	49	138	0	187	313
6:15 PM	0	6	5	0	11	0	50	37	0	87	0	61	92	0	153	251
Grand Total	0	203	282	0	485	1	4130	419	0	4550	2	493	3609	0	4104	9139
Approach %	0.0	41.9	58.1	-	-	0.0	90.8	9.2	-	-	0.0	12.0	87.9	-	-	-
Total %	0.0	2.2	3.1	-	5.3	0.0	45.2	4.6	-	49.8	0.0	5.4	39.5	-	44.9	-
Lights	0	173	259	-	432	1	3593	384	-	3978	2	473	3133	-	3608	8018
% Lights	-	85.2	91.8	-	89.1	100.0	87.0	91.6	-	87.4	100.0	95.9	86.8	-	87.9	87.7
Buses	0	0	0	-	0	0	7	0	-	7	0	0	5	-	5	12
% Buses	-	0.0	0.0	-	0.0	0.0	0.2	0.0	-	0.2	0.0	0.0	0.1	-	0.1	0.1
Trucks	0	30	19	-	49	0	530	35	-	565	0	19	470	-	489	1103
% Trucks	-	14.8	6.7	-	10.1	0.0	12.8	8.4	-	12.4	0.0	3.9	13.0	-	11.9	12.1
Bicycles on Road	0	0	4	-	4	0	0	0	-	0	0	1	1	-	2	6
% Bicycles on Road	-	0.0	1.4	-	0.8	0.0	0.0	0.0	-	0.0	0.0	0.2	0.0	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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5053380988 zbaiamonte@lee-eng.com

Count Name: NM352.02 MDS
Site Code:
Start Date: 10/19/2023

Turning Movement Data

Start Time	Bobby Foster Eastbound					Los Picaros Northbound					Los Picaros Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
6:00 AM	0	4	8	0	12	0	2	1	0	3	0	0	1	0	1	16
6:15 AM	0	3	5	0	8	0	3	1	0	4	0	0	0	0	0	12
6:30 AM	0	2	8	0	10	0	2	0	0	2	0	0	0	0	0	12
6:45 AM	0	8	7	0	15	0	4	0	0	4	0	0	1	0	1	20
Hourly Total	0	17	28	0	45	0	11	2	0	13	0	0	2	0	2	60
7:00 AM	0	5	13	0	18	0	2	0	0	2	0	0	4	0	4	24
7:15 AM	0	6	22	0	28	0	2	0	0	2	0	0	4	0	4	34
7:30 AM	0	5	12	0	17	0	5	0	0	5	0	0	6	0	6	28
7:45 AM	0	6	9	1	15	0	4	0	0	4	0	0	2	0	2	21
Hourly Total	0	22	56	1	78	0	13	0	0	13	0	0	16	0	16	107
8:00 AM	0	8	11	0	19	0	1	0	0	1	0	0	1	0	1	21
8:15 AM	0	7	21	0	28	0	7	0	0	7	0	0	2	0	2	37
8:30 AM	0	7	19	0	26	0	15	0	0	15	0	0	5	0	5	46
8:45 AM	0	14	7	0	21	0	13	2	0	15	0	0	1	0	1	37
Hourly Total	0	36	58	0	94	0	36	2	0	38	0	0	9	0	9	141
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	7	5	0	12	0	5	0	0	5	0	0	5	0	5	22
11:15 AM	0	5	6	0	11	0	5	0	0	5	0	1	7	0	8	24
11:30 AM	1	8	8	0	17	0	9	1	0	10	0	0	9	0	9	36
11:45 AM	1	9	2	0	12	0	8	0	0	8	0	1	12	0	13	33
Hourly Total	2	29	21	0	52	0	27	1	0	28	0	2	33	0	35	115
12:00 PM	0	17	8	0	25	0	8	0	0	8	0	3	9	0	12	45
12:15 PM	0	10	8	0	18	0	3	2	0	5	0	0	8	0	8	31
12:30 PM	0	11	4	0	15	0	4	0	0	4	0	0	6	0	6	25
12:45 PM	0	9	2	0	11	0	5	0	0	5	0	0	15	0	15	31
Hourly Total	0	47	22	0	69	0	20	2	0	22	0	3	38	0	41	132
1:00 PM	0	9	8	0	17	0	6	0	0	6	0	1	8	0	9	32
1:15 PM	0	13	2	0	15	0	7	0	0	7	0	0	16	0	16	38
1:30 PM	0	8	9	0	17	0	3	0	0	3	0	1	8	0	9	29
1:45 PM	0	4	5	0	9	0	8	0	0	8	0	0	11	0	11	28
Hourly Total	0	34	24	0	58	0	24	0	0	24	0	2	43	0	45	127
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:30 PM	1	5	9	0	15	0	20	0	0	20	0	0	6	0	6	41
3:45 PM	0	2	11	0	13	0	31	0	0	31	0	0	5	0	5	49
Hourly Total	1	7	20	0	28	0	51	0	0	51	0	0	11	0	11	90
4:00 PM	0	6	13	0	19	0	5	0	0	5	0	0	17	0	17	41

4:15 PM	0	10	17	0	27	0	15	0	0	15	0	0	7	0	7	49
4:30 PM	0	2	16	0	18	0	15	0	0	15	0	0	3	0	3	36
4:45 PM	0	2	18	0	20	1	10	0	0	11	0	0	6	0	6	37
Hourly Total	0	20	64	0	84	1	45	0	0	46	0	0	33	0	33	163
5:00 PM	0	5	24	0	29	0	8	0	0	8	0	0	1	0	1	38
5:15 PM	0	0	36	0	36	0	2	0	0	2	0	0	6	0	6	44
5:30 PM	0	3	46	0	49	0	4	0	0	4	0	1	5	0	6	59
5:45 PM	0	1	52	0	53	0	3	0	0	3	0	0	3	0	3	59
Hourly Total	0	9	158	0	167	0	17	0	0	17	0	1	15	0	16	200
6:00 PM	0	3	90	0	93	0	2	0	0	2	0	0	1	0	1	96
6:15 PM	0	2	97	0	99	0	8	0	0	8	0	0	1	0	1	108
Grand Total	3	226	638	1	867	1	254	7	0	262	0	8	202	0	210	1339
Approach %	0.3	26.1	73.6	-	-	0.4	96.9	2.7	-	-	0.0	3.8	96.2	-	-	-
Total %	0.2	16.9	47.6	-	64.7	0.1	19.0	0.5	-	19.6	0.0	0.6	15.1	-	15.7	-
Lights	3	212	607	-	822	1	227	4	-	232	0	6	187	-	193	1247
% Lights	100.0	93.8	95.1	-	94.8	100.0	89.4	57.1	-	88.5	-	75.0	92.6	-	91.9	93.1
Buses	0	1	0	-	1	0	1	0	-	1	0	0	0	-	0	2
% Buses	0.0	0.4	0.0	-	0.1	0.0	0.4	0.0	-	0.4	-	0.0	0.0	-	0.0	0.1
Trucks	0	13	31	-	44	0	25	3	-	28	0	1	14	-	15	87
% Trucks	0.0	5.8	4.9	-	5.1	0.0	9.8	42.9	-	10.7	-	12.5	6.9	-	7.1	6.5
Bicycles on Road	0	0	0	-	0	0	1	0	-	1	0	1	1	-	2	3
% Bicycles on Road	0.0	0.0	0.0	-	0.0	0.0	0.4	0.0	-	0.4	-	12.5	0.5	-	1.0	0.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

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Count Name: NM352.02 MDS
Site Code:
Start Date: 10/19/2023

Turning Movement Data

Start Time	Crick Westbound					University Northbound					University Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
6:00 AM	0	0	2	0	2	0	15	3	0	18	0	23	57	0	80	100
6:15 AM	0	0	0	0	0	0	21	2	0	23	0	26	45	0	71	94
6:30 AM	0	0	1	0	1	0	20	2	0	22	0	34	68	0	102	125
6:45 AM	0	0	1	0	1	0	29	3	0	32	0	64	87	0	151	184
Hourly Total	0	0	4	0	4	0	85	10	0	95	0	147	257	0	404	503
7:00 AM	0	1	7	0	8	0	46	4	0	50	0	71	64	0	135	193
7:15 AM	0	0	3	0	3	0	42	3	0	45	0	57	41	0	98	146
7:30 AM	0	4	7	0	11	0	55	7	0	62	0	50	63	0	113	186
7:45 AM	0	2	4	0	6	0	57	4	0	61	1	22	61	0	84	151
Hourly Total	0	7	21	0	28	0	200	18	0	218	1	200	229	0	430	676
8:00 AM	0	2	11	0	13	0	32	2	0	34	0	18	53	0	71	118
8:15 AM	0	2	8	0	10	0	50	1	0	51	0	17	67	0	84	145
8:30 AM	0	2	4	0	6	0	68	1	0	69	0	21	62	0	83	158
8:45 AM	0	1	10	0	11	0	54	2	0	56	0	12	52	0	64	131
Hourly Total	0	7	33	0	40	0	204	6	0	210	0	68	234	0	302	552
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	2	7	0	9	0	33	3	0	36	0	4	34	0	38	83
11:15 AM	0	2	9	0	11	0	32	1	0	33	0	7	42	0	49	93
11:30 AM	0	2	11	0	13	0	44	2	0	46	0	9	35	0	44	103
11:45 AM	0	1	9	0	10	0	61	4	0	65	2	7	36	0	45	120
Hourly Total	0	7	36	0	43	0	170	10	0	180	2	27	147	0	176	399
12:00 PM	0	3	13	0	16	0	38	3	0	41	0	14	44	0	58	115
12:15 PM	0	3	14	0	17	0	36	4	0	40	0	12	46	0	58	115
12:30 PM	0	2	4	0	6	0	38	3	0	41	0	7	47	0	54	101
12:45 PM	0	4	12	0	16	0	39	4	0	43	1	5	41	0	47	106
Hourly Total	0	12	43	0	55	0	151	14	0	165	1	38	178	0	217	437
1:00 PM	0	0	17	0	17	0	42	1	0	43	0	10	29	0	39	99
1:15 PM	0	2	7	0	9	0	40	1	0	41	0	5	35	0	40	90
1:30 PM	0	2	14	0	16	0	43	5	0	48	0	7	34	0	41	105
1:45 PM	0	3	10	0	13	0	43	1	0	44	0	11	39	0	50	107
Hourly Total	0	7	48	0	55	0	168	8	0	176	0	33	137	0	170	401
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:30 PM	0	6	42	0	48	0	71	1	0	72	0	7	89	0	96	216
3:45 PM	0	0	33	0	33	0	87	0	0	87	1	6	75	0	82	202
Hourly Total	0	6	75	0	81	0	158	1	0	159	1	13	164	0	178	418
4:00 PM	1	4	99	0	104	0	66	0	4	66	0	2	107	0	109	279

4:15 PM	0	2	39	0	41	0	89	1	0	90	0	1	107	0	108	239
4:30 PM	0	1	35	0	36	0	91	1	0	92	0	4	97	0	101	229
4:45 PM	0	0	26	0	26	0	67	0	0	67	0	4	106	0	110	203
Hourly Total	1	7	199	0	207	0	313	2	4	315	0	11	417	0	428	950
5:00 PM	0	4	32	0	36	0	71	1	0	72	0	4	107	0	111	219
5:15 PM	0	2	26	0	28	0	43	2	0	45	0	7	161	0	168	241
5:30 PM	1	4	7	0	12	1	44	0	0	45	0	7	214	2	221	278
5:45 PM	1	1	7	0	9	0	35	0	6	35	0	14	267	5	281	325
Hourly Total	2	11	72	0	85	1	193	3	6	197	0	32	749	7	781	1063
6:00 PM	0	0	11	0	11	0	38	3	1	41	1	14	261	1	276	328
6:15 PM	0	1	4	1	5	0	34	2	4	36	3	35	322	11	360	401
Grand Total	3	65	546	1	614	1	1714	77	15	1792	9	618	3095	19	3722	6128
Approach %	0.5	10.6	88.9	-	-	0.1	95.6	4.3	-	-	0.2	16.6	83.2	-	-	-
Total %	0.0	1.1	8.9	-	10.0	0.0	28.0	1.3	-	29.2	0.1	10.1	50.5	-	60.7	-
Lights	3	43	525	-	571	1	1612	55	-	1668	9	594	2984	-	3587	5826
% Lights	100.0	66.2	96.2	-	93.0	100.0	94.0	71.4	-	93.1	100.0	96.1	96.4	-	96.4	95.1
Buses	0	0	0	-	0	0	8	0	-	8	0	0	13	-	13	21
% Buses	0.0	0.0	0.0	-	0.0	0.0	0.5	0.0	-	0.4	0.0	0.0	0.4	-	0.3	0.3
Trucks	0	22	20	-	42	0	93	22	-	115	0	24	94	-	118	275
% Trucks	0.0	33.8	3.7	-	6.8	0.0	5.4	28.6	-	6.4	0.0	3.9	3.0	-	3.2	4.5
Bicycles on Road	0	0	1	-	1	0	1	0	-	1	0	0	4	-	4	6
% Bicycles on Road	0.0	0.0	0.2	-	0.2	0.0	0.1	0.0	-	0.1	0.0	0.0	0.1	-	0.1	0.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	1	-	-	-	-	15	-	-	-	-	19	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Lee Engineering, LLC
Phoenix, Arizona - Dallas, Texas
Oklahoma City, Oklahoma - San Antonio, Texas
Albuquerque, New Mexico, United States 87113
5053380988 zbaiamonte@lee-eng.com

Count Name: NM352.02 MDS
Site Code:
Start Date: 10/19/2023

Turning Movement Data

Start Time	Bobby Foster Eastbound					University Northbound					University Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
6:00 AM	0	2	8	0	10	0	1	16	0	17	0	54	3	0	57	84
6:15 AM	0	3	0	0	3	0	1	19	0	20	0	32	6	0	38	61
6:30 AM	0	1	4	0	5	0	2	17	0	19	0	51	2	0	53	77
6:45 AM	0	2	2	0	4	0	4	30	0	34	0	69	6	0	75	113
Hourly Total	0	8	14	0	22	0	8	82	0	90	0	206	17	0	223	335
7:00 AM	0	7	8	0	15	0	1	43	0	44	0	52	2	0	54	113
7:15 AM	0	4	11	0	15	0	2	40	0	42	0	37	1	0	38	95
7:30 AM	0	8	4	0	12	0	0	53	0	53	0	44	6	0	50	115
7:45 AM	0	5	3	0	8	0	2	54	0	56	0	41	1	0	42	106
Hourly Total	0	24	26	0	50	0	5	190	0	195	0	174	10	0	184	429
8:00 AM	0	3	5	0	8	0	3	36	0	39	0	41	4	0	45	92
8:15 AM	0	2	6	0	8	0	2	50	0	52	0	57	2	0	59	119
8:30 AM	0	3	14	0	17	0	10	65	0	75	0	54	4	0	58	150
8:45 AM	0	3	5	0	8	0	6	57	0	63	0	39	5	0	44	115
Hourly Total	0	11	30	0	41	0	21	208	0	229	0	191	15	0	206	476
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	3	3	0	6	0	2	31	0	33	0	25	5	0	30	69
11:15 AM	0	5	1	0	6	0	0	36	0	36	0	31	2	0	33	75
11:30 AM	0	2	1	0	3	0	5	45	0	50	0	24	4	0	28	81
11:45 AM	0	3	0	0	3	0	5	41	0	46	0	31	3	0	34	83
Hourly Total	0	13	5	0	18	0	12	153	0	165	0	111	14	0	125	308
12:00 PM	0	4	4	0	8	0	3	32	0	35	0	36	1	0	37	80
12:15 PM	0	5	2	0	7	0	1	33	0	34	0	46	2	0	48	89
12:30 PM	0	1	1	0	2	0	1	35	0	36	0	34	4	0	38	76
12:45 PM	0	2	2	0	4	0	2	37	0	39	0	35	2	0	37	80
Hourly Total	0	12	9	0	21	0	7	137	0	144	0	151	9	0	160	325
1:00 PM	0	6	2	0	8	0	6	31	0	37	0	19	2	0	21	66
1:15 PM	0	0	2	0	2	0	0	23	0	23	0	23	6	0	29	54
1:30 PM	0	4	2	0	6	0	4	34	0	38	0	24	2	0	26	70
1:45 PM	0	1	5	0	6	0	1	35	0	36	0	22	5	0	27	69
Hourly Total	0	11	11	0	22	0	11	123	0	134	0	88	15	0	103	259
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:30 PM	0	4	2	0	6	0	16	69	0	85	0	41	5	0	46	137
3:45 PM	0	6	0	0	6	0	8	70	0	78	0	32	2	0	34	118
Hourly Total	0	10	2	0	12	0	24	139	0	163	0	73	7	0	80	255
4:00 PM	0	11	0	0	11	0	4	51	0	55	0	35	1	0	36	102

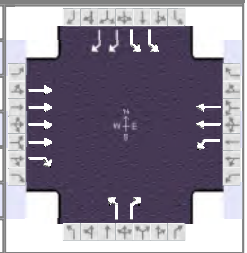
4:15 PM	0	15	2	0	17	0	9	79	0	88	0	40	2	0	42	147
4:30 PM	0	16	0	0	16	0	5	70	0	75	0	40	0	0	40	131
4:45 PM	0	19	2	0	21	0	2	44	0	46	0	31	1	0	32	99
Hourly Total	0	61	4	0	65	0	20	244	0	264	0	146	4	0	150	479
5:00 PM	0	19	1	0	20	0	3	57	0	60	0	29	2	0	31	111
5:15 PM	0	38	3	0	41	0	0	34	0	34	0	40	2	0	42	117
5:30 PM	0	42	5	0	47	0	2	37	0	39	0	34	3	0	37	123
5:45 PM	0	47	4	0	51	0	0	28	0	28	1	22	1	0	24	103
Hourly Total	0	146	13	0	159	0	5	156	0	161	1	125	8	0	134	454
6:00 PM	0	70	2	0	72	0	3	31	0	34	0	28	3	0	31	137
6:15 PM	0	102	5	2	107	0	2	20	0	22	1	19	0	0	20	149
Grand Total	0	468	121	2	589	0	118	1483	0	1601	2	1312	102	0	1416	3606
Approach %	0.0	79.5	20.5	-	-	0.0	7.4	92.6	-	-	0.1	92.7	7.2	-	-	-
Total %	0.0	13.0	3.4	-	16.3	0.0	3.3	41.1	-	44.4	0.1	36.4	2.8	-	39.3	-
Lights	0	442	105	-	547	0	106	1373	-	1479	2	1202	73	-	1277	3303
% Lights	-	94.4	86.8	-	92.9	-	89.8	92.6	-	92.4	100.0	91.6	71.6	-	90.2	91.6
Buses	0	1	1	-	2	0	0	9	-	9	0	7	0	-	7	18
% Buses	-	0.2	0.8	-	0.3	-	0.0	0.6	-	0.6	0.0	0.5	0.0	-	0.5	0.5
Trucks	0	24	15	-	39	0	12	100	-	112	0	101	29	-	130	281
% Trucks	-	5.1	12.4	-	6.6	-	10.2	6.7	-	7.0	0.0	7.7	28.4	-	9.2	7.8
Bicycles on Road	0	1	0	-	1	0	0	1	-	1	0	2	0	-	2	4
% Bicycles on Road	-	0.2	0.0	-	0.2	-	0.0	0.1	-	0.1	0.0	0.2	0.0	-	0.1	0.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX C HCS CAPACITY OUTPUT SHEETS

2023 EXISTING

HCS Signalized Intersection Results Summary

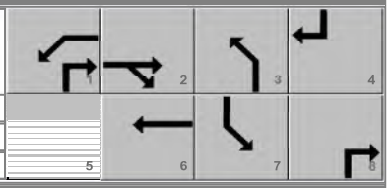
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	11/7/2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2023	Analysis Period	1> 6:45
Intersection	I-25 SB Ramp	File Name	2023 Existing AM - Rio Bravo and I25 SB Ramp.xus		
Project Description	Existing AM Peak Hour Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1228	28	10	109		98		179	292		707

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	22.0	56.0	17.0	1.0	0.0	0.0	
Yellow	6.0	6.0	6.0	0.0	0.0	0.0	
Red	2.0	2.0	2.0	0.0	0.0	0.0	



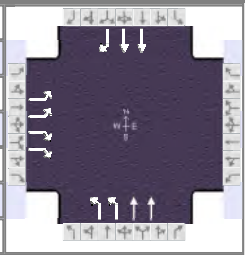
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6	3	8	7	4
Case Number		7.3	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s		64.0	30.0	94.0	25.0	1.0	25.0	1.0
Change Period, (*Y+R c*), s		8.0	8.0	8.0	8.0	0.0	8.0	0.0
Max Allow Headway (*MAH*), s		0.0	3.0	0.0	3.0	3.2	3.0	3.2
Queue Clearance Time (*g s*), s			2.6		8.3	3.0	11.7	3.0
Green Extension Time (*g e*), s		0.0	0.0	0.0	0.1	0.0	0.3	0.0
Phase Call Probability			1.00		1.00	1.00	1.00	1.00
Max Out Probability			0.00		0.00	1.00	0.11	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18	7		14
Adjusted Flow Rate (*v*), veh/h		1228	28	10	109		98		179	292		707
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1618		1668	1654		1697		1845	1689		
Queue Service Time (*g s*), s		15.0		0.6	1.2		6.3		1.0	9.7		
Cycle Queue Clearance Time (*g c*), s		15.0		0.6	1.2		6.3		1.0	9.7		
Green Ratio (*g/C*)		0.47		0.18	0.72		0.14		0.19	0.14		
Capacity (*c*), veh/h		3019		306	2370		240		354	478		
Volume-to-Capacity Ratio (*X*)		0.407		0.033	0.046		0.408		0.506	0.610		
Back of Queue (*Q*), ft/ln (95 th percentile)		247.4		11.6	16.7		126.1		205.7	192.3		
Back of Queue (*Q*), veh/ln (95 th percentile)		9.3		0.4	0.6		4.7		8.2	7.4		
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.02	0.00		0.42		0.00	0.00		
Uniform Delay (*d 1*), s/veh		21.1		40.3	5.0		46.9		43.4	48.4		
Incremental Delay (*d 2*), s/veh		0.4		0.0	0.0		0.4		0.5	1.7		
Initial Queue Delay (*d 3*), s/veh		0.0		0.0	0.0		0.0		0.0	0.0		
Control Delay (*d*), s/veh		21.5	0.0	40.3	5.0		47.3		43.9	50.1		0.0
Level of Service (LOS)		C	A	D	A		D		D	D		A
Approach Delay, s/veh / LOS	21.0	C		8.0	A		45.1	D		14.6	B	
Intersection Delay, s/veh / LOS	20.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	2.05	B	2.61	C	2.61	C
Bicycle LOS Score / LOS	1.01	A	0.59	A		F		F

HCS Signalized Intersection Results Summary

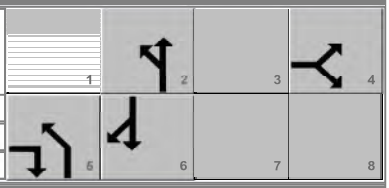
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 3, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2023	Analysis Period	1> 6:45
Intersection	University Blvd	File Name	2023 Existing AM - Rio Bravo and University.xus		
Project Description	Existing AM Peak Hour Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	526		441				114	68			37	63

Signal Information			
Cycle, s	34.9	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	2.1	5.3	12.0	0.0	0.0	0.0	
Yellow	3.0	4.0	4.5	0.0	0.0	0.0	
Red	0.5	2.0	1.5	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4			5	2		6
Case Number		9.0			1.0	4.0		7.3
Phase Duration, s		18.0			5.6	16.9		11.3
Change Period, (*Y+R c*), s		6.0			3.5	6.0		6.0
Max Allow Headway (*MAH*), s		3.2			2.5	2.9		2.9
Queue Clearance Time (*g s*), s		6.1			3.0	2.5		2.3
Green Extension Time (*g e*), s		2.5			0.1	0.2		0.2
Phase Call Probability		1.00			0.67	0.89		0.66
Max Out Probability		0.00			0.00	0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7		14				5	2			6	16
Adjusted Flow Rate (*v*), veh/h	526		441				114	68			37	7
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1743		1369				1579	1752			1766	1535
Queue Service Time (*g s*), s	4.1		4.0				1.0	0.5			0.3	0.1
Cycle Queue Clearance Time (*g c*), s	4.1		4.0				1.0	0.5			0.3	0.1
Green Ratio (*g/C*)	0.34		0.40				0.27	0.31			0.15	0.15
Capacity (*c*), veh/h	1200		1104				959	1092			538	234
Volume-to-Capacity Ratio (*X*)	0.438		0.399				0.119	0.062			0.069	0.030
Back of Queue (*Q*), ft/ln (95 th percentile)	46.1		33.3				10.4	5.1			4	1.6
Back of Queue (*Q*), veh/ln (95 th percentile)	1.8		1.3				0.4	0.2			0.2	0.1
Queue Storage Ratio (*RQ*) (95 th percentile)	0.15		0.00				0.03	0.00			0.00	0.01
Uniform Delay (*d 1*), s/veh	8.8		7.4				9.8	8.4			12.7	12.6
Incremental Delay (*d 2*), s/veh	0.1		0.1				0.0	0.0			0.0	0.0
Initial Queue Delay (*d 3*), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (*d*), s/veh	8.9		7.5				9.8	8.4			12.7	12.6
Level of Service (LOS)	A		A				A	A			B	B
Approach Delay, s/veh / LOS	8.3		A	0.0			9.3		A	12.7		B
Intersection Delay, s/veh / LOS	8.6						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.42	B	2.35	B	0.68	A	2.41	B
Bicycle LOS Score / LOS		F			0.64	A	0.52	A

HCS Two-Way Stop-Control Report

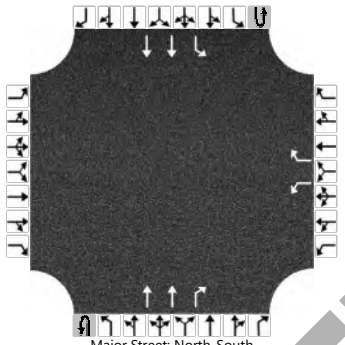
General Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	10/18/2023
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	2023 Existing Scenario

Site Information

Intersection	Bobby Foster Rd and Broadway Blvd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	Broadway Blvd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	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		1	0	1	0	0	2	1	0	1	2	0
Configuration						L		R			T	R		L	T	
Volume (veh/h)						10		14			870	43	0	35	249	
Percent Heavy Vehicles (%)						30		29					0	9		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized						Yes					No					
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9						4.1		
Critical Headway (sec)						7.40		7.48						4.28		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.80		3.59						2.29		

Delay, Queue Length, and Level of Service

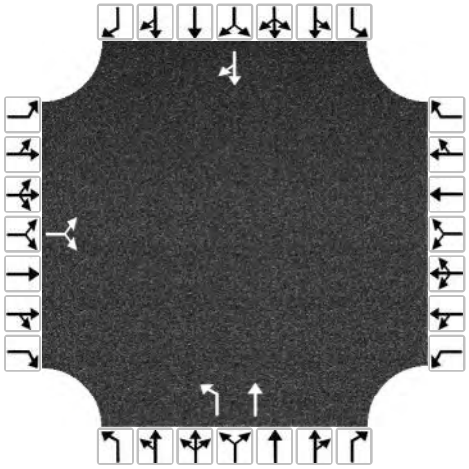
Flow Rate, v (veh/h)						11		15						38		
Capacity, c (veh/h)						143		471						652		
v/c Ratio						0.08		0.03						0.06		
95% Queue Length, Q_{95} (veh)						0.2		0.1						0.2		
Control Delay (s/veh)						32.2		12.9						10.9		
Level of Service (LOS)						D		B						B		
Approach Delay (s/veh)						20.9								1.3		
Approach LOS						C								A		

HCS All-Way Stop Control Report

General and Site Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	11/9/2023
Analysis Year	2023
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	2023 Existing Scenario
Intersection	Bobby Foster Rd and Los Picaros Rd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	Los Picaros Rd
Peak Hour Factor	0.92

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	24		54				13	0			0	15
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	85						14	0		16		
Percent Heavy Vehicles	4						23	0		0		
Initial Departure Headway, h_d (s)	3.20						3.20	3.20		3.20		
Initial Degree of Utilization, x	0.075						0.013	0.000		0.014		
Final Departure Headway, h_d (s)	3.69						5.57	4.68		3.59		
Final Degree of Utilization, x	0.087						0.022	0.000		0.016		
Move-Up Time, m (s)	2.0						2.3	2.3		2.0		
Service Time, t_s (s)	1.69						3.27	2.38		1.59		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	85						14	0		16		
Capacity (veh/h)	977						646	0		1003		
95% Queue Length, Q_{95} (veh)	0.3						0.1	0.0		0.0		
Control Delay (s/veh)	7.0						8.4	7.4		6.6		
Level of Service, LOS	A						A			A		
Approach Delay (s/veh) | LOS	7.0	A					8.4	A		6.6	A	
Intersection Delay (s/veh) | LOS	7.1						A					

HCS Two-Way Stop-Control Report

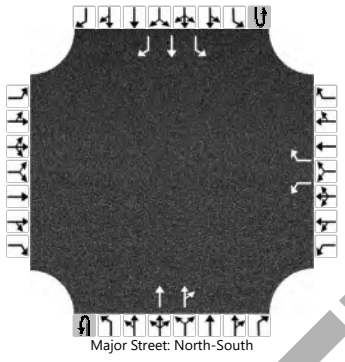
General Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	10/18/2023
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	2023 Existing Scenario

Site Information

Intersection	University Blvd and Crick Ave
Jurisdiction	County
East/West Street	Crick Ave
North/South Street	University Blvd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	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		1	0	1	0	0	2	0	0	1	1	1
Configuration						L		R			T	TR		L	T	R
Volume (veh/h)						5		18			172	17	0	242	255	0
Percent Heavy Vehicles (%)						80		11					0	2		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized						No								No		
Median Type | Storage						Left Only								1		

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9						4.1		
Critical Headway (sec)						9.10		7.12						4.14		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						4.30		3.41						2.22		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						5		20						263		
Capacity, c (veh/h)						181		904						1363		
v/c Ratio						0.03		0.02						0.19		
95% Queue Length, Q_{95} (veh)						0.1		0.1						0.7		
Control Delay (s/veh)						25.5		9.1						8.3		
Level of Service (LOS)						D		A						A		
Approach Delay (s/veh)						12.6								4.0		
Approach LOS						B								A		

HCS Two-Way Stop-Control Report

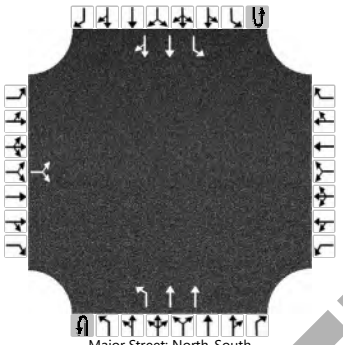
General Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	10/18/2023
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	2023 Existing Scenario

Site Information

Intersection	Bobby Foster Rd and University Blvd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	University Blvd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	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	1	0		0	0	0	0	1	2	0	0	1	2	0
Configuration			LR							L	T			L	T	TR
Volume (veh/h)		21		25					0	7	166		0	0	202	15
Percent Heavy Vehicles (%)		19		32					0	29			0	0		
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

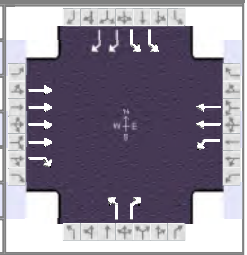
Base Critical Headway (sec)		7.5		6.9						4.1				4.1		
Critical Headway (sec)		7.88		7.54						4.68				4.10		
Base Follow-Up Headway (sec)		3.5		3.3						2.2				2.2		
Follow-Up Headway (sec)		3.69		3.62						2.49				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			50							8				0		
Capacity, c (veh/h)			701							1153				1407		
v/c Ratio			0.07							0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.2							0.0				0.0		
Control Delay (s/veh)			10.5							8.1				7.6		
Level of Service (LOS)			B							A				A		
Approach Delay (s/veh)		10.5								0.3				0.0		
Approach LOS		B								A				A		

HCS Signalized Intersection Results Summary

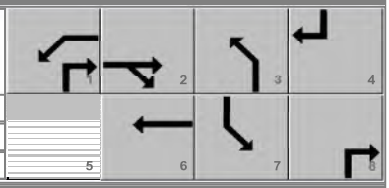
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	11/7/2023	Area Type	Other
Jurisdiction	CABQ	Time Period	PM Peak	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2023	Analysis Period	1> 3:45
Intersection	I-25 SB Ramp	File Name	2023 Existing PM - Rio Bravo and I25 SB Ramp.xus		
Project Description	2023 Existing PM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		876	85	61	362		43		35	98		902

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	22.0	61.0	12.0	1.0	0.0	0.0	
Yellow	6.0	6.0	6.0	0.0	0.0	0.0	
Red	2.0	2.0	2.0	0.0	0.0	0.0	



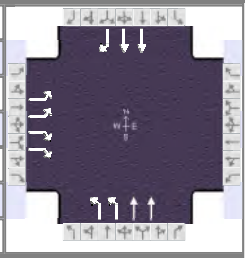
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6	3	8	7	4
Case Number		7.3	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s		69.0	30.0	99.0	20.0	1.0	20.0	1.0
Change Period, (*Y+R c*), s		8.0	8.0	8.0	8.0	0.0	8.0	0.0
Max Allow Headway (*MAH*), s		0.0	3.0	0.0	3.0	3.3	3.0	3.3
Queue Clearance Time (*g s*), s			5.7		4.8	3.0	5.2	3.0
Green Extension Time (*g e*), s		0.0	0.1	0.0	0.0	0.0	0.1	0.0
Phase Call Probability			1.00		1.00	1.00	1.00	1.00
Max Out Probability			0.00		0.00	1.00	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18	7		14
Adjusted Flow Rate (*v*), veh/h		876	85	61	362		43		35	98		902
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1618		1668	1654		1697		1845	1689		
Queue Service Time (*g s*), s		9.2		3.7	3.6		2.8		1.0	3.2		
Cycle Queue Clearance Time (*g c*), s		9.2		3.7	3.6		2.8		1.0	3.2		
Green Ratio (*g/C*)		0.51		0.18	0.76		0.10		0.19	0.10		
Capacity (*c*), veh/h		3289		306	2508		170		354	338		
Volume-to-Capacity Ratio (*X*)		0.266		0.199	0.144		0.253		0.099	0.290		
Back of Queue (*Q*), ft/ln (95 th percentile)		157.7		73.2	46.4		56.5		37.7	62.8		
Back of Queue (*Q*), veh/ln (95 th percentile)		5.9		2.7	1.7		2.1		1.5	2.4		
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.10	0.00		0.19		0.00	0.00		
Uniform Delay (*d 1*), s/veh		16.8		41.5	3.9		49.9		40.0	50.1		
Incremental Delay (*d 2*), s/veh		0.2		0.1	0.1		0.3		0.0	0.2		
Initial Queue Delay (*d 3*), s/veh		0.0		0.0	0.0		0.0		0.0	0.0		
Control Delay (*d*), s/veh		17.0	0.0	41.7	4.1		50.2		40.0	50.2		0.0
Level of Service (LOS)		B	A	D	A		D		D	D		A
Approach Delay, s/veh / LOS	15.5	B		9.5	A		45.6	D		4.9	A	
Intersection Delay, s/veh / LOS	11.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	2.04	B	2.61	C	2.61	C
Bicycle LOS Score / LOS	0.88	A	0.84	A		F		F

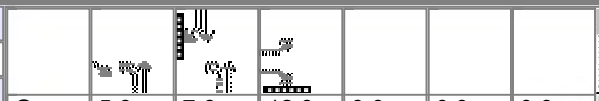
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 3, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2023	Analysis Period	1> 15:45
Intersection	University Blvd	File Name	2023 Existing PM - Rio Bravo and University.xus		
Project Description	Existing PM Peak Hour Analysis				

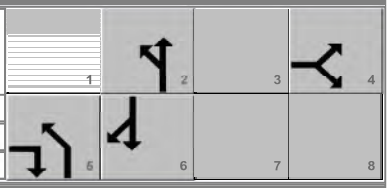


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	211		158				387	99			59	280

Signal Information			
Cycle, s	40.7	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	5.6	7.6	12.0	0.0	0.0	0.0
Yellow	3.0	4.0	4.5	0.0	0.0	0.0
Red	0.5	2.0	1.5	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4			5	2		6
Case Number		9.0			1.0	4.0		7.3
Phase Duration, s		18.0			9.1	22.7		13.6
Change Period, (*Y+R c*), s		6.0			3.5	6.0		6.0
Max Allow Headway (*MAH*), s		3.2			2.5	3.1		3.1
Queue Clearance Time (*g s*), s		3.8			5.2	2.7		4.5
Green Extension Time (*g e*), s		0.9			0.5	0.5		0.5
Phase Call Probability		1.00			0.99	1.00		0.95
Max Out Probability		0.00			0.00	0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7		14				5	2			6	16
Adjusted Flow Rate (*v*), veh/h	211		158				387	99			59	111
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1757		1414				1743	1781			1781	1585
Queue Service Time (*g s*), s	1.8		1.4				3.2	0.7			0.6	2.5
Cycle Queue Clearance Time (*g c*), s	1.8		1.4				3.2	0.7			0.6	2.5
Green Ratio (*g/C*)	0.29		0.43				0.37	0.41			0.19	0.19
Capacity (*c*), veh/h	1036		1222				1303	1462			667	297
Volume-to-Capacity Ratio (*X*)	0.204		0.129				0.297	0.068			0.089	0.374
Back of Queue (*Q*), ft/ln (95 th percentile)	24.9		12.6				34.8	7.3			7.8	31.8
Back of Queue (*Q*), veh/ln (95 th percentile)	1.0		0.5				1.4	0.3			0.3	1.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.08		0.00				0.10	0.00			0.00	0.23
Uniform Delay (*d 1*), s/veh	10.8		7.0				9.1	7.3			13.7	14.5
Incremental Delay (*d 2*), s/veh	0.0		0.0				0.0	0.0			0.0	0.3
Initial Queue Delay (*d 3*), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (*d*), s/veh	10.8		7.0				9.1	7.3			13.7	14.8
Level of Service (LOS)	B		A				A	A			B	B
Approach Delay, s/veh / LOS	9.2		A	0.0			8.7		A	14.4		B
Intersection Delay, s/veh / LOS	9.8						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.43	B	2.52	C	0.68	A	2.41	B
Bicycle LOS Score / LOS		F			0.89	A	0.63	A

HCS Two-Way Stop-Control Report

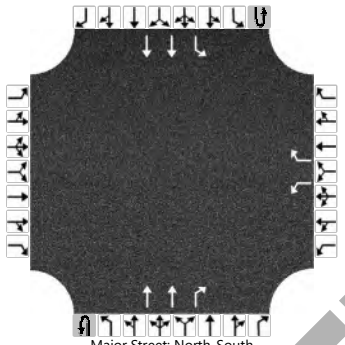
General Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	10/18/2023
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	2023 Existing Scenario

Site Information

Intersection	Bobby Foster Rd and Broadway Blvd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	Broadway Blvd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	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		1	0	1	0	0	2	1	0	1	2	0
Configuration						L		R			T	R		L	T	
Volume (veh/h)						50		52			398	39	0	40	684	
Percent Heavy Vehicles (%)						2		4					0	0		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized						Yes					No					
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9						4.1		
Critical Headway (sec)						6.84		6.98						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.52		3.34						2.20		

Delay, Queue Length, and Level of Service

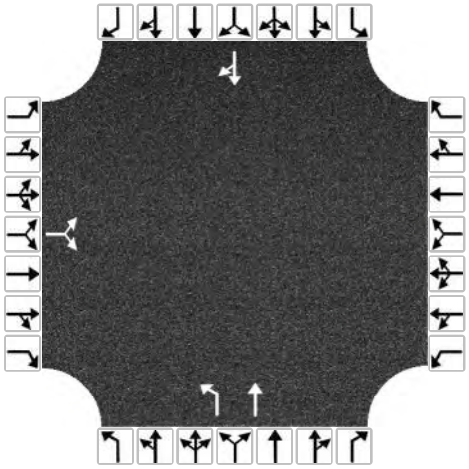
Flow Rate, v (veh/h)						54		57						43		
Capacity, c (veh/h)						271		783						1098		
v/c Ratio						0.20		0.07						0.04		
95% Queue Length, Q_{95} (veh)						0.7		0.2						0.1		
Control Delay (s/veh)						21.6		10.0						8.4		
Level of Service (LOS)						C		A						A		
Approach Delay (s/veh)						15.7								0.5		
Approach LOS						C								A		

HCS All-Way Stop Control Report

General and Site Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	11/9/2023
Analysis Year	2023
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	2023 Existing Scenario
Intersection	Bobby Foster Rd and Los Picaros Rd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	Los Picaros Rd
Peak Hour Factor	0.92

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	20		57				66	0			0	32
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	84						72	0		35		
Percent Heavy Vehicles	5						3	0		0		
Initial Departure Headway, h_d (s)	3.20						3.20	3.20		3.20		
Initial Degree of Utilization, x	0.074						0.064	0.000		0.031		
Final Departure Headway, h_d (s)	3.86						5.25	4.69		3.66		
Final Degree of Utilization, x	0.090						0.105	0.000		0.035		
Move-Up Time, m (s)	2.0						2.3	2.3		2.0		
Service Time, t_s (s)	1.86						2.95	2.39		1.66		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	84						72	0		35		
Capacity (veh/h)	933						686	0		983		
95% Queue Length, Q_{95} (veh)	0.3						0.3	0.0		0.1		
Control Delay (s/veh)	7.2						8.6	7.4		6.8		
Level of Service, LOS	A						A			A		
Approach Delay (s/veh) | LOS	7.2	A					8.6	A		6.8	A	
Intersection Delay (s/veh) | LOS	7.7						A					

HCS Two-Way Stop-Control Report

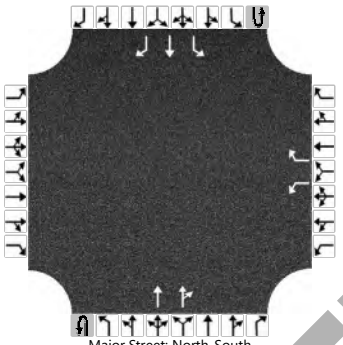
General Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	10/18/2023
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	2023 Existing Scenario

Site Information

Intersection	University Blvd and Crick Ave
Jurisdiction	County
East/West Street	Crick Ave
North/South Street	University Blvd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	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		1	0	1	0	0	2	0	0	1	1	1
Configuration						L		R			T	TR		L	T	R
Volume (veh/h)						7		206			333	2	1	13	204	0
Percent Heavy Vehicles (%)						0		3					0	8		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized					No								No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9					6.4	4.1		
Critical Headway (sec)						7.50		6.96					6.40	4.25		
Base Follow-Up Headway (sec)						3.5		3.3					2.5	2.2		
Follow-Up Headway (sec)						3.50		3.33					2.50	2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						8		224						15		
Capacity, c (veh/h)						481		826						1085		
v/c Ratio						0.02		0.27						0.01		
95% Queue Length, Q_{95} (veh)						0.0		1.1						0.0		
Control Delay (s/veh)						12.6		11.0						8.4		
Level of Service (LOS)						B		B						A		
Approach Delay (s/veh)					11.0								0.5			
Approach LOS					B								A			

HCS Two-Way Stop-Control Report

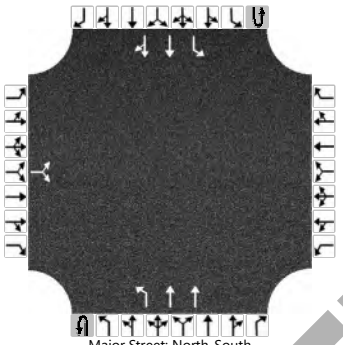
General Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	10/18/2023
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	2023 Existing Scenario

Site Information

Intersection	Bobby Foster Rd and University Blvd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	University Blvd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	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	1	0		0	0	0	0	1	2	0	0	1	2	0
Configuration			LR							L	T			L	T	TR
Volume (veh/h)		48		2					0	26	270		0	0	147	5
Percent Heavy Vehicles (%)		0		0					0	12			0	0		
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1				4.1		
Critical Headway (sec)		7.50		6.90						4.34				4.10		
Base Follow-Up Headway (sec)		3.5		3.3						2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30						2.32				2.20		

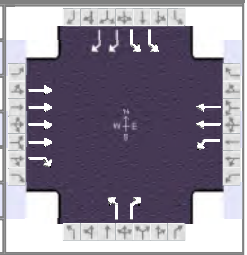
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			54							28				0		
Capacity, c (veh/h)			627							1340				1280		
v/c Ratio			0.09							0.02				0.00		
95% Queue Length, Q_{95} (veh)			0.3							0.1				0.0		
Control Delay (s/veh)			11.3							7.7				7.8		
Level of Service (LOS)			B							A				A		
Approach Delay (s/veh)		11.3								0.7				0.0		
Approach LOS		B								A				A		

2027 BACKGROUND

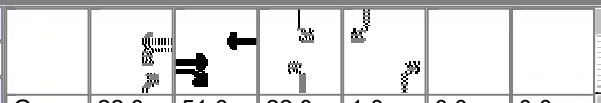
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	11/7/2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2027	Analysis Period	1> 6:45
Intersection	I-25 SB Ramp	File Name	2027 Background AM - Rio Bravo and I25 SB Ra…		
Project Description	2027 Background AM Analysis				

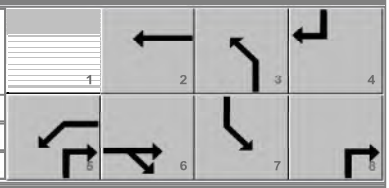


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1761	33	36	246		115		252	407		827

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On



Green	22.0	51.0	22.0	1.0	0.0	0.0
Yellow	6.0	6.0	6.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0



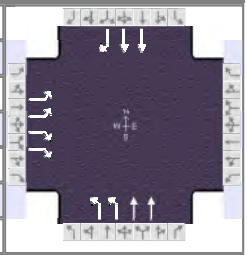
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6	5	2	3	8	7	4
Case Number		7.3	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s		59.0	30.0	89.0	30.0	1.0	30.0	1.0
Change Period, (*Y+R c*), s		8.0	8.0	8.0	8.0	0.0	8.0	0.0
Max Allow Headway (*MAH*), s		0.0	3.0	0.0	3.0	3.2	3.0	3.2
Queue Clearance Time (*g s*), s			4.1		8.9	3.0	15.4	3.0
Green Extension Time (*g e*), s		0.0	0.0	0.0	0.1	0.0	0.6	0.0
Phase Call Probability			1.00		1.00	1.00	1.00	1.00
Max Out Probability			0.00		0.00	1.00	0.05	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2		3		18	7		14
Adjusted Flow Rate (*v*), veh/h		1761	33	36	246		115		252	407		827
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1658		1739	1738		1739		1773	1689		
Queue Service Time (*g s*), s		24.9		2.1	3.0		6.9		1.0	13.4		
Cycle Queue Clearance Time (*g c*), s		24.9		2.1	3.0		6.9		1.0	13.4		
Green Ratio (*g/C*)		0.42		0.18	0.68		0.18		0.19	0.18		
Capacity (*c*), veh/h		2818		319	2347		319		340	619		
Volume-to-Capacity Ratio (*X*)		0.625		0.113	0.105		0.361		0.742	0.657		
Back of Queue (*Q*), ft/ln (95 th percentile)		380.1		40.9	46.3		137.4		315.4	248		
Back of Queue (*Q*), veh/ln (95 th percentile)		14.6		1.6	1.8		5.3		12.1	9.5		
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.06	0.00		0.46		0.00	0.00		
Uniform Delay (*d 1*), s/veh		27.0		40.9	6.8		42.9		45.7	45.5		
Incremental Delay (*d 2*), s/veh		1.1		0.1	0.1		0.3		7.8	2.1		
Initial Queue Delay (*d 3*), s/veh		0.0		0.0	0.0		0.0		0.0	0.0		
Control Delay (*d*), s/veh		28.1	0.0	40.9	6.9		43.1		53.6	47.6		0.0
Level of Service (LOS)		C	A	D	A		D		D	D		A
Approach Delay, s/veh / LOS	27.6	C		11.3	B		50.3	D		15.7	B	
Intersection Delay, s/veh / LOS	24.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	2.06	B	2.61	C	2.61	C
Bicycle LOS Score / LOS	1.23	A	0.72	A		F		F

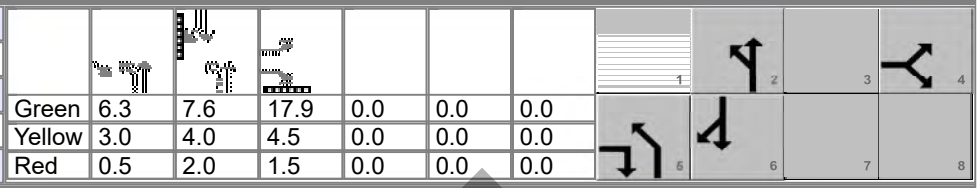
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 3, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2027	Analysis Period	1> 6:45
Intersection	University Blvd	File Name	2027 Background AM - Rio Bravo and University.x…		
Project Description	2027 Background AM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	615		948				370	109			97	74

Signal Information			
Cycle, s	47.2	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	6.3	7.6	17.9	0.0	0.0	0.0
Yellow	3.0	4.0	4.5	0.0	0.0	0.0
Red	0.5	2.0	1.5	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4			5	2		6
Case Number		9.0			1.0	4.0		7.3
Phase Duration, s		23.9			9.8	23.3		13.6
Change Period, (*Y+R c*), s		6.0			3.5	6.0		6.0
Max Allow Headway (*MAH*), s		3.3			2.5	2.9		2.9
Queue Clearance Time (*g s*), s		14.2			5.9	3.0		3.1
Green Extension Time (*g e*), s		3.7			0.4	0.4		0.4
Phase Call Probability		1.00			0.99	1.00		0.94
Max Out Probability		0.28			0.00	0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7		14				5	2			6	16
Adjusted Flow Rate (*v*), veh/h	615		948				370	109			97	15
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689		1369				1689	1738			1738	1547
Queue Service Time (*g s*), s	6.5		12.2				3.9	1.0			1.1	0.4
Cycle Queue Clearance Time (*g c*), s	6.5		12.2				3.9	1.0			1.1	0.4
Green Ratio (*g/C*)	0.38		0.51				0.34	0.37			0.16	0.16
Capacity (*c*), veh/h	1280		1402				1098	1276			557	248
Volume-to-Capacity Ratio (*X*)	0.481		0.676				0.337	0.085			0.174	0.061
Back of Queue (*Q*), ft/ln (95 th percentile)	89.6		114.8				50.3	12.6			17.5	5.4
Back of Queue (*Q*), veh/ln (95 th percentile)	3.4		4.4				1.9	0.5			0.7	0.2
Queue Storage Ratio (*RQ*) (95 th percentile)	0.30		0.00				0.14	0.00			0.00	0.04
Uniform Delay (*d 1*), s/veh	11.1		8.6				11.8	9.8			17.1	16.8
Incremental Delay (*d 2*), s/veh	0.1		0.4				0.1	0.0			0.1	0.0
Initial Queue Delay (*d 3*), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (*d*), s/veh	11.2		9.0				11.9	9.8			17.2	16.9
Level of Service (LOS)	B		A				B	A			B	B
Approach Delay, s/veh / LOS	9.9		A	0.0			11.4		B	17.1		B
Intersection Delay, s/veh / LOS	10.6						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.44	B	2.37	B	0.69	A	2.42	B
Bicycle LOS Score / LOS		F			0.88	A	0.58	A

HCS Two-Way Stop-Control Report

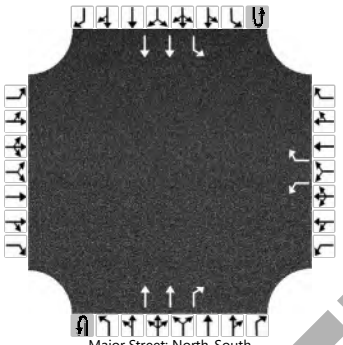
General Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	10/18/2023
Analysis Year	2027
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	2027 BG AM Scenario

Site Information

Intersection	Bobby Foster Rd and Broadway Blvd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	Broadway Blvd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	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		1	0	1	0	0	2	1	0	1	2	0
Configuration						L		R			T	R		L	T	
Volume (veh/h)						15		37			1018	79	0	271	291	
Percent Heavy Vehicles (%)						2		2					0	2		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized						Yes					No					
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9						4.1		
Critical Headway (sec)						6.84		6.94						4.14		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.52		3.32						2.22		

Delay, Queue Length, and Level of Service

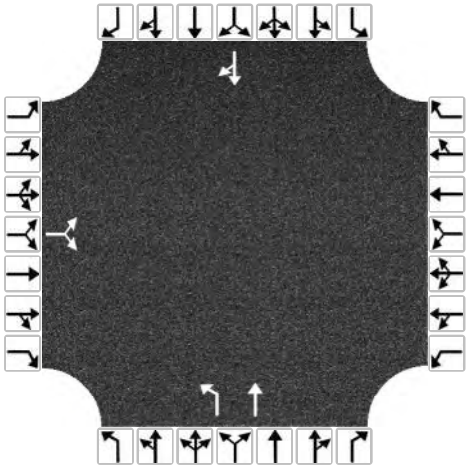
Flow Rate, v (veh/h)						16		40						295		
Capacity, c (veh/h)						32		476						581		
v/c Ratio						0.51		0.08						0.51		
95% Queue Length, Q_{95} (veh)						2.4		0.3						3.0		
Control Delay (s/veh)						218.8		13.3						17.5		
Level of Service (LOS)						F		B						C		
Approach Delay (s/veh)						72.5								8.4		
Approach LOS						F								A		

HCS All-Way Stop Control Report

General and Site Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	11/9/2023
Analysis Year	2027
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	2027 BG AM Scenario
Intersection	Bobby Foster Rd and Los Picaros Rd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	Los Picaros Rd
Peak Hour Factor	0.92

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	28		323				38	0			0	18
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

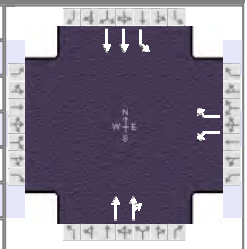
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	382						41	0		20		
Percent Heavy Vehicles	2						2	0		0		
Initial Departure Headway, h_d (s)	3.20						3.20	3.20		3.20		
Initial Degree of Utilization, x	0.339						0.037	0.000		0.017		
Final Departure Headway, h_d (s)	3.57						5.79	5.25		4.19		
Final Degree of Utilization, x	0.378						0.066	0.000		0.023		
Move-Up Time, m (s)	2.0						2.3	2.3		2.0		
Service Time, t_s (s)	1.57						3.49	2.95		2.19		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	382						41	0		20		
Capacity (veh/h)	1010						622	0		859		
95% Queue Length, Q_{95} (veh)	1.8						0.2	0.0		0.1		
Control Delay (s/veh)	8.7						8.9	8.0		7.3		
Level of Service, LOS	A						A			A		
Approach Delay (s/veh) | LOS	8.7	A					8.9	A		7.3	A	
Intersection Delay (s/veh) | LOS	8.7						A					

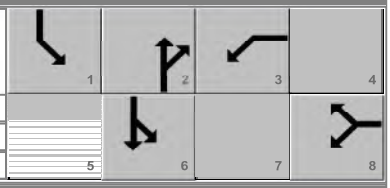
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 10, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak	PHF	1.00
Urban Street	University Blvd	Analysis Year	2027	Analysis Period	1> 6:45
Intersection	Crick Ave	File Name	2027 Background AM - University and Crick.xus		
Project Description	2027 Background AM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				15		21		468	20	283	774	

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.0	68.4	3.6	0.0	0.0	0.0						
Yellow	4.0	4.0	4.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

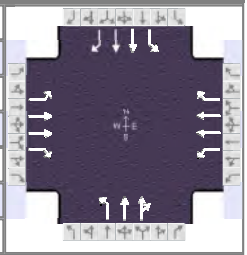
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		8.3	1.0	4.0
Phase Duration, s				7.6		72.4	10.0	82.4
Change Period, (*Y+R c*), s				4.0		4.0	4.0	4.0
Max Allow Headway (*MAH*), s				3.3		0.0	3.1	0.0
Queue Clearance Time (*g s*), s				3.2			4.6	
Green Extension Time (*g e*), s				0.0		0.0	0.5	0.0
Phase Call Probability				0.59			1.00	
Max Out Probability				0.00			0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				15		21		245	243	283	774	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1739		1585		1870	1843	1739	1781	
Queue Service Time (*g s*), s				0.8		1.2		5.1	3.3	2.6	3.2	
Cycle Queue Clearance Time (*g c*), s				0.8		1.2		5.1	3.3	2.6	3.2	
Green Ratio (*g/C*)				0.04		0.04		0.76	0.76	0.85	0.87	
Capacity (*c*), veh/h				69		63		1422	1402	819	3104	
Volume-to-Capacity Ratio (*X*)				0.218		0.335		0.172	0.173	0.345	0.249	
Back of Queue (*Q*), ft/ln (95 th percentile)				15.3		21.2		41.8	40.8	10.9	6.3	
Back of Queue (*Q*), veh/ln (95 th percentile)				0.6		0.8		1.6	1.6	0.4	0.2	
Queue Storage Ratio (*RQ*) (95 th percentile)				0.04		0.00		0.00	0.00	0.02	0.00	
Uniform Delay (*d 1*), s/veh				41.9		42.1		3.0	3.0	1.6	0.9	
Incremental Delay (*d 2*), s/veh				0.6		1.2		0.3	0.3	0.1	0.2	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				42.5		43.2		3.2	3.2	1.7	1.1	
Level of Service (LOS)				D		D		A	A	A	A	
Approach Delay, s/veh / LOS	0.0			42.9		D	3.2		A	1.3		A
Intersection Delay, s/veh / LOS	2.8						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.14	B	2.31	B	1.84	B	0.60	A
Bicycle LOS Score / LOS				F	0.89	A	1.36	A

HCS Signalized Intersection Results Summary

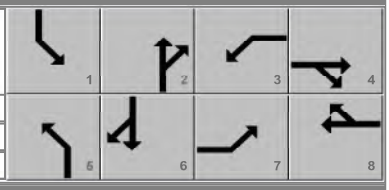
General Information				Intersection Information	
Agency				Duration, h	1.000
Analyst		Analysis Date	11/9/2023	Area Type	Other
Jurisdiction		Time Period		PHF	1.00
Urban Street	University Blvd	Analysis Year	2023	Analysis Period	1> 6:45
Intersection	Bobby Foster Blvd/East…	File Name	2027 BG AM - Bobby Foster-Eastman and Univer…		
Project Description	2027 BG AM Scenario				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	147	184	30	17	2	44	10	347	32	0	644	74

Signal Information			
Cycle, s	47.9	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	0.5	12.3	0.6	4.6	5.9	0.0
Yellow	4.0	4.0	4.0	0.0	4.0	0.0
Red	2.0	2.0	2.0	0.0	2.0	0.0



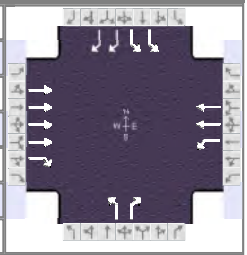
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0
Phase Duration, s	11.3	16.5	6.6	11.9	6.5	24.8	0.0	18.3
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	3.1	3.1	3.1	3.1	3.1	0.0	3.1
Queue Clearance Time (g_s), s	5.8	4.0	2.5	3.2	2.3	5.4		9.9
Green Extension Time (g_e), s	0.3	0.6	0.0	0.6	0.0	2.4	0.0	2.4
Phase Call Probability	0.86	1.00	0.20	0.98	0.12	1.00		1.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00		0.00

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	147	184	30	17	2	44	10	191	188	0	644	74
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1781	1585	1781	1781	1585	1781	1870	1815	1781	1781	1585
Queue Service Time (g_s), s	3.8	2.0	0.7	0.5	0.0	1.2	0.3	3.3	3.4	0.0	7.9	1.7
Cycle Queue Clearance Time (g_c), s	3.8	2.0	0.7	0.5	0.0	1.2	0.3	3.3	3.4	0.0	7.9	1.7
Green Ratio (*g/C*)	0.11	0.22	0.22	0.01	0.12	0.12	0.01	0.39	0.39		0.26	0.26
Capacity (*c*), veh/h	196	780	347	23	435	193	19	735	713	4	917	408
Volume-to-Capacity Ratio (*X*)	0.751	0.236	0.086	0.743	0.005	0.227	0.533	0.260	0.263	0.000	0.703	0.181
Back of Queue (*Q*), ft/ln (95 th percentile)	69.7	32.6	10.3	13	0.4	18.3	6.7	49.2	47.6	0	124.4	24.4
Back of Queue (*Q*), veh/ln (95 th percentile)	2.7	1.3	0.4	0.5	0.0	0.7	0.3	1.9	1.9	0.0	4.9	1.0
Queue Storage Ratio (*RQ*) (95 th percentile)	0.23	0.00	0.03	0.04	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.08
Uniform Delay (d_1), s/veh	20.7	15.4	14.9	23.6	18.5	19.0	23.6	9.9	9.9	0.0	16.2	13.9
Incremental Delay (d_2), s/veh	2.2	0.1	0.0	17.6	0.0	0.2	8.7	0.1	0.1	0.0	0.4	0.1
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	0.0	0.0	0.0
Control Delay (*d*), s/veh	22.9	15.5	15.0	41.2	18.5	19.2	32.3	9.9	9.9	0.0	16.5	14.0
Level of Service (LOS)	C	B	B	D	B	B	C	A	A		B	B
Approach Delay, s/veh / LOS	18.5	B		25.1	C		10.5	B		16.3	B	
Intersection Delay, s/veh / LOS	15.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.26	B	2.43	B	2.40	B	2.41	B
Bicycle LOS Score / LOS	0.79	A	0.54	A	0.81	A	1.08	A

HCS Signalized Intersection Results Summary

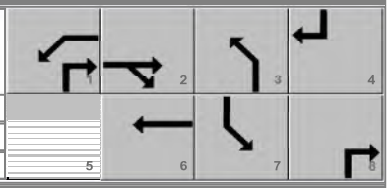
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	11/7/2023	Area Type	Other
Jurisdiction	CABQ	Time Period	PM Peak	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2027	Analysis Period	1> 15:45
Intersection	I-25 SB Ramp	File Name	2027 Background PM - Rio Bravo and I25 SB Ra…		
Project Description	2027 Background PM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1516	99	149	811		50		106	213		1055

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	22.0	41.0	32.0	1.0	0.0	0.0	
Yellow	6.0	6.0	6.0	0.0	0.0	0.0	
Red	2.0	2.0	2.0	0.0	0.0	0.0	



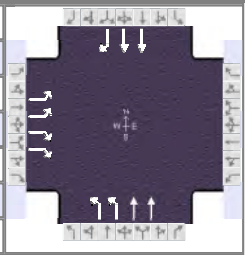
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6	3	8	7	4
Case Number		7.3	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s		49.0	30.0	79.0	40.0	1.0	40.0	1.0
Change Period, (*Y+R c*), s		8.0	8.0	8.0	8.0	0.0	8.0	0.0
Max Allow Headway (*MAH*), s		0.0	3.0	0.0	3.0	3.2	3.0	3.2
Queue Clearance Time (*g s*), s			11.6		4.7	3.0	7.9	3.0
Green Extension Time (*g e*), s		0.0	0.2	0.0	0.1	0.0	0.4	0.0
Phase Call Probability			1.00		1.00	1.00	1.00	1.00
Max Out Probability			0.00		0.00	1.00	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18	7		14
Adjusted Flow Rate (*v*), veh/h		1516	99	149	811		50		106	213		1055
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1618		1668	1654		1697		1845	1689		
Queue Service Time (*g s*), s		24.2		9.6	15.9		2.7		1.0	5.9		
Cycle Queue Clearance Time (*g c*), s		24.2		9.6	15.9		2.7		1.0	5.9		
Green Ratio (*g/C*)		0.34		0.18	0.59		0.27		0.19	0.27		
Capacity (*c*), veh/h		2211		306	1957		452		354	901		
Volume-to-Capacity Ratio (*X*)		0.686		0.487	0.414		0.111		0.300	0.237		
Back of Queue (*Q*), ft/ln (95 th percentile)		382.7		189.9	256.9		51.6		119.1	111.3		
Back of Queue (*Q*), veh/ln (95 th percentile)		14.4		7.0	9.4		1.9		4.8	4.3		
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.27	0.00		0.17		0.00	0.00		
Uniform Delay (*d 1*), s/veh		34.0		43.9	13.3		33.2		41.6	34.4		
Incremental Delay (*d 2*), s/veh		1.8		0.4	0.7		0.0		0.2	0.0		
Initial Queue Delay (*d 3*), s/veh		0.0		0.0	0.0		0.0		0.0	0.0		
Control Delay (*d*), s/veh		35.7	0.0	44.4	13.9		33.3		41.8	34.5		0.0
Level of Service (LOS)		D	A	D	B		C		D	C		A
Approach Delay, s/veh / LOS	33.5	C		18.6	B		39.1	D		5.8	A	
Intersection Delay, s/veh / LOS	21.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	2.08	B	2.61	C	2.61	C
Bicycle LOS Score / LOS	1.15	A	1.28	A		F		F

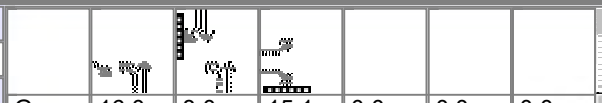
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 3, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2027	Analysis Period	1> 15:45
Intersection	University Blvd	File Name	2027 Background PM - Rio Bravo and University....		
Project Description	2027 Background PM Analysis				

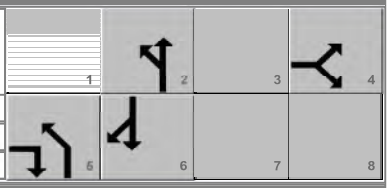


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	247		839				1229	212			151	328

Signal Information			
Cycle, s	54.6	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	16.0	8.0	15.1	0.0	0.0	0.0
Yellow	3.0	4.0	4.5	0.0	0.0	0.0
Red	0.5	2.0	1.5	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4			5	2		6
Case Number		9.0			1.0	4.0		7.3
Phase Duration, s		21.1			19.5	33.5		14.0
Change Period, (*Y+R c*), s		6.0			3.5	6.0		6.0
Max Allow Headway (*MAH*), s		3.3			2.5	3.0		3.0
Queue Clearance Time (*g s*), s		12.4			18.0	3.8		6.3
Green Extension Time (*g e*), s		2.7			0.0	1.0		1.0
Phase Call Probability		1.00			1.00	1.00		1.00
Max Out Probability		0.08			1.00	0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7		14				5	2			6	16
Adjusted Flow Rate (*v*), veh/h	247		839				1229	212			151	132
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689		1369				1689	1738			1738	1547
Queue Service Time (*g s*), s	3.1		10.4				16.0	1.8			2.1	4.3
Cycle Queue Clearance Time (*g c*), s	3.1		10.4				16.0	1.8			2.1	4.3
Green Ratio (*g/C*)	0.28		0.57				0.48	0.50			0.15	0.15
Capacity (*c*), veh/h	936		1561				1512	1750			509	227
Volume-to-Capacity Ratio (*X*)	0.264		0.538				0.813	0.121			0.297	0.583
Back of Queue (*Q*), ft/ln (95 th percentile)	49.3		97.1				223.1	21.1			35	65.9
Back of Queue (*Q*), veh/ln (95 th percentile)	1.9		3.7				8.6	0.8			1.3	2.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.16		0.00				0.64	0.00			0.00	0.47
Uniform Delay (*d 1*), s/veh	15.4		7.3				12.2	7.2			20.8	21.8
Incremental Delay (*d 2*), s/veh	0.1		0.1				3.3	0.0			0.1	0.9
Initial Queue Delay (*d 3*), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (*d*), s/veh	15.5		7.4				15.6	7.2			20.9	22.6
Level of Service (LOS)	B		A				B	A			C	C
Approach Delay, s/veh / LOS	9.2		A	0.0			14.3		B	21.7		C
Intersection Delay, s/veh / LOS	13.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.44	B	2.57	C	0.68	A	2.43	B
Bicycle LOS Score / LOS		F			1.68	B	0.72	A

HCS Two-Way Stop-Control Report

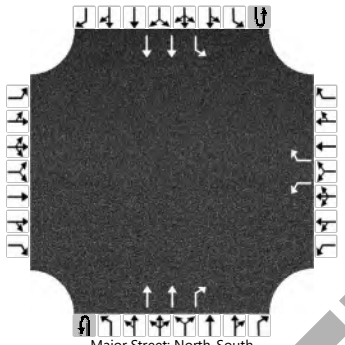
General Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	10/18/2023
Analysis Year	2027
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	2027 BG PM Scenario

Site Information

Intersection	Bobby Foster Rd and Broadway Blvd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	Broadway Blvd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	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		1	0	1	0	0	2	1	0	1	2	0
Configuration						L		R			T	R		L	T	
Volume (veh/h)						98		331			466	70	0	140	800	
Percent Heavy Vehicles (%)						2		2					0	0		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized						Yes					No					
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9						4.1		
Critical Headway (sec)						6.84		6.94						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.52		3.32						2.20		

Delay, Queue Length, and Level of Service

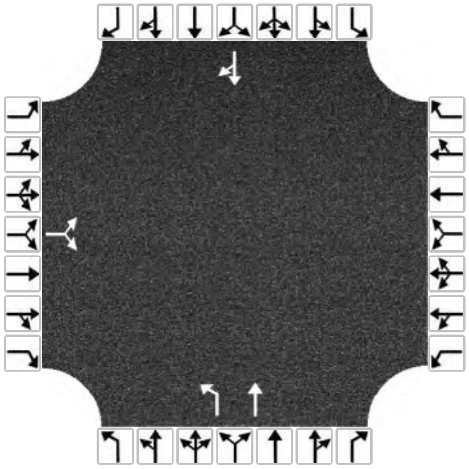
Flow Rate, v (veh/h)						107		360						152		
Capacity, c (veh/h)						141		746						1002		
v/c Ratio						0.76		0.48						0.15		
95% Queue Length, Q_{95} (veh)						6.7		2.8						0.5		
Control Delay (s/veh)						99.5		14.3						9.2		
Level of Service (LOS)						F		B						A		
Approach Delay (s/veh)						33.8								1.4		
Approach LOS						D								A		

HCS All-Way Stop Control Report

General and Site Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	11/9/2023
Analysis Year	2027
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	2027 BG PM Scenario
Intersection	Bobby Foster Rd and Los Picaros Rd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	Los Picaros Rd
Peak Hour Factor	0.92

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	23		185				396	0			0	37
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

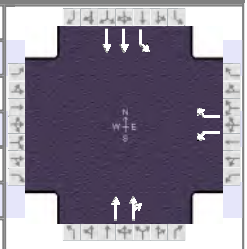
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	226						430	0		40		
Percent Heavy Vehicles	5						3	0		0		
Initial Departure Headway, h_d (s)	3.20						3.20	3.20		3.20		
Initial Degree of Utilization, x	0.201						0.383	0.000		0.036		
Final Departure Headway, h_d (s)	4.84						5.69	5.13		4.63		
Final Degree of Utilization, x	0.304						0.680	0.000		0.052		
Move-Up Time, m (s)	2.0						2.3	2.3		2.0		
Service Time, t_s (s)	2.84						3.39	2.83		2.63		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	226						430	0		40		
Capacity (veh/h)	744						633	0		777		
95% Queue Length, Q_{95} (veh)	1.3						5.3	0.0		0.2		
Control Delay (s/veh)	9.9						19.6	7.8		7.9		
Level of Service, LOS	A						C			A		
Approach Delay (s/veh) | LOS	9.9	A					19.6	C		7.9	A	
Intersection Delay (s/veh) | LOS	15.8						C					

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 10, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak	PHF	1.00
Urban Street	University Blvd	Analysis Year	2027	Analysis Period	1> 15:45
Intersection	Crick Ave	File Name	2027 Background PM - University and Crick.xus		
Project Description	2027 Background PM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				13		257		1262	8	42	975	

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
							5	6	7	8
Green	3.9	57.6	16.5	0.0	0.0	0.0				
Yellow	4.0	4.0	4.0	0.0	0.0	0.0				
Red	0.0	0.0	0.0	0.0	0.0	0.0				

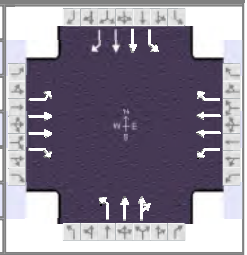
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		8.3	1.0	4.0
Phase Duration, s				20.5		61.6	7.9	69.5
Change Period, (*Y+R c*), s				4.0		4.0	4.0	4.0
Max Allow Headway (*MAH*), s				3.4		0.0	3.1	0.0
Queue Clearance Time (*g s*), s				16.2			2.7	
Green Extension Time (*g e*), s				0.3		0.0	0.0	0.0
Phase Call Probability				1.00			0.65	
Max Out Probability				0.07			0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				13		257		636	634	42	975	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1739		1585		1870	1866	1739	1781	
Queue Service Time (*g s*), s				0.6		14.2		23.7	16.7	0.7	9.3	
Cycle Queue Clearance Time (*g c*), s				0.6		14.2		23.7	16.7	0.7	9.3	
Green Ratio (*g/C*)				0.18		0.18		0.64	0.64	0.71	0.73	
Capacity (*c*), veh/h				320		291		1196	1193	316	2590	
Volume-to-Capacity Ratio (*X*)				0.041		0.882		0.531	0.532	0.133	0.376	
Back of Queue (*Q*), ft/ln (95 th percentile)				10.7		269.6		262.9	258.4	9	120.8	
Back of Queue (*Q*), veh/ln (95 th percentile)				0.4		10.6		10.4	10.3	0.3	4.8	
Queue Storage Ratio (*RQ*) (95 th percentile)				0.03		0.00		0.00	0.00	0.02	0.00	
Uniform Delay (*d 1*), s/veh				30.2		35.8		8.9	8.9	8.1	4.6	
Incremental Delay (*d 2*), s/veh				0.0		14.2		1.7	1.7	0.1	0.4	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				30.2		50.0		10.6	10.6	8.1	5.0	
Level of Service (LOS)				C		D		B	B	A	A	
Approach Delay, s/veh / LOS	0.0			49.0		D	10.6		B	5.2		A
Intersection Delay, s/veh / LOS	12.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.14	B	2.31	B	1.87	B	0.65	A
Bicycle LOS Score / LOS				F	1.54	B	1.33	A

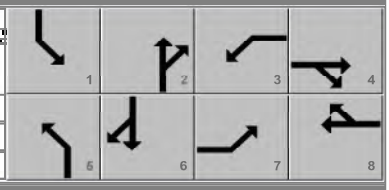
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 10, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	PM Peak	PHF	1.00
Urban Street	University Blvd	Analysis Year	2027	Analysis Period	1> 15:45
Intersection	Bobby Foster Blvd/East…	File Name	2027 BG PM - Bobby Foster-Eastman and Univer…		
Project Description	2027 BG PM Scenario				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	228	0	63	20	105	50	164	843	2	37	561	279

Signal Information										
Cycle, s	63.8	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	1.9	5.7	16.1	0.9	3.3	5.9
				Yellow	4.0	0.0	4.0	4.0	4.0	4.0
				Red	2.0	0.0	2.0	2.0	2.0	2.0



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	2.0	3.0	2.0	4.0	2.0	3.0
Phase Duration, s	16.2	21.2	6.9	11.9	13.6	27.8	7.9	22.1
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	3.2	3.1	3.2	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	9.9	4.0	2.7	3.9	7.7	14.3	3.3	12.2
Green Extension Time (g_e), s	0.4	0.5	0.0	0.5	0.3	3.8	0.1	3.8
Phase Call Probability	0.98	1.00	0.30	0.99	0.95	1.00	0.48	1.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.02

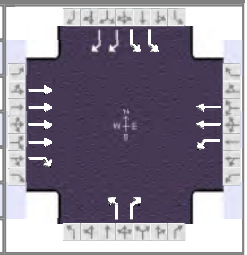
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	228	0	63	20	105	50	164	423	422	37	561	279
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1781	1585	1781	1781	1585	1781	1870	1869	1781	1781	1585
Queue Service Time (g_s), s	7.9	0.0	2.0	0.7	1.8	1.9	5.7	12.3	12.3	1.3	8.9	10.2
Cycle Queue Clearance Time (g_c), s	7.9	0.0	2.0	0.7	1.8	1.9	5.7	12.3	12.3	1.3	8.9	10.2
Green Ratio (*g/C*)	0.16	0.24	0.24	0.01	0.09	0.09	0.12	0.34	0.34	0.03	0.25	0.25
Capacity (*c*), veh/h	284	848	377	25	330	147	213	639	639	54	901	401
Volume-to-Capacity Ratio (*X*)	0.802	0.000	0.167	0.789	0.318	0.341	0.771	0.661	0.661	0.682	0.623	0.696
Back of Queue (*Q*), ft/ln (95 th percentile)	148.7	0	31.5	19.8	32.6	31.6	109.5	211.9	208.4	28.2	156.1	161.3
Back of Queue (*Q*), veh/ln (95 th percentile)	5.9	0.0	1.2	0.8	1.3	1.2	4.3	8.3	8.3	1.1	6.1	6.4
Queue Storage Ratio (*RQ*) (95 th percentile)	0.50	0.00	0.10	0.07	0.00	0.11	0.36	0.00	0.00	0.09	0.00	0.54
Uniform Delay (d_1), s/veh	25.9	0.0	19.3	31.4	27.1	27.2	27.3	17.9	17.9	30.7	21.2	21.7
Incremental Delay (d_2), s/veh	2.0	0.0	0.1	20.3	0.2	0.5	2.3	0.4	0.4	5.7	0.3	0.8
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	0.0	0.0	0.0
Control Delay (*d*), s/veh	27.9	0.0	19.4	51.7	27.3	27.7	29.6	18.3	18.3	36.3	21.4	22.5
Level of Service (LOS)	C		B	D	C	C	C	B	B	D	C	C
Approach Delay, s/veh / LOS	26.1	C		30.2	C		20.2	C		22.4	C	
Intersection Delay, s/veh / LOS	22.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.27	B	2.44	B	2.42	B	2.43	B
Bicycle LOS Score / LOS	0.73	A	0.63	A	1.32	A	1.21	A

2027 TOTAL

HCS Signalized Intersection Results Summary

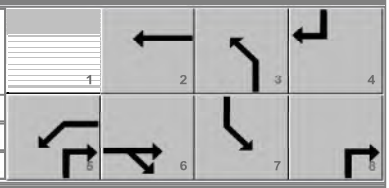
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	11/7/2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2027	Analysis Period	1> 6:45
Intersection	I-25 SB Ramp	File Name	2027 Total AM - Rio Bravo and I25 SB Ramp.xus		
Project Description	2027 Total AM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1830	33	48	272		115		278	484		827

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	24.0	49.0	22.0	1.0	0.0	0.0
Yellow	6.0	6.0	6.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0



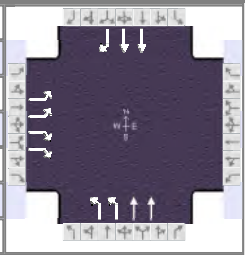
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6	5	2	3	8	7	4
Case Number		7.3	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s		57.0	32.0	89.0	30.0	1.0	30.0	1.0
Change Period, ($Y+R_c$), s		8.0	8.0	8.0	8.0	0.0	8.0	0.0
Max Allow Headway (*MAH*), s		0.0	3.0	0.0	3.0	3.2	3.0	3.2
Queue Clearance Time (g_s), s			4.7		8.9	3.0	18.4	3.0
Green Extension Time (g_e), s		0.0	0.0	0.0	0.1	0.0	0.5	0.0
Phase Call Probability			1.00		1.00	1.00	1.00	1.00
Max Out Probability			0.00		0.00	1.00	0.65	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2		3		18	7		14
Adjusted Flow Rate (*v*), veh/h		1830	33	48	272		115		278	484		827
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1658		1739	1738		1739		1773	1689		
Queue Service Time (g_s), s		27.1		2.7	3.3		6.9		1.0	16.4		
Cycle Queue Clearance Time (g_c), s		27.1		2.7	3.3		6.9		1.0	16.4		
Green Ratio (*g/C*)		0.41		0.20	0.68		0.18		0.21	0.18		
Capacity (*c*), veh/h		2708		348	2347		319		369	619		
Volume-to-Capacity Ratio (*X*)		0.676		0.138	0.116		0.361		0.753	0.782		
Back of Queue (*Q*), ft/ln (95 th percentile)		410		53.7	51.6		137.4		339.9	301.7		
Back of Queue (*Q*), veh/ln (95 th percentile)		15.8		2.1	2.0		5.3		13.1	11.6		
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.08	0.00		0.46		0.00	0.00		
Uniform Delay (d_1), s/veh		29.0		39.5	6.9		42.9		44.6	46.7		
Incremental Delay (d_2), s/veh		1.4		0.1	0.1		0.3		7.9	6.1		
Initial Queue Delay (d_3), s/veh		0.0		0.0	0.0		0.0		0.0	0.0		
Control Delay (*d*), s/veh		30.4	0.0	39.6	7.0		43.1		52.5	52.8		0.0
Level of Service (LOS)		C	A	D	A		D		D	D		A
Approach Delay, s/veh / LOS	29.9	C		11.9	B		49.8	D		19.5	B	
Intersection Delay, s/veh / LOS	26.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	2.06	B	2.61	C	2.61	C
Bicycle LOS Score / LOS	1.26	A	0.75	A		F		F

HCS Signalized Intersection Results Summary

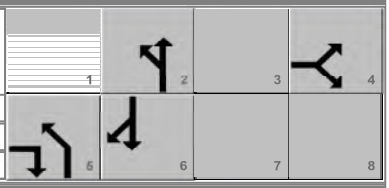
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 3, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2027	Analysis Period	1> 6:45
Intersection	University Blvd	File Name	2027 Total AM - Rio Bravo and University.xus		
Project Description	2027 Total AM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	615		1120				442	126			143	74

Signal Information			
Cycle, s	52.3	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	7.7	7.9	21.2	0.0	0.0	0.0	
Yellow	3.0	4.0	4.5	0.0	0.0	0.0	
Red	0.5	2.0	1.5	0.0	0.0	0.0	



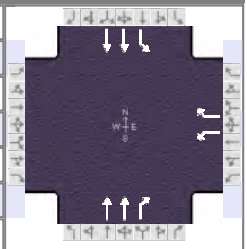
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4			5	2		6
Case Number		9.0			1.0	4.0		7.3
Phase Duration, s		27.2			11.2	25.1		13.9
Change Period, (*Y+R c*), s		6.0			3.5	6.0		6.0
Max Allow Headway (*MAH*), s		3.3			2.5	2.9		2.9
Queue Clearance Time (*g s*), s		18.2			7.2	3.2		3.9
Green Extension Time (*g e*), s		3.0			0.5	0.6		0.6
Phase Call Probability		1.00			1.00	1.00		0.98
Max Out Probability		0.66			0.00	0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7		14				5	2			6	16
Adjusted Flow Rate (*v*), veh/h	615		1120				442	126			143	15
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689		1369				1689	1738			1738	1547
Queue Service Time (*g s*), s	6.9		16.2				5.2	1.2			1.9	0.4
Cycle Queue Clearance Time (*g c*), s	6.9		16.2				5.2	1.2			1.9	0.4
Green Ratio (*g/C*)	0.41		0.55				0.34	0.37			0.15	0.15
Capacity (*c*), veh/h	1368		1515				1053	1271			523	233
Volume-to-Capacity Ratio (*X*)	0.450		0.739				0.420	0.099			0.273	0.064
Back of Queue (*Q*), ft/ln (95 th percentile)	98.3		163				72.5	17.4			31	6.4
Back of Queue (*Q*), veh/ln (95 th percentile)	3.8		6.3				2.8	0.7			1.2	0.2
Queue Storage Ratio (*RQ*) (95 th percentile)	0.33		0.00				0.21	0.00			0.00	0.05
Uniform Delay (*d 1*), s/veh	11.3		8.8				13.4	10.9			19.7	19.1
Incremental Delay (*d 2*), s/veh	0.1		1.3				0.1	0.0			0.1	0.0
Initial Queue Delay (*d 3*), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (*d*), s/veh	11.4		10.2				13.5	10.9			19.8	19.1
Level of Service (LOS)	B		B				B	B			B	B
Approach Delay, s/veh / LOS	10.6		B	0.0			12.9		B	19.7		B
Intersection Delay, s/veh / LOS	11.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.44	B	2.37	B	0.69	A	2.43	B
Bicycle LOS Score / LOS		F			0.96	A	0.62	A

HCS Signalized Intersection Results Summary

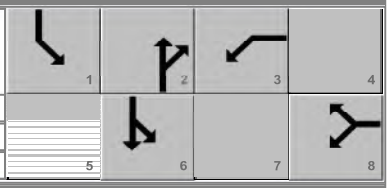
General Information				Intersection Information	
Agency				Duration, h	1.000
Analyst		Analysis Date	11/13/2023	Area Type	Other
Jurisdiction		Time Period		PHF	1.00
Urban Street	Broadway Blvd	Analysis Year	2023	Analysis Period	1> 6:45
Intersection	Bobby Foster Rd	File Name	2027 Total AM - Bobby Foster and Broadway Blvd…		
Project Description	2027 Total AM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				19		41		1018	90	282	291	

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.0	67.3	4.7	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		7.3	1.0	4.0
Phase Duration, s				8.7		71.3	10.0	81.3
Change Period, (*Y+R c*), s				4.0		4.0	4.0	4.0
Max Allow Headway (*MAH*), s				3.3		0.0	2.9	0.0
Queue Clearance Time (*g s*), s				4.3			4.8	
Green Extension Time (*g e*), s				0.1		0.0	0.5	0.0
Phase Call Probability				0.78			1.00	
Max Out Probability				0.00			0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				19		41		1018	90	282	291	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1781		1585		1781	1585	1781	1781	
Queue Service Time (*g s*), s				0.9		2.3		9.1	1.4	2.8	1.1	
Cycle Queue Clearance Time (*g c*), s				0.9		2.3		9.1	1.4	2.8	1.1	
Green Ratio (*g/C*)				0.05		0.05		0.75	0.75	0.84	0.86	
Capacity (*c*), veh/h				92		82		2665	1186	557	3060	
Volume-to-Capacity Ratio (*X*)				0.206		0.499		0.382	0.076	0.506	0.095	
Back of Queue (*Q*), ft/ln (95 th percentile)				18.6		41.4		81.4	11.7	2.6	1.2	
Back of Queue (*Q*), veh/ln (95 th percentile)				0.7		1.6		3.2	0.5	0.1	0.0	
Queue Storage Ratio (*RQ*) (95 th percentile)				0.00		0.00		0.00	0.00	0.00	0.00	
Uniform Delay (*d 1*), s/veh				40.9		41.5		4.0	3.0	2.8	1.0	
Incremental Delay (*d 2*), s/veh				0.4		1.8		0.4	0.1	0.3	0.1	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				41.3		43.3		4.4	3.1	3.1	1.0	
Level of Service (LOS)				D		D		A	A	A	A	
Approach Delay, s/veh / LOS	0.0			42.7		D	4.3		A	2.0		A
Intersection Delay, s/veh / LOS	4.9						A					

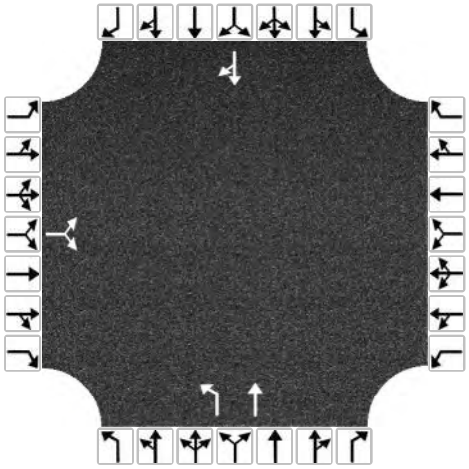
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.31	B	1.84	B	0.60	A
Bicycle LOS Score / LOS				F	1.40	A	0.96	A

HCS All-Way Stop Control Report

General and Site Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	11/9/2023
Analysis Year	2027
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	2027 Total AM Scenario
Intersection	Bobby Foster Rd and Los Picaros Rd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	Los Picaros Rd
Peak Hour Factor	0.92

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	28		345				46	0			0	18
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

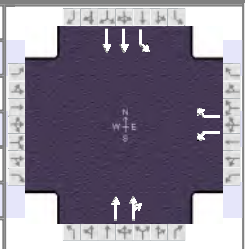
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	405						50	0		20		
Percent Heavy Vehicles	2						2	0		0		
Initial Departure Headway, h_d (s)	3.20						3.20	3.20		3.20		
Initial Degree of Utilization, x	0.360						0.044	0.000		0.017		
Final Departure Headway, h_d (s)	3.59						5.84	5.30		4.25		
Final Degree of Utilization, x	0.404						0.081	0.000		0.023		
Move-Up Time, m (s)	2.0						2.3	2.3		2.0		
Service Time, t_s (s)	1.59						3.54	3.00		2.25		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	405						50	0		20		
Capacity (veh/h)	1003						617	0		846		
95% Queue Length, Q_{95} (veh)	2.0						0.3	0.0		0.1		
Control Delay (s/veh)	9.0						9.1	8.0		7.4		
Level of Service, LOS	A						A			A		
Approach Delay (s/veh) | LOS	9.0	A					9.1	A		7.4	A	
Intersection Delay (s/veh) | LOS	8.9						A					

HCS Signalized Intersection Results Summary

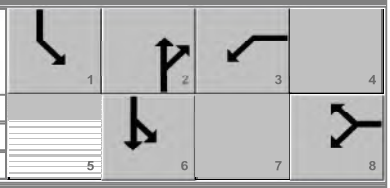
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 10, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak	PHF	1.00
Urban Street	University Blvd	Analysis Year	2027	Analysis Period	1> 6:45
Intersection	Crick Ave	File Name	2027 Total AM - University and Crick.xus		
Project Description	2027 Total AM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				15		33		545	20	295	980	

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.0	67.8	4.2	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



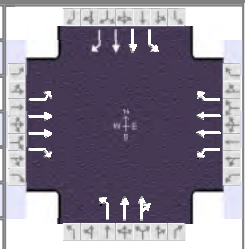
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		8.3	1.0	4.0
Phase Duration, s				8.2		71.8	10.0	81.8
Change Period, (*Y+R c*), s				4.0		4.0	4.0	4.0
Max Allow Headway (*MAH*), s				3.3		0.0	3.1	0.0
Queue Clearance Time (*g s*), s				3.8			4.9	
Green Extension Time (*g e*), s				0.0		0.0	0.5	0.0
Phase Call Probability				0.70			1.00	
Max Out Probability				0.00			0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				15		33		284	281	295	980	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1739		1585		1870	1847	1739	1781	
Queue Service Time (*g s*), s				0.7		1.8		6.1	4.0	2.9	4.6	
Cycle Queue Clearance Time (*g c*), s				0.7		1.8		6.1	4.0	2.9	4.6	
Green Ratio (*g/C*)				0.05		0.05		0.75	0.75	0.84	0.86	
Capacity (*c*), veh/h				81		74		1409	1391	762	3079	
Volume-to-Capacity Ratio (*X*)				0.185		0.447		0.202	0.202	0.387	0.318	
Back of Queue (*Q*), ft/ln (95 th percentile)				15.1		33.4		52.3	51	14.2	13.4	
Back of Queue (*Q*), veh/ln (95 th percentile)				0.6		1.3		2.1	2.0	0.5	0.5	
Queue Storage Ratio (*RQ*) (95 th percentile)				0.04		0.00		0.00	0.00	0.02	0.00	
Uniform Delay (*d 1*), s/veh				41.3		41.8		3.2	3.2	1.9	1.1	
Incremental Delay (*d 2*), s/veh				0.4		1.6		0.3	0.3	0.1	0.3	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				41.7		43.4		3.5	3.6	2.0	1.4	
Level of Service (LOS)				D		D		A	A	A	A	
Approach Delay, s/veh / LOS	0.0			42.8		D	3.6		A	1.6		A
Intersection Delay, s/veh / LOS	3.2						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.14	B	2.31	B	1.84	B	0.60	A
Bicycle LOS Score / LOS				F	0.95	A	1.54	B

HCS Signalized Intersection Results Summary

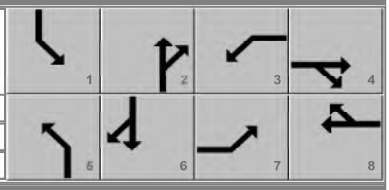
General Information				Intersection Information	
Agency				Duration, h	1.000
Analyst		Analysis Date	11/9/2023	Area Type	Other
Jurisdiction		Time Period		PHF	1.00
Urban Street	University Blvd	Analysis Year	2023	Analysis Period	1> 6:45
Intersection	Bobby Foster Blvd/East…	File Name	2027 Total AM - Bobby Foster-Eastman and Univ…		
Project Description	2027 Total AM Scenario				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	147	184	52	17	2	44	18	451	32	0	850	74

Signal Information			
Cycle, s	53.5	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.9	16.8	0.7	5.2	5.9	0.0
Yellow	4.0	4.0	4.0	0.0	4.0	0.0
Red	2.0	2.0	2.0	0.0	2.0	0.0



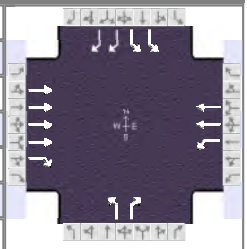
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0
Phase Duration, s	11.8	17.1	6.7	11.9	6.9	29.8	0.0	22.8
Change Period, (*Y+R c*), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	3.1	3.1	3.1	3.1	3.1	0.0	3.1
Queue Clearance Time (*g s*), s	6.3	4.3	2.5	3.4	2.5	6.5		13.5
Green Extension Time (*g e*), s	0.3	0.6	0.0	0.6	0.0	3.3	0.0	3.3
Phase Call Probability	0.89	1.00	0.22	0.99	0.24	1.00		1.00
Max Out Probability	0.00	0.00	0.00	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	147	184	52	17	2	44	18	244	239	0	850	74
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1781	1585	1781	1781	1585	1781	1870	1826	1781	1781	1585
Queue Service Time (*g s*), s	4.3	2.3	1.4	0.5	0.0	1.4	0.5	4.5	4.5	0.0	11.5	1.8
Cycle Queue Clearance Time (*g c*), s	4.3	2.3	1.4	0.5	0.0	1.4	0.5	4.5	4.5	0.0	11.5	1.8
Green Ratio (*g/C*)	0.11	0.21	0.21	0.01	0.11	0.11	0.02	0.44	0.44		0.31	0.31
Capacity (*c*), veh/h	195	738	329	23	394	175	32	831	811	3	1120	499
Volume-to-Capacity Ratio (*X*)	0.755	0.249	0.158	0.753	0.005	0.251	0.570	0.293	0.295	0.000	0.759	0.148
Back of Queue (*Q*), ft/ln (95 th percentile)	79.9	38.9	21.6	14.5	0.5	21.5	12	66.7	64.8	0	184.2	25.4
Back of Queue (*Q*), veh/ln (95 th percentile)	3.1	1.5	0.9	0.6	0.0	0.8	0.5	2.6	2.6	0.0	7.3	1.0
Queue Storage Ratio (*RQ*) (95 th percentile)	0.27	0.00	0.07	0.05	0.00	0.07	0.04	0.00	0.00	0.00	0.00	0.08
Uniform Delay (*d 1*), s/veh	23.2	17.8	17.4	26.4	21.2	21.8	26.1	9.5	9.5	0.0	16.5	13.2
Incremental Delay (*d 2*), s/veh	2.3	0.1	0.1	18.7	0.0	0.3	6.0	0.1	0.1	0.0	0.4	0.1
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	0.0	0.0	0.0
Control Delay (*d*), s/veh	25.4	17.8	17.5	45.1	21.2	22.1	32.1	9.6	9.6	0.0	16.9	13.3
Level of Service (LOS)	C	B	B	D	C	C	C	A	A		B	B
Approach Delay, s/veh / LOS	20.7	C		28.3	C		10.4	B		16.7	B	
Intersection Delay, s/veh / LOS	16.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.27	B	2.43	B	2.39	B	2.41	B
Bicycle LOS Score / LOS	0.80	A	0.54	A	0.90	A	1.25	A

HCS Signalized Intersection Results Summary

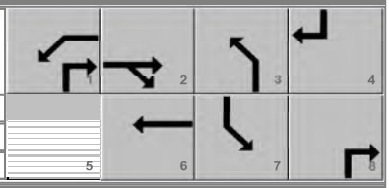
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	11/7/2023	Area Type	Other
Jurisdiction	CABQ	Time Period	PM Peak	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2027	Analysis Period	1> 15:45
Intersection	I-25 SB Ramp	File Name	2027 Total PM - Rio Bravo and I25 SB Ramp.xus		
Project Description	2027 Total PM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1547	99	171	864		50		121	252		1055

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	22.0	41.0	32.0	1.0	0.0	0.0	
Yellow	6.0	6.0	6.0	0.0	0.0	0.0	
Red	2.0	2.0	2.0	0.0	0.0	0.0	



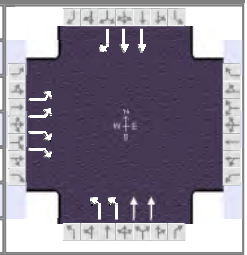
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6	3	8	7	4
Case Number		7.3	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s		49.0	30.0	79.0	40.0	1.0	40.0	1.0
Change Period, (*Y+R c*), s		8.0	8.0	8.0	8.0	0.0	8.0	0.0
Max Allow Headway (*MAH*), s		0.0	3.0	0.0	3.0	3.2	3.0	3.2
Queue Clearance Time (*g s*), s			13.2		4.7	3.0	9.1	3.0
Green Extension Time (*g e*), s		0.0	0.2	0.0	0.1	0.0	0.5	0.0
Phase Call Probability			1.00		1.00	1.00	1.00	1.00
Max Out Probability			0.00		0.00	1.00	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18	7		14
Adjusted Flow Rate (*v*), veh/h		1547	99	171	864		50		121	252		1055
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1618		1668	1654		1697		1845	1689		
Queue Service Time (*g s*), s		24.8		11.2	17.3		2.7		1.0	7.1		
Cycle Queue Clearance Time (*g c*), s		24.8		11.2	17.3		2.7		1.0	7.1		
Green Ratio (*g/C*)		0.34		0.18	0.59		0.27		0.19	0.27		
Capacity (*c*), veh/h		2211		306	1957		452		354	901		
Volume-to-Capacity Ratio (*X*)		0.700		0.559	0.442		0.111		0.342	0.280		
Back of Queue (*Q*), ft/ln (95 th percentile)		391.8		220	275.3		51.6		137.2	133.2		
Back of Queue (*Q*), veh/ln (95 th percentile)		14.7		8.1	10.1		1.9		5.5	5.1		
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.31	0.00		0.17		0.00	0.00		
Uniform Delay (*d 1*), s/veh		34.2		44.6	13.5		33.2		42.0	34.9		
Incremental Delay (*d 2*), s/veh		1.9		1.4	0.7		0.0		0.2	0.1		
Initial Queue Delay (*d 3*), s/veh		0.0		0.0	0.0		0.0		0.0	0.0		
Control Delay (*d*), s/veh		36.1	0.0	46.0	14.3		33.3		42.2	34.9		0.0
Level of Service (LOS)		D	A	D	B		C		D	C		A
Approach Delay, s/veh / LOS	33.9	C		19.5	B		39.6	D		6.7	A	
Intersection Delay, s/veh / LOS	22.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	2.08	B	2.61	C	2.61	C
Bicycle LOS Score / LOS	1.17	A	1.34	A		F		F

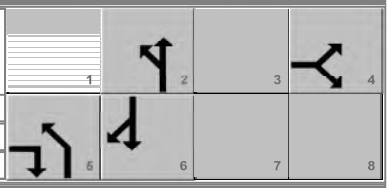
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 3, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2027	Analysis Period	1> 15:45
Intersection	University Blvd	File Name	2027 Total PM - Rio Bravo and University.xus		
Project Description	2027 Total PM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	247		924				1365	248			172	328

Signal Information					Green	Yellow	Red
Cycle, s	57.3	Reference Phase	2		17.0	3.0	0.5
Offset, s	0	Reference Point	End		8.0	4.0	2.0
Uncoordinated	Yes	Simult. Gap E/W	On		16.8	4.5	1.5
Force Mode	Fixed	Simult. Gap N/S	On		0.0	0.0	0.0
					0.0	0.0	0.0
					0.0	0.0	0.0



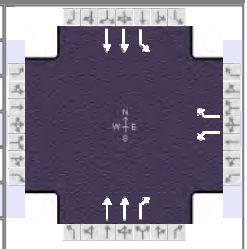
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4			5	2		6
Case Number		9.0			1.0	4.0		7.3
Phase Duration, s		22.8			20.5	34.5		14.0
Change Period, (*Y+R c*), s		6.0			3.5	6.0		6.0
Max Allow Headway (*MAH*), s		3.3			2.5	3.0		3.0
Queue Clearance Time (*g s*), s		14.0			19.0	4.2		6.6
Green Extension Time (*g e*), s		2.8			0.0	1.1		1.1
Phase Call Probability		1.00			1.00	1.00		1.00
Max Out Probability		0.16			1.00	0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7		14				5	2			6	16
Adjusted Flow Rate (*v*), veh/h	247		924				1365	248			172	132
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689		1369				1689	1738			1738	1547
Queue Service Time (*g s*), s	3.2		12.0				17.0	2.2			2.6	4.6
Cycle Queue Clearance Time (*g c*), s	3.2		12.0				17.0	2.2			2.6	4.6
Green Ratio (*g/C*)	0.29		0.59				0.47	0.50			0.14	0.14
Capacity (*c*), veh/h	990		1616				1478	1729			485	216
Volume-to-Capacity Ratio (*X*)	0.249		0.572				0.924	0.143			0.354	0.611
Back of Queue (*Q*), ft/ln (95 th percentile)	51.2		112.3				327.1	27.9			43.4	71.4
Back of Queue (*Q*), veh/ln (95 th percentile)	2.0		4.3				12.6	1.1			1.7	2.7
Queue Storage Ratio (*RQ*) (95 th percentile)	0.17		0.00				0.93	0.00			0.00	0.51
Uniform Delay (*d 1*), s/veh	15.4		7.3				14.6	7.8			22.3	23.2
Incremental Delay (*d 2*), s/veh	0.0		0.1				11.7	0.0			0.2	1.0
Initial Queue Delay (*d 3*), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (*d*), s/veh	15.5		7.4				26.3	7.8			22.5	24.2
Level of Service (LOS)	B		A				C	A			C	C
Approach Delay, s/veh / LOS	9.1	A		0.0			23.5	C		23.2	C	
Intersection Delay, s/veh / LOS	18.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.44	B	2.57	C	0.68	A	2.43	B
Bicycle LOS Score / LOS		F			1.82	B	0.74	A

HCS Signalized Intersection Results Summary

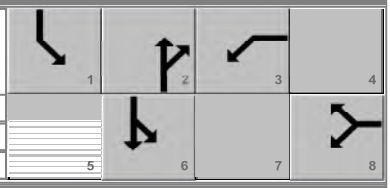
General Information				Intersection Information	
Agency				Duration, h	1.000
Analyst		Analysis Date	11/13/2023	Area Type	Other
Jurisdiction		Time Period		PHF	1.00
Urban Street	Broadway Blvd	Analysis Year	2023	Analysis Period	1> 15:45
Intersection	Bobby Foster Rd	File Name	2027 Total PM - Bobby Foster and Broadway Blvd…		
Project Description	2027 Total PM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				107		340		466	75	145	800	

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.8	50.9	21.3	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		7.3	1.0	4.0
Phase Duration, s				25.3		54.9	9.8	64.7
Change Period, (*Y+R c*), s				4.0		4.0	4.0	4.0
Max Allow Headway (*MAH*), s				3.3		0.0	2.9	0.0
Queue Clearance Time (*g s*), s				20.8			4.8	
Green Extension Time (*g e*), s				0.5		0.0	0.2	0.0
Phase Call Probability				1.00			0.97	
Max Out Probability				0.32			0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				107		340		466	75	145	800	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1781		1585		1781	1585	1781	1781	
Queue Service Time (*g s*), s				4.4		18.8		5.9	1.9	2.8	8.5	
Cycle Queue Clearance Time (*g c*), s				4.4		18.8		5.9	1.9	2.8	8.5	
Green Ratio (*g/C*)				0.24		0.24		0.57	0.57	0.65	0.67	
Capacity (*c*), veh/h				422		375		2012	896	658	2402	
Volume-to-Capacity Ratio (*X*)				0.254		0.906		0.232	0.084	0.220	0.333	
Back of Queue (*Q*), ft/ln (95 th percentile)				83.7		358.9		87.8	26.8	34	103.2	
Back of Queue (*Q*), veh/ln (95 th percentile)				3.3		14.1		3.5	1.1	1.3	4.1	
Queue Storage Ratio (*RQ*) (95 th percentile)				0.00		0.00		0.00	0.00	0.00	0.00	
Uniform Delay (*d 1*), s/veh				27.9		33.4		9.8	8.9	6.3	6.2	
Incremental Delay (*d 2*), s/veh				0.1		21.6		0.3	0.2	0.1	0.4	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				28.0		55.0		10.1	9.1	6.4	6.5	
Level of Service (LOS)				C		D		B	A	A	A	
Approach Delay, s/veh / LOS	0.0			48.5		D	9.9		A	6.5		A
Intersection Delay, s/veh / LOS	17.2						B					

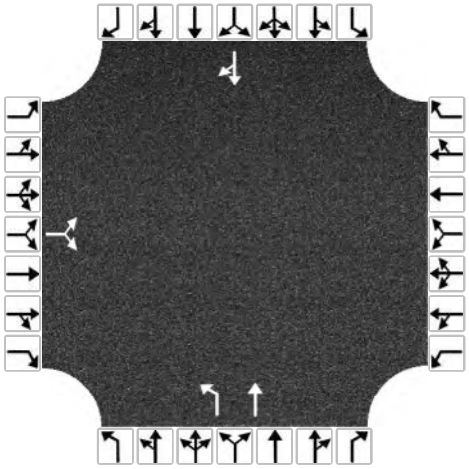
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.31	B	1.88	B	0.66	A
Bicycle LOS Score / LOS				F	0.93	A	1.27	A

HCS All-Way Stop Control Report

General and Site Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	11/9/2023
Analysis Year	2027
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	2027 Total PM Scenario
Intersection	Bobby Foster Rd and Los Picaros Rd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	Los Picaros Rd
Peak Hour Factor	0.92

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	23		195				414	0			0	37
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

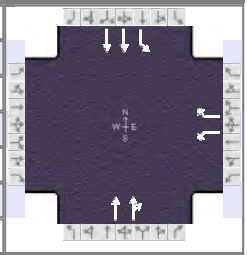
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	237						450	0		40		
Percent Heavy Vehicles	5						3	0		0		
Initial Departure Headway, h_d (s)	3.20						3.20	3.20		3.20		
Initial Degree of Utilization, x	0.211						0.400	0.000		0.036		
Final Departure Headway, h_d (s)	4.90						5.73	5.17		4.70		
Final Degree of Utilization, x	0.322						0.716	0.000		0.053		
Move-Up Time, m (s)	2.0						2.3	2.3		2.0		
Service Time, t_s (s)	2.90						3.43	2.87		2.70		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	237						450	0		40		
Capacity (veh/h)	735						629	0		765		
95% Queue Length, Q_{95} (veh)	1.4						6.0	0.0		0.2		
Control Delay (s/veh)	10.2						21.5	7.9		8.0		
Level of Service, LOS	B						C			A		
Approach Delay (s/veh) | LOS	10.2	B					21.5	C		8.0	A	
Intersection Delay (s/veh) | LOS	17.1						C					

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 10, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak	PHF	1.00
Urban Street	University Blvd	Analysis Year	2027	Analysis Period	1> 15:45
Intersection	Crick Ave	File Name	2027 Total PM - University and Crick.xus		
Project Description	2027 Total PM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				13		269		1422	8	54	1069	

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
							5	6	7	8
Green	4.4	56.3	17.2	0.0	0.0	0.0				
Yellow	4.0	4.0	4.0	0.0	0.0	0.0				
Red	0.0	0.0	0.0	0.0	0.0	0.0				

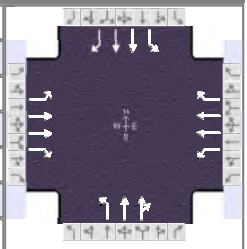
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		8.3	1.0	4.0
Phase Duration, s				21.2		60.3	8.4	68.8
Change Period, (*Y+R c*), s				4.0		4.0	4.0	4.0
Max Allow Headway (*MAH*), s				3.4		0.0	3.1	0.0
Queue Clearance Time (*g s*), s				16.9			2.9	
Green Extension Time (*g e*), s				0.3		0.0	0.0	0.0
Phase Call Probability				1.00			0.74	
Max Out Probability				0.12			0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				13		269		716	714	54	1069	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1739		1585		1870	1867	1739	1781	
Queue Service Time (*g s*), s				0.5		14.9		28.5	20.9	0.9	10.8	
Cycle Queue Clearance Time (*g c*), s				0.5		14.9		28.5	20.9	0.9	10.8	
Green Ratio (*g/C*)				0.19		0.19		0.63	0.63	0.70	0.72	
Capacity (*c*), veh/h				332		303		1171	1169	279	2564	
Volume-to-Capacity Ratio (*X*)				0.039		0.888		0.611	0.611	0.194	0.417	
Back of Queue (*Q*), ft/ln (95 th percentile)				10.6		285.7		321.6	316.2	16.4	144.6	
Back of Queue (*Q*), veh/ln (95 th percentile)				0.4		11.2		12.7	12.6	0.6	5.7	
Queue Storage Ratio (*RQ*) (95 th percentile)				0.03		0.00		0.00	0.00	0.03	0.00	
Uniform Delay (*d 1*), s/veh				29.7		35.5		10.2	10.2	10.3	5.0	
Incremental Delay (*d 2*), s/veh				0.0		16.6		2.4	2.4	0.1	0.5	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				29.7		52.0		12.6	12.6	10.4	5.5	
Level of Service (LOS)				C		D		B	B	B	A	
Approach Delay, s/veh / LOS	0.0			51.0		D	12.6		B	5.8		A
Intersection Delay, s/veh / LOS	13.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.14	B	2.31	B	1.87	B	0.65	A
Bicycle LOS Score / LOS				F	1.67	B	1.41	A

HCS Signalized Intersection Results Summary

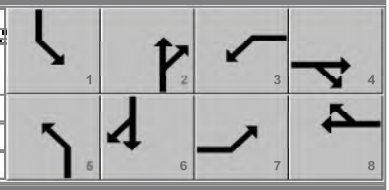
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 10, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	PM Peak	PHF	1.00
Urban Street	University Blvd	Analysis Year	2027	Analysis Period	1> 15:45
Intersection	Bobby Foster Blvd/East…	File Name	2027 Total PM - Bobby Foster-Eastman and Univ…		
Project Description	2027 Total PM Scenario				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	228	0	73	20	105	50	182	1003	2	37	655	279

Signal Information			
Cycle, s	67.1	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	2.0	0.7	17.8	0.9	3.7	5.9						
Yellow	4.0	4.0	4.0	4.0	4.0	4.0						
Red	2.0	2.0	2.0	2.0	2.0	2.0						



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	2.0	3.0	2.0	4.0	2.0	3.0
Phase Duration, s	16.6	21.6	6.9	11.9	14.7	30.5	8.0	23.8
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	3.2	3.1	3.2	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	10.3	4.5	2.8	4.0	8.7	17.7	3.4	13.1
Green Extension Time (g_e), s	0.4	0.5	0.0	0.5	0.3	4.4	0.1	4.6
Phase Call Probability	0.99	1.00	0.31	0.99	0.97	1.00	0.50	1.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.05

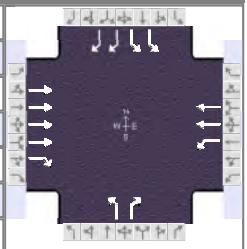
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	228	0	73	20	105	50	182	503	502	37	655	279
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1781	1585	1781	1781	1585	1781	1870	1869	1781	1781	1585
Queue Service Time (g_s), s	8.3	0.0	2.5	0.8	1.9	2.0	6.7	15.7	15.7	1.4	11.1	10.5
Cycle Queue Clearance Time (g_c), s	8.3	0.0	2.5	0.8	1.9	2.0	6.7	15.7	15.7	1.4	11.1	10.5
Green Ratio (*g/C*)	0.16	0.23	0.23	0.01	0.09	0.09	0.13	0.37	0.37	0.03	0.27	0.27
Capacity (*c*), veh/h	282	829	369	25	315	140	232	685	684	53	946	421
Volume-to-Capacity Ratio (*X*)	0.808	0.000	0.198	0.797	0.333	0.357	0.785	0.734	0.734	0.693	0.692	0.662
Back of Queue (*Q*), ft/ln (95 th percentile)	158.2	0	39.6	20.9	34.9	33.8	128.2	259.7	255.5	30	195.7	167.4
Back of Queue (*Q*), veh/ln (95 th percentile)	6.2	0.0	1.6	0.8	1.4	1.3	5.0	10.2	10.2	1.2	7.7	6.6
Queue Storage Ratio (*RQ*) (95 th percentile)	0.53	0.00	0.13	0.07	0.00	0.11	0.43	0.00	0.00	0.10	0.00	0.56
Uniform Delay (d_1), s/veh	27.3	0.0	20.7	33.0	28.8	28.8	28.3	18.5	18.5	32.3	22.2	22.0
Incremental Delay (d_2), s/veh	2.1	0.0	0.1	21.3	0.2	0.6	2.3	0.8	0.8	6.0	0.3	0.7
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	0.0	0.0	0.0
Control Delay (*d*), s/veh	29.4	0.0	20.8	54.3	29.0	29.4	30.6	19.3	19.3	38.3	22.5	22.7
Level of Service (LOS)	C		C	D	C	C	C	B	B	D	C	C
Approach Delay, s/veh / LOS	27.3	C		32.0	C		21.0	C		23.2	C	
Intersection Delay, s/veh / LOS	23.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.28	B	2.44	B	2.41	B	2.43	B
Bicycle LOS Score / LOS	0.74	A	0.63	A	1.47	A	1.29	A

2037 BACKGROUND

HCS Signalized Intersection Results Summary

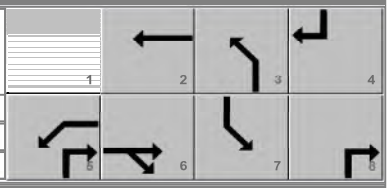
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	11/7/2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2037	Analysis Period	1> 6:45
Intersection	I-25 SB Ramp	File Name	2037 Background AM - Rio Bravo and I25 SB Ra…		
Project Description	2037 Background AM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		2415	48	48	540		170		388	733		1224

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	24.0	53.0	24.0	1.0	0.0	0.0	
Yellow	4.0	4.0	4.0	0.0	0.0	0.0	
Red	2.0	2.0	2.0	0.0	0.0	0.0	



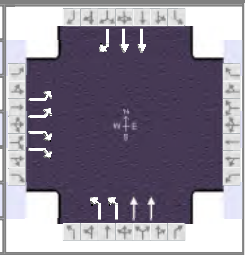
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6	5	2	3	8	7	4
Case Number		7.3	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s		59.0	30.0	89.0	30.0	1.0	30.0	1.0
Change Period, ($Y+R_c$), s		6.0	6.0	6.0	6.0	0.0	6.0	0.0
Max Allow Headway (*MAH*), s		0.0	3.0	0.0	3.0	3.2	3.0	3.2
Queue Clearance Time (g_s), s			4.7		12.4	3.0	26.0	3.0
Green Extension Time (g_e), s		0.0	0.0	0.0	0.2	0.0	0.0	0.0
Phase Call Probability			1.00		1.00	1.00	1.00	1.00
Max Out Probability			0.00		0.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2		3		18	7		14
Adjusted Flow Rate (*v*), veh/h		2415	48	48	540		170		388	733		1224
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1658		1739	1738		1739		1773	1689		
Queue Service Time (g_s), s		38.4		2.7	6.8		10.4		1.0	24.0		
Cycle Queue Clearance Time (g_c), s		38.4		2.7	6.8		10.4		1.0	24.0		
Green Ratio (*g/C*)		0.44		0.20	0.69		0.20		0.21	0.20		
Capacity (*c*), veh/h		2929		348	2405		348		369	675		
Volume-to-Capacity Ratio (*X*)		0.825		0.138	0.225		0.489		1.051	1.085		
Back of Queue (*Q*), ft/ln (95 th percentile)		551.1		57.1	103.8		219.1		909.2	961.8		
Back of Queue (*Q*), veh/ln (95 th percentile)		21.2		2.2	4.0		8.4		35.0	37.0		
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.08	0.00		0.73		0.00	0.00		
Uniform Delay (d_1), s/veh		29.4		39.5	6.8		42.6		47.5	48.0		
Incremental Delay (d_2), s/veh		2.9		0.8	0.2		4.9		151.8	182.1		
Initial Queue Delay (d_3), s/veh		0.0		0.0	0.0		0.0		0.0	0.0		
Control Delay (*d*), s/veh		32.3	0.0	40.3	7.0		47.5		199.3	230.1		0.0
Level of Service (LOS)		C	A	D	A		D		F	F		A
Approach Delay, s/veh / LOS	31.6	C		9.7	A		153.0	F		86.2	F	
Intersection Delay, s/veh / LOS	60.7						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	2.06	B	2.61	C	2.61	C
Bicycle LOS Score / LOS	1.50	B	0.97	A		F		F

HCS Signalized Intersection Results Summary

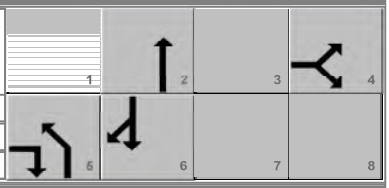
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 3, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2027	Analysis Period	1> 6:45
Intersection	University Blvd	File Name	2037 Background AM - Rio Bravo and University.x…		
Project Description	2027 Background AM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	911		1359				836	483			142	109

Signal Information			
Cycle, s	102.0	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	28.2	28.8	27.0	0.0	0.0	0.0	
Yellow	4.0	4.0	4.0	0.0	0.0	0.0	
Red	2.0	2.0	2.0	0.0	0.0	0.0	



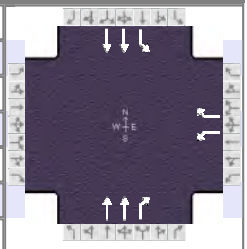
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4			5	2		6
Case Number		9.0			2.0	4.0		7.3
Phase Duration, s		33.0			34.2	69.0		34.8
Change Period, ($Y+R_c$), s		6.0			6.0	6.0		6.0
Max Allow Headway (*MAH*), s		3.3			3.0	2.9		2.9
Queue Clearance Time (g_s), s		29.0			26.3	8.3		5.1
Green Extension Time (g_e), s		0.0			1.9	1.4		1.3
Phase Call Probability		1.00			1.00	1.00		1.00
Max Out Probability		1.00			0.00	0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7		14				5	2			6	16
Adjusted Flow Rate (*v*), veh/h	911		1359				836	483			142	22
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689		1369				1689	1738			1738	1547
Queue Service Time (g_s), s	27.0		27.0				24.3	6.3			3.1	1.1
Cycle Queue Clearance Time (g_c), s	27.0		27.0				24.3	6.3			3.1	1.1
Green Ratio (*g/C*)	0.26		0.54				0.28	0.62			0.28	0.28
Capacity (*c*), veh/h	894		1482				934	2147			981	437
Volume-to-Capacity Ratio (*X*)	1.019		0.917				0.895	0.225			0.145	0.050
Back of Queue (*Q*), ft/ln (95 th percentile)	743		571				393.2	98.8			60	18.7
Back of Queue (*Q*), veh/ln (95 th percentile)	28.6		22.0				15.1	3.8			2.3	0.7
Queue Storage Ratio (*RQ*) (95 th percentile)	2.48		0.00				1.12	0.00			0.00	0.13
Uniform Delay (d_1), s/veh	37.5		21.3				35.5	8.7			27.4	26.6
Incremental Delay (d_2), s/veh	80.4		10.6				4.3	0.2			0.3	0.2
Initial Queue Delay (d_3), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (*d*), s/veh	117.9		31.9				39.8	8.9			27.7	26.9
Level of Service (LOS)	F		C				D	A			C	C
Approach Delay, s/veh / LOS	66.4	E		0.0			28.5	C		27.6	C	
Intersection Delay, s/veh / LOS	51.4						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.47	B	2.44	B	0.68	A	2.44	B
Bicycle LOS Score / LOS		F			1.58	B	0.62	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	1.000
Analyst		Analysis Date	11/13/2023	Area Type	Other
Jurisdiction		Time Period		PHF	1.00
Urban Street	Broadway Blvd	Analysis Year	2023	Analysis Period	1> 6:45
Intersection	Bobby Foster Rd	File Name	2037 Background AM - Bobby Foster and Broadw…		
Project Description	2037 Background AM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				225		306		1507	688	532	431	

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
							5	6	7	8
Green	22.4	36.0	19.6	0.0	0.0	0.0				
Yellow	4.0	4.0	4.0	0.0	0.0	0.0				
Red	0.0	0.0	0.0	0.0	0.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		7.3	1.0	4.0
Phase Duration, s				23.6		40.0	26.4	66.4
Change Period, (*Y+R c*), s				4.0		4.0	4.0	4.0
Max Allow Headway (*MAH*), s				3.3		0.0	2.9	0.0
Queue Clearance Time (*g s*), s				18.8			24.4	
Green Extension Time (*g e*), s				0.8		0.0	0.0	0.0
Phase Call Probability				1.00			1.00	
Max Out Probability				0.12			1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				225		306		1507	688	532	431	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1781		1585		1781	1585	1781	1781	
Queue Service Time (*g s*), s				10.2		16.8		36.0	36.0	22.4	3.8	
Cycle Queue Clearance Time (*g c*), s				10.2		16.8		36.0	36.0	22.4	3.8	
Green Ratio (*g/C*)				0.22		0.22		0.40	0.40	0.67	0.69	
Capacity (*c*), veh/h				388		346		1425	634	523	2468	
Volume-to-Capacity Ratio (*X*)				0.579		0.886		1.058	1.085	1.017	0.175	
Back of Queue (*Q*), ft/ln (95 th percentile)				195.1		309.1		1259.1	1478.3	826.7	43.7	
Back of Queue (*Q*), veh/ln (95 th percentile)				7.7		12.2		49.6	58.2	32.5	1.7	
Queue Storage Ratio (*RQ*) (95 th percentile)				0.65		1.03		0.00	0.00	0.00	0.00	
Uniform Delay (*d 1*), s/veh				31.5		34.1		27.0	27.0	27.6	4.8	
Incremental Delay (*d 2*), s/veh				0.5		14.7		123.5	183.3	96.6	0.2	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				32.0		48.8		150.5	210.3	124.2	5.0	
Level of Service (LOS)				C		D		F	F	F	A	
Approach Delay, s/veh / LOS	0.0			41.7	D		169.3	F		70.8	E	
Intersection Delay, s/veh / LOS	125.2						F					

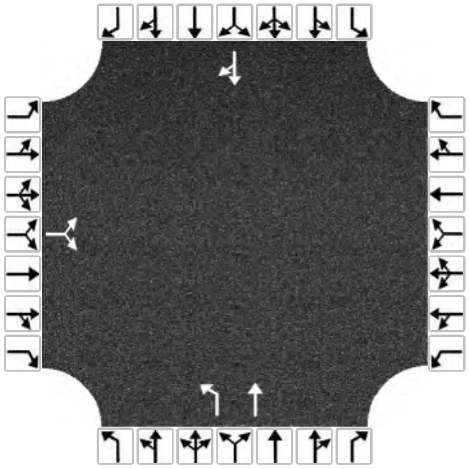
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.31	B	1.91	B	0.66	A
Bicycle LOS Score / LOS				F	2.30	B	1.28	A

HCS All-Way Stop Control Report

General and Site Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	11/9/2023
Analysis Year	2037
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	2037 BG AM Scenario
Intersection	Bobby Foster Rd and Los Picaros Rd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	Los Picaros Rd
Peak Hour Factor	0.92

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	91		1153				517	0			0	14
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

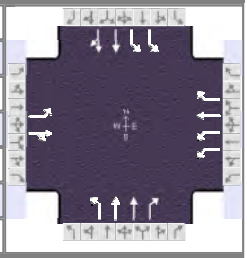
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	1352						562	0		15		
Percent Heavy Vehicles	2						2	0		0		
Initial Departure Headway, h_d (s)	3.20						3.20	3.20		3.20		
Initial Degree of Utilization, x	1.000						0.500	0.000		0.014		
Final Departure Headway, h_d (s)	5.30						6.93	6.40		6.49		
Final Degree of Utilization, x	1.991						1.082	0.000		0.027		
Move-Up Time, m (s)	2.0						2.3	2.3		2.0		
Service Time, t_s (s)	3.30						4.63	4.10		4.49		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	1352						562	0		15		
Capacity (veh/h)	679						519	0		555		
95% Queue Length, Q_{95} (veh)	89.8						17.4	0.0		0.1		
Control Delay (s/veh)	464.4						89.1	9.1		9.7		
Level of Service, LOS	F						F			A		
Approach Delay (s/veh) | LOS	464.4		F				89.1		F	9.7		A
Intersection Delay (s/veh) | LOS	351.5						F					

HCS Signalized Intersection Results Summary

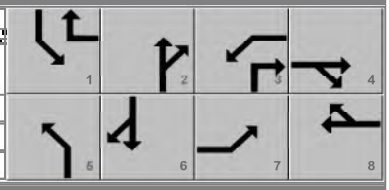
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 10, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak	PHF	1.00
Urban Street	University Blvd	Analysis Year	2027	Analysis Period	1> 6:45
Intersection	Crick Ave	File Name	2037 Background AM - University and Crick COR…		
Project Description	2037 Background AM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	112	100	75	400	99	443	126	908	650	934	230	217

Signal Information			
Cycle, s	117.3	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	10.3	20.1	33.0	10.0	2.2	13.7	
Yellow	3.0	3.0	4.0	3.0	3.0	4.0	
Red	1.0	1.0	2.0	1.0	1.0	2.0	



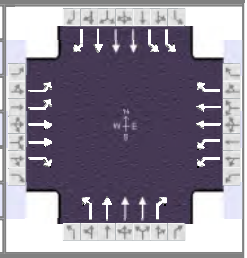
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	4.0	2.0	3.0	2.0	3.0	2.0	4.0
Phase Duration, s	14.0	19.7	20.2	25.9	14.3	39.0	38.4	63.1
Change Period, (*Y+R c*), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s	2.8	3.5	2.8	3.5	2.7	3.7	2.7	3.7
Queue Clearance Time (*g s*), s	9.2	13.6	15.6	21.9	10.1	35.0	33.7	11.5
Green Extension Time (*g e*), s	0.1	0.1	0.6	0.0	0.1	0.0	0.6	8.7
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.06

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	112	175		400	99	443	126	908	650	934	230	217
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1736		1689	1870	1585	1781	1781	1585	1689	1870	1585
Queue Service Time (*g s*), s	7.2	11.6		13.6	5.4	19.9	8.1	28.8	33.0	31.7	8.4	9.5
Cycle Queue Clearance Time (*g c*), s	7.2	11.6		13.6	5.4	19.9	8.1	28.8	33.0	31.7	8.4	9.5
Green Ratio (*g/C*)	0.09	0.12		0.14	0.17	0.46	0.09	0.28	0.42	0.29	0.49	0.49
Capacity (*c*), veh/h	152	204		466	318	734	156	1002	665	989	911	772
Volume-to-Capacity Ratio (*X*)	0.737	0.860		0.859	0.311	0.604	0.809	0.906	0.978	0.944	0.253	0.281
Back of Queue (*Q*), ft/ln (95 th percentile)	152.2	270.6		260.3	116.2	359.7	171.4	514.1	888.6	573.6	161	152.1
Back of Queue (*Q*), veh/ln (95 th percentile)	6.0	10.7		10.0	4.6	14.2	6.7	20.2	35.0	22.1	6.3	6.1
Queue Storage Ratio (*RQ*) (95 th percentile)	1.01	0.00		0.74	0.00	0.00	0.95	0.00	1.78	0.96	0.00	0.00
Uniform Delay (*d 1*), s/veh	52.4	50.8		49.4	42.7	23.5	52.6	40.7	33.5	40.5	17.6	17.9
Incremental Delay (*d 2*), s/veh	2.7	25.5		4.2	0.2	1.0	3.9	13.3	50.7	20.8	0.1	0.1
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	0.0	0.0
Control Delay (*d*), s/veh	55.0	76.3		53.7	42.9	24.5	56.4	54.0	84.2	61.3	17.7	18.0
Level of Service (LOS)	E	E		D	D	C	E	D	F	E	B	B
Approach Delay, s/veh / LOS	68.0	E		38.8	D		65.8	E		47.3	D	
Intersection Delay, s/veh / LOS	54.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.46	B	2.45	B	1.91	B
Bicycle LOS Score / LOS	0.96	A	2.04	B	1.88	B	1.63	B

HCS Signalized Intersection Results Summary

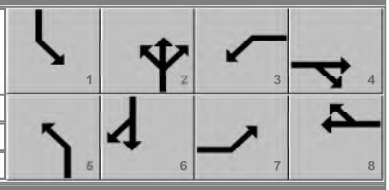
General Information				Intersection Information	
Agency				Duration, h	1.000
Analyst		Analysis Date	11/9/2023	Area Type	Other
Jurisdiction		Time Period		PHF	1.00
Urban Street	University Blvd	Analysis Year	2023	Analysis Period	1> 6:45
Intersection	Bobby Foster Blvd/East…	File Name	2037 Background AM - Bobby Foster-Eastman an…		
Project Description	2037 Background AM Scenario				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	155	909	89	106	292	110	169	1559	129	158	221	56

Signal Information			
Cycle, s	111.7	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	10.0	4.0	31.4	10.0	32.3	0.0
Yellow	3.0	3.0	4.0	3.0	4.0	0.0
Red	1.0	1.0	2.0	1.0	2.0	0.0



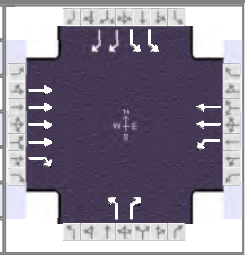
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	2.0	3.0	1.1	3.0	2.0	3.0
Phase Duration, s	14.0	38.3	14.0	38.3	22.0	45.4	14.0	37.4
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s	4.2	4.1	4.2	4.1	4.2	4.1	4.2	4.1
Queue Clearance Time (g_s), s	6.8	29.2	5.2	9.1	8.3	33.9	6.9	5.6
Green Extension Time (g_e), s	0.4	3.1	0.2	6.7	0.4	5.5	0.4	12.8
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	0.00	0.70	0.01	0.10	0.02	0.75	0.00	0.10

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	155	909	89	106	292	110	169	1559	129	158	221	56
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1781	1585	1730	1781	1585	1781	1698	1610	1730	1698	1585
Queue Service Time (g_s), s	4.8	27.2	4.7	3.2	7.1	5.9	6.3	31.9	6.3	4.9	3.6	2.9
Cycle Queue Clearance Time (g_c), s	4.8	27.2	4.7	3.2	7.1	5.9	6.3	31.9	6.3	4.9	3.6	2.9
Green Ratio (*g/C*)	0.09	0.29	0.29	0.09	0.29	0.29	0.46	0.35	0.35	0.09	0.28	0.28
Capacity (*c*), veh/h	310	1030	458	310	1030	458	640	1797	568	310	1432	445
Volume-to-Capacity Ratio (*X*)	0.500	0.883	0.194	0.342	0.284	0.240	0.264	0.868	0.227	0.510	0.154	0.126
Back of Queue (*Q*), ft/ln (95 th percentile)	96.5	477.6	83.8	64.6	140.2	105.1	126.2	499.7	109.8	98.5	68.6	52.2
Back of Queue (*Q*), veh/ln (95 th percentile)	3.8	18.8	3.3	2.5	5.5	4.1	5.0	19.7	4.4	3.9	2.7	2.1
Queue Storage Ratio (*RQ*) (95 th percentile)	0.32	0.00	0.28	0.22	0.00	0.35	0.42	0.00	0.00	0.33	0.00	0.17
Uniform Delay (d_1), s/veh	48.5	37.9	29.9	47.7	30.7	30.3	18.1	33.7	25.4	48.5	30.2	29.9
Incremental Delay (d_2), s/veh	1.3	8.5	0.2	0.7	0.1	0.3	1.0	4.6	0.2	1.3	0.0	0.1
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	0.0	0.0	0.0
Control Delay (*d*), s/veh	49.7	46.4	30.1	48.4	30.9	30.6	19.2	38.3	25.6	49.8	30.2	30.0
Level of Service (LOS)	D	D	C	D	C	C	B	D	C	D	C	C
Approach Delay, s/veh / LOS	45.6	D		34.5	C		35.7	D		37.3	D	
Intersection Delay, s/veh / LOS	38.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.72	C	2.84	C	2.58	C	2.59	C
Bicycle LOS Score / LOS	1.44	A	0.91	A	1.51	B	0.73	A

HCS Signalized Intersection Results Summary

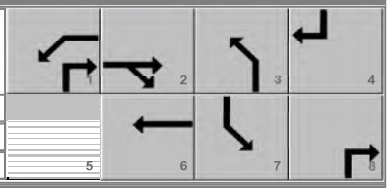
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	11/7/2023	Area Type	Other
Jurisdiction	CABQ	Time Period	PM Peak	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2037	Analysis Period	1> 15:45
Intersection	I-25 SB Ramp	File Name	2037 Background PM - Rio Bravo and I25 SB Ra…		
Project Description	2037 Background PM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		2014	147	143	951		74		129	387		1562

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	24.0	43.0	34.0	1.0	0.0	0.0	
Yellow	4.0	4.0	4.0	0.0	0.0	0.0	
Red	2.0	2.0	2.0	0.0	0.0	0.0	



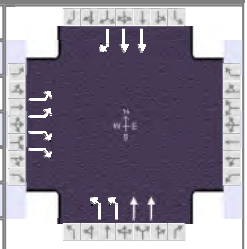
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6	3	8	7	4
Case Number		7.3	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s		49.0	30.0	79.0	40.0	1.0	40.0	1.0
Change Period, (*Y+R c*), s		6.0	6.0	6.0	6.0	0.0	6.0	0.0
Max Allow Headway (*MAH*), s		0.0	3.0	0.0	3.0	3.2	3.0	3.2
Queue Clearance Time (*g s*), s			11.0		5.9	3.0	13.1	3.0
Green Extension Time (*g e*), s		0.0	0.2	0.0	0.1	0.0	0.8	0.0
Phase Call Probability			1.00		1.00	1.00	1.00	1.00
Max Out Probability			0.00		0.00	1.00	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18	7		14
Adjusted Flow Rate (*v*), veh/h		2014	147	143	951		74		129	387		1562
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1618		1668	1654		1697		1845	1689		
Queue Service Time (*g s*), s		34.8		9.0	19.0		3.9		1.0	11.1		
Cycle Queue Clearance Time (*g c*), s		34.8		9.0	19.0		3.9		1.0	11.1		
Green Ratio (*g/C*)		0.36		0.20	0.61		0.28		0.21	0.28		
Capacity (*c*), veh/h		2318		334	2012		481		384	957		
Volume-to-Capacity Ratio (*X*)		0.869		0.429	0.473		0.154		0.336	0.404		
Back of Queue (*Q*), ft/ln (95 th percentile)		530.1		193.4	292.4		79.6		143.3	211.2		
Back of Queue (*Q*), veh/ln (95 th percentile)		19.9		7.2	10.7		3.0		5.7	8.1		
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.28	0.00		0.27		0.00	0.00		
Uniform Delay (*d 1*), s/veh		35.9		42.0	12.9		32.2		40.4	34.8		
Incremental Delay (*d 2*), s/veh		5.0		4.0	0.8		0.7		0.2	1.3		
Initial Queue Delay (*d 3*), s/veh		0.0		0.0	0.0		0.0		0.0	0.0		
Control Delay (*d*), s/veh		40.9	0.0	46.0	13.7		32.9		40.6	36.1		0.0
Level of Service (LOS)		D	A	D	B		C		D	D		A
Approach Delay, s/veh / LOS	38.1	D		17.9	B		37.8	D		7.2	A	
Intersection Delay, s/veh / LOS	22.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	2.08	B	2.61	C	2.61	C
Bicycle LOS Score / LOS	1.38	A	1.39	A		F		F

HCS Signalized Intersection Results Summary

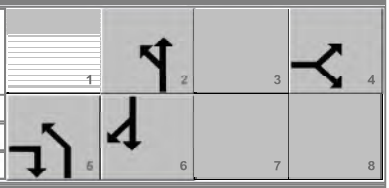
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 3, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2037	Analysis Period	1> 15:45
Intersection	University Blvd	File Name	2037 Background PM - Rio Bravo and University....		
Project Description	2037 Background PM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	365		1086				1227	621			400	485

Signal Information			
Cycle, s	86.1	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	27.8	15.0	25.4	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0



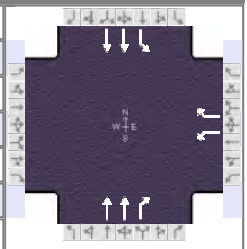
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4			5	2		6
Case Number		9.0			1.0	4.0		7.3
Phase Duration, s		31.4			33.8	54.8		21.0
Change Period, ($Y+R_c$), s		6.0			6.0	6.0		6.0
Max Allow Headway (*MAH*), s		3.3			2.5	3.0		3.0
Queue Clearance Time (g_s), s		23.7			25.6	10.1		12.2
Green Extension Time (g_e), s		1.7			2.1	2.8		2.1
Phase Call Probability		1.00			1.00	1.00		1.00
Max Out Probability		1.00			0.00	0.00		0.14

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7		14				5	2			6	16
Adjusted Flow Rate (*v*), veh/h	365		1086				1227	621			400	194
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689		1369				1689	1738			1738	1547
Queue Service Time (g_s), s	7.4		21.7				23.6	8.1			9.2	10.2
Cycle Queue Clearance Time (g_c), s	7.4		21.7				23.6	8.1			9.2	10.2
Green Ratio (*g/C*)	0.29		0.62				0.52	0.57			0.17	0.17
Capacity (*c*), veh/h	995		1690				1384	1968			605	269
Volume-to-Capacity Ratio (*X*)	0.367		0.643				0.887	0.316			0.661	0.720
Back of Queue (*Q*), ft/ln (95 th percentile)	132.5		245.9				336	120.7			172.9	174.4
Back of Queue (*Q*), veh/ln (95 th percentile)	5.1		9.5				12.9	4.6			6.7	6.7
Queue Storage Ratio (*RQ*) (95 th percentile)	0.44		0.00				0.96	0.00			0.00	1.25
Uniform Delay (d_1), s/veh	24.0		10.5				17.0	9.9			33.2	33.6
Incremental Delay (d_2), s/veh	0.1		0.6				3.2	0.0			0.5	1.8
Initial Queue Delay (d_3), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (*d*), s/veh	24.1		11.1				20.2	9.9			33.7	35.4
Level of Service (LOS)	C		B				C	A			C	D
Approach Delay, s/veh / LOS	14.3		B	0.0			16.8		B	34.2		C
Intersection Delay, s/veh / LOS	18.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.72	C	0.68	A	2.45	B
Bicycle LOS Score / LOS		F			2.01	B	0.98	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 14, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	PM Peak	PHF	1.00
Urban Street	Broadway Blvd	Analysis Year	2037	Analysis Period	1> 15:45
Intersection	Bobby Foster Rd	File Name	2037 Background PM - Bobby Foster and Broadw…		
Project Description	2037 Background PM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				962		927		689	508	516	1184	

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
Green	16.0	36.0	26.0	0.0	0.0	0.0	5	6	7	8
Yellow	4.0	4.0	4.0	0.0	0.0	0.0				
Red	0.0	0.0	0.0	0.0	0.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		7.3	1.0	4.0
Phase Duration, s				30.0		40.0	20.0	60.0
Change Period, ($Y+R_c$), s				4.0		4.0	4.0	4.0
Max Allow Headway (*MAH*), s				3.2		0.0	2.9	0.0
Queue Clearance Time (g_s), s				28.0			16.7	
Green Extension Time (g_e), s				0.0		0.0	0.0	0.0
Phase Call Probability				1.00			1.00	
Max Out Probability				1.00			1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				962		927		689	508	516	1184	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1781		1585		1781	1585	1781	1781	
Queue Service Time (g_s), s				26.0		26.0		13.0	25.5	14.7	16.9	
Cycle Queue Clearance Time (g_c), s				26.0		26.0		13.0	25.5	14.7	16.9	
Green Ratio (*g/C*)				0.29		0.29		0.40	0.40	0.60	0.62	
Capacity (*c*), veh/h				515		458		1424	634	590	2216	
Volume-to-Capacity Ratio (*X*)				1.869		2.024		0.484	0.801	0.875	0.534	
Back of Queue (*Q*), ft/ln (95 th percentile)				8827.9		9305.2		217.5	391.1	282.6	223.2	
Back of Queue (*Q*), veh/ln (95 th percentile)				347.6		366.3		8.6	15.4	11.1	8.8	
Queue Storage Ratio (*RQ*) (95 th percentile)				0.00		0.00		0.00	0.00	0.00	0.00	
Uniform Delay (d_1), s/veh				32.0		32.0		20.1	23.8	13.8	9.6	
Incremental Delay (d_2), s/veh				1572.5		1851.7		1.2	11.1	15.4	0.9	
Initial Queue Delay (d_3), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				1604.5		1883.7		21.3	34.9	29.2	10.6	
Level of Service (LOS)				F		F		C	C	C	B	
Approach Delay, s/veh / LOS	0.0			1741.5	F		27.1	C		16.2	B	
Intersection Delay, s/veh / LOS	699.9						F					

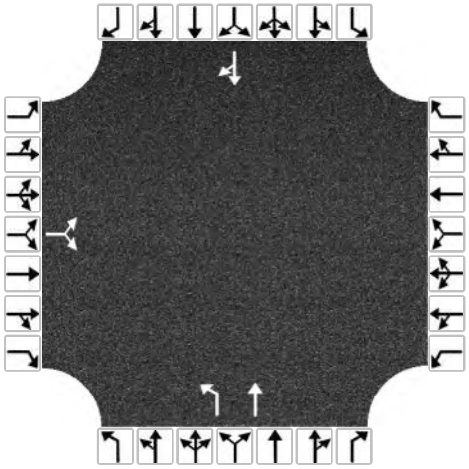
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.31	B	1.91	B	0.67	A
Bicycle LOS Score / LOS				F	1.48	A	1.89	B

HCS All-Way Stop Control Report

General and Site Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	11/9/2023
Analysis Year	2037
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	2037 BG PM Scenario
Intersection	Bobby Foster Rd and Los Picaros Rd
Jurisdiction	County
East/West Street	Bobby Foster Rd
North/South Street	Los Picaros Rd
Peak Hour Factor	0.92

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	74		970				1780	0			0	73
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

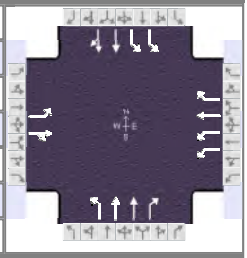
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	1135						1935	0		79		
Percent Heavy Vehicles	5						3	0		0		
Initial Departure Headway, h_d (s)	3.20						3.20	3.20		3.20		
Initial Degree of Utilization, x	1.000						1.000	0.000		0.071		
Final Departure Headway, h_d (s)	5.49						7.09	6.54		6.49		
Final Degree of Utilization, x	1.730						3.811	0.000		0.143		
Move-Up Time, m (s)	2.0						2.3	2.3		2.0		
Service Time, t_s (s)	3.49						4.79	4.24		4.49		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LR						L	T		TR		
Flow Rate, v (veh/h)	1135						1935	0		79		
Capacity (veh/h)	656						508	0		555		
95% Queue Length, Q_{95} (veh)	66.3						182.4	0.0		0.5		
Control Delay (s/veh)	349.7						1284.5	9.2		10.6		
Level of Service, LOS	F						F			B		
Approach Delay (s/veh) | LOS	349.7	F					1284.5	F		10.6	B	
Intersection Delay (s/veh) | LOS	915.5						F					

HCS Signalized Intersection Results Summary

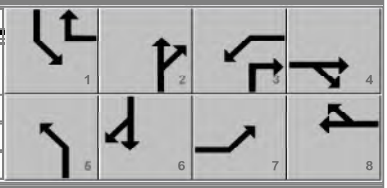
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 10, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	PM Peak	PHF	1.00
Urban Street	University Blvd	Analysis Year	2037	Analysis Period	1> 15:45
Intersection	Crick Ave	File Name	2037 Background PM - University and Crick COR…		
Project Description	2037 Background PM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	88	183	52	477	400	855	130	692	480	469	1307	48

Signal Information			
Cycle, s	140.2	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	11.0	6.5	32.0	9.7	8.6	44.4
Yellow	3.0	3.0	4.0	3.0	3.0	4.0
Red	1.0	1.0	2.0	1.0	1.0	2.0



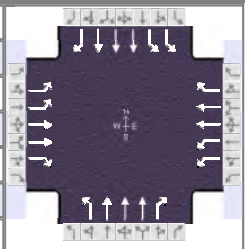
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	4.0	2.0	3.0	2.0	3.0	2.0	4.0
Phase Duration, s	13.7	50.4	26.3	63.0	15.0	38.0	25.5	48.5
Change Period, (*Y+R c*), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s	3.1	3.2	3.1	3.2	3.1	3.1	3.1	3.1
Queue Clearance Time (*g s*), s	8.8	16.4	21.4	59.0	12.2	34.0	21.1	44.5
Green Extension Time (*g e*), s	0.0	3.8	0.9	0.0	0.0	0.0	0.4	0.0
Phase Call Probability	0.97	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Max Out Probability	1.00	0.05	0.02	1.00	1.00	1.00	1.00	1.00

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	88	235		477	400	855	130	692	480	469	681	674
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1799		1689	1870	1585	1781	1781	1585	1689	1870	1847
Queue Service Time (*g s*), s	6.8	14.4		19.4	22.6	57.0	10.2	26.1	32.0	19.1	42.5	42.5
Cycle Queue Clearance Time (*g c*), s	6.8	14.4		19.4	22.6	57.0	10.2	26.1	32.0	19.1	42.5	42.5
Green Ratio (*g/C*)	0.07	0.32		0.16	0.41	0.56	0.08	0.23	0.39	0.15	0.30	0.30
Capacity (*c*), veh/h	123	570		537	761	888	140	812	613	519	567	560
Volume-to-Capacity Ratio (*X*)	0.716	0.412		0.889	0.526	0.963	0.930	0.852	0.783	0.904	1.201	1.203
Back of Queue (*Q*), ft/ln (95 th percentile)	164.5	267.3		359.1	393.3	1108.9	321.1	467.8	553.1	378.8	2693.3	2643.1
Back of Queue (*Q*), veh/ln (95 th percentile)	6.5	10.5		13.8	15.5	43.7	12.6	18.4	21.8	14.6	106.0	105.7
Queue Storage Ratio (*RQ*) (95 th percentile)	1.10	0.00		1.03	0.00	0.00	1.78	0.00	1.11	0.63	0.00	0.00
Uniform Delay (*d 1*), s/veh	63.9	37.6		57.7	31.4	29.4	64.2	51.8	37.8	58.3	48.8	48.8
Incremental Delay (*d 2*), s/veh	15.5	0.2		9.1	0.3	32.8	87.8	9.0	6.2	19.2	380.1	384.4
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	0.0	0.0
Control Delay (*d*), s/veh	79.4	37.8		66.9	31.7	62.2	152.0	60.8	44.0	77.5	429.0	433.2
Level of Service (LOS)	E	D		E	C	E	F	E	D	E	F	F
Approach Delay, s/veh / LOS	49.2	D		56.5	E		63.7	E		340.2	F	
Intersection Delay, s/veh / LOS	157.7						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.44	B	2.46	B	1.94	B
Bicycle LOS Score / LOS	1.02	A	3.35	C	1.56	B	1.99	B

HCS Signalized Intersection Results Summary

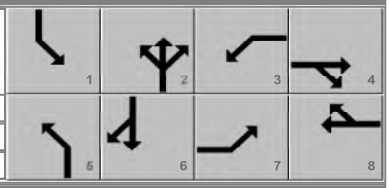
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 10, 2023	Area Type	CBD
Jurisdiction	CABQ	Time Period	PM Peak	PHF	1.00
Urban Street	University Blvd	Analysis Year	2037	Analysis Period	1> 15:45
Intersection	Bobby Foster Blvd/East…	File Name	2037 Background PM - Bobby Foster-Eastman an…		
Project Description	2037 Background PM Scenario				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	172	737	61	393	1208	128	134	746	74	95	1689	438

Signal Information			
Cycle, s	135.5	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	10.0	51.7	10.0	6.3	33.5	0.0	
Yellow	3.0	4.0	3.0	3.0	4.0	0.0	
Red	1.0	2.0	1.0	1.0	2.0	0.0	



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	2.0	3.0	1.1	3.0	2.0	3.0
Phase Duration, s	14.0	39.5	24.3	49.8	14.0	57.7	14.0	57.7
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s	4.2	4.1	4.2	4.1	4.2	4.1	4.2	4.1
Queue Clearance Time (g_s), s	9.3	32.5	18.6	45.8	8.7	18.3	6.0	50.9
Green Extension Time (g_e), s	0.3	1.0	1.7	0.0	0.2	16.7	0.2	0.8
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	0.30	1.00	0.00	1.00	0.18	0.61	0.01	1.00

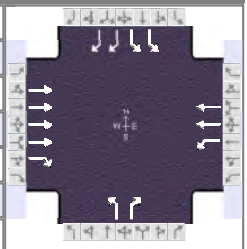
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	172	737	61	393	1208	128	134	746	74	95	1689	438
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1557	1603	1427	1557	1603	1427	1603	1528	1449	1557	1528	1427
Queue Service Time (g_s), s	7.3	30.5	4.6	16.6	43.8	9.0	6.7	16.3	4.5	4.0	48.9	37.2
Cycle Queue Clearance Time (g_c), s	7.3	30.5	4.6	16.6	43.8	9.0	6.7	16.3	4.5	4.0	48.9	37.2
Green Ratio (*g/C*)	0.07	0.25	0.25	0.15	0.32	0.32	0.46	0.38	0.38	0.07	0.38	0.38
Capacity (*c*), veh/h	230	792	353	467	1037	462	177	1748	553	230	1748	544
Volume-to-Capacity Ratio (*X*)	0.749	0.930	0.173	0.841	1.165	0.277	0.758	0.427	0.134	0.414	0.966	0.805
Back of Queue (*Q*), ft/ln (95 th percentile)	140.4	524.9	75	282.2	2101.4	147	140.2	257.3	72.3	73.4	739.6	519.9
Back of Queue (*Q*), veh/ln (95 th percentile)	5.5	20.7	3.0	11.1	82.7	5.8	5.5	10.1	2.9	2.9	29.1	20.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.47	0.00	0.25	0.94	0.00	0.49	0.47	0.00	0.00	0.24	0.00	1.73
Uniform Delay (d_1), s/veh	61.5	49.9	40.1	56.0	45.8	34.1	31.8	31.0	27.3	60.0	41.1	37.4
Incremental Delay (d_2), s/veh	5.0	20.5	0.2	4.3	308.8	0.3	10.1	0.2	0.1	1.2	20.5	9.2
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	0.0	0.0	0.0
Control Delay (*d*), s/veh	66.5	70.3	40.3	60.4	354.6	34.4	41.8	31.1	27.4	61.2	61.6	46.6
Level of Service (LOS)	E	E	D	E	F	C	D	C	C	E	E	D
Approach Delay, s/veh / LOS	67.8	E		264.0	F		32.4	C		58.6	E	
Intersection Delay, s/veh / LOS	116.3						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.73	C	2.84	C	2.58	C	2.58	C
Bicycle LOS Score / LOS	1.29	A	1.91	B	1.01	A	1.71	B

2037 TOTAL

HCS Signalized Intersection Results Summary

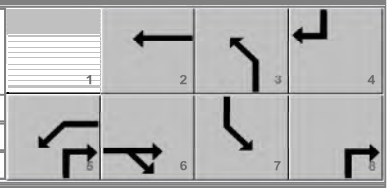
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	11/7/2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2037	Analysis Period	1> 6:45
Intersection	I-25 SB Ramp	File Name	2037 Total AM - Rio Bravo and I25 SB Ramp.xus		
Project Description	2037 Total AM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		2484	48	60	566		170		414	810		1224

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	24.0	53.0	24.0	1.0	0.0	0.0	
Yellow	4.0	4.0	4.0	0.0	0.0	0.0	
Red	2.0	2.0	2.0	0.0	0.0	0.0	



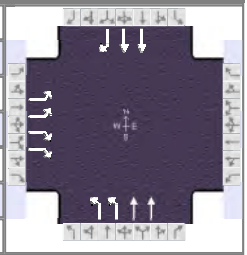
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6	5	2	3	8	7	4
Case Number		7.3	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s		59.0	30.0	89.0	30.0	1.0	30.0	1.0
Change Period, ($Y+R_c$), s		6.0	6.0	6.0	6.0	0.0	6.0	0.0
Max Allow Headway (*MAH*), s		0.0	3.0	0.0	3.0	3.2	3.0	3.2
Queue Clearance Time (g_s), s			5.4		12.4	3.0	26.0	3.0
Green Extension Time (g_e), s		0.0	0.1	0.0	0.2	0.0	0.0	0.0
Phase Call Probability			1.00		1.00	1.00	1.00	1.00
Max Out Probability			0.00		0.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2		3		18	7		14
Adjusted Flow Rate (*v*), veh/h		2484	48	60	566		170		414	810		1224
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1658		1739	1738		1739		1773	1689		
Queue Service Time (g_s), s		40.1		3.4	7.2		10.4		1.0	24.0		
Cycle Queue Clearance Time (g_c), s		40.1		3.4	7.2		10.4		1.0	24.0		
Green Ratio (*g/C*)		0.44		0.20	0.69		0.20		0.21	0.20		
Capacity (*c*), veh/h		2929		348	2405		348		369	675		
Volume-to-Capacity Ratio (*X*)		0.848		0.173	0.235		0.489		1.121	1.199		
Back of Queue (*Q*), ft/ln (95 th percentile)		574.9		72	109.9		219.1		1248	1603.5		
Back of Queue (*Q*), veh/ln (95 th percentile)		22.1		2.8	4.2		8.4		48.0	61.7		
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.10	0.00		0.73		0.00	0.00		
Uniform Delay (d_1), s/veh		29.9		39.8	6.8		42.6		47.5	48.0		
Incremental Delay (d_2), s/veh		3.4		1.1	0.2		4.9		256.2	374.1		
Initial Queue Delay (d_3), s/veh		0.0		0.0	0.0		0.0		0.0	0.0		
Control Delay (*d*), s/veh		33.3	0.0	40.9	7.0		47.5		303.7	422.1		0.0
Level of Service (LOS)		C	A	D	A		D		F	F		A
Approach Delay, s/veh / LOS	32.7	C		10.3	B		229.1	F		168.1	F	
Intersection Delay, s/veh / LOS	97.8						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	2.06	B	2.61	C	2.61	C
Bicycle LOS Score / LOS	1.53	B	1.00	A		F		F

HCS Signalized Intersection Results Summary

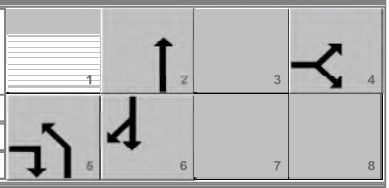
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 3, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak Hour	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2037	Analysis Period	1> 6:45
Intersection	University Blvd	File Name	2037 Total AM - Rio Bravo and University MITIGA…		
Project Description	2037 Total AM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	911		1531				908	500			188	109

Signal Information			
Cycle, s	93.1	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	28.1	15.0	32.0	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0



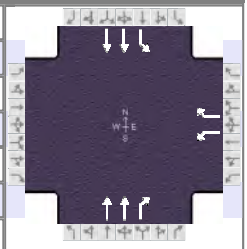
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4			5	2		6
Case Number		9.0			2.0	4.0		7.3
Phase Duration, s		38.0			34.1	55.1		21.0
Change Period, (*Y+R c*), s		6.0			6.0	6.0		6.0
Max Allow Headway (*MAH*), s		3.3			3.0	2.9		2.9
Queue Clearance Time (*g s*), s		34.0			25.9	9.4		6.5
Green Extension Time (*g e*), s		0.0			2.2	0.9		1.2
Phase Call Probability		1.00			1.00	1.00		1.00
Max Out Probability		1.00			0.00	0.21		0.04

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7		14				5	2			6	16
Adjusted Flow Rate (*v*), veh/h	911		1531				908	500			188	22
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689		1369				1689	1738			1738	1547
Queue Service Time (*g s*), s	22.6		32.0				23.9	7.4			4.5	1.1
Cycle Queue Clearance Time (*g c*), s	22.6		32.0				23.9	7.4			4.5	1.1
Green Ratio (*g/C*)	0.34		0.65				0.30	0.53			0.16	0.16
Capacity (*c*), veh/h	1160		1768				1020	1834			560	249
Volume-to-Capacity Ratio (*X*)	0.785		0.866				0.890	0.273			0.336	0.088
Back of Queue (*Q*), ft/ln (95 th percentile)	368.6		449.9				372	122.7			90.2	21.2
Back of Queue (*Q*), veh/ln (95 th percentile)	14.2		17.3				14.3	4.7			3.5	0.8
Queue Storage Ratio (*RQ*) (95 th percentile)	1.23		0.00				1.06	0.00			0.00	0.15
Uniform Delay (*d 1*), s/veh	27.5		13.3				31.0	12.1			34.6	33.2
Incremental Delay (*d 2*), s/veh	3.4		4.8				2.3	0.4			1.6	0.7
Initial Queue Delay (*d 3*), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (*d*), s/veh	30.9		18.1				33.3	12.5			36.3	33.9
Level of Service (LOS)	C		B				C	B			D	C
Approach Delay, s/veh / LOS	22.9	C		0.0			25.9	C		36.0	D	
Intersection Delay, s/veh / LOS	24.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.43	B	0.69	A	2.45	B
Bicycle LOS Score / LOS		F			1.65	B	0.66	A

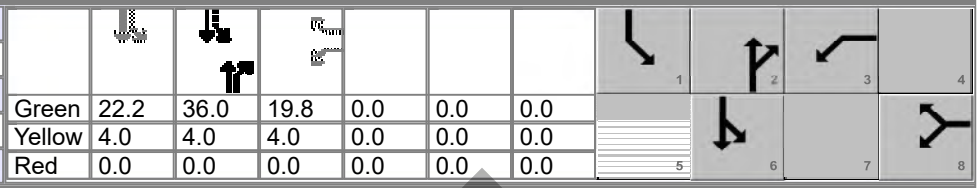
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	1.000
Analyst		Analysis Date	11/13/2023	Area Type	Other
Jurisdiction		Time Period		PHF	1.00
Urban Street	Broadway Blvd	Analysis Year	2023	Analysis Period	1> 6:45
Intersection	Bobby Foster Rd	File Name	2037 Total AM - Bobby Foster and Broadway Blvd…		
Project Description	2037 Total AM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				229		310		1507	699	543	431	

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	22.2	36.0	19.8	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	0.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		7.3	1.0	4.0
Phase Duration, s				23.8		40.0	26.2	66.2
Change Period, (*Y+R c*), s				4.0		4.0	4.0	4.0
Max Allow Headway (*MAH*), s				3.3		0.0	2.9	0.0
Queue Clearance Time (*g s*), s				19.1			24.2	
Green Extension Time (*g e*), s				0.8		0.0	0.0	0.0
Phase Call Probability				1.00			1.00	
Max Out Probability				0.14			1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				229		310		1507	699	543	431	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1781		1585		1781	1585	1781	1781	
Queue Service Time (*g s*), s				10.4		17.1		36.0	36.0	22.2	3.8	
Cycle Queue Clearance Time (*g c*), s				10.4		17.1		36.0	36.0	22.2	3.8	
Green Ratio (*g/C*)				0.22		0.22		0.40	0.40	0.67	0.69	
Capacity (*c*), veh/h				393		349		1425	634	519	2460	
Volume-to-Capacity Ratio (*X*)				0.583		0.887		1.058	1.102	1.047	0.175	
Back of Queue (*Q*), ft/ln (95 th percentile)				197.8		314.2		1259.8	1644.6	998.7	44.3	
Back of Queue (*Q*), veh/ln (95 th percentile)				7.8		12.4		49.6	64.7	39.3	1.7	
Queue Storage Ratio (*RQ*) (95 th percentile)				0.66		1.05		0.00	0.00	0.00	0.00	
Uniform Delay (*d 1*), s/veh				31.4		34.0		27.0	27.0	27.6	4.9	
Incremental Delay (*d 2*), s/veh				0.5		15.3		123.6	211.0	133.8	0.2	
Initial Queue Delay (*d 3*), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				31.9		49.3		150.6	238.0	161.4	5.1	
Level of Service (LOS)				C		D		F	F	F	A	
Approach Delay, s/veh / LOS	0.0			41.9		D	178.3		F	92.2		F
Intersection Delay, s/veh / LOS	136.0						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.31	B	1.91	B	0.66	A
Bicycle LOS Score / LOS				F	2.31	B	1.29	A

HCS Two-Way Stop-Control Report

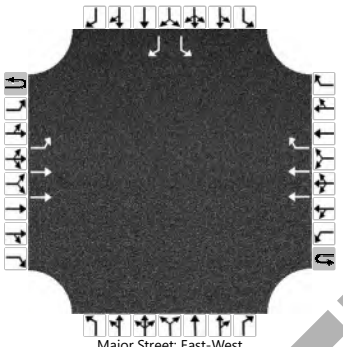
General Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	11/15/2023
Analysis Year	2037
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	2037 Total AM Scenario MITIGATED

Site Information

Intersection	Bobby Foster Rd and Los Picaros Rd
Jurisdiction	CABQ
East/West Street	Bobby Foster Rd
North/South Street	Los Picaros Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	0	2	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)	0	91	1175				525	0						0		14
Percent Heavy Vehicles (%)	2	2												2		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type | Storage			Left + Thru								1					

Critical and Follow-up Headways

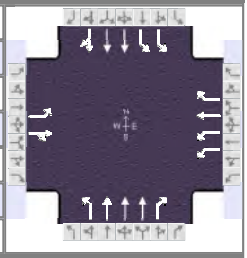
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.14												6.84		6.94
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		99												0		15
Capacity, c (veh/h)		998												242		711
v/c Ratio		0.10												0.00		0.02
95% Queue Length, Q_{95} (veh)		0.3												0.0		0.1
Control Delay (s/veh)		9.0												19.9		10.2
Level of Service (LOS)		A												C		B
Approach Delay (s/veh)		0.6												10.2		
Approach LOS		A												B		

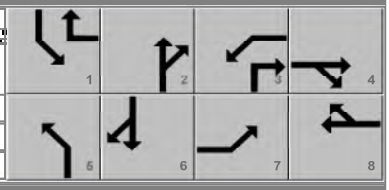
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 10, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	AM Peak	PHF	1.00
Urban Street	University Blvd	Analysis Year	2027	Analysis Period	1> 6:45
Intersection	Crick Ave	File Name	2037 Total AM - University and Crick MITIGATED....		
Project Description	2037 Total AM Analysis - Mitigated				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	112	100	75	400	99	455	126	985	650	946	436	217

Signal Information												
Cycle, s	117.9	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	10.3	20.5	33.0	10.0	2.2	13.8		
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	3.0	3.0	4.0	3.0	3.0	4.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	1.0	2.0	1.0	1.0	2.0		



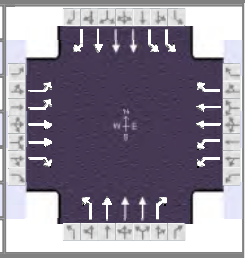
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	4.0	2.0	3.0	2.0	3.0	2.0	4.0
Phase Duration, s	14.0	19.8	20.2	26.1	14.3	39.0	38.8	63.5
Change Period, (*Y+R c*), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s	2.8	3.5	2.8	3.5	2.7	3.7	2.7	3.7
Queue Clearance Time (*g s*), s	9.2	13.7	15.7	22.1	10.2	35.0	34.3	11.6
Green Extension Time (*g e*), s	0.1	0.1	0.6	0.0	0.1	0.0	0.5	11.3
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.11

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	112	175		400	99	455	126	985	650	946	436	217
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1736		1689	1870	1585	1781	1698	1585	1689	1870	1585
Queue Service Time (*g s*), s	7.2	11.7		13.7	5.5	20.1	8.2	20.3	33.0	32.3	8.0	9.6
Cycle Queue Clearance Time (*g c*), s	7.2	11.7		13.7	5.5	20.1	8.2	20.3	33.0	32.3	8.0	9.6
Green Ratio (*g/C*)	0.08	0.12		0.14	0.17	0.47	0.09	0.28	0.42	0.30	0.49	0.49
Capacity (*c*), veh/h	151	203		465	318	738	156	1426	662	998	1826	774
Volume-to-Capacity Ratio (*X*)	0.741	0.860		0.859	0.311	0.617	0.809	0.691	0.982	0.948	0.239	0.281
Back of Queue (*Q*), ft/ln (95 th percentile)	153.2	272.5		261.6	116.9	371.3	172.2	333.9	907.7	589.2	151.7	152.6
Back of Queue (*Q*), veh/ln (95 th percentile)	6.0	10.7		10.1	4.6	14.6	6.8	13.1	35.7	22.7	6.0	6.1
Queue Storage Ratio (*RQ*) (95 th percentile)	1.02	0.00		0.75	0.00	0.00	0.96	0.00	1.82	0.98	0.00	0.00
Uniform Delay (*d 1*), s/veh	52.7	51.1		49.7	42.9	23.6	52.8	37.9	33.9	40.6	17.5	17.9
Incremental Delay (*d 2*), s/veh	2.7	26.0		4.4	0.2	1.2	3.9	1.2	53.6	22.5	0.0	0.1
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	0.0	0.0
Control Delay (*d*), s/veh	55.4	77.1		54.1	43.1	24.8	56.7	39.1	87.5	63.1	17.5	18.0
Level of Service (LOS)	E	E		D	D	C	E	D	F	E	B	B
Approach Delay, s/veh / LOS	68.6	E		39.0	D		58.2	E		44.6	D	
Intersection Delay, s/veh / LOS	50.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.74	C	2.73	C	2.45	B	1.91	B
Bicycle LOS Score / LOS	0.96	A	2.06	B	1.46	A	1.37	A

HCS Signalized Intersection Results Summary

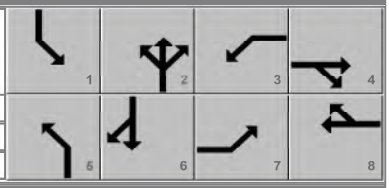
General Information				Intersection Information	
Agency				Duration, h	1.000
Analyst		Analysis Date	11/9/2023	Area Type	Other
Jurisdiction		Time Period		PHF	1.00
Urban Street	University Blvd	Analysis Year	2023	Analysis Period	1> 6:45
Intersection	Bobby Foster Blvd/East…	File Name	2037 Total AM - Bobby Foster-Eastman and Univ…		
Project Description	2037 Total AM Scenario MITIGATED				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	155	909	111	106	292	110	177	1636	129	158	427	56

Signal Information			
Cycle, s	117.9	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	10.0	3.0	35.1	10.0	35.8	0.0
Yellow	3.0	3.0	4.0	3.0	4.0	0.0
Red	1.0	1.0	2.0	1.0	2.0	0.0



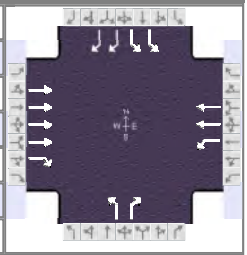
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	2.0	3.0	1.1	3.0	2.0	3.0
Phase Duration, s	14.0	41.8	14.0	41.8	21.0	48.1	14.0	41.1
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s	4.2	4.1	4.2	4.1	4.2	4.1	4.2	4.1
Queue Clearance Time (g_s), s	7.1	30.1	5.4	9.3	9.0	37.8	7.2	9.6
Green Extension Time (g_e), s	0.1	5.6	0.1	3.2	0.3	4.2	0.1	12.6
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	1.00	0.01	0.66	0.82	0.06	0.90	1.00	0.36

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	155	909	111	106	292	110	177	1636	129	158	427	56
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1781	1585	1730	1781	1585	1781	1698	1610	1730	1698	1585
Queue Service Time (g_s), s	5.1	28.1	6.2	3.4	7.3	6.1	7.0	35.8	6.6	5.2	7.6	3.0
Cycle Queue Clearance Time (g_c), s	5.1	28.1	6.2	3.4	7.3	6.1	7.0	35.8	6.6	5.2	7.6	3.0
Green Ratio (*g/C*)	0.08	0.30	0.30	0.08	0.30	0.30	0.46	0.36	0.36	0.08	0.30	0.30
Capacity (*c*), veh/h	293	1081	481	293	1081	481	542	1819	575	293	1517	472
Volume-to-Capacity Ratio (*X*)	0.528	0.841	0.231	0.361	0.270	0.229	0.326	0.899	0.224	0.538	0.282	0.119
Back of Queue (*Q*), ft/ln (95 th percentile)	103.7	462.5	110.2	69	145.7	109.1	143.9	564.1	115.9	106.1	143.4	54
Back of Queue (*Q*), veh/ln (95 th percentile)	4.1	18.2	4.3	2.7	5.7	4.3	5.7	22.2	4.6	4.2	5.6	2.1
Queue Storage Ratio (*RQ*) (95 th percentile)	0.35	0.00	0.37	0.23	0.00	0.36	0.48	0.00	0.00	0.35	0.00	0.18
Uniform Delay (d_1), s/veh	51.7	38.4	30.7	50.9	31.1	30.7	19.6	35.9	26.5	51.7	31.7	30.1
Incremental Delay (d_2), s/veh	1.8	1.9	0.2	0.7	0.1	0.2	1.6	6.7	0.2	2.0	0.1	0.1
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	0.0	0.0	0.0
Control Delay (*d*), s/veh	53.5	40.3	31.0	51.7	31.3	31.0	21.2	42.5	26.7	53.7	31.8	30.2
Level of Service (LOS)	D	D	C	D	C	C	C	D	C	D	C	C
Approach Delay, s/veh / LOS	41.1	D		35.5	D		39.5	D		37.1	D	
Intersection Delay, s/veh / LOS	39.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.72	C	2.84	C	2.58	C	2.59	C
Bicycle LOS Score / LOS	1.46	A	0.91	A	1.56	B	0.84	A

HCS Signalized Intersection Results Summary

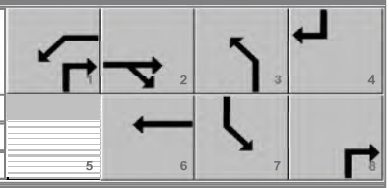
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	11/7/2023	Area Type	CBD
Jurisdiction	CABQ	Time Period	PM Peak	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2037	Analysis Period	1> 15:45
Intersection	I-25 SB Ramp	File Name	2037 Total PM - Rio Bravo and I25 SB Ramp.xus		
Project Description	2037 Total PM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		2045	147	165	1004		74		144	426		1562

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	24.0	43.0	34.0	1.0	0.0	0.0	
Yellow	4.0	4.0	4.0	0.0	0.0	0.0	
Red	2.0	2.0	2.0	0.0	0.0	0.0	



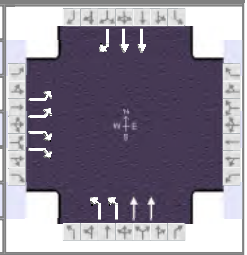
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6	3	8	7	4
Case Number		7.3	2.0	4.0	2.0	3.0	2.0	3.0
Phase Duration, s		49.0	30.0	79.0	40.0	1.0	40.0	1.0
Change Period, (*Y+R c*), s		6.0	6.0	6.0	6.0	0.0	6.0	0.0
Max Allow Headway (*MAH*), s		0.0	3.0	0.0	3.0	3.2	3.0	3.2
Queue Clearance Time (*g s*), s			13.9		6.4	3.0	16.0	3.0
Green Extension Time (*g e*), s		0.0	0.2	0.0	0.1	0.0	0.9	0.0
Phase Call Probability			1.00		1.00	1.00	1.00	1.00
Max Out Probability			0.00		0.00	1.00	0.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18	7		14
Adjusted Flow Rate (*v*), veh/h		2045	147	165	1004		74		144	426		1562
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1456		1502	1488		1527		1660	1520		
Queue Service Time (*g s*), s		41.7		11.9	23.9		4.4		1.0	14.0		
Cycle Queue Clearance Time (*g c*), s		41.7		11.9	23.9		4.4		1.0	14.0		
Green Ratio (*g/C*)		0.36		0.20	0.61		0.28		0.21	0.28		
Capacity (*c*), veh/h		2087		300	1811		433		346	861		
Volume-to-Capacity Ratio (*X*)		0.980		0.549	0.554		0.171		0.416	0.495		
Back of Queue (*Q*), ft/ln (95 th percentile)		653.3		229.8	325.9		80.6		163.3	235.2		
Back of Queue (*Q*), veh/ln (95 th percentile)		24.6		8.5	12.0		3.0		6.5	9.0		
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.33	0.00		0.27		0.00	0.00		
Uniform Delay (*d 1*), s/veh		38.1		43.1	13.9		32.4		41.2	35.8		
Incremental Delay (*d 2*), s/veh		25.0		7.2	1.2		0.9		0.3	2.0		
Initial Queue Delay (*d 3*), s/veh		0.0		0.0	0.0		0.0		0.0	0.0		
Control Delay (*d*), s/veh		63.1	0.0	50.4	15.1		33.2		41.5	37.9		0.0
Level of Service (LOS)		E	A	D	B		C		D	D		A
Approach Delay, s/veh / LOS	58.8	E		20.1	C		38.7	D		8.1	A	
Intersection Delay, s/veh / LOS	31.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	2.08	B	2.61	C	2.61	C
Bicycle LOS Score / LOS	1.39	A	1.45	A		F		F

HCS Signalized Intersection Results Summary

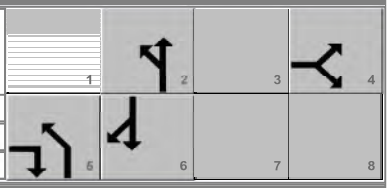
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 3, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	PM Peak Hour	PHF	1.00
Urban Street	Rio Bravo Boulevard	Analysis Year	2037	Analysis Period	1> 15:45
Intersection	University Blvd	File Name	2037 Total PM - Rio Bravo and University MITIGA…		
Project Description	2037 Total PM Analysis MITIGATED				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	365		1171				1363	657			421	485

Signal Information			
Cycle, s	86.3	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	23.4	29.9	15.0	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0



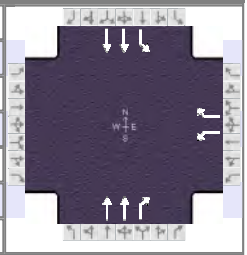
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4			5	2		6
Case Number		9.0			1.0	4.0		7.3
Phase Duration, s		21.0			29.4	65.3		35.9
Change Period, ($Y+R_c$), s		6.0			6.0	6.0		6.0
Max Allow Headway (*MAH*), s		3.3			2.5	3.0		3.0
Queue Clearance Time (g_s), s		17.0			23.0	8.3		27.8
Green Extension Time (g_e), s		0.0			0.4	2.5		2.1
Phase Call Probability		1.00			1.00	1.00		1.00
Max Out Probability		1.00			1.00	0.43		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		14				5	2			6	16
Adjusted Flow Rate (*v*), veh/h	365		1171				1363	657			421	485
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689		1369				1689	1738			1738	1547
Queue Service Time (g_s), s	8.6		15.0				21.0	6.3			7.8	25.8
Cycle Queue Clearance Time (g_c), s	8.6		15.0				21.0	6.3			7.8	25.8
Green Ratio (*g/C*)	0.17		0.45				0.64	0.69			0.35	0.35
Capacity (*c*), veh/h	587		1219				1567	2389			1205	536
Volume-to-Capacity Ratio (*X*)	0.622		0.961				0.870	0.275			0.350	0.905
Back of Queue (*Q*), ft/ln (95 th percentile)	165.8		543.2				292.9	75.1			136.2	380.3
Back of Queue (*Q*), veh/ln (95 th percentile)	6.4		20.9				11.3	2.9			5.2	14.6
Queue Storage Ratio (*RQ*) (95 th percentile)	0.55		0.00				0.84	0.00			0.00	2.72
Uniform Delay (d_1), s/veh	33.1		23.2				11.3	5.2			21.0	26.9
Incremental Delay (d_2), s/veh	1.5		24.8				5.5	0.0			0.1	6.7
Initial Queue Delay (d_3), s/veh	0.0		0.0				0.0	0.0			0.0	0.0
Control Delay (*d*), s/veh	34.6		48.0				16.8	5.2			21.0	33.6
Level of Service (LOS)	C		D				B	A			C	C
Approach Delay, s/veh / LOS	44.8		D	0.0			13.1		B	27.8		C
Intersection Delay, s/veh / LOS	27.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.31	B	0.66	A	2.43	B
Bicycle LOS Score / LOS		F			2.15	B	1.24	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 14, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	PM Peak	PHF	1.00
Urban Street	Broadway Blvd	Analysis Year	2037	Analysis Period	1> 15:45
Intersection	Bobby Foster Rd	File Name	2037 Total PM - Bobby Foster and Broadway Blvd…		
Project Description	2037 Total PM Analysis				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				935		936		689	513	521	1184	

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
							5	6	7	8
Green	16.0	36.0	26.0	0.0	0.0	0.0				
Yellow	4.0	4.0	4.0	0.0	0.0	0.0				
Red	0.0	0.0	0.0	0.0	0.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		7.3	1.0	4.0
Phase Duration, s				30.0		40.0	20.0	60.0
Change Period, ($Y+R_c$), s				4.0		4.0	4.0	4.0
Max Allow Headway (*MAH*), s				3.2		0.0	2.9	0.0
Queue Clearance Time (g_s), s				28.0			16.9	
Green Extension Time (g_e), s				0.0		0.0	0.0	0.0
Phase Call Probability				1.00			1.00	
Max Out Probability				1.00			1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				935		936		689	513	521	1184	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1781		1585		1781	1585	1781	1781	
Queue Service Time (g_s), s				26.0		26.0		13.0	25.8	14.9	16.9	
Cycle Queue Clearance Time (g_c), s				26.0		26.0		13.0	25.8	14.9	16.9	
Green Ratio (*g/C*)				0.29		0.29		0.40	0.40	0.60	0.62	
Capacity (*c*), veh/h				515		458		1424	634	590	2216	
Volume-to-Capacity Ratio (*X*)				1.817		2.044		0.484	0.809	0.883	0.534	
Back of Queue (*Q*), ft/ln (95 th percentile)				8291.8		9483.9		217.5	398.1	292.3	223.2	
Back of Queue (*Q*), veh/ln (95 th percentile)				326.4		373.4		8.6	15.7	11.5	8.8	
Queue Storage Ratio (*RQ*) (95 th percentile)				0.00		0.00		0.00	0.00	0.00	0.00	
Uniform Delay (d_1), s/veh				32.0		32.0		20.1	24.0	13.9	9.6	
Incremental Delay (d_2), s/veh				1478.3		1887.0		1.2	11.6	16.8	0.9	
Initial Queue Delay (d_3), s/veh				0.0		0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh				1510.3		1919.0		21.3	35.6	30.8	10.6	
Level of Service (LOS)				F		F		C	D	C	B	
Approach Delay, s/veh / LOS	0.0			1714.8		F	27.4		C	16.7		B
Intersection Delay, s/veh / LOS	684.3						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.31	B	1.91	B	0.67	A
Bicycle LOS Score / LOS				F	1.48	A	1.89	B

HCS Two-Way Stop-Control Report

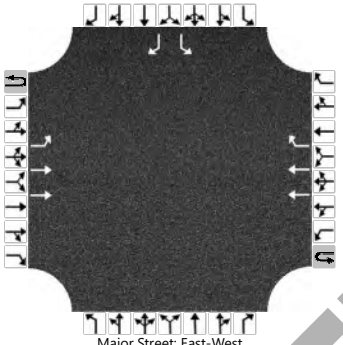
General Information

Analyst	PG
Agency/Co.	Lee Engineering
Date Performed	11/15/2023
Analysis Year	2037
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	2037 Total AM Scenario MITIGATED

Site Information

Intersection	Bobby Foster Rd and Los Picaros Rd
Jurisdiction	CABQ
East/West Street	Bobby Foster Rd
North/South Street	Los Picaros Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	0	2	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)	0	74	980				1798	0						0		73
Percent Heavy Vehicles (%)	2	2												2		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type | Storage			Left + Thru								1					

Critical and Follow-up Headways

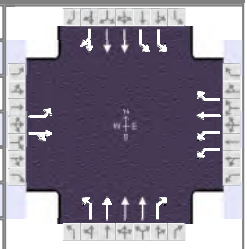
Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.14												6.84		6.94
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		80												0		79
Capacity, c (veh/h)		295												72		250
v/c Ratio		0.27												0.00		0.32
95% Queue Length, Q_{95} (veh)		1.1												0.0		1.4
Control Delay (s/veh)		21.8												54.8		26.0
Level of Service (LOS)		C												F		D
Approach Delay (s/veh)		1.5												26.0		
Approach LOS		A												D		

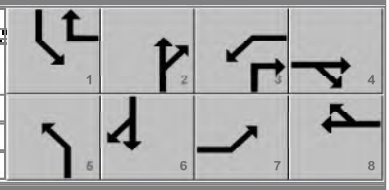
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 10, 2023	Area Type	Other
Jurisdiction	CABQ	Time Period	PM Peak	PHF	1.00
Urban Street	University Blvd	Analysis Year	2037	Analysis Period	1> 15:45
Intersection	Crick Ave	File Name	2037 Total PM - University and Crick MITIGATED....		
Project Description	2037 Total PM Analysis Mitigated				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	88	183	52	477	400	867	130	852	480	481	1401	48

Signal Information												
Cycle, s	137.9	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	11.0	6.7	29.6	9.7	8.3	44.7		
				Yellow	3.0	3.0	4.0	3.0	3.0	4.0		
				Red	1.0	1.0	2.0	1.0	1.0	2.0		



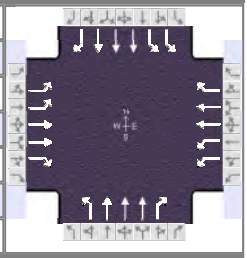
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	4.0	2.0	3.0	2.0	3.0	2.0	4.0
Phase Duration, s	13.7	50.7	26.0	63.0	15.0	35.6	25.7	46.3
Change Period, (*Y+R c*), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s	3.1	3.2	3.1	3.2	3.1	3.1	3.1	3.1
Queue Clearance Time (*g s*), s	8.7	16.0	21.1	59.0	12.0	31.6	21.3	36.3
Green Extension Time (*g e*), s	0.0	3.9	0.9	0.0	0.0	0.0	0.4	4.0
Phase Call Probability	0.97	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Max Out Probability	1.00	0.05	0.01	1.00	1.00	1.00	1.00	0.78

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	88	235		477	400	867	130	852	480	481	972	477
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1799		1689	1870	1585	1781	1698	1585	1689	1870	1837
Queue Service Time (*g s*), s	6.7	14.0		19.1	22.0	57.0	10.0	21.8	29.6	19.3	34.3	34.3
Cycle Queue Clearance Time (*g c*), s	6.7	14.0		19.1	22.0	57.0	10.0	21.8	29.6	19.3	34.3	34.3
Green Ratio (*g/C*)	0.07	0.32		0.16	0.41	0.57	0.08	0.21	0.37	0.16	0.29	0.29
Capacity (*c*), veh/h	125	583		538	773	904	142	1093	592	531	1093	537
Volume-to-Capacity Ratio (*X*)	0.706	0.403		0.887	0.518	0.959	0.915	0.780	0.810	0.905	0.889	0.889
Back of Queue (*Q*), ft/ln (95 th percentile)	159.7	260.8		352.5	383	1082.2	305.9	371.4	564.7	382.2	607.6	627.3
Back of Queue (*Q*), veh/ln (95 th percentile)	6.3	10.3		13.6	15.1	42.6	12.0	14.6	22.2	14.7	23.9	25.1
Queue Storage Ratio (*RQ*) (95 th percentile)	1.06	0.00		1.01	0.00	0.00	1.70	0.00	1.13	0.64	0.00	0.00
Uniform Delay (*d 1*), s/veh	62.8	36.3		56.8	30.2	28.1	63.0	51.1	38.8	57.1	46.7	46.7
Incremental Delay (*d 2*), s/veh	14.0	0.2		8.5	0.3	30.3	76.8	3.4	8.2	19.4	9.0	17.6
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	0.0	0.0
Control Delay (*d*), s/veh	76.7	36.4		65.2	30.5	58.4	139.8	54.5	47.1	76.5	55.7	64.3
Level of Service (LOS)	E	D		E	C	E	F	D	D	E	E	E
Approach Delay, s/veh / LOS	47.4	D		53.9	D		59.7	E		63.0	E	
Intersection Delay, s/veh / LOS	58.3						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.72	C	2.71	C	2.46	B	1.94	B
Bicycle LOS Score / LOS	1.02	A	3.37	C	1.29	A	1.55	B

HCS Signalized Intersection Results Summary

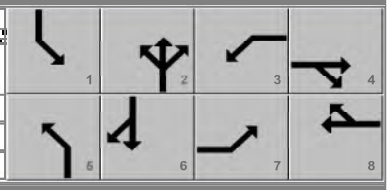
General Information				Intersection Information	
Agency	Lee Engineering			Duration, h	1.000
Analyst	PG	Analysis Date	Nov 10, 2023	Area Type	CBD
Jurisdiction	CABQ	Time Period	PM Peak	PHF	1.00
Urban Street	University Blvd	Analysis Year	2037	Analysis Period	1> 15:45
Intersection	Bobby Foster Blvd/East…	File Name	2037 Total PM - Bobby Foster-Eastman and Univ…		
Project Description	2037 Total PM Scenario MITIGATED				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	172	737	71	393	1208	128	152	906	74	95	1783	438

Signal Information			
Cycle, s	237.9	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	10.0	4.0	96.9	13.0	16.4	69.6	
Yellow	3.0	3.0	4.0	3.0	3.0	4.0	
Red	1.0	1.0	2.0	1.0	1.0	2.0	



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	2.0	3.0	1.1	3.0	2.0	3.0
Phase Duration, s	17.0	75.6	37.4	96.0	22.0	110.9	14.0	102.9
Change Period, (*Y+R c*), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s	4.2	4.1	4.2	4.1	4.2	4.1	4.2	4.1
Queue Clearance Time (*g s*), s	15.0	52.2	31.5	91.5	18.9	34.8	9.2	91.7
Green Extension Time (*g e*), s	0.0	0.0	1.8	0.0	0.0	0.0	0.3	5.2
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.92

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	172	737	71	393	1208	128	152	906	74	95	1783	438
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1557	1603	1427	1557	1603	1427	1603	1528	1449	1557	1528	1427
Queue Service Time (*g s*), s	13.0	50.2	8.8	29.5	89.5	14.6	16.9	32.8	7.2	7.2	89.7	62.5
Cycle Queue Clearance Time (*g c*), s	13.0	50.2	8.8	29.5	89.5	14.6	16.9	32.8	7.2	7.2	89.7	62.5
Green Ratio (*g/C*)	0.05	0.29	0.29	0.14	0.38	0.38	0.49	0.44	0.44	0.04	0.41	0.41
Capacity (*c*), veh/h	170	938	418	437	1213	540	159	2022	639	131	1868	581
Volume-to-Capacity Ratio (*X*)	1.011	0.785	0.170	0.900	0.996	0.237	0.957	0.448	0.116	0.726	0.955	0.754
Back of Queue (*Q*), ft/ln (95 th percentile)	350.9	741.8	150.7	467.8	1426	234	511.6	475.9	120.1	141.7	1219.5	807.6
Back of Queue (*Q*), veh/ln (95 th percentile)	13.8	29.2	5.9	18.4	56.1	9.2	20.1	18.7	4.8	5.6	48.0	31.8
Queue Storage Ratio (*RQ*) (95 th percentile)	1.17	0.00	0.50	1.56	0.00	0.78	1.71	0.00	0.00	0.47	0.00	2.69
Uniform Delay (*d 1*), s/veh	112.4	77.3	62.6	100.6	73.8	50.5	77.3	46.3	39.2	112.6	68.4	60.3
Incremental Delay (*d 2*), s/veh	149.0	4.6	0.2	7.7	48.2	0.2	101.8	0.2	0.1	7.7	15.1	5.4
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	0.0	0.0	0.0
Control Delay (*d*), s/veh	261.4	81.9	62.8	108.3	121.9	50.7	179.2	46.5	39.3	120.3	83.5	65.7
Level of Service (LOS)	F	F	E	F	F	D	F	D	D	F	F	E
Approach Delay, s/veh / LOS	112.0	F		113.6	F		63.8	E		81.6	F	
Intersection Delay, s/veh / LOS	92.2						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.75	C	2.86	C	2.60	C	2.60	C
Bicycle LOS Score / LOS	1.30	A	1.91	B	1.11	A	1.76	B

APPENDIX D SIGHT DISTANCE CALCULATIONS

Location:	Site Driveways, Autos
Scenario:	Left Turn from the Minor Road
Type of Vehicle:	Passenger Car
# Lanes Crossing:	2
Speed Limit (mph):	45
Median?	No
	0
Base Time Gap:	7.5
Additional Lanes to Cross:	1
Additional Time:	0.5
Final Time Gap:	8
SIGHT DISTANCE REQUIRED	529.20
ISD = 1.47 x Speed Limit x Tg	
SIGHT DISTANCE REQUIRED (Rounded)	**530**

Location:	Site Driveways, Autos
Scenario:	Right Turn from the Minor Road
Type of Vehicle:	Passenger Car
# Lanes Crossing:	1
Speed Limit (mph):	45
Median?	No
	0
Base Time Gap:	6.5
Additional Lanes to Cross:	0
Additional Time:	0
Final Time Gap:	6.5
SIGHT DISTANCE REQUIRED	429.98
ISD = 1.47 x Speed Limit x Tg	
SIGHT DISTANCE REQUIRED (Rounded)	**430**

Location:	Site Driveways, Trucks
Scenario:	Right Turn from the Minor Road
Type of Vehicle:	Combination Truck
# Lanes Crossing:	1
Speed Limit (mph):	35
Median?	No
	0
Base Time Gap:	10.5
Additional Lanes to Cross:	0
Additional Time:	0
Final Time Gap:	10.5
SIGHT DISTANCE REQUIRED	540.23
ISD = 1.47 x Speed Limit x Tg	
SIGHT DISTANCE REQUIRED (Rounded)	**545**

Location:	Site Driveways, Trucks
Scenario:	Left Turn from the Minor Road
Type of Vehicle:	Combination Truck
# Lanes Crossing:	1
Speed Limit (mph):	35
Median?	No
	0
Base Time Gap:	11.5
Additional Lanes to Cross:	0
Additional Time:	0
Final Time Gap:	11.5
SIGHT DISTANCE REQUIRED	591.68
ISD = 1.47 x Speed Limit x Tg	
SIGHT DISTANCE REQUIRED (Rounded)	**595**

$$ISD = 1.47\ (V_{major})\ t_g$$

t_g Values				
CASE		Passenger Car	Single-Unit Truck	Combination Truck
B1	Left Turn from the Minor Road	7.5	9.5	11.5
B2	Right Turn from the Minor Road	6.5	8.5	10.5
B3	Crossing Maneuver from the Minor Road			
F	Left Turn from the Major Road	5.5	6.5	7.5

CASE B1 - For a stopped vehicle to turn left onto a 2-lane highway with no median and grades 3 percent or less

For left turns onto two-way highways with more than 2 lanes:
+0.5 seconds for passenger cars
+0.7 seconds for trucks
for each additional lane, from the left, in excess of one, to be crossed by the turning vehicle.

For minor road approach grades:
+0.2 seconds for each percent grade
if the approach grade is an upgrade that exceeds 3 percent.

CASE B2 + B3 - For a stopped vehicle to turn right onto or cross a 2-lane highway with no median and grades 3 percent or less

For crossing a major road with more than 2 lanes:
+0.5 seconds for passenger cars
+0.7 seconds for trucks
for each additional lane to be crossed and narrow medians that cannot store the design vehicle.

For minor road approach grades:
+0.1 seconds for each percent grade
if the approach grade is an upgrade that exceeds 3 percent.

CASE F – For a stopped vehicle to turn across one lane of opposing traffic

For left-turning vehicles that cross more than 1 opposing lane:
+0.5 seconds for passenger cars
+0.7 seconds for trucks
for each additional lane to be crossed.

APPENDIX E MISCELLANEOUS MATERIALS

Land Use: 140
Manufacturing

Description

A manufacturing facility is an area where the primary activity is the conversion of raw materials or parts into finished products. Size and type of activity may vary substantially from one facility to another. In addition to the actual production of goods, a manufacturing facility typically has an office and may provide space for warehouse, research, and associated functions. General light industrial (Land Use 110) and industrial park (Land Use 130) are related uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Minnesota, Missouri, New Jersey, New York, Oregon, Pennsylvania, South Dakota, Texas, Vermont, Washington, and West Virginia.

Source Numbers

177, 179, 184, 241, 357, 384, 418, 443, 583, 598, 611, 728, 747, 875, 879, 940, 969, 1067, 1068, 1082

Manufacturing
(140)

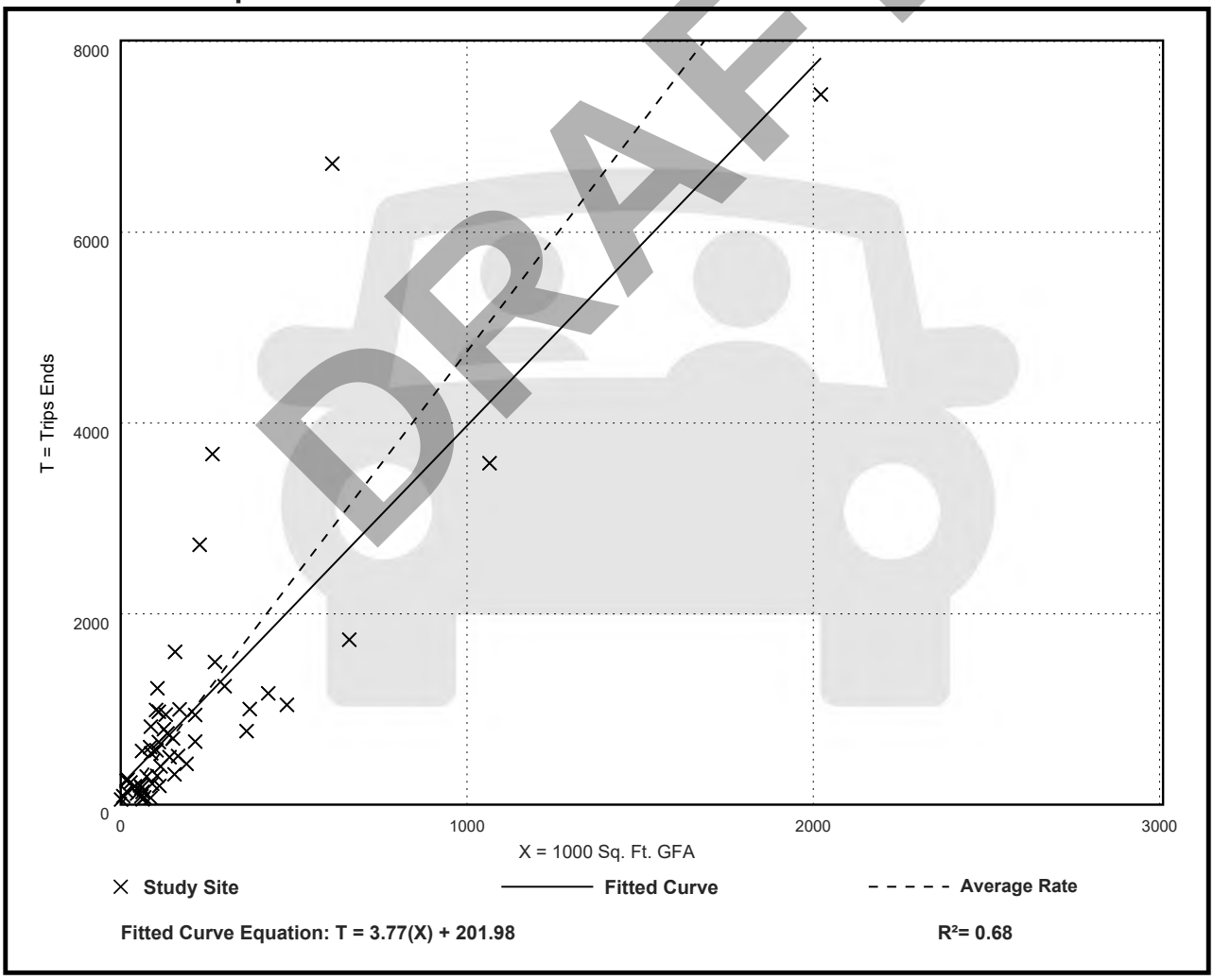
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 53
Avg. 1000 Sq. Ft. GFA: 208
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.75	0.83 - 49.50	3.20

Data Plot and Equation



Fitted Curve Equation: T = 3.77(X) + 201.98

R^2= 0.68

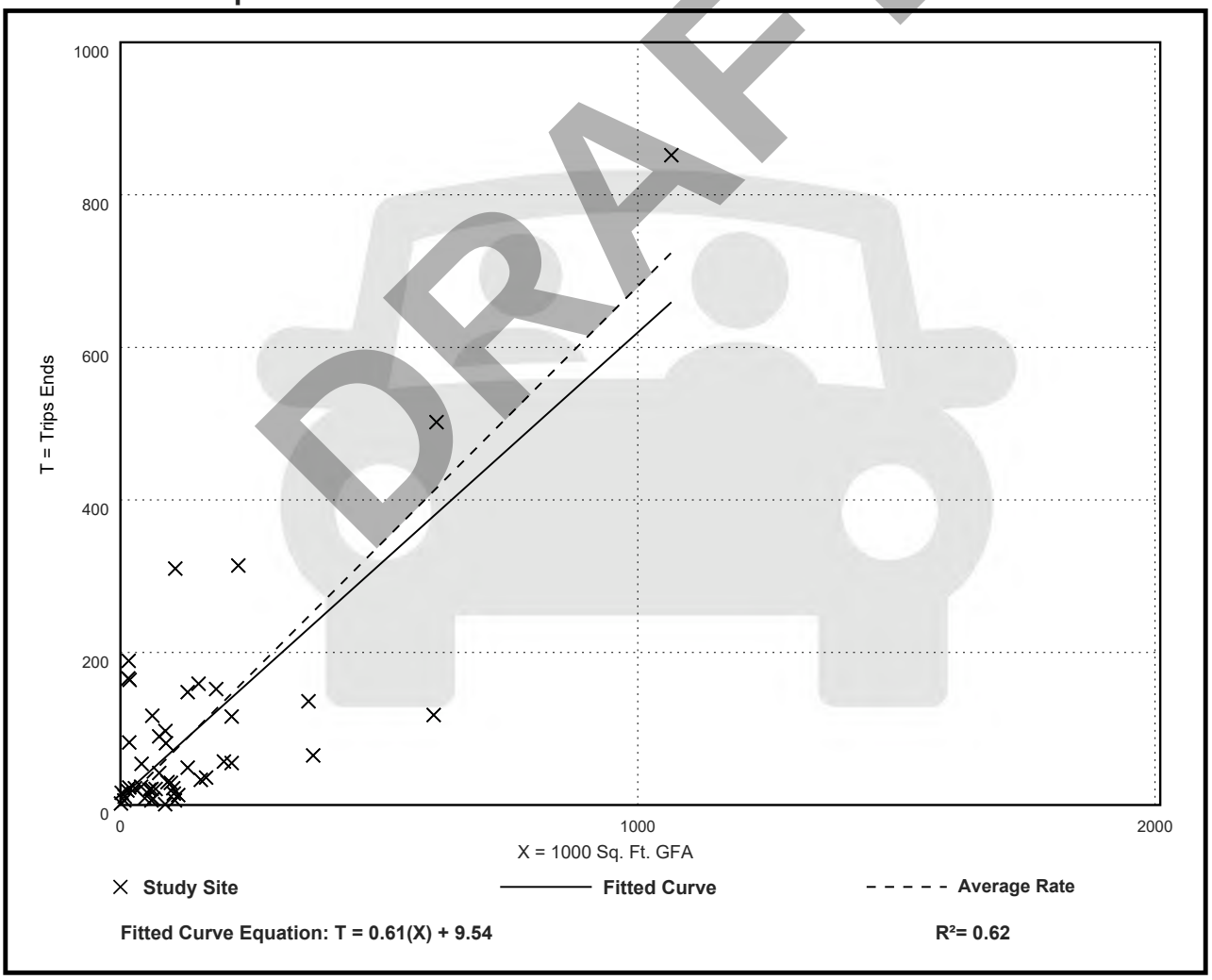
Manufacturing
(140)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 48
Avg. 1000 Sq. Ft. GFA: 138
Directional Distribution: 76% entering, 24% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.68	0.01 - 11.93	1.03

Data Plot and Equation



Fitted Curve Equation: T = 0.61(X) + 9.54

R^2= 0.62

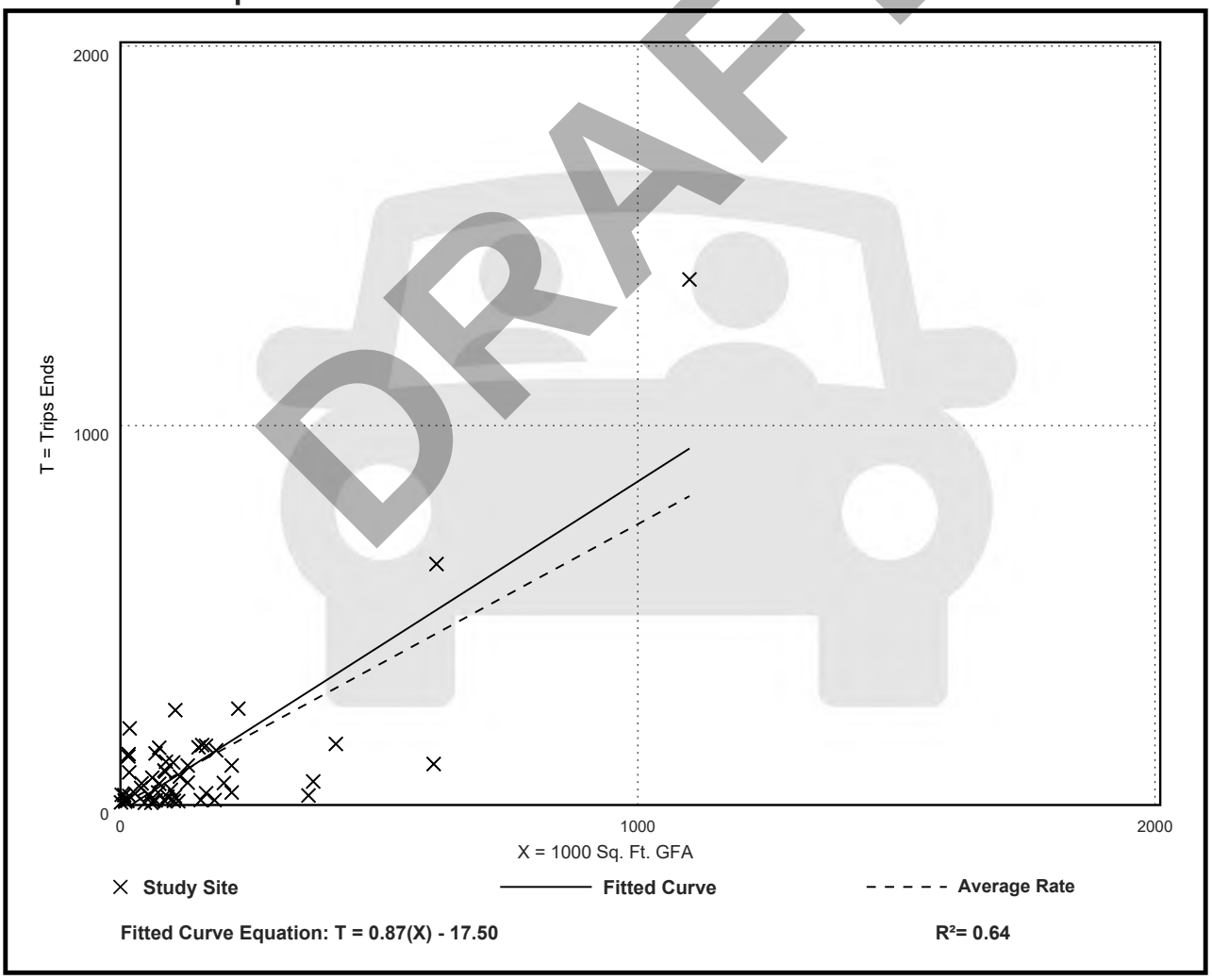
Manufacturing
(140)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 55
Avg. 1000 Sq. Ft. GFA: 142
Directional Distribution: 31% entering, 69% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.74	0.07 - 11.37	0.93

Data Plot and Equation



Fitted Curve Equation: T = 0.87(X) - 17.50

R^2= 0.64

Manufacturing
(140)

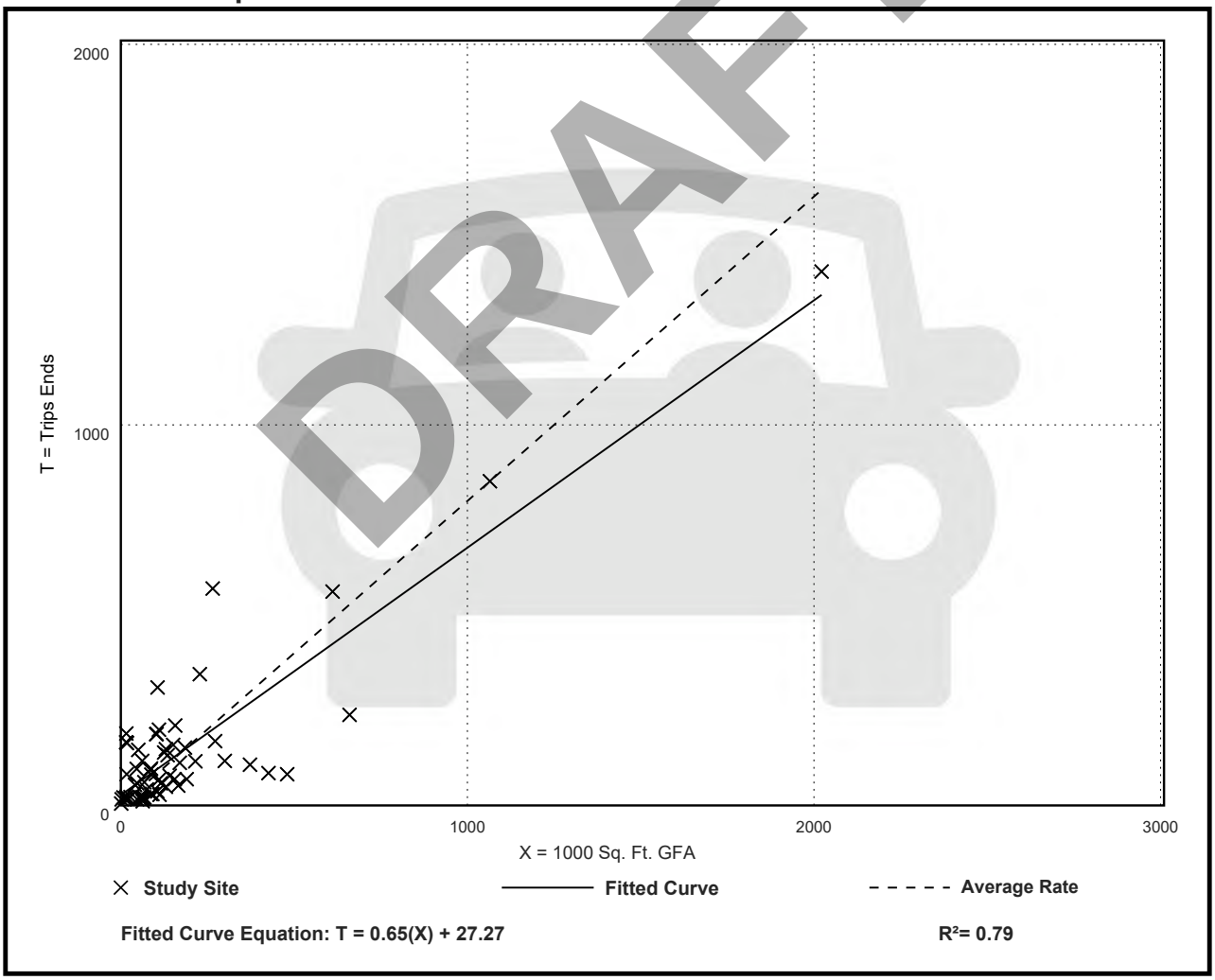
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 62
Avg. 1000 Sq. Ft. GFA: 178
Directional Distribution: 73% entering, 27% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.80	0.17 - 11.93	0.87

Data Plot and Equation



Fitted Curve Equation: T = 0.65(X) + 27.27

R^2= 0.79

Manufacturing
(140)

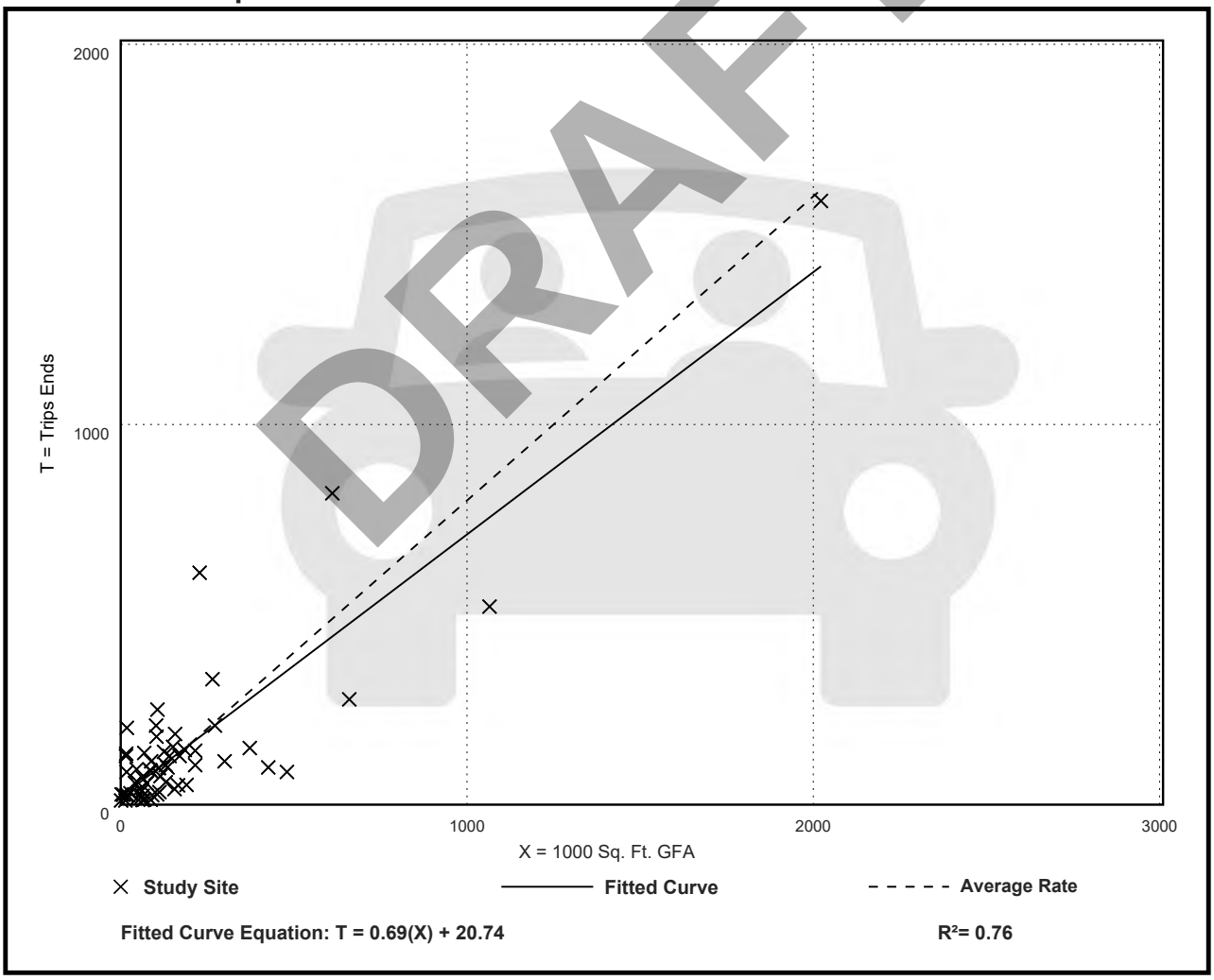
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 62
Avg. 1000 Sq. Ft. GFA: 180
Directional Distribution: 42% entering, 58% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.80	0.15 - 11.37	0.82

Data Plot and Equation



Fitted Curve Equation: T = 0.69(X) + 20.74

R^2= 0.76

Manufacturing
(140)

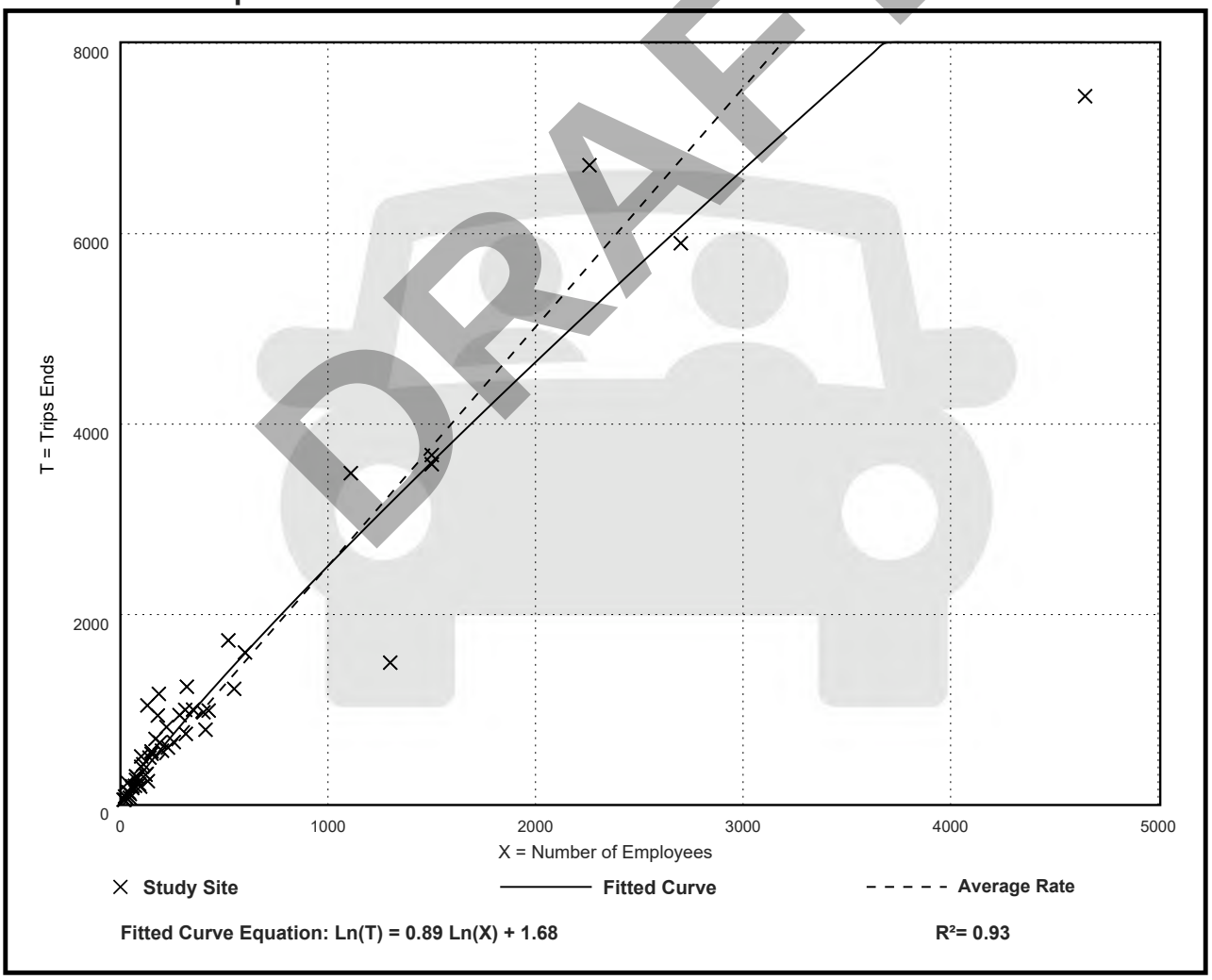
Vehicle Trip Ends vs: Employees
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 53
Avg. Num. of Employees: 437
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
2.51	1.15 - 8.05	0.96

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.89 Ln(X) + 1.68

R^2= 0.93

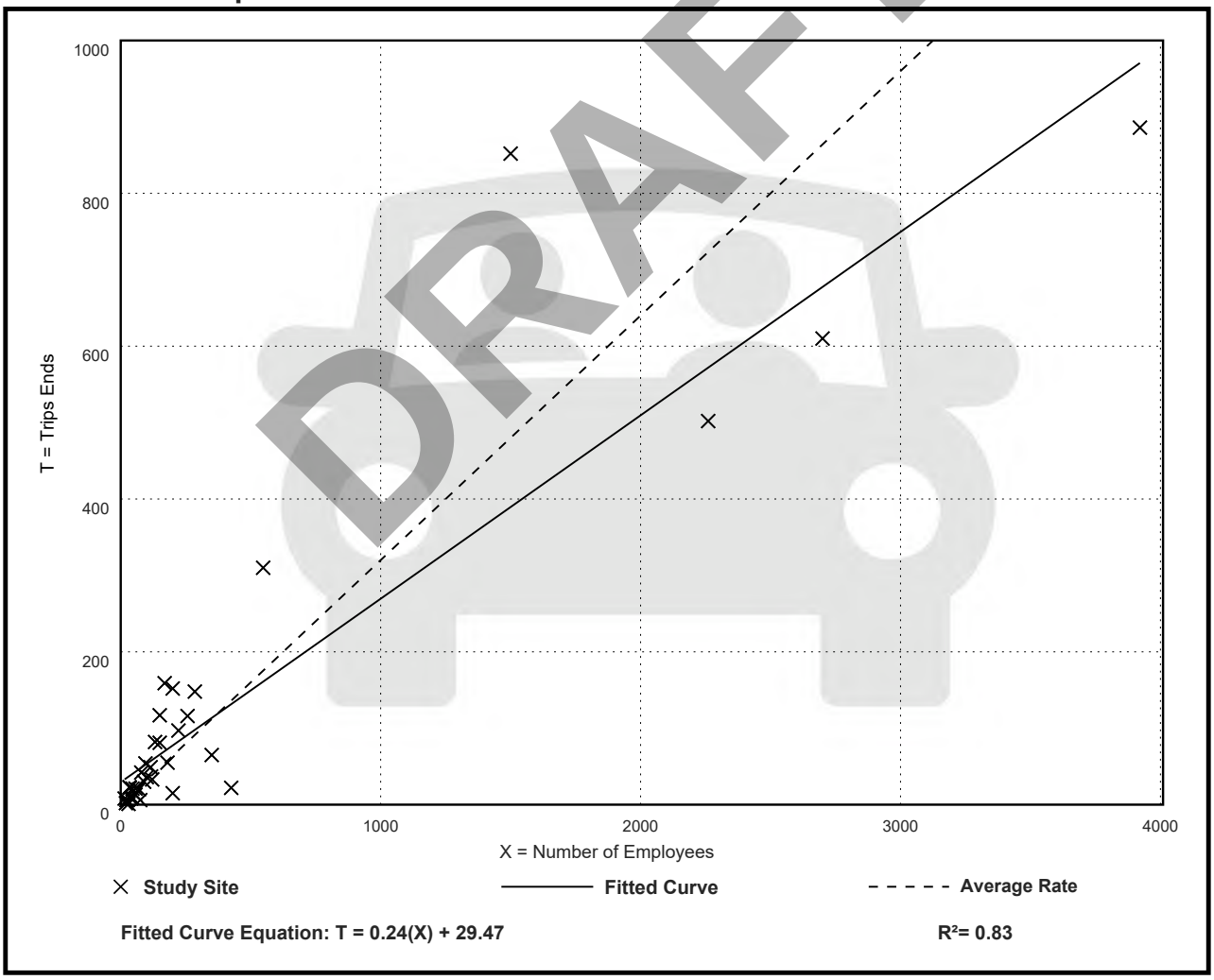
Manufacturing
(140)

Vehicle Trip Ends vs: Employees
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 37
Avg. Num. of Employees: 400
Directional Distribution: 73% entering, 27% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.32	0.03 - 0.94	0.18

Data Plot and Equation



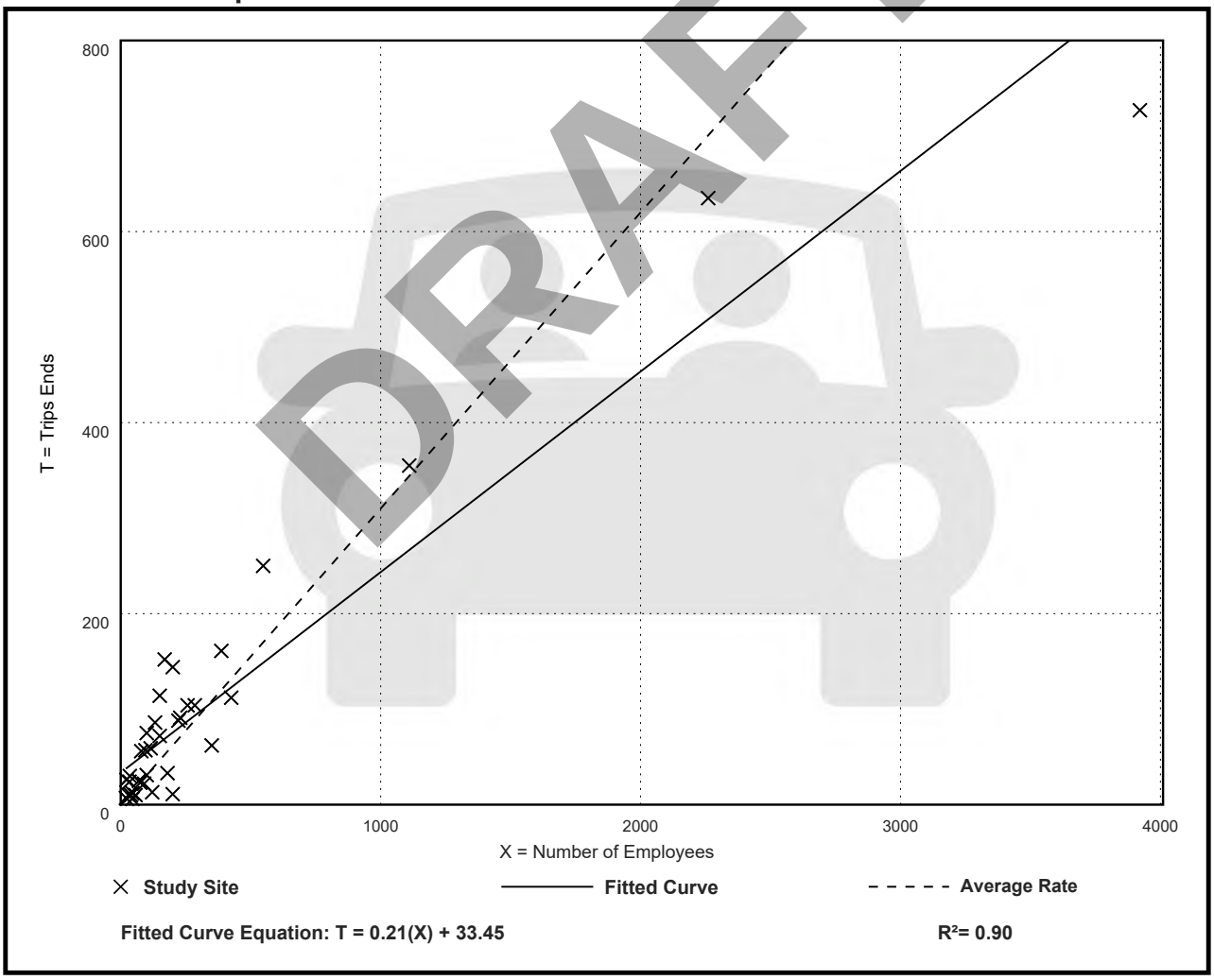
Manufacturing
(140)

Vehicle Trip Ends vs: Employees
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 37
Avg. Num. of Employees: 334
Directional Distribution: 37% entering, 63% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.31	0.06 - 1.18	0.17

Data Plot and Equation



Manufacturing
(140)

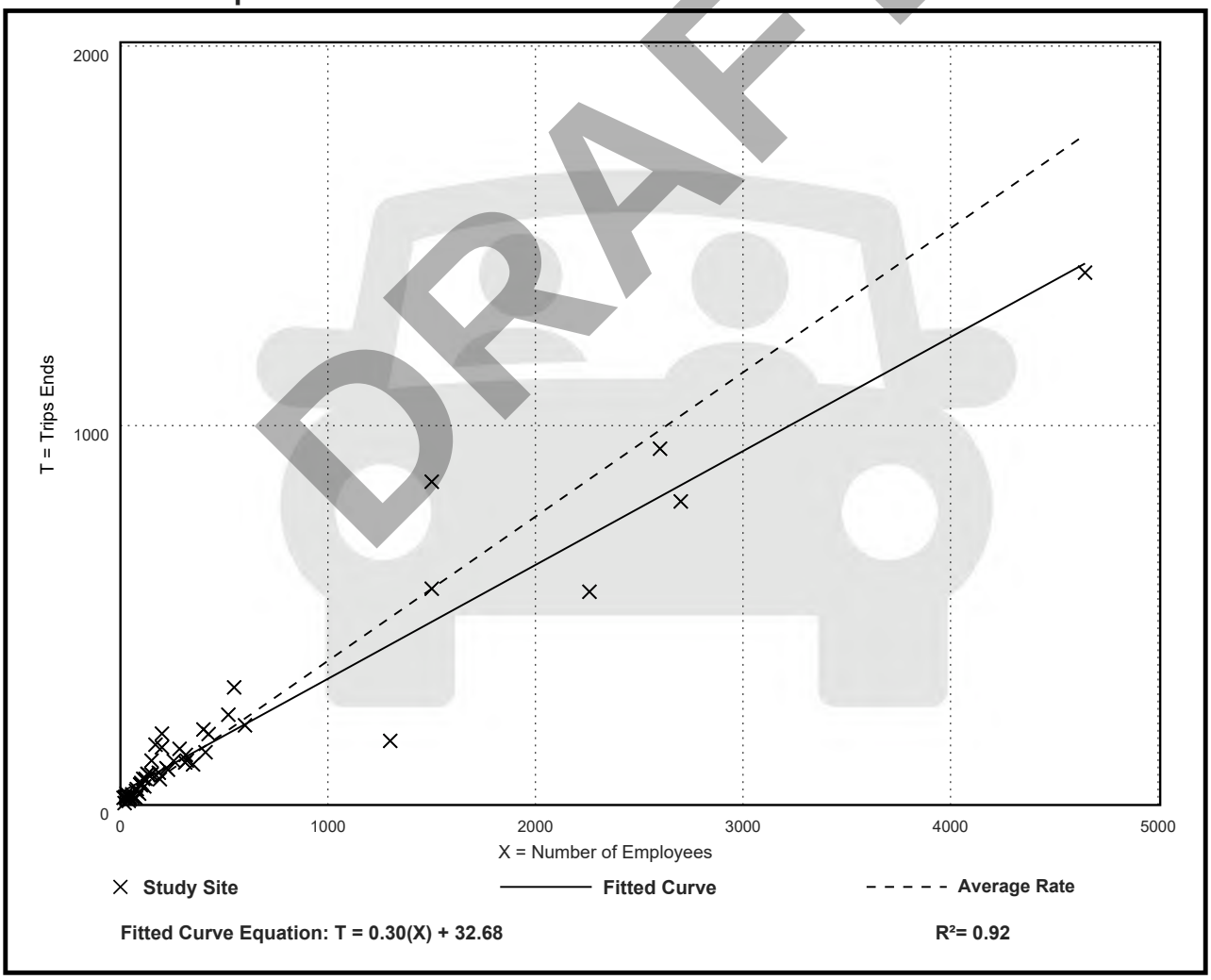
Vehicle Trip Ends vs: Employees
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 54
Avg. Num. of Employees: 459
Directional Distribution: 83% entering, 17% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.38	0.13 - 1.27	0.15

Data Plot and Equation



Manufacturing
(140)

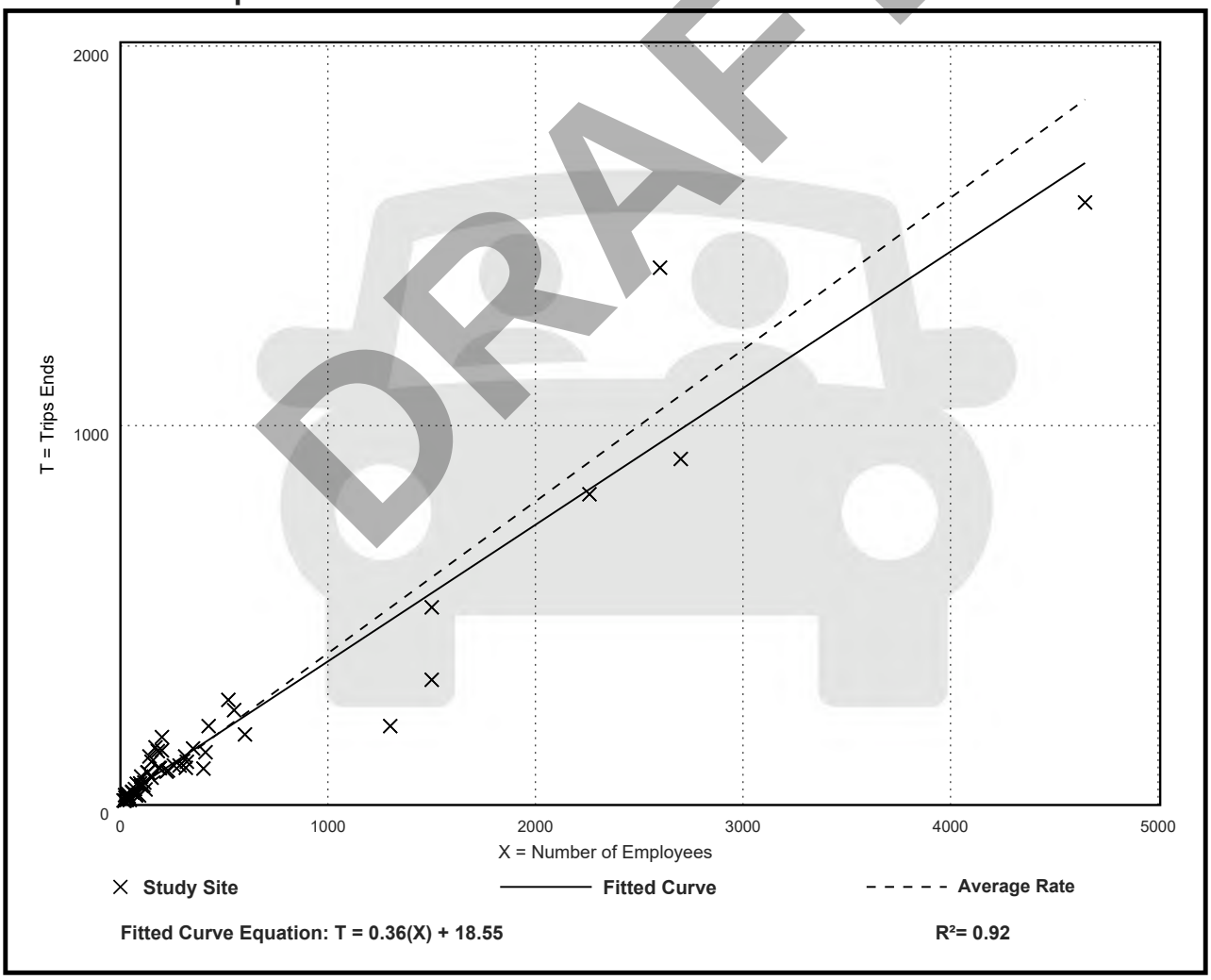
Vehicle Trip Ends vs: Employees
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 55
Avg. Num. of Employees: 454
Directional Distribution: 39% entering, 61% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.40	0.16 - 1.18	0.15

Data Plot and Equation



Fitted Curve Equation: T = 0.36(X) + 18.55

R^2= 0.92