

Terry O. Brown P.E.

Gibson Blvd. / University Blvd. Restaurants
(SE Corner)

Access Justification Study

May 12, 2015

FINAL

Presented to:

City of Albuquerque
Transportation Development Section

Prepared for:

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A handwritten signature in blue ink that reads "Terry O. Brown".

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CITY OF ALBUQUERQUE



g. Accident analyses ___yes ☒ no.

h. Weaving analyses ___yes ☒ no.

14. Number of copies of report required for the TIS Study only: 2 hard copies plus electronic copy
15. Separate Access Study will be required to include left turn access from Gibson Boulevard onto Walker Drive along with median cut to allow left turn access. This still requires approval from Debbie Bauman of DMD prior to submitting access study to MRCOG. If the proposal is acceptable, the necessary number of copies will need to be submitted to MRCOG for the review by the Request for Access Committee.

The Traffic Impact Study for this development proposal, project name, shall be performed in accordance with the above criteria. If there are any questions regarding the above items, please contact me at 924-3924.

Jeanne Wolfenbarger, P.E.
Senior Engineer for
Transportation Development Section

03-05-15
Date

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cc: TIS Task Force Attendees
Debbie Bauman, Public Works Strategic Program Manager, DMD
file

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**Gibson / University Restaurants
(SE Corner)
Access Justification Study**

Introduction

The purpose of this study is to evaluate the access to the proposed commercial development at the southeast corner of Gibson Blvd. / University Blvd. and demonstrate the benefit, if any, to permitting a right-in, right-out, left-in only at Walker Rd. on Unser Blvd. The intersection of Gibson Blvd. / Walker Rd. is currently a right-in, right-out only unsignalized driveway. This report is to be considered as a companion report to the Traffic Impact Analysis for the proposed Gibson / University Restaurants at the southeast corner of Gibson Blvd. / University Blvd. This study is for review and approval by the City of Albuquerque and the Mid-Region Council of Governments' Roadway Access Committee (R.A.C.) and Transportation Coordinating Committee (T.C.C.). This is a companion report to the Gibson / University Traffic Impact Study, dated April 27, 2015.

Study Procedures

The evaluation of the alternative access scenarios for the project, considers the signalized intersection of Gibson Blvd. / University Blvd. and the unsignalized intersection of Gibson Blvd. / Walker Rd. In addition, the unsignalized driveway, Driveway "A" / University Blvd. was analyzed.

It was assumed in this analysis that the existing intersection / driveway on Gibson Blvd. would be a right-in, right-out only unsignalized driveway. The alternative access scenarios evaluated in this report are:

- 1) Case "N" – no left-in access on Gibson Blvd. at Walker Rd.
- 2) Case "Y" – a right-in, right-out, left-in access on Gibson Blvd. at Walker Rd.

The intersections impacted were evaluated to estimate level-of-service, delay, and 95th percentile queue length for each intersection and each movement associated with the two Cases evaluated.

Intersection capacity analyses were performed in accordance with the procedures for signalized and unsignalized intersections utilized in the Synchro (Version 8, Build 806, Rev. 61) Transportation System analysis software program as required by the New Mexico Department of Transportation and other local governments.

Intersections targeted for analysis in this study include Gibson Blvd. / University Blvd., Gibson Blvd. / Walker Rd. and Driveway "A" / University Blvd.

The results of the analyses of Case "Y" and Case "N" were then compared to determine the benefits, if any, of one Case over the other.

Description of Proposed Development

The subject area of land targeted for the site development plan totals approximately 2.5 acres. The proposed conceptual site development plan consists of the following approximate land uses:

- A 6,100 S.F. High Turnover Sit-down Restaurant (Chili's)
- A 4,400 S.F. Fast Food Restaurant w/ Drive-thru Window (TBD)
- A 4,530 S.F. Fast Food Restaurant w/ Drive-thru Window (Chick Fil-A)

See the conceptual site development plan on Page A-3 in the Appendix of this report to acquire more detailed information about the proposed development. This site plan is conceptual at this point in time and is subject to some changes as progress takes place in the design process. The plan should, however, provide a reliable basis upon which to analyze the impact of the development on the adjacent transportation system and provide guidelines for mitigating the impact and establishing access criteria. The conceptual site plan as it is shown in this report proposes one (1) primary full access driveway access point at Driveway "A" / University Blvd. and an existing right-in, right-out only driveway at Gibson Blvd. / Walker Rd.

If approved by the Transportation Coordinating Committee, access to this project will be via the full access driveway at Walker Rd. / University Blvd. and via a right-in, right-out, left-in only unsignalized driveway at Gibson Blvd. / Walker Rd.

Trip Generation Rates

Projected trips were calculated from data in the Institute of Transportation Engineers Trip Generation report (9th Edition, 2009). Trips for the development were determined based on land uses defined on the Conceptual Site Development Plan on Page A-3 in the Appendix of this report. A 30% adjustment was made for Pass-by Trips in this study.

The resulting number of trips generated for the proposed development are summarized in the following table:

Gibson Blvd. / University Blvd. Development

Trip Generation Data (ITE Trip Generation Manual - 9th Edition)

COMMENT	USE (ITE CODE)	24 HR VOL	A. M. PEAK HR.		P. M. PEAK HR.	
	DESCRIPTION	GROSS	ENTER	EXIT	ENTER	EXIT
Summary Sheet		Units				
Chick Fil-A	Fast Food Restaurant w/ Drive-Thru Window (934)	4.53	2,245	105	101	105
TBD	Fast Food Restaurant w/ Drive-Thru Window (934)	4.40	2,180	102	98	75
Chiles	High Turnover (Sit-Down) Restaurant (932)	6.10	776	36	30	36
Subtotal (Unadjusted Trips)			5,201	243	229	216
<i>Pass-By Trips</i>		30%		-73	-69	-65
Total Primary Trips				170	160	151
					136	

NOTE: Chick Fil-A Trips Adjusted for Local Data

COMMENT: Chick Fil-A Local Trip Data indicates that it will generate about 200+ Entering Trips / 200+ Exiting Trips during Noon Hour

Note that the above trip generation rates adjust for Pass-by Trips. See Appendix Pages A-7 thru A-9 for Individual Trip Generation Worksheets.

Trip Distribution / Trip Assignments

Primary and Diverted Linked Trips:

Trips were distributed as follows:

Commercial Land Uses

Primary and diverted linked trips for the commercial land use development were distributed proportionally to the 2017 projected population of Data Analysis Subzones within a two mile radius of the proposed development. Population data for the years 2015 and 2025 were taken from the 2035 Socioeconomic Forecasts by Data Analysis Subzones supplied by the Mid-Region Council of Governments (MRCOG). Population data from the years 2015 and 2025 was interpolated linearly to obtain 2017 population data to utilize for this analysis. Population Subzones were grouped based on the most likely major street(s) or route(s) to the subject development. The trip distribution worksheets and associated map of data analysis subzones are shown in the Appendix on Pages A-10 thru A-13.

Trip Assignment

Trip assignments are first made on a percentage basis derived from data established in the trip distribution determination process and logical routing. Those percentages are then applied to

the projected trips to determine individual traffic movements. Percentage trip assignments are shown in the Turning Movements worksheets on Appendix Pages A-14 thru A-18.

Background Traffic Growth

Background annual traffic growth rates were determined for the study area that was targeted for analysis based on data from the 2035 Regional Transportation Model data set from the Mid-Region Council of Governments, Appendix Pages A-82 thru A-83. This study will determine the historic growth rate for each of the three or four approaches to each intersection being analyzed.

Link volumes were obtained from the model for the AM and PM Peak Hours for the years 2015 and 2035. Those link volumes were utilized to establish a future growth rate for each leg of the intersection being analyzed in this study. The resulting calculated growth rates from the MRCOG model data grow the existing volumes to the projected 2035 volumes shown at the bottom of the individual intersection spreadsheet in the Turning Movements pages. In cases of a negative growth rate, a minimum of 1% was used. The growth rate utilized for each approach to an intersection is printed at the top of the Turning Movement sheets for each intersection, Appendix Pages A-19 thru A-46.

Projected Peak Hour Turning Movements for 2017 and 2035 Buildout

The calculated annual growth rates were applied to the most recent peak hour traffic count volumes. Then the previous development volumes of the UNM Gibson Commercial Development were added to the intersection of Gibson Blvd. / University Blvd. The sums of the existing volumes plus growth constitute the 2017 and 2035 NO BUILD volumes utilized in this report. To these volumes, the generated trips based on implementation of the proposed development were added to obtain the 2017 and 2035 BUILD Volumes utilized for the 2017 and 2035 BUILD Condition analyses. See Appendix Pages A-19 thru A-46 for further information regarding the 2017 and 2035 turning movement volumes.

Case "Y" and Case "N" Analyses

Classification of levels-of-service and delay for signalized and unsignalized intersections will be made based on criteria established by Synchro, Version 8 (Build 806, Rev. 61) computer modeling software which approximates the 2010 Highway Capacity Manual methodology. The average control delay is calculated for each intersection and for each lane group of each leg of the intersection. The control delay then determines the level-of-service based on the following tables:

LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

<u>Average Delay</u> <u>(secs)</u>	<u>Level-of-Service</u>
≤ 10	A
> 10 and ≤ 20	B
> 20 and ≤ 35	C
> 35 and ≤ 55	D
> 55 and ≤ 80	E
> 80	F

LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

<u>Average Delay</u> <u>(secs)</u>	<u>Level-of-Service</u>
≤ 10	A
> 10 and ≤ 15	B
> 15 and ≤ 25	C
> 25 and ≤ 35	D
> 35 and ≤ 50	E
> 50	F

Generally speaking, a Level-of-Service D or better is an acceptable parameter for design purposes.

Additionally, calculated 95th percentile queue lengths at signalized intersections are based on Poisson's arrival equations. The 95th percentile queue lengths at unsignalized intersections are those reported in the Synchro HCM Unsignalized Intersection Analysis reports.

Following is a summary of the results of the Synchro Analysis for each of the intersections targeted for evaluation in this report:

Intersection #1 – Gibson Blvd. / University Blvd. - Pages A-47 thru A-58

The following table provides a summary of the Levels-of-Service / delays associated with the 2017 AM Peak Hour and PM Peak Hour BUILD Conditions associated with each of the two cases analyzed in this study:

Intersection: 1 - GIBSON BLVD. / UNIVERSITY BLVD.

2017 AM Peak Hour BUILD								2017 PM Peak Hour BUILD							
		(EXIST. GEOM.)		CASE "N"		Case "Y"				(EXIST. GEOM.)		CASE "N"		Case "Y"	
		NO BUILD		BUILD		BUILD				NO BUILD		BUILD		BUILD	
		Lanes	LOS-Delay	Lanes	LOS-Delay	Lanes	LOS-Delay			Lanes	LOS-Delay	Lanes	LOS-Delay	Lanes	LOS-Delay
EB	L	1	A - 9.9	1	B - 11.2	1	B - 11.0	L	1	C - 23.5	1	C - 26.7	1	C - 27.1	
	T	3	B - 18.3	3	C - 22.8	3	C - 21.5	T	3	B - 12.0	3	B - 14.8	3	B - 13.8	
	R	1	A - 9.2	1	B - 10.7	1	B - 10.5	R	1	A - 9.5	1	B - 12.1	1	B - 11.3	
WB	L	1	B - 12.0	1	B - 16.5	1	B - 13.6	L	1	A - 8.5	1	B - 12.0	1	A - 10.0	
	T	3	B - 12.4	3	B - 14.1	3	B - 13.8	T	3	C - 21.4	3	C - 27.7	3	C - 26.6	
	R	1	B - 10.4	1	B - 11.9	1	B - 11.6	R	1	B - 10.8	1	B - 12.6	1	B - 12.5	
NB	L	1	C - 22.3	1	C - 23.9	1	C - 24.5	L	1	C - 26.8	1	C - 27.8	1	C - 28.4	
	T	1	A - 0.0	1	A - 0.0	1	A - 0.0	T	1	A - 0.0	1	A - 0.0	1	A - 0.0	
	R	>	C - 21.2	>	C - 20.6	>	C - 21.1	R	>	C - 25.2	>	C - 23.4	>	C - 23.8	
SB	L	1	C - 27.4	1	C - 28.8	1	C - 30.1	L	1	D - 40.5	1	D - 38.1	1	D - 39.3	
	T	1	C - 20.4	1	B - 19.7	1	C - 20.2	T	1	C - 24.2	1	C - 22.4	1	C - 22.8	
	R	1	B - 17.0	1	B - 15.8	1	B - 16.3	R	1	C - 22.4	1	C - 20.1	1	C - 20.5	
Intersection:		B - 16.5		B - 19.4		B - 18.9				B - 19.4		C - 23.1		C - 22.6	

Note: ">" designates a shared right or left turn lane.

The 2017 analysis demonstrates that Case "Y" reduces the delay by about 0.5 seconds during the AM Peak Hour and by about 0.5 seconds during the PM Peak Hour at the intersection of Gibson Blvd. / University Blvd. To some degree, the average delay at the intersection is impacted by allowing left-in movements at Walker Rd. at Gibson Blvd. since allowing the left turns in off of Gibson Blvd. takes the left turns out of the intersection of Gibson Blvd. / University Blvd. By allowing the new left-in movement at Walker Rd. at Gibson Blvd., the total volume of traffic at Gibson Blvd. / University Blvd. is decreased slightly. More specifically, the 2017 AM Peak Hour westbound left turn volume at Gibson Blvd. / University will be reduced from 116 vehicles per hour to 26 vehicles per hour and the 2017 PM Peak Hour westbound left turn volume at Gibson Blvd. / University Blvd. will be reduced from 173 vehicles per hour to 74 vehicles per hour by permitting the westbound left turn movement to occur at Walker Rd. As a result, less green time will be required to accommodate the westbound left turn movement on Gibson Blvd. at University Blvd., thus allowing more green time on Gibson Blvd. for thru movements. Philosophically, this should improve the operation of the signalized intersection of Gibson Blvd. / University Blvd.

The following table provides a summary of the Levels-of-Service / delays associated with the 2035 AM Peak Hour and PM Peak Hour BUILD Conditions associated with each of the two cases analyzed in this study:

Intersection: 1 - GIBSON BLVD. / UNIVERSITY BLVD.

2035 AM Peak Hour BUILD									2035 PM Peak Hour BUILD								
			(EXIST. GEOM.)		CASE "N"		Case "Y"					(EXIST. GEOM.)		CASE "N"		Case "Y"	
			NO BUILD		BUILD		BUILD					NO BUILD		BUILD		BUILD	
			Lanes	LOS-Delay	Lanes	LOS-Delay	Lanes	LOS-Delay				Lanes	LOS-Delay	Lanes	LOS-Delay	Lanes	LOS-Delay
EB	L	1	D - 37.6	1	D - 41.2	1	D - 41.2	L	1	F - 203	1	F - 208	1	F - 205			
	T	3	F - 136	3	F - 157	3	F - 157	T	3	D - 37.6	3	D - 48.8	3	D - 40.2			
	R	1	B - 16.3	1	B - 17.8	1	B - 17.8	R	1	C - 27.3	1	C - 33.0	1	C - 29.4			
WB	L	1	C - 31.8	1	F - 122	1	C - 32.0	L	1	C - 30.5	1	E - 60.7	1	C - 33.0			
	T	3	C - 28.6	3	C - 30.3	3	C - 30.3	T	3	F - 251	3	F - 270	3	F - 270			
	R	1	C - 23.1	1	C - 24.5	1	C - 24.5	R	1	C - 31.6	1	C - 33.2	1	C - 33.2			
NB	L	1	C - 33.8	1	D - 37.2	1	D - 37.2	L	1	C - 29.8	1	D - 39.3	1	D - 39.3			
	T	1	A - 0.0	1	A - 0.0	1	A - 0.0	T	1	A - 0.0	1	A - 0.0	1	A - 0.0			
	R	>	C - 30.2	>	C - 29.6	>	C - 29.6	R	>	C - 21.9	>	C - 21.2	>	C - 21.2			
SB	L	1	F - 139	1	F - 168	1	F - 168	L	1	F - 249	1	F - 271	1	F - 271			
	T	1	C - 29.1	1	C - 28.3	1	C - 28.3	T	1	B - 19.7	1	B - 18.9	1	B - 18.9			
	R	1	C - 23.4	1	C - 21.9	1	C - 21.9	R	1	C - 21.7	1	C - 20.3	1	C - 20.3			
Intersection:			F - 94.4		F - 107		F - 107		F - 152			F - 160		F - 159			

Note: ">" designates a shared right or left turn lane.

The 2035 analysis demonstrates that Case "Y" does not change the overall intersection delay during the AM Peak Hour and decreases the overall intersection delay by 1 second during the PM Peak Hour at the intersection of Gibson Blvd. / University Blvd. However, Case "Y" significantly improves the delays for the westbound left turn movement during both the AM Peak Hour and PM Peak Hour conditions, bringing the levels-of-service and delays from excessive (F-122 sec – AM and E-60.7 sec – PM)) to acceptable levels (C-32 sec – AM and C-33 sec – PM).

Queuing at the signalized intersection of Gibson Blvd. / University Blvd are addressed in the Site Traffic Analysis for this project dated April 8, 2015.

Intersection #2 - Gibson Blvd. / Walker Rd. - Pages A-59 thru A-70

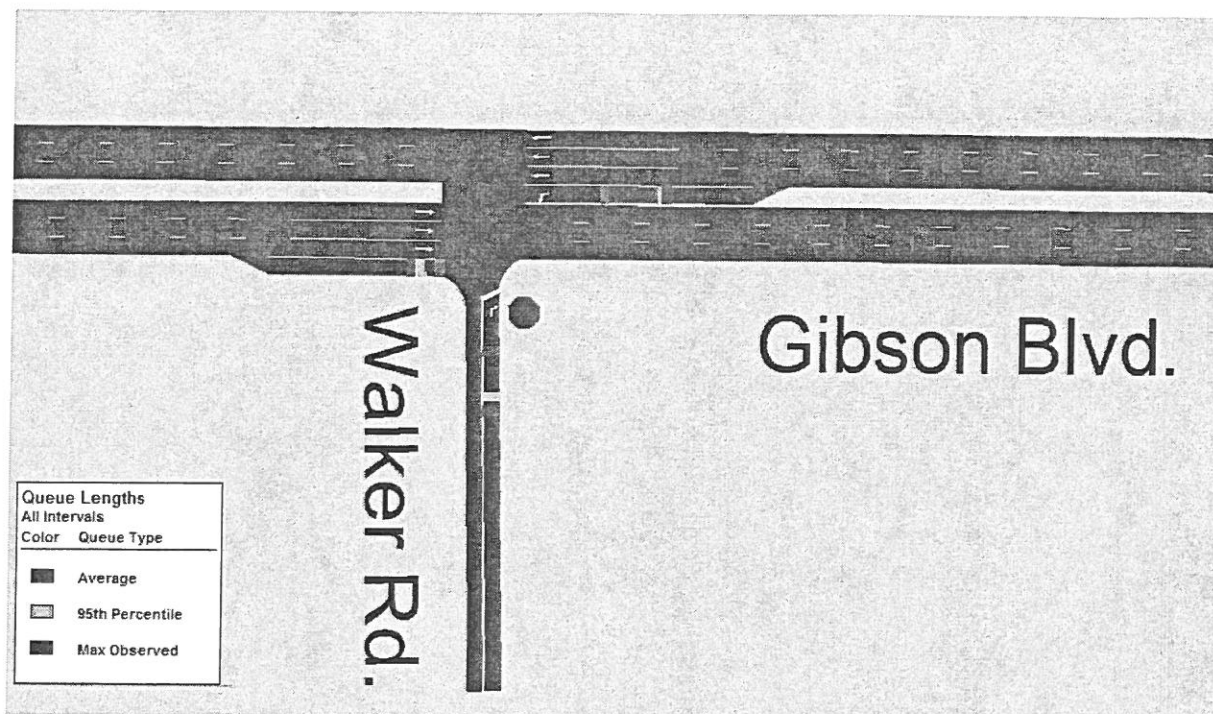
The following table provides a summary of the Levels-of-Service / delays associated with the 2017 AM Peak Hour and PM Peak Hour BUILD Conditions associated with each of the two cases analyzed in this study:

Intersection: 2 - GIBSON BLVD. / WALKER RD.

2017 AM Peak Hour BUILD										2017 PM Peak Hour BUILD									
		(EXIST. GEOM.)		CASE "N"		CASE "Y"				(EXIST. GEOM.)		CASE "N"		CASE "Y"					
		NO BUILD		BUILD		BUILD				NO BUILD		BUILD		BUILD					
		Lanes LOS-Delay		Lanes LOS-Delay		Lanes LOS-Delay				Lanes LOS-Delay		Lanes LOS-Delay		Lanes LOS-Delay					
EB	T	3	A - 0.0	3	A - 0.0	3	A - 0.0	T	3	A - 0.0	3	A - 0.0	3	A - 0.0					
	R	1	A - 0.0	1	A - 0.0	1	A - 0.0	R	1	A - 0.0	1	A - 0.0	1	A - 0.0					
WB	L		A - 0.0	0	A - 0.0	1	F - 203	L	0	A - 0.0	0	A - 0.0	1	D - 35.0					
	T	3	A - 0.0	3	A - 0.0	3	A - 0.0	T	3	A - 0.0	3	A - 0.0	3	A - 0.0					
NB	R	1	D - 27.9	1	F - 68.9	1	F - 68.9	R	1	C - 18.1	1	C - 22.5	1	C - 22.5					
Intersection:		u - 0.0		u - 2.1		u - 7.0				u - 0.1		u - 0.5		u - 1.3					

Note: ">" designates a shared right or left turn lane.

The 2017 analysis demonstrates that Case "Y" does not change the delay for the northbound right turn movement during neither the AM Peak Hour nor the PM Peak Hour at the intersection of Gibson Blvd. / Walker Rd. The westbound left turn movement experiences excessive delays during the AM Peak Hour for Case "Y", however, Synchro results do not fully consider gaps created in eastbound traffic along Gibson Blvd. due to the operation of the traffic signal at the intersection of Gibson Blvd. / University Blvd, which would allow the westbound left turn movement with more ease than the Synchro results demonstrate. The gap in eastbound traffic on Gibson Blvd. at Walker Rd. is created when the eastbound thru traffic on Gibson Blvd. at University Blvd. is stopped during the red phase. The gap will be approximately equivalent to the red time for the eastbound thru movement at the intersection of Gibson Blvd. / University Blvd.; that is 32 seconds of each 70 second cycle during the AM Peak Hour and 36 seconds of each 80 second cycle during the PM Peak Hour. Additionally, observing the westbound left turn queues with SimTraffic demonstrates that the queue lengths are actually quite reasonable. The westbound left turn bay should be constructed to 150 feet long plus transition. See the following graphic and the CD included in the Appendix of this report for further information.



The following table provides a summary of the Levels-of-Service / delays associated with the 2035 AM Peak Hour and PM Peak Hour BUILD Conditions associated with each of the two cases analyzed in this study:

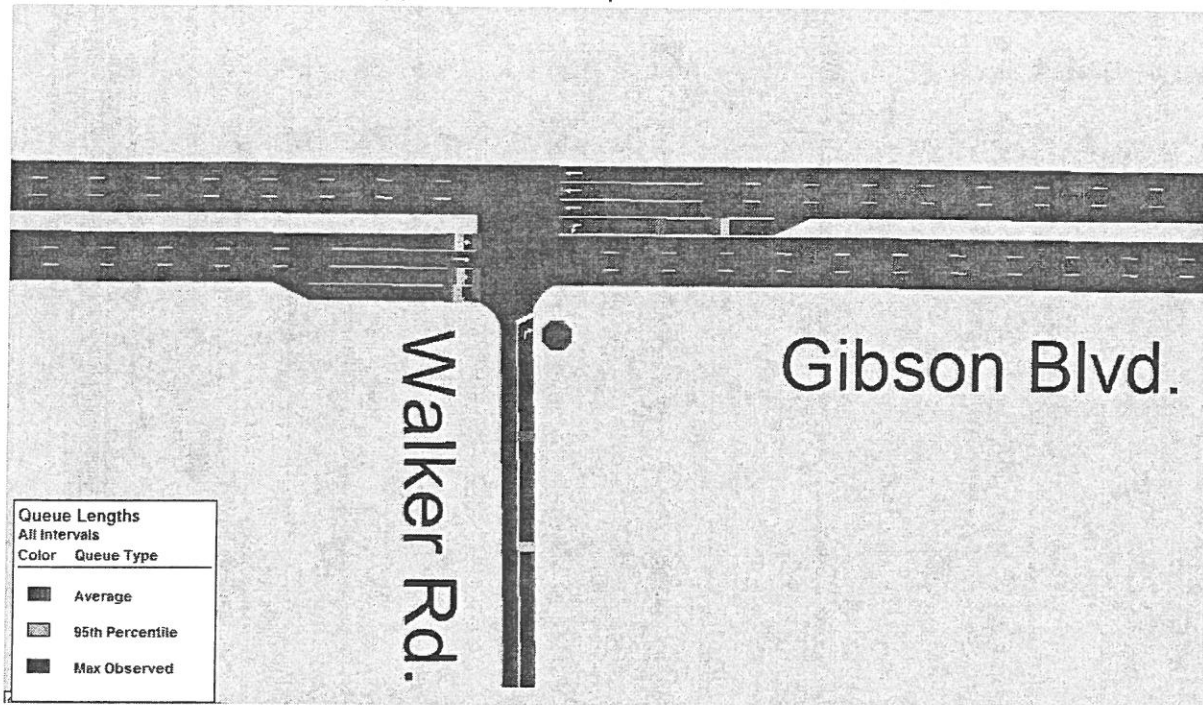
Intersection: 2 - GIBSON BLVD. / WALKER RD.

2035 AM Peak Hour BUILD						2035 PM Peak Hour BUILD					
		(EXIST. GEOM.) NO BUILD	CASE "N" BUILD	CASE "Y" BUILD			(EXIST. GEOM.) NO BUILD	CASE "N" BUILD	CASE "Y" BUILD		
		Lanes LOS-Delay	Lanes LOS-Delay	Lanes LOS-Delay			Lanes LOS-Delay	Lanes LOS-Delay	Lanes LOS-Delay		
NB	T	3 A - 0.0	3 A - 0.0	3 A - 0.0	WB	T	3 A - 0.0	3 A - 0.0	3 A - 0.0	R	3 A - 0.0
	R	1 A - 0.0	1 A - 0.0	1 A - 0.0		R	1 A - 0.0	1 A - 0.0	1 A - 0.0		1 A - 0.0
	L	A - 0.0	0 A - 0.0	1 F - 3052		L	0 A - 0.0	0 A - 0.0	1 F - 232		1 F - 232
	T	3 A - 0.0	3 A - 0.0	3 A - 0.0		T	3 A - 0.0	3 A - 0.0	3 A - 0.0		3 A - 0.0
SB	R	1 F - 85.9	1 F - 768	1 F - 790	LB	R	1 D - 31.4	1 F - 55.0	1 F - 55.7	L	1 F - 55.7
Intersection:		u - 0.1	u - 16.5	u - 69.3			u - 0.1	u - 1.0	u - 5.1		

Note: ">" designates a shared right or left turn lane.

The 2035 analysis demonstrates that Case "Y" increases the delays for the northbound right turn movement during the AM Peak Hour by about 22 seconds and during the PM Peak Hour by about 0.7 seconds the intersection of Gibson Blvd. / Walker Rd. As previously described, the westbound left turn movement experiences excessive delays during the AM Peak Hour for Case "Y", however, Synchro results does not consider gaps created in westbound traffic along Gibson

Blvd. due to the operation of the traffic signal at the intersection of Gibson Blvd. / University Blvd, which would allow the westbound left turn movement with more ease than the Synchro results demonstrate. However, observing the westbound left turn queues with SimTraffic demonstrates that the queue lengths are actually quite reasonable. See the following graphic and the CD included in the Appendix of this report for further information.



Also, a viewing of the SimTraffic Microsimulation of the intersection of Gibson Blvd. / Walker Rd. for the 2035 AM and PM Peak Hour Case "Y" shows that the intersection operates acceptably. The westbound left turn movement is able to clear each time the signal for eastbound traffic at Gibson / University turns red and stops the eastbound flow of traffic long enough to create a break in the eastbound flow.

Intersection #3 – Driveway "A" / University Blvd. - Pages A-71 thru A-78

The following table provides a summary of the Levels-of-Service / delays associated with the 2017 AM Peak Hour and PM Peak Hour BUILD Conditions associated with each of the two cases analyzed in this study:

Intersection: 3 - DRIVEWAY "A" / UNIVERSITY BLVD.

2017 AM Peak Hour BUILD										2017 PM Peak Hour BUILD									
		(EXIST. GEOM.)		CASE "N"		CASE "Y"				(EXIST. GEOM.)		CASE "N"		CASE "Y"					
		NO BUILD		BUILD		BUILD				NO BUILD		BUILD		BUILD					
		Lanes	LOS-Delay	Lanes	LOS-Delay	Lanes	LOS-Delay			Lanes	LOS-Delay	Lanes	LOS-Delay	Lanes	LOS-Delay				
WB	L	1	A - 0.0	1	A - 10.0	1	A - 9.9	L	1	A - 0.0	1	B - 10.3	1	B - 10.1					
	R	>	A - 0.0	>	A - 10.0	>	A - 9.9	R	>	A - 0.0	>	B - 10.3	>	B - 10.1					
NB	T	1	A - 0.0	1	A - 0.0	1	A - 0.0	T	1	A - 0.0	1	A - 0.0	1	A - 0.0					
	R	>	A - 0.0	>	A - 0.0	>	A - 0.0	R	>	A - 0.0	>	A - 0.0	>	A - 0.0					
SB	L	1	A - 0.0	1	A - 7.9	1	A - 7.7	L	1	A - 0.0	1	A - 7.9	1	A - 7.7					
	T	1	A - 0.0	1	A - 0.0	1	A - 0.0	T	1	A - 0.0	1	A - 0.0	1	A - 0.0					
Intersection:		u - 0.0		u - 5.2		u - 4.6				u - 0.0		u - 4.3		u - 3.6					
Note: ">" designates a shared right or left turn lane.																			

Note: ">" designates a shared right or left turn lane.

The 2015 analysis demonstrates that Case "Y" slightly decreases the delays for the westbound shared left / right turn movement and the southbound left turn movement during both the AM Peak Hour and PM Peak Hour Conditions at the intersection of Driveway "A" / University Blvd.

The following table provides a summary of the Levels-of-Service / delays associated with the 2035 AM Peak Hour and PM Peak Hour BUILD Conditions associated with each of the two cases analyzed in this study:

Intersection: 3 - DRIVEWAY "A" / UNIVERSITY BLVD.

2035 AM Peak Hour BUILD										2035 PM Peak Hour BUILD									
		(EXIST. GEOM.)		CASE "N"		CASE "Y"				(EXIST. GEOM.)		CASE "N"		CASE "Y"					
		NO BUILD		BUILD		BUILD				NO BUILD		BUILD		BUILD					
		Lanes	LOS-Delay	Lanes	LOS-Delay	Lanes	LOS-Delay			Lanes	LOS-Delay	Lanes	LOS-Delay	Lanes	LOS-Delay				
WB	L	1	A - 0.0	1	B - 10.5	1	B - 10.4	L	1	A - 0.0	1	B - 14.0	1	B - 13.6					
	R	>	A - 0.0	>	B - 10.5	>	B - 10.4	R	>	A - 0.0	>	B - 14.0	>	B - 13.6					
NB	T	1	A - 0.0	1	A - 0.0	1	A - 0.0	T	1	A - 0.0	1	A - 0.0	1	A - 0.0					
	R	>	A - 0.0	>	A - 0.0	>	A - 0.0	R	>	A - 0.0	>	A - 0.0	>	A - 0.0					
SB	L	1	A - 0.0	1	A - 8.1	1	A - 7.8	L	1	A - 0.0	1	A - 9.0	1	A - 8.6					
	T	1	A - 0.0	1	A - 0.0	1	A - 0.0	T	1	A - 0.0	1	A - 0.0	1	A - 0.0					
Intersection:		u - 0.0		u - 4.5		u - 3.8				u - 0.0		u - 3.3		u - 2.6					

Note: ">" designates a shared right or left turn lane.

Similarly to the 2017 analysis, the 2035 analysis demonstrates that Case "Y" slightly decreases the delays for the westbound shared left / right turn movement and the southbound left turn movement during both the AM Peak Hour and PM Peak Hour Conditions at the intersection of Driveway "A" / University Blvd.

Findings and Conclusions

This study finds that the westbound left turn movement levels-of-service and delays are significantly improved at the intersection of Gibson Blvd. / University Blvd. by constructing a left-in at the intersection of Gibson Blvd. / Walker Rd. Therefore, the requested left-in at Walker Rd. on Gibson Blvd. is determined to be beneficial to the adjacent transportation system. The developer also believes that the left-in at Walker Rd. is critical to the internal site circulation and to the marketing of his products.

Recommendations

All constructed improvements to proposed driveways and existing intersections shall be designed and built to maintain adequate safe sight distances to the degree possible.

Recommendations for improvements to the adjacent transportation system include:

Access – it is recommended that access to this project be obtained from each of the two major streets fronting the property. Since the proposed development is a fast food restaurant, access from the arterial roadways is very important. In order to access the major roadways fronting the project, approval of the Mid-Region Council of Governments' Transportation Coordinating Committee will be required. This study recommends that the existing right-in, right-out only intersection of Gibson Blvd. / Walker Rd. is modified to include a westbound left-in (150 feet long plus transition).

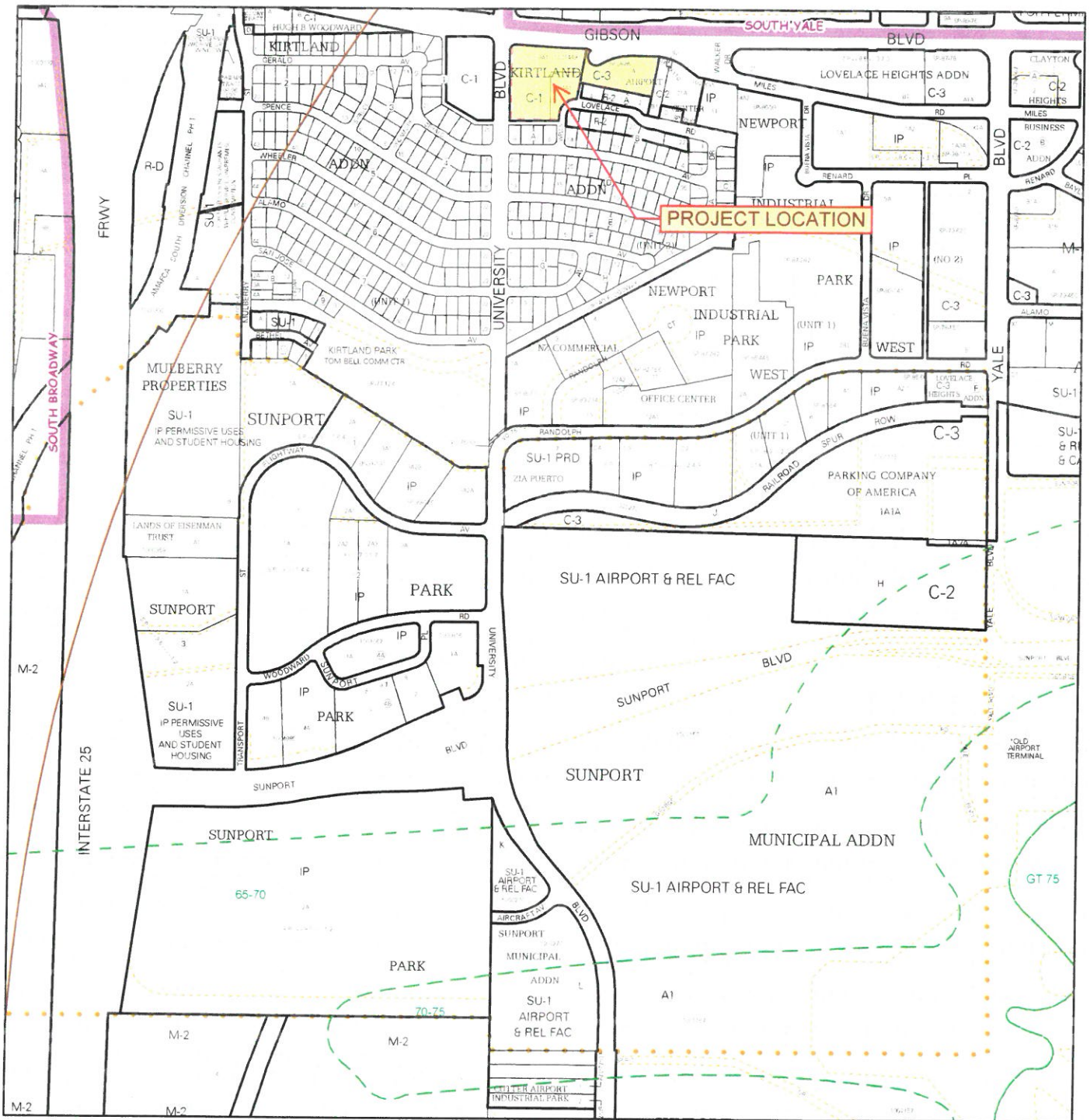
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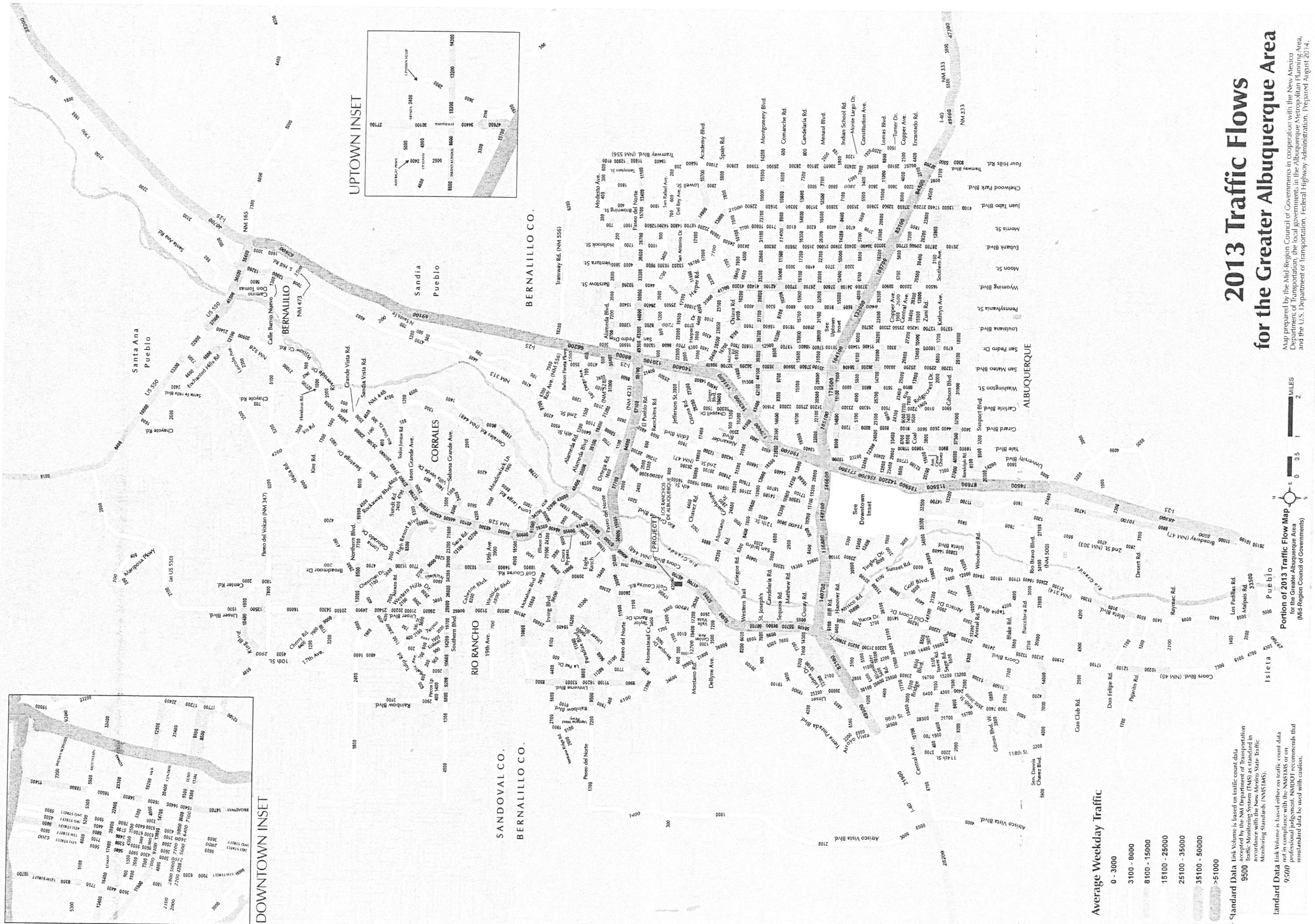
Gibson / University Restaurants

**(SE Corner)
Aerial Map**



For more current information and details visit: <http://www.cabq.gov/gis>





2013 Traffic Flows
for the Greater Albuquerque Area

Map prepared by the Mid-Region Council of Governments in cooperation with the New Mexico Department of Transportation, the local governments in the Albuquerque Metropolitan Planning Area, and the U.S. Department of Transportation. Federal Highway Administration. Prepared August 2014.

Standard Data Link Volume is based on traffic count data accepted by the NM Department of Transportation Traffic Monitoring System (TMS) in accordance with the New Mexico State Traffic Monitoring Standards (NMSTMS).

Standard Data Link Volume is based on traffic count data not in compliance with the NMSTMS or on professional judgement. NMSTMS recommendations that nonstandard data be used with caution.

Gibson Blvd. / University Blvd. Development
Trip Generation Data (ITE Trip Generation Manual - 9th Edition)

COMMENT	USE (ITE CODE)	DESCRIPTION	24 HR VOL	A. M. PEAK HR.		P. M. PEAK HR.		
			GROSS	ENTER	EXIT	ENTER	EXIT	
Summary Sheet			Units					
Chick Fil-A TBD Chiles		Fast Food Restaurant w/ Drive-Thru Window (934)	4.53	2,245	105	101	105	101
		Fast Food Restaurant w/ Drive-Thru Window (934)	4.40	2,180	102	98	75	69
		High Turnover (Sit-Down) Restaurant (932)	6.10	776	36	30	36	24
		Subtotal (Unadjusted Trips)		5,201	243	229	216	194
		Pass-By Trips	30%		-73	-69	-65	-58
		Total Primary Trips			170	160	151	136

NOTE: Chick Fil-A Trips Adjusted for Local Data

COMMENT: Chick Fil-A Local Trip Data indicates that it will generate about 200+ Entering Trips / 200+ Exiting Trips during Noon Hi

*Gibson Blvd. / University Blvd. Development
Trip Generation Data (ITE Trip Generation Manual - 9th Edition)*

USE (ITE CODE)	24 HOUR TWO-WAY VOLUME	A. M. PEAK HOUR		P. M. PEAK HOUR	
		ENTER	EXIT	ENTER	EXIT
Units					

Fast Food Restaurant w/ Drive-Thru Window (934)
(Adjusted for Chick Fil-A - Local Data)

ITE Trip Generation Equations:

Average Vehicle Trip Ends on a Weekday (24 HOUR TWO-WAY VOLUME)

$$T = 496.12 (X) + 0$$

50% Enter, 50% Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7am and 9am (A.M. PEAK HOUR)

$$T = 45.42 (X) + 0$$

51% Enter, 49% Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4pm and 6pm (P.M. PEAK HOUR)

$$T = 32.65 (X) + 0$$

52% Enter, 48% Exit

Comments:
Chick Fil-A

Based on ITE Trip Generation Manual - 9th Edition

*Gibson Blvd. / University Blvd. Development
Trip Generation Data (ITE Trip Generation Manual - 9th Edition)*

USE (ITE CODE)	24 HOUR TWO-WAY VOLUME	A. M. PEAK HOUR		P. M. PEAK HOUR		
		ENTER	EXIT	ENTER	EXIT	
Units						
	4.40	2,180	102	98	75	69
Fast Food Restaurant w/ Drive-Thru Window (934)						

ITE Trip Generation Equations:

Average Vehicle Trip Ends on a Weekday (24 HOUR TWO-WAY VOLUME)

$$T = 496.12 (X) + 0$$

50% Enter, 50% Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7am and 9am (A.M. PEAK HOUR)

$$T = 45.42 (X) + 0$$

51% Enter, 49% Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4pm and 6pm (P.M. PEAK HOUR)

$$T = 32.65 (X) + 0$$

52% Enter, 48% Exit

Comments:
McDonald's

Based on ITE Trip Generation Manual - 9th Edition

*Gibson Blvd. / University Blvd. Development
Trip Generation Data (ITE Trip Generation Manual - 9th Edition)*

USE (ITE CODE)	24 HOUR TWO-WAY VOLUME	A. M. PEAK HOUR		P. M. PEAK HOUR	
		ENTER	EXIT	ENTER	EXIT
Units					
6.10					
High Turnover (Sit-Down) Restaurant (932)					
	776	36	30	36	24

ITE Trip Generation Equations:

Average Vehicle Trip Ends on a Weekday (24 HOUR TWO-WAY VOLUME)

$$T = \frac{127.15 (X) + 0}{50\% \text{ Enter, } 50\% \text{ Exit}}$$

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7am and 9am (A.M. PEAK HOUR)

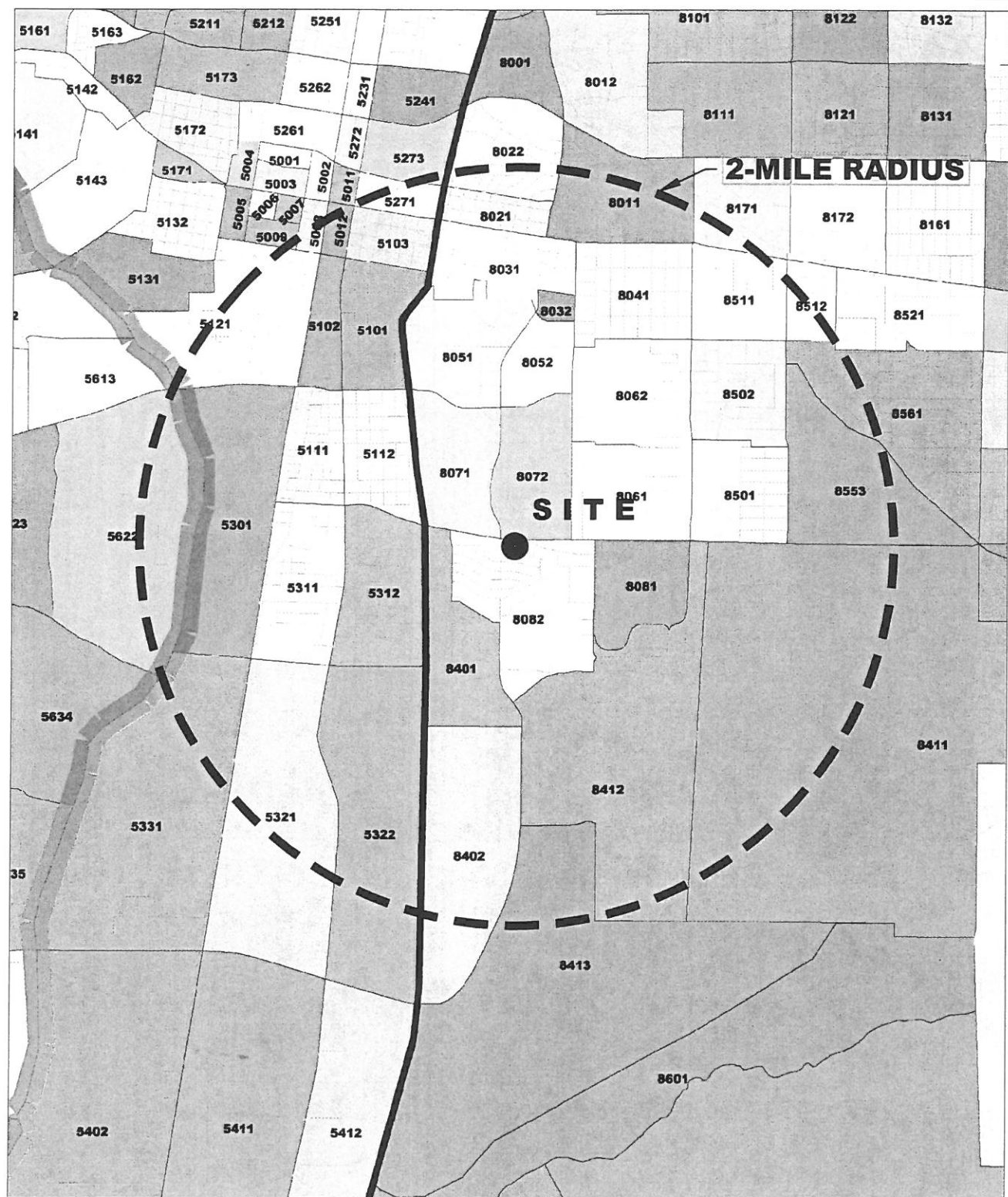
$$T = \frac{10.81 (X) + 0}{55\% \text{ Enter, } 45\% \text{ Exit}}$$

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4pm and 6pm (P.M. PEAK HOUR)

$$T = \frac{9.85 (X) + 0}{60\% \text{ Enter, } 40\% \text{ Exit}}$$

Comments:
Chiles

Based on ITE Trip Generation Manual - 9th Edition



DATA ANALYSIS SUBZONE (DASZ) MAP
Gibson / University Restaurants (SE Corner)

Trip Distribution Table

Gibson / University Restaurants (SE Corner)

Data Analysis Subzone Population Data for determination of Local Trip Distribution for Proposed **Retail Commercial Trips**

2015 and 2025 Data Taken from Mid-Region Council of Governments'
2035 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico

DASZ #	% Sub Area in Study	2015 Population		2025 Population		Interpolated Population for the Year 2017	Population in Study	Percent Population	(UN)			(GE)		
		2015		2025					University Blvd. North			Gibson Blvd. East		
Boundary Specified on DASZ Map														
5008	40%	228	220	226	90	0.26%	50%	0.13%	45	0%	0.00%	0		
5012	80%	26	473	115	92	0.26%	50%	0.13%	46	0%	0.00%	0		
5101	100%	2009	2146	2036	2,036	5.86%	0%	0.00%	0	0%	0.00%	0		
5102	100%	569	558	567	567	1.63%	0%	0.00%	0	0%	0.00%	0		
5103	100%	1071	1224	1,102	1,102	3.17%	50%	1.59%	551	0%	0.00%	0		
5111	100%	1294	1249	1,285	1,285	3.70%	0%	0.00%	0	0%	0.00%	0		
5112	100%	1839	1963	1,864	1,864	5.37%	0%	0.00%	0	0%	0.00%	0		
5121	70%	2930	3948	3,134	2,194	6.32%	0%	0.00%	0	0%	0.00%	0		
5271	70%	1000	994	999	699	2.01%	50%	1.01%	350	0%	0.00%	0		
5301	100%	19	21	19	19	0.05%	50%	0.03%	10	0%	0.00%	0		
5311	100%	1425	1393	1,419	1,419	4.09%	0%	0.00%	0	0%	0.00%	0		
5312	100%	223	214	221	221	0.64%	0%	0.00%	0	0%	0.00%	0		
5321	65%	0	230	46	30	0.09%	0%	0.00%	0	0%	0.00%	0		
5322	80%	0	0	0	0	0.00%	0%	0.00%	0	0%	0.00%	0		
5331	20%	354	343	352	70	0.20%	0%	0.00%	0	0%	0.00%	0		
5622	35%	2776	2744	2,770	970	2.79%	50%	1.40%	485	0%	0.00%	0		
8011	60%	2675	3894	2,919	1,751	5.04%	50%	2.52%	876	50%	2.52%	876		
8021	100%	785	823	793	793	2.28%	100%	2.28%	793	0%	0.00%	0		
8022	30%	929	1166	976	293	0.84%	100%	0.84%	293	0%	0.00%	0		
8031	100%	1721	1707	1,718	1,718	4.95%	100%	4.95%	1,718	0%	0.00%	0		
8032	100%	0	0	0	0	0.00%	100%	0.00%	0	0%	0.00%	0		
8041	100%	2724	2665	2,712	2,712	7.81%	50%	3.90%	1,356	50%	3.90%	1,356		
8051	100%	0	0	0	0	0.00%	100%	0.00%	0	0%	0.00%	0		
8052	100%	462	447	459	459	1.32%	100%	1.32%	459	0%	0.00%	0		
8061	100%	1188	1265	1,203	1,203	3.46%	0%	0.00%	0	100%	3.46%	1,203		
8062	100%	2681	2594	2,664	2,664	7.67%	0%	0.00%	0	100%	7.67%	2,664		
8071	100%	773	2580	1,134	1,134	3.26%	50%	1.63%	567	0%	0.00%	0		
8072	100%	1227	1397	1,261	1,261	3.63%	50%	1.82%	631	50%	1.82%	631		
8081	100%	39	38	39	39	0.11%	0%	0.00%	0	100%	0.11%	39		
8082	100%	1095	1055	1,087	1,087	3.13%	0%	0.00%	0	50%	1.56%	544		
8171	10%	1057	1113	1,068	107	0.31%	0%	0.00%	0	100%	0.31%	107		
8401	100%	0	0	0	0	0.00%	0%	0.00%	0	0%	0.00%	0		
8402	80%	0	0	0	0	0.00%	0%	0.00%	0	0%	0.00%	0		
8411	35%	501	496	500	175	0.50%	0%	0.00%	0	100%	0.50%	175		
8412	95%	0	0	0	0	0.00%	0%	0.00%	0	0%	0.00%	0		
8413	10%	0	753	151	15	0.04%	0%	0.00%	0	0%	0.00%	0		
8501	100%	1847	1951	1,868	1,868	5.38%	0%	0.00%	0	100%	5.38%	1,868		
8502	100%	1186	1149	1,179	1,179	3.39%	0%	0.00%	0	100%	3.39%	1,179		
8511	95%	1184	1164	1,180	1,121	3.23%	50%	1.61%	561	50%	1.61%	561		
8512	35%	395	371	390	137	0.39%	0%	0.00%	0	100%	0.39%	137		
8553	75%	2277	2269	2,275	1,706	4.91%	0%	0.00%	0	100%	4.91%	1,706		
8561	25%	2624	2579	2,615	654	1.88%	0%	0.00%	0	100%	1.88%	654		
								100.00%	8,739			13,698		
									25.16%			39.44%		
LTD_Comm.xlsx														

Trip Distribution Table

Gibson / University Restaurants (SE Corner)

Data Analysis Subzone Population Data for determination of Local Trip Distribution for Proposed **Retail Commercial**

2015 and 2025 Data Taken from Mid-Region Council of Governments'
2035 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico

DASZ #	% Sub Area in Study	2015 Population		2025 Population	Interpolated Population for the Year 2017	Population in Study	Percent Population	(US) University Blvd. South			(GW) Gibson Blvd. South		
		2015						% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population
Boundary Specified on DASZ Map													
5008	40%	228	220	226	226	90	0.26%	0%	0.00%	0	50%	0.13%	45
5012	80%	26	473	115	115	92	0.26%	0%	0.00%	0	50%	0.13%	46
5101	100%	2009	2146	2,036	2,036	2,036	5.86%	0%	0.00%	0	100%	5.86%	2,036
5102	100%	569	558	567	567	567	1.63%	0%	0.00%	0	100%	1.63%	567
5103	100%	1071	1224	1,102	1,102	1,102	3.17%	0%	0.00%	0	50%	1.59%	551
5111	100%	1294	1249	1,285	1,285	1,285	3.70%	0%	0.00%	0	100%	3.70%	1,285
5112	100%	1839	1963	1,864	1,864	1,864	5.37%	0%	0.00%	0	100%	5.37%	1,864
5121	70%	2930	3948	3,134	3,134	2,194	6.32%	0%	0.00%	0	100%	6.32%	2,194
5271	70%	1000	994	999	999	699	2.01%	0%	0.00%	0	50%	1.01%	350
5301	100%	19	21	19	19	19	0.05%	0%	0.00%	0	50%	0.03%	10
5311	100%	1425	1393	1,419	1,419	1,419	4.09%	0%	0.00%	0	100%	4.09%	1,419
5312	100%	223	214	221	221	221	0.64%	0%	0.00%	0	100%	0.64%	221
5321	65%	0	230	46	46	30	0.09%	0%	0.00%	0	100%	0.09%	30
5322	80%	0	0	0	0	0	0.00%	0%	0.00%	0	100%	0.00%	0
5331	20%	354	343	352	352	70	0.20%	100%	0.20%	70	0%	0.00%	0
5622	35%	2776	2744	2,770	2,770	970	2.79%	0%	0.00%	0	50%	1.40%	485
8011	60%	2675	3894	2,919	2,919	1,751	5.04%	0%	0.00%	0	0%	0.00%	0
8021	100%	785	823	793	793	793	2.28%	0%	0.00%	0	0%	0.00%	0
8022	30%	929	1166	976	976	293	0.84%	0%	0.00%	0	0%	0.00%	0
8031	100%	1721	1707	1,718	1,718	1,718	4.95%	0%	0.00%	0	0%	0.00%	0
8032	100%	0	0	0	0	0	0.00%	0%	0.00%	0	0%	0.00%	0
8041	100%	2724	2665	2,712	2,712	2,712	7.81%	0%	0.00%	0	0%	0.00%	0
8051	100%	0	0	0	0	0	0.00%	0%	0.00%	0	0%	0.00%	0
8052	100%	462	447	459	459	459	1.32%	0%	0.00%	0	0%	0.00%	0
8061	100%	1188	1265	1,203	1,203	1,203	3.46%	0%	0.00%	0	0%	0.00%	0
8062	100%	2681	2594	2,664	2,664	2,664	7.67%	0%	0.00%	0	0%	0.00%	0
8071	100%	773	2580	1,134	1,134	1,134	3.26%	0%	0.00%	0	0%	0.00%	0
8072	100%	1227	1397	1,261	1,261	1,261	3.63%	0%	0.00%	0	50%	1.63%	567
8081	100%	39	38	39	39	39	0.11%	0%	0.00%	0	0%	0.00%	0
8082	100%	1095	1055	1,087	1,087	1,087	3.13%	50%	1.56%	544	0%	0.00%	0
8171	10%	1057	1113	1,068	1,068	107	0.31%	0%	0.00%	0	0%	0.00%	0
8401	100%	0	0	0	0	0	0.00%	100%	0.00%	0	0%	0.00%	0
8402	80%	0	0	0	0	0	0.00%	100%	0.00%	0	0%	0.00%	0
8411	35%	501	496	500	500	175	0.50%	0%	0.00%	0	0%	0.00%	0
8412	95%	0	0	0	0	0	0.00%	100%	0.00%	0	0%	0.00%	0
8413	10%	0	753	151	151	15	0.04%	100%	0.04%	15	0%	0.00%	0
8501	100%	1847	1951	1,868	1,868	1,868	5.38%	0%	0.00%	0	0%	0.00%	0
8502	100%	1186	1149	1,179	1,179	1,179	3.39%	0%	0.00%	0	0%	0.00%	0
8511	95%	1184	1164	1,180	1,180	1,121	3.23%	0%	0.00%	0	0%	0.00%	0
8512	35%	395	371	390	390	137	0.39%	0%	0.00%	0	0%	0.00%	0
8553	75%	2277	2269	2,275	2,275	1,706	4.91%	0%	0.00%	0	0%	0.00%	0
8561	25%	2624	2579	2,615	2,615	654	1.88%	0%	0.00%	0	0%	0.00%	0
						34,734	100.00%	0%	0.00%	629	0%	0.00%	11,669
						44,346				1.81%			33,60%

TD_Comm.xlsx

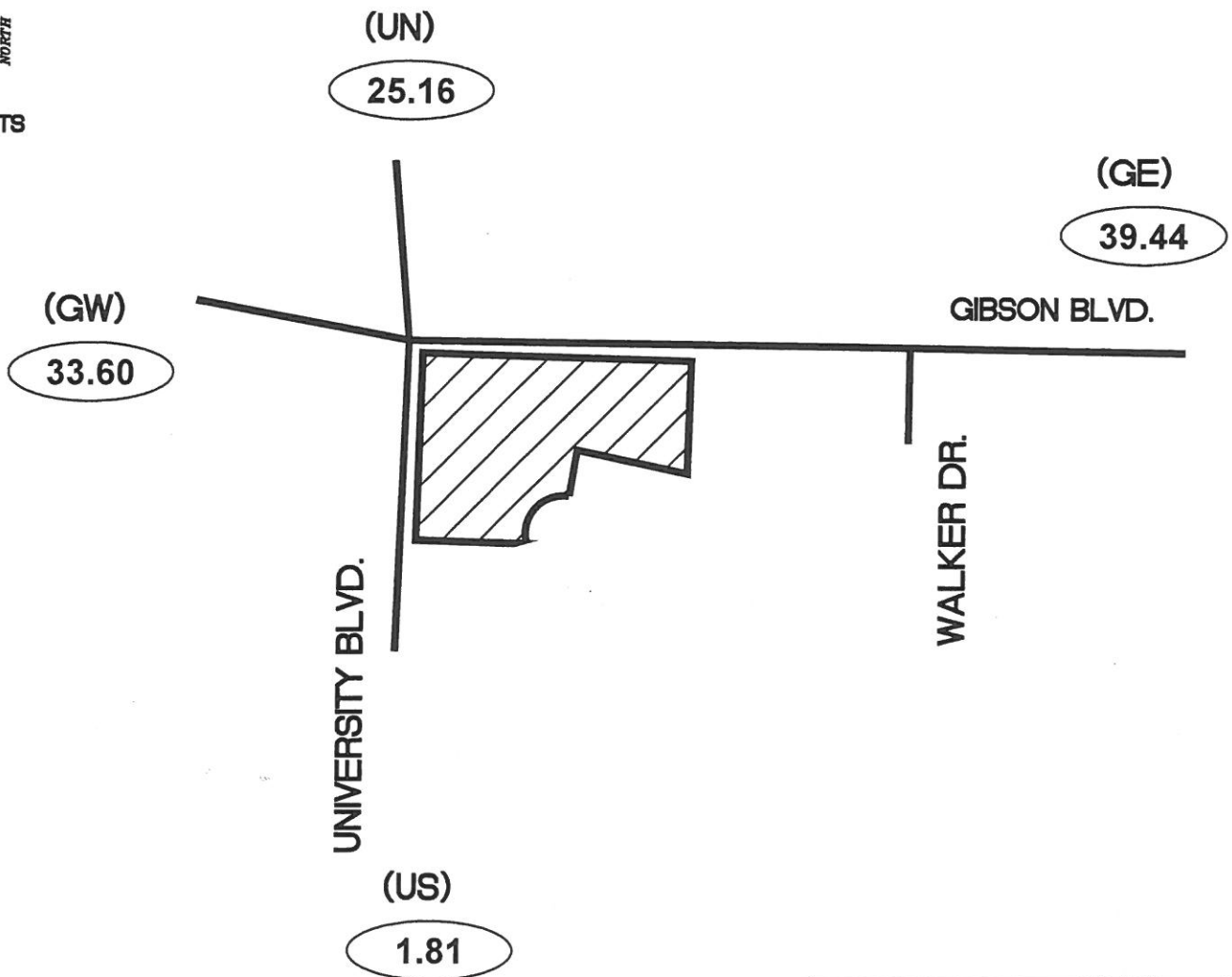
Gibson Blvd. / University Blvd. Restaurants

(SE Corner)

Trip Distribution Map (%)



NTS



Terry O. Brown, P.E.

P.O. Box 92051

Albuquerque, NM 87199-2051

(505)883-8807 (Voice)

(505)212-0267 (Fax)

Gibson Blvd. / University Blvd. Restaurants

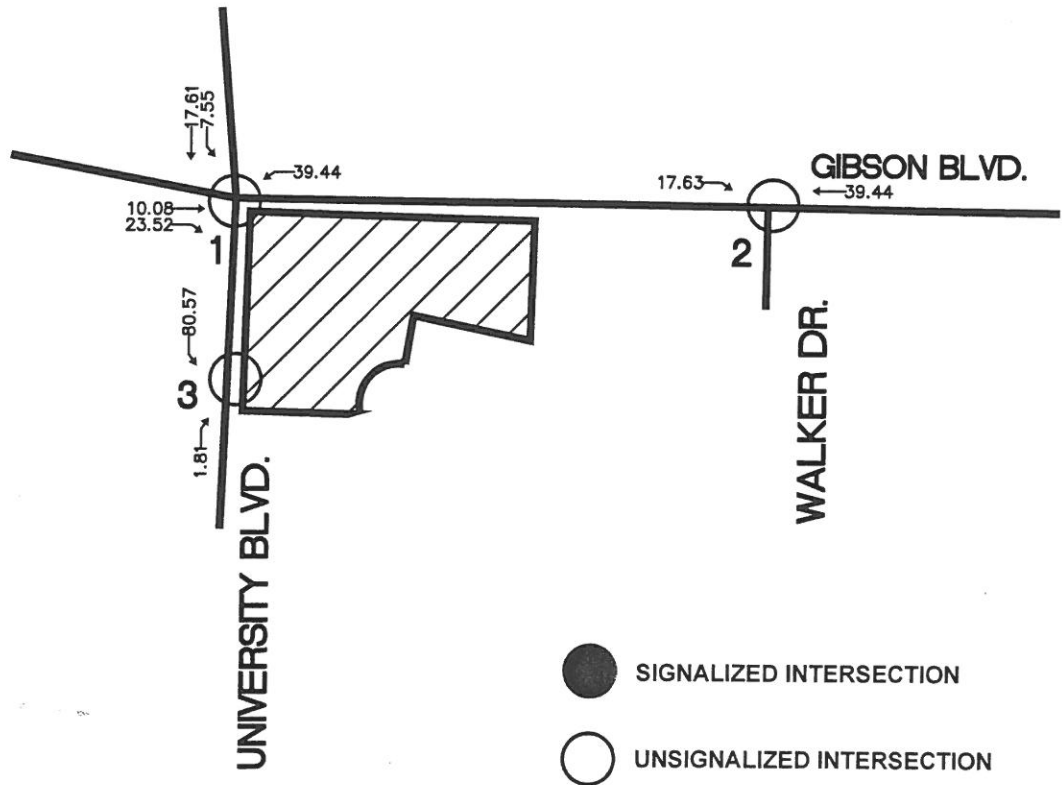
(SE Corner)

Trip Assignments (% Entering)

Case "N" - No left-in at Walker



NTS



SIGNALIZED INTERSECTION



UNSIGNALIZED INTERSECTION

Terry O. Brown, P.E.

P.O. Box 92051

Albuquerque, NM 87199-2051

(505)883-8807 (Voice)

(505)212-0267 (Fax)



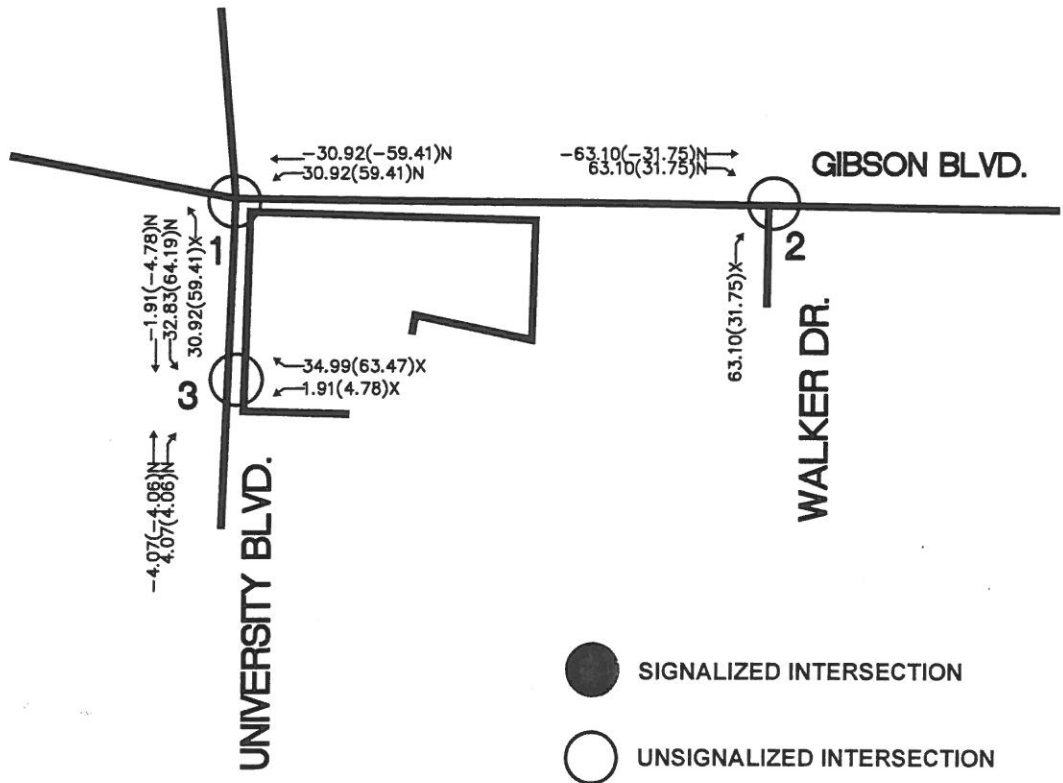
Gibson Blvd. / University Blvd. Restaurants

(SE Corner)

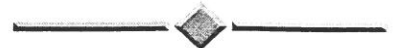
Passby Trip Assignments
Case "N" - No left-in at Walker



NTS



Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(505)212-0267 (Fax)

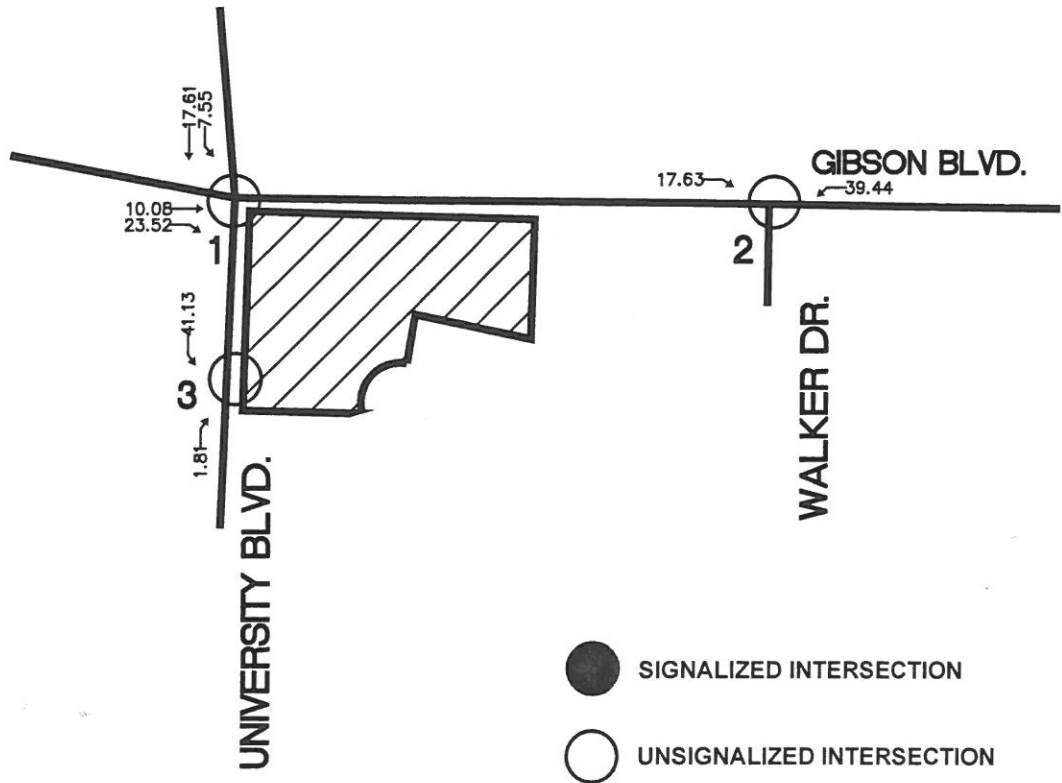


Gibson Blvd. / University Blvd. Restaurants

(SE Corner)

Trip Assignments (% Entering)

Case "Y" - Left-in at Walker



Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(505)212-0267 (Fax)

Gibson Blvd. / University Blvd. Restaurants

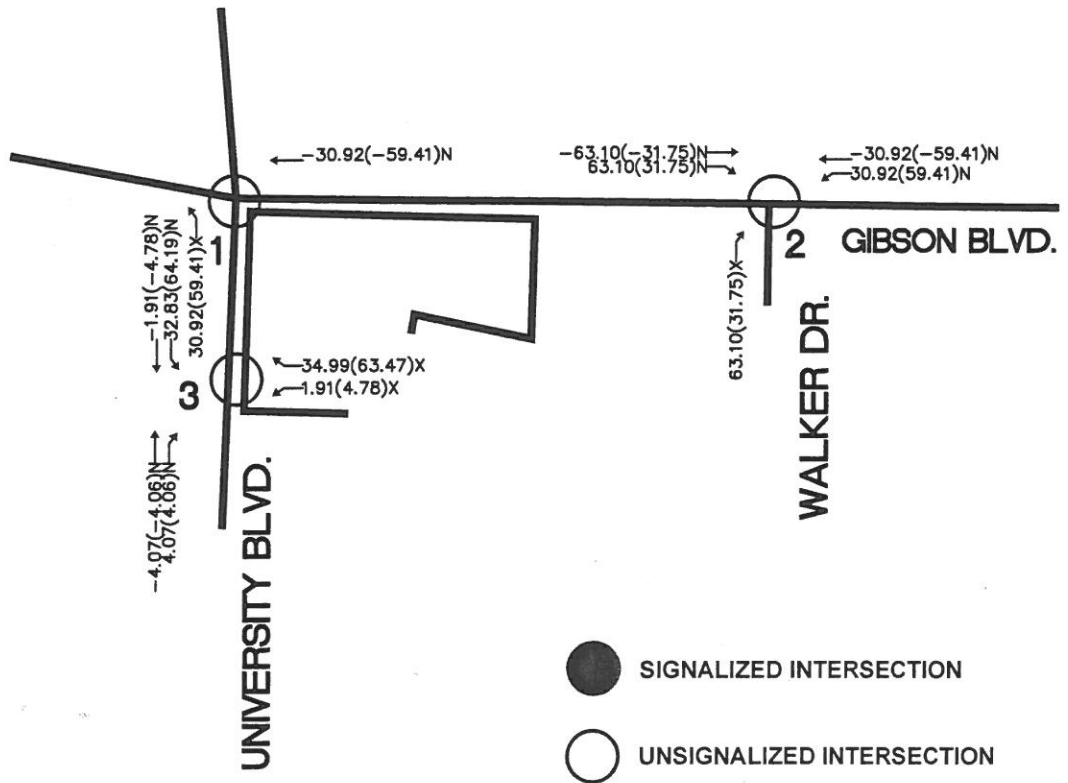
(SE Corner)

Passby Trip Assignments

Case "Y" - Left-in at Walker



NTS



SIGNALIZED INTERSECTION



UNSIGNALIZED INTERSECTION

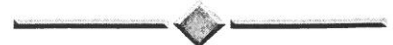
Terry O. Brown, P.E.

P.O. Box 92051

Albuquerque, NM 87199-2051

(505)883-8807 (Voice)

(505)212-0267 (Fax)



Gibson Blvd. / University Blvd. Restaurants

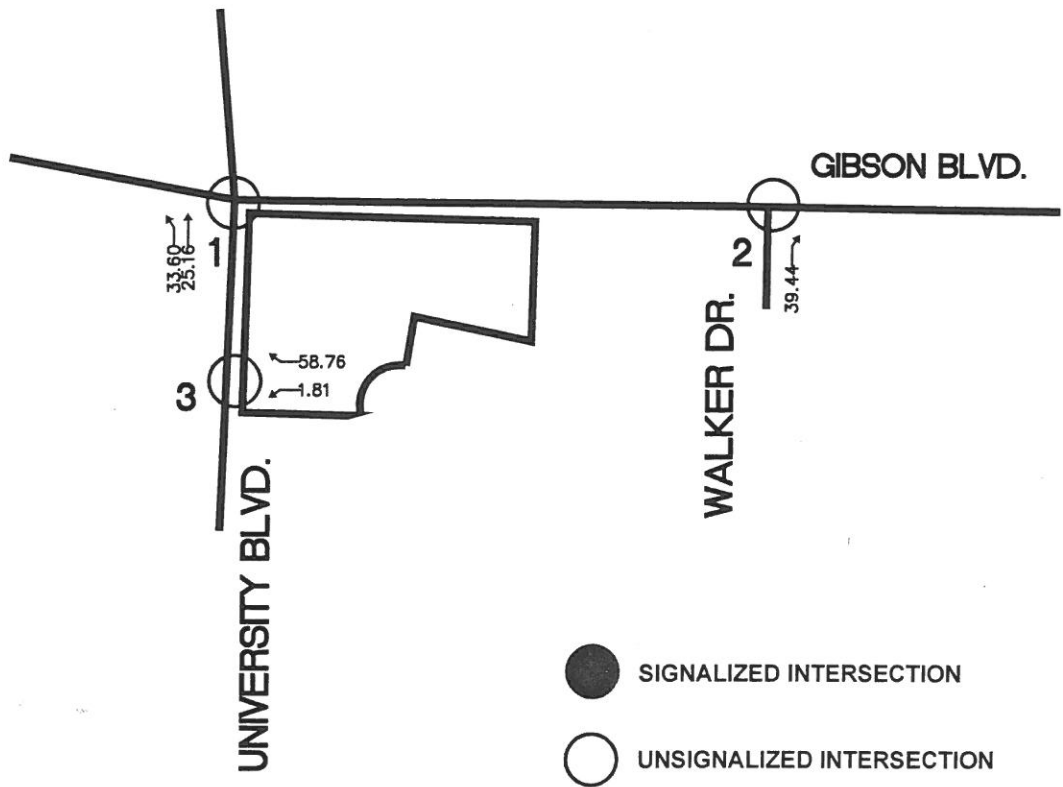
(SE Corner)

Trip Assignments (% Exiting)

Either Case



NTS



Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
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(505)212-0267 (Fax)

Gibson / University Restaurants (SE Corner)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2017) - 100% Development

Case "N" - No left-in at Walker

INTERSECTION: Summary

Gibson Blvd. / University Blvd.

(1) 3.0% Truck Existing (2015) 2017 (NO BUILD - A.M.) 2017 (BUILD - A.M.)	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	175	1,842	28	21	988	119	76	20	36	166	13	74
	186	1,959	30	26	1,090	121	80	21	38	198	15	88
	186	1,976	70	116	1,067	121	155	61	38	211	45	88

Existing (2015) 2017 (NO BUILD - P.M.) 2017 (BUILD - P.M.)	0.96			0.96			0.96			0.96			PHF
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	132	969	56	62	2,054	210	60	20	49	183	34	118	
	136	1,106	57	74	2,236	214	75	25	62	229	43	148	
	136	1,121	93	173	2,197	214	155	59	62	240	70	148	

Gibson Blvd. / Walker Rd.

(2) 3.0% Truck Existing (2015) 2017 (NO BUILD - A.M.) 2017 (BUILD - A.M.)	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	0	0	125	0	0	0	0	0	5	0	0	0
	0	2,070	130	0	1,324	0	0	0	5	0	0	0
	0	2,024	206	0	1,391	0	0	0	112	0	0	0

0.97			0.97			0.97			0.97			PHF	
Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)				
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Existing (2015)	0	0	24	0	0	0	0	0	21	0	0	0	
2017 (NO BUILD - P.M.)	0	1,483	25	0	2,676	0	0	0	21	0	0	0	
2017 (BUILD - P.M.)	0	1,462	73	0	2,736	0	0	0	93	0	0	0	

Driveway "A" / University Blvd.

(3) 3.0% Truck Existing (2015) 2017 (NO BUILD - A.M.) 2017 (BUILD - A.M.)	Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	139	0	0	71	0
	0	0	0	4	0	118	0	136	6	161	70	0

0.85													0.85			0.96			0.96			PHF
Eastbound (Driveway "A")				Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)												
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right								
Existing (2015)																						
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
0	0	0	0	0	0	0	0	162	0	0	174	0	0	0	0							
0	0	0	5	0	117	0	159	6	164	171	0	0	0	0	0							

Gibson / University Restaurants (SE Corner)

Projected Turning Movements Worksheet

Gibson Blvd. / University Blvd.

INTERSECTION: E-W Street: Gibson Blvd. (1)
N-S Street: University Blvd.

Year of Existing Counts 2015
Implementation Year 2017

	3.05%			1.00%			2.61%			9.57%		
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	175	1,842	28	21	988	119	76	20	36	166	13	74
Background Traffic Growth	11	112	2	0	20	2	4	1	2	32	2	14
Subtotal	186	1,954	30	21	1,008	121	80	21	38	198	15	88
UNM Gibson Commercial Development	0	5	0	5	82	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	186	1,959	30	26	1,090	121	80	21	38	198	15	88
Percent Commercial Trips Generated(Entering)	0.00%	10.08%	23.52%	39.44%	0.00%	0.00%	0.00%	0.00%	0.00%	7.55%	17.61%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	33.60%	25.16%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	17	40	67	0	0	54	40	0	13	30	0
Total AM Peak Hour BUILD Volumes	186	1,976	70	116	1,067	121	155	61	38	211	45	88

	1.33%			1.00%			12.79%			12.51%		
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	132	969	56	62	2,054	210	60	20	49	183	34	118
Background Traffic Growth	4	26	1	1	41	4	15	5	13	46	9	30
Subtotal	136	995	57	63	2,095	214	75	25	62	229	43	148
UNM Gibson Commercial Development	0	111	0	11	141	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	136	1,106	57	74	2,236	214	75	25	62	229	43	148
Percent Commercial Trips Generated(Entering)	0.00%	10.08%	23.52%	39.44%	0.00%	0.00%	0.00%	0.00%	0.00%	7.55%	17.61%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	33.60%	25.16%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	15	36	60	0	0	46	34	0	11	27	0
Total PM Peak Hour BUILD Volumes	136	1,121	93	173	2,197	214	155	59	62	240	70	148

Number of Commercial Trips Generated
 Entering 170 160 A.M. 100% Commercial Development
 Exiting 151 136 P.M.

	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
2015 AM Peak Hr. Volumes	175	1842	28	21	988	119	76	20	36	166	13	74
2015 PM Peak Hr. Volumes	132	969	56	62	2,054	210	60	20	49	183	34	118

MRCOG Forecast Volumes Worksheet

Based on 2015 Traffic Count

2015 AM Link Volume	2,045	1,128	132	253
2015 PM Link Volume	1,157	2,326	129	335

Based on MRCOG Model (2035 Data Set)

2015 AM Link Volume	2359	778	216	337
2015 PM Link Volume	1368	1773	418	332
2035 AM Link Volume	3293	839	201	737
2035 PM Link Volume	1464	2663	459	1173

Growth Rate to Apply to Existing Counts to Match 2035 Forecasts

2015-2035 AM Growth Rates	3.05%	-1.28%	2.61%	9.57%
2015-2035 PM Growth Rates	1.33%	0.72%	12.79%	12.51%

Growth Rate to Apply to 2015 Model Volumes to Match 2035 Forecasts

2015-2035 AM Growth Rates	1.98%	0.39%	-0.35%	5.93%
2015-2035 PM Growth Rates	0.35%	2.51%	0.49%	12.67%

Pass-by Trip Calculations:

AM Pass-by Trips

Percent Entering
Volume Entering
Percent Exiting
Volume Exiting

Net AM Passby Trips

Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
0.00%	0.00%	0.00%	30.92%	-30.92%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	23	-23	0	0	0	0	0	0	0
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	30.92%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	0	0	0	21	0	0	0	0	0
0	0	0	23	-23	0	21	0	0	0	0	0

PM Pass-by Trips

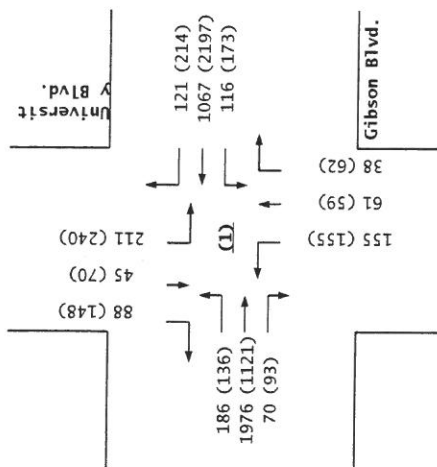
Percent Entering
Volume Entering
Percent Exiting
Volume Exiting

Net PM Passby Trips

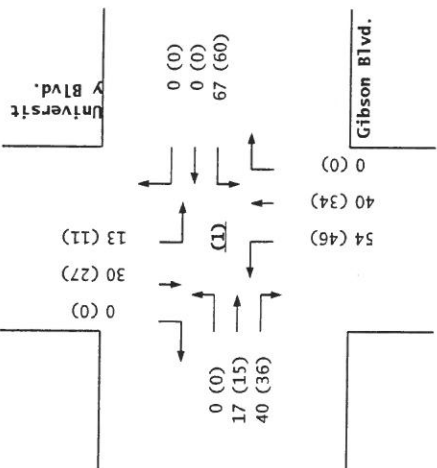
Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
0.00%	0.00%	0.00%	59.41%	-59.41%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	39	-39	0	0	0	0	0	0	0
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	59.41%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	0	0	0	34	0	0	0	0	0
0	0	0	39	-39	0	34	0	0	0	0	0

Pass-by Trips
 Entering 73 69 AM
 Exiting 65 58 PM

2017
BUILD

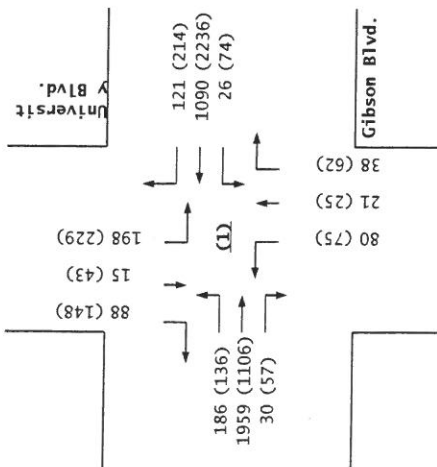


Trips



Gibson Blvd. / University Blvd.

2017
NO BUILD



Gibson / University Restaurants (SE Corner)

Projected Turning Movements Worksheet

Gibson Blvd. / Walker Rd.

INTERSECTION:

E-W Street: Gibson Blvd.

(2)

Due to the close proximity of intersections 1 & 2, some NOBUILD volumes were balanced and won't equal existing + growth

N-S Street: Walker Rd.

Year of Existing Counts

2015

Implementation Year

2017

Growth Rates

	1.00%			1.00%			1.00%			1.00%		
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	125	0	0	0	0	0	5	0	0	0
Background Traffic Growth	0	0	3	0	0	0	0	0	0	0	0	0
Subtotal	0	0	128	0	0	0	0	0	5	0	0	0
UNM Gibson Commercial Development	0	5	0	0	87	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	0	2,070	130	0	1,324	0	0	0	5	0	0	0
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	17.63%	0.00%	39.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	39.44%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	30	0	67	0	0	0	63	0	0	0
Subtotal AM Pk Hr. BUILD Volumes	0	2,070	160	0	1,391	0	0	0	68	0	0	0
Pass-by Trip Adjustments	0	-46	46	0	0	0	0	0	44	0	0	0
Total AM Peak Hour BUILD Volumes	0	2,024	206	0	1,391	0	0	0	112	0	0	0

	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	24	0	0	0	0	0	21	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	0	0	24	0	0	0	0	0	21	0	0	0
UNM Gibson Commercial Development	0	111	0	0	152	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	0	1,483	25	0	2,676	0	0	0	21	0	0	0
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	17.63%	0.00%	39.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	39.44%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	27	0	60	0	0	0	54	0	0	0
Subtotal PM Pk Hr. BUILD Volumes	0	1,483	52	0	2,736	0	0	0	75	0	0	0
Pass-by Trip Adjustments	0	-21	21	0	0	0	0	0	18	0	0	0
Total PM Peak Hour BUILD Volumes	0	1,462	73	0	2,736	0	0	0	93	0	0	0

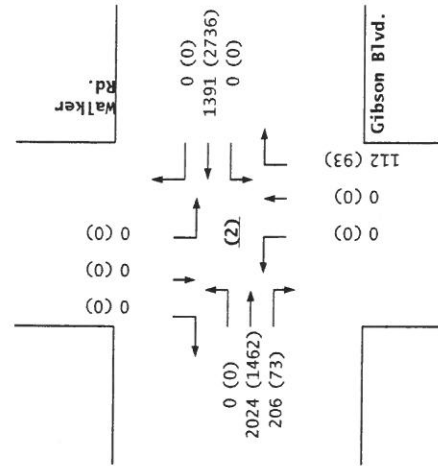
Number of Commercial Trips Generated	Entering	Exiting	100% Commercial Development
	170	160	
	151	136	P.M.

	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2015 AM Peak Hr. Volumes	0	0	125	0	0	0	0	0	5	0	0	0
2015 PM Peak Hr. Volumes	0	0	24	0	0	0	0	0	21	0	0	0

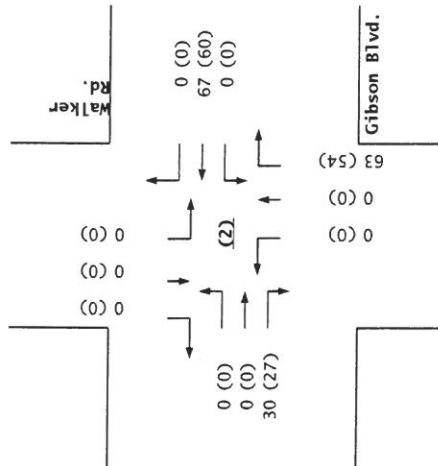
Pass-by Trip Calculations:

AM Pass-by Trips												
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Percent Entering	0.00%	-63.10%	63.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Volume Entering	0	-46	46	0	0	0	0	0	0	0	0	0
Percent Exiting	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	63.10%	0.00%	0.00%	0.00%
Volume Exiting	0	0	0	0	0	0	0	0	44	0	0	0
Net AM Passby Trips	0	-46	46	0	0	0	0	0	44	0	0	0
PM Pass-by Trips												
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Percent Entering	0.00%	-31.75%	31.75%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Volume Entering	0	-21	21	0	0	0	0	0	0	0	0	0
Percent Exiting	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	31.75%	0.00%	0.00%	0.00%
Volume Exiting	0	0	0	0	0	0	0	0	18	0	0	0
Net PM Passby Trips	0	-21	21	0	0	0	0	0	18	0	0	0
Pass-by Trips	Entering	Exiting										
	73	69	AM									
	65	58	PM									

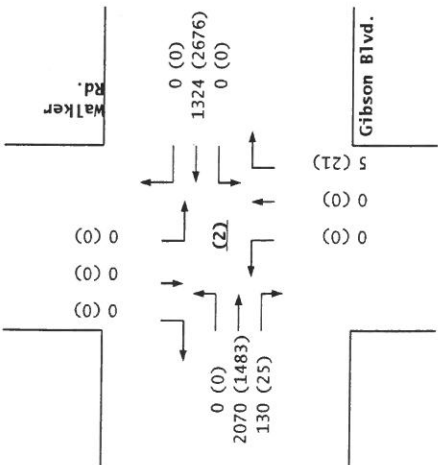
2017
BUILD



Trips



2017
NO BUILD



Gibson Blvd. / Walker Rd.

Gibson / University Restaurants (SE Corner)

Projected Turning Movements Worksheet

Driveway "A" / University Blvd.

INTERSECTION:

E-W Street: Driveway "A"
N-S Street: University Blvd.

(3)

Year of Existing Counts

2015

Implementation Year

2017

Growth Rates

Existing Volumes

Background Traffic Growth

Subtotal (NO BUILD - A.M.)

Percent Commercial Trips Generated(Entering)

Percent Commercial Trips Generated(Exiting)

Total Trips Generated

Subtotal AM Pk Hr. BUILD Volumes

Pass-by Trip Adjustments

Total AM Peak Hour BUILD Volumes

2.61%			2.61%			2.61%			2.61%		
Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	139	0	0	71	0
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.81%	80.57%	0.00%	0.00%
0.00%	0.00%	0.00%	1.81%	0.00%	58.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	3	0	94	0	0	3	137	0	0
0	0	0	3	0	94	0	139	3	137	71	0
0	0	0	1	0	24	0	-3	3	24	-1	0
0	0	0	4	0	118	0	136	6	161	70	0

Existing Volumes

Background Traffic Growth

Subtotal (NO BUILD - P.M.)

Percent Commercial Trips Generated(Entering)

Percent Commercial Trips Generated(Exiting)

Total Trips Generated

Subtotal PM Pk Hr. BUILD Volumes

Pass-by Trip Adjustments

Total PM Peak Hour BUILD Volumes

12.79%			12.79%			12.79%			12.79%		
Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	162	0	0	174	0
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.81%	80.57%	0.00%	0.00%
0.00%	0.00%	0.00%	1.81%	0.00%	58.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	2	0	80	0	0	3	122	0	0
0	0	0	2	0	80	0	162	3	122	174	0
0	0	0	3	0	37	0	-3	3	42	-3	0
0	0	0	5	0	117	0	159	6	164	171	0

Number of Commercial Trips Generated

Entering Exiting

170 160 A.M.

151 136 P.M.

100% Commercial Development

2015 AM Peak Hr. Volumes

2015 PM Peak Hr. Volumes

Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

Pass-by Trip Calculations:

AM Pass-by Trips

Percent Entering

Volume Entering

Percent Exiting

Volume Exiting

Net AM Passby Trips

Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-4.07%	4.07%	32.83%	-1.91%	0.00%
0	0	0	0	0	0	0	-3	3	24	-1	0
0.00%	0.00%	0.00%	1.91%	0.00%	34.99%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	1	0	24	0	0	0	0	0	0
0	0	0	1	0	24	0	-3	3	24	-1	0

PM Pass-by Trips

Percent Entering

Volume Entering

Percent Exiting

Volume Exiting

Net PM Passby Trips

Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-4.06%	4.06%	64.19%	-4.78%	0.00%
0	0	0	0	0	0	0	-3	3	42	-3	0
0.00%	0.00%	0.00%	4.78%	0.00%	63.47%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	3	0	37	0	0	0	0	0	0
0	0	0	3	0	37	0	-3	3	42	-3	0

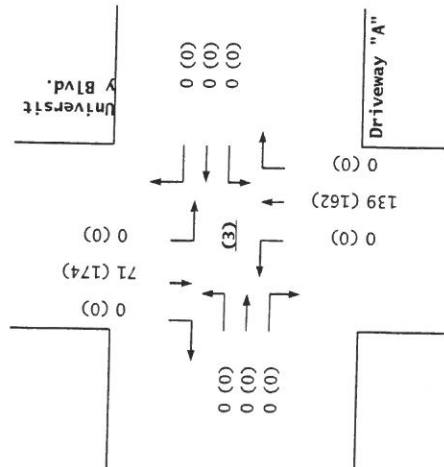
Entering Exiting

73 69 AM

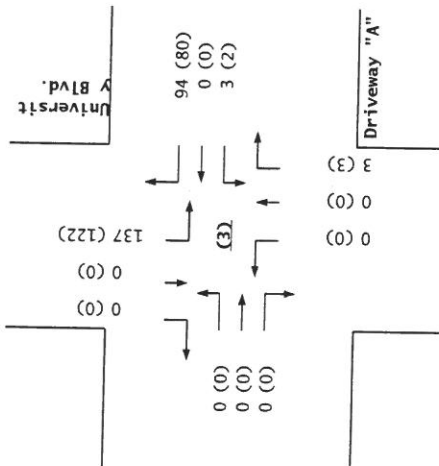
65 58 PM

Pass-by Trips

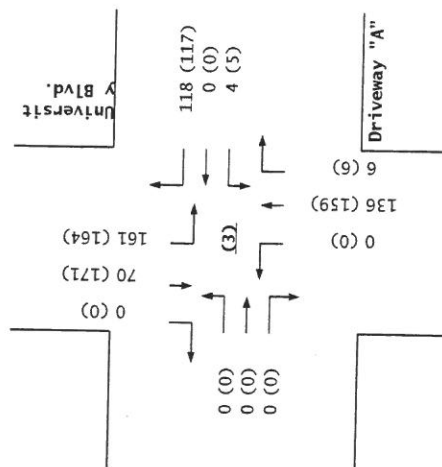
2017
NO BUILD



Trips



2017
BUILD



Driveway "A" / University Blvd.

Gibson / University Restaurants (SE Corner)
Projected Turning Movements SUMMARY
PROPOSED DEVELOPMENT (2017) - 100% Development

Case "Y" - Left-in at Walker

INTERSECTION: Summary

Gibson Blvd. / University Blvd.

			0.95			0.95			0.95			0.95			PHF
(1)															
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Existing (2015)	175	1,842	28	21	988	119	76	20	36	166	13	74			
2017 (NO BUILD - A.M.)	186	1,959	30	26	1,090	121	80	21	38	198	15	88			
2017 (BUILD - A.M.)	186	1,976	70	26	1,067	121	155	61	38	211	45	88			
			0.96			0.96			0.96			0.96			PHF
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Existing (2015)	132	969	56	62	2,054	210	60	20	49	183	34	118			
2017 (NO BUILD - P.M.)	136	1,106	57	74	2,236	214	75	25	62	229	43	148			
2017 (BUILD - P.M.)	136	1,121	93	74	2,197	214	155	59	62	240	70	148			

Gibson Blvd. / Walker Rd.

			0.90			0.90			0.90			0.90			PHF
(2)															
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Existing (2015)	0	0	125	0	0	0	0	0	5	0	0	0			
2017 (NO BUILD - A.M.)	0	2,070	130	0	1,237	0	0	0	5	0	0	0			
2017 (BUILD - A.M.)	0	2,024	206	90	1,301	0	0	0	112	0	0	0			
			0.97			0.97			0.97			0.97			PHF
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Existing (2015)	0	0	24	0	0	0	0	0	21	0	0	0			
2017 (NO BUILD - P.M.)	0	1,483	25	0	2,676	0	0	0	21	0	0	0			
2017 (BUILD - P.M.)	0	1,462	73	99	2,637	0	0	0	93	0	0	0			

Driveway "A" / University Blvd.

			0.85			0.85			0.95			0.95			PHF
(3)															
	Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Existing (2015)	0	0	0	0	0	0	0	0	0	0	0	0			
2017 (NO BUILD - A.M.)	0	0	0	0	0	0	0	139	0	0	71	0			
2017 (BUILD - A.M.)	0	0	0	4	0	118	0	136	6	71	70	0			
			0.85			0.85			0.96			0.96			PHF
	Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Existing (2015)	0	0	0	0	0	0	0	0	0	0	0	0			
2017 (NO BUILD - P.M.)	0	0	0	0	0	0	0	162	0	0	174	0			
2017 (BUILD - P.M.)	0	0	0	5	0	117	0	159	6	65	171	0			

Gibson / University Restaurants (SE Corner)
Projected Turning Movements Worksheet
Gibson Blvd. / University Blvd.

INTERSECTION:

E-W Street: Gibson Blvd.
 N-S Street: University Blvd.

(1)

Year of Existing Counts
 Implementation Year

2015

2017

Growth Rates

	3.05%			1.00%			2.61%			9.57%		
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	175	1,842	28	21	988	119	76	20	36	166	13	74
Background Traffic Growth	11	112	2	0	20	2	4	1	2	32	2	14
Subtotal	186	1,954	30	21	1,008	121	80	21	38	198	15	88
UNM Gibson Commercial Development	0	5	0	5	82	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	186	1,959	30	26	1,090	121	80	21	38	198	15	88
Percent Commercial Trips Generated(Entering)	0.00%	10.08%	23.52%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.55%	17.61%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	33.60%	25.16%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	17	40	0	0	0	54	40	0	13	30	0
Subtotal AM Pk Hr. BUILD Volumes	186	1,976	70	26	1,090	121	134	61	38	211	45	88
Pass-by Trip Adjustments	0	0	0	0	-23	0	21	0	0	0	0	0
Total AM Peak Hour BUILD Volumes	186	1,976	70	26	1,067	121	155	61	38	211	45	88

	1.33%			1.00%			12.79%			12.51%		
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	132	969	56	62	2,054	210	60	20	49	183	34	118
Background Traffic Growth	4	26	1	1	41	4	15	5	13	46	9	30
Subtotal	136	995	57	63	2,095	214	75	25	62	229	43	148
UNM Gibson Commercial Development	0	111	0	11	141	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	136	1,106	57	74	2,236	214	75	25	62	229	43	148
Percent Commercial Trips Generated(Entering)	0.00%	10.08%	23.52%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.55%	17.61%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	33.60%	25.16%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	15	36	0	0	0	46	34	0	11	27	0
Subtotal PM Pk Hr. BUILD Volumes	136	1,121	93	74	2,236	214	121	59	62	240	70	148
Pass-by Trip Adjustments	0	0	0	0	-39	0	34	0	0	0	0	0
Total PM Peak Hour BUILD Volumes	136	1,121	93	74	2,197	214	155	59	62	240	70	148

Number of Commercial Trips Generated

Entering	170	160	A.M.	100% Commercial Development
Exiting	151	136	P.M.	

2015 AM Peak Hr. Volumes
 2015 PM Peak Hr. Volumes

Eastbound (Gibson Blvd.)	Westbound (Gibson Blvd.)	Northbound (University Blvd.)	Southbound (University Blvd.)
175	1842	28	21
132	969	56	62
	2,054	210	60
	20	36	166
	13	74	

MRCOG Forecast Volumes Worksheet

Based on 2015 Traffic Count

2015 AM Link Volume
 2015 PM Link Volume

Based on MRCOG Model (2035 Data Set)

2015 AM Link Volume
 2015 PM Link Volume

2035 AM Link Volume
 2035 PM Link Volume

Growth Rate to Apply to Existing Counts to Match 2035 Forecasts

2015-2035 AM Growth Rates

2015-2035 PM Growth Rates

Growth Rate to Apply to 2015 Model Volumes to Match 2035 Forecasts

2015-2035 AM Growth Rates

2015-2035 PM Growth Rates

Pass-by Trip Calculations:

AM Pass-by Trips

Percent Entering
 Volume Entering
 Percent Exiting
 Volume Exiting

Net AM Passby Trips

PM Pass-by Trips

Percent Entering
 Volume Entering
 Percent Exiting
 Volume Exiting

Net PM Passby Trips

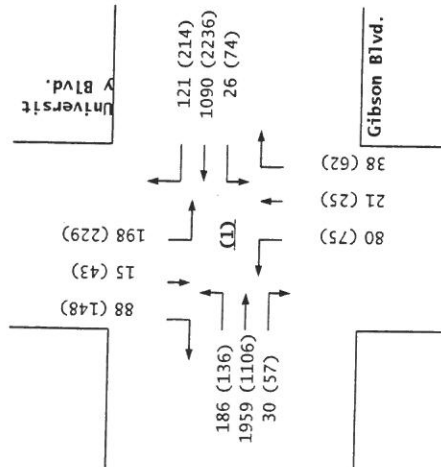
Pass-by Trips

Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
0.00%	0.00%	0.00%	0.00%	-30.92%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	0	-23	0	0	0	0	0	0	0
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	30.92%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	0	0	0	21	0	0	0	0	0
0	0	0	0	-23	0	21	0	0	0	0	0

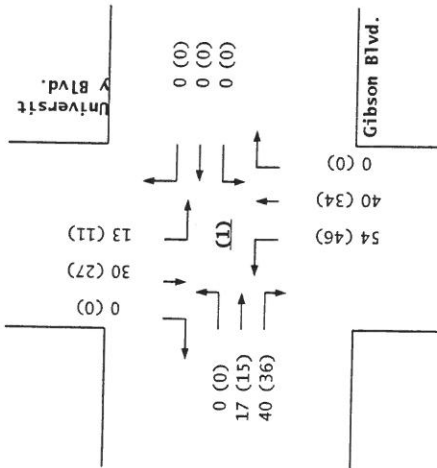
Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
0.00%	0.00%	0.00%	0.00%	-59.41%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	0	-39	0	0	0	0	0	0	0
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	59.41%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0	0	0	0	0	34	0	0	0	0	0
0	0	0	0	-39	0	34	0	0	0	0	0

Entering Exiting
 73 69 AM
 65 58 PM

2017
NO BUILD

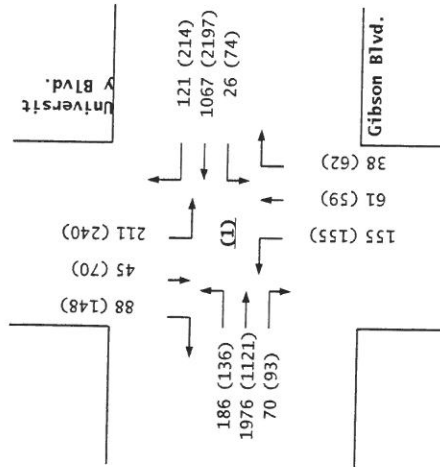


Trips



Gibson Blvd. / University Blvd.

2017
BUILD



Gibson / University Restaurants (SE Corner)

Projected Turning Movements Worksheet

Gibson Blvd. / Walker Rd.

INTERSECTION:

E-W Street: Gibson Blvd.

(2)

Due to the close proximity of intersections 1 & 2, some NOBUILD volumes were balanced and won't equal existing + growth

N-S Street: Walker Rd.

Year of Existing Counts

2015

Implementation Year

2017

Growth Rates

	1.00%			1.00%			1.00%			1.00%		
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	125	0	0	0	0	0	5	0	0	0
Background Traffic Growth	0	0	3	0	0	0	0	0	0	0	0	0
Subtotal	0	0	128	0	0	0	0	0	5	0	0	0
UNM Gibson Commercial Development	0	5	0	0	87	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	0	2,070	130	0	1,237	0	0	0	5	0	0	0
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	17.63%	39.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	39.44%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	30	67	0	0	0	0	63	0	0	0
Subtotal AM Pk Hr. BUILD Volumes	0	2,070	160	67	1,324	0	0	0	68	0	0	0
Pass-by Trip Adjustments	0	-46	46	23	-23	0	0	0	44	0	0	0
Total AM Peak Hour BUILD Volumes	0	2,024	206	90	1,301	0	0	0	112	0	0	0

	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	24	0	0	0	0	0	21	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	0	0	24	0	0	0	0	0	21	0	0	0
UNM Gibson Commercial Development	0	111	0	0	152	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	0	1,483	25	0	2,676	0	0	0	21	0	0	0
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	17.63%	39.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	39.44%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	27	60	0	0	0	0	54	0	0	0
Subtotal PM Pk Hr. BUILD Volumes	0	1,483	52	60	2,676	0	0	0	75	0	0	0
Pass-by Trip Adjustments	0	-21	21	39	-39	0	0	0	18	0	0	0
Total PM Peak Hour BUILD Volumes	0	1,462	73	99	2,637	0	0	0	93	0	0	0

Number of Commercial Trips Generated

Entering	170	160	A.M.	100% Commercial Development
Exiting	151	136	P.M.	

	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2015 AM Peak Hr. Volumes	0	0	125	0	0	0	0	0	5	0	0	0
2015 PM Peak Hr. Volumes	0	0	24	0	0	0	0	0	21	0	0	0

Pass-by Trip Calculations:

AM Pass-by Trips

Percent Entering

Volume Entering

Percent Exiting

Volume Exiting

Net AM Passby Trips

	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
0.00%	-63.10%	63.10%	30.82%	-30.92%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	-46	46	23	-23	0	0	0	0	0	0	0	0
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	63.10%	0.00%	0.00%	0.00%
0	0	0	0	0	0	0	0	0	44	0	0	0
0	-46	46	23	-23	0	0	0	0	44	0	0	0

PM Pass-by Trips

Percent Entering

Volume Entering

Percent Exiting

Volume Exiting

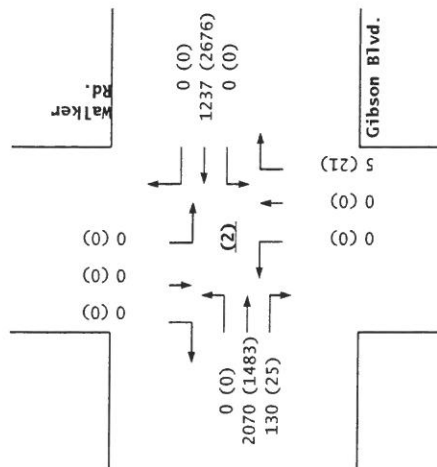
Net PM Passby Trips

	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
0.00%	-31.75%	31.75%	59.41%	-59.41%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	-21	21	39	-39	0	0	0	0	0	0	0	0
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	31.75%	0.00%	0.00%	0.00%
0	0	0	0	0	0	0	0	0	18	0	0	0
0	-21	21	39	-39	0	0	0	0	18	0	0	0

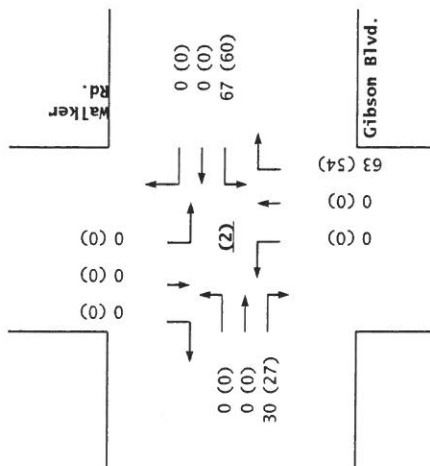
Entering Exiting
73 69 AM
65 58 PM

Pass-by Trips

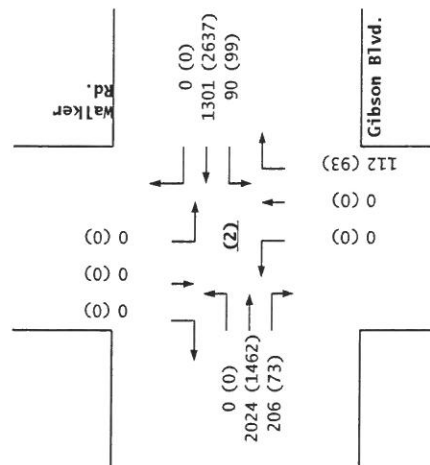
2017
NO BUILD



Trips



2017
BUILD



Gibson Blvd. / Walker Rd.

Gibson / University Restaurants (SE Corner)
Projected Turning Movements Worksheet
Driveway "A" / University Blvd.

INTERSECTION : E-W Street: **Driveway "A"** (3)
 N-S Street: **University Blvd.**
 Year of Existing Counts: **2015**
 Implementation Year: **2017**
 Growth Rates

	2.61%			2.61%			2.61%			2.61%		
	Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	0	0	0	0	0	0	0	139	0	0	71	0
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.81%	41.13%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	1.81%	0.00%	58.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	0	3	0	94	0	0	3	70	0	0
Subtotal AM Pk Hr. BUILD Volumes	0	0	0	3	0	94	0	139	3	70	71	0
Pass-by Trip Adjustments	0	0	0	1	0	24	0	-3	3	1	-1	0
Total AM Peak Hour BUILD Volumes	0	0	0	4	0	118	0	136	6	71	70	0

	12.79%			12.79%			12.79%			12.79%		
	Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	0	0	0	0	0	0	0	162	0	0	174	0
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.81%	41.13%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	1.81%	0.00%	58.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	0	2	0	80	0	0	3	62	0	0
Subtotal PM Pk Hr. BUILD Volumes	0	0	0	2	0	80	0	162	3	62	174	0
Pass-by Trip Adjustments	0	0	0	3	0	37	0	-3	3	3	-3	0
Total PM Peak Hour BUILD Volumes	0	0	0	5	0	117	0	159	6	65	171	0

Number of Commercial Trips Generated

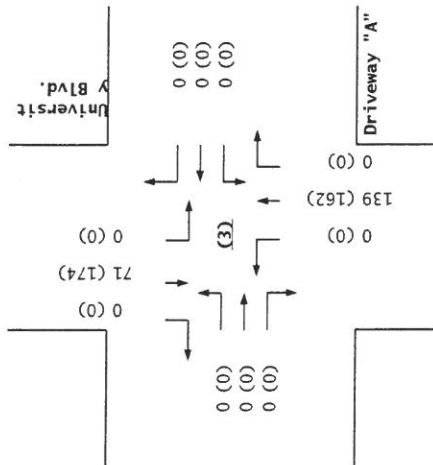
Entering	170	160	A.M.	100% Commercial Development
Exiting	151	136	P.M.	

	Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
2015 AM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0
2015 PM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0

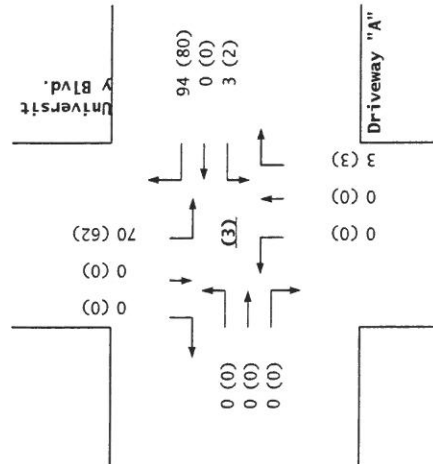
Pass-by Trip Calculations:

		Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
AM Pass-by Trips		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-4.07%	4.07%	1.91%	-1.91%	0.00%
Percent Entering		0	0	0	0	0	0	0	-3	3	1	-1	0
Volume Entering		0.00%	0.00%	0.00%	1.91%	0.00%	34.99%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Exiting		0	0	0	1	0	24	0	0	0	0	0	0
Volume Exiting		0	0	0	1	0	24	0	-3	3	1	-1	0
Net AM Passby Trips		0	0	0	1	0	24	0	-3	3	1	-1	0
PM Pass-by Trips		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-4.06%	4.06%	4.78%	-4.78%	0.00%
Percent Entering		0	0	0	0	0	0	0	-3	3	3	-3	0
Volume Entering		0.00%	0.00%	0.00%	4.78%	0.00%	63.47%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Exiting		0	0	0	3	0	37	0	0	0	0	0	0
Volume Exiting		0	0	0	3	0	37	0	-3	3	3	-3	0
Net PM Passby Trips		0	0	0	3	0	37	0	-3	3	3	-3	0
Pass-by Trips													
Entering		73			69			AM					
Exiting		65			58			PM					

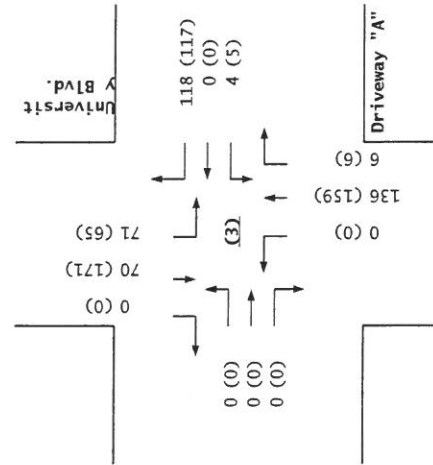
2017
NO BUILD



Trips



2017
BUILD



Driveway "A" / University Blvd.

Gibson / University Restaurants (SE Corner)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2035) - 100% Development

Case "N" - No left-in at Walker

INTERSECTION: Summary

Gibson Blvd. / University Blvd.		0.95			0.95			0.95			0.95			PHF
(1)		Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)			
	3.0% Truck	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2015)		175	1,842	28	21	988	119	76	20	36	166	13	74	
2035 (NO BUILD - A.M.)		282	2,971	45	30	1,268	143	116	30	55	484	38	216	
2035 (BUILD - A.M.)		282	2,988	85	120	1,245	143	191	70	55	497	68	216	
		0.96			0.96			0.96			0.96			PHF
		Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2015)		132	969	56	62	2,054	210	60	20	49	183	34	118	
2035 (NO BUILD - P.M.)		167	1,338	71	85	2,606	252	213	71	174	641	119	413	
2035 (BUILD - P.M.)		167	1,353	107	184	2,567	252	293	105	174	652	146	413	
Gibson Blvd. / Walker Rd.		0.90			0.90			0.90			0.90			PHF
(2)		Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)			
	3.0% Truck	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2015)		0	0	125	0	0	0	0	0	5	0	0	0	
2035 (NO BUILD - A.M.)		0	3,365	150	0	1,528	0	0	0	6	0	0	0	
2035 (BUILD - A.M.)		0	3,319	226	0	1,595	0	0	0	113	0	0	0	
		0.97			0.97			0.97			0.97			PHF
		Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2015)		0	0	24	0	0	0	0	0	21	0	0	0	
2035 (NO BUILD - P.M.)		0	2,235	29	0	3,095	0	0	0	25	0	0	0	
2035 (BUILD - P.M.)		0	2,214	77	0	3,155	0	0	0	97	0	0	0	
Driveway "A" / University Blvd.		0.85			0.85			0.95			0.95			PHF
(3)		Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)			
	3.0% Truck	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2015)		0	0	0	0	0	0	0	0	0	0	0	0	
2035 (NO BUILD - A.M.)		0	0	0	0	0	0	0	201	0	0	113	0	
2035 (BUILD - A.M.)		0	0	0	4	0	118	0	198	6	161	112	0	
		0.85			0.85			0.96			0.96			PHF
		Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2015)		0	0	0	0	0	0	0	0	0	0	0	0	
2035 (NO BUILD - P.M.)		0	0	0	0	0	0	0	458	0	0	275	0	
2035 (BUILD - P.M.)		0	0	0	5	0	117	0	455	6	164	272	0	

Gibson / University Restaurants (SE Corner)

Projected Turning Movements Worksheet

Gibson Blvd. / University Blvd.

INTERSECTION : E-W Street: Gibson Blvd. (1)

N-S Street: University Blvd.

Year of Existing Counts 2015

Horizon Year 2035

Growth Rates

	3.05%			1.00%			2.61%			9.57%		
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	175	1,842	28	21	988	119	76	20	36	166	13	74
Background Traffic Growth	107	1,124	17	4	198	24	40	10	19	318	25	142
Subtotal	282	2,966	45	25	1,186	143	116	30	55	484	38	216
UNM Gibson Commercial Development	0	5	0	5	82	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	282	2,971	45	30	1,268	143	116	30	55	484	38	216
Percent Commercial Trips Generated(Entering)	0.00%	10.08%	23.52%	39.44%	0.00%	0.00%	0.00%	0.00%	0.00%	7.55%	17.61%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	33.60%	25.16%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	17	40	67	0	0	54	40	0	13	30	0
Total AM Peak Hour BUILD Volumes	282	2,988	85	120	1,245	143	191	70	55	497	68	216

	1.33%			1.00%			12.79%			12.51%		
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	132	969	56	62	2,054	210	60	20	49	183	34	118
Background Traffic Growth	35	258	15	12	411	42	153	51	125	458	85	295
Subtotal	167	1,227	71	74	2,465	252	213	71	174	641	119	413
UNM Gibson Commercial Development	0	111	0	11	141	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	167	1,338	71	85	2,606	252	213	71	174	641	119	413
Percent Commercial Trips Generated(Entering)	0.00%	10.08%	23.52%	39.44%	0.00%	0.00%	0.00%	0.00%	0.00%	7.55%	17.61%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	33.60%	25.16%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	15	36	60	0	0	46	34	0	11	27	0
Total PM Peak Hour BUILD Volumes	167	1,353	107	184	2,567	252	293	105	174	652	146	413

Number of Commercial Trips Generated

Entering	170	160	A.M.	100% Commercial Development
Exiting	151	136	P.M.	

	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
2015 AM Peak Hr. Volumes	175	1842	28	21	988	119	76	20	36	166	13	74
2015 PM Peak Hr. Volumes	132	969	56	62	2,054	210	60	20	49	183	34	118

MRCOG Forecast Volumes Worksheet

Based on 2015 Traffic Count

2015 AM Link Volume	2,045	1,128	132	253
2015 PM Link Volume	1,157	2,326	129	335

Based on MRCOG Model (2035 Data Set)

2015 AM Link Volume	2359	778	216	337
2015 PM Link Volume	1368	1773	418	332
2035 AM Link Volume	3293	839	201	737
2035 PM Link Volume	1464	2663	459	1173

Growth Rate to Apply to Existing Counts to Match 2035 Forecasts

2015-2035 AM Growth Rates	3.05%	-1.28%	2.61%	9.57%
2015-2035 PM Growth Rates	1.33%	0.72%	12.79%	12.51%

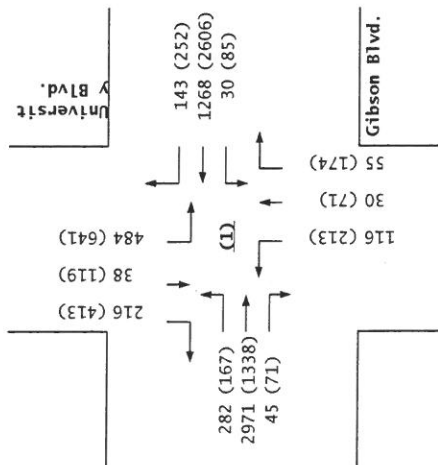
Growth Rate to Apply to 2015 Model Volumes to Match 2035 Forecasts

2015-2035 AM Growth Rates	1.98%	0.39%	-0.35%	5.93%
2015-2035 PM Growth Rates	0.35%	2.51%	0.49%	12.67%

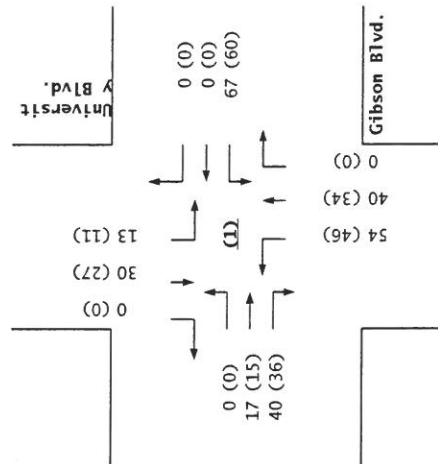
Pass-by Trip Calculations:

	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
AM Pass-by Trips	0.00%	0.00%	0.00%	30.92%	-30.92%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Entering	0	0	0	23	-23	0	0	0	0	0	0	0
Volume Entering	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	30.92%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Exiting	0	0	0	0	0	0	21	0	0	0	0	0
Volume Exiting	0	0	0	23	-23	0	21	0	0	0	0	0
Net AM Passby Trips	0	0	0	23	-23	0	21	0	0	0	0	0
PM Pass-by Trips	0.00%	0.00%	0.00%	59.41%	-59.41%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Entering	0	0	0	39	-39	0	0	0	0	0	0	0
Volume Entering	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	59.41%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Exiting	0	0	0	0	0	0	34	0	0	0	0	0
Volume Exiting	0	0	0	39	-39	0	34	0	0	0	0	0
Net PM Passby Trips	0	0	0	39	-39	0	34	0	0	0	0	0
Pass-by Trips	73	69	AM	65	58	PM						

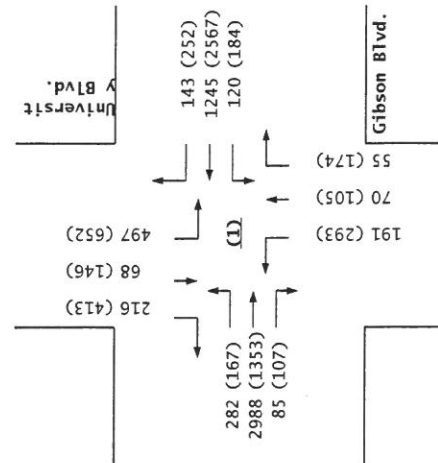
2035
NO BUILD



Trips



2035
BUILD



Gibson Blvd. / University Blvd.

Gibson / University Restaurants (SE Corner)

Projected Turning Movements Worksheet

Gibson Blvd. / Walker Rd.

INTERSECTION: E-W Street: **Gibson Blvd.** (2) Due to the close proximity of intersections 1 & 2, some NOBUILD
N-S Street: **Walker Rd.** volumes were balanced and won't equal existing + growth

Year of Existing Counts **2015**
Horizon Year **2035**

Growth Rates

	1.00%			1.00%			1.00%			1.00%		
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	125	0	0	0	0	0	5	0	0	0
Background Traffic Growth	0	0	25	0	0	0	0	0	1	0	0	0
Subtotal	0	0	150	0	0	0	0	0	6	0	0	0
UNM Gibson Commercial Development	0	5	0	0	87	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	0	3,365	150	0	1,528	0	0	0	6	0	0	0
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	17.63%	0.00%	39.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	39.44%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	30	0	67	0	0	0	63	0	0	0
Subtotal AM Pk Hr. BUILD Volumes	0	3,365	180	0	1,595	0	0	0	69	0	0	0
Pass-by Trip Adjustments	0	-46	46	0	0	0	0	0	44	0	0	0
Total AM Peak Hour BUILD Volumes	0	3,319	226	0	1,595	0	0	0	113	0	0	0

	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	24	0	0	0	0	0	21	0	0	0
Background Traffic Growth	0	0	5	0	0	0	0	0	4	0	0	0
Subtotal	0	0	29	0	0	0	0	0	25	0	0	0
UNM Gibson Commercial Development	0	111	0	0	152	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	0	2,235	29	0	3,095	0	0	0	25	0	0	0
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	17.63%	0.00%	39.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	39.44%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	27	0	60	0	0	0	54	0	0	0
Subtotal PM Pk Hr. BUILD Volumes	0	2,235	56	0	3,155	0	0	0	79	0	0	0
Pass-by Trip Adjustments	0	-21	21	0	0	0	0	0	18	0	0	0
Total PM Peak Hour BUILD Volumes	0	2,214	77	0	3,155	0	0	0	97	0	0	0

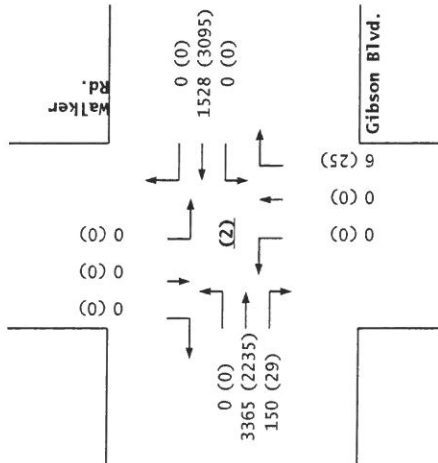
Number of Commercial Trips Generated
 Entering 170 160 A.M. 100% Commercial Development
 Exiting 151 136 P.M.

	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
2015 AM Peak Hr. Volumes	0	0	125	0	0	0	0	0	5	0	0	0
2015 PM Peak Hr. Volumes	0	0	24	0	0	0	0	0	21	0	0	0

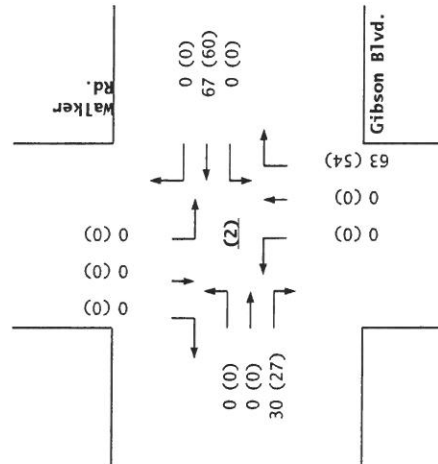
Pass-by Trip Calculations:

AM Pass-by Trips												
Percent Entering												
Volume Entering												
Percent Exiting												
Volume Exiting												
Net AM Passby Trips												
PM Pass-by Trips												
Percent Entering												
Volume Entering												
Percent Exiting												
Volume Exiting												
Net PM Passby Trips												
Pass-by Trips												
Entering Exiting												
65 58 PM												

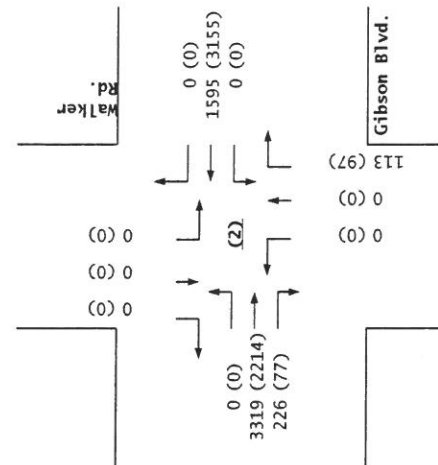
2035
NO BUILD



Trips



2035
BUILD



Gibson Blvd. / Walker Rd.

Gibson / University Restaurants (SE Corner)

Projected Turning Movements Worksheet

Driveway "A" / University Blvd.

INTERSECTION:

E-W Street: Driveway "A" (3)

N-S Street: University Blvd.

Year of Existing Counts 2015

Horizon Year 2035

Growth Rates

	2.61%			2.61%			2.61%			2.61%		
	Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	0	0	0	0	0	0	0	201	0	0	113	0
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.81%	80.57%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	1.81%	0.00%	58.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	0	3	0	94	0	0	3	137	0	0
Subtotal AM Pk Hr. BUILD Volumes	0	0	0	3	0	94	0	201	3	137	113	0
Pass-by Trip Adjustments	0	0	0	1	0	24	0	-3	3	24	-1	0
Total AM Peak Hour BUILD Volumes	0	0	0	4	0	118	0	198	6	161	112	0

	12.79%			12.79%			12.79%			12.79%		
	Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	0	0	0	0	0	0	0	458	0	0	275	0
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.81%	80.57%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	1.81%	0.00%	58.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	0	2	0	80	0	0	3	122	0	0
Subtotal PM Pk Hr. BUILD Volumes	0	0	0	2	0	80	0	458	3	122	275	0
Pass-by Trip Adjustments	0	0	0	3	0	37	0	-3	3	42	-3	0
Total PM Peak Hour BUILD Volumes	0	0	0	5	0	117	0	455	6	164	272	0

Number of Commercial Trips Generated

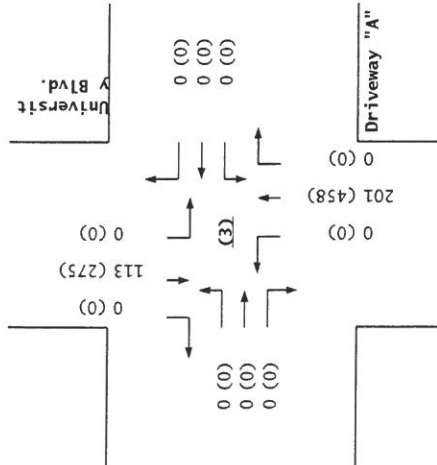
Entering	170	160	A.M.	100% Commercial Development
Exiting	151	136	P.M.	

	Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
2015 AM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0
2015 PM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0

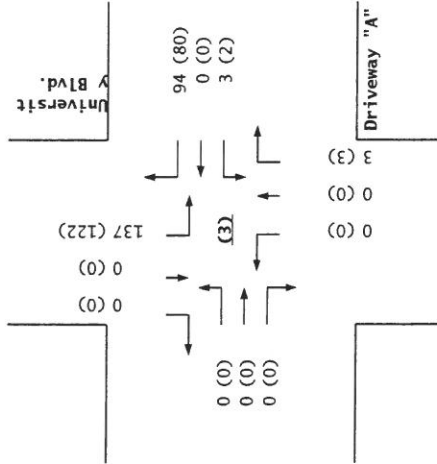
Pass-by Trip Calculations:

		Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
AM Pass-by Trips		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-4.07%	4.07%	32.83%	-1.91%	0.00%
Percent Entering		0	0	0	0	0	0	0	-3	3	24	-1	0
Volume Entering		0.00%	0.00%	0.00%	1.91%	0.00%	34.99%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Exiting		0	0	0	1	0	24	0	0	0	0	0	0
Volume Exiting		0	0	0	1	0	24	0	-3	3	24	-1	0
Net AM Passby Trips		0	0	0	1	0	24	0	-3	3	24	-1	0
		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-4.06%	4.06%	64.19%	-4.78%	0.00%
Percent Entering		0	0	0	0	0	0	0	-3	3	42	-3	0
Volume Entering		0.00%	0.00%	0.00%	4.78%	0.00%	63.47%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Exiting		0	0	0	3	0	37	0	0	0	0	0	0
Volume Exiting		0	0	0	3	0	37	0	-3	3	42	-3	0
Net PM Passby Trips		0	0	0	3	0	37	0	-3	3	42	-3	0
		Entering	Exiting										
Pass-by Trips		73	69	AM									
		65	58	PM									

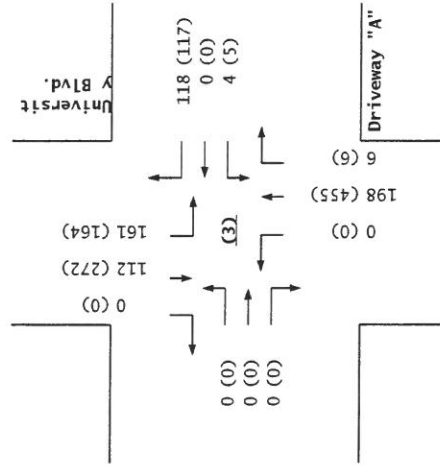
2035
NO BUILD



Trips



2035
BUILD



Driveway "A" / University Blvd.

Gibson / University Restaurants (SE Corner)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2035) - 100% Development

Case "Y" - Left-in at Walker

INTERSECTION: Summary

<u>Gibson Blvd. / University Blvd.</u>		0.95			0.95			0.95			0.95			PHF
(1)		Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)			
	3.0% Truck	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	Existing (2015)	175	1,842	28	21	988	119	76	20	36	166	13	74	
	2035 (NO BUILD - A.M.)	282	2,971	45	30	1,268	143	116	30	55	484	38	216	
	2035 (BUILD - A.M.)	282	2,988	85	30	1,245	143	191	70	55	497	68	216	

		0.96			0.96			0.96			0.96			PHF
		Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2015)		132	969	56	62	2,054	210	60	20	49	183	34	118	
	2035 (NO BUILD - P.M.)	167	1,338	71	85	2,606	252	213	71	174	641	119	413	
	2035 (BUILD - P.M.)	167	1,353	107	85	2,567	252	293	105	174	652	146	413	

<u>Gibson Blvd. / Walker Rd.</u>		0.90			0.90			0.90			0.90			PHF
(2)		Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)			
	3.0% Truck	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2015)		0	0	125	0	0	0	0	0	0	5	0	0	0
2035 (NO BUILD - A.M.)		0	3,385	130	0	1,528	0	0	0	6	0	0	0	0
2035 (BUILD - A.M.)		0	3,339	206	90	1,505	0	0	0	113	0	0	0	0

0.97			0.97			0.97			0.97			PHF			
Eastbound (Gibson Blvd.)				Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)					
Left		Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Existing (2015)				0	0	24	0	0	0	0	0	21	0	0	0
2035 (NO BUILD - P.M.)				0	2,239	25	0	3,095	0	0	0	25	0	0	0
2035 (BUILD - P.M.)				0	2,218	73	99	3,056	0	0	0	97	0	0	0

<u>Driveway "A" / University Blvd.</u>		0.85			0.85			0.95			0.95			PHF
(3)		Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)			
	3.0% Truck	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	Existing (2015)	0	0	0	0	0	0	0	0	0	0	0	0	0
	2035 (NO BUILD - A.M.)	0	0	0	0	0	0	0	201	0	0	113	0	0
	2035 (BUILD - A.M.)	0	0	0	4	0	118	0	198	6	71	112	0	0

		0.85			0.85			0.96			0.96			PHF
		Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2015)		0	0	0	0	0	0	0	0	0	0	0	0	0
2035 (NO BUILD - P.M.)		0	0	0	0	0	0	0	458	0	0	275	0	
2035 (BUILD - P.M.)		0	0	0	5	0	117	0	455	6	65	272	0	

Gibson / University Restaurants (SE Corner)

Projected Turning Movements Worksheet

Gibson Blvd. / University Blvd.

INTERSECTION:

 E-W Street: Gibson Blvd.
 N-S Street: University Blvd.

(1)

 Year of Existing Counts 2015
 Horizon Year 2035

Growth Rates

	3.05%			1.00%			2.61%			9.57%		
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	175	1,842	28	21	988	119	76	20	36	166	13	74
Background Traffic Growth	107	1,124	17	4	198	24	40	10	19	318	25	142
Subtotal	282	2,966	45	25	1,186	143	116	30	55	484	38	216
UNM Gibson Commercial Development	0	5	0	5	82	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	282	2,971	45	30	1,268	143	116	30	55	484	38	216
Percent Commercial Trips Generated(Entering)	0.00%	10.08%	23.52%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.55%	17.61%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	33.60%	25.16%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	17	40	0	0	0	54	40	0	13	30	0
Subtotal AM Pk Hr. BUILD Volumes	282	2,988	85	30	1,268	143	170	70	55	497	68	216
Pass-by Trip Adjustments	0	0	0	0	-23	0	21	0	0	0	0	0
Total AM Peak Hour BUILD Volumes	282	2,988	85	30	1,245	143	191	70	55	497	68	216

	1.33%			1.00%			12.79%			12.51%		
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	132	969	56	62	2,054	210	60	20	49	183	34	118
Background Traffic Growth	35	258	15	12	411	42	153	51	125	458	85	295
Subtotal	167	1,227	71	74	2,465	252	213	71	174	641	119	413
UNM Gibson Commercial Development	0	111	0	11	141	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	167	1,338	71	85	2,606	252	213	71	174	641	119	413
Percent Commercial Trips Generated(Entering)	0.00%	10.08%	23.52%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.55%	17.61%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	33.60%	25.16%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	15	36	0	0	0	46	34	0	11	27	0
Subtotal PM Pk Hr. BUILD Volumes	167	1,353	107	85	2,606	252	259	105	174	652	146	413
Pass-by Trip Adjustments	0	0	0	0	-39	0	34	0	0	0	0	0
Total PM Peak Hour BUILD Volumes	167	1,353	107	85	2,567	252	293	105	174	652	146	413

 Number of Commercial Trips Generated
 Entering 170 160 A.M. 100% Commercial Development
 Exiting 151 136 P.M.

 2015 AM Peak Hr. Volumes
 2015 PM Peak Hr. Volumes

	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
2015 AM Peak Hr. Volumes	175	1842	28	21	988	119	76	20	36	166	13	74
2015 PM Peak Hr. Volumes	132	969	56	62	2,054	210	60	20	49	183	34	118

MRCOG Forecast Volumes Worksheet

Based on 2015 Traffic Count

2015 AM Link Volume	2,045	1,128	132	253
2015 PM Link Volume	1,157	2,326	129	335

Based on MRCOG Model (2035 Data Set)

2015 AM Link Volume	2369	778	216	337
2015 PM Link Volume	1368	1773	418	332

2035 AM Link Volume	3293	839	201	737
2035 PM Link Volume	1464	2663	459	1173

Growth Rate to Apply to Existing Counts to Match 2035 Forecasts

2015-2035 AM Growth Rates	3.05%	-1.28%	2.61%	9.57%
2015-2035 PM Growth Rates	1.33%	0.72%	12.79%	12.51%

Growth Rate to Apply to 2015 Model Volumes to Match 2035 Forecasts

2015-2035 AM Growth Rates	1.98%	0.39%	-0.35%	5.93%
2015-2035 PM Growth Rates	0.35%	2.51%	0.49%	12.67%

Pass-by Trip Calculations:

AM Pass-by Trips

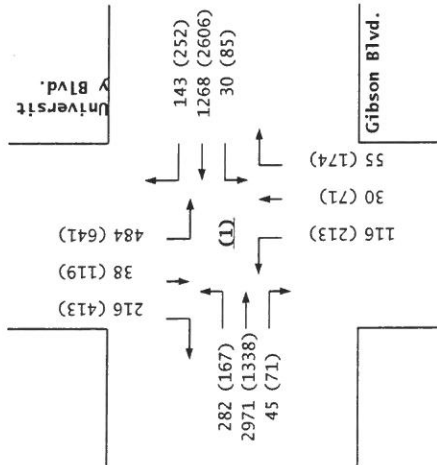
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
Percent Entering	0.00%	0.00%	0.00%	0.00%	-30.92%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Volume Entering	0	0	0	0	-23	0	0	0	0	0	0	0
Percent Exiting	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	30.92%	0.00%	0.00%	0.00%	0.00%	0.00%
Volume Exiting	0	0	0	0	0	0	21	0	0	0	0	0
Net AM Passby Trips	0	0	0	0	-23	0	21	0	0	0	0	0

PM Pass-by Trips

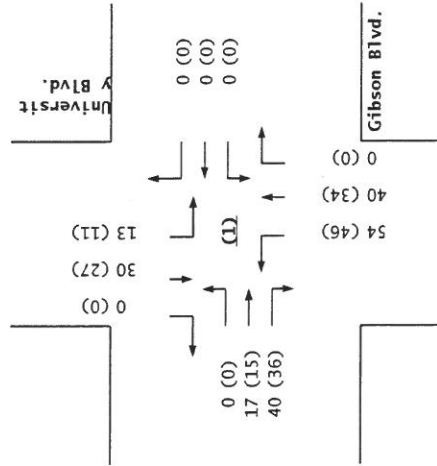
	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
Percent Entering	0.00%	0.00%	0.00%	0.00%	-59.41%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Volume Entering	0	0	0	0	-39	0	0	0	0	0	0	0
Percent Exiting	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	59.41%	0.00%	0.00%	0.00%	0.00%	0.00%
Volume Exiting	0	0	0	0	0	0	34	0	0	0	0	0
Net PM Passby Trips	0	0	0	0	-39	0	34	0	0	0	0	0

 Entering 73 69 AM
 Exiting 65 58 PM

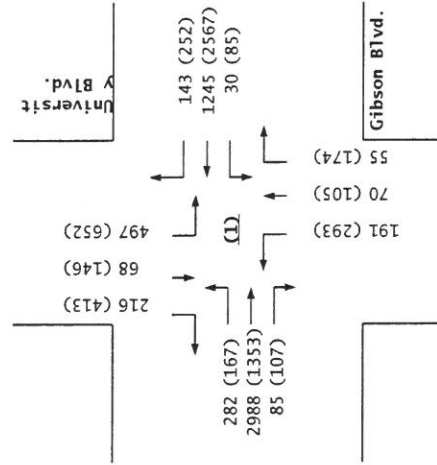
2035
NO BUILD



Trips



2035
BUILD



Gibson Blvd. / University Blvd.

Gibson / University Restaurants (SE Corner)

Projected Turning Movements Worksheet

Gibson Blvd. / Walker Rd.**INTERSECTION :**E-W Street: **Gibson Blvd.**

(2)

Due to the close proximity of intersections 1 & 2, some NOBUILD volumes were balanced and won't equal existing + growth

N-S Street: **Walker Rd.**

Year of Existing Counts

2015

Horizon Year

2035

Growth Rates

Existing Volumes

Background Traffic Growth

Subtotal

UNM Gibson Commercial Development

Subtotal (NO BUILD - A.M.)

Percent Commercial Trips Generated(Entering)

Percent Commercial Trips Generated(Exiting)

Total Trips Generated

Subtotal AM Pk Hr. BUILD Volumes

Pass-by Trip Adjustments

Total AM Peak Hour BUILD Volumes

1.00%			1.00%			1.00%			1.00%		
Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
0	0	125	0	0	0	0	0	0	5	0	0
0	0	25	0	0	0	0	0	1	0	0	0
0	0	150	0	0	0	0	0	6	0	0	0
0	5	0	0	87	0	0	0	0	0	0	0
0	3,385	130	0	1,528	0	0	0	6	0	0	0
0.00%	0.00%	17.63%	39.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	39.44%	0.00%	0.00%	0.00%
0	0	30	67	0	0	0	0	63	0	0	0
0	3,385	160	67	1,528	0	0	0	69	0	0	0
0	-46	46	23	-23	0	0	0	44	0	0	0
0	3,339	206	90	1,505	0	0	0	113	0	0	0

Existing Volumes

Background Traffic Growth

Subtotal

UNM Gibson Commercial Development

Subtotal (NO BUILD - P.M.)

Percent Commercial Trips Generated(Entering)

Percent Commercial Trips Generated(Exiting)

Total Trips Generated

Subtotal PM Pk Hr. BUILD Volumes

Pass-by Trip Adjustments

Total PM Peak Hour BUILD Volumes

Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
0	0	24	0	0	0	0	0	21	0	0	0
0	0	5	0	0	0	0	0	4	0	0	0
0	0	29	0	0	0	0	0	25	0	0	0
0	111	0	0	152	0	0	0	0	0	0	0
0	2,239	25	0	3,095	0	0	0	25	0	0	0
0.00%	0.00%	17.63%	39.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	39.44%	0.00%	0.00%	0.00%
0	0	27	60	0	0	0	0	54	0	0	0
0	2,239	52	60	3,095	0	0	0	79	0	0	0
0	-21	21	39	-39	0	0	0	18	0	0	0
0	2,218	73	99	3,056	0	0	0	97	0	0	0

Number of Commercial Trips Generated

Entering Exiting

170 160 A.M.
151 136 P.M.

100% Commercial Development

2015 AM Peak Hr. Volumes

2015 PM Peak Hr. Volumes

Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
0	0	125	0	0	0	0	0	5	0	0	0
0	0	24	0	0	0	0	0	21	0	0	0

Pass-by Trip Calculations:

AM Pass-by Trips

Percent Entering

Volume Entering

Percent Exiting

Volume Exiting

Net AM Passby Trips

Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
0.00%	-63.10%	63.10%	30.92%	-30.92%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	-46	46	23	-23	0	0	0	0	0	0	0
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	63.10%	0.00%	0.00%	0.00%
0	0	0	0	0	0	0	0	44	0	0	0
0	-46	46	23	-23	0	0	0	44	0	0	0

PM Pass-by Trips

Percent Entering

Volume Entering

Percent Exiting

Volume Exiting

Net PM Passby Trips

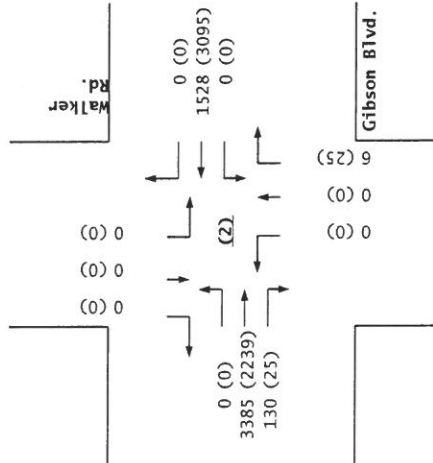
Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
0.00%	-31.75%	31.75%	59.41%	-59.41%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	-21	21	39	-39	0	0	0	0	0	0	0
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	31.75%	0.00%	0.00%	0.00%
0	0	0	0	0	0	0	0	18	0	0	0
0	-21	21	39	-39	0	0	0	18	0	0	0

Entering Exiting

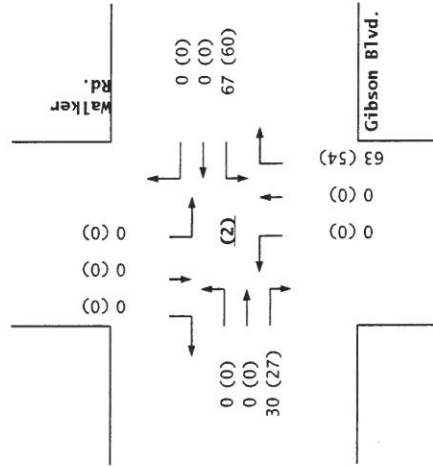
73 69 AM
65 58 PM

Pass-by Trips

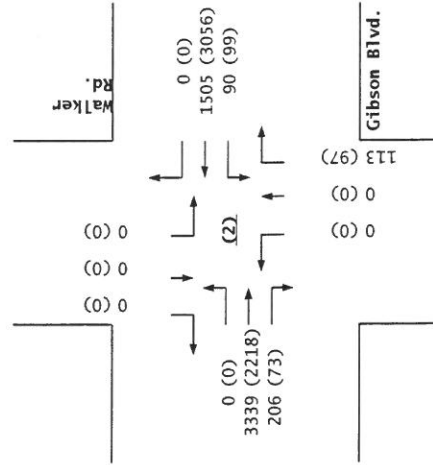
2035
NO BUILD



Trips



2035
BUILD



Gibson Blvd. / Walker Rd.

Gibson / University Restaurants (SE Corner)

Projected Turning Movements Worksheet

Driveway "A" / University Blvd.**INTERSECTION :**

E-W Street: Driveway "A" (3)

N-S Street: University Blvd.

Year of Existing Counts

2015

Horizon Year

2035

Growth Rates

	2.61%			2.61%			2.61%			2.61%		
	Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	0	0	0	0	0	0	0	201	0	0	113	0
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.81%	41.13%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	1.81%	0.00%	58.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	0	3	0	94	0	0	3	70	0	0
Subtotal AM Pk Hr. BUILD Volumes	0	0	0	3	0	94	0	201	3	70	113	0
Pass-by Trip Adjustments	0	0	0	1	0	24	0	-3	3	1	-1	0
Total AM Peak Hour BUILD Volumes	0	0	0	4	0	118	0	198	6	71	112	0

	12.79%			12.79%			12.79%			12.79%		
	Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	0	0	0	0	0	0	0	458	0	0	275	0
Percent Commercial Trips Generated(Entering)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.81%	41.13%	0.00%	0.00%
Percent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	1.81%	0.00%	58.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Trips Generated	0	0	0	2	0	80	0	0	3	62	0	0
Subtotal PM Pk Hr. BUILD Volumes	0	0	0	2	0	80	0	458	3	62	275	0
Pass-by Trip Adjustments	0	0	0	3	0	37	0	-3	3	3	-3	0
Total PM Peak Hour BUILD Volumes	0	0	0	5	0	117	0	455	6	65	272	0

Number of Commercial Trips Generated

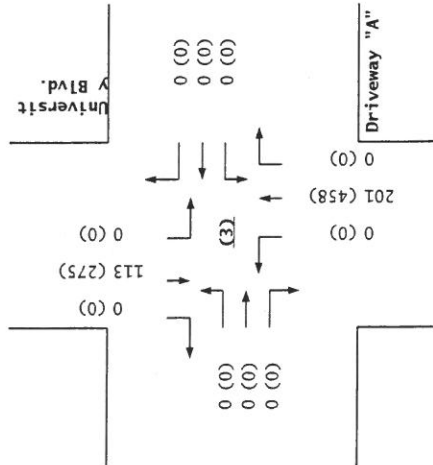
Entering	170	160	A.M.	100% Commercial Development
Exiting	151	136	P.M.	

	Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
2015 AM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0
2015 PM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0

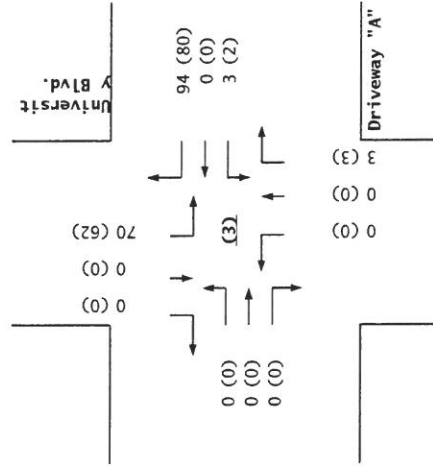
Pass-by Trip Calculations:

		Eastbound (Driveway "A")			Westbound (Driveway "A")			Northbound (University Blvd.)			Southbound (University Blvd.)		
AM Pass-by Trips		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-4.07%	4.07%	1.91%	-1.91%	0.00%
Percent Entering		0	0	0	0	0	0	0	-3	3	1	-1	0
Volume Entering		0.00%	0.00%	0.00%	1.91%	0.00%	34.99%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Exiting		0	0	0	1	0	24	0	0	0	0	0	0
Volume Exiting		0	0	0	1	0	24	0	-3	3	1	-1	0
Net AM Passby Trips		0	0	0	1	0	24	0	-3	3	1	-1	0
PM Pass-by Trips		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-4.06%	4.06%	4.78%	-4.78%	0.00%
Percent Entering		0	0	0	0	0	0	0	-3	3	3	-3	0
Volume Entering		0.00%	0.00%	0.00%	4.78%	0.00%	63.47%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Percent Exiting		0	0	0	3	0	37	0	0	0	0	0	0
Volume Exiting		0	0	0	3	0	37	0	-3	3	3	-3	0
Net PM Passby Trips		0	0	0	3	0	37	0	-3	3	3	-3	0
Entering		73			69			AM					
Pass-by Trips		65			58			PM					

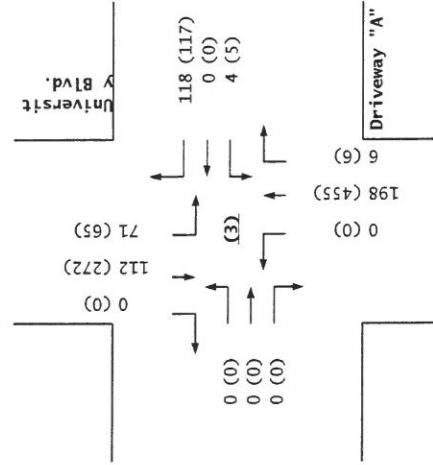
2035
NO BUILD



Trips



2035
BUILD

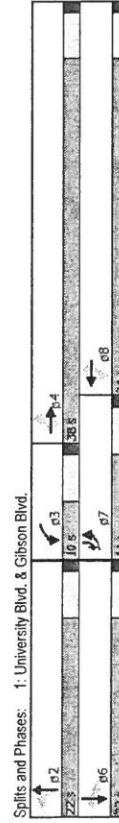


Driveway "A" / University Blvd.

Timings
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Volume (vph)	186	1959	30	26	1090	121	80	21	198	15	88
Turn Type	pm-pt	NA	Perm	pm-pt	NA	Perm	Perm	NA	Perm	pm-ov	NA
Protected Phases	7	4	4	8	3	8	2	2	6	6	7
Permitted Phases	4	4	4	8	8	8	2	2	6	6	6
Detektor Phase	7	4	4	3	8	8	2	2	6	6	7
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	21.0	10.0	21.0	21.0	21.0	21.0	10.0	21.0	10.0
Total Split (s)	14.0	38.0	38.0	14.0	38.0	38.0	38.0	38.0	14.0	38.0	14.0
Total Split (%)	20.0%	54.3%	54.3%	14.3%	48.6%	48.6%	31.4%	31.4%	20.0%	54.3%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
Act Effect Green (s)	41.1	33.1	35.1	30.1	30.1	30.1	14.4	14.4	14.4	27.4	27.4
Actuated g/C Ratio	0.61	0.49	0.49	0.52	0.45	0.45	0.21	0.21	0.21	0.21	0.41
v/c Ratio	0.54	0.84	0.04	0.11	0.51	0.17	0.29	0.16	0.74	0.04	0.14
Control Delay	12.0	19.4	0.1	7.0	15.1	3.4	24.7	12.0	41.8	20.7	9.1
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	12.0	19.4	0.1	7.0	15.1	3.4	24.7	12.0	41.8	20.7	9.1
LOS	B	B	A	A	B	A	C	B	D	C	A
Approach Delay	18.5										
Approach LOS	B										
Intersection Summary											
Cycle Length: 70											
Actuated Cycle Length: 67.5											
Natural Cycle: 60											
Control Type: Actuated-Uncoordinated											
Maximum v/c Ratio: 0.84											
Intersection Signal Delay: 18.0											
Intersection Capacity Utilization 72.2%											
Analysis Period (min) 15											



2017 AM Peak NOBUILD Conditions Both Cases

Synchro 8 Report
2017ANX-BothCases.syn

HCM 2010 Signalized Intersection Summary
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Volume (veh/h)	186	1959	30	26	1090	121	80	21	38	198	15	88
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	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
Adj Sat Flow, veh/hln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	196	2062	32	27	1147	127	84	22	40	208	16	93
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh. %	3	3	3	3	3	3	3	3	3	3	3	3
Cap. veh/h	396	2409	750	264	2342	729	379	129	235	359	406	484
Arrive On Green	0.09	0.48	0.48	0.08	0.47	0.47	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1757	5036	1568	1757	5036	1568	1267	588	1068	1322	1845	1588
Grp Volume(v), veh/h	196	2062	32	27	1147	127	84	0	62	208	16	93
Grp Sat Flow(s), veh/hln	1757	1679	1568	1757	1679	1568	1267	0	1556	1322	1845	1588
Q Serve(g.s), s	3.7	24.0	0.7	0.5	10.5	3.1	3.7	0.0	2.0	10.0	0.5	2.9
Cycle Q Clear(g.c), s	3.7	24.0	0.7	0.5	10.5	3.1	4.2	0.0	2.0	12.1	0.5	2.9
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.65	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	396	2409	750	264	2342	729	379	0	365	359	406	484
V/C Ratio(X)	0.49	0.86	0.04	0.10	0.49	0.17	0.22	0.00	0.17	0.58	0.04	0.19
Avail Cap(c), veh/h	479	2905	780	264	2342	729	424	0	424	407	473	541
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(f)	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	9.0	15.3	9.2	11.8	12.3	10.3	22.0	0.0	21.0	25.8	20.4	16.8
Incr Delay (d2), s/veh	1.0	3.1	0.0	0.2	0.2	0.1	0.3	0.0	0.2	1.6	0.0	0.2
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
%la BackOfQ(s0%), veh/h	1.9	11.8	0.3	0.2	4.8	1.4	1.3	0.0	0.9	3.8	0.2	1.3
LnGrp Delay(d), s/veh	9.9	18.3	9.2	12.0	12.4	10.4	22.3	0.0	21.2	27.4	20.4	17.0
LnGrp LOS	A	B	A	B	B	B	C	C	C	C	C	C
Approach Vol. veh/h	2290				1301			146				317
Approach Delay, s/veh	17.5				12.2			21.8				24.0
Approach LOS	B				B			C				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2	3	4									
Phs Duration (G+Y+Rc), s	19.6	10.0	36.7			19.6	10.9	35.9				
Change Period (Y+Rc), s	5.0	5.0	5.0			5.0	5.0	5.0				
Max Green Setting (Gmax), s	17.0	5.0	33.0			17.0	9.0	29.0				
Max Q Clear Time (g.c+H), s	6.2	2.5	26.0			14.1	5.7	12.5				
Green Ext Time (g.c), s	1.3	0.0	5.7			0.6	0.2	15.7				
Intersection Summary												
HCM 2010 Ctrl Delay	16.5											
HCM 2010 LOS	B											

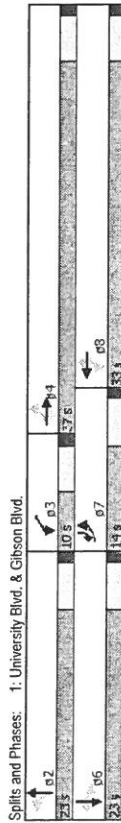
2017 AM Peak NOBUILD Conditions Both Cases

Synchro 8 Report
2017ANX-BothCases.syn

Timings
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	186	1976	70	116	1067	121	155	61	211	45	88
Volume (vph)	pm-rt	NA	Perm	pm-rt	NA	Perm	NA	Perm	NA	pm-ov	7
Protected Phases	7	4	4	8	8	8	2	2	6	6	7
Permitted Phases	4	4	4	8	8	8	2	2	6	6	7
Detector Phase	7	4	4	3	8	8	2	2	6	6	7
Switch Phase	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Initial (s)	10.0	21.0	21.0	10.0	21.0	21.0	21.0	21.0	21.0	21.0	10.0
Minimum Split (s)	14.0	37.0	37.0	10.0	33.0	33.0	23.0	23.0	23.0	23.0	14.0
Total Split (%)	20.0%	52.9%	52.9%	14.3%	47.1%	47.1%	32.9%	32.9%	32.9%	32.9%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
Recall Mode	40.2	32.1	32.1	34.0	29.0	29.0	15.4	15.4	15.4	15.4	28.5
Act Effect Green (s)	0.60	0.48	0.48	0.50	0.43	0.43	0.23	0.23	0.23	0.23	0.42
Actuated g/C Ratio	0.55	0.87	0.09	0.51	0.52	0.17	0.54	0.24	0.77	0.11	0.14
v/c Ratio	12.6	21.8	1.5	16.4	15.9	3.6	29.8	15.5	43.2	20.8	8.6
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	12.6	21.8	1.5	16.4	15.9	3.6	29.8	15.5	43.2	20.8	8.6
LOS	B	C	A	B	B	A	C	B	D	C	A
Approach Delay	20.3			14.8			24.2		31.4		C
Approach LOS	C			B			C		C		C
Intersection Summary											
Cycle Length: 70											
Actuated Cycle Length: 67.5											
Natural Cycle: 60											
Control Type: Actuated-Uncoordinated											
Maximum v/c Ratio: 0.87											
Intersection Signal Delay: 19.8											
Intersection Capacity Utilization 75.5%											
Analysis Period (min) 15											



2017 AM Peak BUILD Conditions Case "N" - No left-in at Walker
Synchro 8 Report
2017ABX-CasenLyn

HCM 2010 Signalized Intersection Summary
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

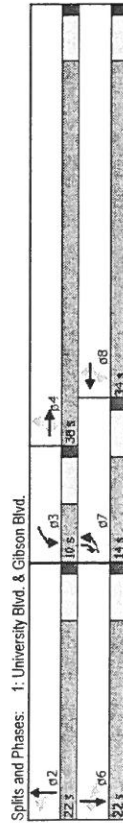
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	186	1976	70	116	1067	121	155	61	211	45	88
Volume (veh/h)	7	4	14	3	8	18	5	2	12	1	16
Number	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb), veh	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A _{pbt})	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Sat Flow, veh/h	196	2080	74	122	1123	127	163	64	40	222	47
Adj Flow Rate, veh/h	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj No. of Lanes	3	3	3	3	3	3	3	3	3	3	3
Peak Hour Factor	386	2290	713	248	2203	686	391	267	167	365	464
Cap, veh/h	0.09	0.45	0.45	0.07	0.44	0.44	0.25	0.25	0.25	0.25	0.25
Arrive On Green	1757	5036	1568	1757	5036	1568	1232	1063	664	1272	1845
Sat Flow, veh/h	196	2080	74	122	1123	127	163	64	40	222	47
Grp Volume(v), veh/h	1757	1679	1568	1757	1679	1568	1232	0	1777	1272	1845
Grp Sat Flow(s), veh/h	4.0	26.1	1.8	2.5	11.0	3.4	8.0	0.0	3.3	11.5	1.3
Q Serve(g, s)	4.0	26.1	1.8	2.5	11.0	3.4	8.0	0.0	3.3	11.5	1.3
Cycle Q Clear(g, c), s	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop In Lane	0.51	0.91	0.10	0.49	0.51	0.19	0.42	0.00	0.24	0.61	0.17
Lane Grp Cap(c), veh/h	459	2367	737	248	2203	686	407	0	457	381	488
Avail Cap(c, a), veh/h	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
HCM Platoon Ratio	10.1	17.2	10.6	15.0	13.9	11.7	23.1	0.0	20.3	26.2	19.6
Uniform Delay (d), s/veh	1.0	5.6	0.1	1.5	0.2	0.1	0.7	0.0	0.3	2.6	0.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	2.0	13.1	0.8	1.3	5.1	1.5	2.8	0.0	1.6	4.3	0.7
%ile BackOfJ(50%), veh/h	11.2	22.8	10.7	16.5	14.1	11.9	23.9	0.0	20.6	28.8	19.7
LnGrp Delay(d), s/veh	11.2	22.8	10.7	16.5	14.1	11.9	23.9	0.0	20.6	28.8	19.7
LnGrp LOS	B	C	B	B	B	B	C	C	C	C	B
Approach Vol, veh/h	2350			1372			287		362		
Approach Delay, s/veh	21.4			14.1			22.6		24.3		
Approach LOS	C			B			C		C		
Timer	1	2	3	4	5	6	7	8			
Assigned Phs	2	3	4								
Phs Duration (G+Y+Rc), s	22.1	10.0	36.0								
Change Period (Y+Rc), s	5.0	5.0	5.0								
Max Green Setting (Gmax), s	18.0	5.0	32.0								
Max Q Clear Time (g, c+H), s	11.3	4.5	28.1								
Green Ext Time (g, c), s	1.5	0.0	2.8								
Intersection Summary											
HCM 2010 Ctrl Delay	19.4			B							
HCM 2010 LOS											

2017 AM Peak BUILD Conditions Case "N" - No left-in at Walker
Synchro 8 Report
2017ABX-CasenLyn

Timings 1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SSR
Lane Configurations	186	1976	70	26	1067	121	155	61	211	45	88
Volume (vph)	186	1976	70	26	1067	121	155	61	211	45	88
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA	pm+ov	7
Protected Phases	7	4	4	8	8	8	2	2	6	6	7
Permitted Phases	4	4	4	3	8	8	2	2	6	6	7
Detector Phase	7	4	4	3	8	8	2	2	6	6	7
Switch Phase	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Initial (s)	10.0	21.0	21.0	10.0	21.0	21.0	21.0	21.0	21.0	21.0	10.0
Minimum Split (s)	14.0	38.0	38.0	10.0	34.0	34.0	22.0	22.0	22.0	22.0	14.0
Total Split (%)	20.0%	54.3%	54.3%	14.3%	48.6%	48.6%	31.4%	31.4%	31.4%	31.4%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
Recall Mode	41.2	33.1	33.1	35.0	29.9	29.9	15.1	15.1	15.1	15.1	28.2
Act Eff Green (s)	0.60	0.49	0.49	0.51	0.44	0.44	0.22	0.22	0.22	0.22	0.41
Actuated g/C Ratio	0.54	0.85	0.09	0.11	0.51	0.17	0.55	0.25	0.79	0.12	0.14
v/c Ratio	11.9	20.4	1.4	7.1	15.4	3.4	31.1	16.1	46.6	21.6	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay	11.9	20.4	1.4	7.1	15.4	3.4	31.1	16.1	46.6	21.6	9.1
LOS	B	C	A	A	B	A	C	C	D	C	A
Approach Delay	19.1			14.0			25.3		33.7		C
Approach LOS	B			B			C		C		C
Intersection Summary											
Cycle Length: 70											
Actuated Cycle Length: 68.2											
Natural Cycle: 60											
Control Type: Actuated-Uncoordinated											
Maximum v/c Ratio: 0.85											
Intersection Signal Delay: 19.2											
Intersection Capacity Utilization 73.2%											
Analysis Period (min) 15											



2017 AM Peak BUILD Conditions Case "Y" - Left-in at Walker
Synchro 8 Report
2017ABX-Case1.syn

HCM 2010 Signalized Intersection Summary 1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SSR
Lane Configurations	186	1976	70	26	1067	121	155	61	38	211	45	88
Volume (veh/h)	186	1976	70	26	1067	121	155	61	38	211	45	88
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Per-Bike Adj(A _{bkt})	1.00	1.00	1.00	1.00	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
Adj Sat Flow, veh/hln	1845	1845	1845	1845	1845	1845	1845	1845	1900	1845	1845	1845
Adj Flow Rate, veh/h	196	2080	74	27	1123	127	163	64	40	222	47	93
Adj No. of Lanes	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Peak Hour Factor	3	3	3	3	3	3	3	3	3	3	3	3
Percent Heavy Veh. %	388	2333	726	247	2247	700	384	282	164	357	455	527
Cap. veh/h	0.09	0.46	0.46	0.07	0.45	0.45	0.25	0.25	0.25	0.25	0.25	0.25
Arrive On Green	1757	5036	1568	1757	5036	1568	1232	1063	564	1272	1845	1568
Sat Flow, veh/h	196	2080	74	27	1123	127	163	64	40	222	47	93
Grp Sat Flow(s), veh/hln	1757	1679	1568	1757	1679	1568	1232	0	1727	1272	1845	1568
Q Serve(g.s.)	4.0	26.0	1.8	0.5	11.0	3.4	8.1	0.0	3.3	11.7	1.4	2.9
Cycle Q Clear(g.c.)	4.0	26.0	1.8	0.5	11.0	3.4	8.1	0.0	3.3	11.7	1.4	2.9
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Grp Cap(s), veh/h	388	2333	726	247	2247	700	384	0	426	357	455	527
V/C Ratio(X)	0.51	0.89	0.10	0.11	0.50	0.18	0.42	0.00	0.24	0.62	0.10	0.18
Avail Cap(c.a.), veh/h	460	2411	751	247	2247	700	384	0	426	357	455	527
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(f)	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	9.9	16.9	10.4	13.4	13.6	11.5	23.7	0.0	20.8	26.8	20.1	16.1
Incr Delay (d2), s/veh	1.0	4.6	0.1	0.2	0.2	0.1	0.7	0.0	0.3	3.3	0.1	0.2
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/hln	2.0	12.9	0.8	0.3	5.0	1.5	2.8	0.0	1.6	4.4	0.7	1.3
LnGrp Delay(d), s/veh	11.0	21.5	10.5	13.6	13.8	11.6	24.5	0.0	21.1	30.1	20.2	16.3
LnGrp LOS	B	C	B	B	B	B	C	C	C	C	C	B
Approach Vol, veh/h	2350			1277			267		362			
Approach Delay, s/veh	20.3			13.6			23.2		25.3			
Approach LOS	C			B			C		C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2	3	4									
Phs Duration (G+Y+Rc), s	22.0	10.0	36.9									
Change Period (Y+Rc), s	5.0	5.0	5.0									
Max Green Setting (G _{max}), s	17.0	5.0	33.0									
Max Q Clear Time (g.c+H), s	11.5	2.5	28.0									
Green Ext Time (g.c), s	1.3	0.0	3.9									
Intersection Summary												
HCM 2010 Ctrl Delay												
HCM 2010 LOS												

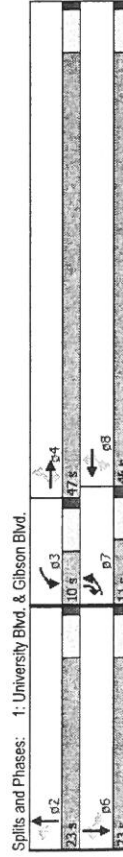
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Synchro 8 Report
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Timings
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.

4/7/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	136	1106	57	74	2236	214	75	25	229	43	148
Volume (vph)											
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA	pm+ov
Protected Phases	7	4	4	3	8	8	2	2	6	6	6
Permitted Phases	4	4	4	8	8	8	2	2	6	6	6
Detector Phase	7	4	4	3	8	8	2	2	6	6	7
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	21.0	10.0	21.0	21.0	21.0	21.0	21.0	21.0	10.0
Total Split (s)	11.0	47.0	47.0	10.0	46.0	46.0	23.0	23.0	23.0	23.0	11.0
Total Split (%)	13.8%	58.8%	58.8%	12.5%	57.5%	57.5%	28.8%	28.8%	28.8%	28.8%	13.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?											
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	48.0	42.0	42.0	46.0	41.0	41.0	17.0	17.0	17.0	17.0	28.0
Actuated g/c Ratio	0.61	0.53	0.53	0.58	0.52	0.52	0.22	0.22	0.22	0.22	0.35
v/c Ratio	0.63	0.43	0.07	0.25	0.89	0.25	0.27	0.23	0.87	0.11	0.27
Control Delay	24.2	12.0	1.1	7.5	23.0	4.3	28.5	12.2	60.4	25.6	16.2
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	24.2	12.0	1.1	7.5	23.0	4.3	28.5	12.2	60.4	25.6	16.2
LOS	C	B	A	A	C	A	C	B	E	C	B
Approach Delay											
Approach LOS											
Intersection Summary											
Cycle Length: 80											
Actuated Cycle Length: 79											
Natural Cycle: 70											
Control Type: Actuated-Uncoordinated											
Maximum v/c Ratio: 0.89											
Intersection Signal Delay: 20.5											
Intersection Capacity Utilization 82.6%											
Analysis Period (min) 15											



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HCM 2010 Signalized Intersection Summary
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.

4/7/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	136	1106	57	74	2236	214	75	25	229	43	148	148
Volume (veh/h)												
Number	7	4	4	3	8	18	5	2	12	1	6	16
Initial Q (Qb) veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pb1t)	1.00	1.00	1.00	1.00	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
Adj Sat Flow, veh/h	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	142	1152	59	77	2329	223	78	26	65	239	45	154
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh. %	3	3	3	3	3	3	3	3	3	3	3	3
Cap. veh/h	215	2611	813	373	2611	813	335	107	267	327	421	457
Arrive On Green	0.06	0.52	0.52	0.06	0.52	0.52	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1757	5036	1568	1757	5036	1568	1167	468	1170	1288	1845	1568
Grp Volume(v), veh/h	142	1152	59	77	2329	223	78	0	91	239	45	154
Grp Sat Flow(s), veh/h	1757	1679	1568	1757	1679	1568	1167	0	1638	1288	1845	1568
Q Serv(g, s), s	2.9	11.3	1.5	1.5	32.7	6.3	4.5	0.0	3.6	14.4	1.5	6.1
Cycle Q Clear(g, c), s	2.9	11.3	1.5	1.5	32.7	6.3	6.0	0.0	3.6	18.0	1.5	6.1
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.71	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	215	2611	813	373	2611	813	335	0	374	327	421	457
v/c Ratio(X)	0.66	0.44	0.07	0.21	0.89	0.27	0.23	0.00	0.24	0.73	0.11	0.34
Avail Cap(c, a), veh/h	238	2681	835	373	2617	815	335	0	374	327	421	457
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	17.7	11.9	9.5	8.2	17.0	10.7	26.5	0.0	24.9	32.4	24.1	22.0
Incr Delay (d2), s/veh	5.8	0.1	0.0	0.3	4.3	0.2	0.4	0.0	0.3	8.2	0.1	0.4
Initial Q Delay(i3), 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/h	2.0	5.1	0.5	0.7	15.9	2.8	1.5	0.0	1.7	5.9	0.8	2.7
LnGrp Delay(d), s/veh	23.5	12.0	9.5	8.5	21.4	10.8	26.8	0.0	25.2	40.5	24.2	22.4
LnGrp LOS	C	B	A	A	C	B	C	C	C	D	C	C
Approach Vol, veh/h												
Approach Delay, s/veh												
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2	3	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	23.0	10.0	45.9	23.0	10.0	45.9	10.0	45.9				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	18.0	5.0	42.0	18.0	5.0	42.0	18.0	6.0	41.0			
Max Q Clear Time (g_c+H), s	8.0	3.5	13.3	20.0	4.9	34.7						
Green Ext Time (g_e), s	1.8	0.0	27.3		0.0	0.0	6.2					
Intersection Summary												
HCM 2010 Ctrl Delay												
HCM 2010 LOS												

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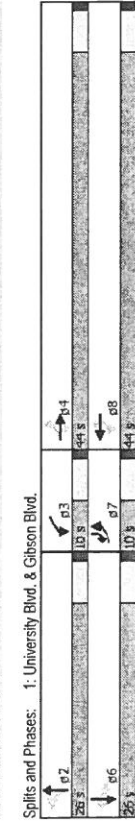
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	136	1121	93	173	2197	214	155	59	62	240	70	148
Volume (veh/h)	7	4	4	14	3	8	18	5	2	12	1	6
Number	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Ob), veh	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pb7)	1.00	1.00	1.00	1.00	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
Adj Sat Flow, veh/h	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	142	1168	97	180	2289	223	161	61	65	250	73	154
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh. %	3	3	3	3	3	3	3	3	3	3	3	3
Cap. veh/h	208	2347	731	361	2426	755	359	217	232	348	490	515
Arrive On Green	0.06	0.47	0.08	0.08	0.48	0.48	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1757	5036	1588	1757	5036	1588	1138	819	872	1247	1845	1568
Gp Volume(v), veh/h	142	1168	97	180	2289	223	161	0	126	250	73	154
Gp Sat Flow(s), veh/h	1757	1679	1568	1757	1679	1568	1138	0	1691	1247	1845	1568
O Serve(g, s), s	3.3	12.8	2.8	4.1	34.2	6.8	10.0	0.0	4.7	15.7	2.4	5.8
Cycle Q Clear(g, c), s	3.3	12.8	2.8	4.1	34.2	6.8	12.4	0.0	4.7	20.4	2.4	5.8
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.52	1.00	1.00	1.00
Lane Gp Cap(c), veh/h	208	2347	731	361	2426	755	359	0	449	348	490	515
V/C Ratio(X)	0.68	0.50	0.13	0.50	0.94	0.30	0.45	0.00	0.28	0.72	0.15	0.30
Avail Cap(c, a), veh/h	208	2347	731	423	2483	773	359	0	449	348	490	515
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(f)	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	18.0	14.7	12.0	10.9	19.5	12.4	26.9	0.0	23.1	31.2	22.2	19.8
Incr Delay (d2), s/veh	8.7	0.2	0.1	1.1	8.2	0.2	0.9	0.0	0.3	6.9	0.1	0.3
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/h	2.1	5.9	1.2	2.1	17.5	3.0	3.2	0.0	2.2	6.1	1.2	2.5
LnGrp Delay(d), s/veh	26.7	14.8	12.1	12.0	27.7	12.6	27.8	0.0	23.4	38.1	22.4	20.1
LnGrp LOS	C	B	B	B	C	B	C	C	C	D	C	C
Approach Vol, veh/h	1407	15.9	25.4	287	25.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9
Approach Delay, s/veh	15.9	B	C	C	C	C	C	C	C	C	C	C
Approach LOS	B	B	C	C	C	C	C	C	C	C	C	C
Timer	1	2	3	4	5	6	7	8	9	10	11	12
Assigned Phs	2	3	4	5	6	7	8	9	10	11	12	13
Phs Duration (G+Y+Rc), s	26.0	11.2	41.9	26.0	10.0	43.1	26.0	10.0	43.1	26.0	10.0	43.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	21.0	9.0	35.0	21.0	5.0	39.0	21.0	5.0	39.0	21.0	5.0	39.0
Max Q Clear Time (g, c+H), s	14.4	6.1	14.8	22.4	5.3	36.2	22.4	5.3	36.2	22.4	5.3	36.2
Green Ext Time (p, c), s	1.9	0.1	19.5	1.9	0.0	0.0	1.9	0.0	0.0	1.9	0.0	0.0
Intersection Summary	23.1 C											
HCM 2010 Ctrl Delay	23.1 C											
HCM 2010 LOS	C											

Spits and Phases: 1: University Blvd. & Gibson Blvd.							

Timings
1: University Blvd. & Gibson Blvd.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Volume (vph)	136	1121	93	74	2197	214	155	59	62	240	70	148
Turn Type	pm-pt	NA	Perm	pm-pt	NA	Perm	NA	Perm	NA	Perm	NA	pm-ov
Protected Phases	4	4	4	8	8	8	2	2	2	6	6	7
Permitted Phases	4	4	4	8	8	8	2	2	2	6	6	7
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	21.0	10.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	10.0
Total Split (s)	10.0	44.0	44.0	10.0	44.0	44.0	26.0	26.0	26.0	26.0	26.0	10.0
Total Split (%)	12.5%	55.0%	55.0%	12.5%	55.0%	55.0%	32.5%	32.5%	32.5%	32.5%	32.5%	12.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead/Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
Act Elct Green (s)	44.1	39.1	39.1	44.1	39.1	39.1	18.6	18.6	18.6	18.6	18.6	28.6
Activated g/c Ratio	0.57	0.50	0.50	0.57	0.50	0.50	0.24	0.24	0.24	0.24	0.24	0.37
v/c Ratio	0.69	0.46	0.12	0.27	0.90	0.26	0.51	0.28	0.84	0.17	0.26	0.26
Control Delay	29.7	13.6	3.0	8.8	24.8	5.0	31.9	14.3	53.2	24.0	15.1	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	13.6	3.0	8.8	24.8	5.0	31.9	14.3	53.2	24.0	15.1	15.1
LOS	C	B	A	A	C	A	C	B	D	C	B	B
Approach Delay	14.5						22.6		24.2		36.4	
Approach LOS	B						C		C		D	



2017 PM Peak BUILD Conditions Case "Y" - Left-in at Walker
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HCM 2010 Signalized Intersection Summary
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Volume (veh/h)	136	1121	93	74	2197	214	155	59	62	240	70	148
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	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
Adj Sat Flow, veh/hln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	142	1168	97	77	2289	223	161	61	65	250	73	154
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh. %	3	3	3	3	3	3	3	3	3	3	3	3
Cap. veh/h	208	2454	764	344	2454	764	354	215	229	344	484	510
Arrive On Green	0.06	0.49	0.49	0.06	0.49	0.49	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1757	5036	1568	1757	5036	1568	1138	819	872	1247	1845	1568
Grp Volume(v), veh/h	142	1168	97	77	2289	223	161	0	126	250	73	154
Grp Sat Flow(s), veh/hln	1757	1679	1568	1757	1679	1568	1138	0	1691	1247	1845	1568
Q Serve(g.s.), s	3.2	12.4	2.7	1.7	34.2	6.8	10.1	0.0	4.7	16.0	2.4	5.9
Cycle Q Clear(g.c.), s	3.2	12.4	2.7	1.7	34.2	6.8	12.8	0.0	4.7	20.7	2.4	5.9
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.52	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	208	2454	764	344	2454	764	354	0	444	344	484	510
V/C Ratio(X)	0.68	0.48	0.13	0.22	0.93	0.29	0.45	0.00	0.28	0.73	0.15	0.30
Avail Cap(c), veh/h	208	2456	765	344	2456	765	354	0	444	344	484	510
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(f)	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), sveh	18.2	13.7	11.2	9.6	19.3	12.3	27.5	0.0	23.5	31.7	22.6	20.2
Incr Delay (d2), sveh	8.9	0.1	0.1	0.1	0.3	7.3	0.2	0.9	0.0	0.3	7.6	0.1
Initial Q Delay(d3), sveh	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 BackOf(50%),veh/hln	2.1	5.8	1.2	0.8	17.3	3.0	3.3	0.0	2.2	6.2	1.3	2.6
LnGrp Delay(d), sveh	27.1	13.8	11.3	10.0	26.6	12.5	28.4	0.0	23.8	39.3	22.8	20.5
LnGrp LOS	C	B	B	A	C	B	C	C	C	D	C	C
Approach Vol. veh/h	1407					2589		287			477	
Approach Delay, sveh	15.0					24.9		26.4			30.7	
Approach LOS	B					C		C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2	3	4			6	7	8				
Phs Duration (G+Y+Rc), s	26.0	10.0	44.0			26.0	10.0	44.0				
Change Period (Y+Rc), s	5.0	5.0	5.0			5.0	5.0	5.0				
Max Green Setting (Gmax), s	21.0	5.0	39.0			21.0	5.0	39.0				
Max Q Clear Time (g_c+1), s	14.6	3.7	14.4			22.7	5.2	36.2				
Green Ext Time (p_c), s	1.9	0.0	23.5			0.0	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay						22.6						
HCM 2010 LOS						C						

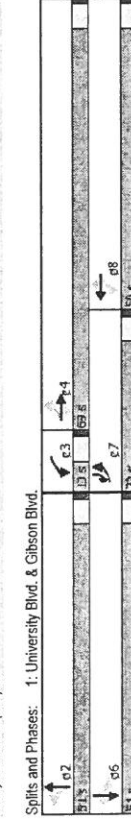
2017 PM Peak BUILD Conditions Case "Y" - Left-in at Walker
Synchro 8 Report
2017PBX-Case1.syn

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (veh/h)	282	2971	45	30	1268	143	116	30	55	484	38	216
Turn Type	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA
Protected Phases	7	4	4	8	8	8	2	2	6	6	6	7
Permitted Phases	4	4	4	8	8	8	2	2	6	6	6	7
Detector Phase	7	4	4	8	8	8	2	2	6	6	6	7
Switch Phase	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Initial (s)	10.0	21.0	21.0	10.0	21.0	21.0	10.0	21.0	21.0	10.0	21.0	10.0
Minimum Split (s)	32.0	71.0	71.0	10.0	49.0	49.0	49.0	49.0	49.0	32.0	71.0	71.0
Total Split (%)	24.6%	54.6%	7.7%	37.7%	37.7%	37.7%	37.7%	37.7%	37.7%	24.6%	54.6%	7.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead/Lag Optimize?	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
Act Eff Green (s)	76.0	66.0	66.0	54.7	49.7	49.7	44.0	44.0	44.0	44.0	44.0	70.3
Actuated g/C Ratio	0.58	0.51	0.51	0.42	0.38	0.38	0.34	0.34	0.34	0.34	0.34	0.54
v/c Ratio	0.84	1.22	0.06	0.26	0.69	0.23	0.27	0.15	1.17	0.06	0.27	0.27
Control Delay	52.1	134.6	2.9	20.5	36.9	11.8	33.3	13.2	136.5	29.6	14.9	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.1	134.6	2.9	20.5	36.9	11.8	33.3	13.2	136.5	29.6	14.9	14.9
LOS	D	F	A	C	D	B	C	B	F	C	B	B
Approach Delay	125.7	F	F	34.1	C	C	24.8	C	F	95.4	F	F
Approach LOS	F	F	F	C	C	C	C	C	F	C	F	F
Intersection Summary												
Cycle Length: 130												
Actuated Cycle Length: 130												
Natural Cycle: 130												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 1.22												
Intersection Signal Delay: 94.9												
Intersection Capacity Utilization: 107.6%												
Analysis Period (min): 15												
Splits and Phases: 1: University Blvd. & Gibson Blvd.												
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
49 s	10 s	17 s	17 s	17 s	17 s	17 s	17 s	17 s	17 s	17 s	17 s	
49 s	10 s	17 s	17 s	17 s	17 s	17 s	17 s	17 s	17 s	17 s	17 s	
49 s	10 s	17 s	17 s	17 s	17 s	17 s	17 s	17 s	17 s	17 s	17 s	

Timings
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBT
Lane Configurations	282	2988	85	120	1245	143	191	70	497	68	216
Volume (vph)	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA	pm+ov
Turn Type	7	4	4	3	8	8	2	2	6	6	7
Protected Phases	4	4	4	8	8	8	2	2	6	6	6
Permitted Phases	7	4	4	3	8	8	2	2	6	6	7
Detector Phase	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Switch Phase	10.0	21.0	21.0	10.0	21.0	21.0	21.0	21.0	21.0	21.0	10.0
Minimum Initial (s)	29.0	69.0	69.0	10.0	60.0	50.0	51.0	51.0	51.0	51.0	29.0
Minimum Split (s)	22.3%	53.1%	53.1%	7.7%	38.5%	38.5%	39.2%	39.2%	39.2%	39.2%	22.3%
Total Split (%)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Yellow Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Lost Time (s)	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
Recall Mode	74.0	64.0	64.0	53.1	48.1	48.1	46.0	46.0	46.0	46.0	71.9
Act Eff Green (s)	0.57	0.49	0.49	0.41	0.37	0.37	0.35	0.35	0.35	0.35	0.55
Activated g/C Ratio	0.86	1.27	1.11	1.02	0.70	0.23	0.43	0.21	1.24	0.11	0.26
v/c Ratio	55.7	154.7	7.5	116.2	37.9	11.9	35.7	22.5	163.1	28.9	14.3
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	55.7	154.7	7.5	116.2	37.9	11.9	35.7	22.5	163.1	28.9	14.3
Total Delay	E	F	A	F	D	B	D	C	F	C	B
LOS	142.7	F	F	F	D	D	C	C	F	C	F
Approach Delay	142.7	F	F	F	D	D	C	C	F	C	F
Approach LOS	F	F	F	F	D	D	C	C	F	C	F



Splits and Phases: 1: University Blvd. & Gibson Blvd.

Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 106.9
Intersection Capacity Utilization 115.6%
Analysis Period (min) 15

2035 AM Peak BUILD Conditions Case "N" - No left-in at Walker
Synchro 8 Report
2035ABX-CaseN.syn

HCM 2010 Signalized Intersection Summary
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

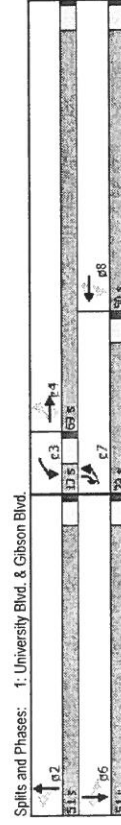
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBT
Lane Configurations	282	2988	85	120	1245	143	191	70	55	497	68	216
Volume (veh/h)	7	4	4	3	8	8	5	2	12	1	6	16
Number	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb), veh	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Sat Flow, veh/h	297	3145	89	126	1311	151	201	74	58	523	72	227
Adj Flow Rate, veh/h	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Peak Hour Factor	3	3	3	3	3	3	3	3	3	3	3	3
Percent Heavy Veh, %	330	2479	772	123	2106	656	404	340	266	427	653	731
Cap, veh/h	0.11	0.49	0.49	0.04	0.42	0.42	0.35	0.35	0.35	0.35	0.35	0.35
Arrive On Green	1757	5036	1568	1757	5036	1568	1065	960	752	1241	1845	1568
Sat Flow, veh/h	297	3145	89	126	1311	151	201	74	58	523	72	227
Gp Volume(v), veh/h	1757	1679	1568	1757	1679	1568	1065	0	1712	1241	1845	1568
Q Serve(g.s), s	12.0	64.0	4.0	5.0	26.6	8.1	20.3	0.0	7.0	39.0	3.4	11.7
Cycle Q Clear(g.c), s	12.0	64.0	4.0	5.0	26.6	8.1	23.7	0.0	7.0	46.0	3.4	11.7
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.44	1.00	1.00	1.00	1.00
Lane Gp Cap(c), veh/h	330	2479	772	123	2106	656	404	0	606	427	653	731
V/C Ratio(X)	0.90	1.27	1.02	1.02	0.62	0.23	0.50	0.00	0.22	1.22	0.11	0.31
Avail Cap(c), veh/h	456	2479	772	123	2106	656	404	0	606	427	653	731
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.8	33.0	17.8	33.8	29.8	24.4	36.2	0.0	29.4	48.0	28.2	21.6
Incr Delay (d2), s/veh	16.4	124.2	0.1	87.9	0.6	0.2	0.9	0.0	0.2	120.0	0.1	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/h	7.3	58.1	1.7	5.5	12.4	3.5	6.1	0.0	3.3	29.6	1.8	5.1
LnGrp Delay(d), s/veh	41.2	157.2	17.8	122.0	30.3	24.5	37.2	0.0	29.6	168.0	28.3	21.9
LnGrp LOS	D	F	B	F	C	C	D	C	C	F	C	C
Approach Vol, veh/h	3531	1439	1568	37.1	1568	1568	1065	333	1712	1241	1845	1568
Approach Delay, s/veh	143.9	F	F	D	D	D	C	C	C	F	F	F
Approach LOS	F	F	F	D	D	D	C	C	C	F	F	F
Timer	1	2	3	4	5	6	7	8	9	10	11	12
Assigned Phs	2	3	4	5	6	7	8	9	10	11	12	13
Phs Duration (G+Y+Rc), s	51.0	10.0	69.0	51.0	19.6	59.4	51.0	19.6	59.4	51.0	19.6	59.4
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	46.0	5.0	64.0	46.0	24.0	45.0	46.0	24.0	45.0	46.0	24.0	45.0
Max Q Clear Time (q_c+H), s	25.7	7.0	66.0	25.7	14.0	28.6	25.7	14.0	28.6	25.7	14.0	28.6
Green Ext Time (p_c), s	5.2	0.0	0.0	5.2	0.0	0.0	5.2	0.0	0.0	5.2	0.0	0.0
Intersection Summary	107.3	F	F	107.3	F	F	107.3	F	F	107.3	F	F
HCM 2010 Ctrl Delay	107.3	F	F	107.3	F	F	107.3	F	F	107.3	F	F
HCM 2010 LOS	F	F	F	D	D	D	C	C	C	F	F	F

2035 AM Peak BUILD Conditions Case "N" - No left-in at Walker
Synchro 8 Report
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Timings
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Volume (vph)	282	2988	85	30	1245	143	191	70	497	68	216
Turn Type	pm-pt	NA	Perm	pm-pt	NA	Perm	NA	Perm	NA	pm+ov	6
Protected Phases	7	4	4	3	8	8	2	2	6	6	7
Permitted Phases	4	4	4	8	8	8	2	2	6	6	7
Detector Phase	7	4	4	3	8	8	2	2	6	6	7
Switch Phase	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Initial (s)	10.0	21.0	21.0	10.0	21.0	21.0	21.0	21.0	21.0	21.0	10.0
Minimum Split (s)	29.0	69.0	69.0	10.0	60.0	60.0	51.0	51.0	51.0	51.0	29.0
Total Split (%)	22.3%	53.1%	53.1%	7.7%	38.5%	38.5%	39.2%	39.2%	39.2%	39.2%	22.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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
Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead/Lag Optimizer?	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
Recall Mode	74.0	64.0	64.0	53.1	48.1	48.1	46.0	46.0	46.0	46.0	71.9
Act Elct Green (s)	0.57	0.49	0.49	0.41	0.37	0.37	0.35	0.35	0.35	0.35	0.55
Activated g/c Ratio	0.86	1.27	0.11	0.26	0.70	0.23	0.43	0.21	1.24	0.11	0.26
v/c Ratio	55.7	154.7	7.5	20.7	37.9	11.9	35.7	22.5	163.1	28.9	14.3
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	55.7	154.7	7.5	20.7	37.9	11.9	35.7	22.5	163.1	28.9	14.3
LOS	E	F	A	C	D	B	D	D	F	C	B
Approach Delay	142.7	F	F	34.9	C	C	30.5	C	F	F	110.3
Approach LOS	F	F	F	C	C	C	C	C	F	F	F
Intersection Summary											
Cycle Length: 130											
Actuated Cycle Length: 130											
Natural Cycle: 130											
Control Type: Actuated/Uncoordinated											
Maximum v/c Ratio: 1.27											
Intersection Signal Delay: 106.3											
Intersection Capacity Utilization 113.1%											
Analysis Period (min) 15											



2035 AM Peak BUILD Conditions Case "Y" - Left-in at Walker
Synchro 8 Report
2035ABX-CaseY.syn

HCM 2010 Signalized Intersection Summary
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Volume (veh/h)	282	2988	85	30	1245	143	191	70	55	497	68	216
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Ob), 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	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
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1900	1845	1845	1845
Adj Sat Flow, veh/h	297	3145	89	32	1311	151	201	74	58	523	72	227
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh. %	3	3	3	3	3	3	3	3	3	3	3	3
Cap. veh/h	330	2479	772	123	2106	656	404	340	266	427	653	731
Arrive On Green	0.11	0.49	0.49	0.04	0.42	0.42	0.42	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1757	5036	1568	1757	5036	1568	1065	960	752	1241	1845	1568
Grp Volume(v), veh/h	297	3145	89	32	1311	151	201	0	132	523	72	227
Grp Sat Flow(s), veh/h/ln	1757	1679	1568	1757	1679	1568	1065	0	1712	1241	1845	1568
Q Serve(g, s)	12.0	64.0	4.0	1.3	26.6	8.1	20.3	0.0	7.0	39.0	3.4	11.7
Cycle Q Clear(g, c), s	12.0	64.0	4.0	1.3	26.6	8.1	23.7	0.0	7.0	46.0	3.4	11.7
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.44	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	330	2479	772	123	2106	656	404	0	606	427	653	731
V/C Ratio(X)	0.90	1.27	0.12	0.26	0.62	0.23	0.50	0.00	0.22	1.22	0.11	0.31
Adj Cap(c, a), veh/h	456	2479	772	123	2106	656	404	0	606	427	653	731
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	24.8	33.0	17.8	30.9	29.8	24.4	36.2	0.0	29.4	46.0	28.2	21.6
Incr Delay (d2), s/veh	16.4	124.2	0.1	1.1	0.5	0.2	0.9	0.0	0.2	120.0	0.1	0.2
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	7.3	58.1	1.7	0.7	12.4	3.5	6.1	0.0	3.3	29.6	1.8	5.1
LnGrp Delay(d), s/veh	41.2	157.2	17.8	32.0	30.3	24.5	37.2	0.0	29.6	168.0	28.3	21.9
LnGrp LOS	D	F	B	C	C	C	D	C	C	F	C	C
Approach Vol, veh/h	3531	1494	333	29.8	29.8	29.8	34.2	C	C	F	F	F
Approach Delay, s/veh	143.9	F	F	34.2	C	C	34.2	C	C	F	F	F
Approach LOS	F	F	F	C	C	C	C	C	C	F	F	F
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2	3	4	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	51.0	10.0	69.0	51.0	51.0	51.0	51.0	51.0				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	46.0	5.0	64.0	46.0	46.0	46.0	46.0	46.0				
Max Q Clear Time (g_c+1), s	25.7	3.3	66.0	25.7	25.7	25.7	25.7	25.7				
Green Ext Time (g_e), s	5.2	0.0	0.0	5.2	5.2	5.2	5.2	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay	106.6											
HCM 2010 LOS	F											

2035 AM Peak BUILD Conditions Case "Y" - Left-in at Walker

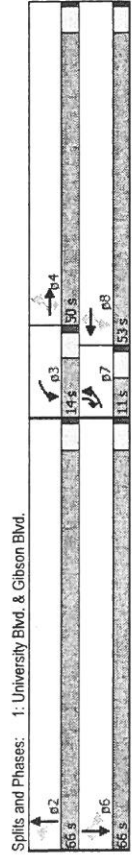
Synchro 8 Report
2035ABX-CaseY.syn

Timings
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.

4/7/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	167	1338	71	85	2606	252	213	71	641	119	413
Volume (vph)	pm-pt	NA	Perm	pm-pt	NA	Perm	Perm	NA	Perm	NA	pm-ov
Turn Type	7	4	4	8	8	8	2	2	6	6	7
Permitted Phases	4	4	4	8	8	8	2	2	6	6	7
Detector Phase	7	4	4	3	8	8	2	2	6	6	7
Switch Phase	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Initial (s)	10.0	21.0	21.0	10.0	21.0	21.0	21.0	21.0	21.0	21.0	10.0
Minimum Split (s)	11.0	50.0	50.0	14.0	53.0	53.0	66.0	66.0	66.0	66.0	11.0
Total Split (s)	8.5%	38.5%	38.5%	10.8%	40.8%	40.8%	50.8%	50.8%	50.8%	50.8%	8.5%
Total Split (%)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Yellow Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Lost Time (s)	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead/Lag	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
Recall Mode	51.7	45.7	45.7	55.3	48.0	48.0	61.0	61.0	61.0	61.0	72.0
Act Eff Green (s)	0.40	0.35	0.35	0.43	0.37	0.37	0.47	0.47	0.47	0.47	0.55
Actuated g/C Ratio	1.27	0.79	0.13	0.53	1.46	0.42	0.38	0.30	1.44	0.14	0.49
v/c Ratio	191.6	41.9	10.3	32.8	242.4	23.6	24.7	11.2	237.8	20.2	19.3
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	191.6	41.9	10.3	32.8	242.4	23.6	24.7	11.2	237.8	20.2	19.3
Total Delay	F	D	B	C	F	C	B	F	F	C	B
LOS	E	D	B	C	F	C	B	F	F	C	B
Approach Delay	56.3				217.6		17.5		138.9		F
Approach LOS	E				F		B		F		F
Intersection Summary											
Cycle Length: 130											
Actuated Cycle Length: 130											
Natural Cycle: 120											
Control Type: Actuated-Uncoordinated											
Maximum v/c Ratio: 1.46											
Intersection Signal Delay: 146.4											
Intersection Capacity Utilization: 126.2%											
Analysis Period (min): 15											



2035 PM Peak NOBUILD Conditions Both Cases
Synchro 8 Report
2035PNX-BothCases.syn

HCM 2010 Signalized Intersection Summary
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.

4/7/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	167	1338	71	85	2606	252	213	71	641	119	413
Volume (veh/h)	7	4	14	3	8	18	5	2	12	1	6
Number	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Ob), veh	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Sat Flow, veh/h	174	1394	74	89	2715	262	222	74	181	688	124
Adj Flow Rate, veh/h	1	3	1	1	3	1	1	1	0	1	1
Adj No. of Lanes	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Peak Hour Factor	3	3	3	3	3	3	3	3	3	3	3
Percent Heavy Veh, %	136	1856	578	183	1859	579	419	223	546	467	866
Cap, veh/h	0.05	0.37	0.37	0.05	0.37	0.37	0.47	0.47	0.47	0.47	0.47
Arrive On Green	1757	5036	1568	1757	5036	1568	843	476	1164	1109	1845
Sat Flow, veh/h	174	1394	74	89	2715	262	222	0	255	688	124
Grp Volume(v), veh/h	1757	1679	1568	1757	1679	1568	843	0	1639	1109	1845
Grp Sat Flow(s), veh/h	6.0	31.4	4.1	4.1	48.0	16.5	26.5	0.0	12.7	48.3	5.0
Q Serve(g, s)	6.0	31.4	4.1	4.1	48.0	16.5	31.4	0.0	12.7	61.0	5.0
Cycle Q Clear(g, c), s	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.71	1.00	1.00
Prop In Lane	136	1856	578	183	1859	579	419	0	769	467	866
Lane Grp Cap(c), veh/h	1.28	0.75	0.13	0.49	1.46	0.45	0.53	0.00	0.33	1.43	0.14
V/C Ratio(X)	136	1856	578	222	1859	579	419	0	769	467	866
Avail Cap(c, a), veh/h	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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
Upstream Filter(I)	34.8	35.8	27.2	28.5	41.0	31.0	28.6	0.0	21.7	43.7	19.6
Uniform Delay (d), s/veh	188.6	1.8	0.1	2.0	210.1	0.6	1.3	0.0	0.3	205.2	0.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	8.4	14.9	1.8	2.1	58.4	7.2	6.3	0.0	5.8	43.4	2.5
%ile BackOfQ(50%) veh/h	203.4	37.6	27.3	30.5	251.1	31.6	29.8	0.0	21.9	248.9	19.7
LnGrp Delay(d), s/veh	F	D	C	C	F	C	C	C	C	F	B
LnGrp LOS	F	D	C	C	F	C	C	C	C	F	B
Approach Vol, veh/h	1642				3066		477		1222		
Approach Delay, s/veh	54.7				225.9		25.6		145.7		
Approach LOS	D				F		C		F		
Timer	1	2	3	4	5	6	7	8			
Assigned Phs	2	3	3	4	5	6	7	8			
Phs Duration (G+Y+Rc), s	66.0	11.1	52.9	66.0	11.0	53.0					
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0					
Max Green Setting (Gmax), s	61.0	9.0	45.0	61.0	6.0	48.0					
Max Q Clear Time (g_c+H), s	33.4	6.1	33.4	63.0	8.0	50.0					
Green Ext Time (p_c), s	10.8	0.0	11.5	0.0	0.0	0.0					
Intersection Summary											
HCM 2010 Ctrl Delay	151.8										
HCM 2010 LOS	F										

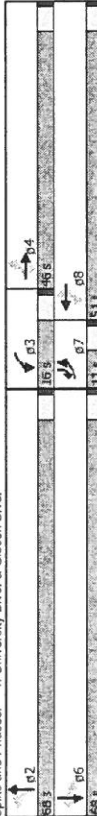
2035 PM Peak NOBUILD Conditions Both Cases
Synchro 8 Report
2035PNX-BothCases.syn

Timings
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

EBL	EFT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
167	1353	107	184	2567	252	293	105	652	146	413
pm-pt	NA	Perm	pm-pt	NA	Perm	Perm	NA	Perm	NA	pm-ov
7	4	4	3	8	8	2	2	6	6	7
4	4	4	3	8	8	2	2	6	6	7
5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
10.0	21.0	10.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	10.0
11.0	46.0	46.0	16.0	51.0	51.0	68.0	68.0	68.0	68.0	11.0
8.5%	35.4%	35.4%	12.3%	39.2%	39.2%	52.3%	52.3%	52.3%	52.3%	8.5%
4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
47.0	41.0	41.0	57.0	46.0	46.0	63.0	63.0	63.0	63.0	74.0
0.35	0.32	0.32	0.44	0.35	0.35	0.48	0.48	0.48	0.48	0.57
1.27	0.89	0.21	0.94	1.50	0.43	0.53	0.34	1.49	0.17	0.48
193.4	50.3	15.0	81.0	260.6	24.9	27.3	15.1	259.8	19.5	18.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
193.4	50.3	15.0	81.0	260.6	24.9	27.3	15.1	259.8	19.5	18.0
F	D	B	F	F	C	C	B	F	B	B
62.7	E		229.8	F			C	148.4	F	
Approach LOS										
Intersection Summary										
Cycle Length: 130										
Actual Cycle Length: 130										
Natural Cycle: 130										
Control Type: Actuated-Uncoordinated										
Maximum v/c Ratio: 1.50										
Intersection Signal Delay: 153.5										
Intersection Capacity Utilization 127.8%										
Analysis Period (min): 15										

Splits and Phases: 1: University Blvd. & Gibson Blvd.



2035 PM Peak BUILD Conditions Case "N" - No left-in at Walker

Synchro 8 Report
2035PBX-CaseN.syn

HCM 2010 Signalized Intersection Summary
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

EBL	EFT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
167	1353	107	184	2567	252	293	105	652	146	413
Volume (veh/h)										
7	4	4	3	8	8	2	2	6	6	7
Number										
Initial Q (Qb), veh										
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A _{pbt})										
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h										
1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845
Adj Sat Flow, veh/h										
174	1409	111	192	2674	262	305	109	679	152	430
Adj No. of Lanes										
1	3	1	1	3	1	1	1	0	1	1
Peak Hour Factor										
0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh. %										
3	3	3	3	3	3	3	3	3	3	3
Cap. veh/h										
136	1588	495	221	1782	555	415	303	503	459	894
Arrive On Green										
0.05	0.32	0.32	0.08	0.35	0.35	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h										
1757	5036	1568	1757	5036	1568	821	625	1037	1074	1845
Grp Volume (v), veh/h										
174	1409	111	192	2674	262	305	0	290	679	152
Grp Sat Flow (s), veh/h										
1757	1679	1568	1757	1679	1568	821	0	1662	1074	1845
Q Serve (g.s.), s										
6.0	34.6	6.8	9.3	46.0	16.9	43.2	0.0	14.2	48.8	6.0
Cycle Q Clear (g.c.), s										
6.0	34.6	6.8	9.3	46.0	16.9	43.2	0.0	14.2	48.8	6.0
Prop In Lane										
1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.62	1.00	1.00	1.00
Lane Grp Cap (c), veh/h										
136	1588	495	221	1782	555	415	0	805	459	894
V/C Ratio (X)										
1.28	0.89	0.22	0.87	1.50	0.47	0.73	0.00	0.36	1.48	0.17
Avail Cap (c), veh/h										
136	1588	495	221	1782	555	415	0	805	459	894
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
Upstream Filter (f)										
1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh										
38.9	42.3	32.8	31.8	42.0	32.6	32.6	0.0	20.9	43.5	18.8
Incr Delay (d2), s/veh										
168.6	6.5	0.2	28.0	228.3	0.6	6.6	0.0	0.3	227.3	0.1
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
%ile BackOfQ (50%), veh/h										
8.4	17.0	3.0	6.3	58.9	7.4	10.5	0.0	6.5	45.4	3.1
LnGrp Delay (d), s/veh										
207.5	48.8	33.0	60.7	270.3	33.2	39.3	0.0	21.2	270.8	18.9
LnGrp LOS										
F	D	C	E	F	C	D	C	F	B	C
Approach Vol, veh/h										
1694	E		3128	F		595	C	1261	F	
Approach Delay, s/veh										
64.1			237.5			30.4		155.0		
Approach LOS										
E			F			C		F		
Timer										
1	2	3	4	5	6	7	8			
Assigned Phs										
2	3	4								
Phs Duration (G+Y+Rc), s										
68.0	16.0	46.0								
Change Period (Y+Rc), s										
5.0	5.0	5.0								
Max Green Setting (Gmax), s										
63.0	11.0	41.0								
Max Q Clear Time (q_c+H), s										
51.2	11.3	36.6								
Green Ext Time (q_c), s										
7.6	0.0	4.4								
Intersection Summary										
159.5	F									
HCM 2010 Ctrl Delay										
HCM 2010 LOS										

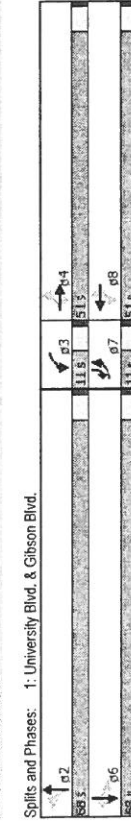
2035 PM Peak BUILD Conditions Case "N" - No left-in at Walker

Synchro 8 Report
2035PBX-CaseN.syn

Timings
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Volume (vph)	167	1353	107	85	2567	252	293	105	652	146	413
Turn Type	pm-pt	NA	Perm	pm-pt	NA	Perm	Perm	NA	Perm	NA	pm-ov
Protected Phases	7	4	4	3	8	8	2	2	6	6	7
Permitted Phases	4	4	4	3	8	8	2	2	6	6	7
Detector Phase	7	4	4	3	8	8	2	2	6	6	7
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	21.0	10.0	21.0	21.0	21.0	21.0	21.0	21.0	10.0
Total Split (s)	11.0	51.0	51.0	11.0	51.0	51.0	68.0	68.0	68.0	68.0	11.0
Total Split (%)	8.5%	39.2%	39.2%	8.5%	39.2%	39.2%	52.3%	52.3%	52.3%	52.3%	8.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	52.0	46.0	46.0	52.0	46.0	46.0	63.0	63.0	63.0	63.0	74.0
Actuated g/C Ratio	0.40	0.35	0.35	0.40	0.35	0.35	0.48	0.48	0.48	0.48	0.57
v/c Ratio	1.27	0.79	0.18	0.65	1.50	0.43	0.53	0.34	1.49	0.17	0.48
Control Delay	192.9	41.7	12.4	45.2	260.6	24.9	27.3	15.1	259.8	19.5	18.0
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	192.9	41.7	12.4	45.2	260.6	24.9	27.3	15.1	259.8	19.5	18.0
LOS	F	D	B	D	F	C	C	B	F	B	B
Approach Delay	55.3			233.8			21.4		148.4		F
Approach LOS	E			F			C		F		F



2035 PM Peak BUILD Conditions Case "Y" - Left-in at Walker
Synchro 8 Report
2035PBX-Case1.syn

HCM 2010 Signalized Intersection Summary
1: University Blvd. & Gibson Blvd.

Terry O. Brown, P.E.
4/7/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
Volume (veh/h)	167	1353	107	85	2567	252	293	105	174	652	146	413
Number	7	4	4	3	8	18	5	2	12	1	6	16
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	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
Adj Sat Flow, veh/h	1845	1845	1845	1845	1845	1845	1845	1845	1900	1845	1845	1845
Adj Flow Rate, veh/h	174	1409	111	89	2674	262	305	109	181	679	152	430
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh. %	3	3	3	3	3	3	3	3	3	3	3	3
Cap. veh/h	136	1782	555	171	1782	555	415	303	503	459	894	832
Arrive On Green	0.05	0.35	0.35	0.05	0.35	0.35	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	1757	5036	1568	1757	5036	1568	821	825	1037	1074	1845	1568
Grp Volume(v), veh/h	174	1409	111	89	2674	262	305	0	290	679	152	430
Grp Sat Flow(s), veh/h	1757	1679	1568	1757	1679	1568	821	0	1662	1074	1845	1568
Q Serve(g-s), s	6.0	32.6	6.4	4.2	46.0	16.9	43.2	0.0	14.2	48.8	6.0	23.0
Cycle Q Clear(g-c), s	6.0	32.6	6.4	4.2	46.0	16.9	43.2	0.0	14.2	48.8	6.0	23.0
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.62	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	136	1782	555	171	1782	555	415	0	805	459	894	832
V/C Ratio(X)	1.28	0.79	0.20	0.52	1.50	0.47	0.73	0.00	0.36	1.48	0.17	0.52
Avail Cap(c-s), veh/h	136	1782	555	171	1782	555	415	0	805	459	894	832
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(f)	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	35.9	37.7	29.2	30.2	42.0	32.6	32.6	0.0	20.9	43.5	18.8	19.7
Incr Delay (d2), s/veh	168.6	2.5	0.2	2.8	228.3	0.6	6.6	0.0	0.3	227.3	0.1	0.6
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 BackOrd(50%), veh/h	8.4	15.5	2.8	2.1	58.9	7.4	10.5	0.0	6.5	45.4	3.1	20.3
LnGrp Delay(d), s/veh	204.5	40.2	29.4	33.0	270.3	33.2	39.3	0.0	21.2	270.8	18.9	20.0
LnGrp LOS	F	D	C	C	F	C	D	C	F	F	B	C
Approach Vol, veh/h	1694			3025			595			1261		
Approach Delay, s/veh	56.4			242.7			30.4			155.0		
Approach LOS	E			F			C			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2	3	4	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	68.0	11.0	51.0	68.0	11.0	51.0	51.0	51.0				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	63.0	6.0	46.0	63.0	6.0	46.0	6.0	46.0				
Max Q Clear Time (g_c+H), s	51.2	6.2	34.6	65.0	6.2	34.6	6.0	48.0				
Green Ext Time (g_c), s	7.6	0.0	11.3				0.0	0.0				
Intersection Summary				158.7								
HCM 2010 Ctrl Delay				F								
HCM 2010 LOS												

2035 PM Peak BUILD Conditions Case "Y" - Left-in at Walker
Synchro 8 Report
2035PBX-Case1.syn

Lanes, Volumes, Timings
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	AAA	↑	↑↑↑	↑↑↑	↑	↑
Volume (vph)	2070	130	0	1324	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		115	0	0	0	0
Storage Lanes		1	0	0	0	1
Taper Length (ft)		25	25	25	25	1.00
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	0.865
Ft Protected		0.850				
Satd. Flow (prot)	5036	1568	0	5036	0	1596
Ft Permitted						
Satd. Flow (perm)	5036	1568	0	5036	0	1596
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	1185	622	622	319		
Travel Time (s)	26.9	14.1	14.1	7.3		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2300	144	0	1471	0	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2300	144	0	1471	0	6
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Left	Right	Right
Median Width (ft)	12	12	12	0		
Link Offset (ft)	0	0	0	0		
Crosswalk Width (ft)	16	16	16	16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Tuning Speed (mph)	9	15	15	15	9	9
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary	ICU Level of Service A					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	50.0%					
Analysis Period (min)	15					

2017 AM Peak NOBUILD Conditions Both Cases

Synchro 8 Report
2017ANX-BothCases.syn

HCM 2010 TWSC
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Intersection	0					
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	2070	130	0	1324	0	5
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	Free	-	None
Storage Length	-	115	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2300	144	0	1471	0	6
Major/Minor	Major1	Major2	Major2	Minor1	Minor1	Minor1
Conflicting Flow All	0	-	2300	0	2888	1150
Stage 1	-	-	-	-	2300	-
Stage 2	-	-	-	-	588	-
Critical Hdwy	-	-	5.36	-	5.76	7.16
Critical Hdwy Sig 1	-	-	-	-	6.66	-
Critical Hdwy Sig 2	-	-	-	-	6.06	-
Follow-up Hdwy	-	-	3.13	-	3.83	3.93
Pot Cap-1 Maneuver	-	0	87	-	30	163
Stage 1	-	0	-	-	36	-
Stage 2	-	0	-	-	470	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	87	-	30	163
Mov Cap-2 Maneuver	-	-	-	-	30	-
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	470	-
Approach	EB	WB	WB	NB	NB	NB
HCM Control Delay, s	0	0	0	27.9	27.9	D
HCM LOS				D	D	D
Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT		
Capacity (veh/h)	163	-	87	-		
HCM Lane V/C Ratio	0.034	-	-	-		
HCM Control Delay (s)	27.9	-	0	-		
HCM Lane LOS	D	-	A	-		
HCM 95th %ile Q(veh)	0.1	-	0	-		

2017 AM Peak NOBUILD Conditions Both Cases

Synchro 8 Report
2017ANX-BothCases.syn

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑↑↑	↑	↑
Volume (vph)	2024	205	0	1391	0	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115	0	0	0	0	0
Storage Lanes	1	0	0	0	0	1
Taper Length (ft)		25		25		
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt Protected		0.850				0.865
Satd. Flow (prot)	5036	1568	0	5036	0	1596
Flt Permitted						
Satd. Flow (perm)	5036	1568	0	5036	0	1596
Link Speed (mph)	30	30		30		30
Link Distance (ft)	1185	622		319		7.3
Travel Time (s)	26.9	14.1		7.3		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2249	229	0	1546	0	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2249	229	0	1546	0	124
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width (ft)	12	12		0		0
Link Offset (ft)	0	0		0		0
Crosswalk Width (ft)	16	16		16		16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		15		9
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	52.7%					
Analysis Period (min)	15					
ICU Level of Service	A					

Intersection	EBT	EBR	WBL	WBT	NBL	NBR
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	2024	205	0	1391	0	112
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	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2249	229	0	1546	0	124
Major/Minor	Major1	Major2	Minor1	Minor2		
Conflicting Flow All	0	0	2249	0	2867	1124
Stage 1	-	-	-	-	2249	-
Stage 2	-	-	-	-	618	-
Critical Hdwy	-	-	5.36	-	5.76	7.16
Critical Hdwy Sig 1	-	-	-	-	6.66	-
Critical Hdwy Sig 2	-	-	-	-	6.06	-
Follow-up Hdwy	-	-	3.13	-	3.83	3.93
Pot Cap-1 Maneuver	-	-	92	-	31	170
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	453	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	92	-	31	170
Mov Cap-2 Maneuver	-	-	-	-	31	-
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	453	-
Approach	EB	WB	WB	NB		
HCM Control Delay, s	0	0	0	68.9		
HCM LOS				F		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	170	-	-	92	-	
HCM Lane V/C Ratio	0.732	-	-	-	-	
HCM Control Delay (s)	68.9	-	-	0	-	
HCM Lane LOS	F	-	-	A	-	
HCM 95th %ile Q(veh)	4.6	-	-	0	-	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	AAA	AAA	AAA	AAA	AAA	AAA	
Volume (vph)	2024	206	90	1301	0	112	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	115	150	0	0	0	0	
Storage Lanes	1	1	1	1	0	1	
Taper Length (ft)	0.91	1.00	1.00	0.91	1.00	1.00	
Lane Util. Factor	0.850					0.865	
Flt Protected			0.950				
Satd. Flow (prot)	5036	1568	1752	5036	0	1596	
Flt Permitted			0.950				
Satd. Flow (perm)	5036	1568	1752	5036	0	1596	
Link Speed (mph)	30			30			
Link Distance (ft)	1185			622	319		
Travel Time (s)	26.9			14.1	7.3		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	2249	229	100	1446	0	124	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	2249	229	100	1446	0	124	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width (ft)	12			12			
Link Offset (ft)	0			0			
Crosswalk Width (ft)	16			16			
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	9	15	15	15	15	9	
Sign Control	Free	Free	Free	Free	Stop	Stop	
Intersection Summary	Other						
Area Type	Unsignalized						
Control Type	ICU Level of Service A						
Intersection Capacity Utilization	52.7%						
Analysis Period (min)	15						

Intersection	EBT	EBR	WBL	WBT	NBL	NBR	
Int Delay, s/veh	2024	206	90	1301	0	112	7
Movement	Free	Free	Free	Free	Stop	Stop	
Vol, veh/h	2024	206	90	1301	0	112	
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	-	150	-	0	
Veh in Median Storage, #	0	0	0	0	0	0	
Grade, %	0	0	0	0	0	0	
Peak Hour Factor	90	90	90	90	90	90	
Heavy Vehicles, %	3	3	3	3	3	3	
Mvmt Flow	2249	229	100	1446	0	124	
Major/Minor	Major1	Major2	Minor1	Minor2			
Conflicting Flow All	0	0	2249	0	3027	1124	
Stage 1	-	-	-	-	2249	-	
Stage 2	-	-	-	-	778	-	
Critical Hwy	-	-	5.36	-	5.76	7.16	
Critical Hwy Sig 1	-	-	-	-	6.66	-	
Critical Hwy Sig 2	-	-	-	-	6.06	-	
Follow-up Hwy	-	-	3.13	-	3.83	3.93	
Pot Cap-1 Maneuver	-	-	-	-	25	170	
Stage 1	-	-	-	-	39	-	
Stage 2	-	-	-	-	373	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	-	-	-	-	25	170	
Mov Cap-2 Maneuver	-	-	-	-	39	-	
Stage 1	-	-	-	-	373	-	
Stage 2	-	-	-	-	-	-	
Approach	EB	WB	NB	SB	WB	NB	
HCM Control Delay, s	0	13.2	68.9	F			
HCM LOS							
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT		
Capacity (veh/h)	170	-	-	-	-		
HCM Lane V/C Ratio	0.732	-	-	-	-		
HCM Control Delay (s)	68.9	-	-	-	-		
HCM Lane LOS	F	-	-	-	-		
HCM 95th %ile Q(veh)	4.5	-	-	-	-		
Notes	-						
-: Volume exceeds capacity	\$: Delay exceeds 300s						
-: Computation Not Defined	*: All major volume in platoon						

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑↑↑	↑	↑
Volume (vph)	1483	25	0	2676	0	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115	0	0	0	0	0
Storage Lanes	1	0	0	0	0	1
Taper Length (ft)	25	25	25	25	25	25
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt	0.850					0.865
Flt Protected						
Satd. Flow (prot)	5036	1568	0	5036	0	1596
Flt Permitted						
Satd. Flow (perm)	5036	1568	0	5036	0	1596
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	1185	622	622	319		
Travel Time (s)	26.9	14.1	14.1	7.3		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1529	26	0	2759	0	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1529	26	0	2759	0	22
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width (ft)	12	12	12	0		
Link Offset (ft)	0	0	0	0		
Crosswalk Width (ft)	16	16	16	16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	15	15	15	9
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	55.0%					
Analysis Period (min)	15					
	ICU Level of Service B					

Intersection	EBT	EBR	WBL	WBT	NBL	NBR
Int Delay, s/veh	0.1					
Movement						
Vol, veh/h	1483	25	0	2676	0	21
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	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1529	26	0	2759	0	22
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	1529	0	2633	764
Stage 1	-	-	-	-	1529	-
Stage 2	-	-	-	-	1104	-
Critical Hdwy	-	-	5.36	-	5.76	7.16
Critical Hdwy Stg 1	-	-	-	-	6.66	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	-	-	3.13	-	3.83	3.93
Platoon blocked, %	-	-	213	-	42	296
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	249	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	213	-	42	296
Mov Cap-2 Maneuver	-	-	-	-	42	-
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	249	-
Approach	EB	WB	WB	NB		
HCM Control Delay, s	0	0	0	18.1		
HCM LOS				C		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	296	-	-	213	-	
HCM Lane V/C Ratio	0.073	-	-	-	-	
HCM Control Delay (s)	18.1	-	-	0	-	
HCM Lane LOS	C	-	-	A	-	
HCM 95th %ile Q(veh)	0.2	-	-	0	-	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑↑	↑	↑↑↑	↑↑↑	↑	↑	
Volume (vph)	1462	73	0	2736	0	93	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	115	0	0	0	0	0	
Storage Lanes	1	0	0	0	0	1	
Taper Length (ft)		25		25			
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00	
Flt	0.850					0.855	
Flt Protected		5036	1568	0	5036	0	1596
Flt Permitted							
Satd. Flow (prot)		5036	1568	0	5036	0	1596
Satd. Flow (perm)		30	30	30	30	30	
Link Speed (mph)		1185	622	319			
Link Distance (ft)		26.9	14.1	7.3			
Travel Time (s)		0.97	0.97	0.97	0.97	0.97	
Peak Hour Factor		1507	75	0	2821	0	96
Adj. Flow (vph)		1507	75	0	2821	0	96
Shared Lane Traffic (%)		1507	75	0	2821	0	96
Lane Group Flow (vph)		No	No	No	No	No	
Enter Blocked Intersection		Left	Left	Left	Left	Right	
Lane Alignment		12	12	12	12	0	
Median Width (ft)		0	0	0	0	0	
Link Offset (ft)		16	16	16	16	16	
Crosswalk Width (ft)		1.00	1.00	1.00	1.00	1.00	
Two way Left Turn Lane		9	15	15	15	9	
Headway Factor		Free	Free	Free	Free	Stop	
Turning Speed (mph)							
Sign Control							
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	56.2%						
Analysis Period (min)	15						
	ICU Level of Service B						

Intersection	0.5					
Int Delay, s/veh						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1462	73	0	2736	0	93
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	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1507	75	0	2821	0	96
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1507	0	2635	754
Stage 1	-	-	-	-	1507	-
Stage 2	-	-	-	-	1128	-
Critical Hdwy	-	-	5.36	-	5.76	7.16
Critical Hdwy Stg 1	-	-	-	-	6.66	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	-	-	3.13	-	3.83	3.93
Platoon Cap-1 Maneuver	-	-	219	-	41	300
Stage 1	-	-	-	-	116	-
Stage 2	-	-	-	-	242	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	219	-	41	300
Mov Cap-2 Maneuver	-	-	-	-	41	-
Stage 1	-	-	-	-	116	-
Stage 2	-	-	-	-	242	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		22.5	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	300	-	-	219	-	
HCM Lane V/C Ratio	0.32	-	-	-	-	
HCM Control Delay (s)	22.5	-	-	0	-	
HCM Lane LOS	C	-	-	A	-	
HCM 95th %ile Q(veh)	1.3	-	-	0	-	

Lanes, Volumes, Timings
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑	↑	↑
Volume (vph)	1462	73	99	2637	0	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115	150	0	0	0	0
Storage Lanes	1	1	1	0	0	1
Taper Length (ft)	25	25	25	25	25	25
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt	0.850	0.850	0.950	0.950	0.865	0.865
Flt Protected			0.950			
Satd. Flow (prot)	5036	1568	1752	5036	0	1596
Flt Permitted			0.950			
Satd. Flow (perm)	5036	1568	1752	5036	0	1596
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	1185	622	319	622	319	1185
Travel Time (s)	26.9	0.97	0.97	14.1	7.3	0.97
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1507	75	102	2719	0	96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1507	75	102	2719	0	96
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12	12	12	12	0	0
Link Offset(ft)	0	0	0	0	0	0
Crosswalk Width(ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	15	15	15	9
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	54.3%					
Analysis Period (min)	15					
ICU Level of Service A						

2017 PM Peak BUILD Conditions Case "Y" - Left-in at Walker
Synchro 8 Report
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HCM 2010 TWSC
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Intersection	EBT	EBR	WBL	WBT	NBL	NBR
Int Delay, s/veh	1462	73	99	2637	0	93
Movement	Free	Free	Free	Free	Stop	Stop
Vol, veh/h	1462	73	99	2637	0	93
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	-	150	-	0
Veh in Median Storage, #	0	0	0	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1507	75	102	2719	0	96
Major/Minor	Major1	Major2	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	1507	0	2799	754
Stage 1	-	-	-	-	1507	-
Stage 2	-	-	-	-	1292	-
Critical Hdwy	-	-	5.36	-	5.76	7.16
Critical Hdwy Stg 1	-	-	-	-	6.66	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	-	-	3.13	-	3.83	3.93
Platoon Cap-1 Maneuver	-	-	219	-	33	300
Stage 1	-	-	-	-	116	-
Stage 2	-	-	-	-	197	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	219	-	18	300
Mov Cap-2 Maneuver	-	-	-	-	18	-
Stage 1	-	-	-	-	116	-
Stage 2	-	-	-	-	105	-
Approach	EB	WB	WB	NB		
HCM Control Delay, s	0	1.3	1.3	22.5		
HCM LOS				C		
Minor Lane/Minor Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	300	-	-	219	-	
HCM Lane V/C Ratio	0.32	-	-	0.466	-	
HCM Control Delay (s)	22.5	-	-	35	-	
HCM Lane LOS	C	-	-	E	-	
HCM 95th %ile Q(veh)	1.3	-	-	2.3	-	

2017 PM Peak BUILD Conditions Case "Y" - Left-in at Walker
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Lanes, Volumes, Timings
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	AAA	A	AAA	AAA	AAA	A
Volume (vph)	3385	130	0	1528	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115	0	0	0	0	0
Storage Lanes	1	0	0	0	0	1
Taper Length (ft)	0.91	1.00	1.00	0.91	1.00	1.00
Lane Util. Factor	0.850					0.865
Fit Protected						
Satd. Flow (prot)	5036	1568	0	5036	0	1596
Fit Permitted						
Satd. Flow (perm)	5036	1568	0	5036	0	1596
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	1185	622	319			
Travel Time (s)	26.9	14.1	7.3			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	3761	144	0	1698	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3761	144	0	1698	0	7
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width (ft)	12	0	0	0	0	0
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	15	15	15	9
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary	ICU Level of Service D					
Area Type	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 75.4%						
Analysis Period (min) 15						

2035 AM Peak NOBUILD Conditions Both Cases

Synchro 8 Report
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HCM 2010 TWSC
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Intersection	EBT	EBR	WBL	WBT	NBL	NBR
In Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	3385	130	0	1528	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	-	115	-	-	-	0
Veh in Median Storage, #	0	0	0	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	3761	144	0	1698	0	7
Major/Minor	Major1 Minor1					
Conflicting Flow All	0	0	3761	0	4440	1881
Stage 1	-	-	-	-	3761	-
Stage 2	-	-	-	-	679	-
Critical Hdwy	-	-	5.36	-	5.76	7.16
Critical Hdwy Sig 1	-	-	-	-	6.66	-
Critical Hdwy Sig 2	-	-	-	-	6.06	-
Follow-up Hdwy	-	-	3.13	-	3.83	3.93
Pot Cap-1 Maneuver	-	-	14	-	4	51
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	4	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	14	-	4	51
Mov Cap-2 Maneuver	-	-	-	-	4	-
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	421	-
Approach	EB	EB	WB	WB	NB	NB
HCM Control Delay, s	0	0	0	0	85.9	F
HCM LOS						
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	51	-	-	14	-	
HCM Lane V/C Ratio	0.131	-	-	-	-	
HCM Control Delay (s)	85.9	-	-	0	-	
HCM Lane LOS	F	-	-	A	-	
HCM 95th %ile Q(veh)	0.4	-	-	0	-	

2035 AM Peak NOBUILD Conditions Both Cases

Synchro 8 Report
2035ANX-BothCases.syn

Lanes, Volumes, Timings
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑	↑↑↑	↑
Volume (vph)	3319	226	0	1595	0	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115	0	0	0	0	0
Storage Lanes	1	0	0	0	0	1
Taper Length (ft)	0	25	25	0	25	0
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt	0.850					0.865
Flt Protected						
Satd. Flow (prot)	5036	1568	0	5036	0	1596
Flt Permitted						
Satd. Flow (perm)	5036	1568	0	5036	0	1596
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	1185	622	319			
Travel Time (s)	26.9	14.1	7.3			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	3688	251	0	1772	0	126
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3688	251	0	1772	0	126
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width (ft)	12	0	12	0	0	0
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	15	15	15	9
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary	ICU Level of Service D					
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	77.8%					
Analysis Period (min)	15					

2035 AM Peak BUILD Conditions Case "N" - No left-in at Walker
Synchro 8 Report
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HCM 2010 TWSC
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Intersection	16.5					
Int Delay, s/veh						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	3319	226	0	1595	0	113
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	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	3688	251	0	1772	0	126
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0		3688		4397	
Stage 1	-		-		3688	
Stage 2	-		-		709	
Critical Hdwy	-		5.36		5.76	
Critical Hdwy Sig 1	-		-		6.66	
Critical Hdwy Sig 2	-		-		6.06	
Follow-up Hdwy	-		3.13		3.83	
Pot Cap-1 Maneuver	-		16		4	
Stage 1	-		-		4	
Stage 2	-		-		406	
Platoon blocked, %	-		-		-	
Mov Cap-1 Maneuver	-		16		4	
Mov Cap-2 Maneuver	-		-		4	
Stage 1	-		-		4	
Stage 2	-		-		406	
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		\$ 768.1	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	54	-	-	16	-	
HCM Lane V/C Ratio	2.325	-	-	-	-	
HCM Control Delay (s)	\$ 768.1	-	-	0	-	
HCM Lane LOS	F	-	-	A	-	
HCM 95th %ile d(veh)	12.7	-	-	0	-	
Notes	~: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined *: All major volume in platoon					

2035 AM Peak BUILD Conditions Case "N" - No left-in at Walker
Synchro 8 Report
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Lanes, Volumes, Timings
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	AAA	AAA	AAA	AAA	AAA	AAA
Volume (vph)	3339	206	90	1505	0	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115	150	150	0	0	0
Storage Lanes	1	1	1	0	0	1
Taper Length (ft)	0.91	1.00	1.00	0.91	1.00	1.00
Lane Util. Factor	0.850	0.850	0.850	0.850	0.850	0.850
Fit Protected	5036	1568	1752	5036	0	1596
Satd. Flow (prot)	0.950	0.950	0.950	0.950	0.950	0.950
Fit Permitted	5036	1568	1752	5036	0	1596
Satd. Flow (perm)	30	30	30	30	30	30
Link Speed (mph)	1185	622	319	1185	622	319
Link Distance (ft)	26.9	14.1	7.3	26.9	14.1	7.3
Travel Time (s)	0.90	0.90	0.90	0.90	0.90	0.90
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	3710	229	100	1672	0	126
Shared Lane Traffic (%)	3710	229	100	1672	0	126
Lane Group Flow (vph)	No	No	No	No	No	No
Enter Blocked Intersection	Left	Right	Left	Left	Left	Right
Lane Alignment	12	0	12	0	0	0
Median Width (ft)	0	0	0	0	0	0
Link Offset (ft)	16	16	16	16	16	16
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	9	15	15	9	15	9
Turning Speed (mph)	Free	Free	Free	Free	Stop	Stop
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary	ICU Level of Service D					
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	78.2%					
Analysis Period (min)	15					

2035 AM Peak BUILD Conditions Case "Y" - Left-in at Walker
Synchro 8 Report
2035ABX-CaseY.syn

HCM 2010 TWSC
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Intersection	69.3					
Int Delay, s/veh	69.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	3339	206	90	1505	0	113
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	150	-	-	0
Veh in Median Storage, #	0	0	0	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	3710	229	100	1672	0	126
Major/Minor	Major1 Minor1					
Conflicting Flow All	0	0	3710	0	4579	1855
Stage 1	-	-	-	-	3710	-
Stage 2	-	-	-	-	869	-
Critical Hdwy	-	-	5.36	-	5.76	7.16
Critical Hdwy Sig 1	-	-	-	-	6.66	-
Critical Hdwy Sig 2	-	-	-	-	6.06	-
Follow-up Hdwy	-	-	3.13	-	3.83	3.93
Pot Cap-1 Maneuver	-	-	-15	-	3	-53
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	334	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-15	-	3	-53
Mov Cap-2 Maneuver	-	-	-	-	3	-
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	334	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	172.2	\$ 789.9			
HCM LOS	F	F	F			
Minor Lane/Minor Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	53	-	-	-15	-	
HCM Lane V/C Ratio	2.369	-	-	6.667	-	
HCM Control Delay (s)	\$ 789.9	-	-	\$ 3051.5	-	
HCM Lane LOS	F	-	-	F	-	
HCM 95th %ile Q(veh)	12.8	-	-	13.4	-	
Notes	-					
- Volume exceeds capacity	\$ Delay exceeds 300s					
- Computation Not Defined	All major volume in platoon					

2035 AM Peak BUILD Conditions Case "Y" - Left-in at Walker
Synchro 8 Report
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Lanes, Volumes, Timings
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑↑↑	↑	↑
Volume (vph)	2239	25	0	3095	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115	0	0	0	0	0
Storage Lanes	1	0	0	0	0	1
Taper Length (ft)		25	25	25	25	1.00
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt		0.850				0.865
Flt Protected						
Satd. Flow (prot)	5036	1568	0	5036	0	1596
Flt Permitted						
Satd. Flow (perm)	5036	1568	0	5036	0	1596
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	1185	622	622	319	319	7.3
Travel Time (s)	26.9	14.1	14.1	7.3	7.3	0.97
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2308	26	0	3191	0	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2308	26	0	3191	0	26
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width (ft)	12	0	12	12	0	0
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two Way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	15	15	15	9
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	63.1%					
Analysis Period (min)	15					
ICU Level of Service B						

2035 PM Peak NOBUILD Conditions Both Cases

Synchro 8 Report
2035PNX-BothCases.syn

HCM 2010 TWSC

Terry O. Brown, P.E.
5/7/2015

2: Walker Rd. & Gibson Blvd.

Intersection	0.1					
Int Delay, s/veh						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	2239	25	0	3095	0	25
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	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2308	26	0	3191	0	26
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2308	0	3584	1154
Stage 1	-	-	-	-	2308	-
Stage 2	-	-	-	-	1278	-
Critical Hdwy	-	-	5.36	-	5.76	7.16
Critical Hdwy Stg 1	-	-	-	-	6.66	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	-	-	3.13	-	3.83	3.93
Pot Cap-1 Maneuver	-	-	86	-	12	162
Stage 1	-	-	-	-	35	-
Stage 2	-	-	-	-	201	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	86	-	12	162
Mov Cap-2 Maneuver	-	-	-	-	12	-
Stage 1	-	-	-	-	35	-
Stage 2	-	-	-	-	201	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0	31.4			
HCM LOS	D	D	D			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	162	-	-	86	-	
HCM Lane V/C Ratio	0.159	-	-	-	-	
HCM Control Delay (s)	31.4	-	-	0	-	
HCM Lane LOS	D	-	-	A	-	
HCM 95th %ile Q(veh)	0.6	-	-	0	-	

2035 PM Peak NOBUILD Conditions Both Cases

Synchro 8 Report
2035PNX-BothCases.syn

Lanes, Volumes, Timings
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	AAA	A	AAA	AAA		A
Volume (vph)	2214	77	0	3155	0	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115	0	0	0	0	0
Storage Lanes	1	0	0	0	0	1
Taper Length (ft)		25		25		
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Fit		0.850				0.865
Fit Protected						
Satd. Flow (prot)	5036	1568	0	5036	0	1596
Fit Permitted						
Satd. Flow (perm)	5036	1568	0	5036	0	1596
Link Speed (mph)	30		30	30	30	
Link Distance (ft)	1185		622	319		
Travel Time (s)	26.9		14.1	7.3		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2282	79	0	3253	0	100
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2282	79	0	3253	0	100
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12		12			
Link Offset(ft)	0		0			
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15			15	9
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	64.3%					
Analysis Period (min)	15					
ICU Level of Service C						

2035 PM Peak BUILD Conditions Case "N" - No left-in at Walker

Synchro 8 Report
2035PBX-CaseN.syn

HCM 2010 TWSC
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Intersection	EBT	EBR	WBL	WBT	NBL	NBR
Int Delay s/veh	2214	77	0	3155	0	97
Movement	Free	Free	Free	Free	Stop	Stop
Vol. veh/h	2214	77	0	3155	0	97
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None	- None	- None	- None	- None	- None
Storage Length	115	0	0	0	0	0
Veh in Median Storage. #	0	0	0	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2282	79	0	3253	0	100
Major/Minor						
Major1	0	0	2282	0	3583	1141
Minor1						
Conflicting Flow All	0	0	2282	0	3583	1141
Stage 1	-	-	-	-	1301	-
Stage 2	-	-	-	-	5.76	7.16
Critical Hdwy	-	-	5.36	-	6.66	-
Critical Hdwy Stg 1	-	-	-	-	6.06	-
Critical Hdwy Stg 2	-	-	-	-	3.83	3.93
Follow-up Hdwy	-	-	3.13	-	12	166
Pot Cap-1 Maneuver	-	-	89	-	37	-
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	12	166
Platoon blocked, %	-	-	-	-	12	-
Mov Cap-1 Maneuver	-	-	89	-	12	-
Mov Cap-2 Maneuver	-	-	-	-	37	-
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	-	-
Approach						
EB	0	0	0	0	NB	55
WB					F	
HCM Control Delay, s	0	0	0	0	55	
HCM LOS					F	
Minor Lane/Major Mvmt						
NBLnI	166	-	89	-	-	-
Capacity (veh/h)	166	-	89	-	-	-
HCM Lane V/C Ratio	0.602	-	-	-	-	-
HCM Control Delay (s)	55	-	0	-	-	-
HCM Lane LOS	F	-	A	-	-	-
HCM 95th %ile Q(veh)	3.3	-	0	-	-	-

2035 PM Peak BUILD Conditions Case "N" - No left-in at Walker

Synchro 8 Report
2035PBX-CaseN.syn

Lanes, Volumes, Timings
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑	↑	↑
Volume (vph)	2218	73	99	3056	0	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1900	115	150	0	0	0
Storage Lanes	1	1	1	0	1	1
Taper Length (ft)			25	25		
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt	0.850					0.865
Flt Protected			0.950			
Satd. Flow (prot)	5036	1568	1752	5036	0	1596
Flt Permitted			0.950			
Satd. Flow (perm)	5036	1568	1752	5036	0	1596
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	1185	622	319	622	319	1185
Travel Time (s)	26.9	14.1	7.3	14.1	7.3	26.9
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2287	75	102	3151	0	100
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2287	75	102	3151	0	100
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width (ft)	12	12	12	12	0	12
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	15	15	15	9
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary	Other					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	62.4%					
Analysis Period (min)	15					
	ICU Level of Service B					

2035 PM Peak BUILD Conditions Case "Y" - Left-in at Walker
Synchro 8 Report
2035PBX-CaseY.syn

HCM 2010 TWSC
2: Walker Rd. & Gibson Blvd.

Terry O. Brown, P.E.
5/7/2015

Intersection	5.1					
Int Delay, s/veh	5.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	2218	73	99	3056	0	97
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	-	150	-	0
Veh in Median Storage, #	0	0	0	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2287	75	102	3151	0	100
Major/Minor	Major1	Major2	Major2	Major2	Minor1	Minor1
Conflicting Flow All	0	0	2287	0	3751	1143
Stage 1	-	-	-	-	2287	-
Stage 2	-	-	-	-	1464	-
Critical Hdwy	-	-	5.36	-	5.76	7.16
Critical Hdwy Sig 1	-	-	-	-	6.66	-
Critical Hdwy Sig 2	-	-	-	-	6.06	-
Follow-up Hdwy	-	-	3.13	-	3.83	3.93
Pot Cap-1 Maneuver	-	-	-88	-	9	165
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	158	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-88	-	9	165
Mov Cap-2 Maneuver	-	-	-	-	36	-
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB	WB	NB		
HCM Control Delay, s	0	7.3	7.3	55.7		
HCM LOS				F		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	165	-	-	-88	-	
HCM Lane V/C Ratio	0.606	-	-	1.16	-	
HCM Control Delay (s)	55.7	-	-	232.3	-	
HCM Lane LOS	F	-	-	F	-	
HCM 95th %ile Q(veh)	3.3	-	-	7.1	-	
Notes						
-: Volume exceeds capacity	\$: Delay exceeds 300s					
-: Computation Not Defined	*: All major volume in platoon					

2035 PM Peak BUILD Conditions Case "Y" - Left-in at Walker
Synchro 8 Report
2035PBX-CaseY.syn

Lanes, Volumes, Timings

Terry O. Brown, P.E.
4/7/2015

HCM 2010 TWSC

Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBT	NBR	SBT	SBT
Lane Configurations	W	R	T	T	T	T
Volume (vph)	4	118	136	6	161	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	1900
Storage Lanes	1	0	0	0	1	1
Taper Length (ft)	25	0	0	0	25	1
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.870	0.995	0.950	0.950	1.00	1.00
Flt Protected	0.998	0	1835	0	1752	1845
Satd. Flow (pcu/h)	1602	0	1835	0	1752	1845
Flt Permitted	0.998	0	1835	0	1752	1845
Satd. Flow (pcu/h)	1602	0	1835	0	1752	1845
Link Speed (mph)	30	30	418	30	402	30
Link Distance (ft)	234	418	402	30	402	30
Travel Time (s)	5.3	9.5	9.1	9.1	9.1	9.1
Peak Hour Factor	0.85	0.85	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	139	143	6	169	67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	149	0	169	67
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Left
Median Width (ft)	12	12	12	12	12	12
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	Free	9	15	15
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 34.0%						
Analysis Period (min) 15						

Intersection	WBL	WBR	NBT	NBR	SBT	SBT
Int Delay, s/wht	5.2					
Movement	WBL	WBR	NBT	NBR	SBT	SBT
Vol, veh/h	4	118	136	6	161	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	0	150	1900
Vel in Median Storage, #	0	0	0	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	85	85	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	139	143	6	169	67
Major/Minor	Minor1	Major1	Major2	Minor2	Major3	Minor3
Conflicting Flow All	552	146	0	0	149	0
Stage 1	146	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Sig 1	5.43	-	-	-	-	-
Critical Hdwy Sig 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pol Cap-1 Maneuver	493	898	-	-	1426	-
Stage 1	879	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	435	898	-	-	1426	-
Mov Cap-2 Maneuver	435	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	591	-	-	-	-	-
Approach	WBL	NBT	NBR	SBT	SBT	
HCM Control Delay, s	10	0	0	5.6		
HCM LOS	B					

Minor Lane/Minor Mvmt	NBT	NBR	WBL	WBR	SBT	SBT
Capacity (veh/h)	-	-	868	1426	-	-
HCM Lane V/C Ratio	-	-	0.165	0.119	-	-
HCM Control Delay (s)	-	-	10	7.9	-	-
HCM Lane LOS	-	-	B	A	-	-
HCM 95th %ile Q(veh)	-	-	0.6	0.4	-	-

Lanes, Volumes, Timings 3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	4	118	136	6	71	65
Volume (vph)	4	118	136	6	71	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	1900
Storage Lanes	1	0	0	0	1	1
Taper Length (ft)	25	1.00	1.00	1.00	25	1.00
Lane Util. Factor	0.870	1.00	0.995	1.00	1.00	1.00
Frt	0.870	1.00	0.995	1.00	1.00	1.00
Flt Protected	0.998	0	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1602	0	1835	0	1752	1845
Flt Permitted	0.998	0	0.950	0.950	0.950	0.950
Satd. Flow (perm)	1602	0	1835	0	1752	1845
Link Speed (mph)	30	30	418	30	402	30
Link Distance (ft)	224	418	9.5	402	9.1	30
Travel Time (s)	5.3	9.5	9.5	9.1	9.1	30
Peak Hour Factor	0.85	0.85	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	139	143	6	75	68
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	149	0	75	68
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width (ft)	12	0	0	0	12	0
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	Free	9	15	Free
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Other						
Area Type:						
Control Type: Unsignalized						
Intersection Capacity Utilization 29.0%						
Analysis Period (min) 15						
ICU Level of Service A						

2017 AM Peak BUILD Conditions Case "V" - Left-in at Walker

Synchro 8 Report
2017ABX-Case1.syn

HCM 2010 TWSC 3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Intersection	WBL	WBR	NBT	NBR	SBL	SBT
Int Delay, s/vph	4.6					
Movement						
Vol. veh/h	4	118	136	6	71	65
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	0	150	0
Veh in Median Storage, #	0	0	0	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	85	85	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	139	143	6	75	68
Major/Minor						
Conflicting Flow All	364	146	0	0	149	0
Stage 1	146	-	-	-	-	-
Stage 2	218	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Sig 1	5.43	-	-	-	-	-
Critical Hdwy Sig 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.327	3.327	-	-	2.227	-
Platoon blocked, %	633	898	-	-	1426	-
Stage 1	879	-	-	-	-	-
Stage 2	816	-	-	-	-	-
Platoon blocked, %	600	898	-	-	1426	-
Mov Cap-1 Maneuver	600	-	-	-	-	-
Mov Cap-2 Maneuver	879	-	-	-	-	-
Stage 1	773	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach						
WBL	WBR	NBT	NBR	SBL	SBT	
HCM Control Delay, s	9.9					
HCM LOS	A					
Minor Lane/Major Mvmt						
Capacity (veh/h)	-	884	1426	-	-	-
HCM Lane V/C Ratio	-	0.162	0.052	-	-	-
HCM Control Delay (s)	-	9.9	7.7	-	-	-
HCM Lane LOS	-	A	A	-	-	-
HCM 95th %ile Q(veh)	-	0.6	0.2	-	-	-

2017 AM Peak BUILD Conditions Case "V" - Left-in at Walker

Synchro 8 Report
2017ABX-Case1.syn

Lanes, Volumes, Timings

3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Configurations	Y	Y	Y	Y	Y	Y
Volume (vph)	5	117	159	6	164	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	1900
Storage Lanes	1	0	0	0	1	1
Taper Length (ft)	25	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.871	0.995	0.995	0.995	0.995	0.995
Flt Protected	0.998	0	0	0	0.950	0.950
Satd. Flow (prot)	1603	0	1835	0	1752	1845
Flt Permitted	0.998	0	0	0	0.950	0.950
Satd. Flow (perm)	1603	0	1835	0	1752	1845
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	234	418	418	418	402	402
Travel Time (s)	5.3	9.5	9.5	9.5	9.1	9.1
Peak Hour Factor	0.85	0.85	0.96	0.96	0.96	0.96
Adj. Flow (vph)	6	138	166	6	171	167
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	172	0	171	167
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width (ft)	12	12	12	12	12	12
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	15	9	9	9	15	15
Turning Speed (mph)	Stop	Free	Free	Free	Free	Free
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	35.3%					
Analysis Period (min)	15					
	ICU Level of Service A					

HCM 2010 TWSC

3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Intersection	4.3					
Int Delay, s/veh	4.3					
Movement	WBL	WBR	NBT	NBR	SBT	SBR
Vol. veh/h	5	117	159	6	164	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	0	150	1900
Veh in Median Storage, #	0	0	0	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	85	85	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Minor Flow	6	138	166	6	171	167
Major/Minor	Minor1	Minor2	Major1	Major2	Minor1	Minor2
Conflicting Flow All	677	169	0	0	172	0
Stage 1	169	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Sig 1	5.43	-	-	-	-	-
Critical Hdwy Sig 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pol Cap-1 Maneuver	417	872	-	-	1399	-
Stage 1	858	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	366	872	-	-	1399	-
Mov Cap-2 Maneuver	366	-	-	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	528	-	-	-	-	-
Approach	WBR	NBT	NBR	SBT	SBR	
HCM Control Delay, s	10.3	0	0	4	4	
HCM LOS	B					
Minor Lane Major Movt	NBT	NBR	WBL	WBR	SBT	SBR
Capacity (veh/h)	-	-	825	1399	-	-
HCM Lane V/C Ratio	-	-	0.174	0.122	-	-
HCM Control Delay (s)	-	-	10.3	7.9	-	-
HCM Lane LOS	-	-	B	A	-	-
HCM 95th %ile Q(veh)	-	-	0.6	0.4	-	-

Lanes, Volumes, Timings

3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y	Y	1	1	Y	Y
Volume (vph)	5	117	159	6	65	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	1900
Storage Lanes	0	0	0	0	1	1
Taper Length (ft)	25	1	0	0	25	1
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
RT	0.871	0.995	0.995	0.995	0.995	0.995
RT Protected	0.998	0.998	0.998	0.998	0.998	0.998
Satd. Flow (prot)	1603	0	1835	0	1752	1845
RT Permitted	0.998	0.998	0.998	0.998	0.998	0.998
Satd. Flow (perm)	1603	0	1835	0	1752	1845
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	234	418	418	402	402	9.1
Travel Time (s)	5.3	9.5	9.5	9.5	9.5	9.1
Peak Hour Factor	0.85	0.85	0.96	0.96	0.96	0.96
Adj. Flow (vph)	6	138	166	6	68	167
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	172	0	68	167
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width (ft)	12	12	12	12	12	12
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	9	9	15	15
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	29.8%					
Analysis Period (min)	15					

HCM 2010 TWSC

3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Intersection	Int Delay, s/vph	3.6				
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol. veh/h	5	117	159	6	65	160
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	0	0	0	150	1900
Veh in Median Storage, #	0	0	0	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	85	85	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Memt Flow	6	138	166	6	68	167
Major/Minor	Minor1	Minor1	Major1	Major2	Major2	Minor2
Conflicting Flow All	471	169	0	0	172	0
Stage 1	169	302	-	-	-	-
Stage 2	6.43	6.23	-	-	4.13	-
Critical Hwy Stg 1	5.43	-	-	-	-	-
Critical Hwy Stg 2	5.43	-	-	-	-	-
Follow-up Hwy	3.527	3.327	-	-	2.227	-
Platoon blocked, %	549	872	-	-	1399	-
Stage 1	858	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %	522	872	-	-	1399	-
Mov Cap-1 Maneuver	522	-	-	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	712	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.1	0	2.2			
HCM LOS	B					
Minor Lane/Major Mntr	NBT	NBR	NBT	SBL	SBT	
Capacity (veh/h)	-	849	1399	-	-	-
HCM Lane V/C Ratio	-	0.169	0.048	-	-	-
HCM Control Delay (s)	-	10.1	7.7	-	-	-
HCM Lane LOS	-	B	A	-	-	-
HCM 95th %ile Q(veh)	-	0.6	0.2	-	-	-

Lanes, Volumes, Timings
3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBL	NBR	SBL	SBT
Lane Configurations	↰	↱	↰	↱	↰	↱
Volume (vph)	4	118	198	6	161	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	150	1	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.870		0.996			
Flt Protected	0.998			0.950		
Satd. Flow (prot)	1602	0	1837	0	1752	1845
Flt Permitted	0.998			0.950		
Satd. Flow (perm)	1602	0	1837	0	1752	1845
Link Speed (mph)	30		30		30	
Link Distance (ft)	234		418		402	
Travel Time (s)	5.3		9.5		9.1	
Peak Hour Factor	0.85	0.85	0.95	0.85	0.95	0.95
Adj. Flow (vph)	5	139	208	6	169	113
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	214	0	169	113
Either Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12		Left	12
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free		Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	37.2%					
ICU Level of Service A						
Analysis Period (min)	15					

HCM 2010 TWSC
3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Intersection									
In/ Delay, s/mph									
4.5									
Movement	WBL	WBR	NBT	NBR	SBL	SBR			
Vol. veh/h	4	118	139	6	161	107			
Conflicting Peds. #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	-	-	150	-			
Vel in Median Storage #	0	-	0	-	0	0			
Grade, %	0	-	0	-	-	-			
Peak Hour Factor	85	85	95	95	95	95			
Heavy Vehicles, %	3	3	3	3	3	3			
Mynt Flow	5	139	208	6	169	113			
Major/Minor	Minor1	Major1	Major2	Minor2					
Conflicting Flow All	664	212	0	0	215	0			
Stage 1	212	-	-	-	-	-			
Stage 2	452	-	-	-	-	-			
Critical Hdwy	6.43	6.23	-	-	4.13	-			
Critical Hdwy Sig 1	5.43	-	-	-	-	-			
Critical Hdwy Sig 2	5.43	-	-	-	-	-			
Follow-up Hdwy	3.527	3.327	-	-	2.227	-			
Pol Cap - Maneuver	424	826	-	-	1349	-			
Stage 1	821	-	-	-	-	-			
Stage 2	639	-	-	-	-	-			
Platoon blocked, %	-	-	-	-	-	-			
Mov Cap-1 Maneuver	371	826	-	-	1349	-			
Stage 1	371	-	-	-	-	-			
Stage 2	821	-	-	-	-	-			
Approach	WBL	NB	SB						
HCM Control Delay, s	10.5	0	4.8						
HCM LOS	B								
Minor Lane Major Min1	NBT	NBR	NBL	SBL	SBR				
Capacity (veh/h)	-	794	1349	-	-				
HCM Lane V/C Ratio	-	0.181	0.126	-	-				
HCM Control Delay (s)	-	10.5	8.1	-	-				
HCM Lane LOS	-	B	A	-	-				
HCM 95th %ile Q(veh)	-	0.7	0.4	-	-				

Lanes, Volumes, Timings

3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	4	118	198	6	71	107
Volume (vph)	4	118	198	6	71	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	1900
Storage Lanes	1	0	0	0	1	1
Travel Length (ft)	25	1	0	0	25	1
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.870	0.996	0.996	0.950	0.950	0.950
Fit Protected	0.998	0	1837	0	1752	1845
Satd. Flow (prot)	1602	0	1837	0	1752	1845
Fit Permitted	0.998	0	1837	0	1752	1845
Satd. Flow (perm)	1602	0	1837	0	1752	1845
Link Speed (mph)	30	30	30	30	30	30
Travel Time (s)	234	418	9.5	402	9.1	402
Link Distance (ft)	5.3	0.85	0.95	0.95	0.95	9.1
Peak Hour Factor	0.85	0.85	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	139	208	6	75	113
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	214	0	75	113
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width (ft)	12	0	12	0	12	0
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	0	16	0	16	0
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	15	9	9	9	15	15
Turning Speed (mph)	15	9	9	9	15	15
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	32.2%					
Analysis Period (min)	15					

HCM 2010 TWSC

3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Intersection	3.8					
Int Delay, sveh						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol. veh/h	4	118	198	6	71	107
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	0	150	1900
Veh in Median Storage, #	0	0	0	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	85	85	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mount Flow	5	139	208	6	75	113
Major/Minor	Minor1	Major1	Major2	Minor2	Major3	Minor3
Conflicting Flow All	474	212	0	0	215	0
Stage 1	212	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Sig 1	5.43	-	-	-	-	-
Critical Hdwy Sig 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Platoon blocked, %	547	826	-	-	1349	-
Stage 1	821	-	-	-	-	-
Stage 2	780	-	-	-	-	-
Platoon blocked, %	517	826	-	-	1349	-
Mov Cap-1 Maneuver	517	-	-	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	737	-	-	-	-	-
Approach	WBR	NBR	NB	SB		
HCM Control Delay, s	10.4	0	0	3.1		
HCM LOS	B					
Minor Lane Major Mount	NBT	NBR	NBT	SBL	SBT	
Capacity (veh/h)	-	-	810	1349	-	
HCM Lane V/C Ratio	-	-	0.177	0.055	-	
HCM Control Delay (s)	-	-	10.4	7.8	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %ile Q(veh)	-	-	0.6	0.2	-	

Lanes, Volumes, Timings

3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	5	117	455	6	164	261
Volume (vph)	5	117	455	6	164	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	1900
Storage Lanes	1	0	0	0	1	1
Taper Length (ft)	25	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.871	0.998	0.998	0.998	0.998	0.998
Flt. Protected	0.998	0.998	0.998	0.998	0.998	0.998
Satd. Flow (prot)	1603	0	1841	0	1752	1845
Flt. Permitted	0.998	0.998	0.998	0.998	0.998	0.998
Satd. Flow (perm)	1603	0	1841	0	1752	1845
Link Speed (mph)	30	30	418	30	402	30
Link Distance (ft)	234	418	9.5	402	9.1	402
Travel Time (s)	5.3	0.85	0.96	0.96	0.96	9.1
Peak Hour Factor	0.85	0.85	0.96	0.96	0.96	0.96
Adj. Flow (vph)	6	138	474	6	171	272
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	480	0	171	272
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width (ft)	12	12	12	12	12	12
Link Offset(ft)	0	0	0	0	0	0
Crosswalk Width(ft)	16	16	16	16	16	16
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	15	9	9	9	15	15
Turning Speed (mph)	Stop	Free	Free	Free	Free	Free
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	50.9%					
Analysis Period (min)	15					
					ICU Level of Service A	

2035 PM Peak BUILD Conditions Case "N" - No left-in at Walker

Synchro 8 Report
2035PBX-Casen.syn

HCM 2010 TWSC

3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Intersection	WBL	WBR	NBT	NBR	SBL	SBT
Int Delay, s/veh	3.3					
Movement	5	117	455	6	164	261
Vol. veh/h	5	117	455	6	164	261
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	-	-	-	-	-
Storage Length	0	None	None	None	150	1900
Veh in Median Storage	0	0	0	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	85	85	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Movt Flow	6	138	474	6	171	272
Major/Minor	Minor1	Major1	Major2	Minor2	Major2	Minor2
Conflicting Flow All	1091	477	0	0	480	0
Stage 1	477	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Critical Hwy	6.43	6.23	-	-	4.13	-
Critical Hwy Sig 1	5.43	-	-	-	-	-
Critical Hwy Sig 2	5.43	-	-	-	-	-
Follow-up Hwy	3.527	3.327	-	-	2.227	-
Platoon blocked, %	237	586	-	-	1077	-
Platoon blocked, %	622	-	-	-	-	-
Stage 1	538	-	-	-	-	-
Platoon blocked, %	199	586	-	-	1077	-
Mov Cap-1 Maneuver	199	-	-	-	-	-
Mov Cap-2 Maneuver	622	-	-	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WBL	NB	SB			
HCM Control Delay, s	14	0	3.5			
HCM LOS	B					
Minor Lane/Minor Movt	NBT	NBR	SBL	SBT		
Capacity (veh/h)	-	543	1077	-		
HCM Lane V/C Ratio	-	0.264	0.159	-		
HCM Control Delay (s)	-	14	9	-		
HCM Lane LOS	-	B	A	-		
HCM 95th %tile Q(veh)	-	1.1	0.6	-		

2035 PM Peak BUILD Conditions Case "N" - No left-in at Walker

Synchro 8 Report
2035PBX-Casen.syn

Lanes, Volumes, Timings

Terry O. Brown, P.E.
4/7/2015

3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y	Y	1	1	1	1
Volume (vph)	5	117	455	6	65	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	1900
Storage Lanes	1	0	0	0	1	1
Taper Length (ft)	25	0	0	0	25	1
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.871	0.998	0.998	0.950	0.950	0.950
Flt Protected	0.998	0	1841	0	1752	1845
Satd Flow (prot)	1603	0	1841	0	1752	1845
Flt Permitted	0.998	0.998	0.950	0.950	0.950	0.950
Satd Flow (perm)	1603	0	1841	0	1752	1845
Link Speed (mph)	30	30	418	30	402	30
Link Distance (ft)	234	418	9.5	402	9.1	30
Travel Time (s)	5.3	0.85	0.96	0.96	0.96	9.1
Peak Hour Factor	6	138	474	6	68	272
Adj. Flow (vph)	6	138	474	6	68	272
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	480	0	68	272
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Left
Median Width (ft)	12	12	12	12	12	12
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	Free	9	15	Free
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	45.4%					
Analysis Period (min)	15					

ICU Level of Service A

2035 PM Peak BUILD Conditions Case "Y" - Left-in at Walker

Synchro 8 Report
2035PBDX-CaseY.syn

Intersection	26
Int Delay, s/veh	26

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol. veh/h	5	117	455	6	65	261
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	0	150	1900
Vel in Median Storage: #	0	0	0	0	0	0
Grade, %	0	0	0	0	0	0
Peak Hour Factor	85	85	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mount Flow	6	138	474	6	68	272

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	884	477	0	480
Stage 1	477	-	-	-
Stage 2	407	-	-	-
Critical Hdwy	6.43	6.23	-	4.13
Critical Hdwy Stg 1	5.43	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-
Follow-up Hdwy	3.527	3.327	-	2.227
Pl Cap-1 Maneuver	315	586	-	1077
Stage 1	622	-	-	-
Stage 2	670	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	295	586	-	1077
Mov Cap-2 Maneuver	295	-	-	-
Stage 1	622	-	-	-
Stage 2	628	-	-	-

Approach	WBS	NB	SB
HCM Control Delay, s	13.6	0	1.7
HCM LOS	B	-	-

Minor Lane	Major	Minor1	NBT	NBR	NBT	SBL	SBT
Capacity (veh/h)	-	-	563	1077	-	-	-
HCM Lane V/C Ratio	-	-	0.255	0.663	-	-	-
HCM Control Delay (s)	-	-	13.6	8.6	-	-	-
HCM Lane LOS	-	-	B	A	-	-	-
HCM 95th %ile Q(veh)	-	-	1	0.2	-	-	-

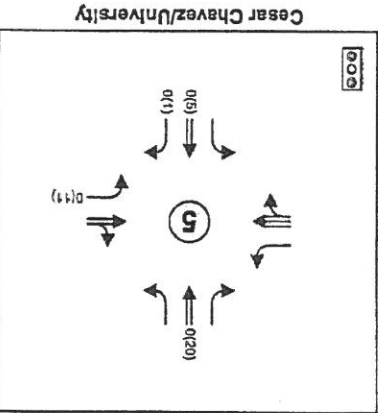
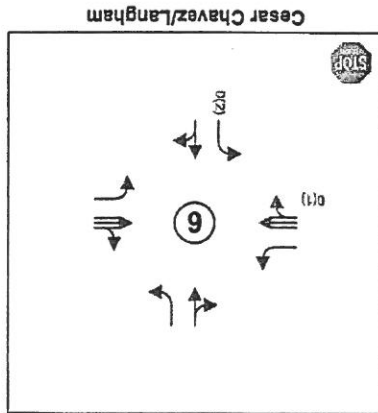
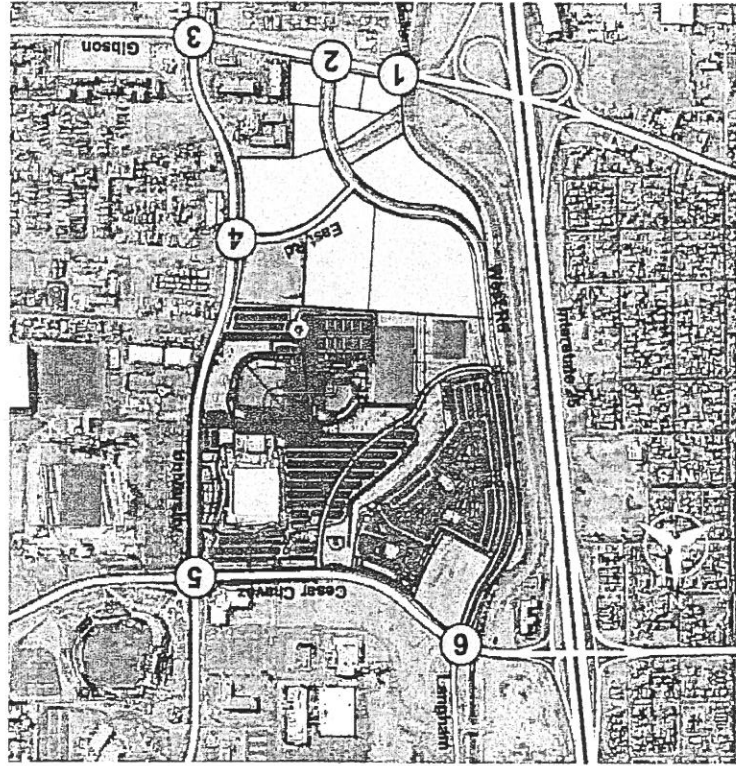
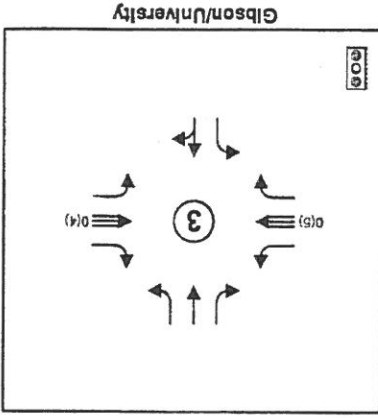
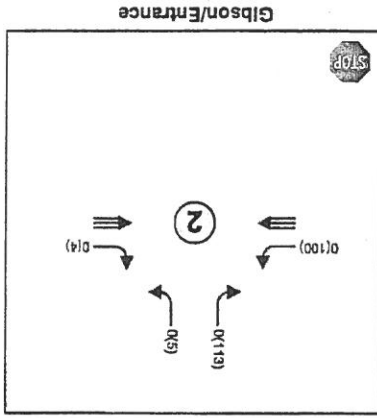
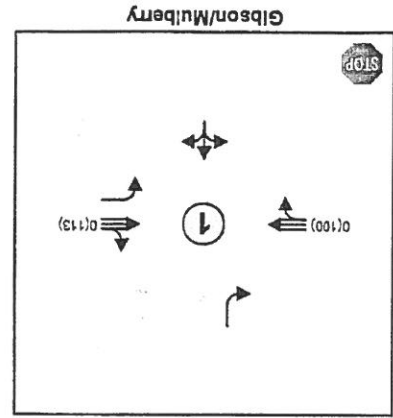
2035 PM Peak BUILD Conditions Case "Y" - Left-in at Walker

Synchro 8 Report
2035PBDX-CaseY.syn

**UNM Gibson Commercial District
 Traffic Impact Analysis**

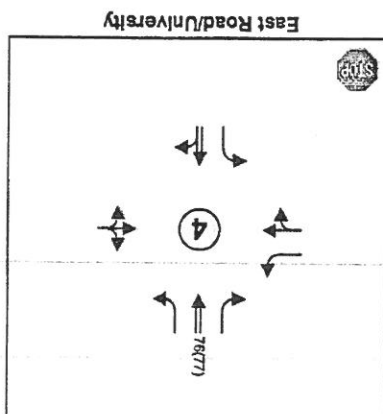
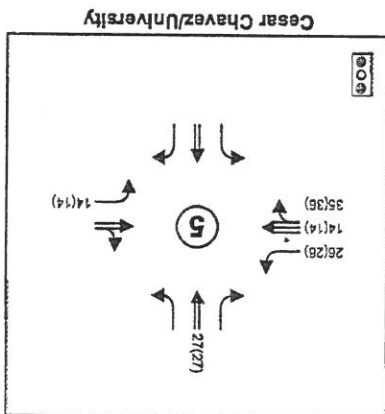
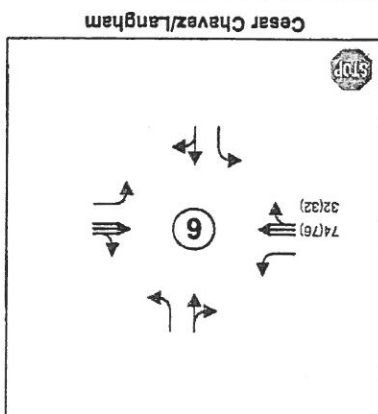
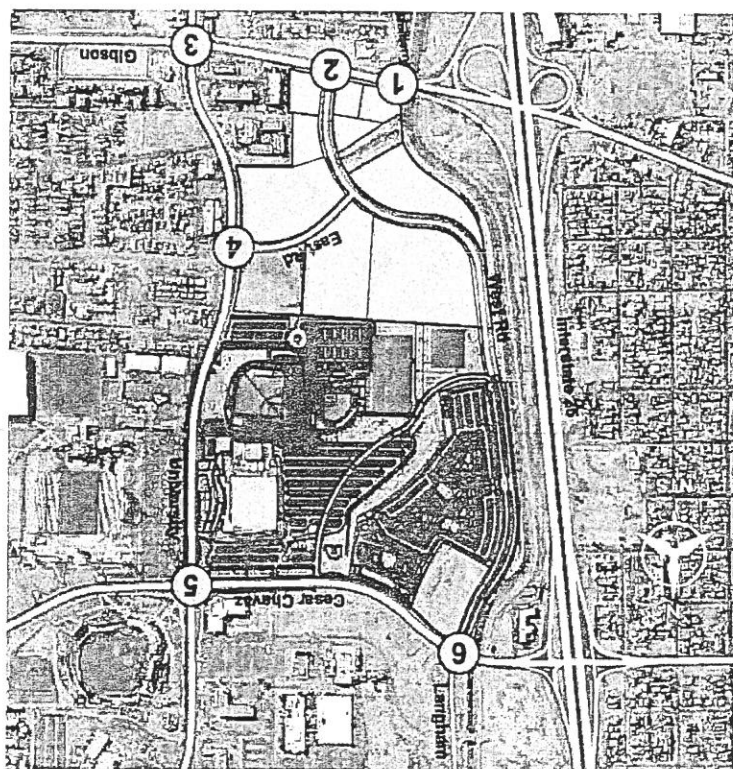
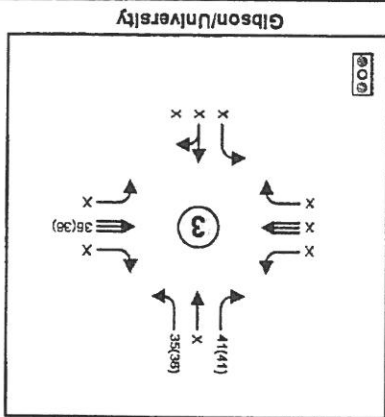
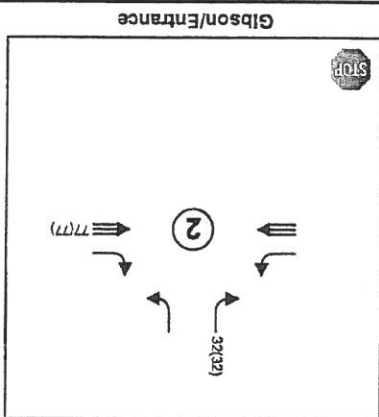
**FIGURE 6
 Destination Retail TRIP ASSIGNMENT
 VOLUMES - AM (PM)**

P:\2012\2012\TRAFFIC Study\Report-Production\Report Figures\Fig-6-20120122-Desal_Trip_Dist_Vol.dwg Aug 18, 2011 - 10:20am



LEGEND
 Thru Lanes (# as indicated)
 Turning Lanes (# as indicated)
 AM/PM Traffic Counts
 1204(1234)

FIGURE 10
Right-In/Right-Out Fast-Food/Conv Mart
TRIP ASSIGNMENT VOLUMES - AM (PM)



LEGEND

Thru Lanes
(# as indicated)

Turning Lanes
(# as indicated)

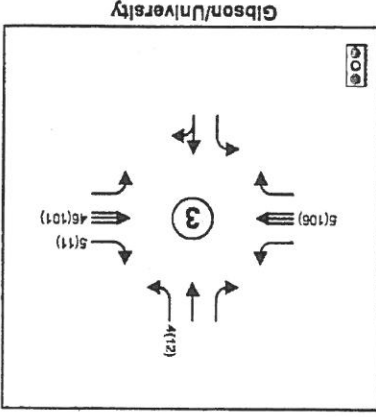
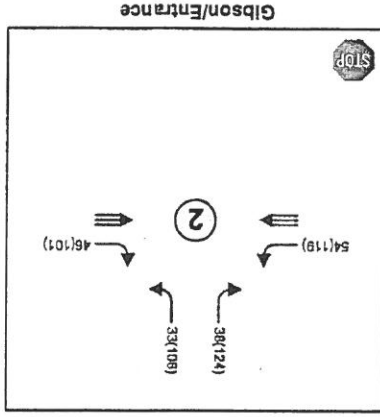
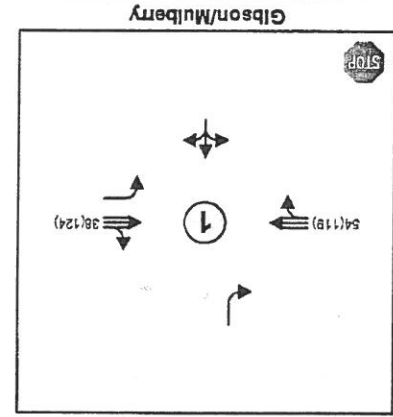
AM(PM) Traffic
Counts

1234(1234)

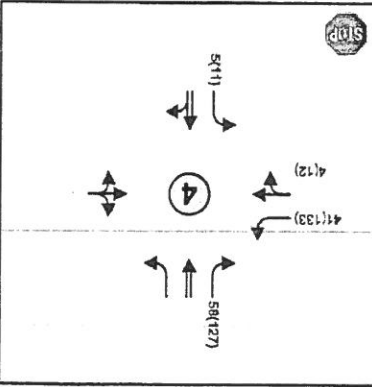
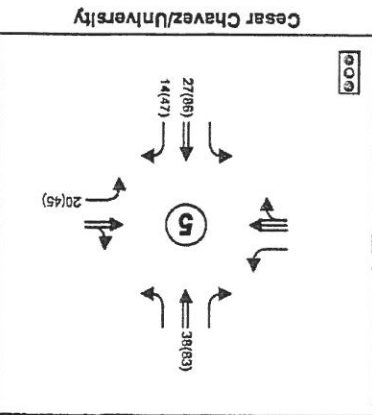
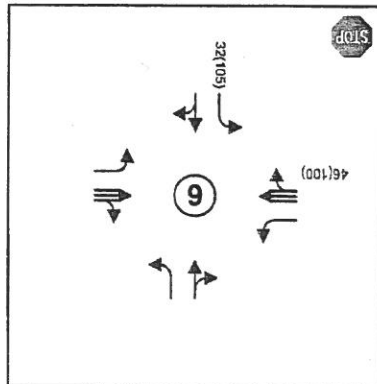
Bohannon & Huston
 Consulting Engineers & Surveyors, Inc.
 1700 Johnson St., Suite 200, Houston, TX 77058-4505
 ENGINEERING & SPATIAL DATA & ADVANCED TECHNOLOGIES

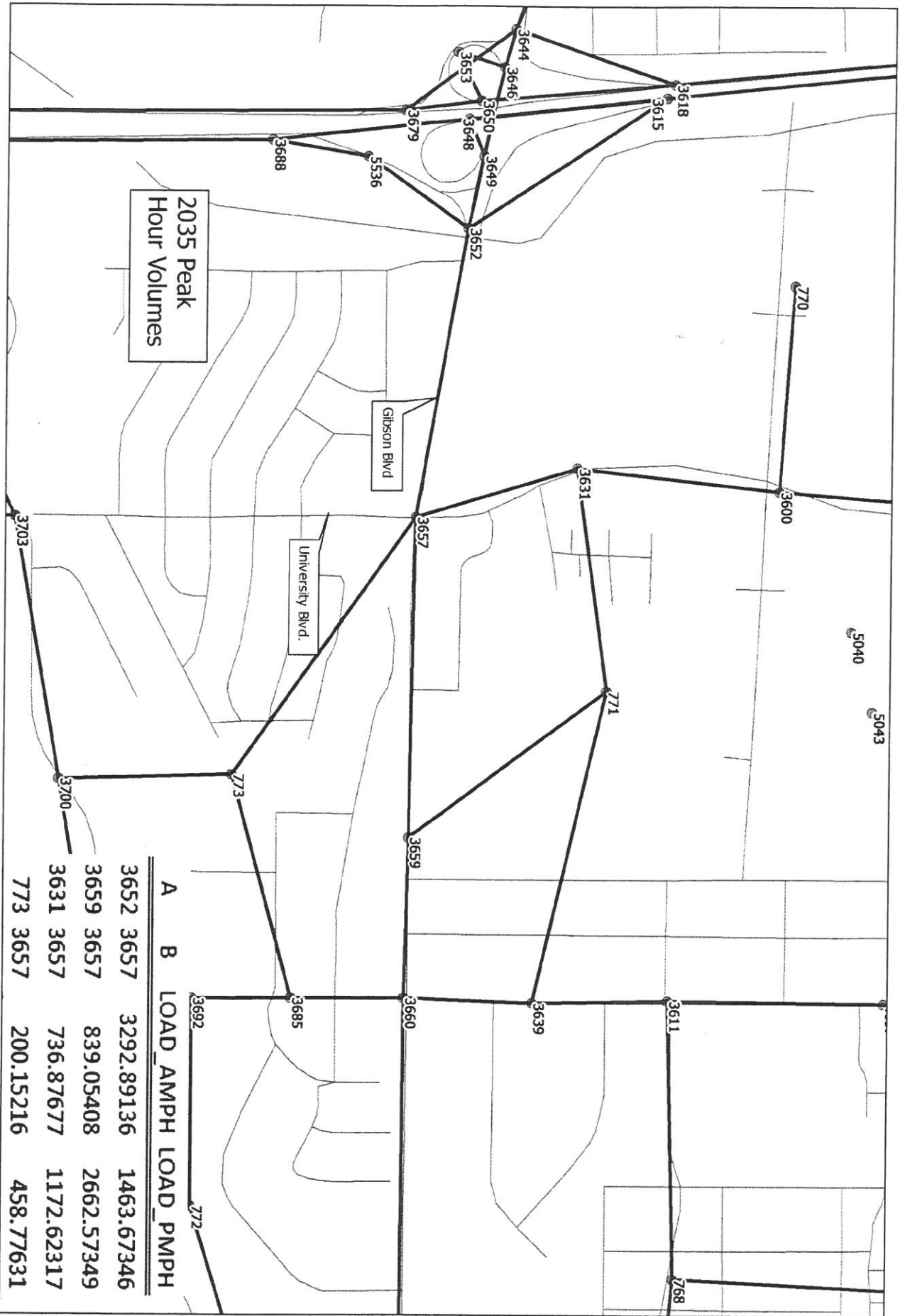
**UNM Gibson Commercial District
 Traffic Impact Analysis**

**FIGURE 8
 Community Retail Trip Assignment
 VOLUMES - AM (PM)**



LEGEND
 Thru Lanes (# as Indicated)
 Turning Lanes (# as Indicated)
 AM(PM) Traffic Counts
 1234(1234)





Traffic Count Data Sheet

Year Counts Taken:

2013

E-W Street:

Gibson Blvd.
University Blvd.

UN SIGNALIZED

Speed Limit (Gibson Blvd.) =
Speed Limit (University Blvd.) =25 MPH
35 MPH

2/12/13

Begin Time	End Time	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	20	446	2	5	154	40	27	4	3	30	4	44
7:15 AM	7:30 AM	35	494	4	3	177	27	48	6	7	36	4	47
7:30 AM	7:45 AM	34	460	1	2	186	29	13	4	4	48	2	25
7:45 AM	8:00 AM	43	466	17	5	292	21	30	3	4	42	2	16
8:00 AM	8:15 AM	53	477	6	6	251	35	19	5	15	39	5	21
8:15 AM	8:30 AM	45	439	4	8	259	34	14	8	13	37	4	12
8:30 AM	8:45 AM	47	349	7	2	226	40	40	22	9	28	45	24
8:45 AM	9:00 AM	43	346	6	9	234	33	44	17	9	33	8	21
AM Peak Hour Volumes		175	1842	28	0	21	988	119	1	76	20	36	0
% of Total Traffic		4.9%	51.8%	0.8%	0.6%	27.8%	3.3%	2.1%	0.6%	1.0%	4.7%	0.4%	0.0%
% Directional			57.5%			31.7%			3.7%		5.0%		
AM Peak Hour Factor			0.95			Intersection	0.95		0.85		0.84		
Begin Time	End Time	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	29	277	15	0	530	40	11	5	11	52	14	34
4:15 PM	4:30 PM	31	212	17	1	490	31	19	6	18	42	6	21
4:30 PM	4:45 PM	34	256	12	0	547	54	14	7	10	49	7	21
4:45 PM	5:00 PM	38	224	12	0	487	85	16	2	10	40	7	42
5:00 PM	5:15 PM	44	249	46	4	505	44	42	8	17	43	7	26
5:15 PM	5:30 PM	46	249	22	0	462	30	40	9	5	52	6	43
5:30 PM	5:45 PM	39	237	40	0	512	57	44	2	14	57	41	44
5:45 PM	6:00 PM	37	207	43	0	421	46	40	40	14	55	7	30
PM Peak Hour Volumes		132	969	56	1	62	2054	210	1	60	183	34	118
% of Total Traffic		3.3%	24.5%	1.4%	1.6%	52.0%	5.3%	1.5%	0.5%	1.2%	4.6%	0.9%	3.0%
% Directional			29.3%			58.9%			3.3%		8.5%		
PM Peak Hour Factor			0.90			Intersection	0.96		0.75		0.84		

Traffic Count Data Sheet

Year Counts Taken:

2015

E-W Street:
N-S Street:Gibson Blvd.
Walker Rd.

UN SIGNALIZED

Speed Limit (Gibson Blvd.) =
Speed Limit (Walker Rd.) =45 MPH
25 MPH
3/19/15

Begin Time	End Time	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	0	474	40	0	469	0	0	0	2	0	0	0
7:15 AM	7:30 AM	0	528	15	0	207	0	0	0	0	0	0	0
7:30 AM	7:45 AM	0	501	28	0	217	0	0	0	3	0	0	0
7:45 AM	8:00 AM	0	513	44	0	318	0	0	0	2	0	0	0
8:00 AM	8:15 AM	0	443	38	0	292	0	0	0	0	0	0	0
8:15 AM	8:30 AM	0	404	14	0	304	0	0	0	2	0	0	0
8:30 AM	8:45 AM	0	362	15	0	268	0	0	0	2	0	0	0
8:45 AM	9:00 AM	0	418	22	0	276	0	0	0	0	0	0	0
AM Peak Hour Volumes		0	1985	125	0	1034	0	0	0	5	0	0	0
% of Total Traffic		0.0%	63.0%	4.0%	0.0%	32.8%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%
% Directional			67.0%			32.8%			0.2%				
AM Peak Hour Factor			0.95			0.81		Intersection	0.90				

Begin Time	End Time	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	0	328	9	0	584	0	0	0	5	0	0	0
4:15 PM	4:30 PM	0	295	5	0	540	0	0	0	5	0	0	0
4:30 PM	4:45 PM	0	290	9	0	613	0	0	0	4	0	0	0
4:45 PM	5:00 PM	0	307	1	0	589	0	0	0	7	0	0	0
5:00 PM	5:15 PM	0	262	40	0	560	0	0	0	0	0	0	0
5:15 PM	5:30 PM	0	302	8	0	508	0	0	0	40	0	0	0
5:30 PM	5:45 PM	0	309	7	0	583	0	0	0	7	0	0	0
5:45 PM	6:00 PM	0	264	6	0	477	0	0	0	0	0	0	0
PM Peak Hour Volumes		0	1220	24	0	2326	0	0	0	21	0	0	0
% of Total Traffic		0.0%	33.9%	0.7%	0.0%	64.7%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%
% Directional			34.6%			64.7%			0.6%				
PM Peak Hour Factor			0.92			0.95		Intersection	0.97				

CITY OF ALBUQUERQUE



STANDARD LETTER SCOPE OF TRAFFIC IMPACT STUDY (TIS)

TO:

Terry Brown, P.E., PTOE
P. O. Box 92051
Albuquerque, NM 87199-2051
tobe@swcp.com

MEETING DATE: February 27, 2015

ATTENDEES: Terry Brown, Jeanne Wolfenbarger (COA)

PROJECT: Chick-fil-A, and McDonalds (southeast corner of Gibson and University)

REQUESTED CITY ACTION: ☐ Zone Change ☐ Site Development Plan

☒ Subdivision ☒ Building Permit ☐ Sector Plan ☐ Sector Plan Amendment

☐ Curb Cut Permit ☐ Conditional Use ☐ Annexation ☐ Site Plan Amendment

ASSOCIATED APPLICATION: The development will include a Chick's restaurant and a Chick Fillet Restaurant, and it will possibly include a McDonalds. (The development is located at the southeast corner of University Boulevard and Gibson Boulevard.) Access is proposed off of University Boulevard and from the end of Miles Road. In addition, left turn access onto Walker Drive from Gibson Boulevard is desired for the new development.

P.O. Box 1293

Albuquerque

The Traffic Impact Study should follow the standard report format, which is outlined in the DPM. The following supplemental information is provided for the preparation of this specific study. As each item identified in the scoping letter is completed, check the appropriate (box).

New Mexico 87103

1. Trip Generation - Use Trip Generation Manual, 9th Edition (incorporate 30% pass-by traffic)

www.cabq.gov

2. Appropriate study area:

Signalized Intersections: University / Gibson

Unsignalized Intersections: University / Walker

Driveway Intersections: All proposed site drives.

3. Intersection turning movement counts (7-9 a.m. peak hour, 4-6 p.m. peak hour for Chick-fil-A and Chick's only; if McDonalds is included, also include noon peak hour analysis in addition to morning and evening peak hour).

Intersections that need to be counted by developer: signalized and unsignalized listed above.

4. Type of intersection progression and factors to be used:

Type III arrival type (see "2010 Highway Capacity Manual" or equivalent as approved by staff). Unless otherwise justified, peak hour factors and % heavy commercial should be

taken directly from the MRCOG turning movement data provided or as calculated from current count data by consultant.

5. Boundaries of area to be used for trip distribution:
City Wide - residential, office or industrial;
2-mile radius - commercial;
6. Basis for trip distribution.
Residential - Use inverse relationship based upon distance and employment. Use employment data from 2035 Socioeconomic Forecasts, MRCOG - See MRCOG website for most current data.
Office/Industrial - Use inverse relationship based upon distance and population. Use population data from 2035 Socioeconomic Forecasts, MRCOG - See MRCOG website for most current data.
Commercial - Use relationship based upon population. Use population data from 2035 Socioeconomic Forecasts, MRCOG - See MRCOG website for most current data.
7. Traffic Assignment: Logical routing on the major street system.
8. Proposed developments which have been approved but not constructed that are to be included in the analyses: *UNM South Gibson Commercial District TIS (2011)*
9. Method of intersection capacity analysis - planning or operational (see "2010 Highway Capacity Manual" or equivalent [i.e. HCS, Synchro, Teapac, etc.] as approved by staff). Must use latest version of design software and/or current edition of design manual. **Implementation Year: 2017**
10. Traffic conditions for analysis:
a. Project completion year without proposed development (yr. 2017);
b. Project completion year with proposed development (yr. 2017).
11. Background traffic growth.
Method: use 10-year historical growth based on standard data from the MRCOG Traffic Flow Maps. Minimum growth rate to be used is 1/2%.
12. Planned (programmed) traffic improvements.
List planned CIP improvements in study area and projected project implementation year: None at this time.
13. Items to be included in the study:
a. Intersection analysis.
b. Arterial LOS analysis;
c. Recommended street, intersection and signal improvements.
d. Site design features such as turning lanes, median cuts, queuing requirements and site circulation, including driveway signalization and visibility.
e. Transportation system impacts.
f. Other mitigating measures.

CITY OF ALBUQUERQUE



g. Accident analyses ☐ yes ☒ no.

h. Weaving analyses ☐ yes ☒ no.

14. Number of copies of report required for the TIS Study only: 2 hard copies plus electronic copy

15. Separate Access Study will be required to include left turn access from Gibson Boulevard onto Walker Drive along with median cut to allow left turn access. This still requires approval from Debbie Bauman or DMD prior to submitting access study to MRCOG. If the proposal is acceptable, the necessary number of copies will need to be submitted to MRCOG for the review by the Request for Access Committee.

The Traffic Impact Study for this development proposal, project name, shall be performed in accordance with the above criteria. If there are any questions regarding the above items, please contact me at 924-3924.

[Signature]
 Jeanne Wolfenbarger, P.E.
 Senior Engineer for
 Transportation Development Section
 Date 03-05-15

cc: TIS Task Force Attendees
 Debbie Bauman, Public Works Strategic Program Manager, DMD
 file

www.cabq.gov

New Mexico 87103

Albuquerque

PO Box 1293

Lanes, Volumes, Timings
3: University Blvd. & "A"
Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P		Y	Y
Volume (vph)	4	118	136	6	161	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	
Storage Lanes	1	0	0	0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr	0.870		0.995			
Flt Protected	0.998			0.950		
Satd. Flow (prot)	1602	0	1835	0	1752	1845
Flt Permitted	0.998			0.950		
Satd. Flow (perm)	1602	0	1835	0	1752	1845
Link Speed (mph)	30		30		30	
Link Distance (ft)	234		418		402	
Travel Time (s)	5.3		9.5		9.1	
Peak Hour Factor	0.85	0.85	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	139	143	6	169	67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	149	0	169	67
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width (ft)	12		12		12	
Link Offset (ft)	0		0		0	
Crosswalk Width (ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop	Free	Free		Free	
Intersection Summary	ICU Level of Service A					
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 34.0%						
Analysis Period (min) 15						

2017 AM Peak BUILD Conditions Case "N" - No left-in at Walker
Synchro 8 Report
2017ABX-CaseN.syn

HCM 2010 TWSC
3: University Blvd. & "A"
Terry O. Brown, P.E.
4/7/2015

Interaction	WBL	WBR	NBT	NBR	SBL	SBT
Int Delay, s/veh	5.2					
Movement						
Vol. veh/h	4	118	136	6	161	64
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	0	-
Grade, %	0	-	0	-	0	-
Peak Hour Factor	85	85	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	139	143	6	169	67
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	552	146	0	0	149	0
Stage 1	146	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	493	898	-	-	1426	-
Stage 1	879	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	435	898	-	-	1426	-
Mov Cap-2 Maneuver	435	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	591	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	10		0		5.6	
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR/WBL1	SBL	SBT		
Capacity (veh/h)	-	868	1426	-		
HCM Lane V/C Ratio	-	0.165	0.119	-		
HCM Control Delay (s)	-	10	7.9	-		
HCM Lane LOS	-	B	A	-		
HCM 95th %ile Q(veh)	-	0.6	0.4	-		

2017 AM Peak BUILD Conditions Case "N" - No left-in at Walker
Synchro 8 Report
2017ABX-CaseN.syn

Lanes, Volumes, Timings
3: University Blvd. & "A"
Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	P	P	W	W
Volume (vph)	4	118	136	6	71	65
Ideal Flow (vphft)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	0
Storage Lanes	1	0	0	0	1	0
Taper Length (ft)	25	0	0	0	25	0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.998	0	0.995	0	0.950	0.950
Satd. Flow (prot)	1602	0	1835	0	1752	1845
Flt Permitted	0.998	0	0.995	0	0.950	0.950
Satd. Flow (perm)	1602	0	1835	0	1752	1845
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	234	418	418	418	402	402
Travel Time (s)	5.3	9.5	9.5	9.5	9.1	9.1
Peak Hour Factor	0.85	0.85	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	139	143	6	75	68
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	149	0	75	68
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width (ft)	12	12	12	12	12	12
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	15	9	9	9	15	15
Turning Speed (mph)	Stop	Free	Free	Free	Free	Free
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary	ICU Level of Service A					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.0%					
Analysis Period (min)	15					

2017 AM Peak BUILD Conditions Case "Y" - Left-in at Walker
Synchro 8 Report
2017ABX-CaseY.syn

HCM 2010 TWSC
3: University Blvd. & "A"
Terry O. Brown, P.E.
4/7/2015

Intersection	4.6					
Int Delay s/veh	4.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol. veh/h	4	118	136	6	71	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	139	143	6	75	68
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	364	146	0	0	149	0
Stage 1	146	-	-	-	-	-
Stage 2	218	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Sig 1	5.43	-	-	-	-	-
Critical Hdwy Sig 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	633	898	-	-	1426	-
Stage 1	879	-	-	-	-	-
Stage 2	816	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	600	898	-	-	1426	-
Mov Cap-2 Maneuver	600	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	773	-	-	-	-	-
Approach	WB	WB	NB	NB	SB	SB
HCM Control Delay, s	9.9	9.9	0	0	4	4
HCM LOS	A	A				
Minor Lane/Major Mvmt	NBT	NBR/WBL1	SBL	SBT		
Capacity (veh/h)	-	-	884	1426	-	-
HCM Lane V/C Ratio	-	-	0.162	0.052	-	-
HCM Control Delay (s)	-	-	9.9	7.7	-	-
HCM Lane LOS	-	-	A	A	-	-
HCM 95th %ile Q(veh)	-	-	0.6	0.2	-	-

2017 AM Peak BUILD Conditions Case "Y" - Left-in at Walker
Synchro 8 Report
2017ABX-CaseY.syn

Lanes, Volumes, Timings
3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	W	W	W	W
Volume (vph)	5	117	159	6	164	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	0
Storage Lanes	1	0	0	0	1	0
Taper Length (ft)	25	0	0	0	0	0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.871	0.995	0.995	0.950	0.950	0.950
Satd. Flow (prot)	1603	0	1835	0	1752	1845
Flt Permitted	0.998	0.998	0.998	0.950	0.950	0.950
Satd. Flow (perm)	1603	0	1835	0	1752	1845
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	234	418	418	402	402	402
Travel Time (s)	5.3	9.5	9.5	9.1	9.1	9.1
Peak Hour Factor	0.85	0.85	0.96	0.96	0.96	0.96
Adj. Flow (vph)	6	138	166	6	171	167
Shared Lane Traffic (%)	144	0	172	0	171	167
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width (ft)	12	12	12	12	12	12
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	15	9	9	9	15	15
Turning Speed (mph)	Stop	Free	Free	Free	Free	Free
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary	ICU Level of Service A					
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	35.3%					
Analysis Period (min)	15					

2017 PM Peak BUILD Conditions Case "N" - No left-in at Walker

Synchro 8 Report
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HCM 2010 TWSC
3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Intersection	WBL	WBR	NBT	NBR	SBL	SBT
Int Delay, s/veh	4.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol. veh/h	5	117	159	6	164	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	6	138	166	6	171	167
Major/Minor	Minor1	Minor1	Major1	Major2		
Conflicting Flow All	677	169	0	0	172	0
Stage 1	169	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Sig 1	5.43	-	-	-	-	-
Critical Hdwy Sig 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	417	872	-	-	1399	-
Stage 1	858	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	366	872	-	-	1399	-
Mov Cap-2 Maneuver	366	-	-	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	528	-	-	-	-	-
Approach	WBR	NB	SB			
HCM Control Delay, s	10.3	0	4			
HCM LOS	B					
Minor Lane Major Mvmt	NBT	NBR	SBL	SBT		
Capacity (veh/h)	-	-	825	1399	-	-
HCM Lane V/C Ratio	-	-	0.174	0.122	-	-
HCM Control Delay (s)	-	-	10.3	7.9	-	-
HCM Lane LOS	-	-	B	A	-	-
HCM 95th %ile Q(veh)	-	-	0.6	0.4	-	-

2017 PM Peak BUILD Conditions Case "N" - No left-in at Walker

Synchro 8 Report
2017PBX-CaseN.syn

Lanes, Volumes, Timings 3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Volume (vph)	5	117	159	6	65	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	0
Storage Lanes	1	0	0	0	1	1
Taper Length (ft)	25	0	0	0	25	0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.871	0.995	0.995			
Flt Protected	0.998			0.950		
Satd. Flow (prot)	1603	0	1835	0	1752	1845
Flt Permitted	0.998			0.950		
Satd. Flow (perm)	1603	0	1835	0	1752	1845
Link Speed (mph)	30		30			30
Link Distance (ft)	234		418			402
Travel Time (s)	5.3		9.5			9.1
Peak Hour Factor	0.85	0.85	0.96	0.96	0.96	0.96
Adj. Flow (vph)	6	138	166	6	68	167
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	172	0	68	167
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free		Free	
Intersection Summary						
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	29.8%					
Analysis Period (min)	15					
ICU Level of Service A						

2017 PM Peak BUILD Conditions Case "Y" - Left-in at Walker

Synchro 8 Report
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HCM 2010 TWSC 3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Intersection									
Int Delay, s/veh									
3.6									
Movement									
Vol, veh/h	5	117	159	6	65	160			
Conflicting Peds, #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	None	-	None	-	None			
Storage Length	0	-	-	-	-	150			
Vol in Median Storage, #	0	-	-	-	-	0			
Grade, %	0	-	-	-	-	0			
Peak Hour Factor	85	85	96	96	96	96			
Heavy Vehicles, %	3	3	3	3	3	3			
Mvmt Flow	6	138	166	6	68	167			
Major/Minor									
Conflicting Flow All	Minor1	Major1	Major2						
Stage 1	471	169	0	0	172	0			
Stage 2	169	-	-	-	-	-			
Critical Hdwy	6.43	6.23	-	-	4.13	-			
Critical Hdwy Stg 1	5.43	-	-	-	-	-			
Critical Hdwy Stg 2	5.43	-	-	-	-	-			
Follow-up Hdwy	3.527	3.327	-	-	2.227	-			
Pot Cap-1 Maneuver	549	872	-	-	1399	-			
Stage 1	858	-	-	-	-	-			
Stage 2	748	-	-	-	-	-			
Platoon blocked, %	-	-	-	-	-	-			
Mov Cap-1 Maneuver	522	872	-	-	1399	-			
Mov Cap-2 Maneuver	522	-	-	-	-	-			
Stage 1	858	-	-	-	-	-			
Stage 2	712	-	-	-	-	-			
Approach									
HCM Control Delay, s	WB	NB	SB						
HCM LOS	10.1	0	2.2						
Minor Lane/Major Mvmt									
Capacity (veh/h)	NBT	NBR	WBL	WBR	SBL	SBT			
HCM Lane V/C Ratio	-	-	849	1399	-	-			
HCM Control Delay (s)	-	-	0.169	0.048	-	-			
HCM Lane LOS	-	-	10.1	7.7	-	-			
HCM 95th %ile Q(veh)	-	-	B	A	-	-			
	-	-	0.6	0.2	-	-			

2017 PM Peak BUILD Conditions Case "Y" - Left-in at Walker

Synchro 8 Report
2017PBX-CaseY.syn

Lanes, Volumes, Timings
3: University Blvd. & "A"
Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Volume (vph)	4	118	198	6	161	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	0
Storage Lanes	1	0	0	0	1	1
Taper Length (ft)	25	0	0	0	0	0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.870	0.998	0.996	0.950	0.950	0.950
Flt Protected	0.998	0.998	0.998	0.950	0.950	0.950
Satd. Flow (prot)	1602	1602	1837	0	1752	1845
Flt Permitted	0.998	0.998	0.998	0.950	0.950	0.950
Satd. Flow (perm)	1602	1602	1837	0	1752	1845
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	234	234	418	418	402	402
Travel Time (s)	5.3	5.3	9.5	9.5	9.1	9.1
Peak Hour Factor	0.85	0.85	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	139	208	6	169	113
Shared Lane Traffic (%)	144	0	214	0	169	113
Lane Group Flow (vph)	No	No	No	No	No	No
Enter Blocked Intersection	Left	Right	Left	Right	Left	Left
Lane Alignment	12	12	12	12	12	12
Median Width (ft)	0	0	0	0	0	0
Link Offset (ft)	16	16	16	16	16	16
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	15	9	9	9	15	15
Turning Speed (mph)	Stop	Stop	Free	Free	Free	Free
Sign Control	Stop	Stop	Free	Free	Free	Free
Intersection Summary	ICU Level of Service A					
Area Type	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 37.2%						
Analysis Period (min) 15						

2035 AM Peak BUILD Conditions Case "N" - No left-in at Walker
Synchro 8 Report
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HCM 2010 TWSC
3: University Blvd. & "A"
Terry O. Brown, P.E.
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Intersection	WBL	WBR	NBT	NBR	SBL	SBT
Int Delay, s/veh	4.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol. veh/h	4	118	198	6	161	107
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	139	208	6	169	113
Major/Minor	Minor1	Minor1	Major1	Major2		
Conflicting Flow All	664	212	0	0	215	0
Stage 1	212	-	-	-	-	-
Stage 2	452	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Sig 1	5.43	-	-	-	-	-
Critical Hdwy Sig 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	424	826	-	-	1349	-
Stage 1	821	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	371	826	-	-	1349	-
Mov Cap-2 Maneuver	371	-	-	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Approach	WB	WB	NB	SB		
HCM Control Delay, s	10.5	B	0	4.8		
HCM LOS						
Minor Lane Major Mvmt	NBT	NBR	WBL	SBL	SBT	
Capacity (veh/h)	-	-	794	1349	-	
HCM Lane V/C Ratio	-	-	0.181	0.126	-	
HCM Control Delay (s)	-	-	10.5	8.1	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %ile Q(veh)	-	-	0.7	0.4	-	

2035 AM Peak BUILD Conditions Case "N" - No left-in at Walker
Synchro 8 Report
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Lanes, Volumes, Timings
3: University Blvd. & "A"

Terry O. Brown, P.E.
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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y	Y	Y	Y	Y	Y
Volume (vph)	4	118	198	6	71	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	0
Storage Lanes	1	0	0	0	1	1
Taper Length (ft)	25	0	0	0	0	0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.870	0.996	0.996	0.950	0.950	0.950
Satd. Flow (prot)	1602	0	1837	0	1752	1845
Flt Permitted	0.998	0.998	0.998	0.950	0.950	0.950
Satd. Flow (perm)	1602	0	1837	0	1752	1845
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	234	418	418	402	402	402
Travel Time (s)	5.3	9.5	9.5	9.1	9.1	9.1
Peak Hour Factor	0.85	0.85	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	139	208	6	75	113
Shared Lane Traffic (%)	144	0	214	0	75	113
Lane Group Flow (vph)	No	No	No	No	No	No
Enter Blocked Intersection	Left	Right	Left	Right	Left	Left
Lane Alignment	12	12	12	12	12	12
Median Width (ft)	0	0	0	0	0	0
Link Offset (ft)	16	16	16	16	16	16
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	15	9	9	15	15	15
Turning Speed (mph)	Stop	Free	Free	Free	Free	Free
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary	ICU Level of Service A					
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	32.2%					
Analysis Period (min)	15					

2035 AM Peak BUILD Conditions Case "Y" - Left-in at Walker
Synchro 8 Report
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HCM 2010 TWSC
3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Intersection	3.8					
Int Delay, s/veh	3.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol. veh/h	4	118	198	6	71	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Vel in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	139	208	6	75	113
Major/Minor	Minor1	Major1	Major1	Major2	Major2	Major2
Conflicting Flow All	474	212	0	0	215	0
Stage 1	212	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Critical Hdwy	643	6.23	-	-	4.13	-
Critical Hdwy Sig 1	5.43	-	-	-	-	-
Critical Hdwy Sig 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	547	826	-	-	1349	-
Stage 1	821	-	-	-	-	-
Stage 2	780	-	-	-	-	-
Platoon blocked, %	517	826	-	-	1349	-
Mov Cap-1 Maneuver	517	-	-	-	-	-
Mov Cap-2 Maneuver	821	-	-	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	737	-	-	-	-	-
Approach	WB	WB	NB	SB	SB	SB
HCM Control Delay, s	10.4	8	0	0	3.1	3.1
HCM LOS	B	B				
Minor Lane Major Mvmt	NBT	NBR	WBL	SBL	SBT	SBT
Capacity (veh/h)	-	-	810	1349	-	-
HCM Lane V/C Ratio	-	-	0.177	0.055	-	-
HCM Control Delay (s)	-	-	10.4	7.8	-	-
HCM Lane LOS	-	-	B	A	-	-
HCM 95th %ile Q(veh)	-	-	0.6	0.2	-	-

2035 AM Peak BUILD Conditions Case "Y" - Left-in at Walker
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Lanes, Volumes, Timings
3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	W	W	W	W
Volume (vph)	5	117	455	6	164	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	0
Storage Lanes	1	0	0	0	1	0
Taper Length (ft)	25	0	0	0	25	0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.871	0.998	0.998	0.950	0.950	0.950
Satd. Flow (prot)	1603	0	1841	0	1752	1845
Flt Permitted	0.998	0.998	0.998	0.950	0.950	0.950
Satd. Flow (perm)	1603	0	1841	0	1752	1845
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	234	418	418	418	402	402
Travel Time (s)	5.3	9.5	9.5	9.5	9.1	9.1
Peak Hour Factor	0.85	0.85	0.96	0.96	0.96	0.96
Adj. Flow (vph)	6	138	474	6	171	272
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	480	0	171	272
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width (ft)	12	12	12	12	12	12
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	9	9	15	15
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary	ICU Level of Service A					
Area Type	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization	50.9%					
Analysis Period (min)	15					

2035 PM Peak BUILD Conditions Case "N" - No left-in at Walker

Synchro 8 Report
2035PBX-CaseN.syn

HCM 2010 TWSC
3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Intersection	3.3					
Int Delay, s/veh						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	5	117	455	6	164	261
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	6	138	474	6	171	272
Major/Minor	Minor1	Minor1	Major1	Major1	Major2	Major2
Conflicting Flow All	1091	477	0	0	480	0
Stage 1	477	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	237	586	-	-	1077	-
Stage 1	622	-	-	-	-	-
Stage 2	538	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	199	586	-	-	1077	-
Mov Cap-2 Maneuver	199	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	453	-	-	-	-	-
Approach	WBR	NBR	NB	SB		
HCM Control Delay, s	14	-	0	-		
HCM LOS	B	-	-	-		
Minor Lane/Major Mvmt	NBT	NBR/WBL	SBL	SBT		
Capacity (veh/h)	-	-	543	1077		
HCM Lane V/C Ratio	-	-	0.264	0.159		
HCM Control Delay (s)	-	-	14	9		
HCM Lane LOS	-	-	B	A		
HCM 55th %ile Q(veh)	-	-	1.1	0.6		

2035 PM Peak BUILD Conditions Case "N" - No left-in at Walker

Synchro 8 Report
2035PBX-CaseN.syn

Lanes, Volumes, Timings
3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

Lane Group	WBL	WBR	NBT	NBR	SBT	SBT
Lane Configurations	W	P	P	P	P	P
Volume (vph)	5	117	455	6	65	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	150	
Storage Lanes	1	0	0	0	1	
Taper Length (ft)	25	1.00	1.00	1.00	1.00	
Lane Util. Factor	0.871	0.998	0.998	0.998	0.998	
Flt Protected	0.998	0	1841	0	1752	1845
Satd. Flow (prot)	1603	0	1841	0	1752	1845
Flt Permitted	0.998	0	1841	0	1752	1845
Satd. Flow (perm)	1603	0	1841	0	1752	1845
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	234	418	418	418	402	402
Travel Time (s)	5.3	9.5	9.5	9.5	9.1	9.1
Peak Hour Factor	0.85	0.85	0.96	0.96	0.96	0.96
Adj. Flow (vph)	6	138	474	6	68	272
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	480	0	68	272
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left
Median Width (ft)	12	12	12	12	12	12
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	15	9	9	9	15	15
Turning Speed (mph)	Stop	Free	Free	Free	Free	Free
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary	ICU Level of Service A					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	45.4%					
Analysis Period (min)	15					

2035 PM Peak BUILD Conditions Case "Y" - Left-in at Walker

Synchro 8 Report
2035PBX-Case1.syn

HCM 2010 TWSC
3: University Blvd. & "A"

Terry O. Brown, P.E.
4/7/2015

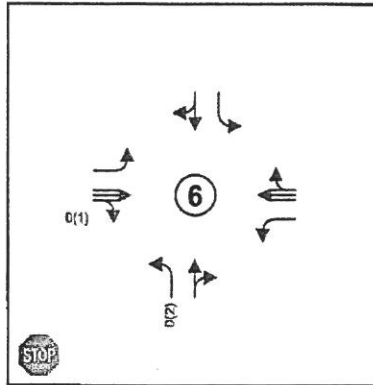
Intersection	2.6					
Int Delay, s/veh						
Movement	WBL	WBR	NBT	NBR	SBT	SBT
Vol. veh/h	5	117	455	6	65	261
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mgmt Flow	6	138	474	6	68	272
Major/Minor	Minor1	Major1	Major1	Major2	Major2	Major2
Conflicting Flow All	884	477	0	0	480	0
Stage 1	477	-	-	-	-	-
Stage 2	407	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Sig 1	5.43	-	-	-	-	-
Critical Hdwy Sig 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	315	586	-	-	1077	-
Stage 1	622	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Platoon blocked, %	295	586	-	-	1077	-
Mov Cap-1 Maneuver	295	-	-	-	-	-
Mov Cap-2 Maneuver	295	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Approach	WBL	WBR	NB	SB	SB	SB
HCM Control Delay, s	13.6	B	0	0	1.7	1.7
HCM LOS	B	B				
Minor Lane Major Mvmt	NBT	NBR	WBL	WBR	SBT	SBT
Capacity (veh/h)	-	-	563	1077	-	-
HCM Lane V/C Ratio	-	-	0.255	0.063	-	-
HCM Control Delay (s)	-	-	13.6	8.6	-	-
HCM Lane LOS	-	-	B	A	-	-
HCM 95th %ile Q(veh)	-	-	1	0.2	-	-

2035 PM Peak BUILD Conditions Case "Y" - Left-in at Walker

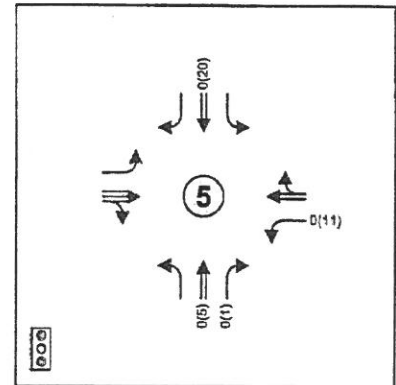
Synchro 8 Report
2035PBX-Case1.syn

LEGEND

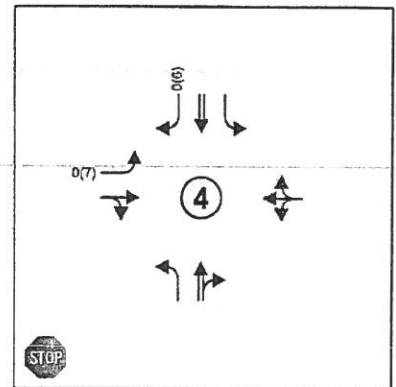
- ↑ ↑ ↑ Thru Lanes
(# as Indicated)
- ↔ ↔ ↔ Turning Lanes
(# as Indicated)
- 1234(1234) AM(PM) Traffic
Counts



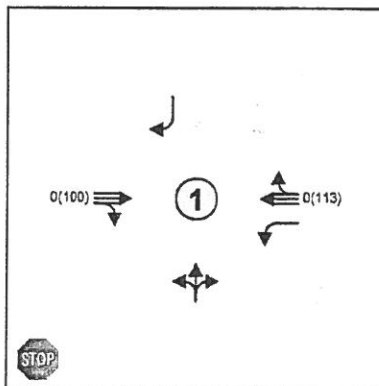
Cesar Chavez/Langham



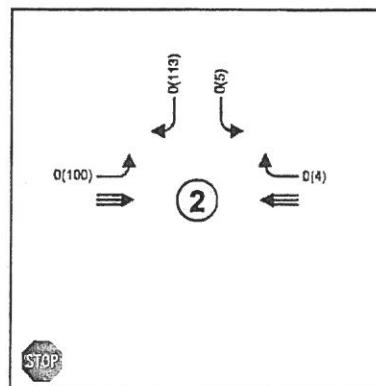
Cesar Chavez/University



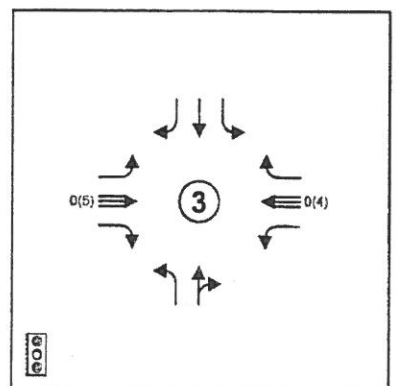
East Road/University



Gibson/Mulberry



Gibson/Entrance



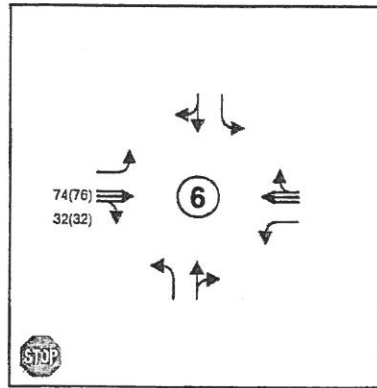
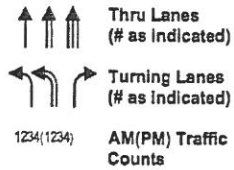
Gibson/University

Bohannon & Huston
 Company 1 7830 Jefferson St. NE Albuquerque, NM 87110-4000
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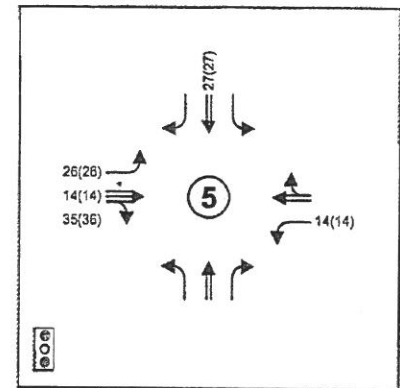
UNM Gibson Commercial District
 Traffic Impact Analysis

FIGURE 6
 Destination Retail TRIP ASSIGNMENT
 VOLUMES - AM (PM)

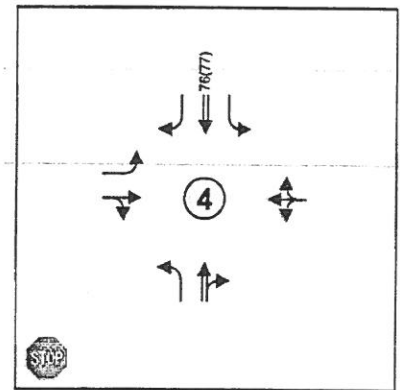
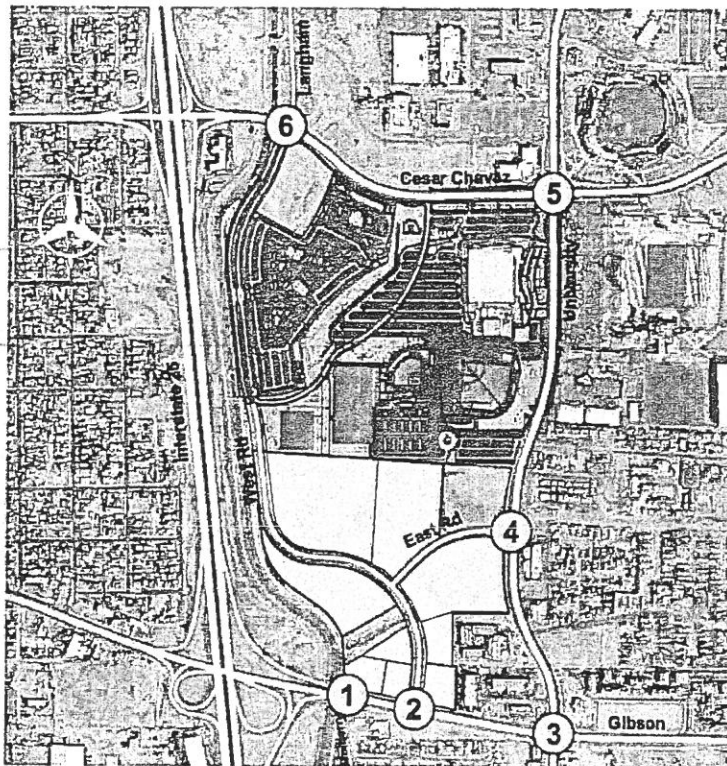
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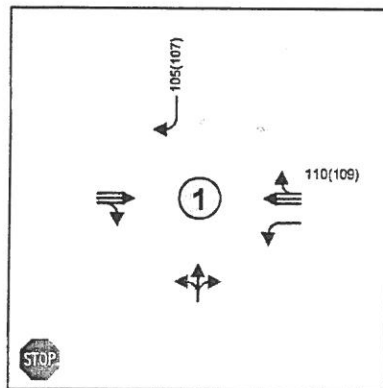
Cesar Chavez/Langham



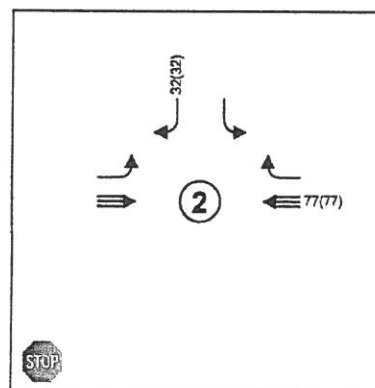
Cesar Chavez/University



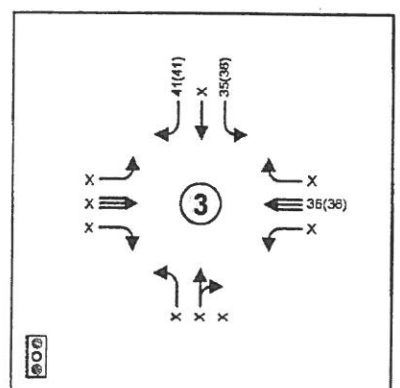
East Road/University



Gibson/Mulberry



Gibson/Entrance



Gibson/University

Bohannon & Huston
 Overland 7000 Jefferson BL NE Albuquerque, NM 87109-4381
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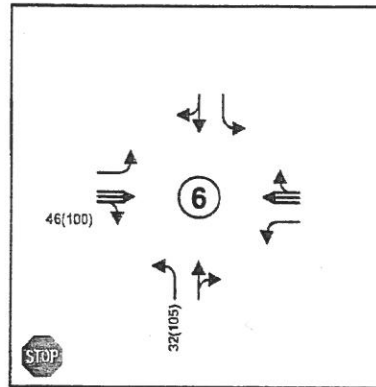
UNM Gibson Commercial District
 Traffic Impact Analysis

FIGURE 10
 Right-In/Right-Out Fast-Food/Conv Mart
 TRIP ASSIGNMENT VOLUMES - AM (PM)

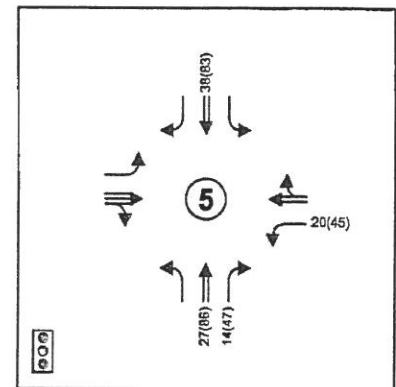
P:\20120122\TRAFFIC Study\Report-Production\Report Figures\Fig8-20120122-Comm_Trip_Dist_Vol.dwg Aug 16, 2011 - 10:21am

LEGEND

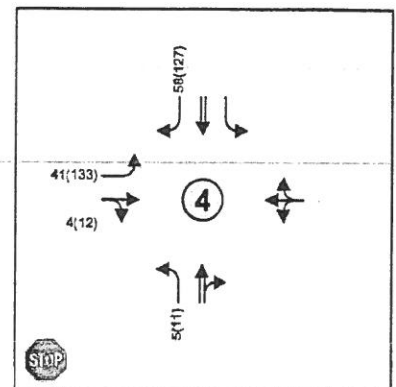
- Thru Lanes
(# as Indicated)
- Turning Lanes
(# as Indicated)
- 1234(1234)
AM(PM) Traffic
Counts



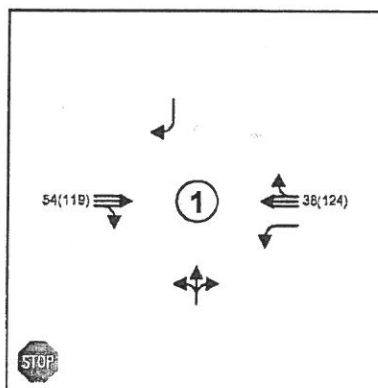
Cesar Chavez/Langham



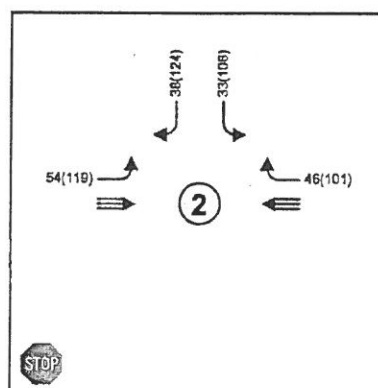
Cesar Chavez/University



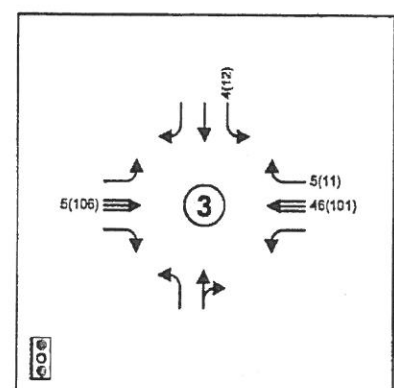
East Road/University



Gibson/Mulberry



Gibson/Entrance



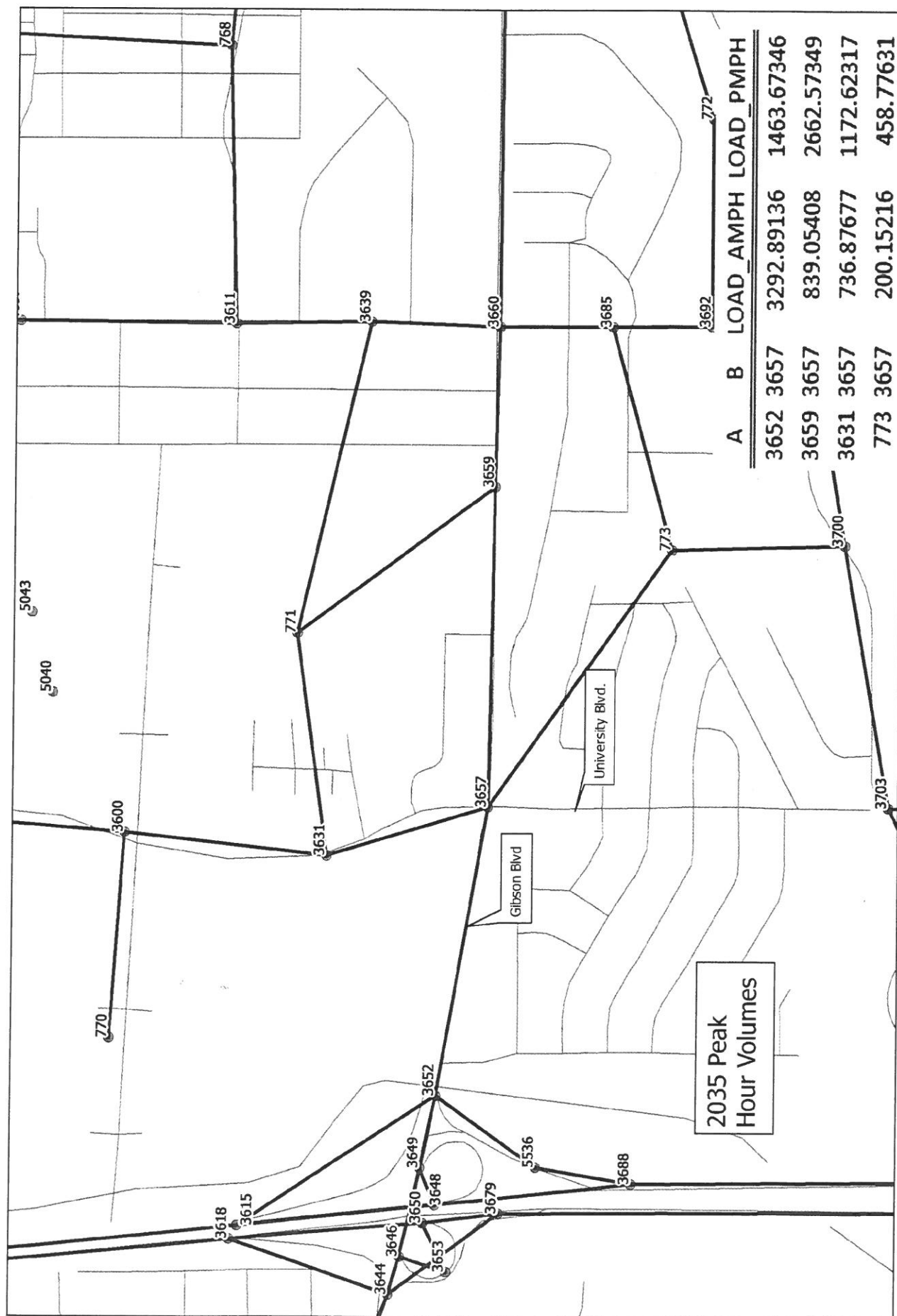
Gibson/University

Bohannon & Huston

Consulting Engineers & Surveyors
1700 Jefferson St. NE Albuquerque, NM 87109-6285
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UNM Gibson Commercial District
Traffic Impact Analysis

FIGURE 8
Community Retail TRIP ASSIGNMENT
VOLUMES - AM (PM)



Traffic Count Data Sheet

Year Counts Taken:

2013

E-W Street:
N-S Street:Gibson Blvd.
University Blvd.Speed Limit (Gibson Blvd.)=
Speed Limit (University Blvd.)=25 MPH
35 MPH
2/12/13

UNSIGNALIZED

Begin Time	End Time	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	20	446	2	5	154	40	27	4	3	30	4	44
7:15 AM	7:30 AM	35	491	4	3	177	27	18	6	7	36	4	47
7:30 AM	7:45 AM	34	460	1	2	186	29	13	4	4	48	2	25
7:45 AM	8:00 AM	43	466	17	5	292	21	30	3	4	0	42	2
8:00 AM	8:15 AM	53	477	6	6	251	35	19	5	15	0	39	5
8:15 AM	8:30 AM	45	439	4	8	259	34	14	8	13	0	37	4
8:30 AM	8:45 AM	47	349	7	2	226	40	10	22	9	0	28	15
8:45 AM	9:00 AM	43	346	6	9	234	33	14	17	9	0	33	8
AM Peak Hour Volumes		175	1842	28	21	988	119	76	20	36	166	13	74
% of Total Traffic		4.9%	51.8%	0.8%	0.6%	27.8%	3.3%	2.1%	0.6%	1.0%	4.7%	0.4%	0.0%
% Directional			57.5%			31.7%			3.7%			5.0%	
AM Peak Hour Factor			0.95			0.89			0.85			0.84	
								Intersection			Intersection		
								0.95			0.96		

Begin Time	End Time	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (University Blvd.)			Southbound (University Blvd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	29	277	15	14	530	40	11	5	11	52	14	34
4:15 PM	4:30 PM	31	212	17	19	490	31	19	6	18	42	6	21
4:30 PM	4:45 PM	34	256	12	12	547	54	14	7	10	49	7	21
4:45 PM	5:00 PM	38	224	12	17	487	85	16	2	10	40	7	42
5:00 PM	5:15 PM	44	249	16	11	505	44	12	8	17	43	7	26
5:15 PM	5:30 PM	46	249	22	16	462	30	10	9	5	52	6	43
5:30 PM	5:45 PM	39	237	10	14	512	57	14	2	14	57	11	44
5:45 PM	6:00 PM	37	207	13	10	421	46	10	10	11	55	7	30
PM Peak Hour Volumes		132	969	56	62	2054	210	60	20	49	183	34	118
% of Total Traffic		3.3%	24.5%	1.4%	1.6%	52.0%	5.3%	1.5%	0.5%	1.2%	4.6%	0.9%	3.0%
% Directional			29.3%			58.9%			3.3%			8.5%	
PM Peak Hour Factor			0.90			0.95			0.75			0.84	
								Intersection			Intersection		
								0.96			0.75		

Traffic Count Data Sheet

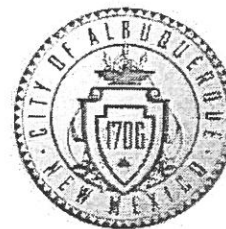
Year Counts Taken: 2015

E-W Street: Gibson Blvd.
N-S Street: Walker Rd.Speed Limit (Gibson Blvd.)= 45 MPH
Speed Limit (Walker Rd.)= 25 MPH
3/19/15

UNSIGNALIZED

Begin Time	End Time	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	0	474	40	0	469	0	0	0	2	0	0	0
7:15 AM	7:30 AM	0	528	15	0	207	0	0	0	0	0	0	0
7:30 AM	7:45 AM	0	501	28	0	217	0	0	0	3	0	0	0
7:45 AM	8:00 AM	0	513	44	0	318	0	0	0	2	0	0	0
8:00 AM	8:15 AM	0	443	38	0	292	0	0	0	0	0	0	0
8:15 AM	8:30 AM	0	404	11	0	301	0	0	0	2	0	0	0
8:30 AM	8:45 AM	0	362	15	0	268	0	0	0	2	0	0	0
8:45 AM	9:00 AM	0	418	22	0	276	0	0	0	0	0	0	0
AM Peak Hour Volumes		0	1985	125	0	1034	0	0	0	5	0	0	0
% of Total Traffic		0.0%	63.0%	4.0%	0.0%	32.8%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%
% Directional			67.0%			32.8%			0.2%				
AM Peak Hour Factor			0.95			0.81			0.42				
		Intersection 0.90			Intersection 0.97			Intersection 0.6%			Intersection 0.6%		
Begin Time	End Time	Eastbound (Gibson Blvd.)			Westbound (Gibson Blvd.)			Northbound (Walker Rd.)			Southbound (Walker Rd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	0	328	9	0	584	0	0	0	5	0	0	0
4:15 PM	4:30 PM	0	295	5	0	540	0	0	0	5	0	0	0
4:30 PM	4:45 PM	0	290	9	0	613	0	0	0	4	0	0	0
4:45 PM	5:00 PM	0	307	1	0	589	0	0	0	7	0	0	0
5:00 PM	5:15 PM	0	262	40	0	560	0	0	0	0	0	0	0
5:15 PM	5:30 PM	0	302	8	0	508	0	0	0	0	0	0	0
5:30 PM	5:45 PM	0	309	7	0	583	0	0	0	7	0	0	0
5:45 PM	6:00 PM	0	264	6	0	477	0	0	0	0	0	0	0
PM Peak Hour Volumes		0	1220	24	0	2326	0	0	0	21	0	0	0
% of Total Traffic		0.0%	33.9%	0.7%	0.0%	64.7%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%
% Directional			34.6%			64.7%			0.6%				
PM Peak Hour Factor			0.92			0.95			0.75				
		Intersection 0.97			Intersection 0.97			Intersection 0.6%			Intersection 0.6%		

CITY OF ALBUQUERQUE



STANDARD LETTER SCOPE OF TRAFFIC IMPACT STUDY (TIS)

TO: Terry Brown, P.E., PTOE
P. O. Box 92051
Albuquerque, NM 87199-2051
tobe@swcp.com

MEETING DATE: February 27, 2015

ATTENDEES: Terry Brown, Jeanne Wolfenbarger (COA)

PROJECT: Chili's, Chick-fil-A, and McDonalds (southeast corner of Gibson and University)

REQUESTED CITY ACTION: ☐ Zone Change ☐ Site Development Plan

☒ Subdivision ☒ Building Permit ☐ Sector Plan ☐ Sector Plan Amendment

☐ Curb Cut Permit ☐ Conditional Use ☐ Annexation ☐ Site Plan Amendment

ASSOCIATED APPLICATION: The development will include a Chili's restaurant and a Chick Filet Restaurant, and it will possibly include a McDonalds. (The development is located at the southeast corner of University Boulevard and Gibson Boulevard.) Access is proposed off of University Boulevard and from the end of Miles Road. In addition, left turn access onto Walker Drive from Gibson Boulevard is desired for the new development.

The Traffic Impact Study should follow the standard report format, which is outlined in the DPM. The following supplemental information is provided for the preparation of this specific study. As each item identified in the scoping letter is completed, check the appropriate (box).

1. Trip Generation - Use Trip Generation Manual, 9th Edition (Incorporate 30% pass-by traffic)

2. Appropriate study area:

Signalized Intersections: University / Gibson

Unsignalized Intersections: University / Walker

Driveway Intersections: All proposed site drives.

3. Intersection turning movement counts (7-9 a.m. peak hour, 4-6 p.m. peak hour for Chick-fil-A and Chili's only; If McDonalds is included, also include noon peak hour analysis in addition to morning and evening peak hour).

Intersections that need to be counted by developer: signalized and unsignalized listed above.

4. Type of intersection progression and factors to be used:
Type III arrival type (see "2010 Highway Capacity Manual" or equivalent as approved by staff). Unless otherwise justified, peak hour factors and % heavy commercial should be

Albuquerque - Making History 1706-2006

taken directly from the MRCOG turning movement data provided or as calculated from current count data by consultant.

5. Boundaries of area to be used for trip distribution:
City Wide - residential, office or industrial;
2-mile radius - commercial;
6. Basis for trip distribution.
Residential – Use inverse relationship based upon distance and employment. Use employment data from 2035 Socioeconomic Forecasts, MRCOG – See MRCOG website for most current data.

Office/Industrial - Use inverse relationship based upon distance and population. Use population data from 2035 Socioeconomic Forecasts, MRCOG – See MRCOG website for most current data.

Commercial - Use relationship based upon population. Use population data from 2035 Socioeconomic Forecasts, MRCOG – See MRCOG website for most current data.
7. Traffic Assignment: Logical routing on the major street system.
8. Proposed developments which have been approved but not constructed that are to be included in the analyses: ***UNM South Gibson Commercial District TIS (2011)***
9. Method of intersection capacity analysis - planning or operational (see "2010 Highway Capacity Manual" or equivalent [i.e. HCS, Synchro, Teapac, etc.] as approved by staff). Must use latest version of design software and/or current edition of design manual.
Implementation Year: 2017
10. Traffic conditions for analysis:
 - a. Project completion year without proposed development (yr. 2017);
 - b. Project completion year with proposed development (yr. 2017).
11. Background traffic growth.
Method: use 10-year historical growth based on standard data from the MRCOG Traffic Flow Maps. Minimum growth rate to be used is 1/2%.
12. Planned (programmed) traffic improvements.
List planned CIP improvements in study area and projected project implementation year: None at this time.
13. Items to be included in the study:
 - a. Intersection analysis.
 - b. Arterial LOS analysis;
 - c. Recommended street, intersection and signal improvements.
 - d. Site design features such as turning lanes, median cuts, queuing requirements and site circulation, including driveway signalization and visibility.
 - e. Transportation system impacts.
 - f. Other mitigating measures.

CITY OF ALBUQUERQUE



g. Accident analyses ___yes ☒ no.

h. Weaving analyses ___yes ☒ no.

14. Number of copies of report required for the TIS Study only: 2 hard copies plus electronic copy
15. Separate Access Study will be required to include left turn access from Gibson Boulevard onto Walker Drive along with median cut to allow left turn access. This still requires approval from Debbie Bauman of DMD prior to submitting access study to MRCOG. If the proposal is acceptable, the necessary number of copies will need to be submitted to MRCOG for the review by the Request for Access Committee.

The Traffic Impact Study for this development proposal, project name, shall be performed in accordance with the above criteria. If there are any questions regarding the above items, please contact me at 924-3924.

Jeanne Wolfenbarger, P.E.
Senior Engineer for
Transportation Development Section

03-05-15
Date

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

cc: TIS Task Force Attendees
Debbie Bauman, Public Works Strategic Program Manager, DMD
file