State Road 56

Final Traffic Report

PD&E Study Reevaluation
from Meadow Pointe Boulevard to SR 41 (US 301)
in Pasco County, Florida

Prepared for:

The Florida Department of Transportation
11201 North McKinley Drive
Tampa, FL 33612

April 2007

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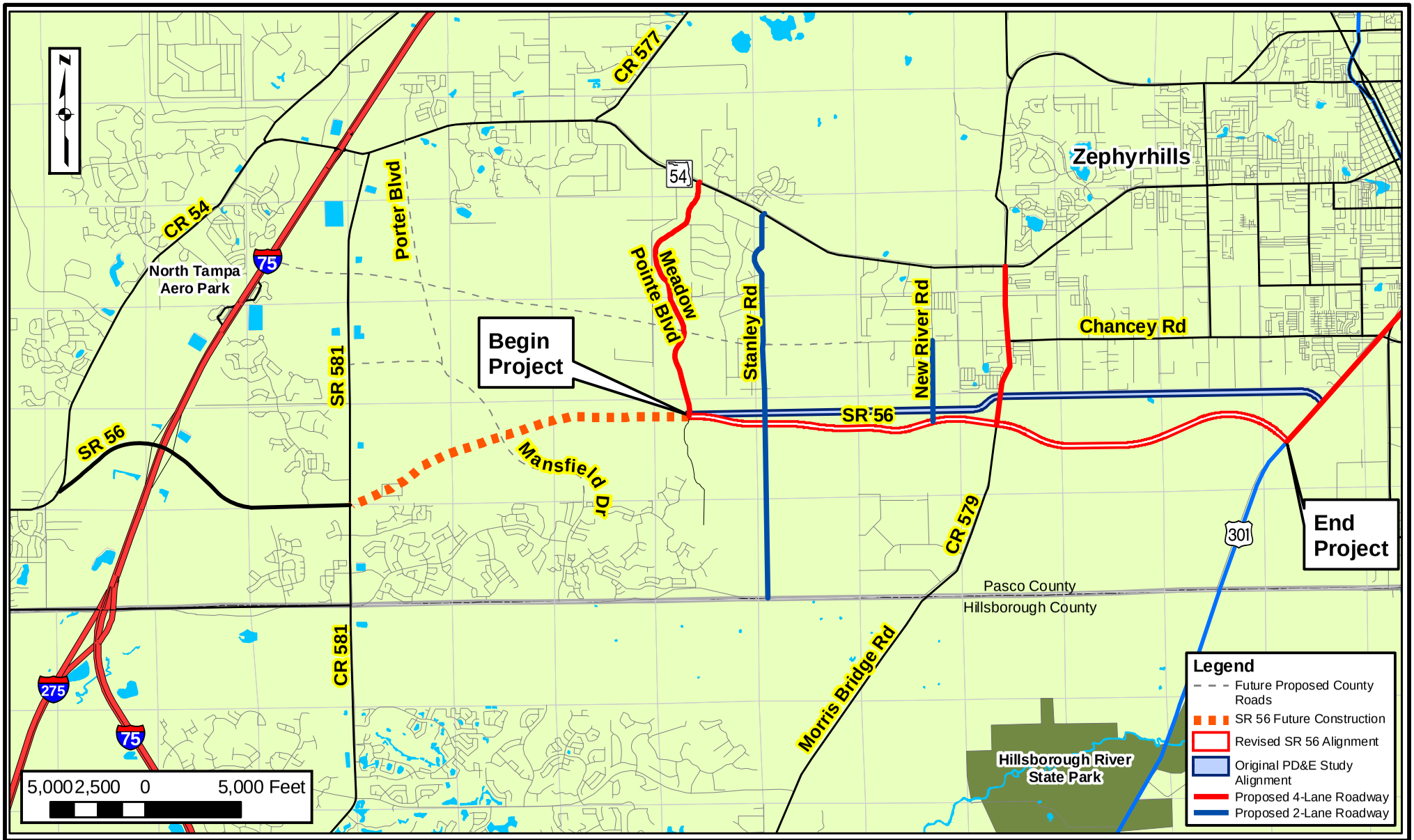
SECTION 1.
INTRODUCTION

1.1. PROJECT DESCRIPTION AND STUDY LIMITS

This project involves a Project Development and Environmental (PD&E) reevaluation study of a new corridor (the extension of SR 56). The project limits for this reevaluation extend from Meadow Pointe Boulevard to SR 41 (US 301) in Pasco County, Florida, a total distance of approximately 6 miles. These project limits are within the project limits of the original SR 54/SR 56 PD&E study (Environmental Assessment/Finding of No Significant Impact, approved 1/25/93) which extended from Cypress Creek at the western end to the Zephyrhills East Bypass at the eastern end, a total distance of approximately 14 miles. Currently SR 56 terminates at its intersection with CR 581/SR 581. The proposed new corridor would extend SR 56 from CR 581/SR 581 to SR 41 (US 301). The project location map as shown on **Exhibit 1** illustrates the study limits of the PD&E reevaluation study. The proposed project change from the original PD&E study includes realignment to the south (as shown in **Exhibit 1**) and a typical section change to a four-lane (expandable to six-lane) arterial with frontage roads on both sides of the SR 56 mainline between CR 581/SR 581 and SR 41 (US 301). The original PD&E study's preferred alternative did not include the frontage roads. The frontage roads were developed to ensure that the roadway provides the mobility needed by maintaining the access management spacing criteria of an Access Class 3 facility while still providing adequate access to the land uses adjacent to the corridor.

1.2. PURPOSE OF THE REPORT

The purpose of this traffic report is to present traffic forecasts and document the results of the traffic analyses for the SR 56 Extension segment from Meadow Pointe Boulevard to SR 41 (US 301). The project limits of the traffic analysis are shown on **Exhibit 1**. The scope of this traffic study includes a review of travel characteristics for the study area, research of approved development in the study area, traffic model development and application and the development of future traffic forecasts for the years 2030 and 2010. Utilizing these 2030 and 2010 traffic projections, intersection and highway segment analyses were performed to determine the lane geometry that would be needed to accommodate the projected Design Year (2030) traffic volumes.



SR 56 PD&E Study Reevaluation from Meadow Pointe Blvd. to SR 41 (US 301)	**PROJECT LOCATION MAP**	**EXHIBIT 1**

SECTION 2.
METHODOLOGY

2.1. MODEL OUTPUT CONVERSION FACTOR (MOCF)

The Design Year (2030) and the Opening Year (2010) traffic forecasts developed by the application of the FDOT modified Tampa Bay Regional Planning Model (TBRPM) represent Peak Season Weekday Average Daily Traffic (PSWADT). The peak season model output was adjusted to Annual Average Daily Traffic (AADT) by the application of a peak season adjustment factor based on historical traffic data collected by the Florida Department of Transportation (FDOT). This factor is known as the Model Output Conversion Factor (MOCF). The MOCF used for this study is 0.96. This countywide average value for Pasco County was obtained from the FDOT 2005 Florida Traffic Information CD.

2.2. DESIGN HOUR TRAFFIC FACTORS (K_{30}, D_{30} & T)

The Design Year (2030) and the Opening Year (2010) design hour volumes were estimated using the 30th highest hour K and D (K_{30} and D_{30}) factors. The K_{30}, D_{30}, and Truck (T) factors were estimated based on the procedure outlined in the FDOT Project Traffic Forecasting Handbook, 2002. The K_{30}, D_{30}, and T traffic factors collected during the past three years from FDOT count stations in the SR 56 study area are shown in **Table 1**. These factors are compared with the state and national data in **Table 2**. Since the SR 56 roadway study area is a transitioning urban area, the SR 56 roadway is considered as a suburban arterial for the purpose of estimating traffic parameters.

The observed average FDOT site specific K_{30} value of 9.4 percent is within the acceptable state data range but falls outside the national data range. Since the SR 56 study area is not in an urban area it is not appropriate to use a K_{30} value of less than 10 percent for the estimation of design hour volumes. The observed average FDOT site specific D_{30} value of 56.6 percent satisfies both the state and the national data ranges. Based on this data, the following K_{30}, D_{30} and T factors are recommended to develop the design hour traffic characteristics in the level of service (LOS) analyses for Design Year (2030) and

Opening Year (2010) conditions. The following traffic factors have been approved by the FDOT:

K_{30} = 10 percent T – Daily = 7 percent

D_{30} = 56.6 percent T – Design Hour = 3.5 percent

Table 1:
Traffic Characteristics for the SR 56 Corridor Study Area

Count Station	Location	Facility Type	Year	K_{30}	D_{30}	Daily Truck %
5505	SR 56 - West of I-75	Sub-Urban Arterial	2005	9.42	55.15	8.89
			2004	9.45	57.88	8.34
			2003	9.32	56.84	3.01
5506	SR 56 - East of I-75	Sub-Urban Arterial	2005	9.42	55.15	5.41
			2004	9.45	57.88	5.56
			2003	9.32	56.84	3.65
5115	SR 54 - East of CR 581/SR 581	Sub-Urban Arterial	2005	9.42	55.15	8.65
			2004	9.45	57.88	7.00
			2003	9.32	56.84	7.06
5116	SR 54 - West of CR 579 (Morris Bridge Road)	Sub-Urban Arterial	2005	9.42	55.15	8.21
			2004	9.45	57.88	8.21
			2003	9.32	56.84	7.47
	Average			**9.40**	**56.62**	**6.79**

Source: FDOT Traffic Information 2003, 2004 and 2005.

Table 2:
Comparison of Site Specific Data with State and National Data for Sub-Urban Arterials

	FDOT Site Data		State Data*		National Data*	
	K_{30}	D_{30}	K_{30}	D_{30}	K_{30}	D_{30}
Observed Minimum	9.32	55.15	9.2	50.8	10.0	52.0
Observed Maximum	9.45	57.88	11.5	67.1	15.0	57.0

*Source: FDOT Project Traffic Forecasting Handbook 2002.

2.3. TRAFFIC MODEL

In order to develop traffic projections for the years 2030 and 2010, the most current update of the TBRPM Version 5.1 was utilized. The modified TBRPM provided by the FDOT, District Seven incorporates the latest adopted 2025 Cost Affordable Long Range Transportation Plan (LRTP) for the region and includes the updated socio-economic data based on all the proposed developments in the vicinity of the study area. The model was developed and approved by FDOT and was determined to be the best tool for developing traffic projections for the SR 56 Extension. The SR 56 Extension is coded as a four-lane roadway from Meadow Pointe Boulevard to SR 41 (US 301) in both the 2030 and 2010 models.

2.4. ROADWAY NETWORK

The 2030 model network includes all programmed and planned roadway improvements in and around the study area. The programmed improvements include those projects in the Pasco County Metropolitan Planning Organization's (MPO's) and Hillsborough County MPO's Transportation Improvement Programs (TIPs). Planned improvements include the cost affordable projects outlined in the current drafts of the MPOs' adopted 2025 Cost Affordable LRTPs. Improvements also include any private developer committed projects associated with planned developments in the study area.

The Pasco County's planned roadway improvements, from the Pasco County MPO adopted 2025 Cost Affordable LRTP that are located within the limits of the SR 56 corridor from Meadow Pointe Boulevard to SR 41 (US 301) are shown in **Table 3**.

Table 3:
Planned Roadway Improvements

Project Number	Description of Improvement	On Roadway	From	To
Highway Improvements (2010-2016)				
P-2070	New 2-Lane Undivided Roadway	Stanley Road	SR 56	SR 54
Highway Improvement (2016-2025)				
P-1400	Widen from 2 to 4 Lanes	CR 579 (Morris Bridge Road)	SR 56	SR 54
P-2250	Widen from 2 to 4 Lanes	SR 41 (US 301)	SR 56	SR 54
P-2070	New 2-Lane Undivided Roadway	Stanley Road	Hillsborough County Line	SR 56
P-1775	New 2-Lane Undivided Roadway	New River Road	SR 56	Chancey Extension
P-1725	Widen from 2 to 4 Lanes	Meadow Pointe Boulevard	SR 56	SR 54

SECTION 3.
FUTURE CONDITIONS

3.1. DESIGN YEAR (2030) AND OPENING YEAR (2010) TRAFFIC PROJECTIONS

Both the Design Year (2030) and the Opening Year (2010) traffic volumes were obtained from the TBRPM 2030 and 2010 models modified and provided by the FDOT. The traffic volumes produced by the model represent PSWADT. The PSWADT model volumes were converted to AADT by the application of a MOCF of 0.96. The projected AADT volumes are shown on **Exhibit 2** and included in **Appendix A**.

3.2. DESIGN HOUR VOLUMES

The Design Year (2030) and the Opening Year (2010) Directional Design Hour Volumes (DDHV) were obtained by multiplying the AADT volumes produced by the updated TBRPM model first by the FDOT approved K_{30} factor of 10.0 percent and then by the FDOT approved D_{30} factor of 56.6 percent (peak direction). The AM peak direction for the SR 56 corridor west of CR 579 (Morris Bridge Road) was assumed as the westbound direction. The AM peak direction for the SR 56 corridor east of CR 579 (Morris Bridge Road) was assumed as the eastbound direction. This assumption was made based on the model's projected AADT volume distribution along the SR 56 corridor. The projected SR 56 AADT values show that the AADT values are significantly higher west of Meadow Pointe Boulevard and east of CR 579 (Morris Bridge Road) compared to the AADT values between Meadow Pointe Boulevard and CR 579 (Morris Bridge Road). The peak direction assumption is reasonable based on the fact that I-75 is located to the west of the SR 56 Extension and the major arterial SR 41 (US 301) and City of Zephyrhills are located at the east end of the SR 56 Extension.

The AM and PM Design Year (2030) and Opening Year (2010) turning movement volumes were developed by manually distributing and balancing the DDHVs at the intersections. The manual method was used since the roadway currently does not exist and therefore no turning movement data exists to assist in the development of the Design Year (2030) and the Opening Year (2010) design hour turning movement volumes. In

Revised SR 56 Alignment

XXX/XXX
2010 AADT
2030 AADT

1 0.5 0 Miles

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DESIGN YEAR (2030) & OPENING YEAR (2010)
SR 56 CORRIDOR AADT

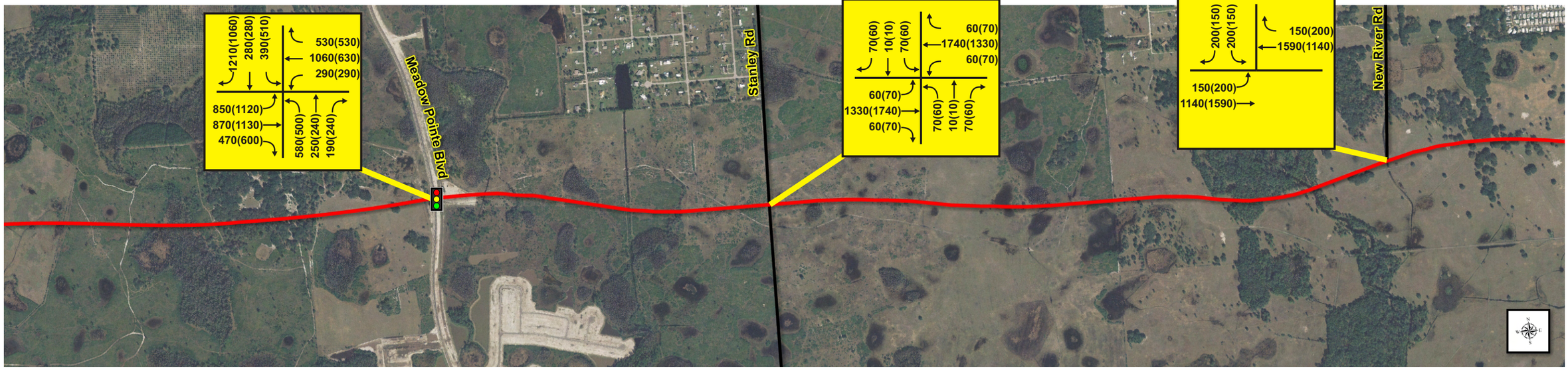
EXHIBIT 2

addition, since this is currently an undeveloped area and in the future will be a rapid developing area (roadway network and land uses), the magnitude and travel patterns of the traffic volumes could dramatically change over time based on how the area develops.

In developing intersection AM and PM design hour turning movement volumes, first, the recommended K_{30} and D_{30} factors were applied to the projected AADT volumes at all four approaches and the approach AM and PM directional design hour volumes were estimated and assigned considering the assumed AM and PM peak traffic directions. Then, the AM and PM design hour intersection turning movement volumes for each approach were estimated using the ratios of the estimated AM and PM directional design hour volumes, respectively. The estimated intersection turning movement volumes were manually readjusted to satisfy the assumed K_{30} and D_{30} factors for the SR 56 roadway mainline. In this process it was extremely difficult to satisfy the assumed K_{30} and D_{30} factors for the cross streets approaches simultaneously with the mainline. In this iterative process switching peak directions was also considered to derive better estimates. Final turning movement estimates were reviewed to insure the resulted deviations in cross street K_{30} and D_{30} factors are acceptable. The magnitude of the reciprocal turning movement volumes were also reviewed to ensure the values are within the acceptable magnitude.

In practical field traffic conditions this non-reciprocal pattern was widely observed because of various reasons (e.g.: am peak concentration hours are not identical to pm peak concentration hours). Therefore, a 100 percent theoretical traffic pattern for the analyses was not assumed. The estimates satisfy the main line K_{30} and D_{30} factors and are reasonable to develop intersection lane geometrics. The manual balancing method was considered to be the most appropriate method since there are no traffic counts available as no intersections currently exist.

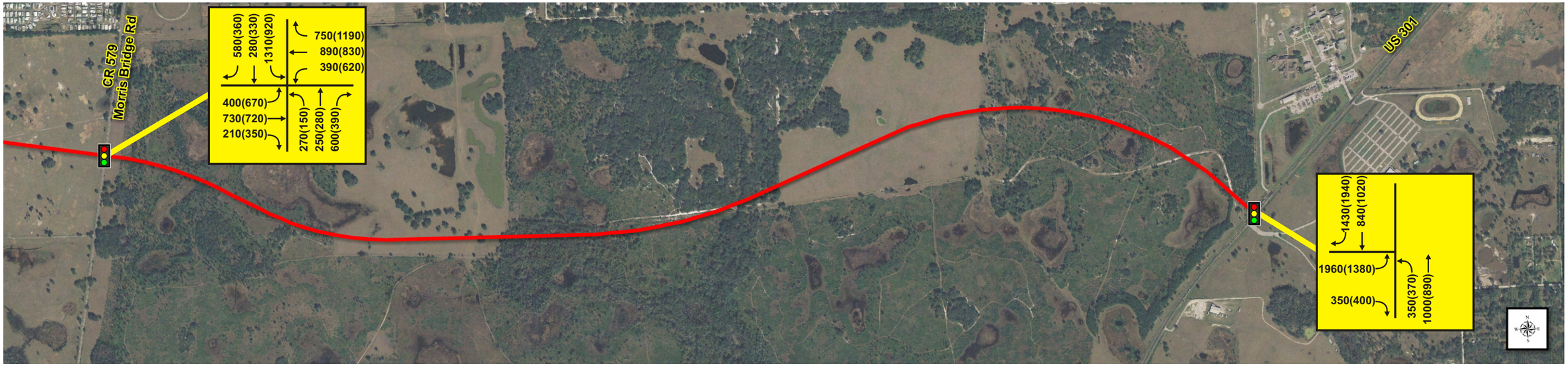
The resulting Design Year (2030) and the Opening Year (2010) AM and PM turning movement traffic volumes are shown on **Exhibits 3 and 4**, respectively. The estimated turning movement volumes show that certain turning movement volumes at the SR 56



Revised SR 56 Alignment

XXX(XXX)
PM Volume
AM Volume

1 0.5 0 Miles



SR 56 PD&E Study Reevaluation from Meadow Pointe Blvd. to SR 41 (US 301)	**DESIGN YEAR (2030) SR 56 CORRIDOR DESIGN HOUR VOLUMES**	**EXHIBIT 3**

Revised SR 56 Alignment

XXX(XXX)
PM Volume
AM Volume

1 0.5 0 Miles

SR 56 PD&E Study
Reevaluation from
Meadow Pointe Blvd.
to SR 41 (US 301)

OPENING YEAR (2010) SR 56 CORRIDOR DESIGN HOUR VOLUMES

EXHIBIT 4

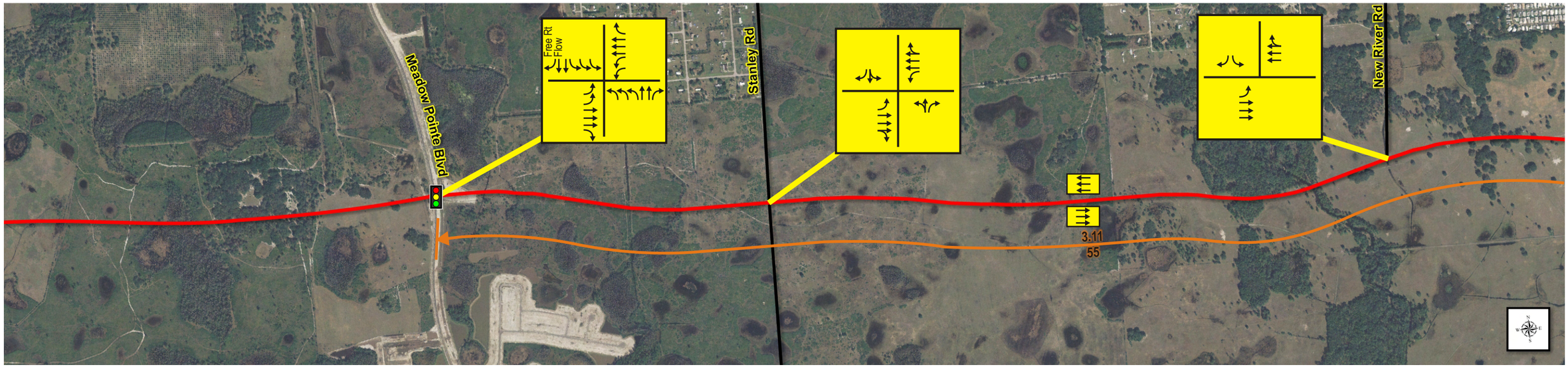
intersections of Meadow Pointe Boulevard and CR 579 (Morris Bridge Road) would be lower for the Design Year (2030) compared to the Opening Year (2010). This scenario is acceptable considering the fact that the Meadow Pointe Boulevard and CR 579 (Morris Bridge Road) would be widened to four-lanes north of SR 56 in the Design Year (2030). Furthermore, the widening of SR 54 to four-lanes east of I-75, along with other proposed road construction and widening projects north of the SR 56 extension, would result in traffic re-distribution along the extended SR 56 corridor in the Design Year (2030).

3.3. DESIGN YEAR (2030) INTERSECTION LEVEL OF SERVICE ANALYSIS

The signalized intersection LOS was estimated using the Highway Capacity Manual (HCM) methodology module of the Synchro software. The unsignalized intersection LOS was estimated using the Highway Capacity Software (HCS). The intersection lane geometrics are recommended and shown on **Exhibit 5**, based on the results of the iterative operational analyses, with different intersection lane geometric conditions for the estimated Design Year (2030) design hour traffic scenario. The intersection LOS results with the recommended intersection lane geometry are summarized in **Table 4** and are shown on **Exhibit 6**. The Design Year (2030) Synchro and HCS intersection analysis sheets for the proposed conditions are included in **Appendix B**.

Table 4:
Design Year (2030) SR 56
Intersection Level of Service Summary

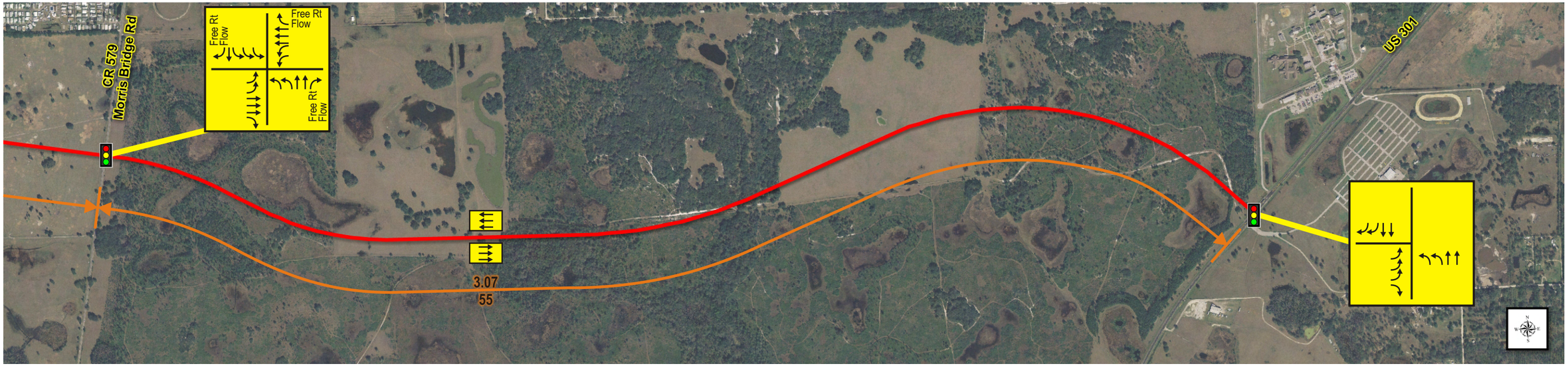
Cross Street	SR 56 EB AM / PM	SR 56 WB AM / PM	NB AM / PM	SB AM / PM	Overall LOS AM / PM	Overall Delay (sec/veh) AM / PM
Meadow Pointe Boulevard	C / D	D / C	D / D	C / C	C / C	32 / 35
CR 579 (Morris Bridge Road)	D / D	C / C	C / C	C / D	C / C	31 / 33
SR 41 (US 301)	D / D	NA	C / C	C / C	C / C	34 / 35
Stanley Road (unsignalized intersection)	D / C (Left-Turn)	C / C (Left-Turn)	F / F	F / F	-	-
New River Road (unsignalized intersection)	E / D (Left-Turn)	-	-	F / F	-	-



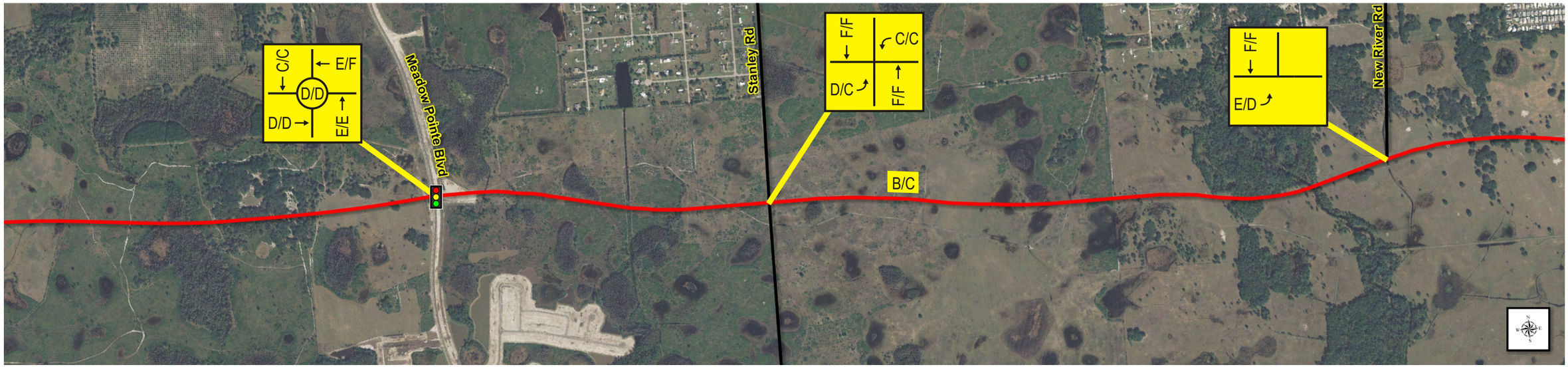
Revised SR 56 Alignment

XXX (distance in miles)
XX (proposed speed limit)

1 0.5 0 Miles



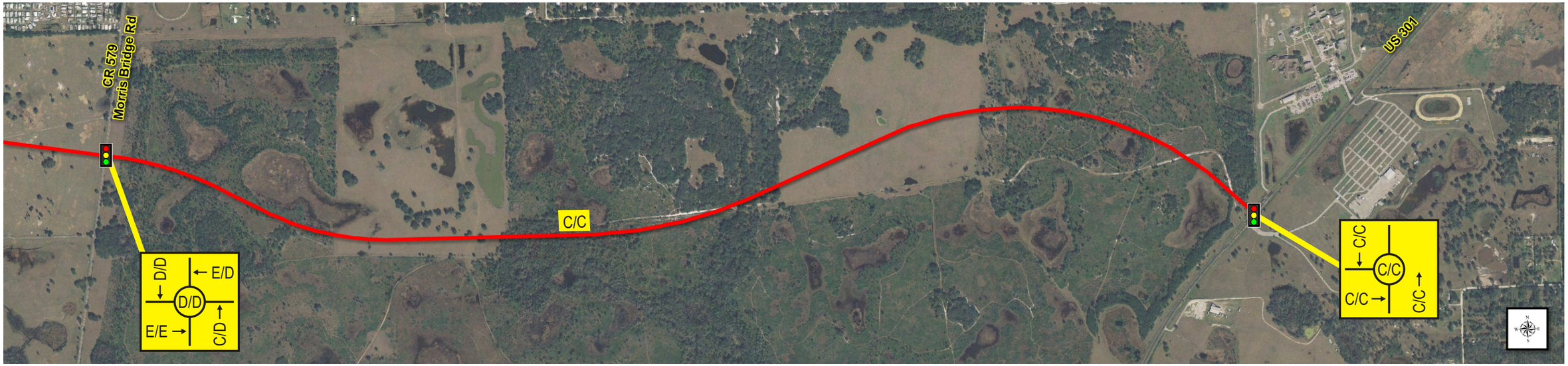
SR 56 PD&E Study Reevaluation from Meadow Pointe Blvd. to SR 41 (US 301)	**DESIGN YEAR (2030) SR 56 CORRIDOR PROPOSED LANE GEOMETRY**	**EXHIBIT 5**



Revised SR 56 Alignment

X/X
PM LOS
AM LOS

1 0.5 0 Miles



SR 56 PD&E Study Reevaluation from Meadow Pointe Blvd. to SR 41 (US 301)	**DESIGN YEAR (2030) SR 56 CORRIDOR LEVEL OF SERVICE**	**EXHIBIT 6**

The Design Year (2030) intersection analysis results show that all three proposed signalized intersections in the SR 56 study corridor would operate at an overall LOS D for the Design Year (2030) traffic conditions with the recommended intersection geometric conditions. However, attention should be given to the following aspects of the proposed intersection geometrics to achieve the LOS presented in the above table.

1. Triple through lanes at both eastbound and westbound approaches of the SR 56 / Meadow Pointe Boulevard and SR 56 / CR 579 (Morris Bridge Road) intersections would be necessary to achieve the acceptable overall intersection LOS D for the Design Year (2030) traffic conditions.

2. Dual left turn lanes at the westbound approach and dual through lanes at the southbound approach were recommended at the SR 56 / Meadow Pointe Boulevard intersection. The second receiving lane would be constructed at the south leg of the intersection for an appropriate distance, since the Meadow Pointe Boulevard would be a two-lane highway south of SR 56, according to the adopted 2025 Cost Affordable LRTP.

3. Free right turn flow conditions were assumed at the westbound approach of the SR 56 / Meadow Pointe Boulevard intersection. The third receiving lane (acceleration lane with taper) would be constructed at the north leg of the intersection for an appropriate distance to facilitate the free flow right turn traffic merge condition.

4. Free right turn flow conditions were assumed at the southbound approach of the SR 56 / Meadow Pointe Boulevard intersection. The fourth receiving lane (acceleration lane with taper) would be constructed at the west leg of the intersection for an appropriate distance to facilitate the free flow right turn traffic merge condition.

5. Dual left turn lanes were recommended at the westbound approach of the SR 56 / CR 579 (Morris Bridge Road) intersection. The second receiving lane would be constructed at the south leg of the intersection for an appropriate distance since the CR 579 (Morris Bridge Road) would be a two-lane highway south of SR 56, according to the adopted 2025 Cost Affordable LRTP. In addition two through lanes

are recommended at the northbound approach to the intersection. These lanes would be constructed at an appropriate distance south of the intersection to allow for a transition to the proposed four-lane widening of CR 579 (Morris Bridge Road) north of SR 56.

6. Free right turn flow conditions were assumed at the northbound, southbound and westbound approaches of the SR 56 / CR 579 (Morris Bridge Road) intersection. The fourth receiving lane (acceleration lane with taper) would be constructed at the east leg and west leg of the intersection for an appropriate distance to facilitate the free flow right turn traffic merge condition.

7. Dual through lanes were recommended at the southbound approach of the SR 56 / SR 41 (US 301) intersection. The second receiving lane would be constructed at the south leg of the intersection to an appropriate distance since SR 41 (US 301) would be a two-lane highway south of SR 56, according to the adopted 2025 Cost Affordable LRTP. In addition, two through lanes are recommended at the northbound approach to the intersection. These lanes would be constructed at an appropriate distance south of the intersection to allow for a transition to the proposed four-lane widening of SR 41 (US 301) north of SR 56.

8. Triple left turn lanes were recommended at the eastbound approach of the SR 56 / SR 41 (US 301) intersection. The third receiving lane would be constructed at the north leg of the intersection to an appropriate distance since SR 41 (US 301) would be a four-lane highway north of SR 56, according to the adopted 2025 Cost Feasible LRTP. However, if north-south routes are developed with SR 56 connections to provide travel to the north, this would provide relief for the eastbound left turn movement with the probable reduction in SR 56 eastbound left turn volumes at the SR 41 (US 301) intersection. A possible north-south reliever route for this movement is Coates Road which currently terminates just north of SR 56 in the 2025 Cost Affordable LRTP.

3.4. ACCESS MANAGEMENT

Access management is concerned with the orderly management of ingress to and egress from adjacent land uses along a roadway to help maintain a facility that operates in an efficient, safe and accessible manner. Access management helps a highway facility to operate efficiently and safely by reducing potential vehicle and pedestrian conflict points. The FDOT has developed minimum driveway or connector spacing, median opening spacing, and signalized intersection spacing standards for limited access and controlled access facilities on the state highway system. SR 56 in Pasco County is designated as a controlled access facility, Access Class 3. In order to help maintain the spacing criteria of an Access Class 3, frontage roads were developed on both sides of the mainline. The minimum spacing standards are summarized on **Table 5**.

Table 5:
Access Classification and Standards for Controlled Access Facilities

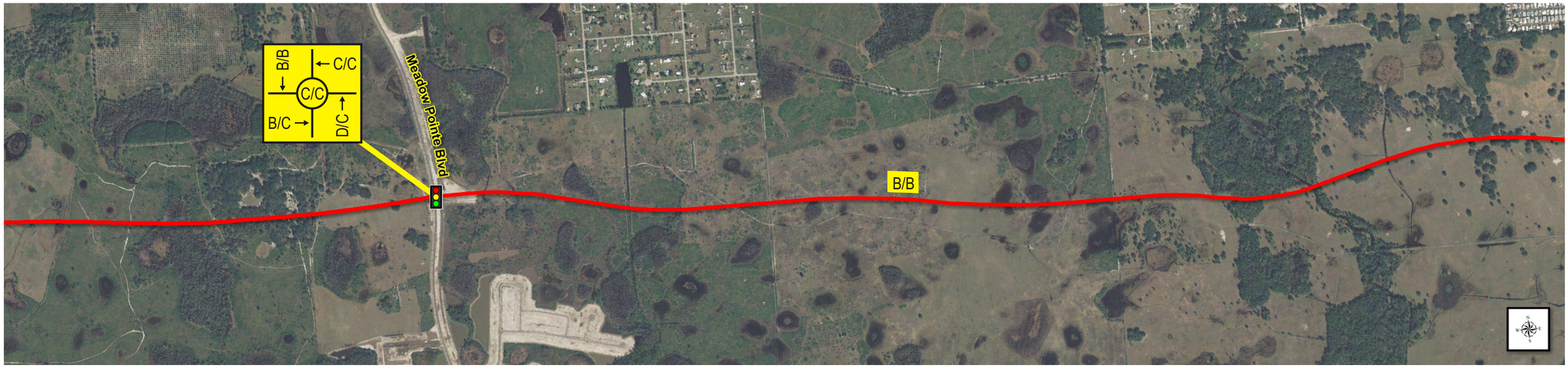
Access Class	Facility Design Features (Median Treatment and Access Roads)	Minimum Connection Spacing (ft) (>45mph / <45mph)	Minimum Median Opening Spacing (ft)		Minimum Signal Spacing (mi)
			Bi-Directional	Full	
2	Restrictive w/Service Roads	1,320 / 660	1,320	2,640	0.5
3	**Restrictive**	**660 / 440**	**1,320**	**2,640**	**0.5**
4	Non-Restrictive	660 / 440	N/A	N/A	0.5
5	Restrictive	440 / 245	660	2,640 / 1,320	0.5 / 0.25
6	Non-Restrictive	440 / 245	N/A	N/A	0.25
7	Both	125	330	660	0.25

Source: State Highway System Access Management Classification System and Standards, Florida Administrative Chapter 14-97.

The SR 56 facility design will use a 70 mph design speed criteria to be consistent with the previous SR 56 reevaluation segment (CR 581/SR 581) to Meadow Pointe Boulevard).

3.5. OPENING YEAR (2010) INTERSECTION LOS ANALYSIS

Utilizing the lane geometry determined in the Design Year (2030) analysis and the Opening Year (2010) turning movement volumes shown on **Exhibit 4**, the Opening Year (2010) intersection analyses were performed and the results are summarized in **Table 6** and are shown on **Exhibit 7**. The Opening Year (2010) Synchro intersection analysis sheets for the proposed conditions are included in **Appendix B**.



Revised SR 56 Alignment

X/X
PM LOS
AM LOS

1 0.5 0 Miles

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OPENING YEAR (2010) SR 56 CORRIDOR LEVEL OF SERVICE

EXHIBIT 7

Table 6:
Opening Year (2010) SR 56 Intersection Level of Service Summary

Cross Street	SR 56 EB AM / PM	SR 56 WB AM / PM	NB AM / PM	SB AM / PM	Overall LOS AM / PM	Overall Delay (sec/veh) AM / PM
Meadow Pointe Boulevard	B / B	C / B	D / C	B / B	B / B	18 / 18
CR 579 (Morris Bridge Road)	B / C	B / B	C / C	B / B	B / B	15 / 18
SR 41 (US 301)	B / C	NA	B / B	A / B	B / B	13 / 15

3.6. DESIGN YEAR (2030) AND OPENING YEAR (2010) SR 56 ROADWAY LEVEL OF SERVICE ANALYSIS

The Design Year (2030) and the Opening Year (2010) SR 56 roadway segments LOS analyses were conducted using the FDOT ARTPLAN software. In the planning level ARTPLAN analysis, the LOS for the six lane alternative was estimated using the SR 56 corridor specific proposed traffic parameters K_{30}, D_{30}, design hour truck factor (T), peak hour factor (PHF) and g/C ratios. The Design Year (2030) and Opening Year (2010) SR 56 roadway segment analysis results are summarized in **Table 7** and **Table 8**, respectively. The analysis results are also shown on **Exhibit 6** and **Exhibit 7**, respectively. The ARTPLAN analysis sheets for the proposed conditions for the Design Year (2030) and the Opening Year (2010) are included in **Appendix C**. The ARTPLAN analysis results show that the six-lane SR 56 roadway would operate with an acceptable LOS for the design year (2030) conditions.

Table 7:
Design Year (2030) SR 56
Proposed Roadway Segments (Build)
Level of Service Summary

SR 56	Level of Service	
	AM	PM
Between SR 41 (US 301) and CR 579	C	C
Between CR 579 and Meadow Pointe Blvd.	B	C

Table 8:
Design Year (2010) SR 56
Proposed Roadway Segments (Build)
Level of Service Summary

SR 56	Level of Service	
	AM	PM
Between SR 41 (US 301) and CR 579	B	B
Between CR 579 and Meadow Pointe Blvd.	B	B

3.7. INTERSECTION QUEUE LENGTH ANALYSIS

The signalized intersection queue length analysis is necessary to estimate the required storage lengths for the intersection turn lanes along the SR 56 highway. The maximum queue length for each turning movement was estimated from the design and opening year AM and PM peak hour Synchro analysis results. Since it is possible that through lane queuing can sometimes block access to left turn lanes, the anticipated queue lengths in the through lanes were also reviewed. The maximum queue length, for the SR 56 signalized intersections, during the Design Year (2030) and Opening Year (2010) design hour traffic conditions are summarized by individual movements in **Table 9**.

Table 9:
Design Year (2030) and Opening Year (2010) Queue Lengths

SR 56 Intersections	Turn Lane	Maximum Queue Length (ft.)	
		Design Year 2030	Opening Year 2010
Meadow Pointe Blvd.	Eastbound Left	650	350
	Eastbound Through	375	250
	Eastbound Right	325	25
	Westbound Left	175	100
	Westbound Through	425	325
	Westbound Right	0	0
	Northbound Left	225	100
	Northbound Through	150	50
	Northbound Right	150	75
	Southbound Left	200	125
	Southbound Through	200	50
	Southbound Right	0	0
CR 579 (Morris Bridge Road)	Eastbound Left	375	375
	Eastbound Through	275	150
	Eastbound Right	150	25
	Westbound Left	350	100
	Westbound Through	325	200
	Westbound Right	0	0
	Northbound Left	175	100
	Northbound Through	175	75
	Northbound Right	0	0
	Southbound Left	425	150
	Southbound Through	400	175
	Southbound Right	0	0
SR 41 (US 301)	Eastbound Left	725	225
	Eastbound Right	175	100
	Northbound Left	225	125
	Northbound Through	400	225
	Southbound Through	475	350
	Southbound Right	1125	75

Appropriate deceleration length should be added to the queue length for the turn lane design. The required deceleration length for the intersection turn lanes was determined based on FDOT Design Standards Index No. 301 and are shown in **Table 10**. The required turn lane length would be extensive for left-turn movements at certain intersections because of the longer through movement queue lengths projected in the Synchro analysis. However, if the left-turn volume is significantly low compared to the through movement volume at a particular intersection, then providing a longer left-turn storage lane may not be cost efficient. In these cases, improving intersection capacity for through movements can be considered.

Table 10:
Required Deceleration Lengths for Intersection Turn Lanes

Roadway	Conditions	Design Speed (mph)	Deceleration Length (ft)
SR 56	Urban	65-70	460
Meadow Pointe Boulevard	Urban	50	240
CR 579 (Morris Bridge Road)	Rural	50	290
SR 41 (US 301)	Rural	50	290

SECTION 4.
SUMMARY AND CONCLUSIONS

The intersection analyses show that three through lanes in each direction would be necessary to operate the major intersections at Meadow Pointe Boulevard and CR 579 (Morris Bridge Road) along the SR 56 study roadway, with the acceptable overall intersection LOS D. The arterial analysis results using ARTPLAN software show that the six-lane SR 56 roadway would operate with an acceptable LOS for the design year (2030) conditions.

SR 56 in Pasco County is designated as a controlled access facility, Access Class 3. In order to achieve an acceptable LOS D for the design year 2030 traffic, while maintaining the spacing criteria for an Access Class 3 roadway, it is recommended that the typical section configuration for the SR 56 corridor be a six lane typical section with two-way frontage roads on both sides of the mainline to provide adequate access to the land uses.

The Design Year (2030) intersection analysis results show that all three proposed signalized intersections in the SR 56 study corridor would operate at an acceptable LOS D for the Design Year traffic conditions with the recommended intersection geometric conditions. However, attention should be given to the following aspects of the proposed intersection geometrics to achieve the acceptable LOS.

1. Triple through lanes at both eastbound and westbound approaches of the SR 56 / Meadow Pointe Boulevard and SR 56 / CR 579 (Morris Bridge Road) intersections would be necessary to achieve the acceptable overall intersection LOS D for the Design Year (2030) traffic conditions.

2. Dual left turn lanes at the westbound approach and dual through lanes at the southbound approach were recommended at the SR 56 / Meadow Pointe Boulevard intersection. The second receiving lane would be constructed at the south leg of the intersection for an appropriate distance, since the Meadow Pointe Boulevard would be a two-lane highway south of SR 56, according to the adopted 2025 Cost Affordable LRTP.

3. Free right turn flow conditions were assumed at the westbound approach of the SR 56 / Meadow Pointe Boulevard intersection. The third receiving lane (acceleration lane with taper) would be constructed at the north leg of the intersection for an appropriate distance to facilitate the free flow right turn traffic merge condition.

4. Free right turn flow conditions were assumed at the southbound approach of the SR 56 / Meadow Pointe Boulevard intersection. The fourth receiving lane (acceleration lane with taper) would be constructed at the west leg of the intersection for an appropriate distance to facilitate the free flow right turn traffic merge condition.

5. Dual left turn lanes were recommended at the westbound approach of the SR 56 / CR 579 (Morris Bridge Road) intersection. The second receiving lane would be constructed at the south leg of the intersection for an appropriate distance since the CR 579 (Morris Bridge Road) would be a two-lane highway south of SR 56, according to the adopted 2025 Cost Affordable LRTP. In addition two through lanes are recommended at the northbound approach to the intersection. These lanes would be constructed at an appropriate distance south of the intersection to allow for a transition to the proposed four-lane widening of CR 579 (Morris Bridge Road) north of SR 56.

6. Free right turn flow conditions were assumed at the northbound, southbound and westbound approaches of the SR 56 / CR 579 (Morris Bridge Road) intersection. The fourth receiving lane (acceleration lane with taper) would be constructed at the east leg and west leg of the intersection for an appropriate distance to facilitate the free flow right turn traffic merge condition.

7. Dual through lanes were recommended at the southbound approach of the SR 56 / SR 41 (US 301) intersection. The second receiving lane would be constructed at the south leg of the intersection to an appropriate distance since SR 41 (US 301) would be a two-lane highway south of SR 56, according to the adopted 2025 Cost Affordable LRTP. In addition, two through lanes are recommended at the northbound approach to the intersection. These lanes would be constructed at an appropriate

distance south of the intersection to allow for a transition to the proposed four-lane widening of SR 41 (US 301) north of SR 56.

8. Triple left turn lanes were recommended at the eastbound approach of the SR 56 / SR 41 (US 301) intersection. The third receiving lane would be constructed at the north leg of the intersection to an appropriate distance since SR 41 (US 301) would be a four-lane highway north of SR 56, according to the adopted 2025 Cost Feasible LRTP. However, if north-south routes are developed with SR 56 connections to provide travel to the north, this would provide relief for the eastbound left turn movement with the probable reduction in SR 56 eastbound left turn volumes at the SR 41 (US 301) intersection. A possible north-south reliever route for this movement is Coates Road which currently terminates just north of SR 56 in the 2025 Cost Affordable LRTP.

APPENDICES

Appendix A: **Model AADT Projections**

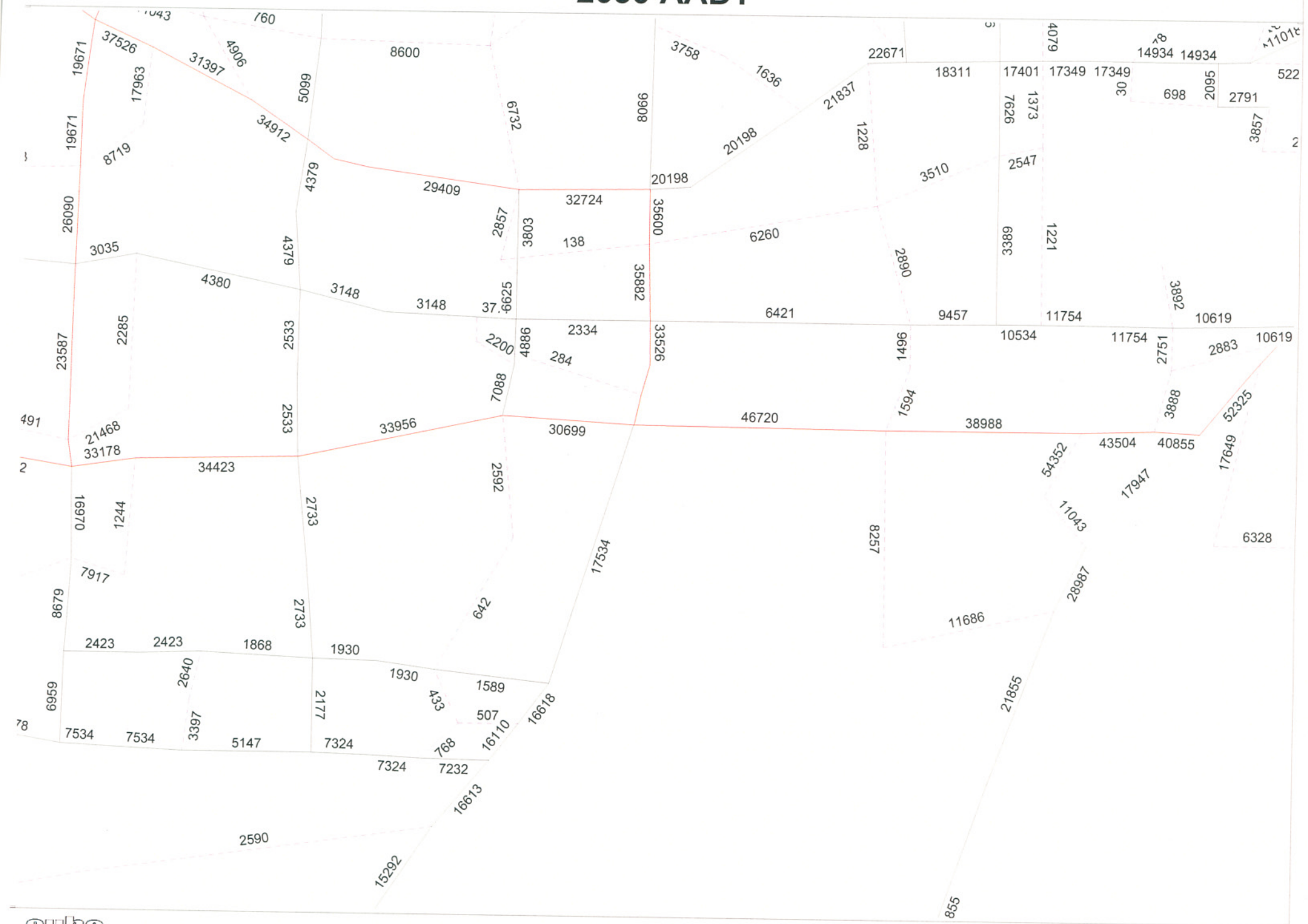
Appendix B: **Design Year (2030) and Opening Year (2010) SYNCHRO Intersection Analysis Sheets**

Appendix C: **Design Year (2030) and Opening Year (2010) ARTPLAN Analysis Sheets**

Appendix A

Model AADT Projections

2030 AADT



Appendix B

Design Year (2030) and Opening Year (2010)
SYNCHRO Intersection Analysis Sheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.94	0.95	1.00	0.94	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	4988	1553	3367	4988	1553	4894	3471	1553	4894	3471	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3367	4988	1553	3367	4988	1553	4894	3471	1553	4894	3471	1553
Volume (vph)	850	870	470	290	1060	530	580	250	190	390	280	1210
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	924	946	511	315	1152	576	630	272	207	424	304	1315
RTOR Reduction (vph)	0	0	31	0	0	0	0	0	25	0	0	0
Lane Group Flow (vph)	924	946	480	315	1152	576	630	272	182	424	304	1315
Turn Type	Prot		pm+ov	Prot		Free	Prot		pm+ov	Prot		Free
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			Free			2			Free
Actuated Green, G (s)	33.0	45.8	63.9	15.2	28.0	113.6	18.1	14.2	29.4	18.4	14.5	113.6
Effective Green, g (s)	34.0	46.8	65.9	16.2	29.0	113.6	19.1	15.2	31.4	19.4	15.5	113.6
Actuated g/C Ratio	0.30	0.41	0.58	0.14	0.26	1.00	0.17	0.13	0.28	0.17	0.14	1.00
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1008	2055	901	480	1273	1553	823	464	429	836	474	1553
v/s Ratio Prot	0.27	0.19	0.09	0.09	0.23		0.13	0.08	0.06	0.09	0.09	
v/s Ratio Perm			0.22			0.37			0.06			c0.85
v/c Ratio	0.92	0.46	0.53	0.66	0.90	0.37	0.77	0.59	0.43	0.51	0.64	0.85
Uniform Delay, d1	38.4	24.2	14.5	46.1	41.0	0.0	45.1	46.2	33.7	42.8	46.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.6	0.2	0.6	3.2	9.3	0.7	4.3	1.9	0.7	0.5	3.0	5.9
Delay (s)	51.0	24.4	15.1	49.3	50.3	0.7	49.4	48.1	34.4	43.2	49.4	5.9
Level of Service	D	C	B	D	D	A	D	D	C	D	D	A
Approach Delay (s)		32.7			36.1			46.3			20.1	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM Average Control Delay	32.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	113.6	Sum of lost time (s)	0.0
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.94	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	4988	1553	3367	4988	1553	3367	3471	1553	4894	1827	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3367	4988	1553	3367	4988	1553	3367	3471	1553	4894	1827	1553
Volume (vph)	400	730	210	390	890	750	270	250	600	1310	280	580
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	435	793	228	424	967	815	293	272	652	1424	304	630
RTOR Reduction (vph)	0	0	122	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	435	793	106	424	967	815	293	272	652	1424	304	630
Turn Type	Prot		pm+ov	Prot		Free	Prot		Free	Prot		Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	17.9	24.8	50.1	18.2	25.1	112.2	25.3	12.1	112.2	37.1	23.9	112.2
Effective Green, g (s)	18.9	25.8	52.1	19.2	26.1	112.2	26.3	13.1	112.2	38.1	24.9	112.2
Actuated g/C Ratio	0.17	0.23	0.46	0.17	0.23	1.00	0.23	0.12	1.00	0.34	0.22	1.00
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	567	1147	721	576	1160	1553	789	405	1553	1662	405	1553
v/s Ratio Prot	c0.13	0.16	0.03	0.13	c0.19		0.09	0.08		c0.29	0.17	
v/s Ratio Perm			0.03			c0.52			0.42			0.41
v/c Ratio	0.77	0.69	0.15	0.74	0.83	0.52	0.37	0.67	0.42	0.86	0.75	0.41
Uniform Delay, d1	44.5	39.6	17.3	44.1	41.0	0.0	36.0	47.5	0.0	34.5	40.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.2	1.8	0.1	4.9	5.3	1.3	0.3	4.3	0.8	4.6	7.6	0.8
Delay (s)	50.7	41.4	17.4	49.0	46.3	1.3	36.3	51.8	0.8	39.1	48.4	0.8
Level of Service	D	D	B	D	D	A	D	D	A	D	D	A
Approach Delay (s)		40.4			30.2			20.8			30.1	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	30.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	112.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.94	1.00	0.97	0.95	0.95	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	4894	1553	3367	3471	3471	2733
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	4894	1553	3367	3471	3471	2733
Volume (vph)	1960	350	350	1000	840	1430
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2130	380	380	1087	913	1554
RTOR Reduction (vph)	0	215	0	0	0	25
Lane Group Flow (vph)	2130	165	380	1087	913	1529
Turn Type		Perm	Prot			pt+ov
Protected Phases	6		7	4	8	8 6
Permitted Phases		6				
Actuated Green, G (s)	50.0	50.0	17.8	57.8	35.0	90.0
Effective Green, g (s)	51.0	51.0	18.8	58.8	36.0	91.0
Actuated g/C Ratio	0.43	0.43	0.16	0.50	0.31	0.77
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	2119	672	537	1733	1061	2111
v/s Ratio Prot	c0.44		c0.11	0.31	c0.26	0.56
v/s Ratio Perm		0.11				
v/c Ratio	1.01	0.24	0.71	0.63	0.86	0.72
Uniform Delay, d1	33.4	21.2	46.9	21.5	38.5	6.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	20.8	0.2	4.2	0.7	7.3	1.3
Delay (s)	54.2	21.4	51.1	22.2	45.8	8.2
Level of Service	D	C	D	C	D	A
Approach Delay (s)	49.2			29.7	22.1	
Approach LOS	D			C	C	

Intersection Summary			
HCM Average Control Delay	34.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	117.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	924	946	511	315	1152	576	630	272	207	424	304	1315
v/c Ratio	0.92	0.46	0.55	0.66	0.91	0.37	0.77	0.59	0.46	0.51	0.64	0.85
Control Delay	53.7	25.9	9.0	53.8	53.0	0.7	53.0	52.5	19.1	46.3	54.0	6.1
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	53.7	25.9	9.0	53.8	53.0	0.7	53.0	52.5	19.1	46.3	54.0	6.1
Queue Length 50th (ft)	348	189	82	118	315	0	164	104	69	104	116	0
Queue Length 95th (ft)	#476	240	137	167	#406	0	211	146	112	145	165	0
Internal Link Dist (ft)		1960			16341			2903			3370	
Turn Bay Length (ft)	500		500	500		500	500		500	500		
Base Capacity (vph)	1051	2091	936	552	1310	1553	859	683	481	837	541	1553
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.45	0.55	0.57	0.88	0.37	0.73	0.40	0.43	0.51	0.56	0.85

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	435	793	228	424	967	815	293	272	652	1424	304	630
v/c Ratio	0.77	0.69	0.27	0.74	0.84	0.52	0.37	0.67	0.42	0.86	0.75	0.41
Control Delay	55.7	44.3	2.3	53.6	49.3	1.3	40.4	58.2	0.8	41.4	53.5	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.7	44.3	2.3	53.6	49.3	1.3	40.4	58.2	0.8	41.4	53.5	0.8
Queue Length 50th (ft)	166	206	0	161	262	0	98	107	0	360	222	0
Queue Length 95th (ft)	224	257	27	215	316	0	152	155	0	422	298	0
Internal Link Dist (ft)		16341			16130			3117			2559	
Turn Bay Length (ft)	500		500	500		500	500		500	500		500
Base Capacity (vph)	623	1205	842	648	1232	1553	789	434	1553	1750	567	1553
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.66	0.27	0.65	0.78	0.52	0.37	0.63	0.42	0.81	0.54	0.41

Intersection Summary

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Group Flow (vph)	2130	380	380	1087	913	1554
v/c Ratio	1.01	0.43	0.71	0.63	0.86	0.73
Control Delay	54.5	3.8	54.7	23.4	48.4	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	3.8	54.7	23.4	48.4	9.2
Queue Length 50th (ft)	~582	0	142	306	346	278
Queue Length 95th (ft)	#720	57	195	376	#467	394
Internal Link Dist (ft)	16130			5187	3358	
Turn Bay Length (ft)		500	500			500
Base Capacity (vph)	2119	888	601	1772	1061	2137
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.43	0.63	0.61	0.86	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.94	0.95	1.00	0.94	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	4988	1553	3367	4988	1553	4894	3471	1553	4894	3471	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3367	4988	1553	3367	4988	1553	4894	3471	1553	4894	3471	1553
Volume (vph)	1120	1130	600	290	630	530	500	240	240	510	280	1060
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1217	1228	652	315	685	576	543	261	261	554	304	1152
RTOR Reduction (vph)	0	0	73	0	0	0	0	0	4	0	0	0
Lane Group Flow (vph)	1217	1228	579	315	685	576	543	261	257	554	304	1152
Turn Type	Prot		pm+ov	Prot		Free	Prot		pm+ov	Prot		Free
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			Free			2			Free
Actuated Green, G (s)	42.1	34.0	52.0	27.9	19.8	114.8	18.0	16.2	44.1	16.7	14.9	114.8
Effective Green, g (s)	43.1	35.0	54.0	28.9	20.8	114.8	19.0	17.2	46.1	17.7	15.9	114.8
Actuated g/C Ratio	0.38	0.30	0.47	0.25	0.18	1.00	0.17	0.15	0.40	0.15	0.14	1.00
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1264	1521	731	848	904	1553	810	520	624	755	481	1553
v/s Ratio Prot	c0.36	0.25	0.13	0.09	0.14		0.11	0.08	0.10	0.11	0.09	
v/s Ratio Perm			0.24			0.37			0.06			c0.74
v/c Ratio	0.96	0.81	0.79	0.37	0.76	0.37	0.67	0.50	0.41	0.73	0.63	0.74
Uniform Delay, d1	35.1	36.8	25.7	35.5	44.6	0.0	45.0	44.9	24.6	46.3	46.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.1	3.3	5.9	0.3	3.7	0.7	2.2	0.8	0.4	3.7	2.7	3.2
Delay (s)	52.1	40.0	31.5	35.7	48.3	0.7	47.2	45.6	25.1	50.0	49.4	3.2
Level of Service	D	D	C	D	D	A	D	D	C	D	D	A
Approach Delay (s)		43.0			28.4			41.4			23.1	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM Average Control Delay	34.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	114.8	Sum of lost time (s)	4.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.94	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	4988	1553	3367	4988	1553	3367	3471	1553	4894	1827	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3367	4988	1553	3367	4988	1553	3367	3471	1553	4894	1827	1553
Volume (vph)	670	720	350	620	830	1190	150	280	390	920	330	360
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	728	783	380	674	902	1293	163	304	424	1000	359	391
RTOR Reduction (vph)	0	0	65	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	728	783	315	674	902	1293	163	304	424	1000	359	391
Turn Type	Prot		pm+ov	Prot		Free	Prot		Free	Prot		Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	26.7	24.7	40.0	25.0	23.0	110.0	15.3	14.3	110.0	26.0	25.0	110.0
Effective Green, g (s)	27.7	25.7	42.0	26.0	24.0	110.0	16.3	15.3	110.0	27.0	26.0	110.0
Actuated g/C Ratio	0.25	0.23	0.38	0.24	0.22	1.00	0.15	0.14	1.00	0.25	0.24	1.00
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	848	1165	593	796	1088	1553	499	483	1553	1201	432	1553
v/s Ratio Prot	0.22	0.16	0.08	0.20	0.18		0.05	0.09		0.20	0.20	
v/s Ratio Perm			0.12			c0.83			0.27			0.25
v/c Ratio	0.86	0.67	0.53	0.85	0.83	0.83	0.33	0.63	0.27	0.83	0.83	0.25
Uniform Delay, d1	39.3	38.3	26.4	40.1	41.0	0.0	41.9	44.7	0.0	39.4	39.9	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.6	1.5	0.9	8.3	5.3	5.4	0.4	2.6	0.4	5.1	12.8	0.4
Delay (s)	47.9	39.9	27.3	48.4	46.4	5.4	42.3	47.2	0.4	44.4	52.7	0.4
Level of Service	D	D	C	D	D	A	D	D	A	D	D	A
Approach Delay (s)		40.4			28.4			24.1			36.3	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	32.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.94	1.00	0.97	0.95	0.95	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	4894	1553	3367	3471	3471	2733
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	4894	1553	3367	3471	3471	2733
Volume (vph)	1380	400	370	890	1020	1940
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1500	435	402	967	1109	2109
RTOR Reduction (vph)	0	231	0	0	0	20
Lane Group Flow (vph)	1500	204	402	967	1109	2089
Turn Type		Perm	Prot			pt+ov
Protected Phases	6		7	4	8	8 6
Permitted Phases		6				
Actuated Green, G (s)	37.0	37.0	18.0	71.1	48.1	90.1
Effective Green, g (s)	38.0	38.0	19.0	72.1	49.1	91.1
Actuated g/C Ratio	0.32	0.32	0.16	0.61	0.42	0.77
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1575	500	542	2119	1443	2108
v/s Ratio Prot	0.31		c0.12	0.28	0.32	c0.76
v/s Ratio Perm		0.13				
v/c Ratio	0.95	0.41	0.74	0.46	0.77	0.99
Uniform Delay, d1	39.2	31.3	47.2	12.4	29.6	13.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.1	0.5	5.4	0.2	2.5	17.4
Delay (s)	52.2	31.8	52.6	12.6	32.1	30.5
Level of Service	D	C	D	B	C	C
Approach Delay (s)	47.6			24.3	31.1	
Approach LOS	D			C	C	

Intersection Summary			
HCM Average Control Delay	34.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	118.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Queues

1: SR 56 & Meadow Pointe Blvd. 2/7/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1217	1228	652	315	685	576	543	261	261	554	304	1152
v/c Ratio	0.96	0.81	0.81	0.37	0.76	0.37	0.67	0.50	0.42	0.73	0.63	0.74
Control Delay	54.0	41.6	21.7	38.3	50.8	0.7	50.2	49.2	15.7	53.1	53.4	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	41.6	21.7	38.3	50.8	0.7	50.2	49.2	15.7	53.1	53.4	3.2
Queue Length 50th (ft)	460	305	178	102	178	0	137	96	82	140	114	0
Queue Length 95th (ft)	#643	367	306	152	230	0	184	142	134	187	163	0
Internal Link Dist (ft)		1960			16341			2903			3370	
Turn Bay Length (ft)	500		500	500		500	500		500	500		
Base Capacity (vph)	1263	1639	804	848	982	1553	811	566	628	801	560	1553
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.75	0.81	0.37	0.70	0.37	0.67	0.46	0.42	0.69	0.54	0.74

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	728	783	380	674	902	1293	163	304	424	1000	359	391
v/c Ratio	0.86	0.67	0.58	0.85	0.83	0.83	0.33	0.63	0.27	0.84	0.83	0.25
Control Delay	51.7	42.7	14.1	52.6	49.9	5.4	47.2	52.8	0.4	47.8	58.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	42.7	14.1	52.6	49.9	5.4	47.2	52.8	0.4	47.8	58.6	0.4
Queue Length 50th (ft)	271	200	74	252	242	0	59	116	0	258	258	0
Queue Length 95th (ft)	#353	250	127	#330	300	0	94	165	0	317	#378	0
Internal Link Dist (ft)		16341			16130			3117			2559	
Turn Bay Length (ft)	500		500	500		500	500		500	500		500
Base Capacity (vph)	928	1254	660	871	1168	1553	510	561	1553	1277	496	1553
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.62	0.58	0.77	0.77	0.83	0.32	0.54	0.27	0.78	0.72	0.25

Intersection Summary

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

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Group Flow (vph)	1500	435	402	967	1109	2109
v/c Ratio	0.95	0.60	0.74	0.46	0.77	0.99
Control Delay	53.4	11.5	56.1	13.2	34.4	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	11.5	56.1	13.2	34.4	31.5
Queue Length 50th (ft)	401	53	152	195	383	~779
Queue Length 95th (ft)	#508	161	207	242	474	#1113
Internal Link Dist (ft)	16130			5187	3358	
Turn Bay Length (ft)		500	500			500
Base Capacity (vph)	1576	730	589	2140	1441	2127
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.60	0.68	0.45	0.77	0.99

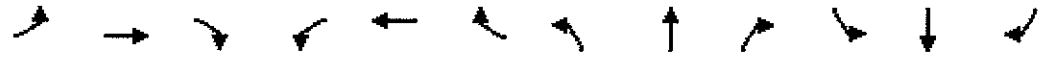
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.94	0.95	1.00	0.94	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	4988	1553	3367	4988	1553	4894	3471	1553	4894	3471	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3367	4988	1553	3367	4988	1553	4894	3471	1553	4894	3471	1553
Volume (vph)	650	960	190	120	1110	400	250	60	60	230	70	990
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	707	1043	207	130	1207	435	272	65	65	250	76	1076
RTOR Reduction (vph)	0	0	70	0	0	0	0	0	55	0	0	0
Lane Group Flow (vph)	707	1043	137	130	1207	435	272	65	10	250	76	1076
Turn Type	Prot		pm+ov	Prot		Free	Prot		pm+ov	Prot		Free
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			Free			2			Free
Actuated Green, G (s)	22.8	45.8	55.2	5.7	28.7	86.6	9.4	5.5	11.2	9.6	5.7	86.6
Effective Green, g (s)	23.8	46.8	57.2	6.7	29.7	86.6	10.4	6.5	13.2	10.6	6.7	86.6
Actuated g/C Ratio	0.27	0.54	0.66	0.08	0.34	1.00	0.12	0.08	0.15	0.12	0.08	1.00
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	925	2696	1026	260	1711	1553	588	261	237	599	269	1553
v/s Ratio Prot	c0.21	0.21	0.02	0.04	0.24		0.06	0.02	0.00	0.05	0.02	
v/s Ratio Perm			0.07			0.28			0.00			c0.69
v/c Ratio	0.76	0.39	0.13	0.50	0.71	0.28	0.46	0.25	0.04	0.42	0.28	0.69
Uniform Delay, d1	28.8	11.6	5.5	38.3	24.7	0.0	35.5	37.7	31.3	35.1	37.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	0.1	0.1	1.5	1.3	0.5	0.6	0.5	0.1	0.5	0.6	2.6
Delay (s)	32.6	11.7	5.5	39.9	26.0	0.5	36.1	38.3	31.4	35.6	38.3	2.6
Level of Service	C	B	A	D	C	A	D	D	C	D	D	A
Approach Delay (s)		18.6			20.7			35.7			10.4	
Approach LOS		B			C			D			B	

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	86.6	Sum of lost time (s)	0.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.94	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	4988	1553	3367	4988	1553	3367	3471	1553	4894	1827	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3367	4988	1553	3367	4988	1553	3367	3471	1553	4894	1827	1553
Volume (vph)	520	610	120	70	510	300	180	80	90	450	100	950
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	565	663	130	76	554	326	196	87	98	489	109	1033
RTOR Reduction (vph)	0	0	55	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	565	663	75	76	554	326	196	87	98	489	109	1033
Turn Type	Prot		pm+ov	Prot		Free	Prot		Free	Prot		Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	16.7	28.6	39.0	4.1	16.0	70.9	10.4	5.6	70.9	12.6	7.8	70.9
Effective Green, g (s)	17.7	29.6	41.0	5.1	17.0	70.9	11.4	6.6	70.9	13.6	8.8	70.9
Actuated g/C Ratio	0.25	0.42	0.58	0.07	0.24	1.00	0.16	0.09	1.00	0.19	0.12	1.00
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	841	2082	898	242	1196	1553	541	323	1553	939	227	1553
v/s Ratio Prot	0.17	0.13	0.01	0.02	0.11		0.06	0.03		0.10	0.06	
v/s Ratio Perm			0.03			0.21			0.06			c0.67
v/c Ratio	0.67	0.32	0.08	0.31	0.46	0.21	0.36	0.27	0.06	0.52	0.48	0.67
Uniform Delay, d1	24.0	13.9	6.6	31.2	23.0	0.0	26.5	29.9	0.0	25.7	28.9	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.1	0.0	0.7	0.3	0.3	0.4	0.5	0.1	0.5	1.6	2.3
Delay (s)	26.1	14.0	6.7	32.0	23.3	0.3	26.9	30.4	0.1	26.2	30.5	2.3
Level of Service	C	B	A	C	C	A	C	C	A	C	C	A
Approach Delay (s)		18.3			16.2			20.8			11.3	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	70.9	Sum of lost time (s)	0.0
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

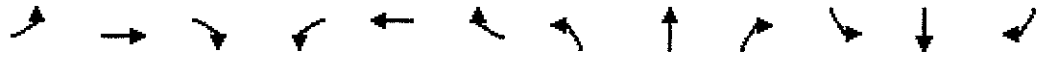
Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.94	1.00	0.97	0.95	0.95	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	4894	1553	3367	3471	3471	2733
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	4894	1553	3367	3471	3471	2733
Volume (vph)	760	50	260	760	370	800
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	826	54	283	826	402	870
RTOR Reduction (vph)	0	35	0	0	0	133
Lane Group Flow (vph)	826	19	283	826	402	737
Turn Type		Perm	Prot			pt+ov
Protected Phases	6		7	4	8	8 6
Permitted Phases		6				
Actuated Green, G (s)	21.8	21.8	11.3	31.8	15.5	42.3
Effective Green, g (s)	22.8	22.8	12.3	32.8	16.5	43.3
Actuated g/C Ratio	0.36	0.36	0.19	0.52	0.26	0.68
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1754	557	651	1790	900	1861
v/s Ratio Prot	c0.17		0.08	c0.24	0.12	0.27
v/s Ratio Perm		0.01				
v/c Ratio	0.47	0.03	0.43	0.46	0.45	0.40
Uniform Delay, d1	15.7	13.3	22.6	9.8	19.7	4.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.0	0.5	0.2	0.4	0.1
Delay (s)	15.9	13.3	23.1	10.0	20.1	4.6
Level of Service	B	B	C	A	C	A
Approach Delay (s)	15.8			13.3	9.5	
Approach LOS	B			B	A	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	63.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	707	1043	207	130	1207	435	272	65	65	250	76	1076
v/c Ratio	0.74	0.38	0.18	0.39	0.74	0.28	0.45	0.19	0.20	0.41	0.22	0.69
Control Delay	34.5	12.5	0.8	45.8	29.6	0.5	42.1	43.5	7.9	41.3	43.4	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	12.5	0.8	45.8	29.6	0.5	42.1	43.5	7.9	41.3	43.4	2.6
Queue Length 50th (ft)	191	128	0	37	224	0	53	18	0	48	22	0
Queue Length 95th (ft)	285	166	10	76	319	0	94	44	29	87	50	0
Internal Link Dist (ft)		1960			16341			2903			3370	
Turn Bay Length (ft)	500		500	500		500	500		500	500		500
Base Capacity (vph)	1249	3125	1122	364	2025	1553	681	813	334	665	788	1553
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.33	0.18	0.36	0.60	0.28	0.40	0.08	0.19	0.38	0.10	0.69

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	565	663	130	76	554	326	196	87	98	489	109	1033
v/c Ratio	0.64	0.30	0.12	0.20	0.53	0.21	0.35	0.21	0.06	0.50	0.39	0.67
Control Delay	27.8	15.8	1.3	34.8	28.3	0.3	31.6	34.0	0.1	28.6	35.1	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	15.8	1.3	34.8	28.3	0.3	31.6	34.0	0.1	28.6	35.1	2.3
Queue Length 50th (ft)	108	75	0	14	76	0	38	17	0	65	42	0
Queue Length 95th (ft)	206	131	12	44	146	0	90	50	0	127	112	0
Internal Link Dist (ft)		16341			16130			3117			2559	
Turn Bay Length (ft)	500		500	500		500	500		500	500		500
Base Capacity (vph)	1350	2715	978	550	1602	1553	1048	998	1553	1560	538	1553
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.24	0.13	0.14	0.35	0.21	0.19	0.09	0.06	0.31	0.20	0.67

Intersection Summary

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Group Flow (vph)	826	54	283	826	402	870
v/c Ratio	0.48	0.09	0.45	0.47	0.45	0.44
Control Delay	17.5	5.6	28.8	11.9	23.4	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	5.6	28.8	11.9	23.4	2.8
Queue Length 50th (ft)	81	0	48	96	65	28
Queue Length 95th (ft)	155	22	114	202	143	64
Internal Link Dist (ft)	16130			5187	3358	
Turn Bay Length (ft)		500	500			500
Base Capacity (vph)	2452	805	1238	2432	1596	2350
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.07	0.23	0.34	0.25	0.37

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.94	0.95	1.00	0.94	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	4988	1553	3367	4988	1553	4894	3471	1553	4894	3471	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3367	4988	1553	3367	4988	1553	4894	3471	1553	4894	3471	1553
Volume (vph)	850	1250	250	120	700	430	210	60	80	300	70	890
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	924	1359	272	130	761	467	228	65	87	326	76	967
RTOR Reduction (vph)	0	0	97	0	0	0	0	0	22	0	0	0
Lane Group Flow (vph)	924	1359	175	130	761	467	228	65	65	326	76	967
Turn Type	Prot		pm+ov	Prot		Free	Prot		pm+ov	Prot		Free
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			Free			2			Free
Actuated Green, G (s)	27.9	41.6	51.8	6.1	19.8	83.6	10.2	5.4	11.5	10.5	5.7	83.6
Effective Green, g (s)	28.9	42.6	53.8	7.1	20.8	83.6	11.2	6.4	13.5	11.5	6.7	83.6
Actuated g/C Ratio	0.35	0.51	0.64	0.08	0.25	1.00	0.13	0.08	0.16	0.14	0.08	1.00
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1164	2542	999	286	1241	1553	656	266	251	673	278	1553
v/s Ratio Prot	c0.27	0.27	0.02	0.04	0.15		0.05	0.02	0.02	0.07	0.02	
v/s Ratio Perm			0.09			0.30			0.02			c0.62
v/c Ratio	0.79	0.53	0.18	0.45	0.61	0.30	0.35	0.24	0.26	0.48	0.27	0.62
Uniform Delay, d1	24.7	13.8	6.0	36.4	27.8	0.0	32.9	36.3	30.7	33.3	36.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	0.2	0.1	1.1	0.9	0.5	0.3	0.5	0.6	0.6	0.5	1.9
Delay (s)	28.5	14.0	6.1	37.6	28.7	0.5	33.2	36.8	31.2	33.9	36.7	1.9
Level of Service	C	B	A	D	C	A	C	D	C	C	D	A
Approach Delay (s)		18.4			19.9			33.4			11.4	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	83.6	Sum of lost time (s)	0.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.94	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3367	4988	1553	3367	4988	1553	3367	3471	1553	4894	1827	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3367	4988	1553	3367	4988	1553	3367	3471	1553	4894	1827	1553
Volume (vph)	850	580	210	130	510	510	110	90	50	250	130	630
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	924	630	228	141	554	554	120	98	54	272	141	685
RTOR Reduction (vph)	0	0	93	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	924	630	135	141	554	554	120	98	54	272	141	685
Turn Type	Prot		pm+ov	Prot		Free	Prot		Free	Prot		Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Actuated Green, G (s)	27.3	37.6	46.6	5.7	16.0	81.8	9.0	6.1	81.8	12.4	9.5	81.8
Effective Green, g (s)	28.3	38.6	48.6	6.7	17.0	81.8	10.0	7.1	81.8	13.4	10.5	81.8
Actuated g/C Ratio	0.35	0.47	0.59	0.08	0.21	1.00	0.12	0.09	1.00	0.16	0.13	1.00
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1165	2354	923	276	1037	1553	412	301	1553	802	235	1553
v/s Ratio Prot	c0.27	0.13	0.02	0.04	0.11		0.04	0.03		0.06	c0.08	
v/s Ratio Perm			0.07			0.36			0.03			c0.44
v/c Ratio	0.79	0.27	0.15	0.51	0.53	0.36	0.29	0.33	0.03	0.34	0.60	0.44
Uniform Delay, d1	24.1	13.1	7.4	36.0	28.9	0.0	32.7	35.1	0.0	30.3	33.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	0.1	0.1	1.6	0.5	0.6	0.4	0.6	0.0	0.3	4.1	0.9
Delay (s)	27.9	13.1	7.5	37.6	29.4	0.6	33.1	35.7	0.0	30.5	37.8	0.9
Level of Service	C	B	A	D	C	A	C	D	A	C	D	A
Approach Delay (s)		20.1			17.6			27.5			13.0	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	81.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.94	1.00	0.97	0.95	0.95	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	4894	1553	3367	3471	3471	2733
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	4894	1553	3367	3471	3471	2733
Volume (vph)	740	320	150	430	860	660
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	804	348	163	467	935	717
RTOR Reduction (vph)	0	222	0	0	0	106
Lane Group Flow (vph)	804	126	163	467	935	611
Turn Type		Perm	Prot			pt+ov
Protected Phases	6		7	4	8	8 6
Permitted Phases		6				
Actuated Green, G (s)	24.5	24.5	7.3	42.7	30.4	59.9
Effective Green, g (s)	25.5	25.5	8.3	43.7	31.4	60.9
Actuated g/C Ratio	0.33	0.33	0.11	0.57	0.41	0.79
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1617	513	362	1965	1412	2156
v/s Ratio Prot	c0.16		c0.05	0.13	c0.27	0.22
v/s Ratio Perm		0.08				
v/c Ratio	0.50	0.25	0.45	0.24	0.66	0.28
Uniform Delay, d1	20.7	18.8	32.3	8.4	18.6	2.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.3	0.9	0.1	1.2	0.1
Delay (s)	21.0	19.1	33.2	8.5	19.8	2.3
Level of Service	C	B	C	A	B	A
Approach Delay (s)	20.4			14.9	12.2	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	77.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	924	1359	272	130	761	467	228	65	87	326	76	967
v/c Ratio	0.78	0.52	0.23	0.36	0.66	0.30	0.34	0.19	0.28	0.47	0.21	0.62
Control Delay	29.6	15.3	0.9	43.2	33.7	0.5	38.7	42.4	18.2	39.4	42.2	1.9
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	29.6	15.3	0.9	43.2	33.7	0.5	38.7	42.4	18.2	39.4	42.2	1.9
Queue Length 50th (ft)	227	189	0	34	137	0	40	17	19	58	20	0
Queue Length 95th (ft)	341	243	11	76	221	0	80	44	62	109	50	0
Internal Link Dist (ft)		1960			16341			2903			3370	
Turn Bay Length (ft)	500		500	500		500	500		500	500		500
Base Capacity (vph)	1570	3051	1120	417	1529	1553	749	783	329	823	841	1553
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.45	0.24	0.31	0.50	0.30	0.30	0.08	0.26	0.40	0.09	0.62

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	924	630	228	141	554	554	120	98	54	272	141	685
v/c Ratio	0.78	0.26	0.21	0.39	0.59	0.36	0.28	0.26	0.03	0.33	0.51	0.44
Control Delay	29.6	14.9	1.2	44.2	35.9	0.6	41.1	41.6	0.0	34.4	42.9	0.9
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	29.6	14.9	1.2	44.2	35.9	0.6	41.1	41.6	0.0	34.4	42.9	0.9
Queue Length 50th (ft)	214	75	0	35	96	0	29	24	0	44	68	0
Queue Length 95th (ft)	361	121	17	84	176	0	70	62	0	86	155	0
Internal Link Dist (ft)		16341			16130			3117			2559	
Turn Bay Length (ft)	500		500	500		500	500		500	500		500
Base Capacity (vph)	1571	2865	1049	389	1252	1553	800	806	1553	1211	439	1553
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.22	0.22	0.36	0.44	0.36	0.15	0.12	0.03	0.22	0.32	0.44

Intersection Summary

Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Group Flow (vph)	804	348	163	467	935	717
v/c Ratio	0.50	0.47	0.36	0.25	0.66	0.31
Control Delay	24.4	6.2	40.3	9.4	22.9	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	6.2	40.3	9.4	22.9	1.1
Queue Length 50th (ft)	113	6	38	54	195	11
Queue Length 95th (ft)	211	78	92	105	344	28
Internal Link Dist (ft)	16130			5187	3358	
Turn Bay Length (ft)		500	500			500
Base Capacity (vph)	2169	872	777	2406	1882	2455
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.40	0.21	0.19	0.50	0.29

Intersection Summary

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Praba*	Intersection	*Stanley Road & SR 56*
Agency/Co.	*HDR Engineering, Inc.*	Jurisdiction	*Pasco County*
Date Performed	*2/6/2007*	Analysis Year	*2030*
Analysis Time Period	*AM Peak*		

Project Description *SR 56 Traffic Study*

East/West Street: *SR 56*	North/South Street: *Stanley Road*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*60*	*887*	*60*	*60*	*1160*	*60*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*65*	*964*	*65*	*65*	*1260*	*65*
Percent Heavy Vehicles	*4*	--	--	*4*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*1*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*70*	*10*	*70*	*70*	*10*	*70*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*76*	*10*	*76*	*76*	*10*	*76*
Percent Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*1*	*0*	*1*	*1*
Configuration	*LT*		*R*	*LT*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*	*LT*		*R*	*LT*		*R*
v (veh/h)	*65*	*65*	*86*		*76*	*86*		*76*
C (m) (veh/h)	*209*	*332*	*61*		*500*	*57*		*400*
v/c	*0.31*	*0.20*	*1.41*		*0.15*	*1.51*		*0.19*
95% queue length	*1.27*	*0.72*	*7.45*		*0.53*	*7.77*		*0.69*
Control Delay (s/veh)	*29.8*	*18.5*	*370.6*		*13.5*	*419.2*		*16.1*
LOS	*D*	*C*	*F*		*B*	*F*		*C*
Approach Delay (s/veh)	--	--	*203.1*			*230.1*		
Approach LOS	--	--	*F*			*F*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	Praba	Intersection	Stanley Road & SR 56
Agency/Co.	HDR Engineering, Inc.	Jurisdiction	Pasco County
Date Performed	2/6/2007	Analysis Year	2030
Analysis Time Period	PM Peak		

Project Description: SR 56 Traffic Study

East/West Street: SR 56	North/South Street: Stanley Road
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	70	1160	70	70	887	70
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	76	1260	76	76	964	76
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		1			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	60	10	60	60	10	60
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	65	10	65	65	10	65
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	1	0	1	1
Configuration	LT		R	LT		R

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LT		R	LT		R
v (veh/h)	76	76	75		65	75		65
C (m) (veh/h)	326	264	60		583	70		496
v/c	0.23	0.29	1.25		0.11	1.07		0.13
95% queue length	0.89	1.16	6.32		0.37	5.62		0.45
Control Delay (s/veh)	19.4	24.1	313.4		11.9	230.8		13.3
LOS	C	C	F		B	F		B
Approach Delay (s/veh)	--	--	173.4			129.8		
Approach LOS	--	--	F			F		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Praba*
Agency/Co.	*HDR Engineering, Inc.*
Date Performed	*2/6/2007*
Analysis Time Period	*AM Peak*

Site Information

Intersection	*New River Road & SR 56*
Jurisdiction	*Pasco County*
Analysis Year	*2030*

Project Description *SR 56 Traffic Study*

East/West Street: *SR 56* | North/South Street: *New River Road*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*150*	*760*			*1060*	*150*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*163*	*826*	*0*	*0*	*1152*	*163*
Percent Heavy Vehicles	*4*	--	--	*4*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	*TR*
Upstream Signal		*0*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*200*		*200*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*217*	*0*	*217*
Percent Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*					*L*		*R*
v (veh/h)	*163*					*217*		*217*
C (m) (veh/h)	*246*					*81*		*502*
v/c	*0.66*					*2.68*		*0.43*
95% queue length	*4.20*					*20.89*		*2.15*
Control Delay (s/veh)	*44.4*					*870.3*		*17.5*
LOS	*E*					*F*		*C*
Approach Delay (s/veh)	--	--				*443.9*		
Approach LOS	--	--				*F*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Praba*	Intersection	*New River Road & SR 56*
Agency/Co.	*HDR Engineering, Inc.*	Jurisdiction	*Pasco County*
Date Performed	*2/6/2007*	Analysis Year	*2030*
Analysis Time Period	*PM Peak*		

Project Description	*SR 56 Traffic Study*
East/West Street: *SR 56*	North/South Street: *New River Road*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*200*	*1060*			*760*	*200*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*217*	*1152*	*0*	*0*	*826*	*217*
Percent Heavy Vehicles	*4*	--	--	*4*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	*TR*
Upstream Signal		*0*			*1*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*150*		*150*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*163*	*0*	*163*
Percent Heavy Vehicles	*4*	*4*	*4*	*4*	*4*	*4*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*					*L*		*R*
v (veh/h)	*217*					*163*		*163*
C (m) (veh/h)	*365*					*81*		*578*
v/c	*0.59*					*2.01*		*0.28*
95% queue length	*3.67*					*14.47*		*1.15*
Control Delay (s/veh)	*28.3*					*580.8*		*13.7*
LOS	*D*					*F*		*B*
Approach Delay (s/veh)	--	--				*297.2*		
Approach LOS	--	--				*F*		

Appendix C

Design Year (2030) and Opening Year (2010)
ARTPLAN Analysis Sheets

ARTPLAN 2002 Conceptual Planning Analysis

Description/File Information

Filename	Y:\SR 56 GL Homes\Engineering Data and Analysis\Traffic Analysis\ARTPLAN\AP_SR 56 (6-lanes) Westbound 2030 am.xml	**Date Prepared**	2/13/2007		
Program	ARTPLAN	**Version**	5.2.0		
Analyst	Praba	**Agency**	HDR Engineering, Inc.	**District**	District 7
Arterial Name	SR 56	**Begin Intersection**	US 301	**End Intersection**	Meadow Pointe Blvd.
Study Period	K30	**Peak Direction**	Westbound		
User Notes	Design Year 2030 AM				

Facility Data

Roadway Variables		Traffic Variables		Control Variables		Multimodal Variables	
Area Type	Urbanized	**AADT**	1000	**Arrival Type**	4	**Paved Shoulder/Bike Lane**	No
Class	1	**K**	0.1	**Signals/Mile**	2.00	**Outside Lane Width**	Typical
Posted Speed	55	**D**	0.56	**Cycle Length**	120	**Pavement Condition**	Typical
# Thru Lanes	6	**PHF**	0.92	**Through g/C**	0.44	**Sidewalk**	Yes
Median Type	Restrictive	**% Turns Excl. Lanes**	12	**Control Type**	Actuated	**Sidewalk/Roadway Separation**	Typical
Left Turn Lanes	Yes	**% Heavy Vehicles**	4			**Sidewalk/Roadway Protective Barrier**	No
		Base Sat Flow Rate	1900			**Obstacle to Bus Stop**	No
		Local Adj. Factor	1			**Bus Freq**	1
		Adjusted Sat Flow Rate	1827			**Bus Span Of Service**	15

Automobile Segment Data

Segment #	Cycle Length	g/C	Arr. Type	% Turns	# Dir. Lanes	Length	AADT	Hourly Vol.	FFS	Median Type
1 (to CR 579)	112	0.23	4	56	3	1	46700	2615	60	Restrictive
2 (to Meadow Pointe Blvd.)	114	0.26	4	44	3	1	33200	1859	60	Restrictive

Automobile LOS

Segment #	Thru Mvmt Flow Rate	v/c	Control Delay	Int. Approach LOS	Speed (mph)	Segment LOS
1 (to CR 579)	1251	0.99	51.3	D	30.4	C
2 (to Meadow Pointe Blvd.)	1132	0.79	40.31	D	34.4	B

ARTPLAN 2002 Conceptual Planning Analysis

Description/File Information

Filename	Y:\SR 56 GL Homes\Engineering Data and Analysis\Traffic Analysis\ARTPLAN\AP_SR 56 (6-lanes) Westbound 2030 pm.xml	**Date Prepared**	2/13/2007		
Program	ARTPLAN	**Version**	5.2.0		
Analyst	Praba	**Agency**	HDR Engineering, Inc.	**District**	District 7
Arterial Name	SR 56	**Begin Intersection**	US 301	**End Intersection**	Meadow Pointe Blvd.
Study Period	K30	**Peak Direction**	Westbound		
User Notes	Design Year 2030 PM				

Facility Data

Roadway Variables		Traffic Variables		Control Variables		Multimodal Variables	
Area Type	Urbanized	**AADT**	1000	**Arrival Type**	4	**Paved Shoulder/Bike Lane**	No
Class	1	**K**	0.1	**Signals/Mile**	2.00	**Outside Lane Width**	Typical
Posted Speed	55	**D**	0.56	**Cycle Length**	120	**Pavement Condition**	Typical
# Thru Lanes	6	**PHF**	0.92	**Through g/C**	0.44	**Sidewalk**	Yes
Median Type	Restrictive	**% Turns Excl. Lanes**	12	**Control Type**	Actuated	**Sidewalk/Roadway Separation**	Typical
Left Turn Lanes	Yes	**% Heavy Vehicles**	4			**Sidewalk/Roadway Protective Barrier**	No
		Base Sat Flow Rate	1900			**Obstacle to Bus Stop**	No
		Local Adj. Factor	1			**Bus Freq**	1
		Adjusted Sat Flow Rate	1827			**Bus Span Of Service**	15

Automobile Segment Data

Segment #	Cycle Length	g/C	Arr. Type	% Turns	# Dir. Lanes	Length	AADT	Hourly Vol.	FFS	Median Type
1 (to CR 579)	110	0.22	4	65	3	1	46700	2615	60	Restrictive
2 (to Meadow Pointe Blvd.)	115	0.18	4	57	3	1	33200	1859	60	Restrictive

Automobile LOS

Segment #	Thru Mvmt Flow Rate	v/c	Control Delay	Int. Approach LOS	Speed (mph)	Segment LOS
1 (to CR 579)	995	0.83	44.87	D	32.1	C
2 (to Meadow Pointe Blvd.)	869	0.88	53.59	D	30.5	C

ARTPLAN 2002 Conceptual Planning Analysis

Description/File Information

Filename	Y:\SR 56 GL Homes\Engineering Data and Analysis\Traffic Analysis\ARTPLAN\AP_SR 56 (6-lanes) Westbound 2010 am.xml	**Date Prepared**	2/13/2007		
Program	ARTPLAN	**Version**	5.2.0		
Analyst	Praba	**Agency**	HDR Engineering, Inc.	**District**	District 7
Arterial Name	SR 56	**Begin Intersection**	US 301	**End Intersection**	Meadow Pointe Blvd.
Study Period	K30	**Peak Direction**	Westbound		
User Notes	Design Year 2010 AM				

Facility Data

Roadway Variables		Traffic Variables		Control Variables		Multimodal Variables	
Area Type	Urbanized	**AADT**	1000	**Arrival Type**	4	**Paved Shoulder/Bike Lane**	No
Class	1	**K**	0.1	**Signals/Mile**	2.00	**Outside Lane Width**	Typical
Posted Speed	55	**D**	0.56	**Cycle Length**	120	**Pavement Condition**	Typical
# Thru Lanes	6	**PHF**	0.92	**Through g/C**	0.44	**Sidewalk**	Yes
Median Type	Restrictive	**% Turns Excl. Lanes**	12	**Control Type**	Actuated	**Sidewalk/Roadway Separation**	Typical
Left Turn Lanes	Yes	**% Heavy Vehicles**	4			**Sidewalk/Roadway Protective Barrier**	No
		Base Sat Flow Rate	1900			**Obstacle to Bus Stop**	No
		Local Adj. Factor	1			**Bus Freq**	1
		Adjusted Sat Flow Rate	1827			**Bus Span Of Service**	15

Automobile Segment Data

Segment #	Cycle Length	g/C	Arr. Type	% Turns	# Dir. Lanes	Length	AADT	Hourly Vol.	FFS	Median Type
1 (to CR 579)	71	0.24	4	42	3	1	20300	1137	60	Restrictive
2 (to Meadow Pointe Blvd.)	87	0.34	4	32	3	1	28900	1618	60	Restrictive

Automobile LOS

Segment #	Thru Mvmt Flow Rate	v/c	Control Delay	Int. Approach LOS	Speed (mph)	Segment LOS
1 (to CR 579)	717	0.55	24.67	C	41.7	B
2 (to Meadow Pointe Blvd.)	1196	0.64	23.72	C	41.4	B

ARTPLAN 2002 Conceptual Planning Analysis

Description/File Information

Filename	Y:\SR 56 GL Homes\Engineering Data and Analysis\Traffic Analysis\ARTPLAN\AP_SR 56 (6-lanes) Westbound 2010 pm.xml	Date Prepared	2/13/2007		
Program	ARTPLAN	Version	5.2.0		
Analyst	Praba	Agency	HDR Engineering, Inc.	District	District 7
Arterial Name	SR 56	Begin Intersection	US 301	End Intersection	Meadow Pointe Blvd.
Study Period	K30	Peak Direction	Westbound		
User Notes	Design Year 2010 PM				

Facility Data

Roadway Variables		Traffic Variables		Control Variables		Multimodal Variables	
Area Type	Urbanized	AADT	1000	Arrival Type	4	Paved Shoulder/Bike Lane	No
Class	1	K	0.1	Signals/Mile	2.00	Outside Lane Width	Typical
Posted Speed	55	D	0.56	Cycle Length	120	Pavement Condition	Typical
# Thru Lanes	6	PHF	0.92	Through g/C	0.44	Sidewalk	Yes
Median Type	Restrictive	% Turns Exel. Lanes	12	Control Type	Actuated	Sidewalk/Roadway Separation	Typical
Left Turn Lanes	Yes	% Heavy Vehicles	4			Sidewalk/Roadway Protective Barrier	No
		Base Sat Flow Rate	1900			Obstacle to Bus Stop	No
		Local Adj. Factor	1			Bus Freq	1
		Adjusted Sat Flow Rate	1827			Bus Span Of Service	15

Automobile Segment Data

Segment #	Cycle Length	g/C	Arr. Type	% Turns	# Dir. Lanes	Length	AADT	Hourly Vol.	FFS	Median Type
1 (to CR 579)	82	0.21	4	56	3	1	20300	1137	60	Restrictive
2 (to Meadow Pointe Blvd.)	84	0.25	4	44	3	1	28900	1618	60	Restrictive

Automobile LOS

Segment #	Thru Mvmt Flow Rate	v/c	Control Delay	Int. Approach LOS	Speed (mph)	Segment LOS
1 (to CR 579)	544	0.47	30.05	C	39.2	B
2 (to Meadow Pointe Blvd.)	985	0.72	31.08	C	38.1	B