



TRAFFIC IMPACT STUDY

GIBSON & YALE COMMERCIAL

Albuquerque, New Mexico

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- A. Full Sized Site Plan and Right-of-Way Exhibits
- B. Study Scope Meeting Notes
- C. LOS Descriptions
- D. Traffic Counts
- E. Existing Synchro Outputs
- F. Background (without site development) Synchro Outputs
- G. Future (with site development) Synchro Outputs

Executive Summary

Site Location and Study Area

The property that comprises the application area for the proposed development is approximately 7.18 acres in size and is identified as Bernalillo County Parcel Numbers 101505550050811601 through 101505550050811603. It is located south of Gibson Boulevard, west of Yale Boulevard, north of Miles Road, and east of Walker Road. It is zoned Non-Residential Commercial (NR-C) and is currently occupied by an offsite airport parking lot.

The study area, as discussed and agreed upon by City of Albuquerque staff (Staff), is generally bounded by Gibson Boulevard to the north, Yale Boulevard to the east, Miles Road to the south, and Walker Road to the west. The study area for the project includes those intersections identified by Staff that could be affected by the proposed development:

- Gibson Boulevard/Yale Boulevard
- Miles Road/Yale Boulevard
- Gibson Boulevard/Walker Road
- Miles Road/Walker Road
- Proposed Site Accesses

Description of Proposed Development

The Applicant, Prime Properties, seeks to develop the property with a mix of commercial uses. Site access is being proposed via two right-in/right-out movements along Gibson Boulevard and four full movement accesses along Miles Road.

Conclusions and Recommendations

Conclusions

Based on the results of this traffic impact study, the following may be concluded:

- Under existing traffic conditions, the intersections within the study area currently operate at overall acceptable levels of service (LOS) "E" or better during the weekday AM and PM peak hours.
- Under background future 2023 and 2040 traffic conditions, without the development of the subject site, delays would increase slightly at study intersections due to regional traffic growth.
- The proposed site development would generate, upon completion and full occupancy, 484 net new weekday AM and 479 net new weekday PM peak hour vehicle trips as well as 8,325 net new weekday daily trips.
- Under total future traffic conditions with development of the site, the Miles Road/Yale Boulevard intersection would require improvements to operate with acceptable levels of service and sufficient queueing.

Recommendations

- The Applicant should construct their entrances along Gibson Boulevard and Miles Road consistent with the attached plans.
- The following improvements should be constructed at the Miles Road/Yale Boulevard intersection:
 - Dedicated eastbound right turn lane (100' of storage)
 - Dedicated northbound left turn lane (200' of storage)
- Improvements along Yale Boulevard should be constructed consistent with the attached plans.

I. Introduction

Overview

This report presents the results of a Traffic Impact Study (TIS) conducted in support of a site plan to develop commercial uses in Albuquerque, New Mexico. Currently, the site is occupied by an offsite airport parking lot.

Per the requirements of the City of Albuquerque Development Process Manual (DPM) Section 7-5(C)(2) - TIS Warranting Criteria a TIS is required if a project will generate 100 AM or PM peak hour trips per day. The proposed development would generate trips in excess of the warranting criteria threshold and therefore a TIS is required for the development application for the proposed uses and access to the site.

The basis of this traffic impact assessment includes confirmation of the study area by City Staff, discussion with the New Mexico Department of Transportation (NMDOT) as well as information from nearby developments and information from the Applicant including preliminary site concepts.

Site Location and Study Area

The property that comprises the application area for the proposed development is approximately 7.18 acres in size and is identified as Bernalillo County Parcel Numbers 101505550050811601 through 101505550050811603. It is located south of Gibson Boulevard, west of Yale Boulevard, north of Miles Road, and east of Walker Road, as shown on Figure 1-1. It is zoned Non-Residential Commercial (NR-C) and is currently occupied by an offsite airport parking lot. Site access is being proposed via two right-in/right-out movements along Gibson Boulevard and four full movement accesses along Miles Road.

The Applicant, Prime Properties, seeks to develop the property with a mix of commercial uses. A reduction of the Applicant's proposed conceptual site plan is provided on Figure 1-2. A full-size copy of the plan is provided in Appendix A.

The study area, as provided by Meeting Notes provided by the City's traffic engineer, is generally bounded by Gibson Boulevard to the north, Yale Boulevard to the west, Miles Road to the south, and Walker Road to the west.

Tasks undertaken in the course of this study included the following:

1. Reviewed the Applicant's proposed development plans and other background data.
2. Conducted a virtual field reconnaissance of existing roadway and intersection geometries, traffic controls, and speed limits.
3. Conducted peak hour turning movement counts at the key intersections for the AM and PM peak hours.
4. Analyzed existing levels of service at each of the key study intersections based on the methodologies set forth in the Highway Capacity Guidelines 6th Edition and Highway Capacity Guidelines 2000 Edition as reported by Synchro version 11.
5. Forecasted background future traffic volumes based on baseline traffic counts and regional traffic growth for 2023 and 2040 build-out conditions.

6. *Calculated background levels of service at each of the key study intersections for the projected build-out years based on background future traffic forecasts, and the background future lane use and traffic controls.
7. Estimated the number of AM and PM peak hour trips that would be generated by the proposed use(s) based on ITE 10th Generation Trip Generation Rates and methodologies.
8. Prepared AM and PM peak hour total future traffic forecasts based on background traffic forecasts plus site traffic assignments for the 2023 (buildout year) as well as 2040 (long range) conditions.
9. Calculated total future levels of service for each of the key study intersections based on projected total future traffic forecasts, existing/future traffic controls and intersection geometries.
10. Identified roadway improvements required to accommodate future traffic volumes as necessary.

Sources of data for this analysis included the Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th edition, the Highway Capacity Manual (HCM), Prime Properties, City of Albuquerque, New Mexico, and the files/library of Galloway.

Site Description and Access

Site Conditions

The terrain proximate to and surrounding the site is generally classified as “level”.

Hazardous Conditions

Based on the field reconnaissance in the vicinity of the subject site, no hazardous features or constraints were identified.

Proposed Site Access

Access to the site is being proposed via two right-in/right-out movements along Gibson Boulevard, and four full movement accesses along Miles Road.

Existing Zoning

The subject site is currently zoned NR-C and is currently occupied by an offsite airport parking lot. Figure 1-3 depicts the existing zoning associated with the subject property, as well as neighboring properties as shown on the City of Albuquerque zoning map.

Nearby Uses

The properties surrounding the subject site are generally developed with mixed-uses including commercial uses to the east/northeast, office uses to the south, and residential uses to the west/northwest.

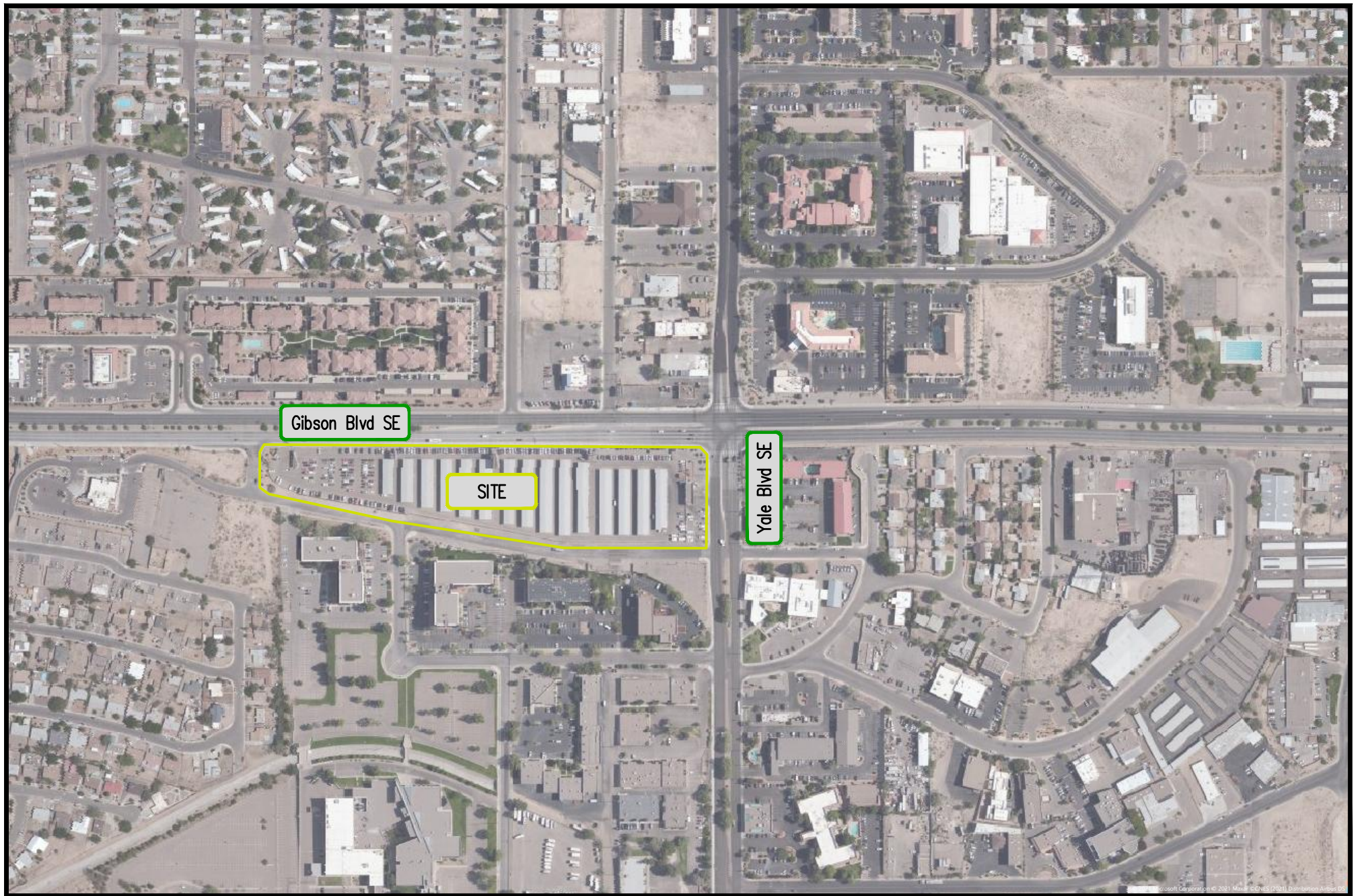


FIGURE 1-1
Site Location

Gibson Yale
Albuquerque, NM



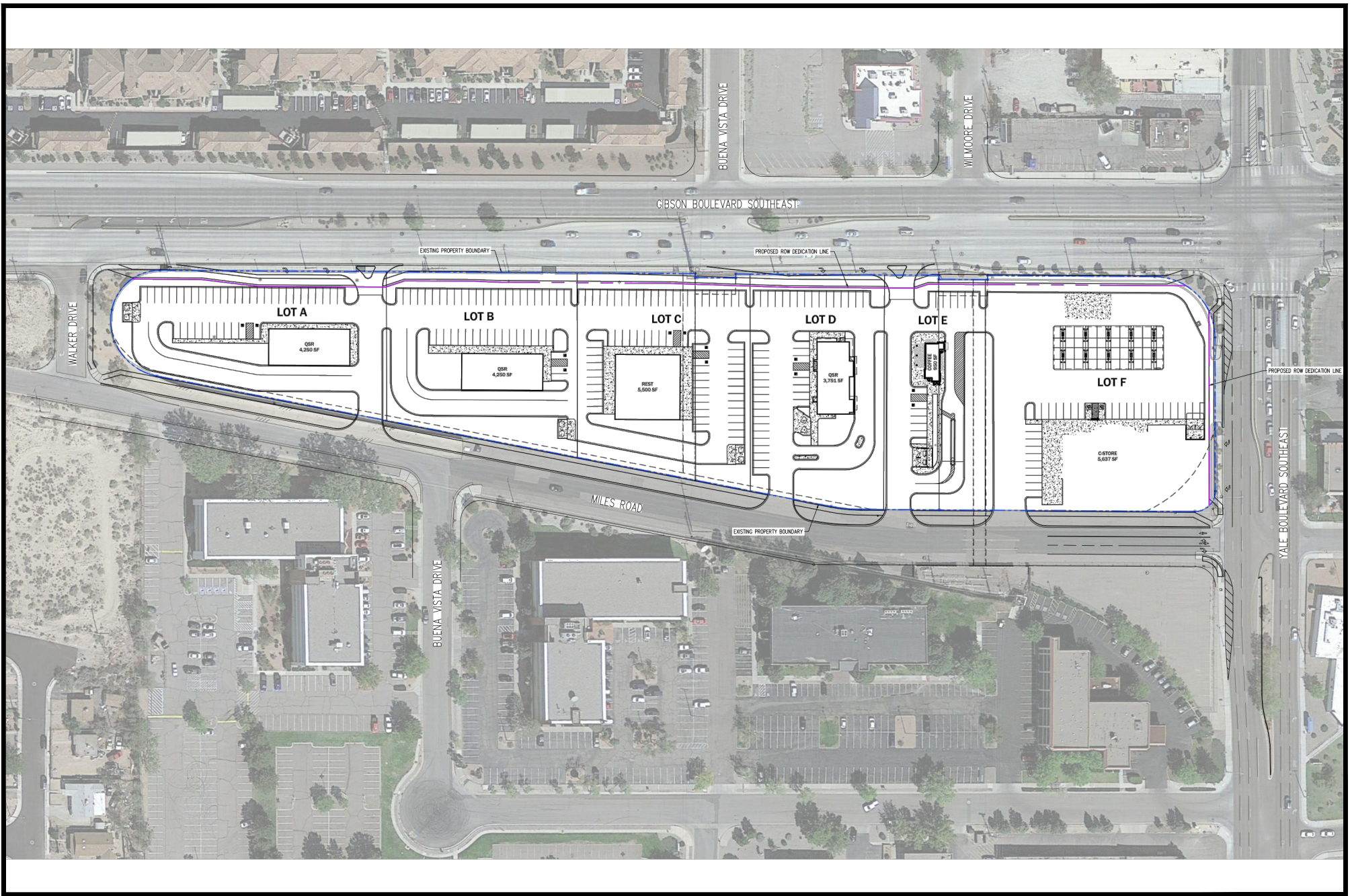


FIGURE 1-2
Site Plan

Gibson Yale
Albuquerque, NM



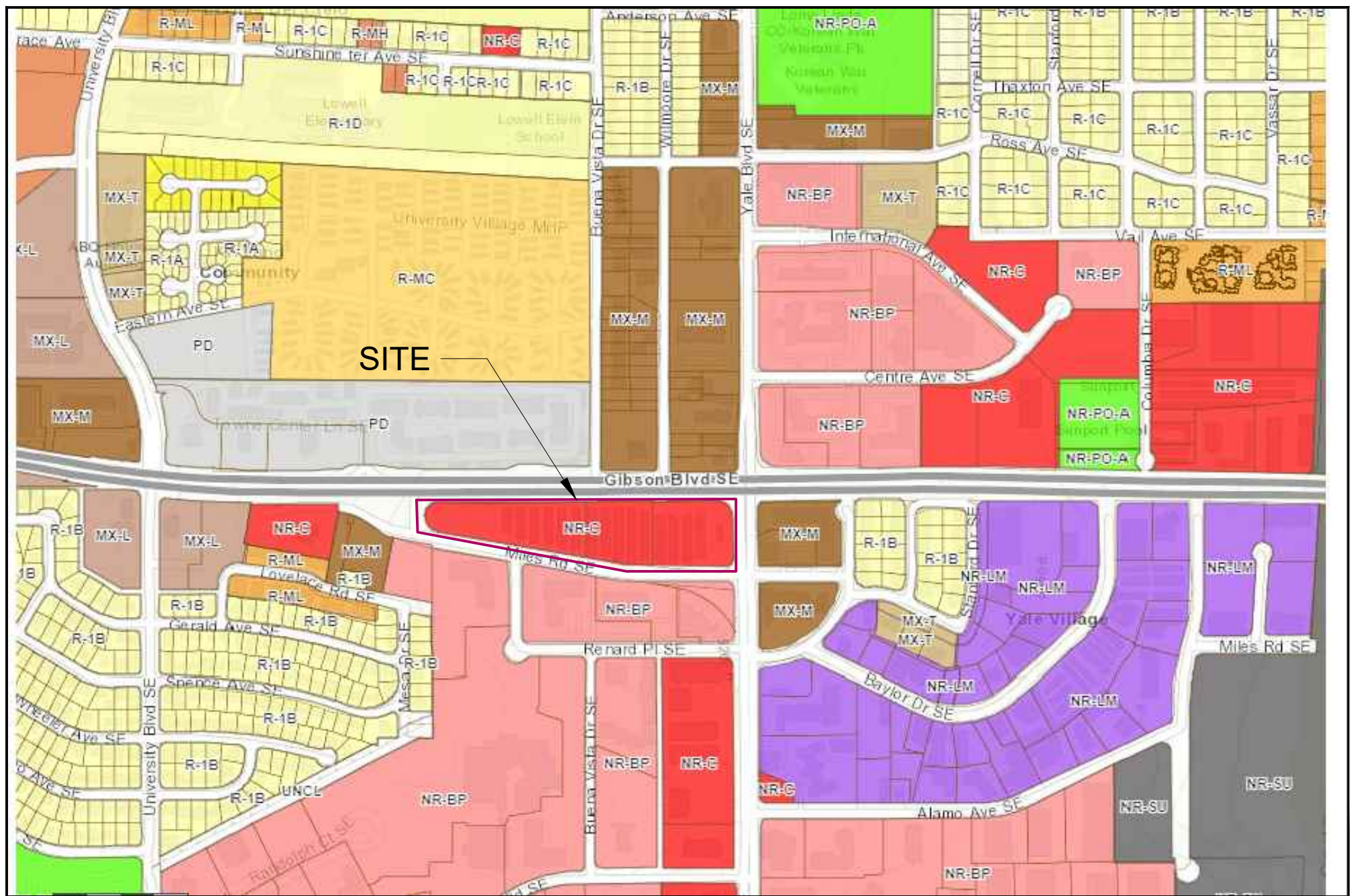


FIGURE 1-3
Existing Zoning

Gibson Yale
Albuquerque, NM



II. Background Information

Study Area

The study area was defined via scoping discussions held at the beginning of the traffic study. These correspondences and scoping documents are provided as Appendix B. As provided, the traffic study focuses primarily on the following intersections:

Study Intersections

- Gibson Boulevard/Yale Boulevard
- Miles Road/Yale Boulevard
- Gibson Boulevard/Walker Road
- Miles Road/Walker Road
- Proposed Site Accesses

Study Assumptions

For purposes of this analysis only, the proposed uses are assumed to be built and occupied in one distinct phase. It was assumed that phase one uses would be built and operational in study year 2023. As requested by Staff, a long-term analysis of 2040 was also provided.

Study Methodology

Synchro software version 11 was used to evaluate levels of service at each of the study intersections during the weekday AM and PM peak hours. Synchro is a macroscopic model used for optimizing traffic signal timing and performing capacity analyses. The software can model existing traffic signal timings or optimize splits, offsets, and cycle lengths for individual intersections, an arterial, or a complete network. Synchro allows the user to evaluate the effects of changing intersection geometrics, traffic demands, traffic control, and/or traffic signal settings as well as optimize traffic signal timings.

The levels of service reported for the signalized and unsignalized intersections analyzed herein were taken from the Highway Capacity Manual (HCM) reports generated by Synchro 11. Level of service descriptions are included in Appendix C.

In order to maintain a conservative analysis a default percent heavy vehicle (%HV) factor of 2% was used for all movements in the study area.

Existing Roadway Network

Regional access to the subject site is provided by Gibson Boulevard, and local access is provided via Yale Boulevard. Figure 2-1 depicts existing lane use and traffic controls in the vicinity of the subject site. The following provides a description of each of the roadways within the study network.

Gibson Boulevard

Gibson Boulevard is constructed as a six-lane median divided section with turn lanes at major intersections. The posted speed limit is 45 mph in the vicinity of the subject site. The roadway functions as an Urban Principal Arterial and provides east west connection through the City. The intersection with Yale Boulevard operates under signal control.

Yale Boulevard

Yale Blvd is constructed as a four-lane median divided section with turn lanes at major intersections. The posted speed limit is 30 mph in the vicinity of the subject site. The roadway functions as an Urban Minor Arterial providing north-south connection through the City. The intersection with Gibson Boulevard operates under signal control.

Assumed Improvements

No funded/programmed roadway improvements were identified at the study intersections.

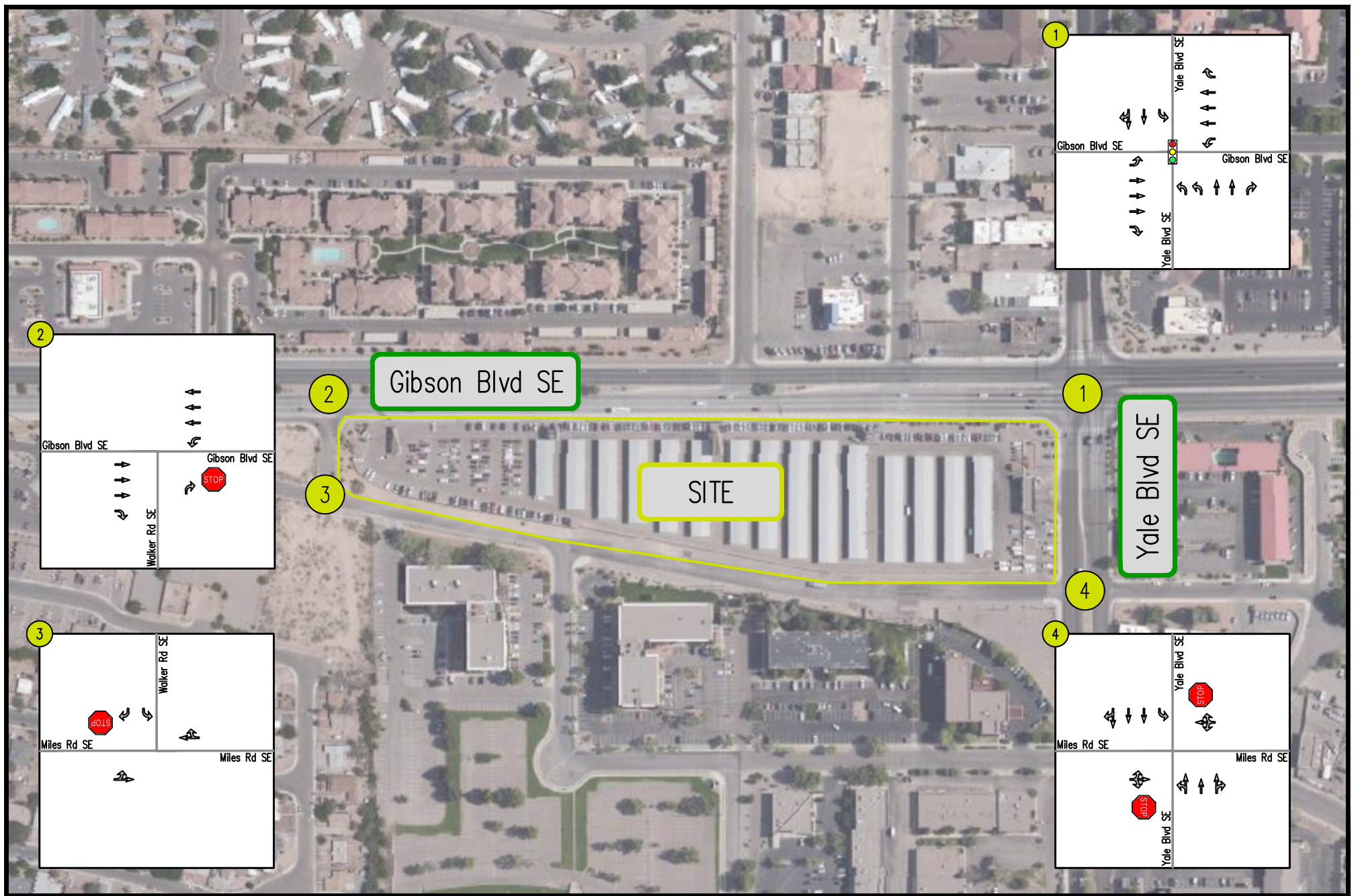


FIGURE 2-1
Existing Lane Use and Traffic Control

III. Analysis of Existing Conditions

Traffic Volumes

Weekday AM and PM peak hour traffic volumes counts were conducted on Wednesday June 23, 2021 from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM at the study intersections by IDAX Data Solutions.

For purposes of this study, the peak hour of the network was selected based on a review of the intersection volumes. These volumes were balanced to the greatest volumes observed in order to provide a conservative analysis.

The existing volumes are summarized on Figure 3-1. Copies of traffic counts are included in Appendix D. Existing peak hour factors (PHF) were also computed by approach from the traffic counts and applied to the analysis with a minimum of 0.85 and a maximum of 0.92.

Operational Analysis

Capacity/level of service (LOS) analyses were conducted at the study intersections based on the existing lane use and traffic controls shown on Figure 2-1 and existing baseline vehicular traffic volumes shown on Figure 3-1. The capacity analysis results are presented in Appendix E and summarized in Table 3-1 and on Figure 3-2.

As shown in Table 3-1, the study intersections currently operate at overall acceptable levels of service (LOS) "E" or better during the weekday peak hours.

Existing Intersection Queues

An analysis of intersection 95th-percentile queues was performed at key locations. The results of the queuing analysis, as reported by Synchro, are summarized in Table 3-2.

As shown in the table, the existing queues are generally contained within the effective storage within the study area.

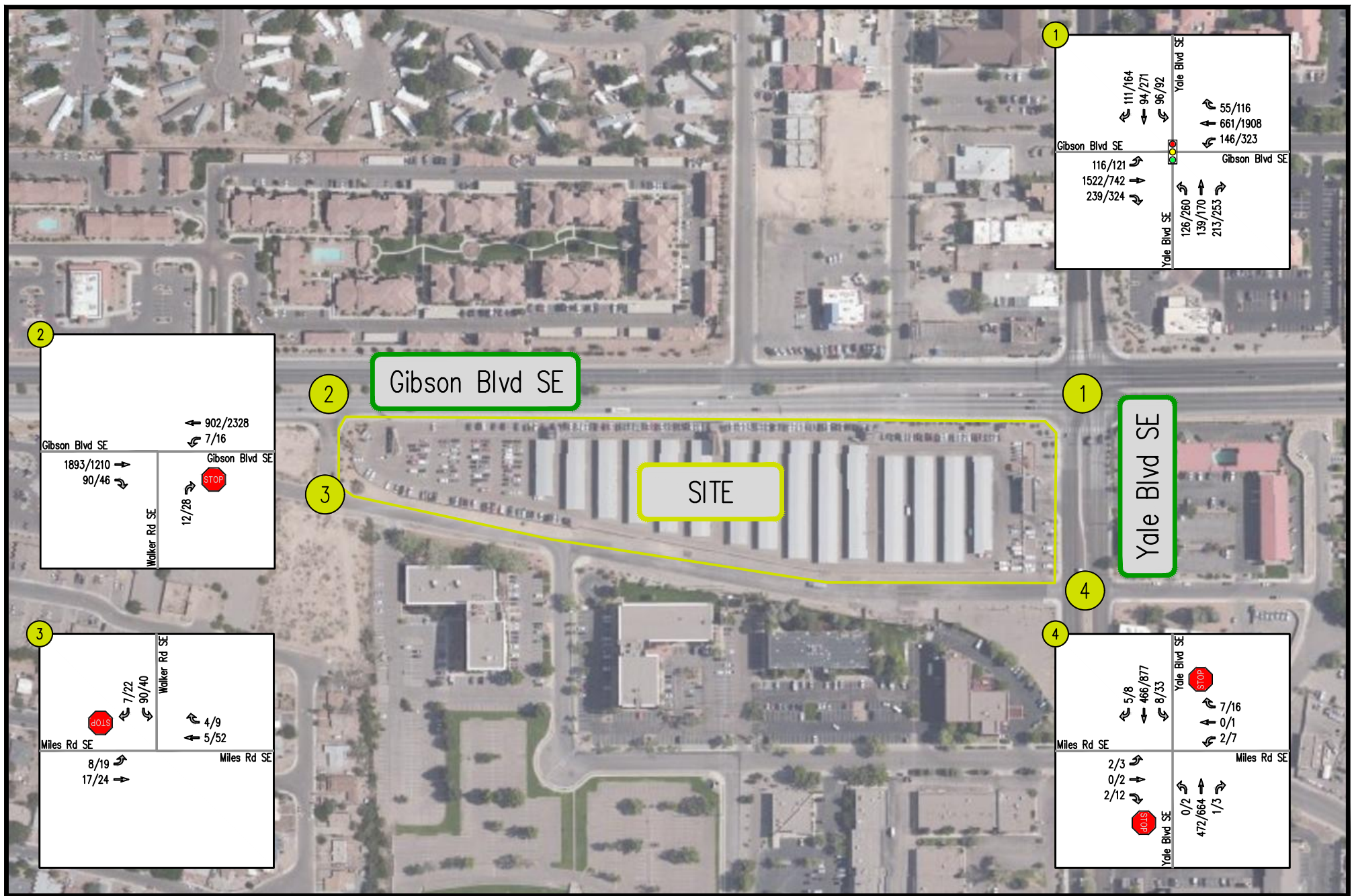


FIGURE 3-1
Existing Volumes

Gibson Yale
Albuquerque, NM

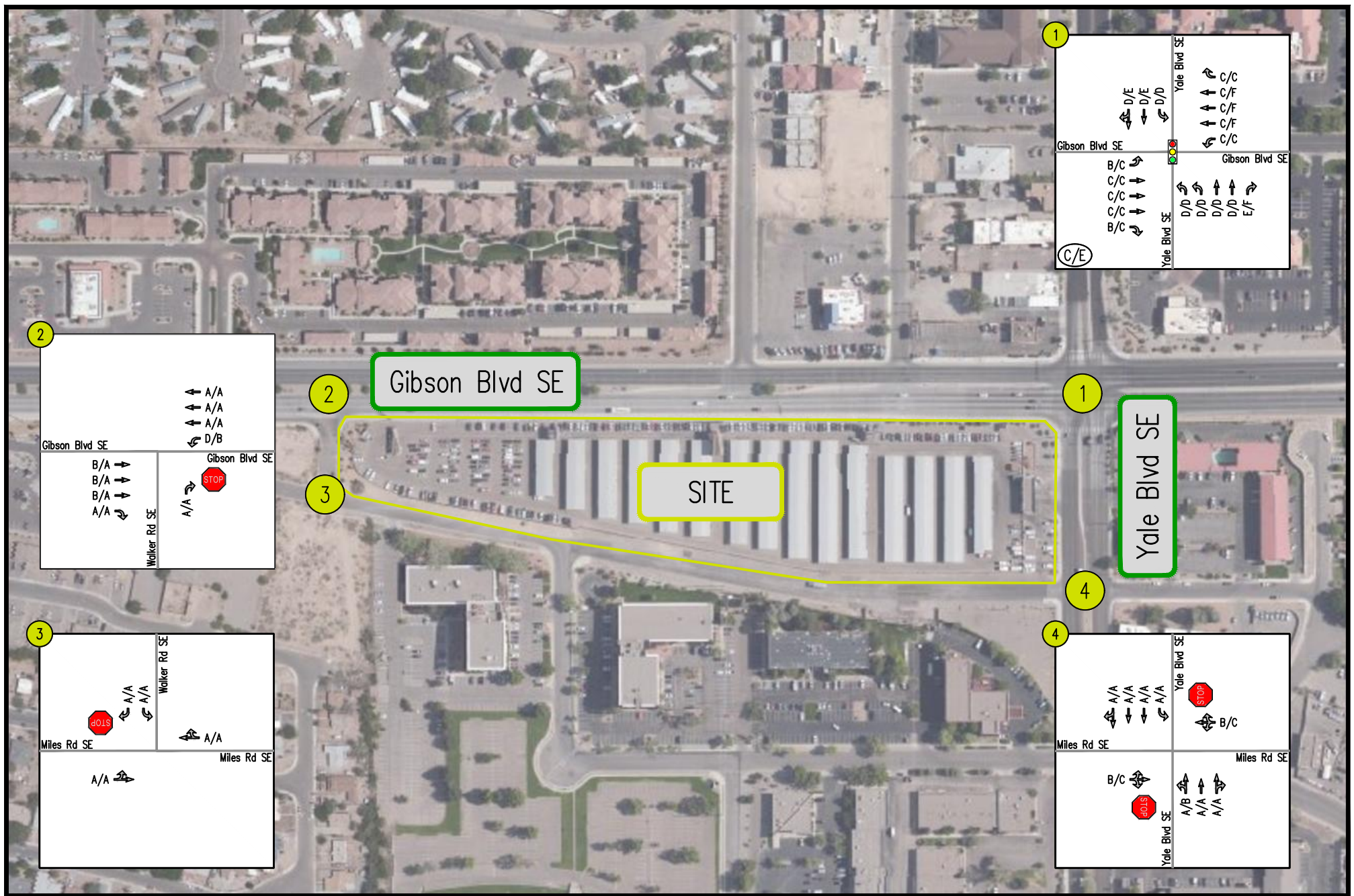


FIGURE 3-2
Existing LOS

Gibson Yale
Albuquerque, NM

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT
 SIGNALIZED INTERSECTION
 STOP SIGN
 YIELD SIGN



Table 3-1
Gibson Yale
Existing Intersection Level of Service Summary (1) (2)

Intersection	Operating Condition	Street Name	Approach/ Movement	Existing 2021	
				AM Peak Hour	PM Peak Hour
1 Gibson Blvd/Yale Blvd	Signal	Gibson Blvd	EBL	B (12.5)	C (22.5)
			EBT	C (23.4)	C (25.9)
			EBR	B (19.0)	C (30.3)
			WBL	C (25.2)	C (24.8)
		Gibson Blvd	WBT	C (28.9)	F (118.2)
			WBR	C (25.6)	C (30.6)
			NBL	D (38.6)	D (41.9)
			Yale Blvd	NBT	D (43.7)
		NBR		E (72.9)	F (81.5)
		SBL		D (38.3)	D (41.8)
		Yale Blvd		SBT	D (43.3)
			SBR	<u>D (44.6)</u>	<u>E (70.1)</u>
Overall			C (29.9)	E (72.0)	
2 Gibson Blvd/Walker Rd	STOP	Gibson Blvd	EBT	<i>B [10.3]</i>	<i>A [4.4]</i>
			EBR	<i>A [8.9]</i>	<i>A [4.0]</i>
		Gibson Blvd	WBL	<i>D [28.3]</i>	<i>B [12.3]</i>
			WBT	<i>A [1.7]</i>	<i>A [2.4]</i>
		Walker Rd	NBR	<i>A [9.5]</i>	<i>A [7.7]</i>
3 Miles Rd/Walker Rd	STOP	Miles Rd	EBLT	A [7.2]	A [7.4]
		Miles Rd	WBTR	A [0.0]	A [0.0]
		Walker Rd	SBL	A [9.2]	A [9.5]
			SBR	A [8.4]	A [8.7]
4 Miles Rd/Yale Blvd	STOP	Miles Rd	EBLTR	B [13.8]	C [23.0]
		Miles Rd	WBLTR	B [11.3]	C [18.5]
		Yale Blvd	NBL	A [0.0]	B [13.9]
			NBTR	A [0.0]	A [0.1]
		Yale Blvd	SBL	A [0.0]	A [9.3]
			SBTR	A [0.0]	A [0.0]

Notes : (1) Numbers in brackets [] represent delay at unsignalized intersections in seconds per vehicle.

(2) Numbers in parenthesis () represent delay at signalized intersections in seconds per vehicle.

*SimTraffic used to evaluate to accurately reflect operations due to platooning from nearby signals

Table 3-2
Gibson Yale
Existing Intersection Queueing Summary (1)

Intersection	Operating Condition	Street Name	Approach/ Movement	Available Storage	Existing 2021	
					AM Peak Hour	PM Peak Hour
1 Gibson Blvd/Yale Blvd	Signal	Gibson Blvd	EBL	-	65	90
			EBT	-	469	283
			EBR	240	107	8
			WBL	400	119	238
		Gibson Blvd	WBT	-	241	1116
			WBR	200	0	68
			NBL	-	63	112
			NBT	-	90	100
		Yale Blvd	NBR	-	75	72
			SBL	200	103	93
			SBT	-	74	216
2 Gibson Blvd/Walker Rd	STOP	Gibson Blvd	EBT	-	378	0
			EBR	125	0	7
		Gibson Blvd	WBL	175	23	22
			WBT	-	0	0
			NBR	-	25	37
3 Miles Rd/Walker Rd	STOP	Miles Rd	EBLT	-	0	0
			WBTR	-	0	0
		Walker Rd	SBL	-	7.5	5
			SBR	-	0	2.5
4 Miles Rd/Yale Blvd	STOP	Miles Rd	EBLTR	-	0	7.5
			WBLTR	-	2.5	7.5
		Yale Blvd	NBLT	-	0	0
			NBR	-	0	0
			SBL	60	0	2.5
		Yale Blvd	SBTR	-	0	0

Notes : (1) Queue length is based on the 95th percentile queue as reported by Synchro, Version 10.

*SimTraffic used to evaluate to accurately reflect operations due to platooning from nearby signals

IV. Analysis of Future Conditions without Site Development

Methodology

The future traffic forecasts, without the proposed new use, were developed for 2023 and 2040 conditions based on a composite of existing baseline traffic volumes and regional traffic. A 0.5% growth factor per year was applied to existing traffic along Gibson Boulevard and Yale Boulevard consistent with New Mexico's Transportation Analysis & Querying Application (TAQA) data.

Regional Growth

Increases in traffic associated with regional growth were estimated at 0.5 percent per year compounded for through movements along Gibson Boulevard and Yale Boulevard up to 2023 as well as to 2040. This growth accounts for increases in traffic resulting from influences outside of the immediate study area. This growth factor is consistent with TAQA data. This factor was utilized to calculate the percent growth per year. The resulting increases in traffic within the study area are reflected on Figure 4-1 for 2023 build-out year conditions and Figure 4-2 for 2040 long range conditions.

Background Traffic Forecasts

The existing traffic forecasts depicted on Figure 3-1 and the regional growth shown on Figure 4-1 (2023) and Figure 4-2 (2040) were added together to yield the background future traffic forecasts shown on Figure 4-3 for 2023 conditions and Figure 4-4 for 2040 conditions.

Background Future Levels of Service

Capacity analyses of 2023 and 2040 future traffic conditions without the proposed development are provided in Appendix F and summarized in Table 4-1. The forecasted levels of service are also depicted graphically on Figure 4-5 for 2023 conditions and Figure 4-6 for 2040 conditions.

As shown on Table 4-1, the intersections within the study area would continue to operate at overall acceptable levels of service ("E" or better) during the AM and PM peak hours, consistent with existing conditions in the 2023 background conditions. The signalized intersection would operate at or exceeding capacity, LOS F, in the background 2040 condition in the PM peak hour. Increases in delay are forecasted due to growth along the arterials within the study area.

Background Future Queueing

An analysis of intersection queues was performed at key locations under background future traffic conditions. The results of the queueing analysis are summarized in Table 4-2.

As shown in the table, queues within the study network are forecasted to be accommodate by the existing available storage. Queues would experience minor increases due to increases in delay mentioned above.

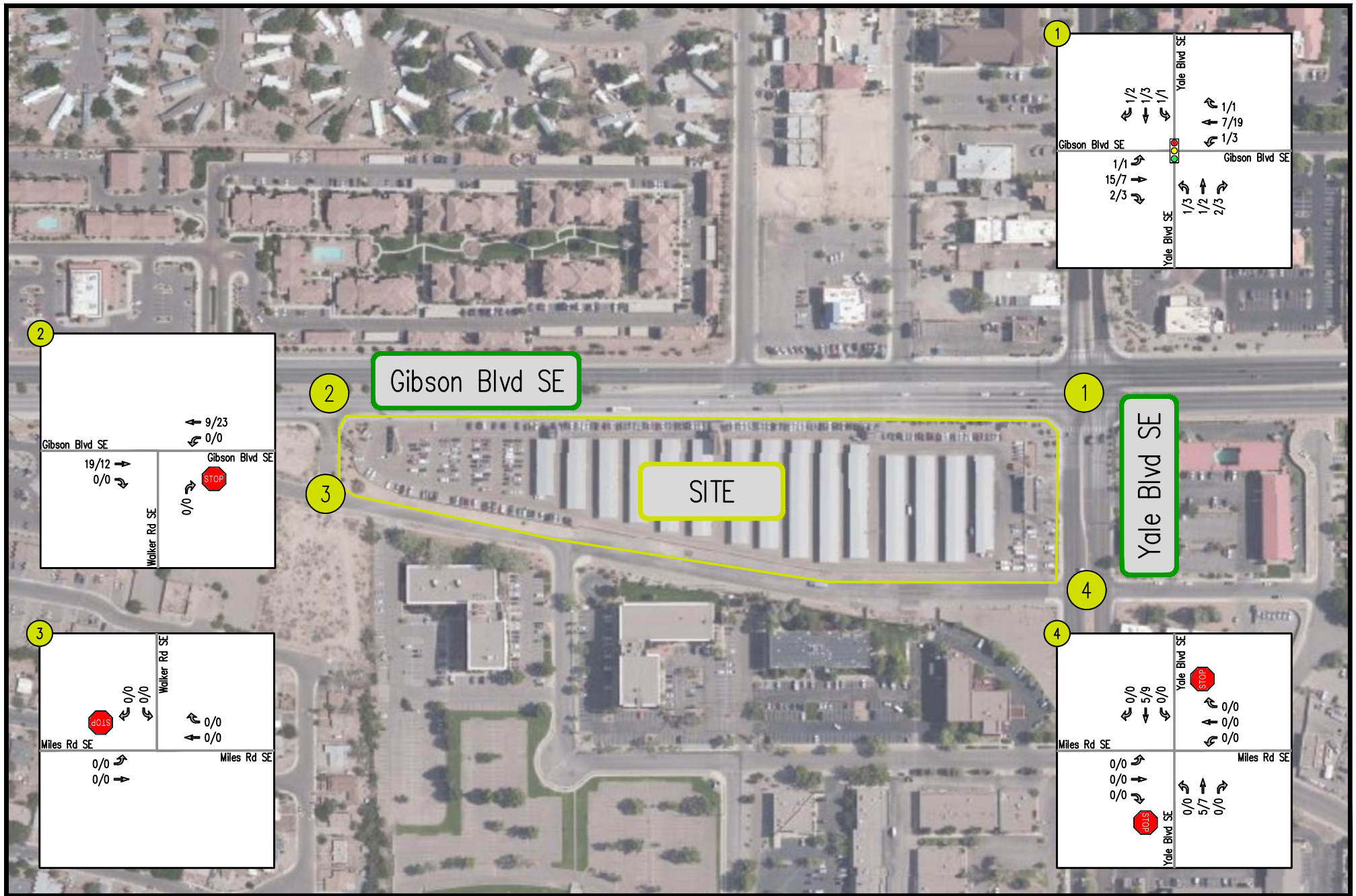


FIGURE 4-1
Growth 2023

Gibson Yale
Albuquerque, NM

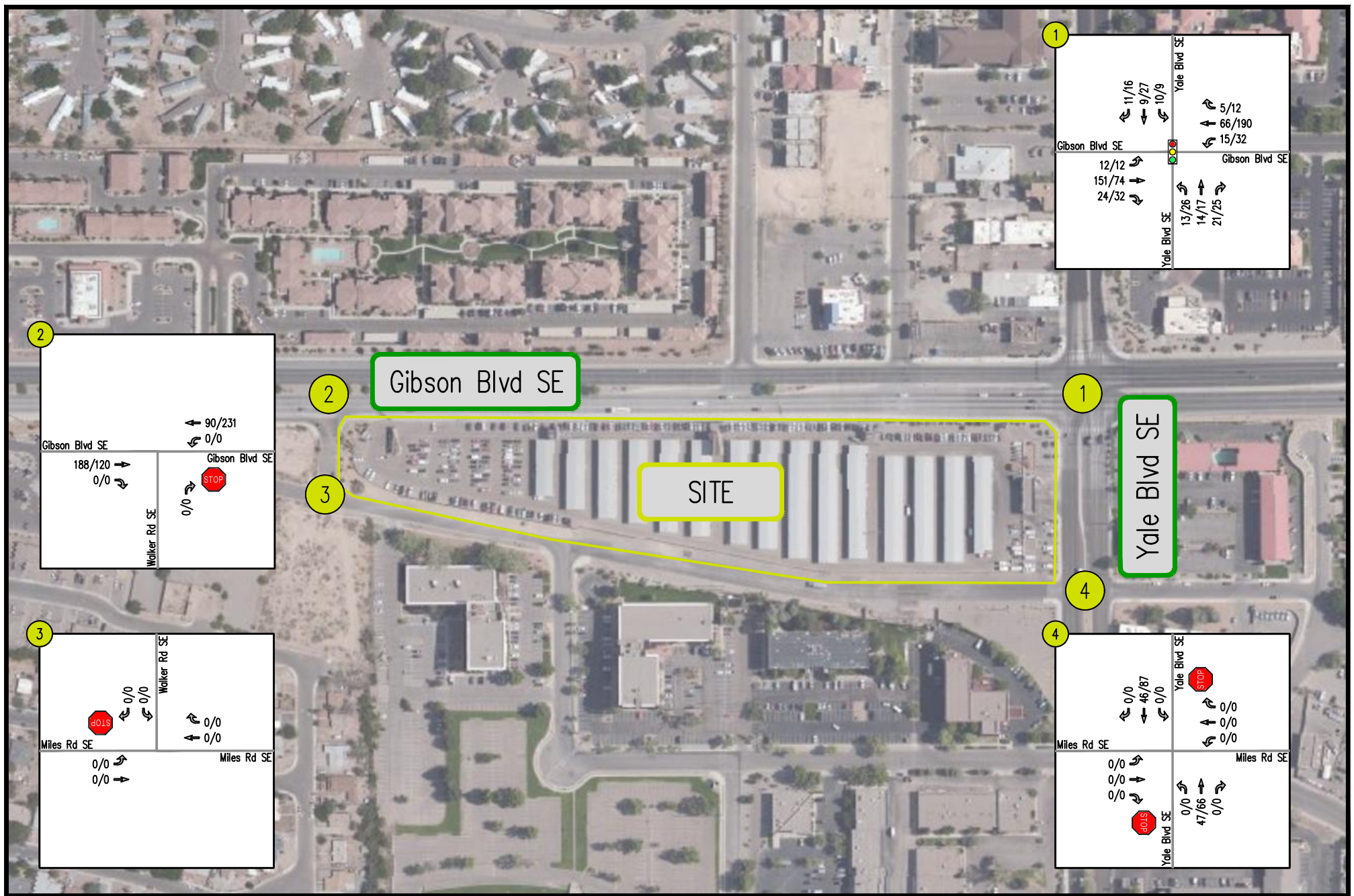


FIGURE 4-2
Growth 2040

Gibson Yale
Albuquerque, NM

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT
 SIGNALIZED INTERSECTION
 STOP SIGN
 YIELD SIGN



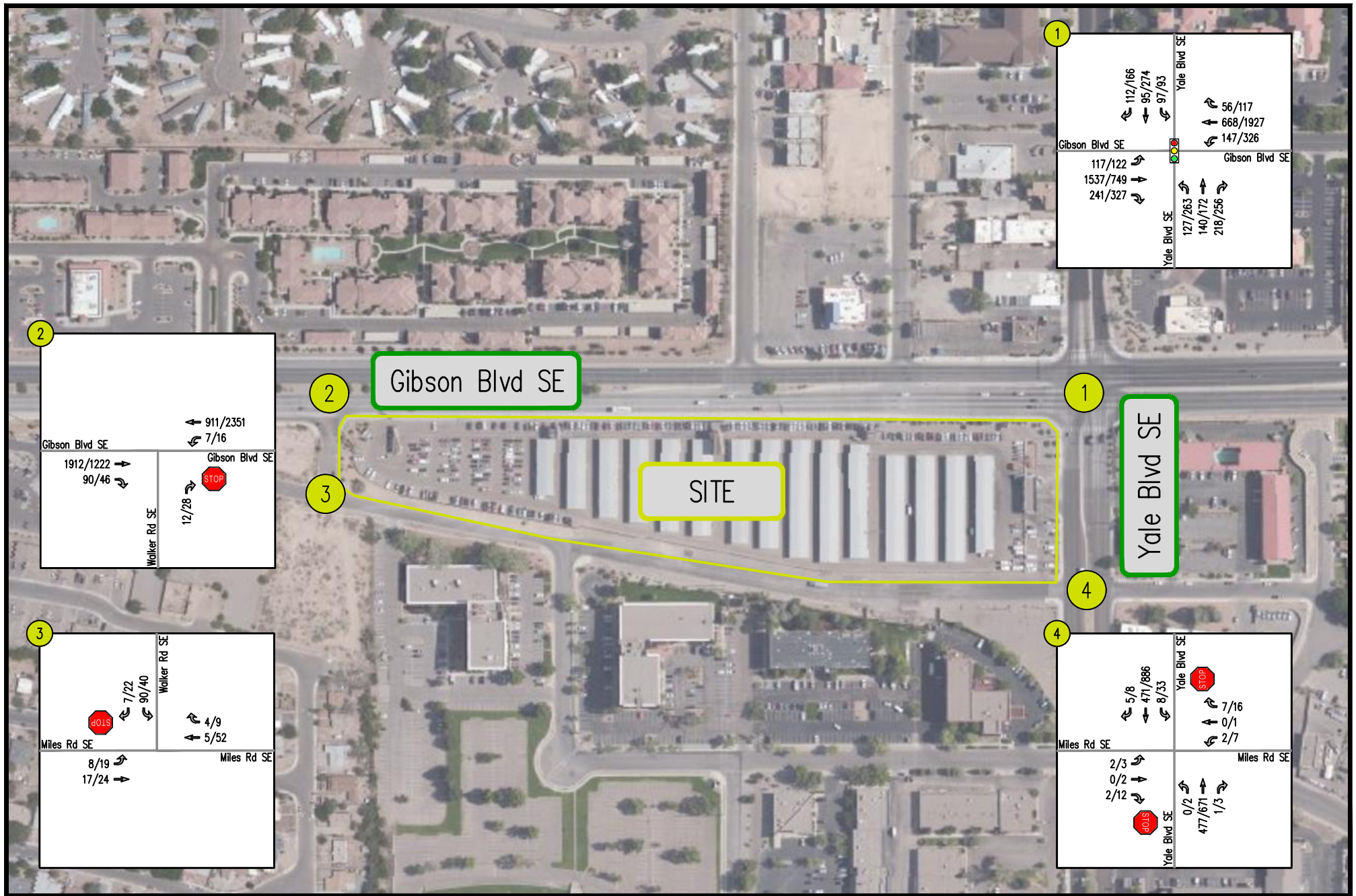


FIGURE 4-3
Background Future Forecasts 2023

Gibson Yale
Albuquerque, NM

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT
 SIGNALIZED INTERSECTION
 STOP SIGN
 YIELD SIGN



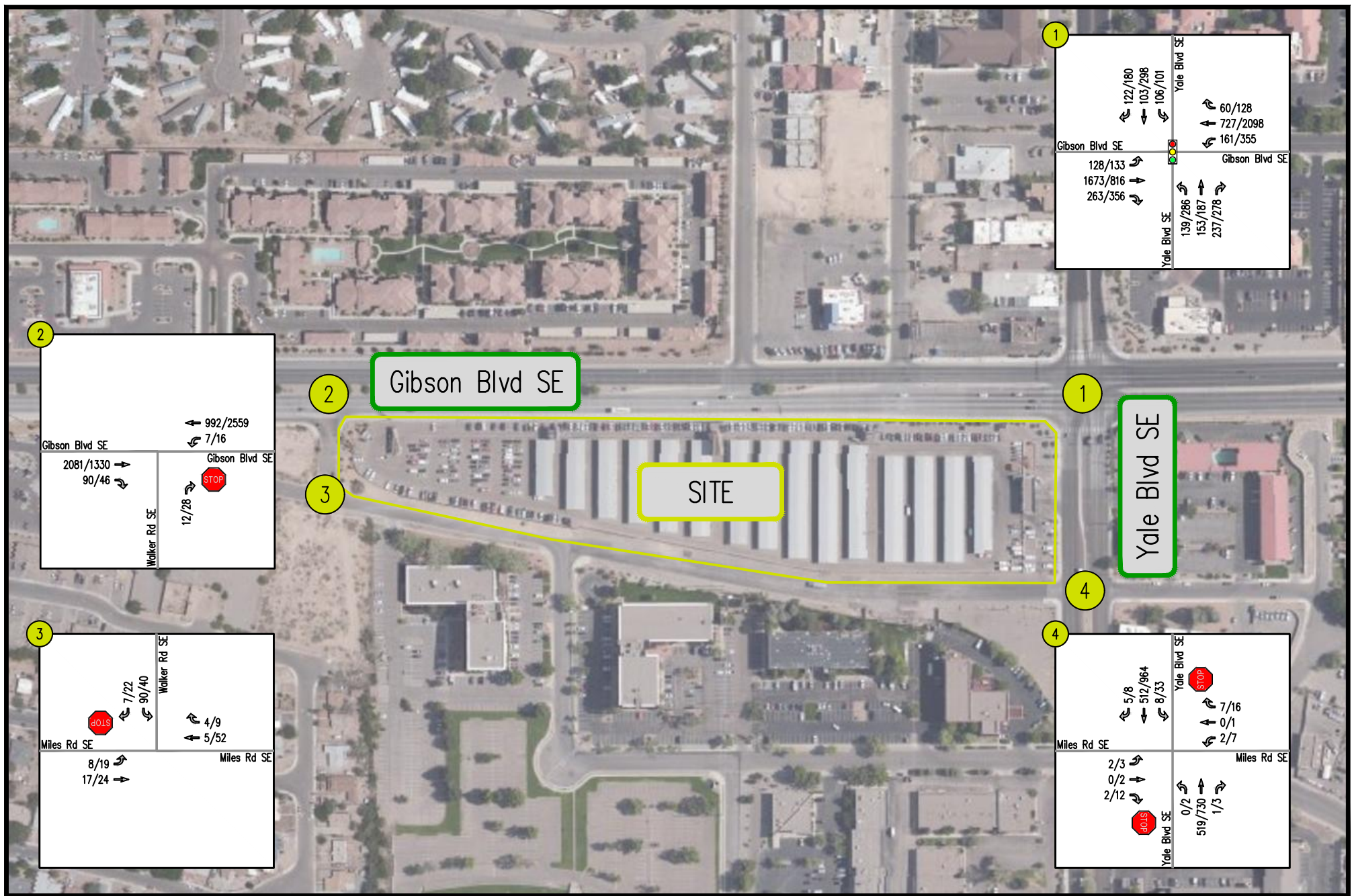


FIGURE 4-4
Background Future Forecasts 2040

Gibson Yale
Albuquerque, NM

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT
SIGNALIZED INTERSECTION
STOP SIGN
YIELD SIGN



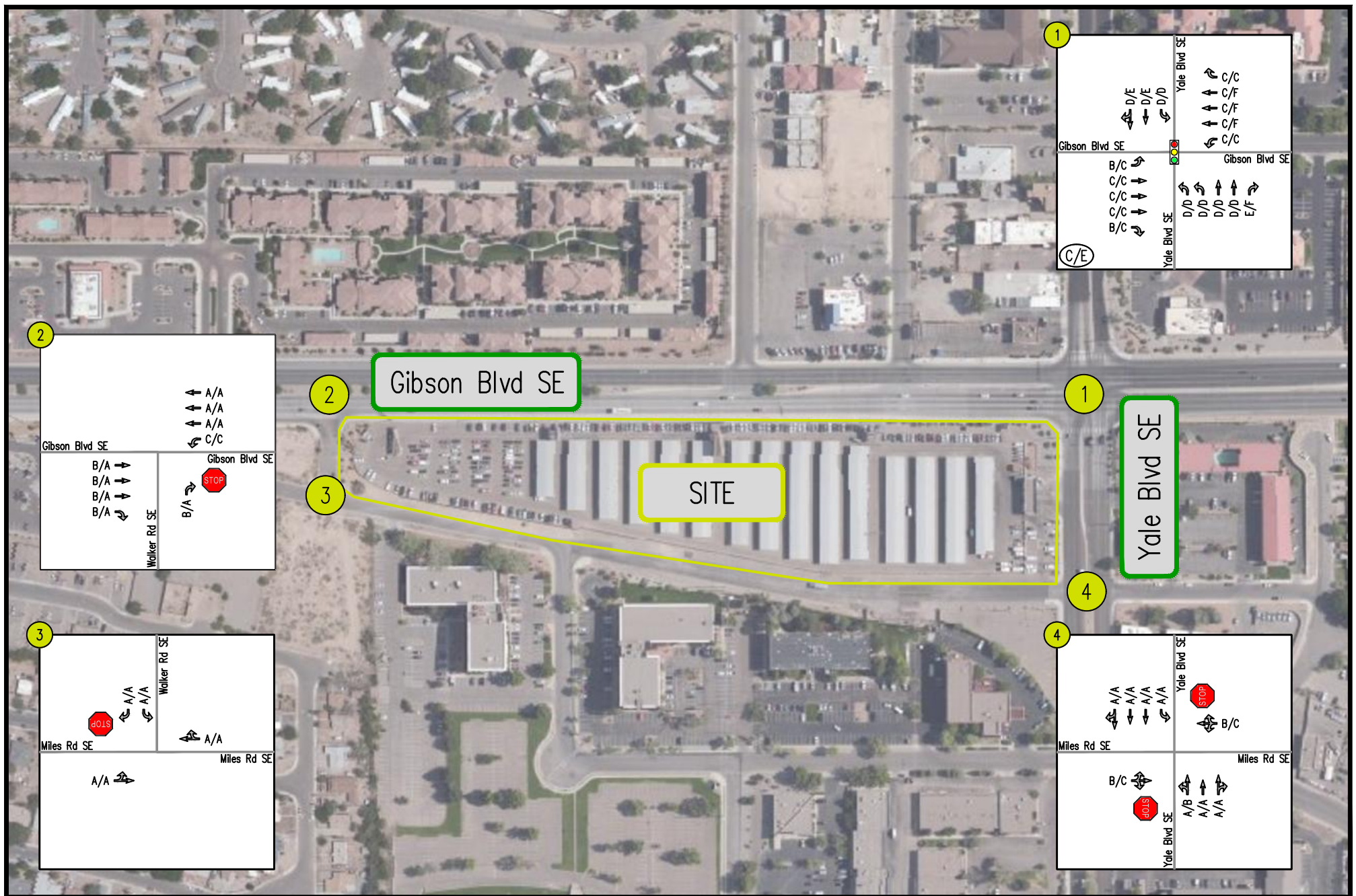


FIGURE 4-5
Background Future 2023 LOS

Gibson Yale
Albuquerque, NM

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT
 SIGNALIZED INTERSECTION
 STOP SIGN
 YIELD SIGN



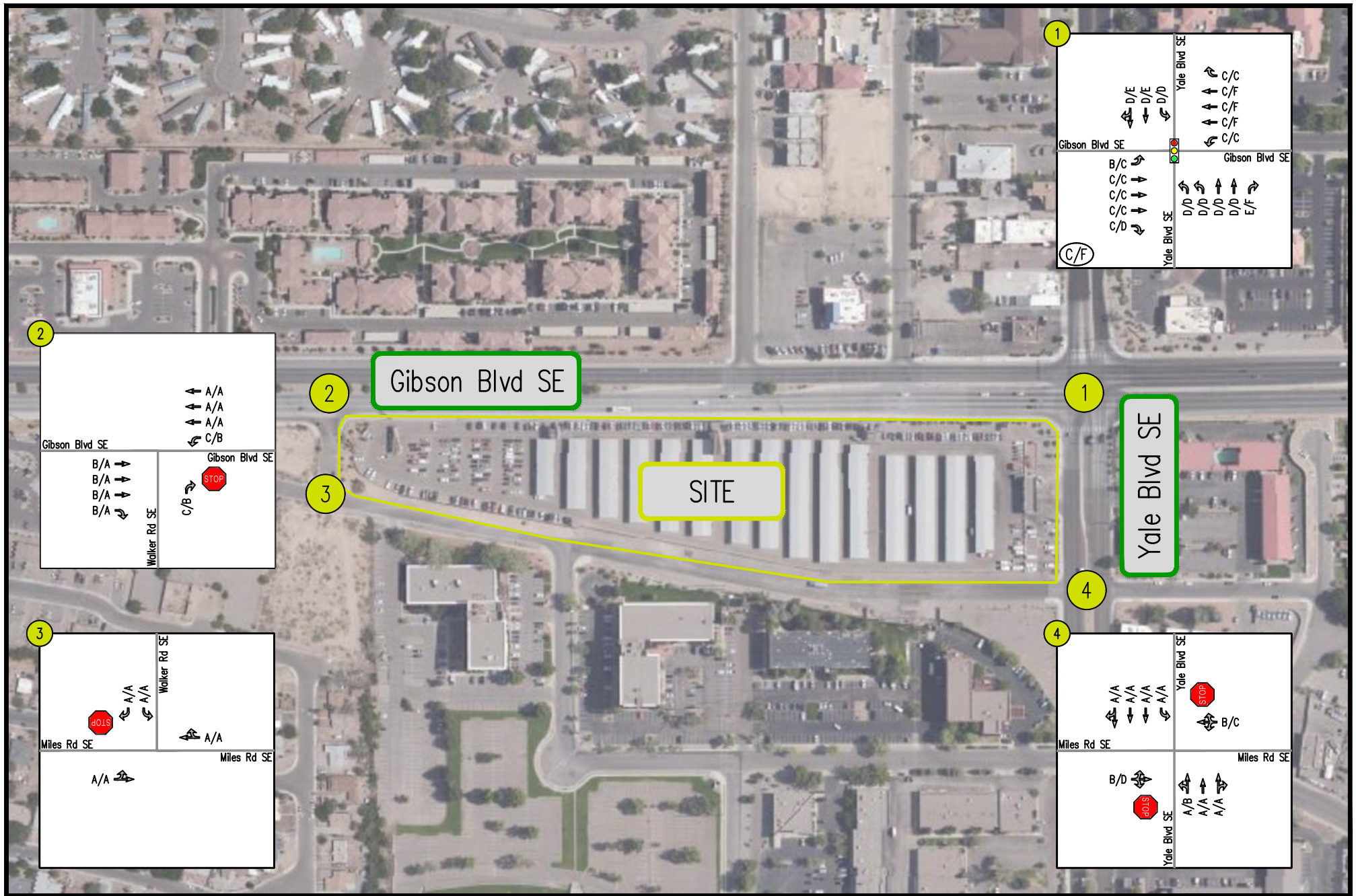


FIGURE 4-6
Background Future 2040 LOS

Gibson Yale
Albuquerque, NM

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT
 SIGNALIZED INTERSECTION
 STOP SIGN
 YIELD SIGN



Table 4-1
Gibson Yale
Background Future Intersection Level of Service Summary (1) (2)

Intersection	Operating Condition	Street Name	Approach/ Movement	Existing 2021		Background 2023		Background 2040	
				AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1 Gibson Blvd/Yale Blvd	Signal	Gibson Blvd	EBL	B (12.5)	C (22.5)	B (12.7)	C (22.5)	B (14.1)	C (23.0)
			EBT	C (23.4)	C (25.9)	C (23.7)	C (26.2)	C (27.7)	C (29.7)
			EBR	B (19.0)	C (30.3)	B (19.2)	C (30.8)	C (21.5)	D (36.3)
			WBL	C (25.2)	C (24.8)	C (25.8)	C (25.3)	C (30.6)	C (33.1)
		Gibson Blvd	WBT	C (28.9)	F (118.2)	C (29.1)	F (126.0)	C (31.2)	F (197.9)
			WBR	C (25.6)	C (30.6)	C (25.8)	C (30.9)	C (27.2)	C (32.7)
			NBL	D (38.6)	D (41.9)	D (38.4)	D (41.9)	D (37.2)	D (40.8)
			NBT	D (43.7)	D (45.3)	D (43.6)	D (45.2)	D (42.6)	D (44.1)
		Yale Blvd	NBR	E (72.9)	F (81.5)	E (73.2)	F (82.0)	E (76.6)	F (86.4)
			SBL	D (38.3)	D (41.8)	D (38.1)	D (41.9)	D (36.9)	D (40.5)
			SBT	D (43.3)	E (65.7)	D (43.2)	E (65.9)	D (42.1)	E (68.8)
			SBR	<u>D (44.6)</u>	<u>E (70.1)</u>	<u>D (44.5)</u>	<u>E (70.4)</u>	<u>D (43.4)</u>	<u>E (73.5)</u>
		Overall		C (29.9)	E (72.0)	C (30.1)	E (75.3)	C (32.6)	F (106.1)
2 Gibson Blvd/Walker Rd	STOP	Gibson Blvd	EBT	B [10.3]	A [4.4]	B [10.8]	A [4.7]	B [11.8]	A [5.3]
			EBR	A [8.9]	A [4.0]	B [10.9]	A [7.7]	B [11.5]	A [5.1]
		Gibson Blvd	WBL	D [28.3]	B [12.3]	C [18.4]	C [19.4]	C [16.5]	B [14.5]
			WBT	A [1.7]	A [2.4]	A [1.7]	A [2.4]	A [1.9]	A [1.1]
		Walker Rd	NBR	A [9.5]	A [7.7]	B [10.3]	A [7.0]	C [15.3]	B [13.5]
3 Miles Rd/Walker Rd	STOP	Miles Rd	EBLT	A [7.2]	A [7.4]	A [7.2]	A [7.4]	A [7.2]	A [7.4]
		Miles Rd	WBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		Walker Rd	SBL	A [9.2]	A [9.5]	A [9.2]	A [9.5]	A [9.2]	A [9.5]
			SBR	A [8.4]	A [8.7]	A [8.4]	A [8.7]	A [8.4]	A [8.7]
4 Miles Rd/Yale Blvd	STOP	Miles Rd	EBLTR	B [13.8]	C [23.0]	B [13.9]	C [23.4]	B [14.7]	D [27.0]
		Miles Rd	WBLTR	B [11.3]	C [18.5]	B [11.3]	C [18.8]	B [11.7]	C [21.1]
		Yale Blvd	NBL	A [0.0]	B [13.9]	A [0.0]	B [14.0]	A [0.0]	B [14.9]
			NBTR	A [0.0]	A [0.1]	A [0.0]	A [0.1]	A [0.0]	A [0.0]
		Yale Blvd	SBL	A [0.0]	A [9.3]	A [8.5]	A [9.3]	A [8.6]	A [9.6]
			SBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]

Notes : (1) Numbers in brackets [] represent delay at unsignalized intersections in seconds per vehicle.
(2) Numbers in parenthesis () represent delay at signalized intersections in seconds per vehicle.
*SimTraffic used to evaluate to accurately reflect operations due to platooning from nearby signals

Table 4-2
Gibson Yale
Background Future Intersection Queueing Summary (1)

Intersection	Operating Condition	Street Name	Approach/ Movement	Available Storage	Existing 2021		Background 2023		Background 2040	
					AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1 Gibson Blvd/Yale Blvd	Signal	Gibson Blvd	EBL	-	65	90	66	91	74	103
			EBT	-	469	283	477	287	566	347
			EBR	240	107	8	109	84	132	91
		Gibson Blvd	WBL	400	119	238	120	240	133	284
			WBT	-	241	1116	244	1130	267	1247
			WBR	200	0	68	0	69	4	81
		Yale Blvd	NBL	-	63	112	63	113	68	118
			NBT	-	90	100	91	101	97	105
			NBR	-	75	72	75	72	78	72
		Yale Blvd	SBL	200	103	93	104	94	112	97
			SBT	-	74	216	74	218	78	237
2 Gibson Blvd/Walker Rd	STOP	Gibson Blvd	EBT	-	378	0	0	0	383	0
			EBR	125	0	7	0	0	0	0
		Gibson Blvd	WBL	175	23	22	22	34	29	21
			WBT	-	0	0	0	0	0	0
		Walker Rd	NBR	-	25	37	28	33	22	49
3 Miles Rd/Walker Rd	STOP	Miles Rd	EBLT	-	0	0	0	0	0	0
		Miles Rd	WBTR	-	0	0	0	0	0	0
		Walker Rd	SBL	-	7.5	5	7.5	5	7.5	5
			SBR	-	0	2.5	0	2.5	0	2.5
4 Miles Rd/Yale Blvd	STOP	Miles Rd	EBLTR	-	0	7.5	0	7.5	0	7.5
		Miles Rd	WBLTR	-	2.5	7.5	2.5	7.5	2.5	7.5
		Yale Blvd	NBLT	-	0	0	0	0	0	0
			NBR	-	0	0	0	0	0	0
		Yale Blvd	SBL	60	0	2.5	0	2.5	0	2.5
			SBTR	-	0	0	0	0	0	0

Notes : (1) Queue length is based on the 95th percentile queue as reported by Synchro, Version 10.

*SimTraffic used to evaluate to accurately reflect operations due to platooning from nearby signals

V. Site Analysis

Overview

The Applicant is proposing to develop the 7.18-acre site with a mix of commercial uses. For purposes of this study, the site will be developed in one distinct phase. For analysis purposes it was assumed that phase one would be complete in 2023. The following mix of uses and development programs were analyzed:

2023

20	FP	Gas Station with Convenience Store
950	SF	Coffee with Drive-Thru
3,751	SF	Fast Food Restaurant with Drive-Thru
5,500	SF	Fast Casual Restaurant
4,250	SF	Fast Food Restaurant with Drive-Thru
4,250	SF	Fast Food Restaurant with Drive-Thru

Proposed Site Access and Improvements

As shown on the Applicant's conceptual plan (Figure 1-2), access to the development is being proposed via two right-in/right-out movements along Gibson Boulevard and four full movement accesses along Miles Road. Proposed lane use and traffic controls are shown on Figure 5-1, described in detail below and included in Appendix A.

Gibson Boulevard

As determined later in this report, right turn lanes would be required at the new entrances along Gibson Boulevard (Intersection 9 and 10). Due to the presence of existing power poles that carry major electrical transmission lines the turn lanes are being provided to the greatest length possible. The western entrance along Gibson Boulevard (Intersection 9) will be constructed with 139' full width and 100' taper and the eastern entrance (Intersection 10) will be constructed with a 140' full width and 100' taper.

Landscape buffers are proposed to be constructed at 4'-8' which varies by existing vertical infrastructure (major power poles) and to accommodate the proposed turn lanes. An 8'-10' multiuse trail will be installed inside of ROW along the entire Gibson Boulevard frontage. ADA ramps and appropriate signage and striping per DPM will be provided. The project proposes to dedicate 11'-18' new ROW to accommodate the turn lanes and multiuse trail within the ROW. A detailed infrastructure list based on plans shown in Appendix A will be provided with the Final Subdivision Plat.

Yale Boulevard

The intersection of Yale Boulevard and Miles Road is proposed to be reconstructed with a dedicated right turn lane in place of the existing outer through lane. This will require a refreshing of striping on the southbound approach of the Yale Boulevard/Gibson Boulevard intersection and reconstruction of the southwest corner of this intersection to include curb and gutter to delineate the right turn lane heading south. The roadway section along the property's frontage would include 11' through lanes and a 10' right lane as shown in Appendix A. The western corners of the Yale Boulevard/Miles Road intersection would be reconstructed with new curb and gutter and ADA ramps to redefine the turning radius at this location and striping to the south to accommodate the turn movements and bus stop. The property's eastern

frontage for the interim condition would include a 6' sidewalk and 10' landscape buffer. At such a time that a bike lane is proposed to be provided, the ROW would accommodate a 6' sidewalk, 5' buffer, 2.5' curb, 10' right turn lane, a 5' bike lane, 2' buffer, and two 10' through lanes. The project would dedicate and additional 7.5' of ROW to accommodate the described improvements above.

Miles Road

New entrances will be constructed along Miles Road and the existing soft shoulder along the northern portion will be improved to meet or exceed the DPM requirements with a 6' detached sidewalk and a $\pm 11.5'$ -14.5' landscape buffer with a 32' flowline to flowline roadway. The western section of miles will include a 10' landscape buffer along the south side as well as a 4' existing sidewalk and 6' buffer to ROW line. The eastern section would remain with the $\pm 17'$ of over paving along the southern edge.

The above improvements are shown in detail in Appendix A and an infrastructure list will be provided with the Final Subdivision Plat.

Trip Generation

Overview

Trip generation estimates for the weekday AM and PM peak hours, as well as the weekday average daily traffic (ADT), were derived from the standard Institute of Transportation Engineers (ITE) Trip Generation Manual rates/equations, as published in the 10th edition. The trip generation analysis is presented in Table 5-1. Trip generation for the proposed Dutch Brothers coffee shop use was based on data provided by the operator as noted in Table 5-1.

Pass-by Trips

According to ITE, in some cases the driveway volumes at a particular land use are different from the amount of traffic added to the adjacent street system. Uses such as retail establishments attract a portion of their trips from traffic that is already present on the road network. Pass-by trip are those trips which are made as intermediate stops on the way to a primary destination. An example of a pass-by trip would be one in which a driver stops at a retail store on his/her way home from work.

The proposed use would experience pass-by trips consistent with the primary uses located on site. In recognition of this phenomenon and consistent with ITE published data, the following pass-by reductions were applied to the trip generation analysis:

- Gas Station with Convenience Store 62% AM/ 56% PM
- Fast-food restaurant with drive-thru 49% AM/ 50% PM

As shown in Table 5-1, the site in total is anticipated to generate 397 weekday AM, and 359 weekday PM peak hour pass-by trips. Therefore, these trips would be drawn from the existing road network and assigned to the future site entrances accordingly. Pass-by trip assignments at key study intersections are shown on Figure 5-2.

Net Site Trips

The vehicle trips that would be generated by the proposed development plan are summarized in Table 5-1. As shown in Table 5-1, the site would generate upon completion and full occupancy, 484 net new

weekday AM and 479 net new weekday PM peak hour vehicle trips as well as 8,325 net new weekday daily trips.

Site Trip Distributions

The distribution of the anticipated trips generated by the completion of the proposed development was based on an examination of existing traffic counts and local knowledge. Existing travel patterns indicate the following distribution is appropriate in the forecasting of future site traffic:

- To/from the west on Gibson Boulevard: 35%
- To/from the north on Yale Boulevard: 20%
- To/from the east on Gibson Boulevard: 30%
- To/from the south on Yale Boulevard: 15%

Site Trip Assignments

The assignment of the new vehicle trips generated upon the future build-out of the development project was based on the above distribution. The trips assignments are depicted on Figure 5-3.

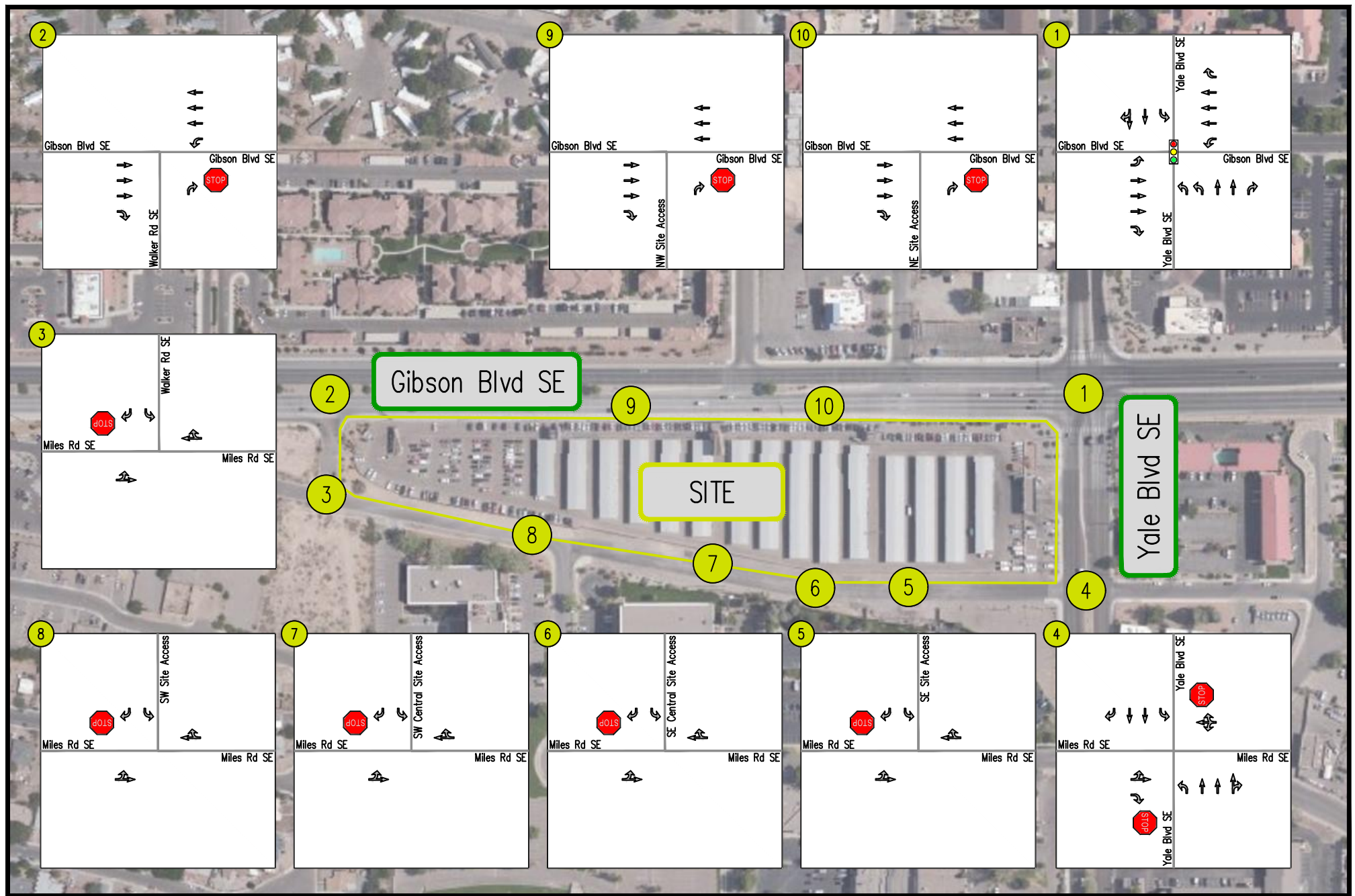


FIGURE 5-1
Total Future Lane Use and Traffic Control

Gibson Yale
Albuquerque, NM



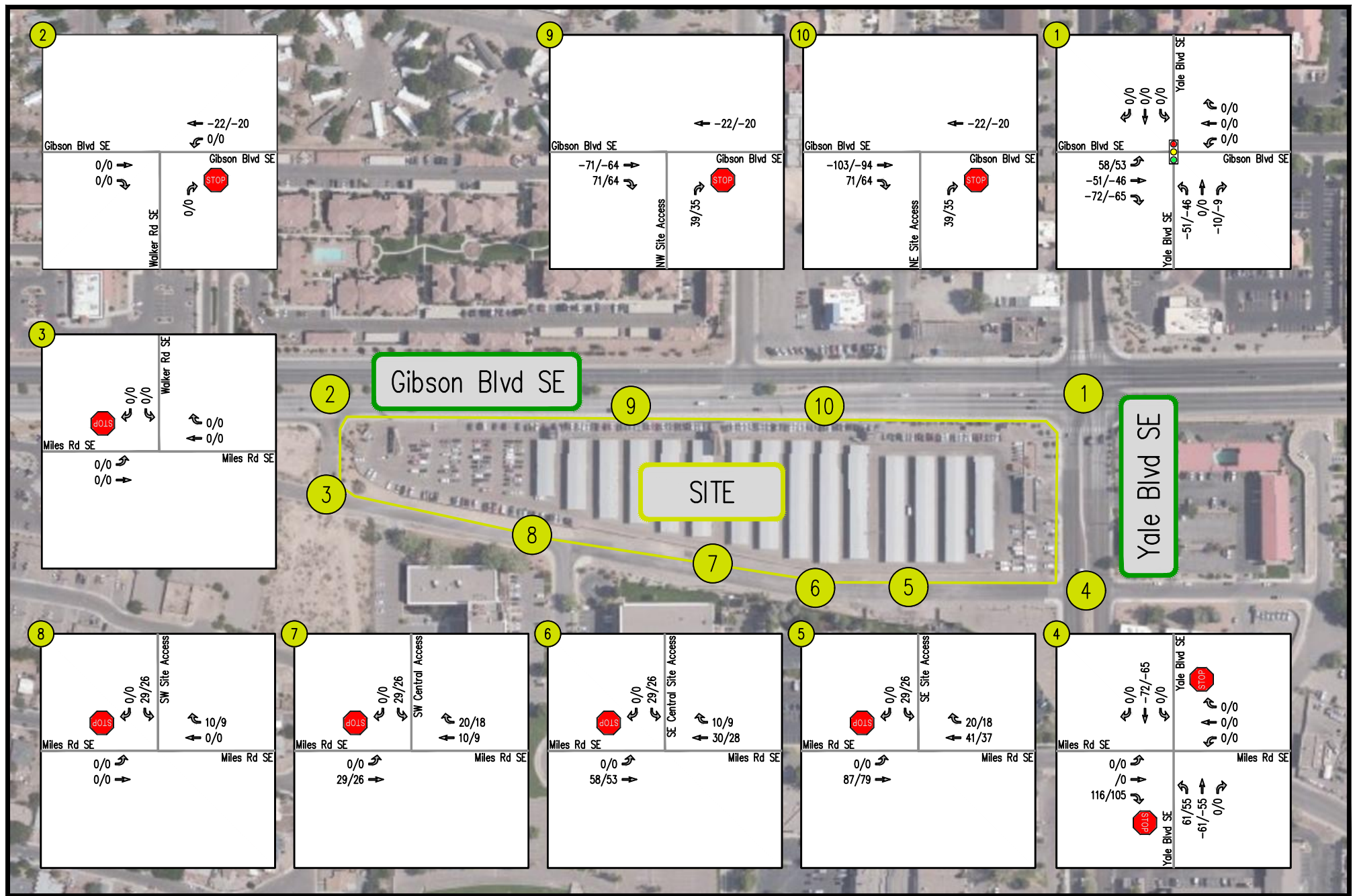


FIGURE 5-2
Pass-by Trips

Gibson Yale
Albuquerque, NM

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT
 SIGNALIZED INTERSECTION
 STOP SIGN
 YIELD SIGN



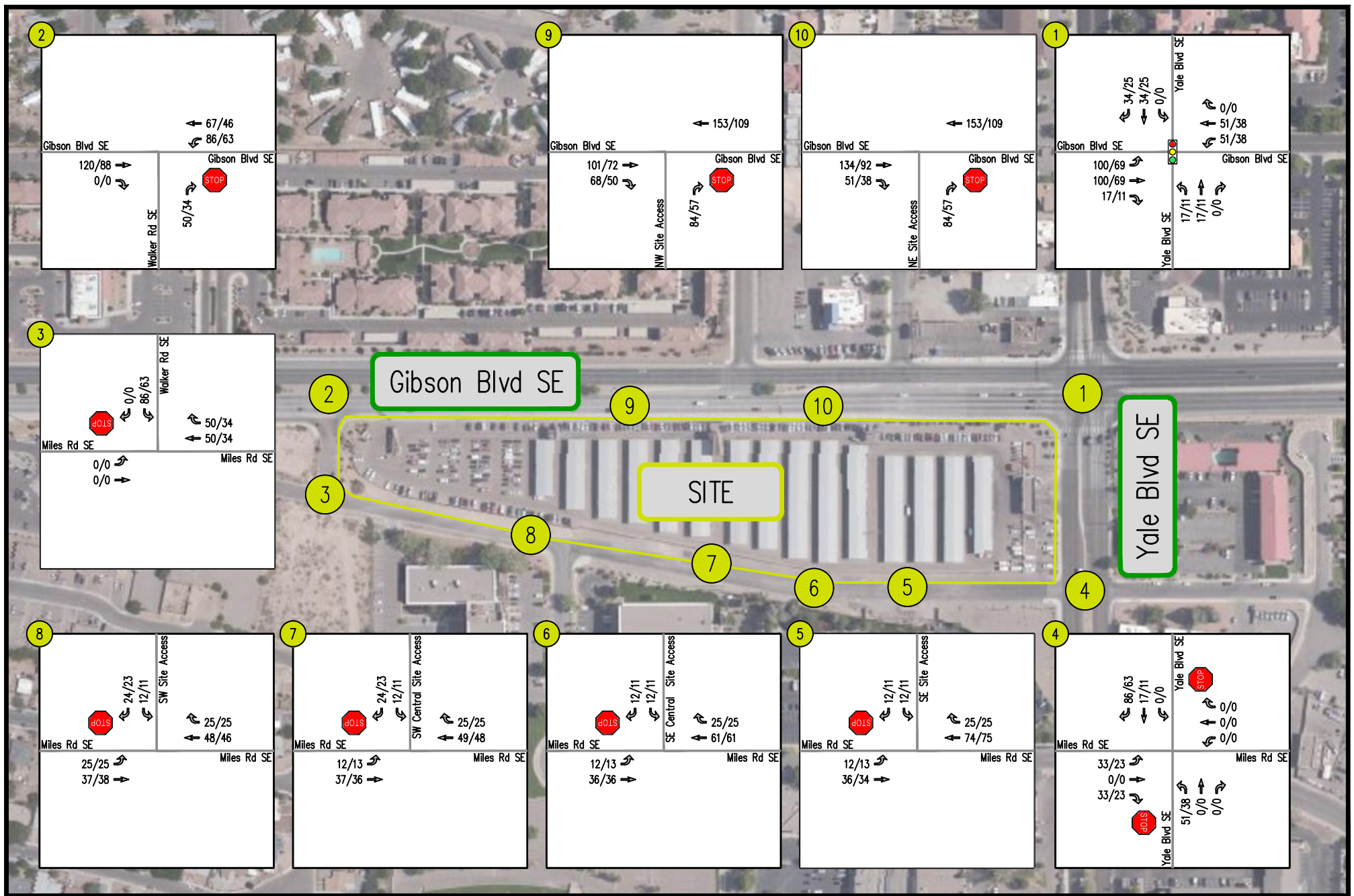


Table 5-1

Gibson Yale

Site Trip Generation

Land Use	Land Use Code	Amount	Units	AM Peak Hour			PM Peak Hour			Average Daily Trips
				In	Out	Total	In	Out	Total	
Proposed ⁽¹⁾										
Gas Station with Convenience Store	945	20	FP	127	122	249	143	137	280	4,107
<i>Phase 1 Pass-by (AM 62%/PM 56%)</i>				<u>(79)</u>	<u>(76)</u>	<u>(155)</u>	<u>(80)</u>	<u>(77)</u>	<u>(157)</u>	<u>(2,300)</u>
<i>Total</i>				48	46	94	63	60	123	1,807
Coffee with Drive-Thru ⁽²⁾	938	950	SF	64	64	128	40	39	79	1,900
Fast Food Restaurant with Drive-Thru	934	3,751	SF	77	74	151	64	59	123	1,767
<i>Pass-by (AM 49%/PM 50%)</i>				<u>(38)</u>	<u>(36)</u>	<u>(74)</u>	<u>(32)</u>	<u>(30)</u>	<u>(62)</u>	<u>(884)</u>
<i>Total</i>				39	38	77	32	29	61	883
Fast Casual Restaurant	930	5,500	SF	7	4	11	43	35	78	1,733
Fast Food Restaurant with Drive-Thru	934	4,250	SF	87	84	171	72	67	139	2,002
<i>Pass-by (AM 49%/PM 50%)</i>				<u>(43)</u>	<u>(41)</u>	<u>(84)</u>	<u>(36)</u>	<u>(34)</u>	<u>(70)</u>	<u>(1,001)</u>
<i>Total</i>				44	43	87	36	33	69	1,001
Fast Food Restaurant with Drive-Thru	934	4,250	SF	87	84	171	72	67	139	2,002
<i>Pass-by (AM 49%/PM 50%)</i>				<u>(43)</u>	<u>(41)</u>	<u>(84)</u>	<u>(36)</u>	<u>(34)</u>	<u>(70)</u>	<u>(1,001)</u>
<i>Total</i>				44	43	87	36	33	69	1,001
Total Trips				449	432	881	434	404	838	13,511
<i>Total Pass-by Trips</i>				<u>(203)</u>	<u>(194)</u>	<u>(397)</u>	<u>(184)</u>	<u>(175)</u>	<u>(359)</u>	<u>(5,186)</u>
Net New Trips				246	238	484	250	229	479	8,325

Note(s):

(1) Trip generation based on the Institute of Transportation Engineers' Trip Generation Manual, 10th Edition(2) AM Peak Generation Rate for Dutch Brothers Coffee shop is based on recent survey of Dutch Brothers coffee shops. This survey related trip generation rates to adjacent street traffic volumes finding that approximately 3.35 AM peak hour trips were generated per thousand side street vehicles. TAQA reports the 2016 AWD Gibson Blvd as 38,355 vpd. Therefore, the Dutch Brothers use should generate $3.35 \times 38.355 = 128$ (64 entering/ 64 exiting) trips per hour.

VI. Analysis of Future Conditions with Site Development

Total Future Traffic Forecasts

The 2023 and 2040 total future traffic forecasts associated with the proposed development were developed by combining the baseline traffic volumes shown on Figure 3-1, background future forecasts shown on Figure 4-3 (2023) and Figure 4-4 (2040) and the total site trip assignments shown on Figure 5-3. The resulting total future traffic forecasts are provided on Figure 6-1 for 2023 and Figure 6-2 for 2040.

Total Future Levels of Service with Proposed Development

Future levels of service with the proposed development plan were estimated at key study intersections based on the future traffic volumes shown on Figure 6-1 and Figure 6-2, the future lane use on Figure 5-1, and the HCM 6th and HCM 2000 methodologies for signalized and unsignalized intersections. The results of these analyses are provided in Appendix G and presented in Table 6-1. Total future levels of service are also presented graphically on Figure 6-3 (2023), and Figure 6-4 (2040).

As shown in Table 6-1, levels of service under future site development conditions would remain generally consistent with future background conditions (i.e., without site development). Overall delays would experience minor increase due to site trips. The signalized intersections within the study area would continue to operate consistent with background conditions.

The unsignalized intersection of Miles Road/Yale Boulevard would operate at or exceeding capacity in the PM peak hour of the 2023 and 2040 scenarios. In order for the intersection to operate at acceptable levels of service and not trigger the need for signalization the following improvements were analyzed:

- Dedicated eastbound right turn lane (100' of storage)
- Dedicated northbound left turn lane (200' of storage)

The proposed site entrances are forecasted to operate at LOS "E" or better during the AM and PM peak hours.

These results indicate that the development of the site would not require additional road improvements beyond what is recommended above and shown in the proposed site plan.

Total Future Queuing

Total future queues were forecasted using Synchro software. The results of the queuing analysis are summarized in Table 6-2.

As shown in Table 6-2, and with the improvements recommended above, the total future queues are forecasted to be contained with the available storage for all movements. These results indicate that the development of the site would not require additional road improvements beyond what is recommended above.

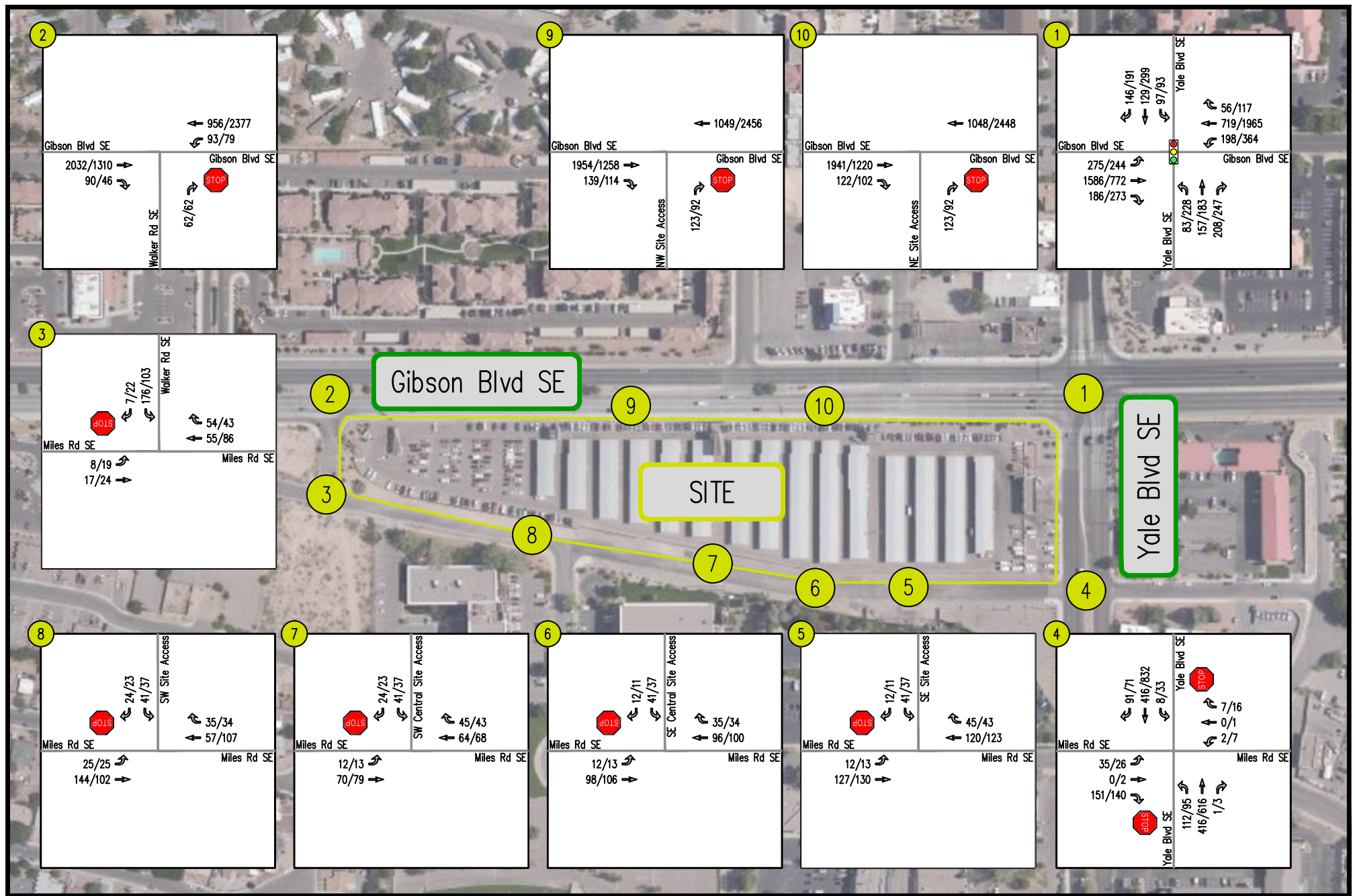


FIGURE 6-1
Total Future Forecasts 2023

Gibson Yale
Albuquerque, NM

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT
SIGNALIZED INTERSECTION
STOP SIGN
YIELD SIGN



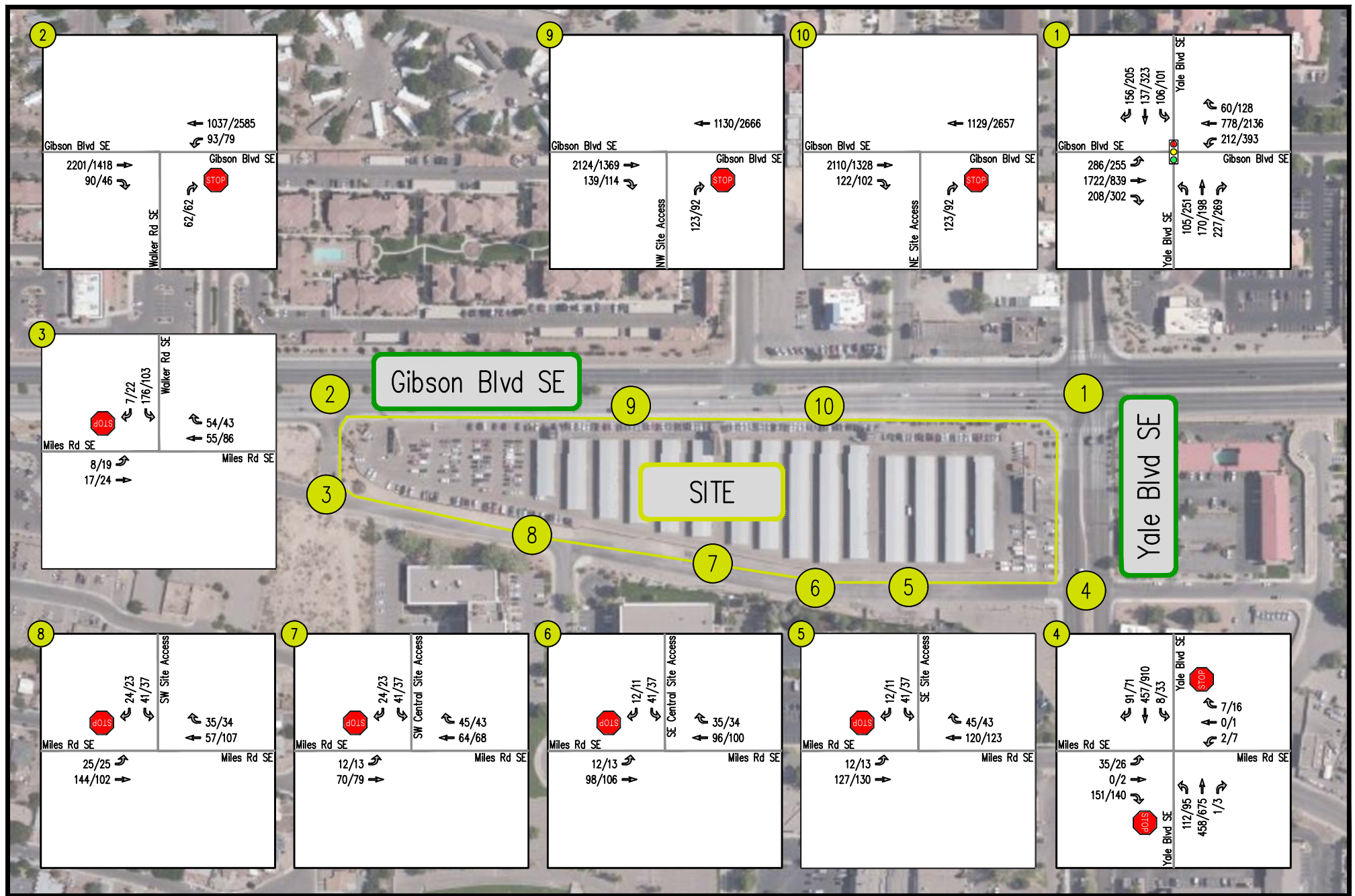


FIGURE 6-2
Total Future Forecasts 2040

Gibson Yale
Albuquerque, NM

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT
SIGNALIZED INTERSECTION
STOP SIGN
YIELD SIGN



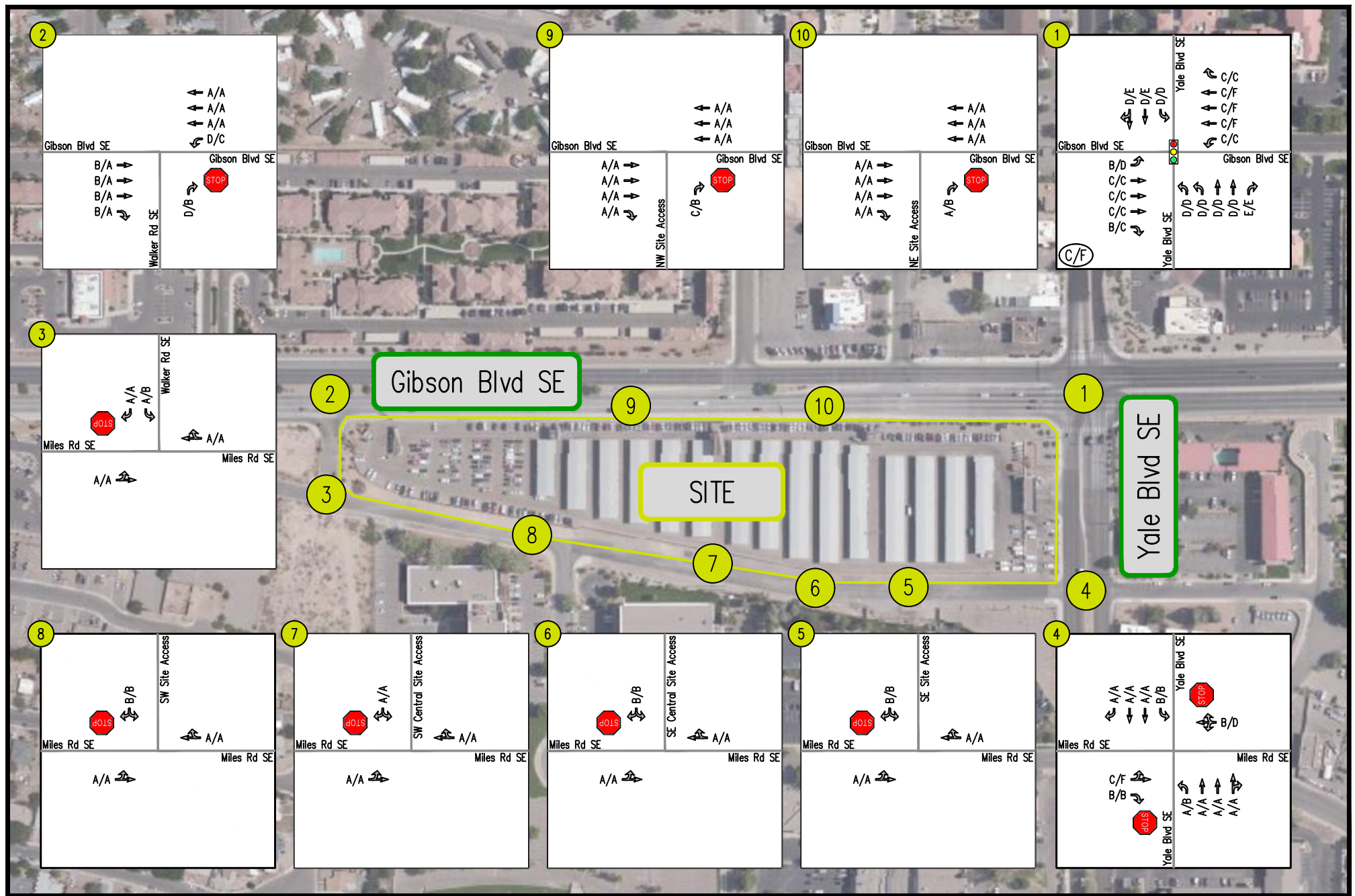


FIGURE 6-3
Total Future 2023 LOS

Gibson Yale
Albuquerque, NM

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT
 SIGNALIZED INTERSECTION
 STOP SIGN
 YIELD SIGN



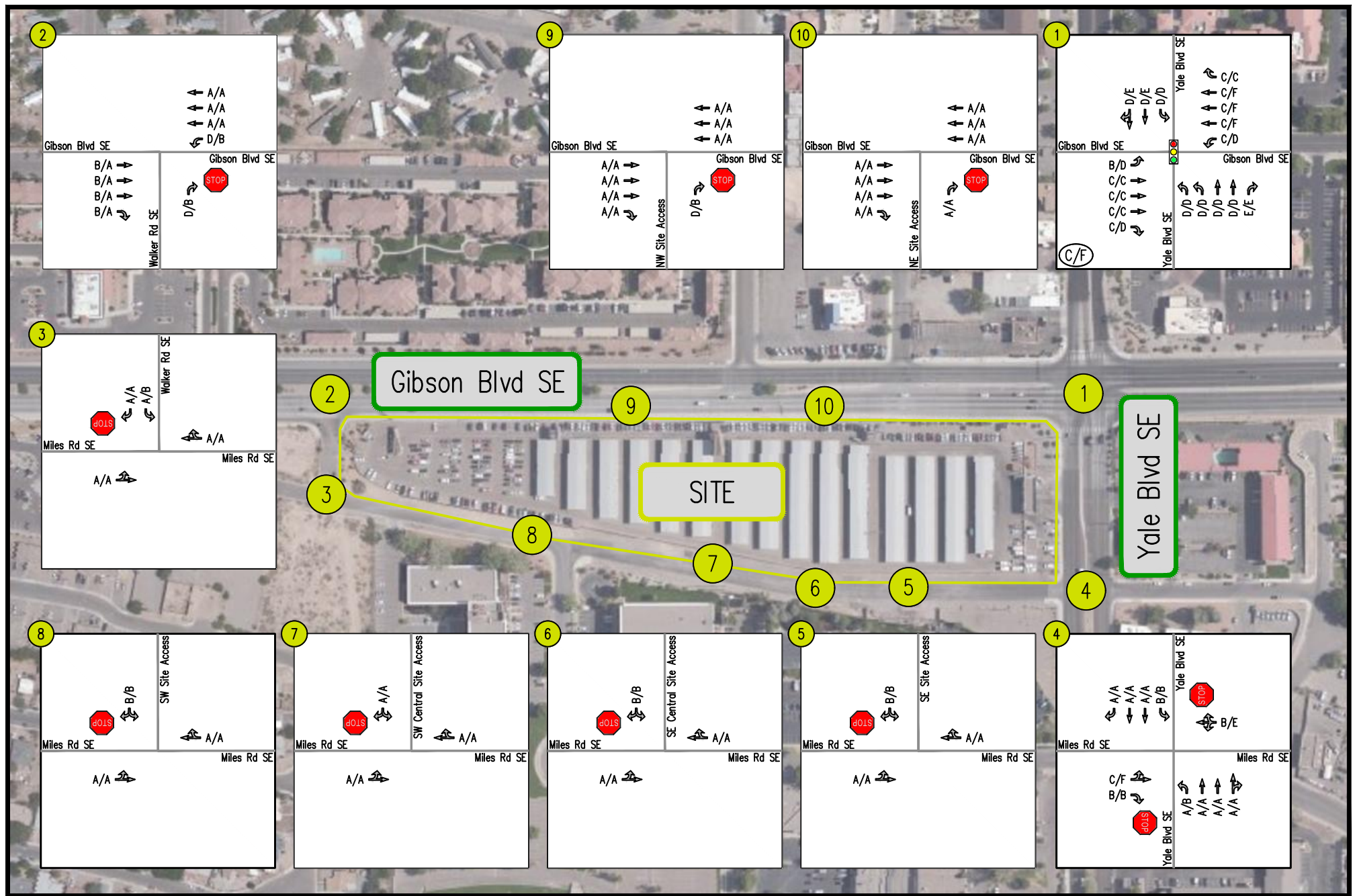


FIGURE 6-4
Total Future 2040 LOS

Gibson Yale
Albuquerque, NM

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

← MOVEMENT
 SIGNALIZED INTERSECTION
 STOP SIGN
 YIELD SIGN



Table 6-1
Gibson Yale
Total Future Intersection Level of Service Summary (1) (2)

Intersection	Operating Condition	Street Name	Approach/ Movement	Background 2023		Background 2040		Total Future 2023		Total Future 2040			
				Peak AM	Peak PM	Peak AM	Peak PM	Peak AM	Peak PM	Peak AM	Peak PM		
1 Gibson Blvd/Yale Blvd	Signal	Gibson Blvd	EBL	B (12.7)	C (22.5)	B (14.1)	C (23.0)	B (15.5)	D (37.7)	B (17.6)	D (38.8)		
			EBT	C (23.7)	C (26.2)	C (27.7)	C (29.7)	C (24.7)	C (28.2)	C (29.0)	C (31.8)		
		Gibson Blvd	EBR	B (19.2)	C (30.8)	C (21.5)	D (36.3)	B (18.5)	C (30.8)	C (20.8)	D (35.7)		
			WBL	C (25.8)	C (25.3)	C (30.6)	C (33.1)	C (27.6)	C (28.9)	C (32.4)	D (40.0)		
		Yale Blvd	WBT	C (29.1)	F (126.0)	C (31.2)	F (197.9)	C (28.9)	F (141.1)	C (31.0)	F (214.2)		
			WBR	C (25.8)	C (30.9)	C (27.2)	C (32.7)	C (25.3)	C (31.1)	C (26.7)	C (33.0)		
		Yale Blvd	NBL	D (38.4)	D (41.9)	D (37.2)	D (40.8)	D (39.6)	D (41.8)	D (38.3)	D (41.0)		
			NBT	D (43.6)	D (45.2)	D (42.6)	D (44.1)	D (44.5)	D (44.9)	D (43.4)	D (43.9)		
		Yale Blvd	NBR	E (73.2)	F (82.0)	E (76.6)	F (86.4)	E (71.2)	E (72.2)	E (74.5)	E (75.7)		
			SBL	D (38.1)	D (41.9)	D (36.9)	D (40.5)	D (38.4)	D (40.4)	D (37.1)	D (39.3)		
		Overall	SBT	D (43.2)	E (65.9)	D (42.1)	E (68.8)	D (43.6)	E (69.7)	D (42.4)	E (73.1)		
			SBR	D (44.5)	E (70.4)	D (43.4)	E (73.5)	D (45.1)	E (74.6)	D (44.1)	E (78.1)		
				C (30.1)	E (75.3)	C (32.6)	F (106.1)	C (30.2)	F (81.5)	C (32.9)	F (112.6)		
2 Gibson Blvd/Walker Rd	STOP	Gibson Blvd	EBT	B (10.8)	A (4.7)	B (11.8)	A (5.3)	B (12.0)	A (6.7)	B (11.9)	A (5.7)		
			EBR	B (10.9)	A (7.7)	B (11.5)	A (5.1)	B (10.7)	A (7.1)	B (11.0)	A (6.6)		
		Gibson Blvd	WBL	C (18.4)	C (19.4)	C (16.5)	B (14.5)	D (30.5)	C (15.7)	D (25.2)	B (14.4)		
			WBT	A (1.7)	A (2.4)	A (1.9)	A (1.1)	A (0.9)	A (2.3)	A (1.8)	A (1.9)		
		Walker Rd	NBR	B (10.3)	A (7.0)	C (15.3)	B (13.5)	D (25.7)	B (14.9)	D (27.9)	B (13.4)		
3 Miles Rd/Walker Rd	STOP	Miles Rd	EBLT	A (7.2)	A (7.4)	A (7.2)	A (7.4)	A (7.4)	A (7.5)	A (7.4)	A (7.5)		
		Miles Rd	WBTR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)		
		Walker Rd	SBL	A (9.2)	A (9.5)	A (9.2)	A (9.5)	A (10.0)	B (10.3)	A (10.0)	B (10.3)		
			SBR	A (8.4)	A (8.7)	A (8.4)	A (8.7)	A (8.6)	A (9.0)	A (8.6)	A (9.0)		
4 Miles Rd/Yale Blvd	STOP	Miles Rd	EBLTR	B (13.9)	C (23.4)	B (14.7)	D (27.0)	C (16.2)	F (53.0)	C (17.2)	F (87.8)		
		Miles Rd	WBLTR	B (11.3)	C (18.8)	B (11.7)	C (21.1)	B (13.6)	D (33.5)	B (14.3)	E (44.0)		
		Yale Blvd	NBL	A (0.0)	B (14.0)	A (0.0)	B (14.9)	B (11.5)	C (17.1)	B (11.8)	C (18.8)		
			NBTR	A (0.0)	A (0.1)	A (0.0)	A (0.0)	A (0.5)	A (1.6)	A (0.6)	A (2.1)		
		Yale Blvd	SBL	A (8.5)	A (9.3)	A (8.6)	A (9.6)	B (10.1)	B (11.9)	B (10.4)	B (12.4)		
	Intersection Improvements: EBR and NBL Lane added	STOP	SBTR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)		
			Miles Rd	EBLT	N/A	N/A	N/A	N/A	C (21.2)	F (67.2)	C (23.1)	F (87.5)	
			Miles Rd	EBR	N/A	N/A	N/A	N/A	B (10.8)	B (13.9)	B (11.0)	B (14.8)	
			Miles Rd	WBLTR	N/A	N/A	N/A	N/A	B (13.7)	D (30.7)	B (14.4)	E (37.4)	
			Yale Blvd	NBL	N/A	N/A	N/A	N/A	A (8.8)	B (11.0)	A (9.0)	B (11.6)	
		Yale Blvd	NBTR	N/A	N/A	N/A	N/A	A (0.0)	A (0.0)	A (0.0)	A (0.0)		
			SBL	N/A	N/A	N/A	N/A	B (10.1)	B (11.9)	B (10.4)	B (12.4)		
			SBTR	N/A	N/A	N/A	N/A	A (0.0)	A (0.0)	A (0.0)	A (0.0)		
		5 Miles Rd/SE Site Access	STOP	Miles Rd	EBLT	N/A	N/A	N/A	N/A	A (7.6)	A (7.6)	A (7.6)	A (7.6)
				Miles Rd	WBTR	N/A	N/A	N/A	N/A	A (0.0)	A (0.0)	A (0.0)	A (0.0)
				SE Site Access	SBLR	N/A	N/A	N/A	N/A	B (10.5)	B (10.5)	B (10.5)	B (10.6)
6 Miles Rd/SE Central Site Access	STOP	Miles Rd	EBLT	N/A	N/A	N/A	N/A	A (7.5)	A (7.5)	A (7.5)	A (7.5)		
		Miles Rd	WBTR	N/A	N/A	N/A	N/A	A (0.0)	A (0.0)	A (0.0)	A (0.0)		
		SE Central Site Access	SBLR	N/A	N/A	N/A	N/A	B (10.1)	B (10.2)	B (10.1)	B (10.2)		
7 Miles Rd/SW Central Site Access	STOP	Miles Rd	EBLT	N/A	N/A	N/A	N/A	A (7.5)	A (7.5)	A (7.5)	A (7.5)		
		Miles Rd	WBTR	N/A	N/A	N/A	N/A	A (0.0)	A (0.0)	A (0.0)	A (0.0)		
		SW Central Site Access	SBLR	N/A	N/A	N/A	N/A	A (9.7)	A (9.7)	A (9.7)	A (9.7)		
8 Miles Rd/SW Site Access	STOP	Miles Rd	EBLT	N/A	N/A	N/A	N/A	A (7.5)	A (7.6)	A (7.5)	A (7.6)		
		Miles Rd	WBTR	N/A	N/A	N/A	N/A	A (0.0)	A (0.0)	A (0.0)	A (0.0)		
		SW Site Access	SBLR	N/A	N/A	N/A	N/A	B (10.1)	B (10.2)	B (10.1)	B (10.2)		
9 Gibson Blvd/NW Site Access	STOP	Gibson Blvd	EBT	N/A	N/A	N/A	N/A	A (0.0)	A (0.0)	A (0.0)	A (0.0)		
			EBR	N/A	N/A	N/A	N/A	A (1.5)	A (0.9)	A (1.9)	A (1.2)		
		NW Site Access	WBT	N/A	N/A	N/A	N/A	A (0.5)	A (0.7)	A (0.5)	A (0.9)		
			NBR	N/A	N/A	N/A	N/A	C (24.6)	B (12.5)	D (26.1)	B (11.6)		
10 Gibson Blvd/NE Site Access	STOP	Gibson Blvd	EBT	N/A	N/A	N/A	N/A	A (0.0)	A (0.0)	A (0.0)	A (0.0)		
			EBR	N/A	N/A	N/A	N/A	A (1.1)	A (0.6)	A (1.0)	A (1.0)		
		NE Site Access	WBT	N/A	N/A	N/A	N/A	A (2.4)	A (2.9)	A (2.5)	A (4.7)		
			NBR	N/A	N/A	N/A	N/A	A (7.7)	B (11.0)	A (9.9)	A (7.8)		

Notes : (1) Numbers in brackets [] represent delay at unsignalized intersections in seconds per vehicle.
(2) Numbers in parenthesis () represent delay at signalized intersections in seconds per vehicle.
*SimTraffic used to evaluate to accurately reflect operations due to platooning from nearby signals

Table 6-2
Gibson Yale
Total Future Intersection Queueing Summary (1)

Intersection	Operating Condition	Street Name	Approach/ Movement	Available Storage	Background 2023		Background 2040		Total Future 2023		Total Future 2040	
					AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1 Gibson Blvd/Yale Blvd	Signal	Gibson Blvd	EBL	-	66	91	74	103	159	216	173	240
			EBT	-	477	287	566	347	510	307	639	363
			EBR	240	109	84	132	91	91	79	111	85
			WBL	400	120	240	133	284	152	277	164	363
		Gibson Blvd	WBT	-	244	1130	267	1247	258	1156	296	1273
			WBR	200	0	69	4	81	0	69	4	81
			NBL	-	63	113	68	118	47	98	52	102
			NBT	-	91	101	97	105	97	106	104	110
		Yale Blvd	NBR	-	75	72	78	72	73	70	77	70
			SBL	200	104	94	112	97	104	93	112	96
		Yale Blvd	SBT	-	74	218	78	237	87	239	92	256
2 Gibson Blvd/Walker Rd	STOP	Gibson Blvd	EBT	-	0	0	383	0	339	0	673	0
			EBR	125	0	0	0	0	0	9	7	7
		Gibson Blvd	WBL	175	22	34	29	21	103	74	97	48
			WBT	-	0	0	0	0	0	0	0	0
		Walker Rd	NBR	-	28	33	22	49	68	61	65	39
			SBR	-	0	2.5	0	2.5	0	2.5	0	2.5
3 Miles Rd/Walker Rd	STOP	Miles Rd	EBLT	-	0	0	0	0	0	0	0	0
			WBTR	-	0	0	0	0	0	0	0	0
		Miles Rd	SBL	-	7.5	5	7.5	5	17.5	12.5	17.5	12.5
			SBR	-	0	2.5	0	2.5	0	2.5	0	2.5
		Walker Rd	EBL	-	0	7.5	0	7.5	40	130	45	177.5
			EBR	-	2.5	7.5	2.5	7.5	2.5	15	2.5	20
			NBL	-	0	0	0	0	15	25	15	27.5
			NBR	-	0	0	0	0	0	0	0	0
			SBL	60	0	2.5	0	2.5	0	5	0	5
			SBTR	-	0	0	0	0	0	0	0	0
		Intersection Improvements: EBR and NBL Lane added	EBLT	-	N/A	N/A	N/A	N/A	10	35	10	42.5
			EBR	100	N/A	N/A	N/A	N/A	17.5	27.5	20	30
			WBL	-	N/A	N/A	N/A	N/A	2.5	12.5	2.5	17.5
			NBL	200	N/A	N/A	N/A	N/A	7.5	12.5	10	15
			NBTR	-	N/A	N/A	N/A	N/A	0	0	0	0
			SBL	60	N/A	N/A	N/A	N/A	0	5	0	5
			SBTR	-	N/A	N/A	N/A	N/A	0	0	0	0
			EBLT	-	N/A	N/A	N/A	N/A	0	0	0	0
5 Miles Rd/SE Site Access	STOP	Miles Rd	WBTR	-	N/A	N/A	N/A	N/A	0	0	0	0
		Miles Rd	SBLR	-	N/A	N/A	N/A	N/A	0	0	0	0
		SE Site Access	SBLR	-	N/A	N/A	N/A	N/A	7.5	5	7.5	5
6 Miles Rd/SE Central Site Access	STOP	Miles Rd	EBLT	-	N/A	N/A	N/A	N/A	0	0	0	0
		Miles Rd	WBTR	-	N/A	N/A	N/A	N/A	0	0	0	0
		SE Central Site Access	SBLR	-	N/A	N/A	N/A	N/A	5	5	5	5
7 Miles Rd/SW Central Site Access	STOP	Miles Rd	EBLT	-	N/A	N/A	N/A	N/A	0	0	0	0
		Miles Rd	WBTR	-	N/A	N/A	N/A	N/A	0	0	0	0
		SW Central Site Access	SBLR	-	N/A	N/A	N/A	N/A	7.5	7.5	7.5	7.5
8 Miles Rd/SW Site Access	STOP	Miles Rd	EBLT	-	N/A	N/A	N/A	N/A	2.5	2.5	2.5	2.5
		Miles Rd	WBTR	-	N/A	N/A	N/A	N/A	0	0	0	0
		SW Site Access	SBLR	-	N/A	N/A	N/A	N/A	7.5	7.5	7.5	7.5
9 Gibson Blvd/NW Site Access	STOP	Gibson Blvd	EBT	-	N/A	N/A	N/A	N/A	0	0	0	0
			EBR	-	N/A	N/A	N/A	N/A	0	0	0	0
		Gibson Blvd NW Site Access	WBT	-	N/A	N/A	N/A	N/A	0	0	0	0
			NBR	-	N/A	N/A	N/A	N/A	84	63	86	66
10 Gibson Blvd/NE Site Access	STOP	Gibson Blvd	EBT	-	N/A	N/A	N/A	N/A	0	0	0	0
			EBR	-	N/A	N/A	N/A	N/A	0	0	0	0
		Gibson Blvd NE Site Access	WBT	-	N/A	N/A	N/A	N/A	11	0	0	12
			NBR	-	N/A	N/A	N/A	N/A	56	68	73	64

Notes : (1) Queue length is based on the 95th percentile queue as reported by Synchro, Version 10.
*SimTraffic used to evaluate to accurately reflect operations due to platooning from nearby signals

VII. Conclusions and Recommendations

Conclusions

Based on the results of this traffic impact study, the following may be concluded:

- Under existing traffic conditions, the intersections within the study area currently operate at overall acceptable levels of service (LOS) “E” or better during the weekday AM and PM peak hours.
- Under background future 2023 and 2040 traffic conditions, without the development of the subject site, delays would increase slightly at study intersections due to regional traffic growth.
- The proposed site development would generate, upon completion and full occupancy, 484 net new weekday AM and 479 net new weekday PM peak hour vehicle trips as well as 8,325 net new weekday daily trips.
- Under total future traffic conditions with development of the site, the Miles Road/Yale Boulevard intersection would require improvements to operate with acceptable levels of service and sufficient queueing.

Recommendations

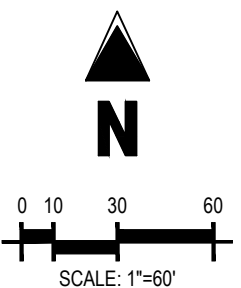
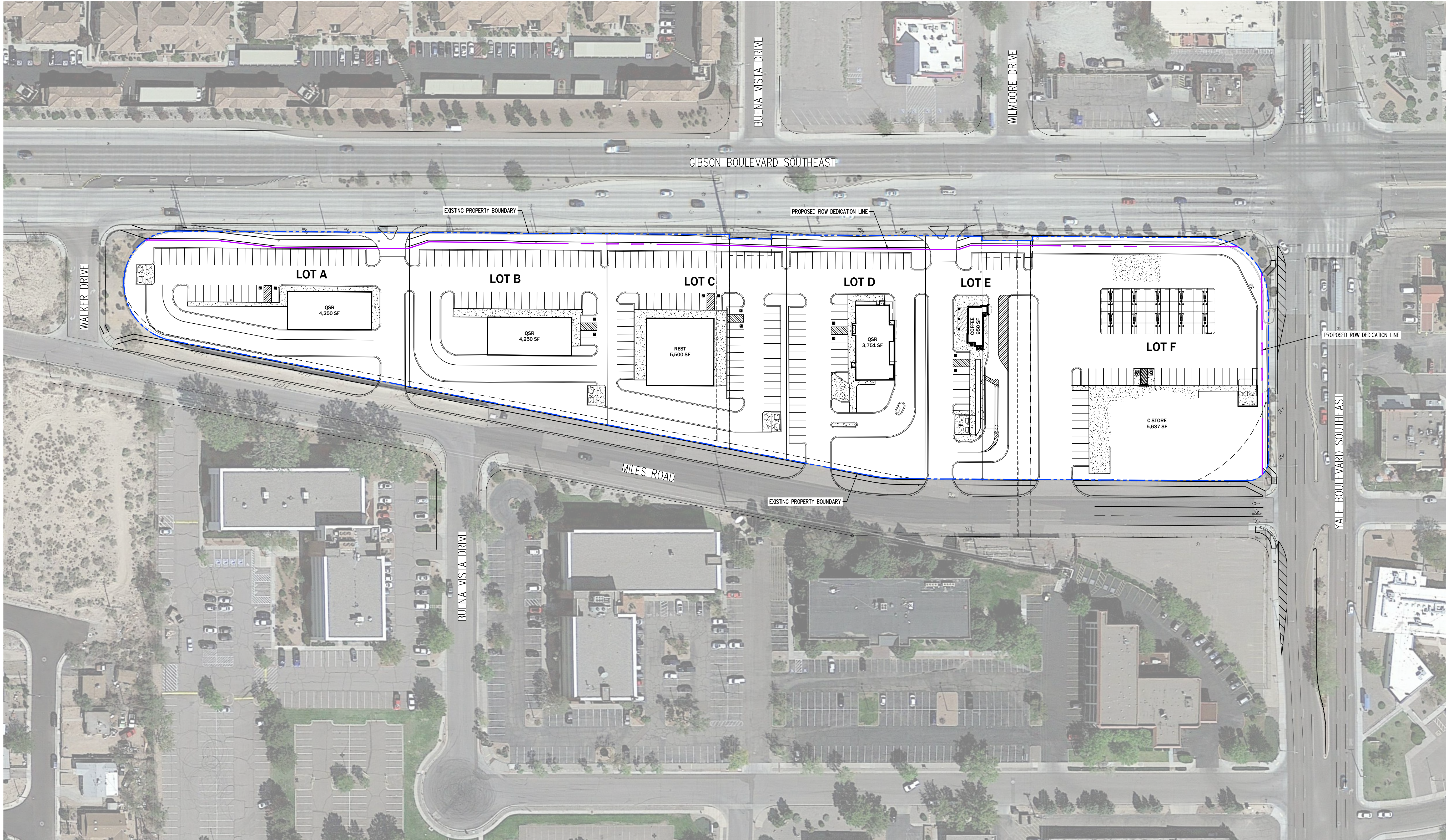
- The Applicant should construct their entrances along Yale Boulevard and Gibson Boulevard consistent with the attached plans.
- The following improvements should be constructed at the Miles Road/Yale Boulevard intersection:
 - Dedicated eastbound right turn lane (100' of storage)
 - Dedicated northbound left turn lane (200' of storage)
- Improvements along Yale Boulevard should be constructed consistent with the attached plans.

APPENDIX A – Full Sized Conceptual Plan and Right-of-Way Exhibits

PRIME PROPERTIES

CONCEPTUAL SITE PLAN

2121 YALE BOULEVARD
CITY OF ALBUQUERQUE, COUNTY OF BERNALILLO,
STATE OF NEW MEXICO



NOTE: LOT LAYOUTS ARE CONCEPTUAL
AND SUBJECT TO CHANGE

6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com

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CONCEPTUAL SITE PLAN

PRIME PROPERTIES

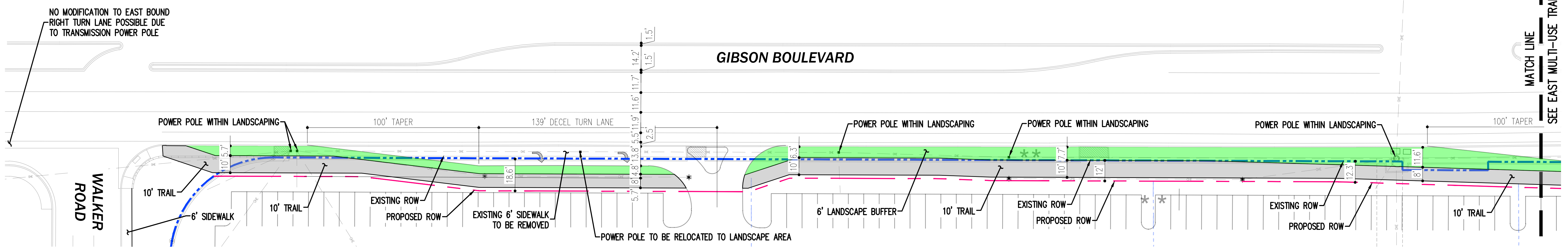
2121 YALE BOULEVARD
ALBUQUERQUE, NM

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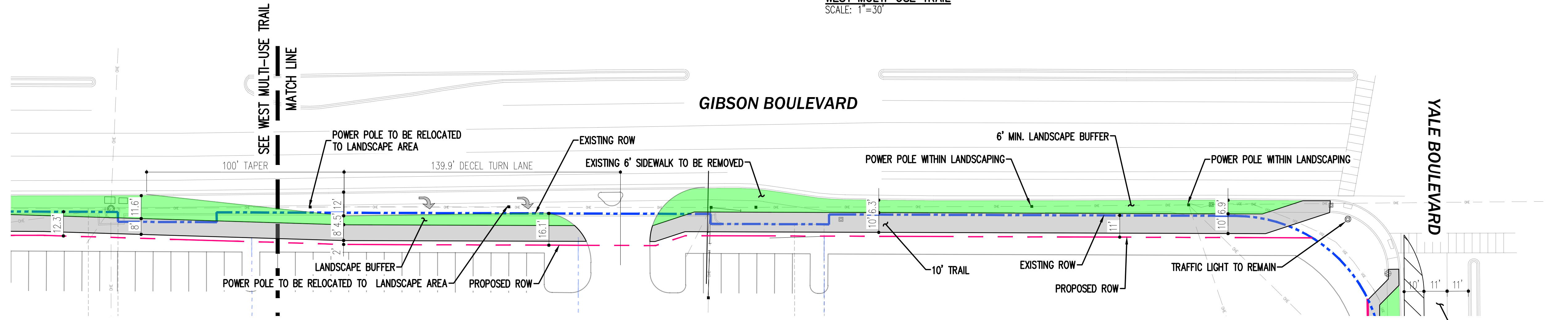
Project No:	PRP000008
Drawn By:	DDJ
Checked By:	TDK
Date:	09/23/2021

CONCEPTUAL SITE PLAN
EXHIBIT

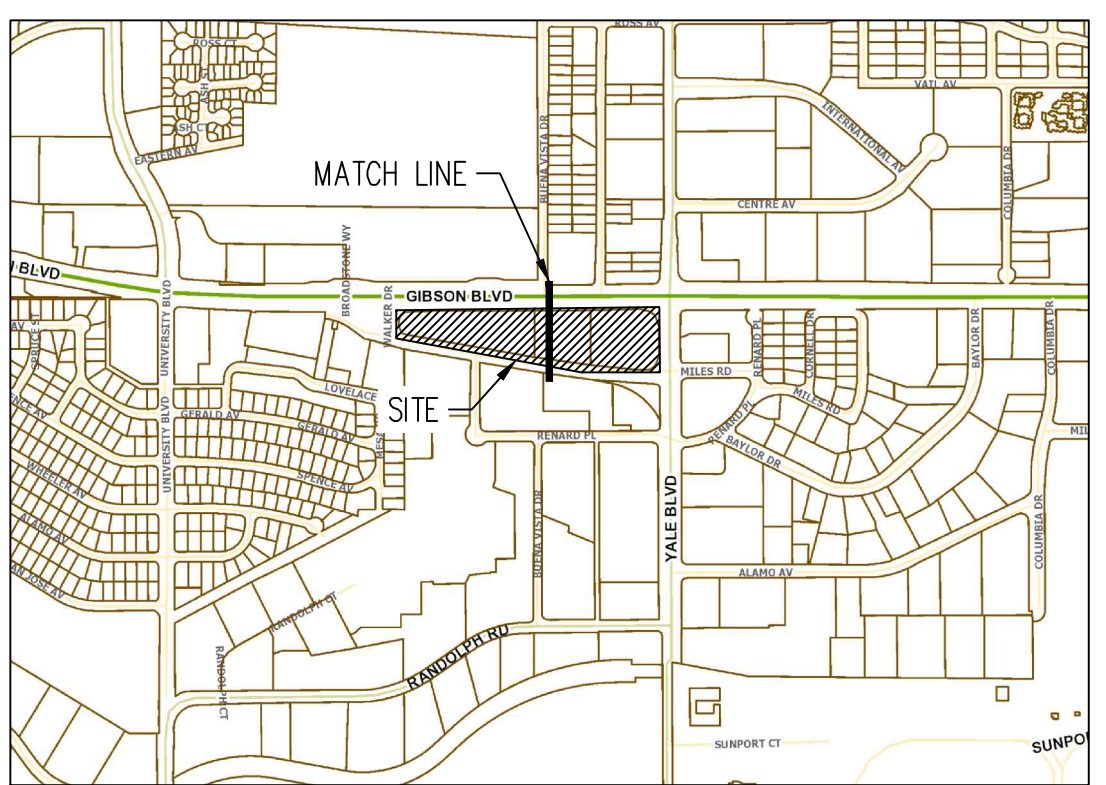
PRIME PROPERTIES
GIBSON BOULEVARD RIGHT-OF-WAY EXHIBIT
2121 YALE BOULEVARD
CITY OF ALBUQUERQUE, COUNTY OF BERNALILLO,
STATE OF NEW MEXICO



WEST MULTI-USE TRAIL
SCALE: 1"=30'

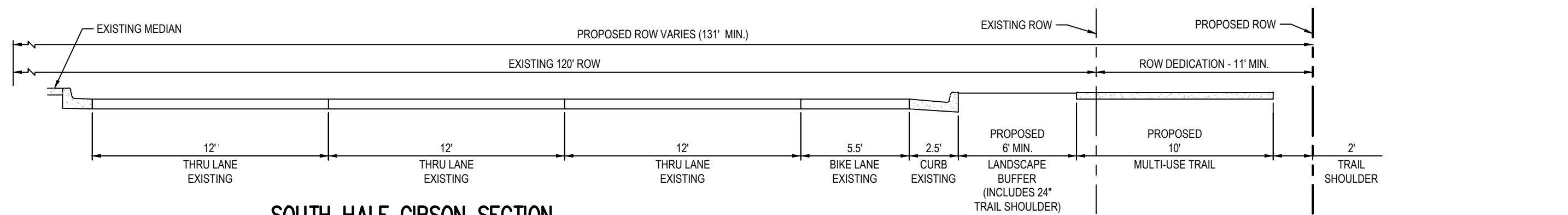


EAST MULTI-USE TRAIL
SCALE: 1"=30'

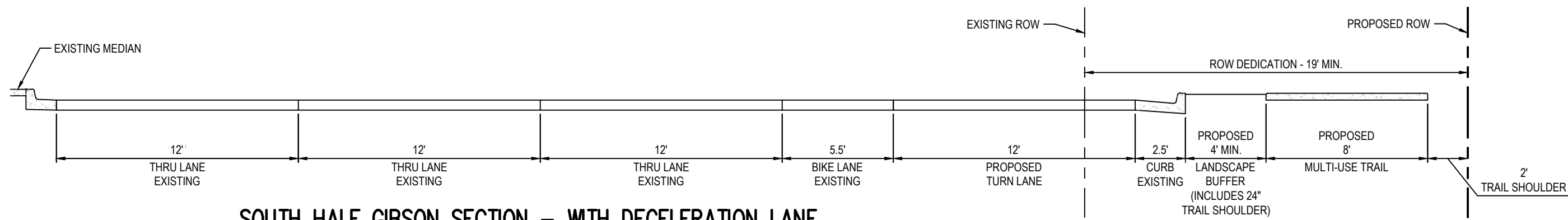


VICINITY MAP
SCALE: 1"=1000'

- SITE LEGEND**
- EXISTING PROPERTY BOUNDARY LINE
 - PROPOSED PROPERTY BOUNDARY LINE
 - PROPOSED LANDSCAPE BUFFER
 - PROPOSED TRAIL



SOUTH HALF GIBSON SECTION
NOT TO SCALE



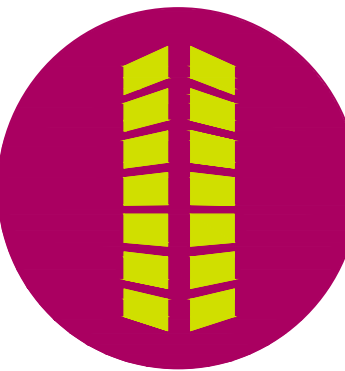
SOUTH HALF GIBSON SECTION - WITH DECELERATION LANE
NOT TO SCALE



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GIBSON BOULEVARD RIGHT-OF-WAY EXHIBIT

PRIME PROPERTIES

2121 YALE BOULEVARD
ALBUQUERQUE, NM

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Project No: PRP000008

Drawn By: DMP

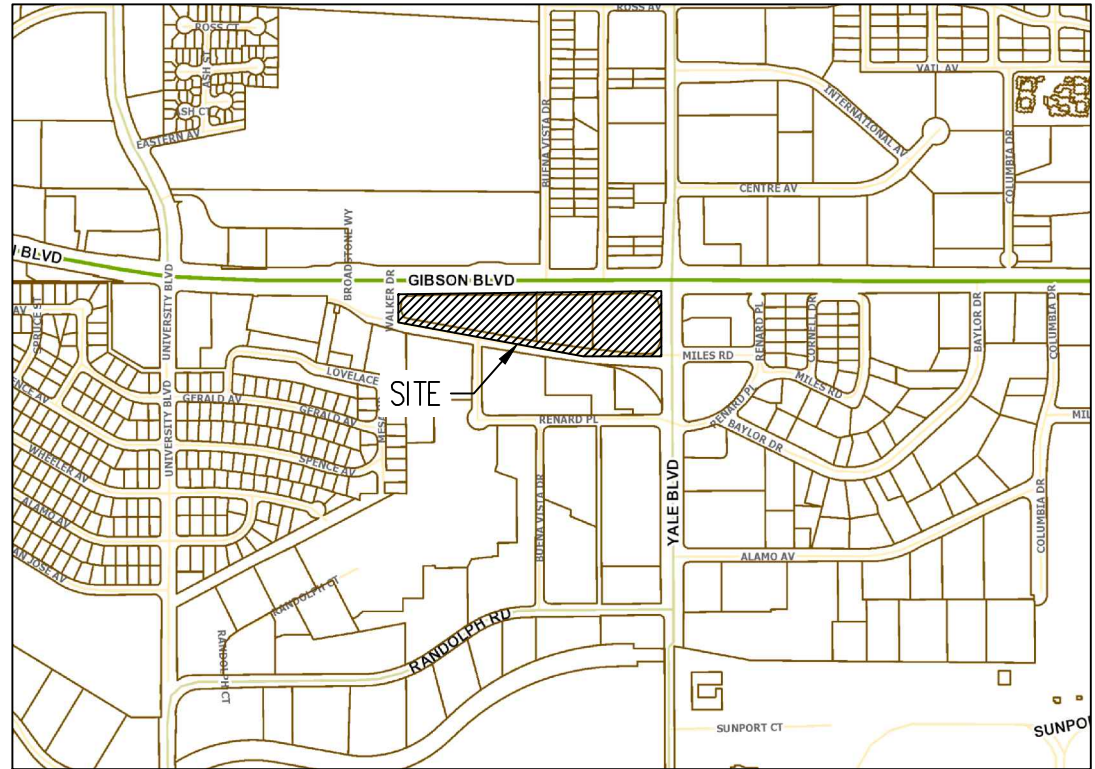
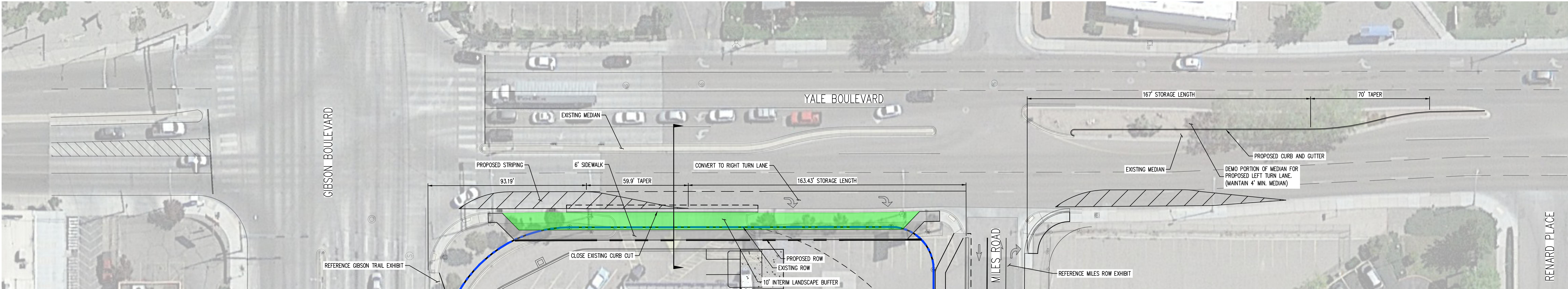
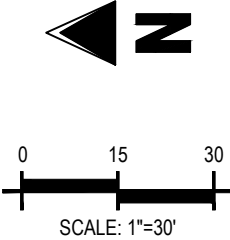
Checked By: TDK

Date: 09/23/2021

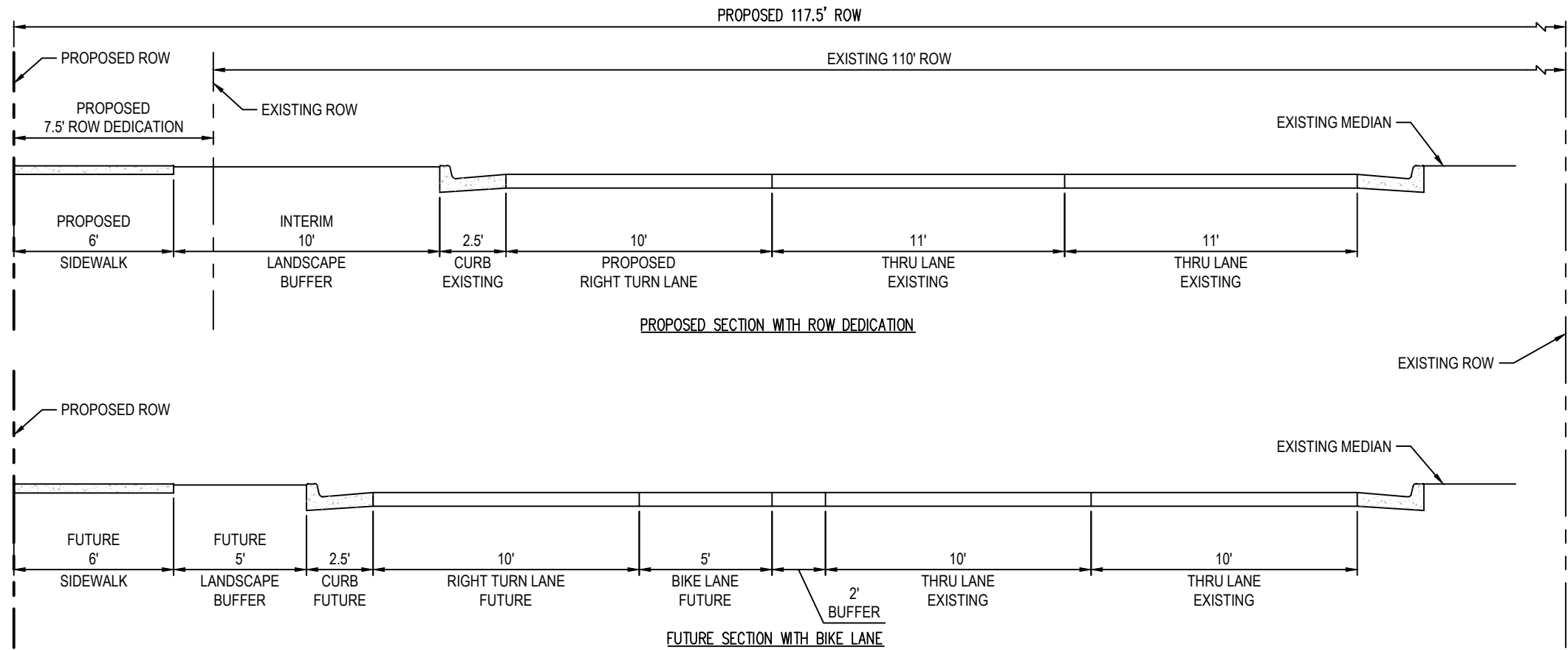
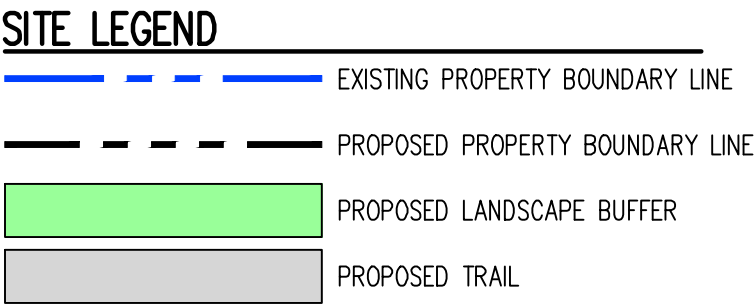
GIBSON BOULEVARD RIGHT-OF-WAY EXHIBIT

2 OF 4

PRIME PROPERTIES
YALE BOULEVARD RIGHT-OF-WAY EXHIBIT
2121 YALE BOULEVARD
CITY OF ALBUQUERQUE, COUNTY OF BERNALILLO,
STATE OF NEW MEXICO



VICINITY MAP
SCALE: 1"=1000'



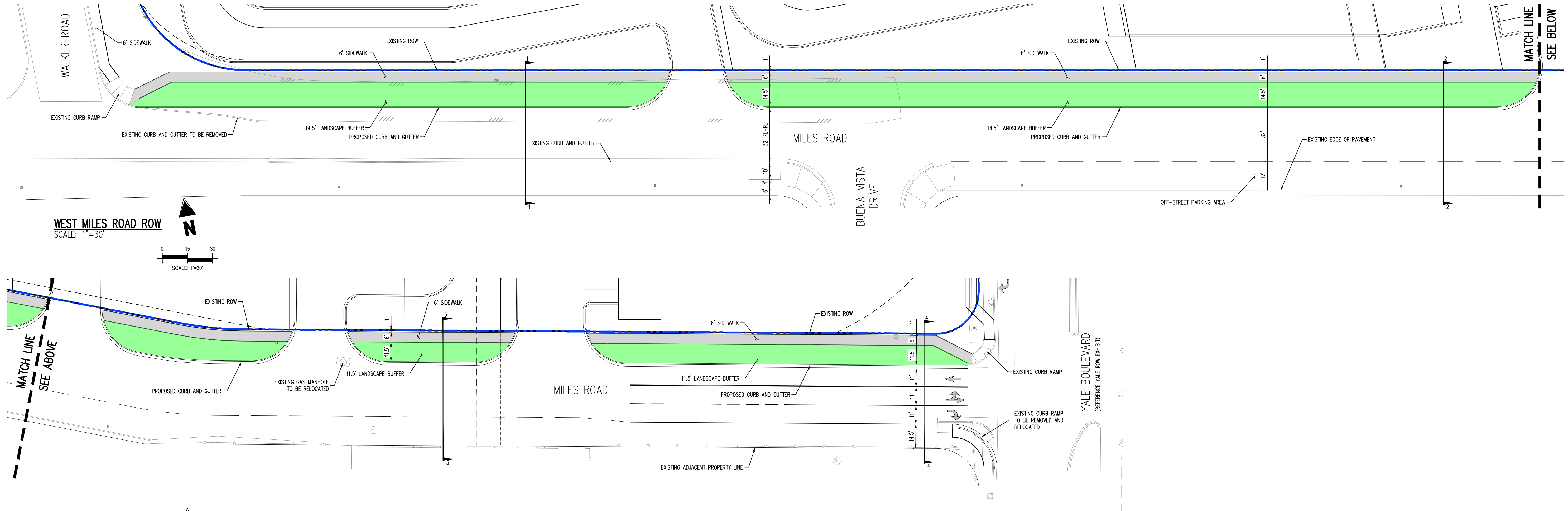
PROPOSED YALE BOULEVARD ROW SECTION
NOT TO SCALE



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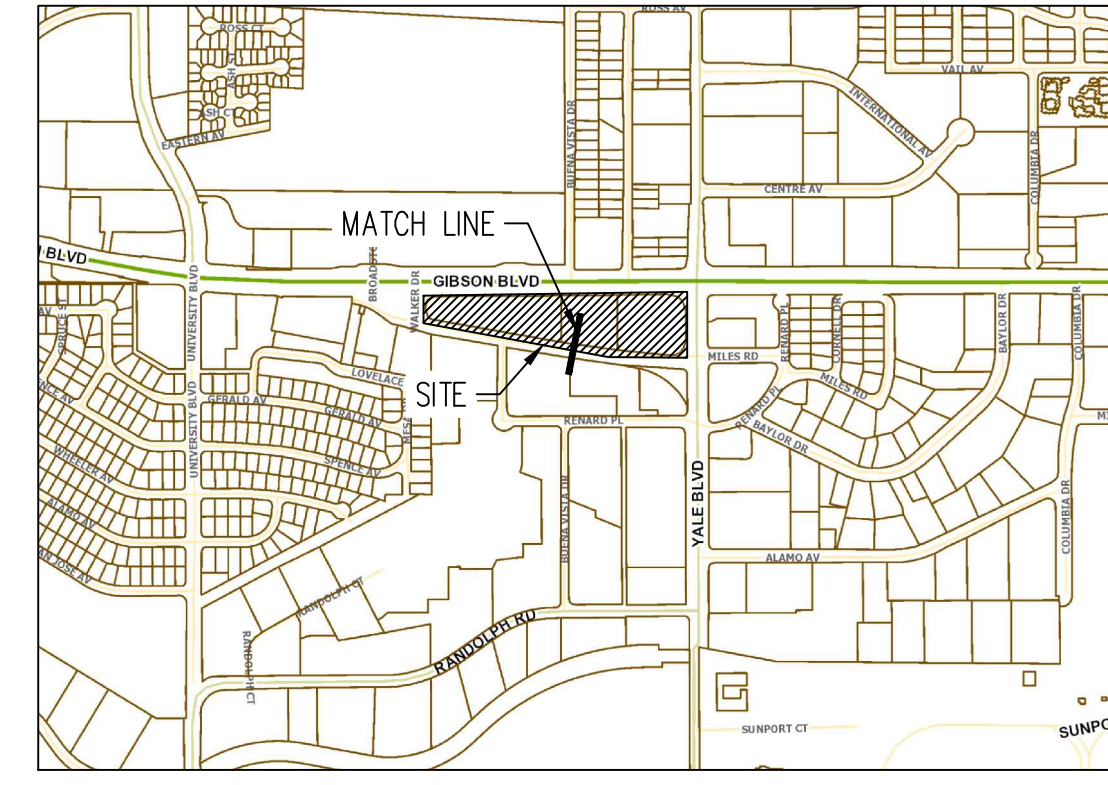
Project No:	PRP000008
Drawn By:	DDJ
Checked By:	TDK
Date:	09/23/2021

PRIME PROPERTIES
MILES ROAD RIGHT-OF-WAY EXHIBIT
2121 YALE BOULEVARD
CITY OF ALBUQUERQUE, COUNTY OF BERNALILLO,
STATE OF NEW MEXICO

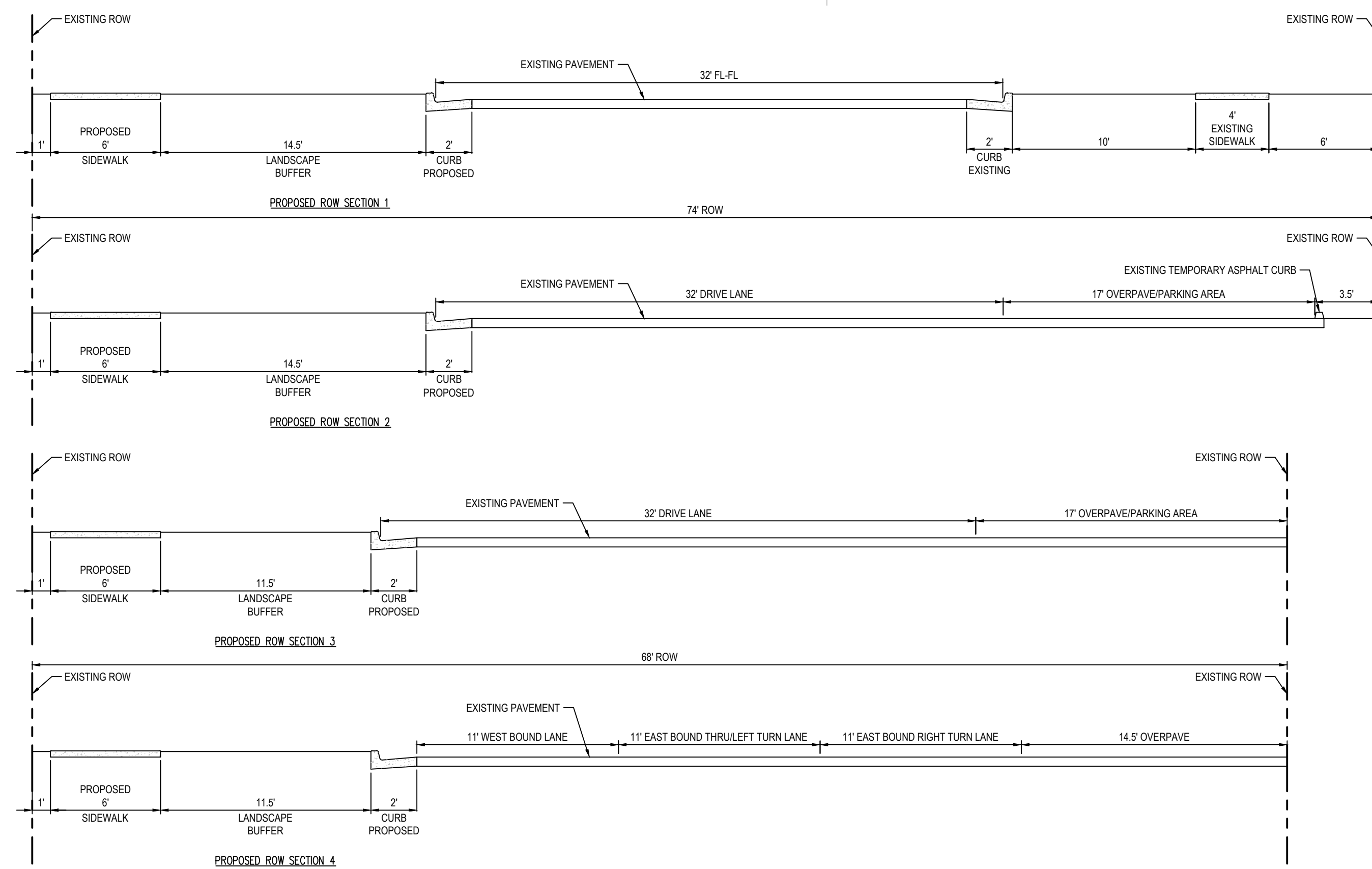
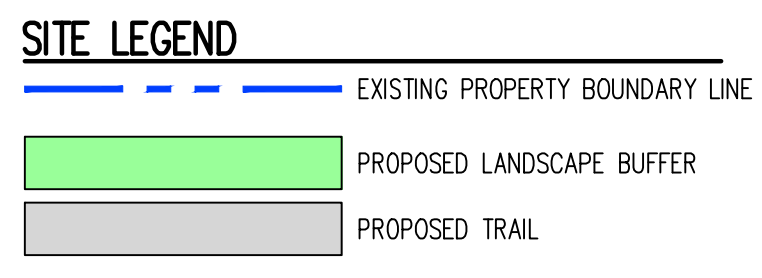


WEST MILES ROAD ROW
SCALE: 1"=30'

EAST MILES ROAD ROW
SCALE: 1"=30'



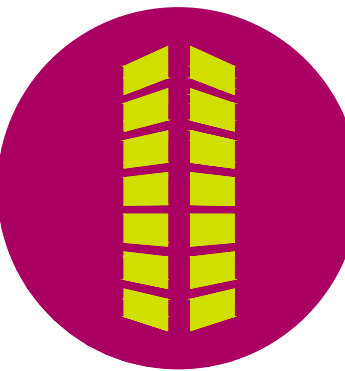
VICINITY MAP
SCALE: 1"=1000'



PROPOSED MILES ROAD ROW SECTION
NOT TO SCALE

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MILES ROAD RIGHT-OF-WAY EXHIBIT
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2121 YALE BOULEVARD
ALBUQUERQUE, NM

#	Date	Issue / Description	Init.
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Project No:	PRP000008
Drawn By:	DDJ
Checked By:	TDK
Date:	09/23/2021

MILES ROAD RIGHT-OF-WAY
EXHIBIT

APPENDIX B – Study Scope Meeting Notes



City of Albuquerque

Planning Department
Development Review Services Division

Traffic Scoping Form (REV 12/2020)

Project Title: Gibson Yale Development **Building Permit #:** _____ **Hydrology File #:** _____
Zone Atlas Page: _____ **DRB#:** _____ **EPC#:** _____ **Work Order#:** _____
Legal Description: _____
City Address: 2121 Yale Boulevard SE Albuquerque, NM 87106
Applicant: Galloway **Contact:** Brian Horan
Address: 6162 S Willow Dr Suite 320 Greenwood Village, CO 80111
Phone#: 303-770-8884 **Fax#:** _____ **E-mail:** brianhoran@gallowayus.com

Development Information

Build out/Implementation Year: 2023 **Current/Proposed Zoning:** NR-C
Project Type: New: ☐ Change of Use: ☐ Same Use/Unchanged: ☐ Same Use/Increased Activity: ☒
Proposed Use (mark all that apply): Residential: ☐ Office: ☐ Retail: ☒ Mixed-Use: ☒
Describe development and Uses:
Redevelopment of approximately seven (7) acre property to allow for several individually platted lots for future commercial land uses,
as allowed per current zoning
Days and Hours of Operation (if known): n/a

Facility

Building Size (sq. ft.): (Approximate) Lot A: 3000 SF, Lot B: 4500 SF, Lot C: 7000 SF, Lot D: 3800 SF, Lot E: 950 SF, Lot F: 5600 SF
Number of Residential Units: 0
Number of Commercial Units: 6

Traffic Considerations

Expected Number of Daily Visitors/Patrons (if known):* n/a
Expected Number of Employees (if known):* n/a
Expected Number of Delivery Trucks/Buses per Day (if known):* n/a
Trip Generations during PM/AM Peak Hour (if known):* AM: 919/PM: 726
Driveway(s) Located on: Street Name Two driveways (2) on Gibson Blvd & two (2) on Miles Rd
Adjacent Roadway(s) Posted Speed: Street Name Gibson Blvd Posted Speed 45 MPH
Street Name Yale Blvd Posted Speed 40 MPH

* If these values are not known, assumptions will be made by City staff. Depending on the assumptions, a full TIS may be required

Roadway Information (adjacent to site)

Comprehensive Plan Corridor Designation/Functional Classification: Gibson: Regional Principal Arterial, Yale: Minor Arterial
(arterial, collector, local, main street)

Comprehensive Plan Center Designation: Urban Center
(urban center, employment center, activity center)

Jurisdiction of roadway (NMDOT, City, County): NMDOT

Adjacent Roadway(s) Traffic Volume: Gibson: 7290 ADT / Yale: 4150 ADT Volume-to-Capacity Ratio: 0.25-0.75
(if applicable)

Adjacent Transit Service(s): ABQ RIDE Route 16 and 50 Nearest Transit Stop(s): Route 16: Gibson@Yale, Route 50: Yale@Gibson

Is site within 660 feet of Premium Transit?: _____

Current/Proposed Bicycle Infrastructure: Current bike lane on Gibson, proposed bike lane on Yale
(bike lanes, trails)

Current/Proposed Sidewalk Infrastructure: _____

Relevant Web-sites for Filling out Roadway Information:

City GIS Information: <http://www.cabq.gov/gis/advanced-map-viewer>

Comprehensive Plan Corridor/Designation: <https://abc-zone.com/document/abc-comp-plan-chapter-5-land-use> (map after Page 5-5)

Road Corridor Classification: <https://www.mrcog-nm.gov/DocumentCenter/View/1920/Long-Range-Roadway-System-LRRS-PDF?bidId=>

Traffic Volume and V/C Ratio: <https://www.mrcog-nm.gov/285/Traffic-Counts> and <https://public.mrcog-nm.gov/taqa/>

Bikeways: http://documents.cabq.gov/planning/adopted-longrange-plans/BTFP/Final/BTFP%20FINAL_Jun25.pdf (Map Pages 75 to 81)

TIS Determination

Note: Changes made to development proposals / assumptions, from the information provided above, will result in a new TIS determination.

Traffic Impact Study (TIS) Required: Yes ☒ No ☐ Borderline ☐

Thresholds Met? Yes ☒ No ☐

Mitigating Reasons for Not Requiring TIS: _____ Previously Studied: ☐

Notes:



5/18/2021

TRAFFIC ENGINEER

DATE

Submittal

The Scoping Form must be submitted as part of any building permit application, DRB application, or EPC application. See the Development Process Manual Chapter 7.4 for additional information.

Submit by email to the City Traffic Engineer mgrush@cabq.gov . Call 924-3362 for information.

Site Plan/Traffic Scoping Checklist

Site plan, building size in sq. ft. (show new, existing, remodel), to include the following items as applicable:

1. Access -- location and width of driveways
2. Sidewalks (Check DPM and IDO for sidewalk requirements. Also, Centers have wider sidewalk requirements.)
3. Bike Lanes (check for designated bike routes, long range bikeway system) ([*check MRCOG Bikeways and Trails in the 2040 MTP map*](#))
4. Location of nearby multi-use trails, if applicable ([*check MRCOG Bikeways and Trails in the 2040 MTP map*](#))
5. Location of nearby transit stops, transit stop amenities (eg. bench, shelter). Note if site is within 660 feet of premium transit.
6. Adjacent roadway(s) configuration (number of lanes, lane widths, turn bays, medians, etc.)
7. Distance from access point(s) to nearest adjacent driveways/intersections.
8. Note if site is within a Center and more specifically if it is within an Urban Center.
9. Note if site is adjacent to a Main Street.
10. Identify traffic volumes on adjacent roadway per MRCOG information. If site generates more than 100 vehicles per hour, identify v/c ratio on this form.

APPENDIX C – LOS Descriptions

Level of Service for Signalized Intersections

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average stopped delay per vehicle for a 15-min analysis period. The criteria are given in Exhibit 16-2. Delay may be measured in the field or estimated using procedures presented later in this chapter. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group in question.

LOS A describes operations with very low delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

LOS B describes operations with delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.

Exhibit 16-2. Level-of-Service Criteria for Signalized Intersections

LEVEL OF SERVICE	STOPPED DELAY PER VEHICLE (SEC)
A	≤ 10.0
B	> 10.0 and ≤ 20.0
C	> 20.0 and ≤ 35.0
D	> 35.0 and ≤ 55.0
E	> 55.0 and ≤ 80.0
F	> 80.0

LOS C describes operations with delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LOS D describes operations with delay greater than 35 and up to 55 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with delay greater than 55 and up to 80 sec per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: Highway Capacity Manual, 2000. Transportation Research Board, National Research Council

Level of Service Criteria for Stop Sign Controlled Intersections

The level of service criteria are given in Table 17-2. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in queue.

The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. . . .

Table 17-2. Level of Service Criteria for TWSC Intersections

LEVEL OF SERVICE	AVERAGE CONTROL DELAY (sec/veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Average total delay less than 10 sec/veh is defined as Level of Service (LOS) A. Follow-up times of less than 5 sec have been measured when there is no conflicting traffic for a minor street movement, so control delays of less than 10 sec/veh are appropriate for low flow conditions. To remain consistent with the AWSC intersection analysis procedure described later in this chapter, a total delay of 50 sec/veh is assumed as the break point between LOS E and F.

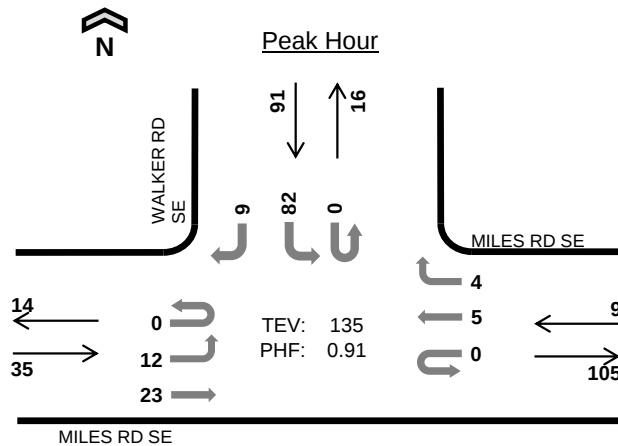
The proposed level of service criteria for TWSC intersections are somewhat different from the criteria used in Chapter 16 for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, several driver behavior considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, where drivers on the minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized than signalized intersections. For these reasons, it is considered that the total delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection. . . .

LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queueing on the minor approaches. The method, however, is based on a constant critical gap size - that is, the critical gap remains constant, no matter how long the side street motorist waits. LOS F may also appear in the form of side street vehicles' selecting smaller-than-usual gaps. In such cases, safety may be a problem and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior. The latter is more difficult to observe on the field than queueing, which is more obvious.

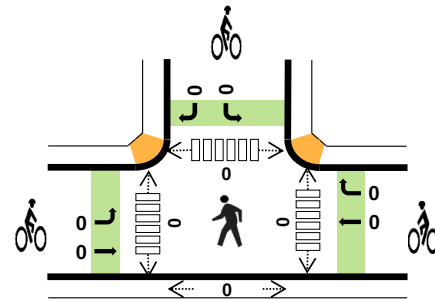
Source: Highway Capacity Manual, 2000. Transportation Research Board, National Research Council

APPENDIX D – Traffic Counts

WALKER RD SE MILES RD SE



Date: Wed, Jun 23, 2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	5.7%	0.67
WB	0.0%	0.56
NB	-	-
SB	1.1%	0.91
TOTAL	2.2%	0.91

Two-Hour Count Summaries

Interval Start		MILES RD SE				MILES RD SE				0				WALKER RD SE				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	2	5	0	0	0	0	1	0	0	0	0	0	13	0	1	22	0
7:15 AM		0	1	4	0	0	0	2	1	0	0	0	0	0	14	0	2	24	0
7:30 AM		0	1	2	0	0	0	2	0	0	0	0	0	0	21	0	1	27	0
7:45 AM		0	2	5	0	0	0	0	0	0	0	0	0	0	24	0	0	31	104
8:00 AM		0	3	4	0	0	0	2	1	0	0	0	0	0	20	0	4	34	116
8:15 AM		0	2	6	0	0	0	1	3	0	0	0	0	0	23	0	2	37	129
8:30 AM		0	5	8	0	0	0	2	0	0	0	0	0	0	15	0	3	33	135
8:45 AM		0	2	3	0	0	0	4	3	0	0	0	0	0	13	0	3	28	132
Count Total		0	18	37	0	0	0	13	9	0	0	0	0	0	143	0	16	236	0
Peak Hour	All	0	12	23	0	0	0	5	4	0	0	0	0	0	82	0	9	135	0
	HV	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0
	HV%	-	0%	9%	-	-	-	0%	0%	-	-	-	-	-	1%	-	0%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	4	0	0	1	5	0	0	0	0	0	0	0	0	0	0
Peak Hr	2	0	0	1	3	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles

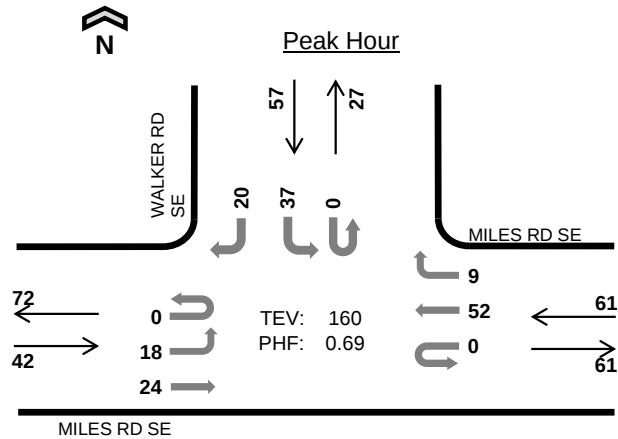
Interval Start	MILES RD SE				MILES RD SE				0				WALKER RD SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	5	0
Peak Hour	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0

Two-Hour Count Summaries - Bikes

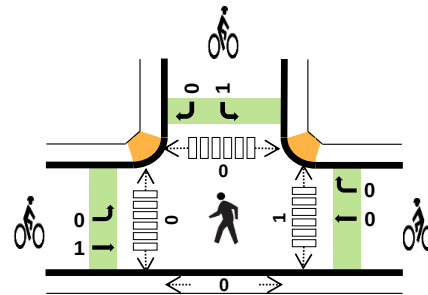
Interval Start	MILES RD SE			MILES RD SE			0			WALKER RD SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

WALKER RD SE MILES RD SE



Date: Wed, Jun 23, 2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	4.8%	0.55
WB	1.6%	0.66
NB	-	-
SB	0.0%	0.57
TOTAL	1.9%	0.69

Two-Hour Count Summaries

Interval Start		MILES RD SE				MILES RD SE				0				WALKER RD SE				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	6	13	0	0	0	11	3	0	0	0	0	0	19	0	6	58	0
4:15 PM		0	6	6	0	0	0	21	2	0	0	0	0	0	7	0	5	47	0
4:30 PM		0	4	2	0	0	0	13	1	0	0	0	0	0	4	0	2	26	0
4:45 PM		0	2	3	0	0	0	7	3	0	0	0	0	0	7	0	7	29	160
5:00 PM		0	2	4	0	0	0	6	3	0	0	0	0	0	6	0	1	22	124
5:15 PM		0	2	1	0	0	0	9	4	0	0	0	0	0	3	0	5	24	101
5:30 PM		0	3	6	0	0	0	11	1	0	0	0	0	0	1	0	7	29	104
5:45 PM		0	7	2	0	0	0	3	4	0	0	0	0	0	2	0	14	32	107
Count Total		0	32	37	0	0	0	81	21	0	0	0	0	0	49	0	47	267	0
Peak Hour	All	0	18	24	0	0	0	52	9	0	0	0	0	0	37	0	20	160	0
	HV	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0
	HV%	-	0%	8%	-	-	-	2%	0%	-	-	-	-	-	0%	-	0%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	0	1	2	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	2	2	0	0	4	1	0	0	1	2	1	0	0	0	1
Peak Hr	2	1	0	0	3	1	0	0	1	2	1	0	0	0	1

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	MILES RD SE				MILES RD SE				0				WALKER RD SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	0
Peak Hour	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0

Two-Hour Count Summaries - Bikes

Interval Start	MILES RD SE			MILES RD SE			0			WALKER RD SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	0	1	0	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	1	0	0	0	0	0	0	0	1	0	0	2	0
Peak Hour	0	1	0	0	0	0	0	0	0	1	0	0	2	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

WALKER RD SE GIBSON BLVD SE

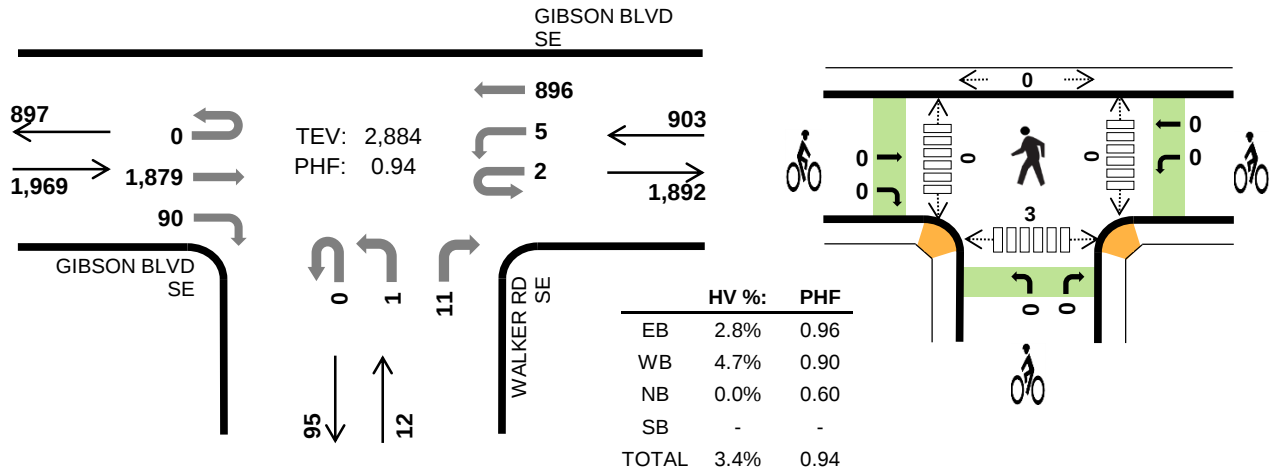


Peak Hour

Date: Wed, Jun 23, 2021

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:30 AM to 8:30 AM



Two-Hour Count Summaries

Interval Start		GIBSON BLVD SE				GIBSON BLVD SE				WALKER RD SE				0				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	483	13	0	1	143	0	0	0	0	2	0	0	0	0	642	0
7:15 AM		0	0	447	16	0	0	207	0	0	0	0	3	0	0	0	0	673	0
7:30 AM		0	0	456	22	1	0	234	0	0	0	0	1	0	0	0	0	714	0
7:45 AM		0	0	487	24	0	0	251	0	0	1	0	1	0	0	0	0	764	2,793
8:00 AM		0	0	491	21	1	3	200	0	0	0	0	5	0	0	0	0	721	2,872
8:15 AM		0	0	445	23	0	2	211	0	0	0	0	4	0	0	0	0	685	2,884
8:30 AM		1	0	450	19	1	1	207	0	0	0	0	5	0	0	0	0	684	2,854
8:45 AM		0	0	382	11	0	3	203	0	0	0	0	5	0	0	0	0	604	2,694
Count Total		1	0	3,641	149	3	10	1,656	0	0	1	0	26	0	0	0	0	5,487	0
Peak Hour	All	0	0	1,879	90	2	5	896	0	0	1	0	11	0	0	0	0	2,884	0
	HV	0	0	55	0	0	0	42	0	0	0	0	0	0	0	0	0	97	0
	HV%	-	-	3%	0%	0%	0%	5%	-	-	0%	-	0%	-	-	-	-	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	14	6	0	0	20	0	0	0	0	0	0	0	0	1	1
7:15 AM	11	6	0	0	17	0	0	0	0	0	0	0	0	0	0
7:30 AM	11	9	0	0	20	0	0	0	0	0	0	0	0	0	0
7:45 AM	18	7	0	0	25	0	0	0	0	0	0	0	0	1	1
8:00 AM	14	10	0	0	24	0	0	0	0	0	0	0	0	2	2
8:15 AM	12	16	0	0	28	0	0	0	0	0	0	0	0	0	0
8:30 AM	14	10	0	0	24	0	0	0	0	0	0	0	0	0	0
8:45 AM	20	8	0	0	28	0	0	0	0	0	0	0	0	0	0
Count Total	114	72	0	0	186	0	0	0	0	0	0	0	0	4	4
Peak Hr	55	42	0	0	97	0	0	0	0	0	0	0	0	3	3

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	GIBSON BLVD SE				GIBSON BLVD SE				WALKER RD SE				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	14	0	0	0	6	0	0	0	0	0	0	0	0	0	20	0
7:15 AM	0	0	11	0	0	0	6	0	0	0	0	0	0	0	0	0	17	0
7:30 AM	0	0	11	0	0	0	9	0	0	0	0	0	0	0	0	0	20	0
7:45 AM	0	0	18	0	0	0	7	0	0	0	0	0	0	0	0	0	25	82
8:00 AM	0	0	14	0	0	0	10	0	0	0	0	0	0	0	0	0	24	86
8:15 AM	0	0	12	0	0	0	16	0	0	0	0	0	0	0	0	0	28	97
8:30 AM	0	0	13	1	1	0	9	0	0	0	0	0	0	0	0	0	24	101
8:45 AM	0	0	20	0	0	0	8	0	0	0	0	0	0	0	0	0	28	104
Count Total	0	0	113	1	1	0	71	0	0	0	0	0	0	0	0	0	186	0
Peak Hour	0	0	55	0	0	0	42	0	0	0	0	0	0	0	0	0	97	0

Two-Hour Count Summaries - Bikes

Interval Start	GIBSON BLVD SE			GIBSON BLVD SE			WALKER RD SE			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.





WALKER RD SE GIBSON BLVD SE

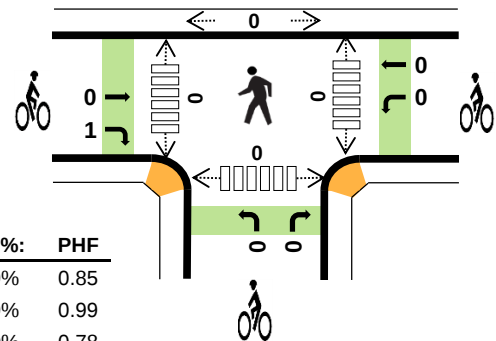
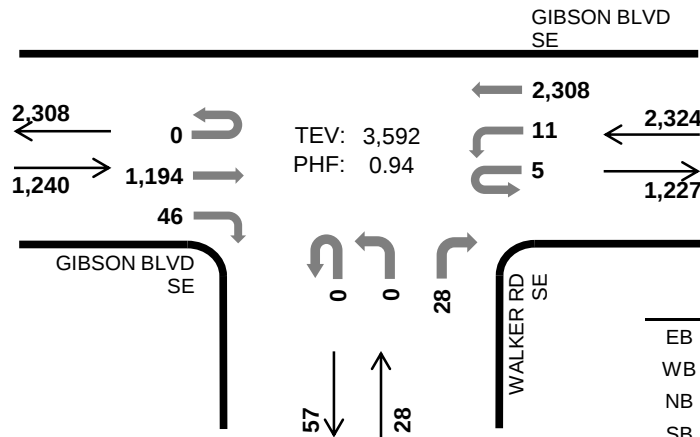


Peak Hour

Date: Wed, Jun 23, 2021

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	1.9%	0.85
WB	0.9%	0.99
NB	0.0%	0.78
SB	-	-
TOTAL	1.3%	0.94

Two-Hour Count Summaries

Interval Start	GIBSON BLVD SE Eastbound				GIBSON BLVD SE Westbound				WALKER RD SE Northbound				WALKER RD SE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	341	24	2	1	578	0	0	0	0	9	0	0	0	0	955	0
4:15 PM	0	0	286	8	2	4	575	0	0	0	0	9	0	0	0	0	884	0
4:30 PM	0	0	275	4	0	2	587	0	0	0	0	5	0	0	0	0	873	0
4:45 PM	0	0	292	10	1	4	568	0	0	0	0	5	0	0	0	0	880	3,592
5:00 PM	0	0	246	6	0	1	498	0	0	0	0	5	0	0	0	0	756	3,393
5:15 PM	0	0	268	6	1	2	404	0	0	0	0	6	0	0	0	0	687	3,196
5:30 PM	0	0	255	4	0	4	440	0	0	0	0	4	0	0	0	0	707	3,030
5:45 PM	1	0	236	8	0	7	434	0	0	0	0	10	0	0	0	0	696	2,846
Count Total	1	0	2,199	70	6	25	4,084	0	0	0	0	53	0	0	0	0	6,438	0
Peak Hour	All	0	0	1,194	46	5	11	2,308	0	0	0	28	0	0	0	0	3,592	0
	HV	0	0	24	0	0	0	21	0	0	0	0	0	0	0	0	45	0
	HV%	-	-	2%	0%	0%	0%	1%	-	-	-	0%	-	-	-	-	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	9	5	0	0	14	0	0	0	0	0	0	0	0	0	0
4:15 PM	4	8	0	0	12	1	0	0	0	1	0	0	0	0	0
4:30 PM	6	5	0	0	11	0	0	0	0	0	0	0	0	0	0
4:45 PM	5	3	0	0	8	0	0	0	0	0	0	0	0	0	0
5:00 PM	5	6	0	0	11	0	0	0	0	0	0	0	0	0	0
5:15 PM	4	7	0	0	11	0	0	0	0	0	0	0	0	0	0
5:30 PM	6	5	0	0	11	0	0	0	0	0	0	0	0	0	0
5:45 PM	5	4	0	0	9	0	0	0	0	0	0	0	0	1	1
Count Total	44	43	0	0	87	1	0	0	0	1	0	0	0	1	1
Peak Hr	24	21	0	0	45	1	0	0	0	1	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	GIBSON BLVD SE				GIBSON BLVD SE				WALKER RD SE				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	9	0	0	0	5	0	0	0	0	0	0	0	0	0	14	0
4:15 PM	0	0	4	0	0	0	8	0	0	0	0	0	0	0	0	0	12	0
4:30 PM	0	0	6	0	0	0	5	0	0	0	0	0	0	0	0	0	11	0
4:45 PM	0	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	8	45
5:00 PM	0	0	5	0	0	0	6	0	0	0	0	0	0	0	0	0	11	42
5:15 PM	0	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	11	41
5:30 PM	0	0	6	0	0	0	5	0	0	0	0	0	0	0	0	0	11	41
5:45 PM	0	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	9	42
Count Total	0	0	44	0	0	0	43	0	0	0	0	0	0	0	0	0	87	0
Peak Hour	0	0	24	0	0	0	21	0	0	0	0	0	0	0	0	0	45	0

Two-Hour Count Summaries - Bikes

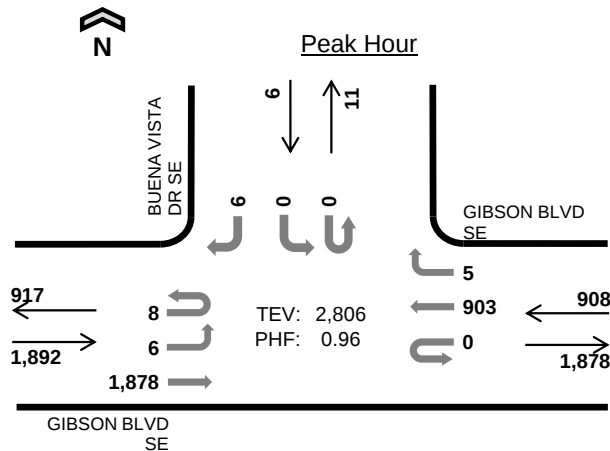
Interval Start	GIBSON BLVD SE			GIBSON BLVD SE			WALKER RD SE			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	0	0	1	0	0	0	0	0	0	0	0	0	1	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

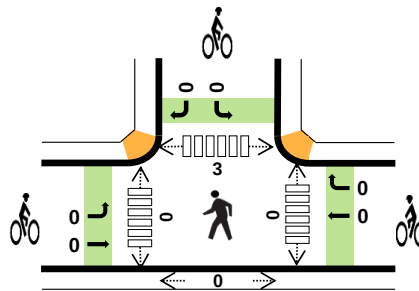




BUENA VISTA DR SE GIBSON BLVD SE



Date: Wed, Jun 23, 2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	3.0%	0.98
WB	4.8%	0.91
NB	-	-
SB	0.0%	0.50
TOTAL	3.6%	0.96

Two-Hour Count Summaries

Interval Start		GIBSON BLVD SE				GIBSON BLVD SE				0				BUENA VISTA DR SE				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	475	0	0	0	141	0	0	0	0	0	0	0	0	4	620	0
7:15 AM		2	2	449	0	0	0	195	1	0	0	0	0	0	1	0	2	652	0
7:30 AM		2	0	461	0	0	0	242	1	0	0	0	0	0	0	0	1	707	0
7:45 AM		2	2	474	0	0	0	249	0	0	0	0	0	0	0	0	0	727	2,706
8:00 AM		2	2	481	0	0	0	203	1	0	0	0	0	0	0	0	3	692	2,778
8:15 AM		2	2	462	0	0	0	209	3	0	0	0	0	0	0	0	2	680	2,806
8:30 AM		3	2	449	0	0	0	205	2	0	0	0	0	0	0	0	0	661	2,760
8:45 AM		4	1	388	0	0	0	199	1	0	0	0	0	0	0	0	2	595	2,628
Count Total		17	11	3,639	0	0	0	1,643	9	0	0	0	0	0	1	0	14	5,334	0
Peak Hour	All	8	6	1,878	0	0	0	903	5	0	0	0	0	0	0	0	6	2,806	0
	HV	0	0	56	0	0	0	44	0	0	0	0	0	0	0	0	0	100	0
	HV%	0%	0%	3%	-	-	-	5%	0%	-	-	-	-	-	-	-	0%	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	12	4	0	0	16	0	0	0	0	0	0	0	0	0	0
7:15 AM	14	6	0	0	20	0	0	0	0	0	0	0	1	0	1
7:30 AM	12	9	0	0	21	0	0	0	0	0	0	0	1	0	1
7:45 AM	16	9	0	0	25	0	0	0	0	0	0	0	2	0	2
8:00 AM	15	8	0	0	23	0	0	0	0	0	0	0	0	0	0
8:15 AM	13	18	0	0	31	0	0	0	0	0	0	0	0	0	0
8:30 AM	12	12	0	0	24	0	0	0	0	0	0	0	0	0	0
8:45 AM	20	7	0	1	28	0	0	0	0	0	1	0	0	0	1
Count Total	114	73	0	1	188	0	0	0	0	0	1	0	4	0	5
Peak Hr	56	44	0	0	100	0	0	0	0	0	0	0	3	0	3

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	GIBSON BLVD SE				GIBSON BLVD SE				0				BUENA VISTA DR SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	12	0	0	0	4	0	0	0	0	0	0	0	0	0	16	0
7:15 AM	0	0	14	0	0	0	6	0	0	0	0	0	0	0	0	0	20	0
7:30 AM	0	0	12	0	0	0	9	0	0	0	0	0	0	0	0	0	21	0
7:45 AM	0	0	16	0	0	0	9	0	0	0	0	0	0	0	0	0	25	82
8:00 AM	0	0	15	0	0	0	8	0	0	0	0	0	0	0	0	0	23	89
8:15 AM	0	0	13	0	0	0	18	0	0	0	0	0	0	0	0	0	31	100
8:30 AM	0	0	12	0	0	0	10	2	0	0	0	0	0	0	0	0	24	103
8:45 AM	0	0	20	0	0	0	7	0	0	0	0	0	0	0	0	1	28	106
Count Total	0	0	114	0	0	0	71	2	0	0	0	0	0	0	0	1	188	0
Peak Hour	0	0	56	0	0	0	44	0	0	0	0	0	0	0	0	0	100	0

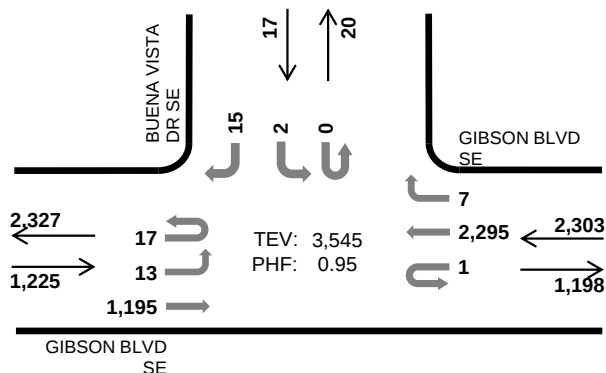
Two-Hour Count Summaries - Bikes																		
Interval Start	GIBSON BLVD SE			GIBSON BLVD SE			0			BUENA VISTA DR SE			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

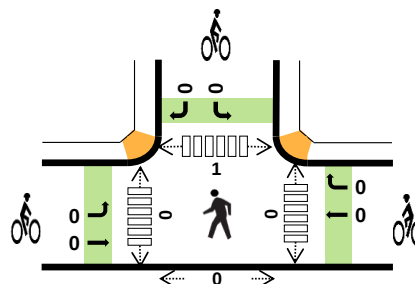
BUENA VISTA DR SE GIBSON BLVD SE



Peak Hour



Date: Wed, Jun 23, 2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	2.0%	0.87
WB	0.9%	0.98
NB	-	-
SB	0.0%	0.71
TOTAL	1.3%	0.95

Two-Hour Count Summaries

Interval Start		GIBSON BLVD SE				GIBSON BLVD SE				0				BUENA VISTA DR SE				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		3	2	348	0	0	0	574	2	0	0	0	0	0	1	0	2	932	0
4:15 PM		5	6	289	0	1	0	574	2	0	0	0	0	0	1	0	3	881	0
4:30 PM		3	0	268	0	0	0	583	2	0	0	0	0	0	0	0	4	860	0
4:45 PM		6	5	290	0	0	0	564	1	0	0	0	0	0	0	0	6	872	3,545
5:00 PM		5	1	247	0	0	0	489	0	0	0	0	0	0	0	0	1	743	3,356
5:15 PM		2	3	270	0	0	0	409	2	0	0	0	0	0	1	0	0	687	3,162
5:30 PM		4	2	257	0	0	0	438	2	0	0	0	0	0	0	0	1	704	3,006
5:45 PM		8	2	237	0	0	0	435	1	0	0	0	0	0	0	0	2	685	2,819
Count Total		36	21	2,206	0	1	0	4,066	12	0	0	0	0	0	3	0	19	6,364	0
Peak Hour	All	17	13	1,195	0	1	0	2,295	7	0	0	0	0	0	2	0	15	3,545	0
	HV	0	0	24	0	0	0	21	0	0	0	0	0	0	0	0	0	45	0
	HV%	0%	0%	2%	-	0%	-	1%	0%	-	-	-	-	-	0%	-	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

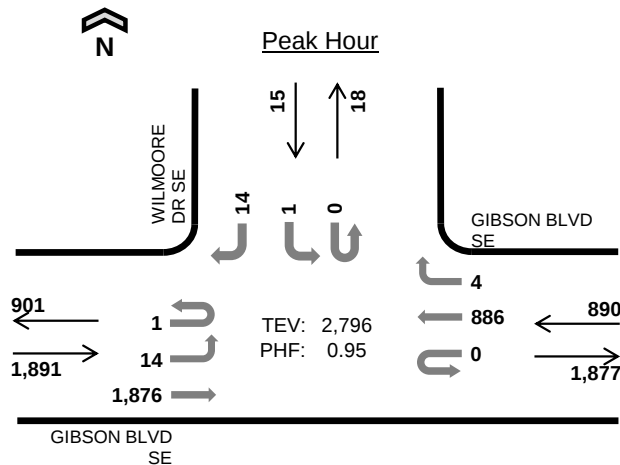
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	9	4	0	0	13	0	0	0	0	0	0	0	0	0	0
4:15 PM	5	9	0	0	14	0	0	0	0	0	0	0	0	0	0
4:30 PM	5	5	0	0	10	0	0	0	0	0	0	0	0	0	0
4:45 PM	5	3	0	0	8	0	0	0	0	0	0	0	1	0	1
5:00 PM	4	7	0	0	11	0	0	0	0	0	0	0	0	0	0
5:15 PM	6	8	0	0	14	0	0	0	0	0	0	0	0	0	0
5:30 PM	6	3	0	0	9	0	0	0	0	0	0	0	1	0	1
5:45 PM	4	4	0	0	8	0	0	0	0	0	0	0	0	0	0
Count Total	44	43	0	0	87	0	0	0	0	0	0	0	2	0	2
Peak Hr	24	21	0	0	45	0	0	0	0	0	0	0	1	0	1

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	GIBSON BLVD SE				GIBSON BLVD SE				0				BUENA VISTA DR SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	9	0	0	0	4	0	0	0	0	0	0	0	0	0	13	0
4:15 PM	0	0	5	0	0	0	9	0	0	0	0	0	0	0	0	0	14	0
4:30 PM	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	10	0
4:45 PM	0	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	8	45
5:00 PM	0	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	11	43
5:15 PM	0	0	6	0	0	0	8	0	0	0	0	0	0	0	0	0	14	43
5:30 PM	0	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	9	42
5:45 PM	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	8	42
Count Total	0	0	44	0	0	0	43	0	0	0	0	0	0	0	0	0	87	0
Peak Hour	0	0	24	0	0	0	21	0	0	0	0	0	0	0	0	0	45	0

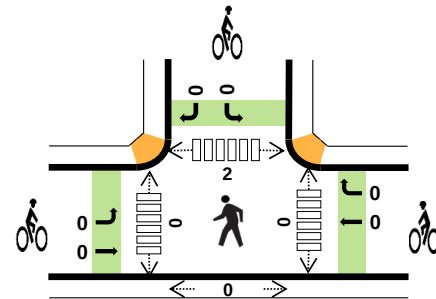
Two-Hour Count Summaries - Bikes																		
Interval Start	GIBSON BLVD SE				GIBSON BLVD SE				0				BUENA VISTA DR SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	LT	TH	RT		LT	TH	RT		LT	TH	RT		LT	TH	RT			
4:00 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
4:15 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
4:30 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
4:45 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
5:00 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
5:15 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
5:30 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
5:45 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
Count Total	0	0	0		0	0	0		0	0	0		0	0	0		0	0
Peak Hour	0	0	0		0	0	0		0	0	0		0	0	0		0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

WILMOORE DR SE GIBSON BLVD SE



Date: Wed, Jun 23, 2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	2.9%	0.96
WB	4.8%	0.92
NB	-	-
SB	6.7%	0.75
TOTAL	3.5%	0.95

Two-Hour Count Summaries

Interval Start		GIBSON BLVD SE				GIBSON BLVD SE				0				WILMOORE DR SE				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	454	0	0	0	143	1	0	0	0	0	0	0	0	2	600	0
7:15 AM		0	4	471	0	0	0	191	0	0	0	0	0	0	1	0	5	672	0
7:30 AM		0	3	450	0	0	0	240	1	0	0	0	0	0	1	0	2	697	0
7:45 AM		0	2	488	0	0	0	238	0	0	0	0	0	0	0	0	5	733	2,702
8:00 AM		0	5	467	0	0	0	204	1	0	0	0	0	0	0	0	3	680	2,782
8:15 AM		1	4	471	0	0	0	204	2	0	0	0	0	0	0	0	4	686	2,796
8:30 AM		0	2	424	0	0	0	199	1	0	0	0	0	0	0	0	5	631	2,730
8:45 AM		0	2	398	0	0	0	199	2	0	0	0	0	0	2	0	2	605	2,602
Count Total		1	22	3,623	0	0	0	1,618	8	0	0	0	0	0	4	0	28	5,304	0
Peak Hour	All	1	14	1,876	0	0	0	886	4	0	0	0	0	0	1	0	14	2,796	0
	HV	0	1	54	0	0	0	42	1	0	0	0	0	0	0	0	1	99	0
	HV%	0%	7%	3%	-	-	-	5%	25%	-	-	-	-	-	0%	-	7%	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

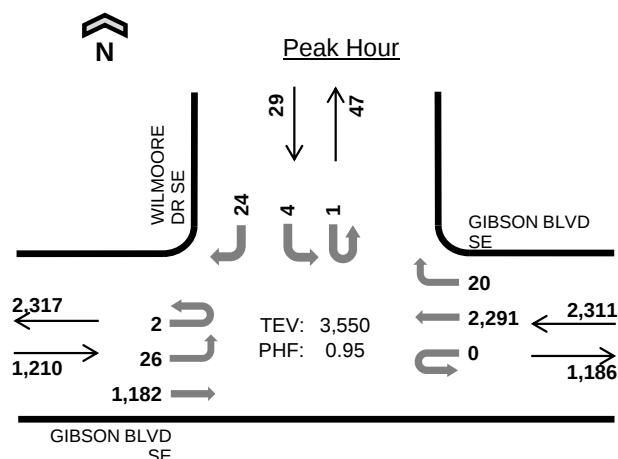
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	12	4	0	0	16	0	0	0	0	0	0	0	0	0	0
7:15 AM	15	5	0	1	21	0	0	0	0	0	1	0	1	0	2
7:30 AM	12	9	0	0	21	0	0	0	0	0	0	0	1	0	1
7:45 AM	15	9	0	0	24	0	0	0	0	0	0	0	1	0	1
8:00 AM	14	10	0	0	24	0	0	0	0	0	0	0	0	0	0
8:15 AM	14	15	0	1	30	0	0	0	0	0	0	0	0	0	0
8:30 AM	14	11	0	1	26	0	0	0	0	0	0	0	0	0	0
8:45 AM	18	9	0	0	27	0	0	0	0	0	0	0	0	0	0
Count Total	114	72	0	3	189	0	0	0	0	0	1	0	3	0	4
Peak Hr	55	43	0	1	99	0	0	0	0	0	0	0	2	0	2

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	GIBSON BLVD SE				GIBSON BLVD SE				0				WILMOORE DR SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	12	0	0	0	4	0	0	0	0	0	0	0	0	0	16	0
7:15 AM	0	1	14	0	0	0	5	0	0	0	0	0	0	0	0	1	21	0
7:30 AM	0	0	12	0	0	0	9	0	0	0	0	0	0	0	0	0	21	0
7:45 AM	0	0	15	0	0	0	9	0	0	0	0	0	0	0	0	0	24	82
8:00 AM	0	0	14	0	0	0	9	1	0	0	0	0	0	0	0	0	24	90
8:15 AM	0	1	13	0	0	0	15	0	0	0	0	0	0	0	0	1	30	99
8:30 AM	0	0	14	0	0	0	11	0	0	0	0	0	0	0	0	1	26	104
8:45 AM	0	0	18	0	0	0	8	1	0	0	0	0	0	0	0	0	27	107
Count Total	0	2	112	0	0	0	70	2	0	0	0	0	0	0	0	3	189	0
Peak Hour	0	1	54	0	0	0	42	1	0	0	0	0	0	0	0	1	99	0

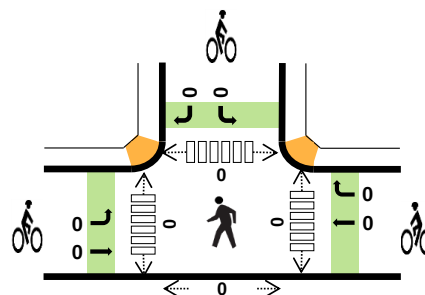
Two-Hour Count Summaries - Bikes																		
Interval Start	GIBSON BLVD SE			GIBSON BLVD SE			0			WILMOORE DR SE			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

WILMOORE DR SE GIBSON BLVD SE



Date: Wed, Jun 23, 2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	2.0%	0.85
WB	0.9%	0.98
NB	-	-
SB	3.4%	0.66
TOTAL	1.3%	0.95

Two-Hour Count Summaries

Interval Start		GIBSON BLVD SE				GIBSON BLVD SE				0				WILMOORE DR SE				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	4:00 PM	0	5	350	0	0	0	577	3	0	0	0	0	0	1	0	2	938	0
	4:15 PM	1	10	280	0	0	0	572	3	0	0	0	0	0	2	0	6	874	0
	4:30 PM	1	8	264	0	0	0	583	9	0	0	0	0	0	0	0	7	872	0
	4:45 PM	0	3	288	0	0	0	559	5	0	0	0	0	1	1	0	9	866	3,550
	5:00 PM	0	4	242	0	0	0	474	7	0	0	0	0	0	0	0	7	734	3,346
	5:15 PM	0	7	264	0	0	0	394	5	0	0	0	0	0	0	0	8	678	3,150
	5:30 PM	0	9	241	0	0	0	432	6	0	0	0	0	0	1	0	8	697	2,975
	5:45 PM	0	4	233	0	0	0	424	5	0	0	0	0	0	0	0	9	675	2,784
Count Total		2	50	2,162	0	0	0	4,015	43	0	0	0	0	1	5	0	56	6,334	0
Peak Hour	All	2	26	1,182	0	0	0	2,291	20	0	0	0	0	1	4	0	24	3,550	0
	HV	0	0	24	0	0	0	20	1	0	0	0	0	0	0	0	1	46	0
	HV%	0%	0%	2%	-	-	-	1%	5%	-	-	-	-	0%	0%	-	4%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	8	5	0	0	13	0	0	0	0	0	0	0	0	0	0
4:15 PM	6	7	0	1	14	0	0	0	0	0	0	0	0	0	0
4:30 PM	5	5	0	0	10	0	0	0	0	0	0	0	0	0	0
4:45 PM	5	4	0	0	9	0	0	0	0	0	0	0	0	0	0
5:00 PM	4	6	0	1	11	0	0	0	0	0	0	0	0	0	0
5:15 PM	6	8	0	0	14	0	1	0	0	1	0	0	0	0	0
5:30 PM	6	3	0	0	9	0	1	0	0	1	0	0	1	0	1
5:45 PM	4	4	0	0	8	0	0	0	0	0	0	0	0	0	0
Count Total	44	42	0	2	88	0	2	0	0	2	0	0	1	0	1
Peak Hr	24	21	0	1	46	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	GIBSON BLVD SE				GIBSON BLVD SE				0				WILMOORE DR SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	8	0	0	0	5	0	0	0	0	0	0	0	0	0	13	0
4:15 PM	0	0	6	0	0	0	6	1	0	0	0	0	0	0	0	1	14	0
4:30 PM	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	10	0
4:45 PM	0	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	9	46
5:00 PM	0	0	4	0	0	0	6	0	0	0	0	0	0	0	0	1	11	44
5:15 PM	0	0	6	0	0	0	8	0	0	0	0	0	0	0	0	0	14	44
5:30 PM	0	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	9	43
5:45 PM	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	8	42
Count Total	0	0	44	0	0	0	41	1	0	0	0	0	0	0	0	2	88	0
Peak Hour	0	0	24	0	0	0	20	1	0	0	0	0	0	0	0	1	46	0

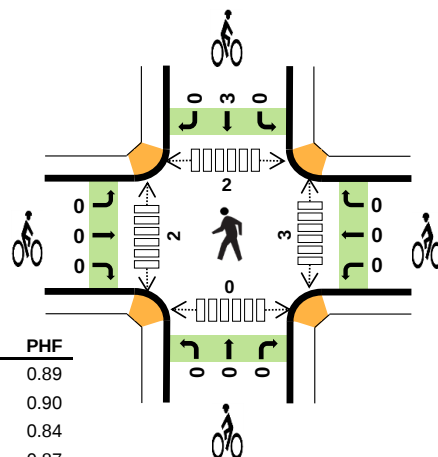
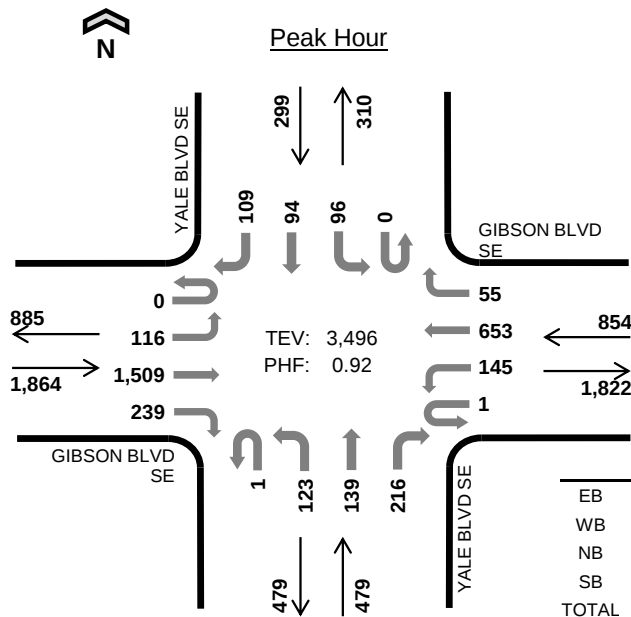
Two-Hour Count Summaries - Bikes																		
Interval Start	GIBSON BLVD SE				GIBSON BLVD SE				0				WILMOORE DR SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	LT	TH	RT		LT	TH	RT		LT	TH	RT		LT	TH	RT			
4:00 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
4:15 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
4:30 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
4:45 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
5:00 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0
5:15 PM	0	0	0		0	0	1		0	0	0		0	0	0		1	1
5:30 PM	0	0	0		0	0	1		0	0	0		0	0	0		1	2
5:45 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	2
Count Total	0	0	0		0	0	2		0	0	0		0	0	0		2	0
Peak Hour	0	0	0		0	0	0		0	0	0		0	0	0		0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

YALE BLVD SE GIBSON BLVD SE



Date: Wed, Jun 23, 2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	3.1%	0.89
WB	3.6%	0.90
NB	3.1%	0.84
SB	4.3%	0.87
TOTAL	3.3%	0.92

Two-Hour Count Summaries

Interval Start		GIBSON BLVD SE				GIBSON BLVD SE				YALE BLVD SE				YALE BLVD SE				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	25	364	42	0	31	109	12	0	25	16	44	0	22	10	19	719	0
7:15 AM		0	22	436	35	0	19	141	14	0	23	6	51	0	17	14	24	802	0
7:30 AM		0	16	343	48	0	35	183	9	0	32	15	51	0	27	22	27	808	0
7:45 AM		0	26	426	74	1	36	183	16	0	28	29	47	0	29	35	22	952	3,281
8:00 AM		0	37	363	59	0	34	157	15	0	28	40	67	0	13	23	33	869	3,431
8:15 AM		0	37	377	58	0	40	130	15	1	35	55	51	0	27	14	27	867	3,496
8:30 AM		0	23	342	49	0	37	144	13	0	33	42	44	0	14	22	23	786	3,474
8:45 AM		0	30	325	64	0	35	152	11	0	32	45	61	0	9	22	18	804	3,326
Count Total		0	216	2,976	429	1	267	1,199	105	1	236	248	416	0	158	162	193	6,607	0
Peak Hour	All	0	116	1,509	239	1	145	653	55	1	123	139	216	0	96	94	109	3,496	0
	HV	0	3	51	4	0	1	28	2	0	6	4	5	0	0	2	11	117	0
	HV%	-	3%	3%	2%	0%	1%	4%	4%	0%	5%	3%	2%	-	0%	2%	10%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	11	5	3	1	20	0	0	0	0	0	0	0	0	0	0
7:15 AM	14	4	1	4	23	0	0	0	0	0	2	1	0	1	4
7:30 AM	12	2	4	6	24	0	0	0	0	0	1	0	0	0	1
7:45 AM	16	8	1	3	28	0	0	0	1	1	2	0	2	0	4
8:00 AM	11	12	4	1	28	0	0	0	0	0	0	0	0	0	0
8:15 AM	19	9	6	3	37	0	0	0	2	2	0	2	0	0	2
8:30 AM	14	10	3	2	29	0	0	0	0	0	0	0	0	0	0
8:45 AM	15	10	4	1	30	0	0	0	0	0	0	0	0	0	0
Count Total	112	60	26	21	219	0	0	0	3	3	5	3	2	1	11
Peak Hour	58	31	15	13	117	0	0	0	3	3	3	2	2	0	7

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	GIBSON BLVD SE				GIBSON BLVD SE				YALE BLVD SE				YALE BLVD SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	10	0	0	1	3	1	0	1	2	0	0	0	1	0	20	0
7:15 AM	0	2	12	0	0	0	3	1	0	0	0	1	0	1	1	2	23	0
7:30 AM	0	0	12	0	0	0	2	0	0	1	1	2	0	0	0	6	24	0
7:45 AM	0	1	14	1	0	0	7	1	0	0	0	1	0	0	1	2	28	95
8:00 AM	0	1	10	0	0	1	10	1	0	1	2	1	0	0	0	1	28	103
8:15 AM	0	1	15	3	0	0	9	0	0	4	1	1	0	0	1	2	37	117
8:30 AM	0	0	12	2	0	0	9	1	0	0	1	2	0	0	1	1	29	122
8:45 AM	0	2	11	2	0	2	8	0	0	0	2	2	0	0	1	0	30	124
Count Total	0	8	96	8	0	4	51	5	0	7	9	10	0	1	6	14	219	0
Peak Hour	0	3	51	4	0	1	28	2	0	6	4	5	0	0	2	11	117	0

Two-Hour Count Summaries - Bikes

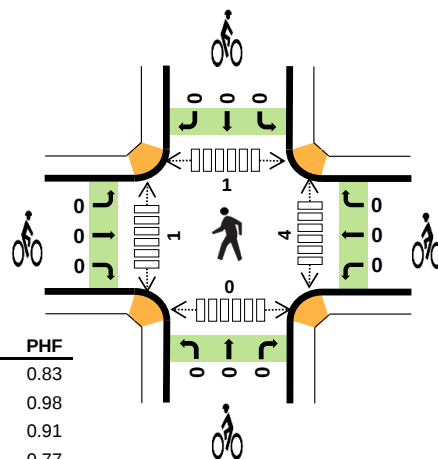
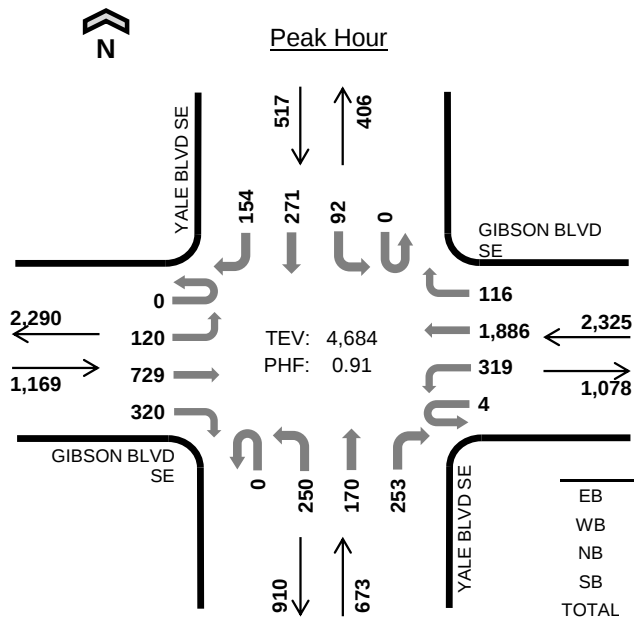
Interval Start	GIBSON BLVD SE			GIBSON BLVD SE			YALE BLVD SE			YALE BLVD SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	0	0	0	0	3	0	3	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	3	0	3	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

YALE BLVD SE GIBSON BLVD SE



Date: Wed, Jun 23, 2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



Two-Hour Count Summaries

Interval Start		GIBSON BLVD SE				GIBSON BLVD SE				YALE BLVD SE				YALE BLVD SE				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	25	168	160	1	87	469	36	0	73	41	60	0	22	111	34	1,287	0
4:15 PM		0	32	173	68	0	86	470	33	0	59	42	60	0	22	79	39	1,163	0
4:30 PM		0	30	179	49	1	71	479	32	0	68	49	68	0	29	44	45	1,144	0
4:45 PM		0	33	209	43	2	75	468	15	0	50	38	65	0	19	37	36	1,090	4,684
5:00 PM		0	37	168	33	0	64	395	32	0	62	52	77	1	17	24	30	992	4,389
5:15 PM		0	37	193	34	0	48	320	24	1	44	39	65	0	15	39	42	901	4,127
5:30 PM		1	35	165	42	0	43	364	21	0	55	31	50	0	11	23	30	871	3,854
5:45 PM		2	41	176	30	1	38	339	26	0	52	35	41	0	15	32	35	863	3,627
Count Total		3	270	1,431	459	5	512	3,304	219	1	463	327	486	1	150	389	291	8,311	0
Peak Hour	All	0	120	729	320	4	319	1,886	116	0	250	170	253	0	92	271	154	4,684	0
	HV	0	4	12	8	0	7	18	3	0	0	6	6	0	5	14	3	86	0
	HV%	-	3%	2%	3%	0%	2%	1%	3%	-	0%	4%	2%	-	5%	5%	2%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	11	8	3	5	27	0	0	0	0	0	0	0	1	0	1
4:15 PM	4	6	5	10	25	0	0	0	0	0	0	0	0	0	0
4:30 PM	3	10	2	5	20	0	0	0	0	0	0	0	0	0	0
4:45 PM	6	4	2	2	14	0	0	0	0	0	4	1	0	0	5
5:00 PM	3	4	3	1	11	0	0	0	0	0	0	0	0	0	0
5:15 PM	6	6	0	3	15	0	1	0	0	1	0	1	0	0	1
5:30 PM	7	5	3	0	15	0	1	0	0	1	0	3	1	0	4
5:45 PM	4	4	0	1	9	0	0	0	0	0	5	0	0	0	5
Count Total	44	47	18	27	136	0	2	0	0	2	9	5	2	0	16
Peak Hour	24	28	12	22	86	0	0	0	0	0	4	1	1	0	6

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	GIBSON BLVD SE				GIBSON BLVD SE				YALE BLVD SE				YALE BLVD SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	2	8	0	2	6	0	0	0	1	2	0	0	5	0	27	0
4:15 PM	0	1	3	0	0	1	5	0	0	0	3	2	0	3	6	1	25	0
4:30 PM	0	0	3	0	0	3	4	3	0	0	2	0	0	2	1	2	20	0
4:45 PM	0	2	4	0	0	1	3	0	0	0	0	2	0	0	2	0	14	86
5:00 PM	0	0	3	0	0	0	3	1	0	2	1	0	0	0	0	1	11	70
5:15 PM	0	2	3	1	0	0	6	0	0	0	0	0	0	0	1	2	15	60
5:30 PM	0	2	2	3	0	0	2	3	0	1	1	1	0	0	0	0	15	55
5:45 PM	0	2	2	0	0	0	4	0	0	0	0	0	0	0	1	0	9	50
Count Total	0	10	22	12	0	7	33	7	0	3	8	7	0	5	16	6	136	0
Peak Hour	0	4	12	8	0	7	18	3	0	0	6	6	0	5	14	3	86	0

Two-Hour Count Summaries - Bikes

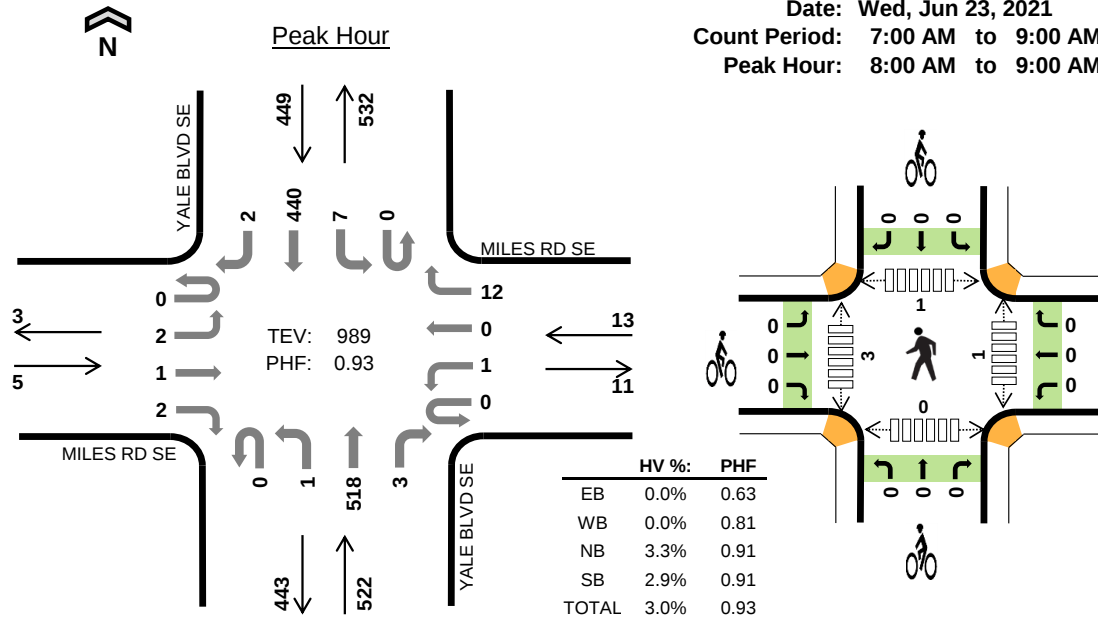
Interval Start	GIBSON BLVD SE			GIBSON BLVD SE			YALE BLVD SE			YALE BLVD SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	1
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	2	0	0	0	0	0	0	0	2	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

YALE BLVD SE MILES RD SE



Date: Wed, Jun 23, 2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



Two-Hour Count Summaries

Interval Start		MILES RD SE				MILES RD SE				YALE BLVD SE				YALE BLVD SE				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	1	0	0	0	2	0	0	80	0	0	1	77	0	161	0
7:15 AM		0	3	1	2	0	1	0	0	0	0	81	0	1	1	70	1	161	0
7:30 AM		0	1	0	0	0	0	0	1	0	0	95	0	0	3	98	2	200	0
7:45 AM		0	0	0	2	0	1	0	2	0	0	102	0	0	3	142	3	255	777
8:00 AM		0	1	0	0	0	0	0	2	0	0	130	1	0	1	113	0	248	864
8:15 AM		0	0	0	0	0	1	0	2	0	0	143	0	0	1	110	0	257	960
8:30 AM		0	0	1	1	0	0	0	4	0	1	109	1	0	0	100	1	218	978
8:45 AM		0	1	0	1	0	0	0	4	0	0	136	1	0	5	117	1	266	989
Count Total		0	6	2	7	0	3	0	17	0	1	876	3	1	15	827	8	1,766	0
Peak Hour	All	0	2	1	2	0	1	0	12	0	1	518	3	0	7	440	2	989	0
	HV	0	0	0	0	0	0	0	0	0	0	17	0	0	1	12	0	30	0
	HV%	-	0%	0%	0%	-	0%	-	0%	-	0%	3%	0%	-	14%	3%	0%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	3	1	4	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	0	0	2	3	0	0	0	0	0	1	2	0	0	3
7:30 AM	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	2	2	4	0	0	0	1	1	2	0	0	0	2
8:00 AM	0	0	3	2	5	0	0	0	0	0	0	1	1	0	2
8:15 AM	0	0	6	4	10	0	0	0	0	0	1	2	0	0	3
8:30 AM	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	6	4	10	0	0	0	0	0	0	0	0	0	0
Count Total	1	0	25	18	44	0	0	0	1	1	4	5	1	0	10
Peak Hour	0	0	17	13	30	0	0	0	0	0	1	3	1	0	5

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	MILES RD SE				MILES RD SE				YALE BLVD SE				YALE BLVD SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	4	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	14
8:00 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	5	15
8:15 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	10	22
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	24
8:45 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	1	3	0	10	30
Count Total	0	1	0	0	0	0	0	0	0	0	25	0	0	1	17	0	44	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	17	0	0	1	12	0	30	0

Two-Hour Count Summaries - Bikes

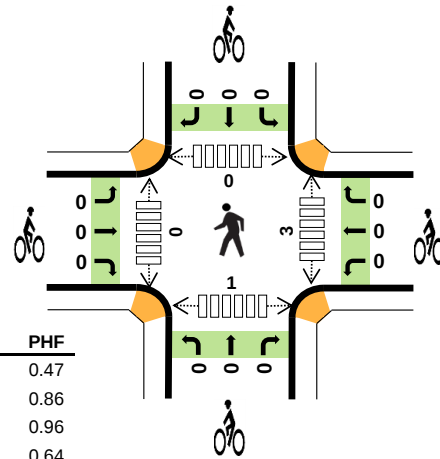
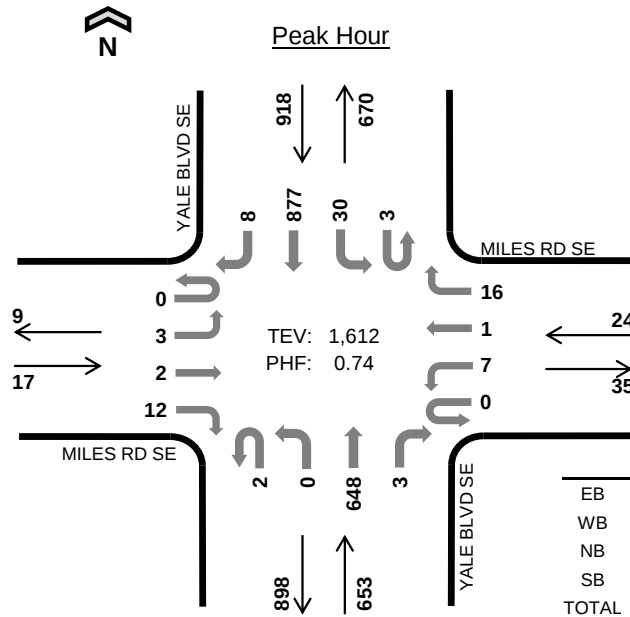
Interval Start	MILES RD SE			MILES RD SE			YALE BLVD SE			YALE BLVD SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

YALE BLVD SE MILES RD SE



Date: Wed, Jun 23, 2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	5.9%	0.47
WB	0.0%	0.86
NB	1.8%	0.96
SB	3.2%	0.64
TOTAL	2.6%	0.74

Two-Hour Count Summaries

Interval Start		MILES RD SE				MILES RD SE				YALE BLVD SE				YALE BLVD SE				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	2	7	0	2	0	5	0	0	166	2	0	9	349	1	543	0
4:15 PM		0	1	0	2	0	1	1	2	2	0	164	0	1	8	224	6	412	0
4:30 PM		0	2	0	2	0	2	0	4	0	0	170	0	1	6	156	1	344	0
4:45 PM		0	0	0	1	0	2	0	5	0	0	148	1	1	7	148	0	313	1,612
5:00 PM		0	1	0	0	0	1	0	5	0	0	182	1	1	4	115	2	312	1,381
5:15 PM		0	2	0	0	0	0	0	4	0	0	144	1	0	3	114	2	270	1,239
5:30 PM		0	1	0	0	0	0	0	5	0	0	130	0	0	8	101	3	248	1,143
5:45 PM		0	0	0	0	0	0	0	7	0	1	133	1	0	7	95	0	244	1,074
Count Total		0	7	2	12	0	8	1	37	2	1	1,237	6	4	52	1,302	15	2,686	0
Peak Hour	All	0	3	2	12	0	7	1	16	2	0	648	3	3	30	877	8	1,612	0
	HV	0	0	0	1	0	0	0	0	0	0	12	0	0	0	29	0	42	0
	HV%	-	0%	0%	8%	-	0%	0%	0%	0%	-	2%	0%	0%	0%	3%	0%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	3	10	13	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	6	8	14	0	0	0	0	0	1	0	0	1	2
4:30 PM	0	0	1	7	8	0	0	0	0	0	1	0	0	0	1
4:45 PM	1	0	2	4	7	0	0	0	0	0	1	0	0	0	1
5:00 PM	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	3	3	0	0	0	0	0	0	1	0	0	1
5:30 PM	0	0	3	2	5	0	0	0	0	0	1	2	0	0	3
5:45 PM	0	0	0	1	1	0	0	0	0	0	5	0	0	0	5
Count Total	1	0	18	35	54	0	0	0	0	0	9	3	0	1	13
Peak Hour	1	0	12	29	42	0	0	0	0	0	3	0	0	1	4

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	MILES RD SE				MILES RD SE				YALE BLVD SE				YALE BLVD SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	10	0	13	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	8	0	14	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	7	0	8	0
4:45 PM	0	0	0	1	0	0	0	0	0	0	2	0	0	0	4	0	7	42
5:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	32
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	21
5:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	5	18
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	12
Count Total	0	0	0	1	0	0	0	0	0	0	18	0	0	0	35	0	54	0
Peak Hour	0	0	0	1	0	0	0	0	0	0	12	0	0	0	29	0	42	0

Two-Hour Count Summaries - Bikes

Interval Start	MILES RD SE			MILES RD SE			YALE BLVD SE			YALE BLVD SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

APPENDIX E – Existing Synchro Outputs

Timings

1: Yale Blvd & Gibson Blvd

07/21/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	116	1522	239	146	661	55	126	139	216	96	94
Future Volume (vph)	116	1522	239	146	661	55	126	139	216	96	94
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	3.0	16.0	16.0	3.0	16.0	16.0	3.0	16.0	16.0	3.0	16.0
Minimum Split (s)	25.0	25.0	25.0	24.5	25.0	25.0	24.5	25.0	25.0	24.5	25.0
Total Split (s)	30.0	29.2	29.2	30.4	29.6	29.6	30.4	30.0	30.0	30.4	30.0
Total Split (%)	25.0%	24.3%	24.3%	25.3%	24.7%	24.7%	25.3%	25.0%	25.0%	25.3%	25.0%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.5	2.5	2.5	1.5	2.5	2.5	1.5	3.0	3.0	1.5	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	7.0	7.0	4.5	7.0	7.0	4.5	7.0	7.0	4.5	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	77.1	58.3	58.3	36.8	22.6	22.6	27.5	16.0	16.0	31.4	17.9
Actuated g/C Ratio	0.64	0.49	0.49	0.31	0.19	0.19	0.23	0.13	0.13	0.26	0.15
v/c Ratio	0.16	0.67	0.30	0.66	0.75	0.15	0.23	0.32	0.57	0.30	0.38
Control Delay	9.3	26.2	8.6	40.2	51.7	0.8	32.7	49.2	11.8	34.5	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.3	26.2	8.6	40.2	51.7	0.8	32.7	49.2	11.8	34.5	22.5
LOS	A	C	A	D	D	A	C	D	B	C	C
Approach Delay		23.0			46.5			28.1			26.3
Approach LOS		C			D			C			C

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 29.7

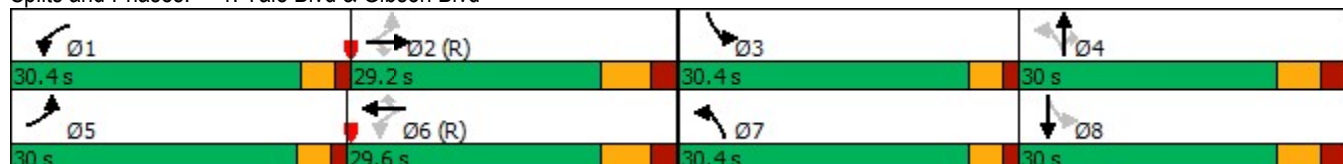
Intersection LOS: C

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Yale Blvd & Gibson Blvd



Queues

1: Yale Blvd & Gibson Blvd

07/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	126	1654	260	159	718	60	137	151	235	104	223
v/c Ratio	0.16	0.67	0.30	0.66	0.75	0.15	0.23	0.32	0.57	0.30	0.38
Control Delay	9.3	26.2	8.6	40.2	51.7	0.8	32.7	49.2	11.8	34.5	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.3	26.2	8.6	40.2	51.7	0.8	32.7	49.2	11.8	34.5	22.5
Queue Length 50th (ft)	35	344	38	59	194	0	40	56	0	61	36
Queue Length 95th (ft)	65	469	107	119	241	0	63	90	75	103	74
Internal Link Dist (ft)		278			518			306			381
Turn Bay Length (ft)			240	400		200	160			200	
Base Capacity (vph)	780	2471	855	451	957	393	889	678	493	455	721
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.67	0.30	0.35	0.75	0.15	0.15	0.22	0.48	0.23	0.31

Intersection Summary

HCM 6th Signalized Intersection Summary

1: Yale Blvd & Gibson Blvd

07/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	1522	239	146	661	55	126	139	216	96	94	111
Future Volume (veh/h)	116	1522	239	146	661	55	126	139	216	96	94	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	1654	260	159	718	60	137	151	235	104	102	121
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	618	2559	794	254	1855	576	553	592	264	307	321	286
Arrive On Green	0.21	0.50	0.50	0.07	0.36	0.36	0.05	0.17	0.17	0.07	0.18	0.18
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	1777	1585
Grp Volume(v), veh/h	126	1654	260	159	718	60	137	151	235	104	102	121
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.7	28.7	11.7	6.6	12.5	3.0	3.9	4.4	17.4	5.7	6.0	8.1
Cycle Q Clear(g_c), s	3.7	28.7	11.7	6.6	12.5	3.0	3.9	4.4	17.4	5.7	6.0	8.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	618	2559	794	254	1855	576	553	592	264	307	321	286
V/C Ratio(X)	0.20	0.65	0.33	0.63	0.39	0.10	0.25	0.26	0.89	0.34	0.32	0.42
Avail Cap(c_a), veh/h	618	2559	794	506	1855	576	1119	681	304	574	341	304
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.8	22.1	17.9	22.7	28.3	25.3	38.3	43.5	48.9	37.6	42.7	43.6
Incr Delay (d2), s/veh	0.7	1.3	1.1	2.5	0.6	0.4	0.2	0.2	24.0	0.6	0.6	1.0
Initial Q Delay(d3),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
%ile BackOfQ(50%),veh/ln	1.5	10.9	4.4	2.8	5.0	1.2	1.6	1.9	8.5	2.5	2.6	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.5	23.4	19.0	25.2	28.9	25.6	38.6	43.7	72.9	38.3	43.3	44.6
LnGrp LOS	B	C	B	C	C	C	D	D	E	D	D	D
Approach Vol, veh/h		2040			937			523			327	
Approach Delay, s/veh		22.1			28.1			55.5			42.2	
Approach LOS		C			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	67.1	12.4	27.0	30.0	50.6	10.7	28.7				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.0	4.5	7.0	4.5	7.0				
Max Green Setting (Gmax), s	25.9	22.2	25.9	23.0	25.5	22.6	25.9	23.0				
Max Q Clear Time (g_c+l1), s	8.6	30.7	7.7	19.4	5.7	14.5	5.9	10.1				
Green Ext Time (p_c), s	0.3	0.0	0.2	0.6	0.3	2.9	0.4	0.9				
Intersection Summary												
HCM 6th Ctrl Delay				29.9								
HCM 6th LOS				C								

Intersection

Int Delay, s/veh 0.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	15	1876	894	4	1	14
Future Vol, veh/h	15	1876	894	4	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	2039	972	4	1	15

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	976	0	-	0	1822	488
Stage 1	-	-	-	-	974	-
Stage 2	-	-	-	-	848	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	402	-	-	-	117	450
Stage 1	-	-	-	-	251	-
Stage 2	-	-	-	-	344	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	402	-	-	-	112	450
Mov Cap-2 Maneuver	-	-	-	-	112	-
Stage 1	-	-	-	-	241	-
Stage 2	-	-	-	-	344	-

Approach EB WB SB

HCM Control Delay, s	0.1	0	15
HCM LOS			C

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	402	-	-	-	375
HCM Lane V/C Ratio	0.041	-	-	-	0.043
HCM Control Delay (s)	14.3	-	-	-	15
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM 6th TWSC
3: Gibson Blvd & Buena Vista Dr

07/21/2021

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	1891	903	5	0	6
Future Vol, veh/h	14	1891	903	5	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	2055	982	5	0	7

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	987	0	0 1837 494
Stage 1	-	-	- 985 -
Stage 2	-	-	- 852 -
Critical Hdwy	5.34	-	- 5.74 7.14
Critical Hdwy Stg 1	-	-	- 6.64 -
Critical Hdwy Stg 2	-	-	- 6.04 -
Follow-up Hdwy	3.12	-	- 3.82 3.92
Pot Cap-1 Maneuver	397	-	- 114 446
Stage 1	-	-	- 247 -
Stage 2	-	-	- 343 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	397	-	- 110 446
Mov Cap-2 Maneuver	-	-	- 110 -
Stage 1	-	-	- 238 -
Stage 2	-	-	- 343 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	397	-	-	-	446
HCM Lane V/C Ratio	0.038	-	-	-	0.015
HCM Control Delay (s)	14.4	-	-	-	13.2
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0

HCM 6th TWSC
4: Walker Rd & Gibson Blvd

07/21/2021

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑		↑
Traffic Vol, veh/h	1893	90	7	902	0	12
Future Vol, veh/h	1893	90	7	902	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	125	175	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2058	98	8	980	0	13

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	2156
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	5.34	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.12	-
Pot Cap-1 Maneuver	-	104	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	104	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	24.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	198	-	-	104	-
HCM Lane V/C Ratio	0.066	-	-	0.073	-
HCM Control Delay (s)	24.5	-	-	42.3	-
HCM Lane LOS	C	-	-	E	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

Intersection

Int Delay, s/veh 7.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	17	5	4	90	7
Future Vol, veh/h	8	17	5	4	90	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	18	5	4	98	8

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	9	0	43
Stage 1	-	-	7
Stage 2	-	-	36
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1611	-	968
Stage 1	-	-	1016
Stage 2	-	-	986
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1611	-	962
Mov Cap-2 Maneuver	-	-	962
Stage 1	-	-	1010
Stage 2	-	-	986

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1611	-	-	-	962	1075
HCM Lane V/C Ratio	0.005	-	-	-	0.102	0.007
HCM Control Delay (s)	7.2	0	-	-	9.2	8.4
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0

HCM 6th TWSC
6: Yale Blvd & Miles Rd

07/21/2021

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔	↔	↔	↔	
Traffic Vol, veh/h	2	0	2	2	0	7	0	472	1	8	466	5
Future Vol, veh/h	2	0	2	2	0	7	0	472	1	8	466	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	60	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	2	0	8	0	513	1	9	507	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	785	1042	256	734	1043	257	512	0	0	514	0	0
Stage 1	528	528	-	513	513	-	-	-	-	-	-	-
Stage 2	257	514	-	221	530	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	7.14	6.99	6.54	6.94	5.34	-	-	4.14	-	-
Critical Hdwy Stg 1	7.34	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.92	3.67	4.02	3.32	3.12	-	-	2.22	-	-
Pot Cap-1 Maneuver	310	228	633	335	228	742	669	-	-	1048	-	-
Stage 1	432	526	-	496	534	-	-	-	-	-	-	-
Stage 2	699	534	-	724	525	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	305	226	633	332	226	742	669	-	-	1048	-	-
Mov Cap-2 Maneuver	305	226	-	332	226	-	-	-	-	-	-	-
Stage 1	432	521	-	496	534	-	-	-	-	-	-	-
Stage 2	692	534	-	715	520	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	11.3	0	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	669	-	-	412 582	1048	-	-
HCM Lane V/C Ratio	-	-	-	0.011 0.017	0.008	-	-
HCM Control Delay (s)	0	-	-	13.8 11.3	8.5	-	-
HCM Lane LOS	A	-	-	B B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1	0	-	-

Timings

1: Yale Blvd & Gibson Blvd

07/21/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		  			  		 	 			 
Traffic Volume (vph)	121	742	324	323	1908	116	260	170	253	92	271
Future Volume (vph)	121	742	324	323	1908	116	260	170	253	92	271
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	3.0	16.0	16.0	3.0	16.0	16.0	3.0	16.0	16.0	3.0	16.0
Minimum Split (s)	25.0	25.0	25.0	24.5	25.0	25.0	24.5	25.0	25.0	24.5	25.0
Total Split (s)	33.0	32.0	32.0	32.5	31.5	31.5	32.5	33.0	33.0	32.5	33.0
Total Split (%)	25.4%	24.6%	24.6%	25.0%	24.2%	24.2%	25.0%	25.4%	25.4%	25.0%	25.4%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.5	2.5	2.5	1.5	2.5	2.5	1.5	3.0	3.0	1.5	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	7.0	7.0	4.5	7.0	7.0	4.5	7.0	7.0	4.5	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Max	C-Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	78.6	45.4	45.4	53.4	24.5	24.5	41.1	24.5	24.5	34.4	21.2
Actuated g/C Ratio	0.60	0.35	0.35	0.41	0.19	0.19	0.32	0.19	0.19	0.26	0.16
v/c Ratio	0.19	0.45	0.45	0.72	2.16	0.33	0.53	0.28	0.53	0.28	0.77
Control Delay	13.0	36.2	6.1	28.8	553.8	13.5	35.1	45.3	8.6	31.9	50.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	36.2	6.1	28.8	553.8	13.5	35.1	45.3	8.6	31.9	50.7
LOS	B	D	A	C	F	B	D	D	A	C	D
Approach Delay		25.6			454.9			27.8			47.4
Approach LOS		C			F			C			D

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.16

Intersection Signal Delay: 240.7

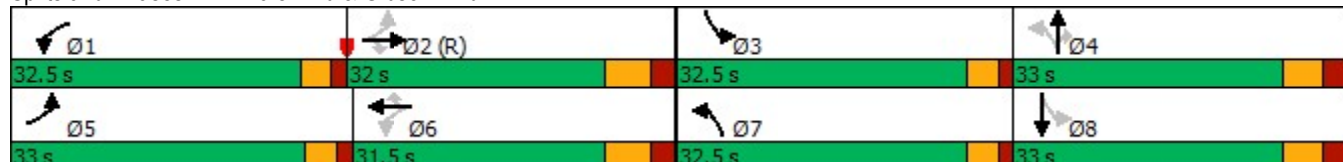
Intersection LOS: F

Intersection Capacity Utilization 83.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Yale Blvd & Gibson Blvd



Queues

1: Yale Blvd & Gibson Blvd

07/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	132	807	352	351	2074	126	283	185	275	100	473
v/c Ratio	0.19	0.45	0.45	0.72	2.16	0.33	0.53	0.28	0.53	0.28	0.77
Control Delay	13.0	36.2	6.1	28.8	553.8	13.5	35.1	45.3	8.6	31.9	50.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	36.2	6.1	28.8	553.8	13.5	35.1	45.3	8.6	31.9	50.7
Queue Length 50th (ft)	44	191	0	148	~1022	12	90	71	0	61	167
Queue Length 95th (ft)	90	283	84	238	#1116	68	112	100	72	93	216
Internal Link Dist (ft)		278			518			306			381
Turn Bay Length (ft)			240	400		200	160			200	
Base Capacity (vph)	705	1774	781	533	958	386	823	739	548	510	743
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.45	0.45	0.66	2.16	0.33	0.34	0.25	0.50	0.20	0.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

1: Yale Blvd & Gibson Blvd

07/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	121	742	324	323	1908	116	260	170	253	92	271	164
Future Volume (veh/h)	121	742	324	323	1908	116	260	170	253	92	271	164
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	807	352	351	2074	126	283	185	275	100	295	178
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	2178	676	468	1797	558	463	671	299	302	353	207
Arrive On Green	0.22	0.43	0.43	0.14	0.35	0.35	0.09	0.19	0.19	0.06	0.16	0.16
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	2154	1265
Grp Volume(v), veh/h	132	807	352	351	2074	126	283	185	275	100	242	231
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1643
Q Serve(g_s), s	4.3	14.0	21.3	16.1	45.8	7.3	8.6	5.8	22.1	6.0	17.1	17.8
Cycle Q Clear(g_c), s	4.3	14.0	21.3	16.1	45.8	7.3	8.6	5.8	22.1	6.0	17.1	17.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	446	2178	676	468	1797	558	463	671	299	302	291	269
V/C Ratio(X)	0.30	0.37	0.52	0.75	1.15	0.23	0.61	0.28	0.92	0.33	0.83	0.86
Avail Cap(c_a), veh/h	446	2178	676	594	1797	558	903	711	317	574	355	329
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	25.4	27.5	20.8	42.1	29.6	40.6	45.1	51.7	41.2	52.6	52.9
Incr Delay (d2), s/veh	1.7	0.5	2.9	4.0	76.1	0.9	1.3	0.2	29.7	0.6	13.0	17.2
Initial Q Delay(d3),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
%ile BackOfQ(50%),veh/ln	1.8	5.6	8.4	6.9	31.0	2.9	3.7	2.6	11.1	2.7	8.6	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	25.9	30.3	24.8	118.2	30.6	41.9	45.3	81.5	41.8	65.7	70.1
LnGrp LOS	C	C	C	C	F	C	D	D	F	D	E	E
Approach Vol, veh/h		1291			2551			743			573	
Approach Delay, s/veh		26.7			101.0			57.4			63.3	
Approach LOS		C			F			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.3	62.5	12.7	31.5	33.0	52.8	16.0	28.3				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.0	4.5	7.0	4.5	7.0				
Max Green Setting (Gmax), s	28.0	25.0	28.0	26.0	28.5	24.5	28.0	26.0				
Max Q Clear Time (g_c+l1), s	18.1	23.3	8.0	24.1	6.3	47.8	10.6	19.8				
Green Ext Time (p_c), s	0.7	1.1	0.2	0.4	0.3	0.0	0.9	1.4				
Intersection Summary												
HCM 6th Ctrl Delay				72.0								
HCM 6th LOS				E								

HCM 6th TWSC
2: Gibson Blvd & Wilmoore Dr

07/21/2021

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	1182	2312	20	5	24
Future Vol, veh/h	28	1182	2312	20	5	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	1285	2513	22	5	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	2535	0	0 3098 1268
Stage 1	-	-	- 2524 -
Stage 2	-	-	- 574 -
Critical Hdwy	5.34	-	- 5.74 7.14
Critical Hdwy Stg 1	-	-	- 6.64 -
Critical Hdwy Stg 2	-	-	- 6.04 -
Follow-up Hdwy	3.12	-	- 3.82 3.92
Pot Cap-1 Maneuver	66	-	- 23 137
Stage 1	-	-	- 26 -
Stage 2	-	-	- 480 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	66	-	- 13 137
Mov Cap-2 Maneuver	-	-	- 13 -
Stage 1	-	-	- 14 -
Stage 2	-	-	- 480 -

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	149.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	66	-	-	-	52
HCM Lane V/C Ratio	0.461	-	-	-	0.606
HCM Control Delay (s)	99.6	-	-	-	149.1
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	1.8	-	-	-	2.4

HCM 6th TWSC
3: Gibson Blvd & Buena Vista Dr

07/21/2021

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	1208	2329	7	2	15
Future Vol, veh/h	30	1208	2329	7	2	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	1313	2532	8	2	16

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	2540	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	5.34	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	3.12	-	-
Pot Cap-1 Maneuver	66	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	66	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	93.8
HCM LOS	F		

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	66	-	-	-	58
HCM Lane V/C Ratio	0.494	-	-	-	0.319
HCM Control Delay (s)	104.1	-	-	-	93.8
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	2	-	-	-	1.1

HCM 6th TWSC
4: Walker Rd & Gibson Blvd

07/21/2021

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↘	↑↑↑		↗
Traffic Vol, veh/h	1210	46	16	2328	0	28
Future Vol, veh/h	1210	46	16	2328	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	125	175	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1315	50	17	2530	0	30
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1365	0	-	658
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	5.34	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.12	-	-	3.92
Pot Cap-1 Maneuver	-	-	260	-	0	349
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	260	-	-	349
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.1		16.3	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	349	-	-	260	-	
HCM Lane V/C Ratio	0.087	-	-	0.067	-	
HCM Control Delay (s)	16.3	-	-	19.8	-	
HCM Lane LOS	C	-	-	C	-	
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-	

Intersection

Int Delay, s/veh 4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	24	52	9	40	22
Future Vol, veh/h	19	24	52	9	40	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	26	57	10	43	24

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	67	0	130
Stage 1	-	-	62
Stage 2	-	-	68
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1535	-	864
Stage 1	-	-	961
Stage 2	-	-	955
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1535	-	852
Mov Cap-2 Maneuver	-	-	852
Stage 1	-	-	948
Stage 2	-	-	955

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1535	-	-	-	852	1003
HCM Lane V/C Ratio	0.013	-	-	-	0.051	0.024
HCM Control Delay (s)	7.4	0	-	-	9.5	8.7
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.1

HCM 6th TWSC
6: Yale Blvd & Miles Rd

07/21/2021

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔	↔	↔	↔	
Traffic Vol, veh/h	3	2	12	7	1	16	2	664	3	33	877	8
Future Vol, veh/h	3	2	12	7	1	16	2	664	3	33	877	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	60	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	2	13	8	1	17	2	722	3	36	953	9

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1396	1759	481	1180	1760	361	962	0	0	725	0	0
Stage 1	1030	1030	-	726	726	-	-	-	-	-	-	-
Stage 2	366	729	-	454	1034	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	7.14	6.99	6.54	6.94	5.34	-	-	4.14	-	-
Critical Hdwy Stg 1	7.34	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.92	3.67	4.02	3.32	3.12	-	-	2.22	-	-
Pot Cap-1 Maneuver	122	84	454	171	84	636	408	-	-	874	-	-
Stage 1	194	309	-	371	428	-	-	-	-	-	-	-
Stage 2	604	426	-	524	308	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	113	80	454	157	80	636	408	-	-	874	-	-
Mov Cap-2 Maneuver	113	80	-	157	80	-	-	-	-	-	-	-
Stage 1	192	296	-	368	425	-	-	-	-	-	-	-
Stage 2	581	423	-	484	295	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23	18.5	0.1	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	408	-	-	218	292	874	-
HCM Lane V/C Ratio	0.005	-	-	0.085	0.089	0.041	-
HCM Control Delay (s)	13.9	0.1	-	23	18.5	9.3	-
HCM Lane LOS	B	A	-	C	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0.1	-

4: Walker Rd & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	10.3	8.9	28.3	1.7	9.5	7.5

Queuing and Blocking Report

Baseline

07/23/2021

Intersection: 4: Walker Rd & Gibson Blvd

Movement	EB	EB	EB	WB	NB
Directions Served	T	T	T	L	R
Maximum Queue (ft)	1106	1077	1062	28	22
Average Queue (ft)	40	38	38	5	8
95th Queue (ft)	378	368	363	23	25
Link Distance (ft)	1094	1094	1094		218
Upstream Blk Time (%)	0	0			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (ft)				175	
Storage Blk Time (%)					
Queuing Penalty (veh)					

4: Walker Rd & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.4	4.0	12.3	2.4	2.0	7.7	3.4

Intersection: 4: Walker Rd & Gibson Blvd

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	21	29	46
Average Queue (ft)	1	5	12
95th Queue (ft)	7	22	37
Link Distance (ft)			218
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125	175	
Storage Blk Time (%)			
Queuing Penalty (veh)			

APPENDIX F – Background (without site development) Synchro Outputs

Timings

1: Yale Blvd & Gibson Blvd

07/21/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		  			  		 	 			 
Traffic Volume (vph)	117	1537	241	147	668	56	127	140	218	97	95
Future Volume (vph)	117	1537	241	147	668	56	127	140	218	97	95
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	3.0	16.0	16.0	3.0	16.0	16.0	3.0	16.0	16.0	3.0	16.0
Minimum Split (s)	25.0	25.0	25.0	24.5	25.0	25.0	24.5	25.0	25.0	24.5	25.0
Total Split (s)	30.0	29.2	29.2	30.4	29.6	29.6	30.4	30.0	30.0	30.4	30.0
Total Split (%)	25.0%	24.3%	24.3%	25.3%	24.7%	24.7%	25.3%	25.0%	25.0%	25.3%	25.0%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.5	2.5	2.5	1.5	2.5	2.5	1.5	3.0	3.0	1.5	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	7.0	7.0	4.5	7.0	7.0	4.5	7.0	7.0	4.5	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	77.0	58.2	58.2	36.9	22.6	22.6	27.5	16.0	16.0	31.4	17.9
Actuated g/C Ratio	0.64	0.48	0.48	0.31	0.19	0.19	0.23	0.13	0.13	0.26	0.15
v/c Ratio	0.16	0.68	0.31	0.66	0.76	0.16	0.23	0.32	0.57	0.30	0.38
Control Delay	9.4	26.5	8.8	40.2	52.0	0.8	32.7	49.2	11.8	34.6	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	26.5	8.8	40.2	52.0	0.8	32.7	49.2	11.8	34.6	22.5
LOS	A	C	A	D	D	A	C	D	B	C	C
Approach Delay		23.2			46.7			28.0			26.3
Approach LOS		C			D			C			C

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 29.9

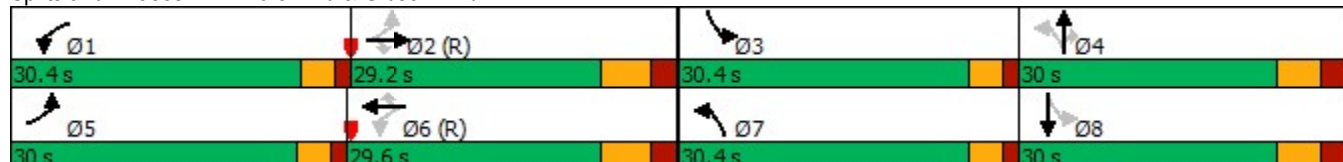
Intersection LOS: C

Intersection Capacity Utilization 75.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Yale Blvd & Gibson Blvd



Queues

1: Yale Blvd & Gibson Blvd

07/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	127	1671	262	160	726	61	138	152	237	105	225
v/c Ratio	0.16	0.68	0.31	0.66	0.76	0.16	0.23	0.32	0.57	0.30	0.38
Control Delay	9.4	26.5	8.8	40.2	52.0	0.8	32.7	49.2	11.8	34.6	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	26.5	8.8	40.2	52.0	0.8	32.7	49.2	11.8	34.6	22.5
Queue Length 50th (ft)	35	351	39	60	197	0	41	56	0	62	37
Queue Length 95th (ft)	66	477	109	120	244	0	63	91	75	104	74
Internal Link Dist (ft)		278			518			306			381
Turn Bay Length (ft)			240	400		200	160			200	
Base Capacity (vph)	777	2466	854	451	957	393	889	678	494	454	722
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.68	0.31	0.35	0.76	0.16	0.16	0.22	0.48	0.23	0.31

Intersection Summary

HCM 6th Signalized Intersection Summary

1: Yale Blvd & Gibson Blvd

07/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	117	1537	241	147	668	56	127	140	218	97	95	112
Future Volume (veh/h)	117	1537	241	147	668	56	127	140	218	97	95	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	1671	262	160	726	61	138	152	237	105	103	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	615	2548	791	253	1847	573	555	596	266	308	323	288
Arrive On Green	0.21	0.50	0.50	0.08	0.36	0.36	0.05	0.17	0.17	0.07	0.18	0.18
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	1777	1585
Grp Volume(v), veh/h	127	1671	262	160	726	61	138	152	237	105	103	122
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.8	29.2	11.9	6.7	12.7	3.1	3.9	4.5	17.6	5.8	6.0	8.2
Cycle Q Clear(g_c), s	3.8	29.2	11.9	6.7	12.7	3.1	3.9	4.5	17.6	5.8	6.0	8.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	615	2548	791	253	1847	573	555	596	266	308	323	288
V/C Ratio(X)	0.21	0.66	0.33	0.63	0.39	0.11	0.25	0.26	0.89	0.34	0.32	0.42
Avail Cap(c_a), veh/h	615	2548	791	503	1847	573	1121	681	304	574	341	304
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.9	22.4	18.0	23.1	28.5	25.4	38.2	43.4	48.9	37.5	42.6	43.5
Incr Delay (d2), s/veh	0.8	1.3	1.1	2.6	0.6	0.4	0.2	0.2	24.3	0.7	0.6	1.0
Initial Q Delay(d3),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
%ile BackOfQ(50%),veh/ln	1.5	11.2	4.4	2.8	5.1	1.2	1.6	2.0	8.6	2.5	2.7	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.7	23.7	19.2	25.8	29.1	25.8	38.4	43.6	73.2	38.1	43.2	44.5
LnGrp LOS	B	C	B	C	C	C	D	D	E	D	D	D
Approach Vol, veh/h		2060			947			527			330	
Approach Delay, s/veh		22.5			28.3			55.6			42.1	
Approach LOS		C			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	66.9	12.5	27.1	30.0	50.4	10.8	28.8				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.0	4.5	7.0	4.5	7.0				
Max Green Setting (Gmax), s	25.9	22.2	25.9	23.0	25.5	22.6	25.9	23.0				
Max Q Clear Time (g_c+I1), s	8.7	31.2	7.8	19.6	5.8	14.7	5.9	10.2				
Green Ext Time (p_c), s	0.4	0.0	0.2	0.6	0.3	2.9	0.4	0.9				
Intersection Summary												
HCM 6th Ctrl Delay			30.1									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	1895	903	4	1	14
Future Vol, veh/h	15	1895	903	4	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	2060	982	4	1	15

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	986	0	0 1840 493
Stage 1	-	-	- 984 -
Stage 2	-	-	- 856 -
Critical Hdwy	5.34	-	- 5.74 7.14
Critical Hdwy Stg 1	-	-	- 6.64 -
Critical Hdwy Stg 2	-	-	- 6.04 -
Follow-up Hdwy	3.12	-	- 3.82 3.92
Pot Cap-1 Maneuver	398	-	- 114 446
Stage 1	-	-	- 247 -
Stage 2	-	-	- 341 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	398	-	- 109 446
Mov Cap-2 Maneuver	-	-	- 109 -
Stage 1	-	-	- 237 -
Stage 2	-	-	- 341 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	398	-	-	-	370
HCM Lane V/C Ratio	0.041	-	-	-	0.044
HCM Control Delay (s)	14.4	-	-	-	15.2
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM 6th TWSC
3: Gibson Blvd & Buena Vista Dr

07/21/2021

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	1910	912	5	0	6
Future Vol, veh/h	14	1910	912	5	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	2076	991	5	0	7

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	996	0	0 1854 498
Stage 1	-	-	- 994 -
Stage 2	-	-	- 860 -
Critical Hdwy	5.34	-	- 5.74 7.14
Critical Hdwy Stg 1	-	-	- 6.64 -
Critical Hdwy Stg 2	-	-	- 6.04 -
Follow-up Hdwy	3.12	-	- 3.82 3.92
Pot Cap-1 Maneuver	393	-	- 112 443
Stage 1	-	-	- 244 -
Stage 2	-	-	- 339 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	393	-	- 108 443
Mov Cap-2 Maneuver	-	-	- 108 -
Stage 1	-	-	- 235 -
Stage 2	-	-	- 339 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	393	-	-	-	443
HCM Lane V/C Ratio	0.039	-	-	-	0.015
HCM Control Delay (s)	14.5	-	-	-	13.2
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0

HCM 6th TWSC
4: Walker Rd & Gibson Blvd

07/21/2021

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑		↑
Traffic Vol, veh/h	1912	90	7	911	0	12
Future Vol, veh/h	1912	90	7	911	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	125	175	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2078	98	8	990	0	13

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	2176
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	5.34
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.12
Pot Cap-1 Maneuver	-	-	102
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	102
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	24.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	195	-	-	102	-
HCM Lane V/C Ratio	0.067	-	-	0.075	-
HCM Control Delay (s)	24.8	-	-	43.1	-
HCM Lane LOS	C	-	-	E	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

Intersection

Int Delay, s/veh 7.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	17	5	4	90	7
Future Vol, veh/h	8	17	5	4	90	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	18	5	4	98	8

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	9	0	0 43 7
Stage 1	-	-	- 7 -
Stage 2	-	-	- 36 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1611	-	- 968 1075
Stage 1	-	-	- 1016 -
Stage 2	-	-	- 986 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1611	-	- 962 1075
Mov Cap-2 Maneuver	-	-	- 962 -
Stage 1	-	-	- 1010 -
Stage 2	-	-	- 986 -

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1611	-	-	-	962	1075
HCM Lane V/C Ratio	0.005	-	-	-	0.102	0.007
HCM Control Delay (s)	7.2	0	-	-	9.2	8.4
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0

HCM 6th TWSC
6: Yale Blvd & Miles Rd

07/21/2021

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔	↔	↔	↔	
Traffic Vol, veh/h	2	0	2	2	0	7	0	477	1	8	471	5
Future Vol, veh/h	2	0	2	2	0	7	0	477	1	8	471	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	60	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	2	0	8	0	518	1	9	512	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	792	1052	259	741	1053	259	517	0	0	519	0	0
Stage 1	533	533	-	518	518	-	-	-	-	-	-	-
Stage 2	259	519	-	223	535	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	7.14	6.99	6.54	6.94	5.34	-	-	4.14	-	-
Critical Hdwy Stg 1	7.34	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.92	3.67	4.02	3.32	3.12	-	-	2.22	-	-
Pot Cap-1 Maneuver	307	225	631	332	225	740	665	-	-	1043	-	-
Stage 1	429	523	-	493	531	-	-	-	-	-	-	-
Stage 2	697	531	-	722	522	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	302	223	631	329	223	740	665	-	-	1043	-	-
Mov Cap-2 Maneuver	302	223	-	329	223	-	-	-	-	-	-	-
Stage 1	429	518	-	493	531	-	-	-	-	-	-	-
Stage 2	690	531	-	713	517	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.9		11.3		0		0.1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	665	-	-	408 579	1043	-	-
HCM Lane V/C Ratio	-	-	-	0.011 0.017	0.008	-	-
HCM Control Delay (s)	0	-	-	13.9 11.3	8.5	-	-
HCM Lane LOS	A	-	-	B B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1	0	-	-

4: Walker Rd & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	10.8	10.9	18.4	1.7	10.3	8.0

Intersection: 4: Walker Rd & Gibson Blvd

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	30	22
Average Queue (ft)	5	11
95th Queue (ft)	22	28
Link Distance (ft)		218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	175	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Timings

1: Yale Blvd & Gibson Blvd

07/21/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		  			  		 	 			 
Traffic Volume (vph)	122	749	327	326	1927	117	263	172	256	93	274
Future Volume (vph)	122	749	327	326	1927	117	263	172	256	93	274
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	3.0	16.0	16.0	3.0	16.0	16.0	3.0	16.0	16.0	3.0	16.0
Minimum Split (s)	25.0	25.0	25.0	24.5	25.0	25.0	24.5	25.0	25.0	24.5	25.0
Total Split (s)	33.0	32.0	32.0	32.5	31.5	31.5	32.5	33.0	33.0	32.5	33.0
Total Split (%)	25.4%	24.6%	24.6%	25.0%	24.2%	24.2%	25.0%	25.4%	25.4%	25.0%	25.4%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.5	2.5	2.5	1.5	2.5	2.5	1.5	3.0	3.0	1.5	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	7.0	7.0	4.5	7.0	7.0	4.5	7.0	7.0	4.5	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Max	C-Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	78.3	44.9	44.9	53.6	24.5	24.5	41.4	24.7	24.7	34.6	21.3
Actuated g/C Ratio	0.60	0.35	0.35	0.41	0.19	0.19	0.32	0.19	0.19	0.27	0.16
v/c Ratio	0.19	0.46	0.46	0.72	2.19	0.33	0.54	0.28	0.53	0.28	0.77
Control Delay	13.1	36.7	6.1	29.0	563.4	13.7	35.1	45.2	8.5	31.8	50.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.1	36.7	6.1	29.0	563.4	13.7	35.1	45.2	8.5	31.8	50.8
LOS	B	D	A	C	F	B	D	D	A	C	D
Approach Delay		25.9			462.9			27.8			47.5
Approach LOS		C			F			C			D

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.19

Intersection Signal Delay: 244.7

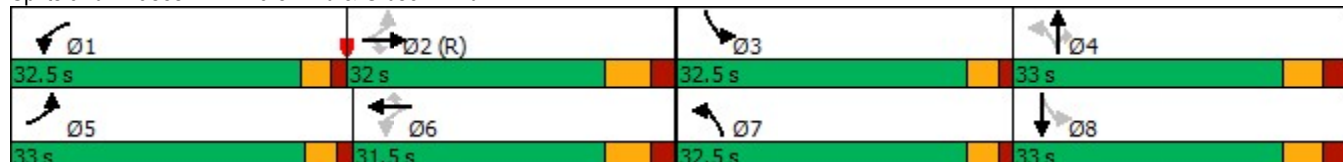
Intersection LOS: F

Intersection Capacity Utilization 84.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Yale Blvd & Gibson Blvd



Queues

1: Yale Blvd & Gibson Blvd

07/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	133	814	355	354	2095	127	286	187	278	101	478
v/c Ratio	0.19	0.46	0.46	0.72	2.19	0.33	0.54	0.28	0.53	0.28	0.77
Control Delay	13.1	36.7	6.1	29.0	563.4	13.7	35.1	45.2	8.5	31.8	50.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.1	36.7	6.1	29.0	563.4	13.7	35.1	45.2	8.5	31.8	50.8
Queue Length 50th (ft)	45	194	0	151	~1036	13	91	72	0	61	170
Queue Length 95th (ft)	91	287	84	240	#1130	69	113	101	72	94	218
Internal Link Dist (ft)		278			518			306			381
Turn Bay Length (ft)			240	400		200	160			200	
Base Capacity (vph)	702	1756	779	533	958	386	822	741	552	512	743
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.46	0.46	0.66	2.19	0.33	0.35	0.25	0.50	0.20	0.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

1: Yale Blvd & Gibson Blvd

07/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	122	749	327	326	1927	117	263	172	256	93	274	166
Future Volume (veh/h)	122	749	327	326	1927	117	263	172	256	93	274	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	814	355	354	2095	127	286	187	278	101	298	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	2161	671	466	1787	555	465	677	302	303	355	209
Arrive On Green	0.22	0.42	0.42	0.15	0.35	0.35	0.09	0.19	0.19	0.06	0.17	0.17
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	2153	1266
Grp Volume(v), veh/h	133	814	355	354	2095	127	286	187	278	101	245	233
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1642
Q Serve(g_s), s	4.4	14.2	21.6	16.2	45.5	7.4	8.7	5.8	22.4	6.0	17.3	18.0
Cycle Q Clear(g_c), s	4.4	14.2	21.6	16.2	45.5	7.4	8.7	5.8	22.4	6.0	17.3	18.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	446	2161	671	466	1787	555	465	677	302	303	293	271
V/C Ratio(X)	0.30	0.38	0.53	0.76	1.17	0.23	0.62	0.28	0.92	0.33	0.83	0.86
Avail Cap(c_a), veh/h	446	2161	671	590	1787	555	903	711	317	574	355	328
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	25.7	27.9	20.9	42.2	29.9	40.4	45.0	51.7	41.1	52.6	52.8
Incr Delay (d2), s/veh	1.7	0.5	3.0	4.4	83.8	1.0	1.3	0.2	30.3	0.6	13.4	17.6
Initial Q Delay(d3),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
%ile BackOfQ(50%),veh/ln	1.8	5.7	8.6	7.0	32.1	2.9	3.7	2.6	11.3	2.7	8.7	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	26.2	30.8	25.3	126.0	30.8	41.8	45.2	82.0	41.7	65.9	70.4
LnGrp LOS	C	C	C	C	F	C	D	D	F	D	E	E
Approach Vol, veh/h		1302			2576			751			579	
Approach Delay, s/veh		27.1			107.5			57.5			63.5	
Approach LOS		C			F			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.5	62.0	12.7	31.8	33.0	52.5	16.0	28.5				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.0	4.5	7.0	4.5	7.0				
Max Green Setting (Gmax), s	28.0	25.0	28.0	26.0	28.5	24.5	28.0	26.0				
Max Q Clear Time (g_c+l1), s	18.2	23.6	8.0	24.4	6.4	47.5	10.7	20.0				
Green Ext Time (p_c), s	0.8	0.9	0.2	0.4	0.3	0.0	0.9	1.4				
Intersection Summary												
HCM 6th Ctrl Delay				75.3								
HCM 6th LOS				E								

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	1194	2335	20	5	24
Future Vol, veh/h	28	1194	2335	20	5	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	1298	2538	22	5	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	2560	0	0 3128 1280
Stage 1	-	-	- 2549 -
Stage 2	-	-	- 579 -
Critical Hdwy	5.34	-	- 5.74 7.14
Critical Hdwy Stg 1	-	-	- 6.64 -
Critical Hdwy Stg 2	-	-	- 6.04 -
Follow-up Hdwy	3.12	-	- 3.82 3.92
Pot Cap-1 Maneuver	64	-	- 22 134
Stage 1	-	-	- 25 -
Stage 2	-	-	- 477 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	64	-	- 12 134
Mov Cap-2 Maneuver	-	-	- 12 -
Stage 1	-	-	- 13 -
Stage 2	-	-	- 477 -

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	164.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	64	-	-	-	49
HCM Lane V/C Ratio	0.476	-	-	-	0.643
HCM Control Delay (s)	104.4	-	-	-	164.7
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	2.5

HCM 6th TWSC
3: Gibson Blvd & Buena Vista Dr

07/21/2021

Intersection

Int Delay, s/veh 1.4

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	30	1220	2352	7	2	15
Future Vol, veh/h	30	1220	2352	7	2	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	1326	2557	8	2	16

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	2565	0	-	0	3157	1283
Stage 1	-	-	-	-	2561	-
Stage 2	-	-	-	-	596	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	64	-	-	-	21	134
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	468	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	64	-	-	-	10	134
Mov Cap-2 Maneuver	-	-	-	-	10	-
Stage 1	-	-	-	-	12	-
Stage 2	-	-	-	-	468	-

Approach EB WB SB

HCM Control Delay, s	2.6	0	103
HCM LOS			F

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	64	-	-	-	54
HCM Lane V/C Ratio	0.51	-	-	-	0.342
HCM Control Delay (s)	109.2	-	-	-	103
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	2	-	-	-	1.2

HCM 6th TWSC
4: Walker Rd & Gibson Blvd

07/21/2021

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑		↑
Traffic Vol, veh/h	1222	46	16	2351	0	28
Future Vol, veh/h	1222	46	16	2351	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	125	175	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1328	50	17	2555	0	30

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1378
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	5.34	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.12	-
Pot Cap-1 Maneuver	-	256	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	256	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	346	-	-	256	-
HCM Lane V/C Ratio	0.088	-	-	0.068	-
HCM Control Delay (s)	16.4	-	-	20.1	-
HCM Lane LOS	C	-	-	C	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

Intersection

Int Delay, s/veh 4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	24	52	9	40	22
Future Vol, veh/h	19	24	52	9	40	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	26	57	10	43	24

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	67	0	130
Stage 1	-	-	62
Stage 2	-	-	68
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1535	-	864
Stage 1	-	-	961
Stage 2	-	-	955
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1535	-	852
Mov Cap-2 Maneuver	-	-	852
Stage 1	-	-	948
Stage 2	-	-	955

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1535	-	-	-	852	1003
HCM Lane V/C Ratio	0.013	-	-	-	0.051	0.024
HCM Control Delay (s)	7.4	0	-	-	9.5	8.7
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.1

HCM 6th TWSC
6: Yale Blvd & Miles Rd

07/21/2021

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔	↔	↔	↔	
Traffic Vol, veh/h	3	2	12	7	1	16	2	671	3	33	886	8
Future Vol, veh/h	3	2	12	7	1	16	2	671	3	33	886	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	60	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	2	13	8	1	17	2	729	3	36	963	9

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1409	1776	486	1191	1777	365	972	0	0	732	0	0
Stage 1	1040	1040	-	733	733	-	-	-	-	-	-	-
Stage 2	369	736	-	458	1044	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	7.14	6.99	6.54	6.94	5.34	-	-	4.14	-	-
Critical Hdwy Stg 1	7.34	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.92	3.67	4.02	3.32	3.12	-	-	2.22	-	-
Pot Cap-1 Maneuver	120	82	451	168	82	632	404	-	-	868	-	-
Stage 1	191	306	-	368	424	-	-	-	-	-	-	-
Stage 2	602	423	-	521	304	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	111	78	451	154	78	632	404	-	-	868	-	-
Mov Cap-2 Maneuver	111	78	-	154	78	-	-	-	-	-	-	-
Stage 1	189	293	-	365	421	-	-	-	-	-	-	-
Stage 2	579	420	-	481	292	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	23.4		18.8		0.1		0.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	404	-	-	214	287	868	-	-
HCM Lane V/C Ratio	0.005	-	-	0.086	0.091	0.041	-	-
HCM Control Delay (s)	14	0.1	-	23.4	18.8	9.3	-	-
HCM Lane LOS	B	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0.1	-	-

4: Walker Rd & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.7	4.4	19.4	2.4	7.0	3.6

Intersection: 4: Walker Rd & Gibson Blvd

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	49	44
Average Queue (ft)	9	13
95th Queue (ft)	34	33
Link Distance (ft)		218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	175	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Timings

1: Yale Blvd & Gibson Blvd

07/21/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		  			  		 	 			 
Traffic Volume (vph)	128	1673	263	161	727	60	139	153	237	106	103
Future Volume (vph)	128	1673	263	161	727	60	139	153	237	106	103
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	3.0	16.0	16.0	3.0	16.0	16.0	3.0	16.0	16.0	3.0	16.0
Minimum Split (s)	25.0	25.0	25.0	24.5	25.0	25.0	24.5	25.0	25.0	24.5	25.0
Total Split (s)	30.0	29.2	29.2	30.4	29.6	29.6	30.4	30.0	30.0	30.4	30.0
Total Split (%)	25.0%	24.3%	24.3%	25.3%	24.7%	24.7%	25.3%	25.0%	25.0%	25.3%	25.0%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.5	2.5	2.5	1.5	2.5	2.5	1.5	3.0	3.0	1.5	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	7.0	7.0	4.5	7.0	7.0	4.5	7.0	7.0	4.5	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	76.4	56.7	56.7	37.8	22.6	22.6	28.0	16.1	16.1	32.2	18.2
Actuated g/C Ratio	0.64	0.47	0.47	0.32	0.19	0.19	0.23	0.13	0.13	0.27	0.15
v/c Ratio	0.18	0.76	0.34	0.68	0.83	0.17	0.25	0.35	0.59	0.33	0.40
Control Delay	9.8	29.8	10.3	41.6	55.1	1.4	32.4	49.5	11.8	34.4	22.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	29.8	10.3	41.6	55.1	1.4	32.4	49.5	11.8	34.4	22.4
LOS	A	C	B	D	E	A	C	D	B	C	C
Approach Delay		26.1			49.4			28.1			26.3
Approach LOS		C			D			C			C

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 32.1

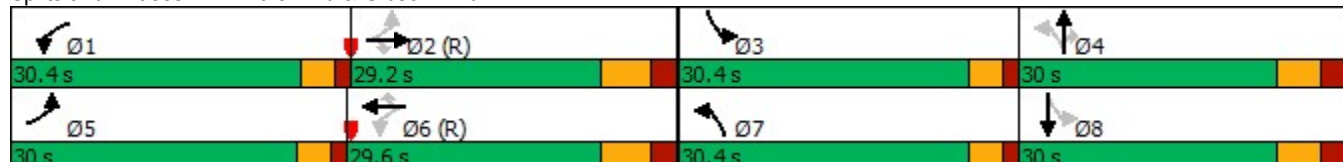
Intersection LOS: C

Intersection Capacity Utilization 79.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Yale Blvd & Gibson Blvd



Queues

1: Yale Blvd & Gibson Blvd

07/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	139	1818	286	175	790	65	151	166	258	115	245
v/c Ratio	0.18	0.76	0.34	0.68	0.83	0.17	0.25	0.35	0.59	0.33	0.40
Control Delay	9.8	29.8	10.3	41.6	55.1	1.4	32.4	49.5	11.8	34.4	22.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	29.8	10.3	41.6	55.1	1.4	32.4	49.5	11.8	34.4	22.4
Queue Length 50th (ft)	39	410	51	70	217	0	44	62	0	68	40
Queue Length 95th (ft)	74	#566	132	133	267	4	68	97	78	112	78
Internal Link Dist (ft)		278			518			306			381
Turn Bay Length (ft)			240	400		200	160			200	
Base Capacity (vph)	758	2401	836	451	957	393	898	678	511	459	731
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.76	0.34	0.39	0.83	0.17	0.17	0.24	0.50	0.25	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

1: Yale Blvd & Gibson Blvd

07/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	128	1673	263	161	727	60	139	153	237	106	103	122
Future Volume (veh/h)	128	1673	263	161	727	60	139	153	237	106	103	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	1818	286	175	790	65	151	166	258	115	112	133
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	585	2433	755	243	1767	549	577	637	284	319	346	308
Arrive On Green	0.21	0.48	0.48	0.08	0.35	0.35	0.06	0.18	0.18	0.07	0.19	0.19
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	1777	1585
Grp Volume(v), veh/h	139	1818	286	175	790	65	151	166	258	115	112	133
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.3	34.7	13.8	7.5	14.4	3.4	4.2	4.8	19.1	6.2	6.5	8.9
Cycle Q Clear(g_c), s	4.3	34.7	13.8	7.5	14.4	3.4	4.2	4.8	19.1	6.2	6.5	8.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	585	2433	755	243	1767	549	577	637	284	319	346	308
V/C Ratio(X)	0.24	0.75	0.38	0.72	0.45	0.12	0.26	0.26	0.91	0.36	0.32	0.43
Avail Cap(c_a), veh/h	585	2433	755	481	1767	549	1132	681	304	578	346	308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	25.5	20.1	26.6	30.4	26.8	37.0	42.4	48.3	36.2	41.5	42.5
Incr Delay (d2), s/veh	1.0	2.1	1.4	4.0	0.8	0.4	0.2	0.2	28.3	0.7	0.5	1.0
Initial Q Delay(d3),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
%ile BackOfQ(50%),veh/ln	1.7	13.6	5.2	3.3	5.8	1.3	1.8	2.1	9.6	2.7	2.9	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	27.7	21.5	30.6	31.2	27.2	37.2	42.6	76.6	36.9	42.1	43.4
LnGrp LOS	B	C	C	C	C	C	D	D	E	D	D	D
Approach Vol, veh/h		2243			1030			575			360	
Approach Delay, s/veh		26.1			30.8			56.4			40.9	
Approach LOS		C			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	64.2	13.0	28.5	30.0	48.5	11.1	30.4				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.0	4.5	7.0	4.5	7.0				
Max Green Setting (Gmax), s	25.9	22.2	25.9	23.0	25.5	22.6	25.9	23.0				
Max Q Clear Time (g_c+l1), s	9.5	36.7	8.2	21.1	6.3	16.4	6.2	10.9				
Green Ext Time (p_c), s	0.4	0.0	0.2	0.4	0.3	2.7	0.4	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			32.6									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	2062	983	4	1	14
Future Vol, veh/h	15	2062	983	4	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	2241	1068	4	1	15

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1072	0	0 1998 536
Stage 1	-	-	- 1070 -
Stage 2	-	-	- 928 -
Critical Hdwy	5.34	-	- 5.74 7.14
Critical Hdwy Stg 1	-	-	- 6.64 -
Critical Hdwy Stg 2	-	-	- 6.04 -
Follow-up Hdwy	3.12	-	- 3.82 3.92
Pot Cap-1 Maneuver	361	-	- 94 419
Stage 1	-	-	- 219 -
Stage 2	-	-	- 312 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	361	-	- 90 419
Mov Cap-2 Maneuver	-	-	- 90 -
Stage 1	-	-	- 209 -
Stage 2	-	-	- 312 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	361	-	-	-	337
HCM Lane V/C Ratio	0.045	-	-	-	0.048
HCM Control Delay (s)	15.4	-	-	-	16.2
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

HCM 6th TWSC
3: Gibson Blvd & Buena Vista Dr

07/21/2021

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	2079	993	5	0	6
Future Vol, veh/h	14	2079	993	5	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	2260	1079	5	0	7

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1084	0	0 2016 542
Stage 1	-	-	- 1082 -
Stage 2	-	-	- 934 -
Critical Hdwy	5.34	-	- 5.74 7.14
Critical Hdwy Stg 1	-	-	- 6.64 -
Critical Hdwy Stg 2	-	-	- 6.04 -
Follow-up Hdwy	3.12	-	- 3.82 3.92
Pot Cap-1 Maneuver	356	-	- 92 415
Stage 1	-	-	- 215 -
Stage 2	-	-	- 310 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	356	-	- 88 415
Mov Cap-2 Maneuver	-	-	- 88 -
Stage 1	-	-	- 206 -
Stage 2	-	-	- 310 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	356	-	-	-	415
HCM Lane V/C Ratio	0.043	-	-	-	0.016
HCM Control Delay (s)	15.6	-	-	-	13.8
HCM Lane LOS	C	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0

HCM 6th TWSC
4: Walker Rd & Gibson Blvd

07/21/2021

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑		↑
Traffic Vol, veh/h	2081	90	7	992	0	12
Future Vol, veh/h	2081	90	7	992	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	125	175	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2262	98	8	1078	0	13

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	2360
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	5.34	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.12	-
Pot Cap-1 Maneuver	-	82	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	82	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	28.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	169	-	-	82	-
HCM Lane V/C Ratio	0.077	-	-	0.093	-
HCM Control Delay (s)	28.1	-	-	53.3	-
HCM Lane LOS	D	-	-	F	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	-

Intersection

Int Delay, s/veh 7.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	17	5	4	90	7
Future Vol, veh/h	8	17	5	4	90	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	18	5	4	98	8

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	9	0	43
Stage 1	-	-	7
Stage 2	-	-	36
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1611	-	968
Stage 1	-	-	1016
Stage 2	-	-	986
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1611	-	962
Mov Cap-2 Maneuver	-	-	962
Stage 1	-	-	1010
Stage 2	-	-	986

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1611	-	-	-	962	1075
HCM Lane V/C Ratio	0.005	-	-	-	0.102	0.007
HCM Control Delay (s)	7.2	0	-	-	9.2	8.4
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0

HCM 6th TWSC
6: Yale Blvd & Miles Rd

07/21/2021

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	2	2	0	7	0	519	1	8	512	5
Future Vol, veh/h	2	0	2	2	0	7	0	519	1	8	512	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	60	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	2	0	8	0	564	1	9	557	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	860	1143	281	805	1144	282	562	0	0	565	0	0
Stage 1	578	578	-	564	564	-	-	-	-	-	-	-
Stage 2	282	565	-	241	580	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	7.14	6.99	6.54	6.94	5.34	-	-	4.14	-	-
Critical Hdwy Stg 1	7.34	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.92	3.67	4.02	3.32	3.12	-	-	2.22	-	-
Pot Cap-1 Maneuver	277	199	611	301	198	715	633	-	-	1003	-	-
Stage 1	400	499	-	463	507	-	-	-	-	-	-	-
Stage 2	676	506	-	705	498	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	272	197	611	298	196	715	633	-	-	1003	-	-
Mov Cap-2 Maneuver	272	197	-	298	196	-	-	-	-	-	-	-
Stage 1	400	495	-	463	507	-	-	-	-	-	-	-
Stage 2	669	506	-	696	494	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	14.7		11.7		0		0.1					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	633	-	-	376	545	1003	-	-				
HCM Lane V/C Ratio	-	-	-	0.012	0.018	0.009	-	-				
HCM Control Delay (s)	0	-	-	14.7	11.7	8.6	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-				

4: Walker Rd & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	11.8	11.5	16.5	1.9	15.3	8.7

Intersection: 4: Walker Rd & Gibson Blvd

Movement	EB	EB	WB	NB
Directions Served	T	T	L	R
Maximum Queue (ft)	1120	1120	51	22
Average Queue (ft)	40	40	7	6
95th Queue (ft)	383	383	29	22
Link Distance (ft)	1094	1094		218
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	1	0		
Storage Bay Dist (ft)			175	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Timings

1: Yale Blvd & Gibson Blvd

07/21/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	133	816	356	355	2098	128	286	187	278	101	298
Future Volume (vph)	133	816	356	355	2098	128	286	187	278	101	298
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		7	4		3	8
Permitted Phases	2		2	6		6	4		4	8	
Detector Phase	5	2	2	1	6	6	7	4	4	3	8
Switch Phase											
Minimum Initial (s)	3.0	16.0	16.0	3.0	16.0	16.0	3.0	16.0	16.0	3.0	16.0
Minimum Split (s)	25.0	25.0	25.0	24.5	25.0	25.0	24.5	25.0	25.0	24.5	25.0
Total Split (s)	33.0	32.0	32.0	32.5	31.5	31.5	32.5	33.0	33.0	32.5	33.0
Total Split (%)	25.4%	24.6%	24.6%	25.0%	24.2%	24.2%	25.0%	25.4%	25.4%	25.0%	25.4%
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.5	2.5	2.5	1.5	2.5	2.5	1.5	3.0	3.0	1.5	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	7.0	7.0	4.5	7.0	7.0	4.5	7.0	7.0	4.5	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Max	C-Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	75.5	40.3	40.3	56.0	24.5	24.5	44.1	26.6	26.6	36.4	22.7
Actuated g/C Ratio	0.58	0.31	0.31	0.43	0.19	0.19	0.34	0.20	0.20	0.28	0.17
v/c Ratio	0.22	0.56	0.51	0.75	2.38	0.36	0.57	0.28	0.54	0.29	0.79
Control Delay	14.7	41.4	6.8	31.9	648.1	15.9	34.1	43.6	8.0	30.4	51.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	41.4	6.8	31.9	648.1	15.9	34.1	43.6	8.0	30.4	51.6
LOS	B	D	A	C	F	B	C	D	A	C	D
Approach Delay		29.3			532.0			26.8			47.9
Approach LOS		C			F			C			D

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.38

Intersection Signal Delay: 279.7

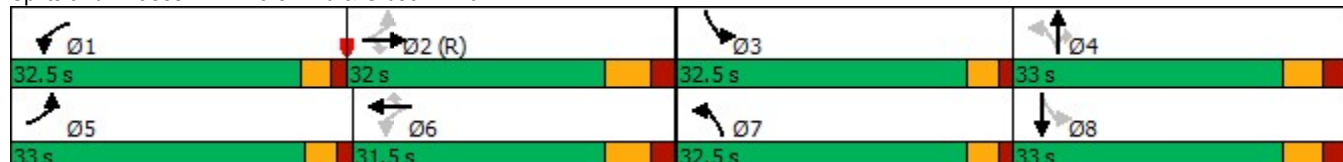
Intersection LOS: F

Intersection Capacity Utilization 89.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Yale Blvd & Gibson Blvd



Queues

1: Yale Blvd & Gibson Blvd

07/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	145	887	387	386	2280	139	311	203	302	110	520
v/c Ratio	0.22	0.56	0.51	0.75	2.38	0.36	0.57	0.28	0.54	0.29	0.79
Control Delay	14.7	41.4	6.8	31.9	648.1	15.9	34.1	43.6	8.0	30.4	51.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	41.4	6.8	31.9	648.1	15.9	34.1	43.6	8.0	30.4	51.6
Queue Length 50th (ft)	52	231	0	182	~1154	21	97	76	0	65	187
Queue Length 95th (ft)	103	#347	91	284	#1247	81	118	105	72	97	237
Internal Link Dist (ft)		278			518			306			381
Turn Bay Length (ft)			240	400		200	160			200	
Base Capacity (vph)	670	1576	757	537	958	386	823	768	580	530	752
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.56	0.51	0.72	2.38	0.36	0.38	0.26	0.52	0.21	0.69

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

1: Yale Blvd & Gibson Blvd

07/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	133	816	356	355	2098	128	286	187	278	101	298	180
Future Volume (veh/h)	133	816	356	355	2098	128	286	187	278	101	298	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	145	887	387	386	2280	139	311	203	302	110	324	196
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	2007	623	457	1708	530	478	719	321	312	376	223
Arrive On Green	0.22	0.39	0.39	0.16	0.33	0.33	0.09	0.20	0.20	0.07	0.18	0.18
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	2148	1271
Grp Volume(v), veh/h	145	887	387	386	2280	139	311	203	302	110	267	253
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1642
Q Serve(g_s), s	5.0	16.6	25.5	18.2	43.5	8.3	9.3	6.3	24.4	6.5	18.9	19.6
Cycle Q Clear(g_c), s	5.0	16.6	25.5	18.2	43.5	8.3	9.3	6.3	24.4	6.5	18.9	19.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	446	2007	623	457	1708	530	478	719	321	312	311	288
V/C Ratio(X)	0.33	0.44	0.62	0.84	1.33	0.26	0.65	0.28	0.94	0.35	0.86	0.88
Avail Cap(c_a), veh/h	446	2007	623	554	1708	530	897	719	321	577	355	328
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	29.0	31.7	23.3	43.3	31.5	39.3	43.9	51.1	39.8	52.0	52.3
Incr Delay (d2), s/veh	1.9	0.7	4.6	9.8	154.7	1.2	1.5	0.2	35.3	0.7	16.8	21.2
Initial Q Delay(d3),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
%ile BackOfQ(50%),veh/ln	2.1	6.7	10.3	8.5	42.0	3.3	4.0	2.8	12.6	2.9	9.8	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	29.7	36.3	33.1	197.9	32.7	40.8	44.1	86.4	40.5	68.8	73.5
LnGrp LOS	C	C	D	C	F	C	D	D	F	D	E	E
Approach Vol, veh/h		1419			2805			816			630	
Approach Delay, s/veh		30.8			167.0			58.5			65.8	
Approach LOS		C			F			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.4	58.1	13.2	33.3	33.0	50.5	16.7	29.8				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.0	4.5	7.0	4.5	7.0				
Max Green Setting (Gmax), s	28.0	25.0	28.0	26.0	28.5	24.5	28.0	26.0				
Max Q Clear Time (g_c+I1), s	20.2	27.5	8.5	26.4	7.0	45.5	11.3	21.6				
Green Ext Time (p_c), s	0.7	0.0	0.2	0.0	0.3	0.0	0.9	1.2				
Intersection Summary												
HCM 6th Ctrl Delay				106.1								
HCM 6th LOS				F								

HCM 6th TWSC
2: Gibson Blvd & Wilmoore Dr

07/21/2021

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	1299	2542	20	5	24
Future Vol, veh/h	28	1299	2542	20	5	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	1412	2763	22	5	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	2785	0	0 3399 1393
Stage 1	-	-	- 2774 -
Stage 2	-	-	- 625 -
Critical Hdwy	5.34	-	- 5.74 7.14
Critical Hdwy Stg 1	-	-	- 6.64 -
Critical Hdwy Stg 2	-	-	- 6.04 -
Follow-up Hdwy	3.12	-	- 3.82 3.92
Pot Cap-1 Maneuver	49	-	- 15 113
Stage 1	-	-	- 18 -
Stage 2	-	-	- 452 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	49	-	- 6 113
Mov Cap-2 Maneuver	-	-	- 6 -
Stage 1	-	-	- 7 -
Stage 2	-	-	- 452 -

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	\$ 418.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	49	-	-	-	28
HCM Lane V/C Ratio	0.621	-	-	-	1.126
HCM Control Delay (s)	160	-	-	-	\$ 418.6
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	2.4	-	-	-	3.7

Notes

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

HCM 6th TWSC
3: Gibson Blvd & Buena Vista Dr

07/21/2021

Intersection

Int Delay, s/veh 2.2

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	30	1328	2560	7	2	15
Future Vol, veh/h	30	1328	2560	7	2	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	1443	2783	8	2	16

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	2791	0	-	0	3430	1396
Stage 1	-	-	-	-	2787	-
Stage 2	-	-	-	-	643	-
Critical Hdwy	5.34	-	-	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	3.12	-	-	-	3.82	3.92
Pot Cap-1 Maneuver	49	-	-	-	15	112
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	442	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	49	-	-	-	5	112
Mov Cap-2 Maneuver	-	-	-	-	5	-
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	442	-

Approach EB WB SB

HCM Control Delay, s	3.7	0	218.1
HCM LOS			F

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	49	-	-	-	32
HCM Lane V/C Ratio	0.665	-	-	-	0.577
HCM Control Delay (s)	169.5	-	-	-	218.1
HCM Lane LOS	F	-	-	-	F
HCM 95th %tile Q(veh)	2.6	-	-	-	1.9

HCM 6th TWSC
4: Walker Rd & Gibson Blvd

07/21/2021

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑		↑
Traffic Vol, veh/h	1330	46	16	2559	0	28
Future Vol, veh/h	1330	46	16	2559	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	125	175	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1446	50	17	2782	0	30

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1496
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	5.34	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.12	-
Pot Cap-1 Maneuver	-	224	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	224	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	17.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	316	-	-	224	-
HCM Lane V/C Ratio	0.096	-	-	0.078	-
HCM Control Delay (s)	17.6	-	-	22.4	-
HCM Lane LOS	C	-	-	C	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

Intersection

Int Delay, s/veh 4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	24	52	9	40	22
Future Vol, veh/h	19	24	52	9	40	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	26	57	10	43	24

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	67	0	130
Stage 1	-	-	62
Stage 2	-	-	68
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1535	-	864
Stage 1	-	-	961
Stage 2	-	-	955
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1535	-	852
Mov Cap-2 Maneuver	-	-	852
Stage 1	-	-	948
Stage 2	-	-	955

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1535	-	-	-	852	1003
HCM Lane V/C Ratio	0.013	-	-	-	0.051	0.024
HCM Control Delay (s)	7.4	0	-	-	9.5	8.7
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.1

HCM 6th TWSC
6: Yale Blvd & Miles Rd

07/21/2021

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕	↕	↕	
Traffic Vol, veh/h	3	2	12	7	1	16	2	730	3	33	964	8
Future Vol, veh/h	3	2	12	7	1	16	2	730	3	33	964	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	60	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	2	13	8	1	17	2	793	3	36	1048	9

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1526	1925	529	1289	1926	397	1057	0	0	796	0	0
Stage 1	1125	1125	-	797	797	-	-	-	-	-	-	-
Stage 2	401	800	-	492	1129	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	7.14	6.99	6.54	6.94	5.34	-	-	4.14	-	-
Critical Hdwy Stg 1	7.34	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.92	3.67	4.02	3.32	3.12	-	-	2.22	-	-
Pot Cap-1 Maneuver	100	66	423	144	66	602	367	-	-	822	-	-
Stage 1	166	278	-	337	397	-	-	-	-	-	-	-
Stage 2	577	395	-	497	277	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	92	62	423	130	62	602	367	-	-	822	-	-
Mov Cap-2 Maneuver	92	62	-	130	62	-	-	-	-	-	-	-
Stage 1	164	266	-	334	393	-	-	-	-	-	-	-
Stage 2	553	391	-	457	265	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27	21.1	0.1	0.3
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	367	-	-	182 249	822	-	-
HCM Lane V/C Ratio	0.006	-	-	0.102 0.105	0.044	-	-
HCM Control Delay (s)	14.9	0.1	-	27 21.1	9.6	-	-
HCM Lane LOS	B	A	-	D C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3 0.3	0.1	-	-

4: Walker Rd & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.3	5.1	14.5	1.1	0.1	13.5	3.3

Intersection: 4: Walker Rd & Gibson Blvd

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	28	66
Average Queue (ft)	5	18
95th Queue (ft)	21	49
Link Distance (ft)		218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	175	
Storage Blk Time (%)		
Queuing Penalty (veh)		

APPENDIX G – Future (with site development) Synchro Outputs

Queues

1: Yale Blvd & Gibson Blvd

09/29/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	268	1693	197	200	766	61	96	165	226	105	279
v/c Ratio	0.35	0.72	0.25	0.72	0.80	0.16	0.17	0.35	0.56	0.31	0.43
Control Delay	12.8	29.2	9.6	44.0	53.8	0.8	32.0	49.6	11.8	34.6	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.8	29.2	9.6	44.0	53.8	0.8	32.0	49.6	11.8	34.6	22.7
Queue Length 50th (ft)	81	376	31	87	209	0	28	62	0	62	46
Queue Length 95th (ft)	159	510	91	152	258	0	47	97	73	104	87
Internal Link Dist (ft)		431			518			306			381
Turn Bay Length (ft)			240	400		200	160			200	
Base Capacity (vph)	768	2364	802	451	957	393	882	678	486	450	744
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.72	0.25	0.44	0.80	0.16	0.11	0.24	0.47	0.23	0.38

Intersection Summary

HCM 6th Signalized Intersection Summary

1: Yale Blvd & Gibson Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	247	1558	181	184	705	56	88	152	208	97	120	137
Future Volume (veh/h)	247	1558	181	184	705	56	88	152	208	97	120	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	268	1693	197	200	766	61	96	165	226	105	130	149
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	608	2507	778	276	1877	583	482	575	256	299	332	296
Arrive On Green	0.21	0.49	0.49	0.09	0.37	0.37	0.04	0.16	0.16	0.07	0.19	0.19
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	1777	1585
Grp Volume(v), veh/h	268	1693	197	200	766	61	96	165	226	105	130	149
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.6	30.3	8.7	8.2	13.4	3.0	2.7	4.9	16.7	5.8	7.7	10.1
Cycle Q Clear(g_c), s	8.6	30.3	8.7	8.2	13.4	3.0	2.7	4.9	16.7	5.8	7.7	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	608	2507	778	276	1877	583	482	575	256	299	332	296
V/C Ratio(X)	0.44	0.68	0.25	0.72	0.41	0.10	0.20	0.29	0.88	0.35	0.39	0.50
Avail Cap(c_a), veh/h	608	2507	778	502	1877	583	1085	681	304	565	341	304
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	23.3	17.8	24.0	28.2	25.0	39.4	44.2	49.2	37.7	42.8	43.8
Incr Delay (d2), s/veh	2.3	1.5	0.8	3.6	0.7	0.4	0.2	0.3	22.1	0.7	0.8	1.3
Initial Q Delay(d3),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
%ile BackOfQ(50%),veh/ln	3.5	11.6	3.2	3.5	5.4	1.2	1.2	2.2	8.1	2.5	3.4	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	24.7	18.5	27.6	28.9	25.3	39.6	44.5	71.2	38.4	43.6	45.1
LnGrp LOS	B	C	B	C	C	C	D	D	E	D	D	D
Approach Vol, veh/h		2158			1027			487			384	
Approach Delay, s/veh		23.0			28.4			55.9			42.8	
Approach LOS		C			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	65.9	12.5	26.4	30.0	51.1	9.5	29.4				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.0	4.5	7.0	4.5	7.0				
Max Green Setting (Gmax), s	25.9	22.2	25.9	23.0	25.5	22.6	25.9	23.0				
Max Q Clear Time (g_c+I1), s	10.2	32.3	7.8	18.7	10.6	15.4	4.7	12.1				
Green Ext Time (p_c), s	0.4	0.0	0.2	0.7	0.6	2.9	0.2	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			30.2									
HCM 6th LOS			C									

HCM 6th TWSC
3: Miles Rd & Walker Rd

09/29/2021

Intersection

Int Delay, s/veh 6.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	17	41	40	152	7
Future Vol, veh/h	8	17	41	40	152	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	18	45	43	165	8

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	88	0	103
Stage 1	-	-	67
Stage 2	-	-	36
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1508	-	895
Stage 1	-	-	956
Stage 2	-	-	986
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1508	-	890
Mov Cap-2 Maneuver	-	-	890
Stage 1	-	-	950
Stage 2	-	-	986

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1508	-	-	-	890	997
HCM Lane V/C Ratio	0.006	-	-	-	0.186	0.008
HCM Control Delay (s)	7.4	0	-	-	10	8.6
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.7	0

HCM 6th TWSC
4: Yale Blvd & Miles Rd

09/29/2021

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↖↗↘		↖	↖↗	↗
Traffic Vol, veh/h	26	0	142	2	0	7	98	416	1	8	411	67
Future Vol, veh/h	26	0	142	2	0	7	98	416	1	8	411	67
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	250	-	-	-	167	-	-	60	-	163
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	0	154	2	0	8	107	452	1	9	447	73

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	860	1132	224	909	1205	227	520	0	0	453	0	0
Stage 1	465	465	-	667	667	-	-	-	-	-	-	-
Stage 2	395	667	-	242	538	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	277	202	779	258	183	661	1042	-	-	713	-	-
Stage 1	529	561	-	347	455	-	-	-	-	-	-	-
Stage 2	569	455	-	713	521	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	250	179	779	189	162	661	1042	-	-	713	-	-
Mov Cap-2 Maneuver	250	179	-	189	162	-	-	-	-	-	-	-
Stage 1	475	554	-	311	408	-	-	-	-	-	-	-
Stage 2	505	408	-	565	514	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.4		13.7		1.7		0.2	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1042	-	-	250	779	425	713	-	-
HCM Lane V/C Ratio	0.102	-	-	0.113	0.198	0.023	0.012	-	-
HCM Control Delay (s)	8.8	-	-	21.2	10.8	13.7	10.1	-	-
HCM Lane LOS	A	-	-	C	B	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.4	0.7	0.1	0	-	-

Intersection

Int Delay, s/veh 1.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	12	127	120	45	41	12
Future Vol, veh/h	12	127	120	45	41	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	138	130	49	45	13

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	179	0	-	0	319	155
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1397	-	-	-	674	891
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1397	-	-	-	667	891
Mov Cap-2 Maneuver	-	-	-	-	667	-
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	865	-

Approach EB WB SB

HCM Control Delay, s	0.7	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1397	-	-	-	707
HCM Lane V/C Ratio	0.009	-	-	-	0.081
HCM Control Delay (s)	7.6	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

HCM 6th TWSC
6: Miles Rd & SE Central Access

09/29/2021

Intersection

Int Delay, s/veh 2.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	12	98	96	35	41	12
Future Vol, veh/h	12	98	96	35	41	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	107	104	38	45	13

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	142	0	-	0	256	123
Stage 1	-	-	-	-	123	-
Stage 2	-	-	-	-	133	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1441	-	-	-	733	928
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	893	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1441	-	-	-	726	928
Mov Cap-2 Maneuver	-	-	-	-	726	-
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	893	-

Approach EB WB SB

HCM Control Delay, s	0.8	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1441	-	-	-	764
HCM Lane V/C Ratio	0.009	-	-	-	0.075
HCM Control Delay (s)	7.5	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM 6th TWSC
7: Miles Rd & SW Central Access

09/29/2021

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	70	64	45	41	24
Future Vol, veh/h	12	70	64	45	41	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	76	70	49	45	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	119	0	0 197 95
Stage 1	-	-	- 95 -
Stage 2	-	-	- 102 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1469	-	- 792 962
Stage 1	-	-	- 929 -
Stage 2	-	-	- 922 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1469	-	- 785 962
Mov Cap-2 Maneuver	-	-	- 785 -
Stage 1	-	-	- 921 -
Stage 2	-	-	- 922 -

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1469	-	-	-	842
HCM Lane V/C Ratio	0.009	-	-	-	0.084
HCM Control Delay (s)	7.5	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection

Int Delay, s/veh 2.6

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	25	144	57	35	41	24
Future Vol, veh/h	25	144	57	35	41	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	157	62	38	45	26

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	100	0	-	0	292	81
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	211	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1493	-	-	-	699	979
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	824	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1493	-	-	-	685	979
Mov Cap-2 Maneuver	-	-	-	-	685	-
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	824	-

Approach EB WB SB

HCM Control Delay, s	1.1	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1493	-	-	-	770
HCM Lane V/C Ratio	0.018	-	-	-	0.092
HCM Control Delay (s)	7.5	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

4: Walker Rd & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	13.2	12.8	27.2	0.8	29.0	10.2

10: NW Access & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	2.1	0.1
Total Del/Veh (s)	1.3	1.9	0.3	25.2	2.0

11: NE Site Access & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.4	0.0
Total Del/Veh (s)	0.7	0.9	0.2	31.6	1.6

Total Zone Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	2216.3

Queuing and Blocking Report

Baseline

08/05/2021

Intersection: 4: Walker Rd & Gibson Blvd

Movement	EB	EB	EB	EB	WB	NB
Directions Served	T	T	T	R	L	R
Maximum Queue (ft)	1111	1136	1028	22	157	87
Average Queue (ft)	78	151	37	3	59	42
95th Queue (ft)	544	763	351	16	108	80
Link Distance (ft)	1072	1072	1072			218
Upstream Blk Time (%)	0	0				
Queuing Penalty (veh)	1	1				
Storage Bay Dist (ft)				125	175	
Storage Blk Time (%)					0	
Queuing Penalty (veh)					0	

Intersection: 10: NW Access & Gibson Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	96
Average Queue (ft)	67
95th Queue (ft)	99
Link Distance (ft)	81
Upstream Blk Time (%)	6
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: NE Site Access & Gibson Blvd

Movement	EB	EB	NB
Directions Served	T	TR	R
Maximum Queue (ft)	97	122	114
Average Queue (ft)	11	15	59
95th Queue (ft)	56	77	106
Link Distance (ft)	97	97	99
Upstream Blk Time (%)	0	1	5
Queuing Penalty (veh)	1	5	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 8

Queues

1: Yale Blvd & Gibson Blvd

09/29/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	265	839	297	396	2136	127	248	199	268	101	533
v/c Ratio	0.38	0.53	0.42	0.74	2.23	0.33	0.51	0.29	0.51	0.27	0.79
Control Delay	18.9	40.5	6.7	29.6	582.2	13.7	34.1	44.8	8.3	31.1	50.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.9	40.5	6.7	29.6	582.2	13.7	34.1	44.8	8.3	31.1	50.4
Queue Length 50th (ft)	102	215	0	181	~1062	13	77	75	0	60	187
Queue Length 95th (ft)	216	#307	79	277	#1156	69	98	106	70	93	239
Internal Link Dist (ft)		431			518			306			381
Turn Bay Length (ft)			240	400		200	160			200	
Base Capacity (vph)	694	1593	699	554	958	386	816	749	547	515	761
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.53	0.42	0.71	2.23	0.33	0.30	0.27	0.49	0.20	0.70

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

1: Yale Blvd & Gibson Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	244	772	273	364	1965	117	228	183	247	93	299	191
Future Volume (veh/h)	244	772	273	364	1965	117	228	183	247	93	299	191
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	265	839	297	396	2136	127	248	199	268	101	325	208
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	2063	641	486	1770	549	423	691	308	303	375	235
Arrive On Green	0.22	0.40	0.40	0.16	0.35	0.35	0.08	0.19	0.19	0.06	0.18	0.18
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	2098	1313
Grp Volume(v), veh/h	265	839	297	396	2136	127	248	199	268	101	274	259
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1634
Q Serve(g_s), s	13.0	15.2	17.9	18.3	45.1	7.4	7.5	6.2	21.3	5.9	19.5	20.1
Cycle Q Clear(g_c), s	13.0	15.2	17.9	18.3	45.1	7.4	7.5	6.2	21.3	5.9	19.5	20.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.80
Lane Grp Cap(c), veh/h	446	2063	641	486	1770	549	423	691	308	303	317	292
V/C Ratio(X)	0.59	0.41	0.46	0.82	1.21	0.23	0.59	0.29	0.87	0.33	0.86	0.89
Avail Cap(c_a), veh/h	446	2063	641	581	1770	549	896	711	317	575	355	327
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	27.6	28.4	21.4	42.5	30.2	40.5	44.7	50.7	39.7	51.9	52.1
Incr Delay (d2), s/veh	5.7	0.6	2.4	7.5	98.6	1.0	1.3	0.2	21.5	0.6	17.9	22.5
Initial Q Delay(d3),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
%ile BackOfQ(50%),veh/ln	8.0	6.1	7.1	8.2	34.3	2.9	3.2	2.7	10.1	2.6	10.1	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	28.2	30.8	28.9	141.1	31.1	41.8	44.9	72.2	40.4	69.7	74.6
LnGrp LOS	D	C	C	C	F	C	D	D	E	D	E	E
Approach Vol, veh/h		1401			2659			715			634	
Approach Delay, s/veh		30.6			119.1			54.1			67.1	
Approach LOS		C			F			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.5	59.5	12.6	32.3	33.0	52.1	14.7	30.2				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.0	4.5	7.0	4.5	7.0				
Max Green Setting (Gmax), s	28.0	25.0	28.0	26.0	28.5	24.5	28.0	26.0				
Max Q Clear Time (g_c+I1), s	20.3	19.9	7.9	23.3	15.0	47.1	9.5	22.1				
Green Ext Time (p_c), s	0.8	2.8	0.2	0.6	0.6	0.0	0.7	1.1				
Intersection Summary												
HCM 6th Ctrl Delay				81.5								
HCM 6th LOS				F								

HCM 6th TWSC
3: Miles Rd & Walker Rd

09/29/2021

Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	24	86	43	103	22
Future Vol, veh/h	19	24	86	43	103	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	26	93	47	112	24

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	140	0	0 185 117
Stage 1	-	-	- 117 -
Stage 2	-	-	- 68 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1443	-	- 804 935
Stage 1	-	-	- 908 -
Stage 2	-	-	- 955 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1443	-	- 792 935
Mov Cap-2 Maneuver	-	-	- 792 -
Stage 1	-	-	- 894 -
Stage 2	-	-	- 955 -

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1443	-	-	-	792	935
HCM Lane V/C Ratio	0.014	-	-	-	0.141	0.026
HCM Control Delay (s)	7.5	0	-	-	10.3	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.1

HCM 6th TWSC
4: Yale Blvd & Miles Rd

09/29/2021

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↰	↱	↰	↰	↱
Traffic Vol, veh/h	26	2	140	7	1	16	95	616	3	33	832	71
Future Vol, veh/h	26	2	140	7	1	16	95	616	3	33	832	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	250	-	-	-	167	-	-	60	-	163
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	2	152	8	1	17	103	670	3	36	904	77

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1451	1855	452	1403	1931	337	981	0	0	673	0	0
Stage 1	976	976	-	878	878	-	-	-	-	-	-	-
Stage 2	475	879	-	525	1053	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	112	73	555	121	65	562	699	-	-	561	-	-
Stage 1	263	327	-	248	364	-	-	-	-	-	-	-
Stage 2	509	363	-	488	301	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	90	58	555	72	52	562	699	-	-	561	-	-
Mov Cap-2 Maneuver	90	58	-	72	52	-	-	-	-	-	-	-
Stage 1	224	306	-	212	310	-	-	-	-	-	-	-
Stage 2	419	310	-	329	282	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	22.8		30.7		1.5		0.4	
HCM LOS	C		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	699	-	-	87	555	166	561	-	-
HCM Lane V/C Ratio	0.148	-	-	0.35	0.274	0.157	0.064	-	-
HCM Control Delay (s)	11	-	-	67.2	13.9	30.7	11.9	-	-
HCM Lane LOS	B	-	-	F	B	D	B	-	-
HCM 95th %tile Q(veh)	0.5	-	-	1.4	1.1	0.5	0.2	-	-

HCM 6th TWSC
5: Miles Rd & SE Access

09/29/2021

Intersection

Int Delay, s/veh 1.7

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	13	130	123	43	37	11
Future Vol, veh/h	13	130	123	43	37	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	141	134	47	40	12

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	181	0	-	0	327	158
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	169	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1394	-	-	-	667	887
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	861	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1394	-	-	-	660	887
Mov Cap-2 Maneuver	-	-	-	-	660	-
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	861	-

Approach EB WB SB

HCM Control Delay, s	0.7	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1394	-	-	-	701
HCM Lane V/C Ratio	0.01	-	-	-	0.074
HCM Control Delay (s)	7.6	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM 6th TWSC
6: Miles Rd & SE Central Access

09/29/2021

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	106	100	34	37	11
Future Vol, veh/h	13	106	100	34	37	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	115	109	37	40	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	146	0	0 271 128
Stage 1	-	-	- 128 -
Stage 2	-	-	- 143 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1436	-	- 718 922
Stage 1	-	-	- 898 -
Stage 2	-	-	- 884 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1436	-	- 711 922
Mov Cap-2 Maneuver	-	-	- 711 -
Stage 1	-	-	- 889 -
Stage 2	-	-	- 884 -

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1436	-	-	-	750
HCM Lane V/C Ratio	0.01	-	-	-	0.07
HCM Control Delay (s)	7.5	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM 6th TWSC
7: Miles Rd & SW Central Access

09/29/2021

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	79	68	43	37	23
Future Vol, veh/h	13	79	68	43	37	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	86	74	47	40	25
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	121	0	-	0	212	98
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	114	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1467	-	-	-	776	958
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	911	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1467	-	-	-	768	958
Mov Cap-2 Maneuver	-	-	-	-	768	-
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	911	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.1	0		9.7		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1467	-	-	-	831	
HCM Lane V/C Ratio	0.01	-	-	-	0.078	
HCM Control Delay (s)	7.5	0	-	-	9.7	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	102	107	34	37	23
Future Vol, veh/h	25	102	107	34	37	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	111	116	37	40	25

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	153	0	0 300 135
Stage 1	-	-	- 135 -
Stage 2	-	-	- 165 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1428	-	- 691 914
Stage 1	-	-	- 891 -
Stage 2	-	-	- 864 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1428	-	- 677 914
Mov Cap-2 Maneuver	-	-	- 677 -
Stage 1	-	-	- 873 -
Stage 2	-	-	- 864 -

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1428	-	-	-	752
HCM Lane V/C Ratio	0.019	-	-	-	0.087
HCM Control Delay (s)	7.6	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

4: Walker Rd & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.9	6.1	14.4	2.0	9.8	4.6

10: NW Access & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	0.8	1.4	0.4	12.2	1.0

11: NE Site Access & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	0.2	0.2	0.3	12.6	0.7

Total Zone Performance

Denied Del/Veh (s)	0.1
Total Del/Veh (s)	361.2

Intersection: 4: Walker Rd & Gibson Blvd

Movement	EB	WB	NB
Directions Served	T	L	R
Maximum Queue (ft)	899	73	45
Average Queue (ft)	32	21	21
95th Queue (ft)	307	53	43
Link Distance (ft)	1072		218
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		175	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: NW Access & Gibson Blvd

Movement	EB	WB	NB
Directions Served	TR	T	R
Maximum Queue (ft)	24	27	96
Average Queue (ft)	0	1	38
95th Queue (ft)	0	9	68
Link Distance (ft)	515	169	81
Upstream Blk Time (%)			1
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: NE Site Access & Gibson Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	72
Average Queue (ft)	41
95th Queue (ft)	68
Link Distance (ft)	99
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 0

Queues

1: Yale Blvd & Gibson Blvd

09/29/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	280	1841	221	215	830	65	109	179	247	115	299
v/c Ratio	0.37	0.80	0.28	0.74	0.87	0.17	0.20	0.38	0.58	0.33	0.46
Control Delay	13.7	32.8	11.0	44.9	58.0	1.4	31.9	50.1	11.8	34.6	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	32.8	11.0	44.9	58.0	1.4	31.9	50.1	11.8	34.6	22.8
Queue Length 50th (ft)	88	438	41	97	230	0	31	67	0	68	50
Queue Length 95th (ft)	173	#639	111	164	#296	4	52	104	77	112	92
Internal Link Dist (ft)		431			518			306			381
Turn Bay Length (ft)			240	400		200	160			200	
Base Capacity (vph)	759	2301	786	451	957	393	888	678	503	452	753
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.80	0.28	0.48	0.87	0.17	0.12	0.26	0.49	0.25	0.40

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

1: Yale Blvd & Gibson Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	258	1694	203	198	764	60	100	165	227	106	128	147
Future Volume (veh/h)	258	1694	203	198	764	60	100	165	227	106	128	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	280	1841	221	215	830	65	109	179	247	115	139	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	579	2389	742	266	1796	558	504	617	275	310	355	316
Arrive On Green	0.21	0.47	0.47	0.10	0.35	0.35	0.04	0.17	0.17	0.07	0.20	0.20
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	1777	1585
Grp Volume(v), veh/h	280	1841	221	215	830	65	109	179	247	115	139	160
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.4	36.0	10.3	9.1	15.1	3.3	3.1	5.3	18.3	6.2	8.2	10.8
Cycle Q Clear(g_c), s	9.4	36.0	10.3	9.1	15.1	3.3	3.1	5.3	18.3	6.2	8.2	10.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	579	2389	742	266	1796	558	504	617	275	310	355	316
V/C Ratio(X)	0.48	0.77	0.30	0.81	0.46	0.12	0.22	0.29	0.90	0.37	0.39	0.51
Avail Cap(c_a), veh/h	579	2389	742	478	1796	558	1096	681	304	569	355	316
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	26.6	19.7	26.6	30.1	26.3	38.1	43.2	48.5	36.3	41.7	42.8
Incr Delay (d2), s/veh	2.9	2.5	1.0	5.8	0.9	0.4	0.2	0.3	26.0	0.7	0.7	1.3
Initial Q Delay(d3),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
%ile BackOfQ(50%),veh/ln	3.9	14.1	3.9	4.0	6.1	1.3	1.3	2.3	9.1	2.7	3.6	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	29.0	20.8	32.4	31.0	26.7	38.3	43.4	74.5	37.1	42.4	44.1
LnGrp LOS	B	C	C	C	C	C	D	D	E	D	D	D
Approach Vol, veh/h		2342			1110			535			414	
Approach Delay, s/veh		26.9			31.0			56.7			41.6	
Approach LOS		C			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.1	63.1	13.0	27.8	30.0	49.2	9.8	30.9				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.0	4.5	7.0	4.5	7.0				
Max Green Setting (Gmax), s	25.9	22.2	25.9	23.0	25.5	22.6	25.9	23.0				
Max Q Clear Time (g_c+l1), s	11.1	38.0	8.2	20.3	11.4	17.1	5.1	12.8				
Green Ext Time (p_c), s	0.5	0.0	0.2	0.5	0.7	2.5	0.3	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			32.9									
HCM 6th LOS			C									

HCM 6th TWSC
3: Miles Rd & Walker Rd

09/29/2021

Intersection

Int Delay, s/veh 6.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	17	41	40	152	7
Future Vol, veh/h	8	17	41	40	152	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	18	45	43	165	8

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	88	0	0 103 67
Stage 1	-	-	- 67 -
Stage 2	-	-	- 36 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1508	-	- 895 997
Stage 1	-	-	- 956 -
Stage 2	-	-	- 986 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1508	-	- 890 997
Mov Cap-2 Maneuver	-	-	- 890 -
Stage 1	-	-	- 950 -
Stage 2	-	-	- 986 -

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1508	-	-	-	890	997
HCM Lane V/C Ratio	0.006	-	-	-	0.186	0.008
HCM Control Delay (s)	7.4	0	-	-	10	8.6
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.7	0

HCM 6th TWSC
4: Yale Blvd & Miles Rd

09/29/2021

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↰↱↲		↰	↰↱	↱
Traffic Vol, veh/h	26	0	142	2	0	7	98	458	1	8	452	67
Future Vol, veh/h	26	0	142	2	0	7	98	458	1	8	452	67
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	250	-	-	-	167	-	-	60	-	163
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	0	154	2	0	8	107	498	1	9	491	73

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	922	1222	246	977	1295	250	564	0	0	499	0	0
Stage 1	509	509	-	713	713	-	-	-	-	-	-	-
Stage 2	413	713	-	264	582	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	253	178	754	232	161	639	1004	-	-	678	-	-
Stage 1	499	536	-	323	434	-	-	-	-	-	-	-
Stage 2	555	434	-	693	497	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	227	157	754	168	142	639	1004	-	-	678	-	-
Mov Cap-2 Maneuver	227	157	-	168	142	-	-	-	-	-	-	-
Stage 1	446	529	-	288	388	-	-	-	-	-	-	-
Stage 2	490	388	-	544	491	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	14.4	1.6	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1004	-	-	227	754	394	678	-	-
HCM Lane V/C Ratio	0.106	-	-	0.124	0.205	0.025	0.013	-	-
HCM Control Delay (s)	9	-	-	23.1	11	14.4	10.4	-	-
HCM Lane LOS	A	-	-	C	B	B	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.4	0.8	0.1	0	-	-

HCM 6th TWSC
5: Miles Rd & SE Access

09/29/2021

Intersection

Int Delay, s/veh 1.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	12	127	120	45	41	12
Future Vol, veh/h	12	127	120	45	41	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	138	130	49	45	13

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	179	0	-	0	319	155
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1397	-	-	-	674	891
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1397	-	-	-	667	891
Mov Cap-2 Maneuver	-	-	-	-	667	-
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	865	-

Approach EB WB SB

HCM Control Delay, s	0.7	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1397	-	-	-	707
HCM Lane V/C Ratio	0.009	-	-	-	0.081
HCM Control Delay (s)	7.6	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

HCM 6th TWSC
6: Miles Rd & SE Central Access

09/29/2021

Intersection

Int Delay, s/veh 2.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations 

Traffic Vol, veh/h 12 98 96 35 41 12

Future Vol, veh/h 12 98 96 35 41 12

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 92 92 92 92 92 92

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 13 107 104 38 45 13

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 142 0 - 0 256 123

Stage 1 - - - - 123 -

Stage 2 - - - - 133 -

Critical Hdwy 4.12 - - - 6.42 6.22

Critical Hdwy Stg 1 - - - - 5.42 -

Critical Hdwy Stg 2 - - - - 5.42 -

Follow-up Hdwy 2.218 - - - 3.518 3.318

Pot Cap-1 Maneuver 1441 - - - 733 928

Stage 1 - - - - 902 -

Stage 2 - - - - 893 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 1441 - - - 726 928

Mov Cap-2 Maneuver - - - - 726 -

Stage 1 - - - - 893 -

Stage 2 - - - - 893 -

Approach EB WB SB

HCM Control Delay, s 0.8 0 10.1

HCM LOS B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h) 1441 - - - 764

HCM Lane V/C Ratio 0.009 - - - 0.075

HCM Control Delay (s) 7.5 0 - - 10.1

HCM Lane LOS A A - - B

HCM 95th %tile Q(veh) 0 - - - 0.2

HCM 6th TWSC
7: Miles Rd & SW Central Access

09/29/2021

Intersection

Int Delay, s/veh 2.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	12	70	64	45	41	24
Future Vol, veh/h	12	70	64	45	41	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	76	70	49	45	26

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	119	0	-	0	197	95
Stage 1	-	-	-	-	95	-
Stage 2	-	-	-	-	102	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1469	-	-	-	792	962
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	922	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1469	-	-	-	785	962
Mov Cap-2 Maneuver	-	-	-	-	785	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	922	-

Approach EB WB SB

HCM Control Delay, s	1.1	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1469	-	-	-	842
HCM Lane V/C Ratio	0.009	-	-	-	0.084
HCM Control Delay (s)	7.5	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection

Int Delay, s/veh 2.6

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	25	144	57	35	41	24
Future Vol, veh/h	25	144	57	35	41	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	157	62	38	45	26

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	100	0	-	0	292	81
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	211	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1493	-	-	-	699	979
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	824	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1493	-	-	-	685	979
Mov Cap-2 Maneuver	-	-	-	-	685	-
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	824	-

Approach EB WB SB

HCM Control Delay, s	1.1	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1493	-	-	-	770
HCM Lane V/C Ratio	0.018	-	-	-	0.092
HCM Control Delay (s)	7.5	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

4: Walker Rd & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	12.9	13.0	28.2	1.8	21.5	9.7

10: NW Access & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	2.4	0.1
Total Del/Veh (s)	1.3	1.9	0.3	25.0	2.0

11: NE Site Access & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	3.0	0.1
Total Del/Veh (s)	0.8	1.2	0.2	35.2	2.0

Total Zone Performance

Denied Del/Veh (s)	2.6
Total Del/Veh (s)	1275.4

Queuing and Blocking Report

08/05/2021

Intersection: 4: Walker Rd & Gibson Blvd

Movement	EB	EB	EB	WB	NB
Directions Served	T	T	R	L	R
Maximum Queue (ft)	989	980	20	156	105
Average Queue (ft)	55	35	1	48	28
95th Queue (ft)	390	335	7	103	65
Link Distance (ft)	1072	1072			218
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			125	175	
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 10: NW Access & Gibson Blvd

Movement	NB
Directions Served	R
Maximum Queue (ft)	96
Average Queue (ft)	69
95th Queue (ft)	110
Link Distance (ft)	81
Upstream Blk Time (%)	8
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: NE Site Access & Gibson Blvd

Movement	EB	EB	WB	NB
Directions Served	T	TR	T	R
Maximum Queue (ft)	97	99	51	114
Average Queue (ft)	9	17	2	78
95th Queue (ft)	47	73	17	129
Link Distance (ft)	97	97	104	99
Upstream Blk Time (%)	0	0		13
Queuing Penalty (veh)	3	3		0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 6

Queues

1: Yale Blvd & Gibson Blvd

09/29/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	277	912	328	427	2322	139	273	215	292	110	574
v/c Ratio	0.42	0.65	0.49	0.78	2.42	0.36	0.55	0.29	0.52	0.28	0.81
Control Delay	21.5	45.9	7.3	36.4	667.4	15.9	33.1	43.1	7.7	29.6	50.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	45.9	7.3	36.4	667.4	15.9	33.1	43.1	7.7	29.6	50.3
Queue Length 50th (ft)	116	255	0	224	~1181	21	82	80	0	64	205
Queue Length 95th (ft)	240	#363	85	363	#1273	81	102	110	70	96	256
Internal Link Dist (ft)		431			518			306			381
Turn Bay Length (ft)			240	400		200	160			200	
Base Capacity (vph)	660	1401	673	550	958	386	820	785	578	535	781
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.65	0.49	0.78	2.42	0.36	0.33	0.27	0.51	0.21	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

1: Yale Blvd & Gibson Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			  	
Traffic Volume (veh/h)	255	839	302	393	2136	128	251	198	269	101	323	205
Future Volume (veh/h)	255	839	302	393	2136	128	251	198	269	101	323	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	277	912	328	427	2322	139	273	215	292	110	351	223
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	1914	594	476	1694	526	437	732	326	312	395	246
Arrive On Green	0.22	0.37	0.37	0.18	0.33	0.33	0.08	0.21	0.21	0.07	0.19	0.19
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	3456	3554	1585	1781	2101	1311
Grp Volume(v), veh/h	277	912	328	427	2322	139	273	215	292	110	296	278
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1728	1777	1585	1781	1777	1634
Q Serve(g_s), s	13.9	17.7	21.2	20.2	43.1	8.4	8.1	6.6	23.3	6.4	21.1	21.6
Cycle Q Clear(g_c), s	13.9	17.7	21.2	20.2	43.1	8.4	8.1	6.6	23.3	6.4	21.1	21.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.80
Lane Grp Cap(c), veh/h	446	1914	594	476	1694	526	437	732	326	312	334	307
V/C Ratio(X)	0.62	0.48	0.55	0.90	1.37	0.26	0.63	0.29	0.89	0.35	0.89	0.91
Avail Cap(c_a), veh/h	446	1914	594	546	1694	526	890	732	326	577	355	327
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	30.9	32.0	24.0	43.4	31.8	39.5	43.6	50.2	38.6	51.4	51.6
Incr Delay (d2), s/veh	6.4	0.9	3.7	16.0	170.8	1.2	1.5	0.2	25.5	0.7	21.7	26.4
Initial Q Delay(d3),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
%ile BackOfQ(50%),veh/ln	8.5	7.2	8.6	10.1	44.1	3.3	3.5	2.9	11.4	2.8	11.2	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	31.8	35.7	40.0	214.2	33.0	41.0	43.9	75.7	39.3	73.1	78.1
LnGrp LOS	D	C	D	D	F	C	D	D	E	D	E	E
Approach Vol, veh/h		1517			2888			780			684	
Approach Delay, s/veh		33.9			179.8			54.8			69.7	
Approach LOS		C			F			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.4	55.7	13.1	33.8	33.0	50.1	15.4	31.4				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.0	4.5	7.0	4.5	7.0				
Max Green Setting (Gmax), s	28.0	25.0	28.0	26.0	28.5	24.5	28.0	26.0				
Max Q Clear Time (g_c+l1), s	22.2	23.2	8.4	25.3	15.9	45.1	10.1	23.6				
Green Ext Time (p_c), s	0.7	1.2	0.2	0.2	0.6	0.0	0.8	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			112.6									
HCM 6th LOS			F									

HCM 6th TWSC
3: Miles Rd & Walker Rd

09/29/2021

Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	24	86	43	103	22
Future Vol, veh/h	19	24	86	43	103	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	26	93	47	112	24

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	140	0	0 185 117
Stage 1	-	-	- 117 -
Stage 2	-	-	- 68 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1443	-	- 804 935
Stage 1	-	-	- 908 -
Stage 2	-	-	- 955 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1443	-	- 792 935
Mov Cap-2 Maneuver	-	-	- 792 -
Stage 1	-	-	- 894 -
Stage 2	-	-	- 955 -

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1443	-	-	-	792	935
HCM Lane V/C Ratio	0.014	-	-	-	0.141	0.026
HCM Control Delay (s)	7.5	0	-	-	10.3	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.1

HCM 6th TWSC
4: Yale Blvd & Miles Rd

09/29/2021

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔		↔	↔		↔	↔	↔
Traffic Vol, veh/h	26	2	140	7	1	16	95	675	3	33	910	71
Future Vol, veh/h	26	2	140	7	1	16	95	675	3	33	910	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	250	-	-	-	167	-	-	60	-	163
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	2	152	8	1	17	103	734	3	36	989	77

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1561	2004	495	1510	2080	369	1066	0	0	737	0	0
Stage 1	1061	1061	-	942	942	-	-	-	-	-	-	-
Stage 2	500	943	-	568	1138	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	95	59	520	102	53	536	649	-	-	523	-	-
Stage 1	234	299	-	224	340	-	-	-	-	-	-	-
Stage 2	491	339	-	460	275	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	75	46	520	58	41	536	649	-	-	523	-	-
Mov Cap-2 Maneuver	75	46	-	58	41	-	-	-	-	-	-	-
Stage 1	197	278	-	188	286	-	-	-	-	-	-	-
Stage 2	398	285	-	301	256	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	26.9		37.4		1.4		0.4	
HCM LOS	D		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	649	-	-	72	520	137	523	-	-
HCM Lane V/C Ratio	0.159	-	-	0.423	0.293	0.19	0.069	-	-
HCM Control Delay (s)	11.6	-	-	87.5	14.8	37.4	12.4	-	-
HCM Lane LOS	B	-	-	F	B	E	B	-	-
HCM 95th %tile Q(veh)	0.6	-	-	1.7	1.2	0.7	0.2	-	-

Intersection

Int Delay, s/veh 1.7

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	13	132	124	43	37	11
Future Vol, veh/h	13	132	124	43	37	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	143	135	47	40	12

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	182	0	-	0	330	159
Stage 1	-	-	-	-	159	-
Stage 2	-	-	-	-	171	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1393	-	-	-	665	886
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1393	-	-	-	658	886
Mov Cap-2 Maneuver	-	-	-	-	658	-
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	859	-

Approach EB WB SB

HCM Control Delay, s	0.7	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1393	-	-	-	699
HCM Lane V/C Ratio	0.01	-	-	-	0.075
HCM Control Delay (s)	7.6	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM 6th TWSC
6: Miles Rd & SE Central Access

09/29/2021

Intersection

Int Delay, s/veh 1.9

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	13	106	100	34	37	11
Future Vol, veh/h	13	106	100	34	37	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	115	109	37	40	12

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	146	0	-	0	271	128
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	143	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1436	-	-	-	718	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1436	-	-	-	711	922
Mov Cap-2 Maneuver	-	-	-	-	711	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	884	-

Approach EB WB SB

HCM Control Delay, s	0.8	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1436	-	-	-	750
HCM Lane V/C Ratio	0.01	-	-	-	0.07
HCM Control Delay (s)	7.5	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM 6th TWSC
7: Miles Rd & SW Central Access

09/29/2021

Intersection

Int Delay, s/veh 2.6

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	13	79	68	43	37	23
Future Vol, veh/h	13	79	68	43	37	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	86	74	47	40	25

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	121	0	-	0	212	98
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	114	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1467	-	-	-	776	958
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	911	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1467	-	-	-	768	958
Mov Cap-2 Maneuver	-	-	-	-	768	-
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	911	-

Approach EB WB SB

HCM Control Delay, s	1.1	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1467	-	-	-	831
HCM Lane V/C Ratio	0.01	-	-	-	0.078
HCM Control Delay (s)	7.5	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection

Int Delay, s/veh 2.4

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	25	102	107	34	37	23
Future Vol, veh/h	25	102	107	34	37	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	111	116	37	40	25

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	153	0	-	0	300	135
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	165	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1428	-	-	-	691	914
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	864	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1428	-	-	-	677	914
Mov Cap-2 Maneuver	-	-	-	-	677	-
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	864	-

Approach EB WB SB

HCM Control Delay, s	1.5	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1428	-	-	-	752
HCM Lane V/C Ratio	0.019	-	-	-	0.087
HCM Control Delay (s)	7.6	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

4: Walker Rd & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.1	6.6	13.3	2.0	9.4	4.3

10: NW Access & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	2.1	1.8	0.5	8.3	1.5

11: NE Site Access & Gibson Blvd Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	0.9	0.2	0.6	9.7	1.0

Total Zone Performance

Denied Del/Veh (s)	0.1
Total Del/Veh (s)	478.8

Intersection: 4: Walker Rd & Gibson Blvd

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	95	67
Average Queue (ft)	28	27
95th Queue (ft)	70	49
Link Distance (ft)		218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	175	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: NW Access & Gibson Blvd

Movement	EB	NB
Directions Served	TR	R
Maximum Queue (ft)	30	79
Average Queue (ft)	1	40
95th Queue (ft)	10	69
Link Distance (ft)	515	81
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: NE Site Access & Gibson Blvd

Movement	EB	NB
Directions Served	TR	R
Maximum Queue (ft)	28	91
Average Queue (ft)	1	44
95th Queue (ft)	10	72
Link Distance (ft)	97	99
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 0