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Paul VI Redevelopment

Traffic Impact Study

April 18, 2017
Revised: November 15, 2017

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PAUL VI REDEVELOPMENT
TRAFFIC IMPACT STUDY
CITY OF FAIRFAX, VIRGINIA

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SECTION 1
INTRODUCTION

This report presents the results of a traffic impact study conducted in support of the proposed redevelopment of the Paul VI Catholic High School (Paul VI) in the City of Fairfax, Virginia, and presents an evaluation of the existing and future transportation network.

This study was conducted in accordance with a scoping agreement developed with City of Fairfax staff. The study scope was determined with City staff based on a review of key study intersections and roadways that would potentially be affected by the implementation of the proposed redevelopment and the number of new trips expected to be generated.

The subject site is located south of Fairfax Boulevard, east of Oak Street, and west of McLean Avenue, in the City of Fairfax, Virginia, as shown on Figure 1-1.

The subject property is comprised of three parcels located at 10675 Fairfax Boulevard, 10600 Cedar Avenue, and 10606 Cedar Avenue, totaling 18.5 acres. The parcel located at 10675 Fairfax Boulevard is zoned CR (Commercial Retail) and the two Cedar Avenue parcels are zoned RM (Residential Medium Density).

The applicant, IDI Group Companies, proposes to develop the site with 184 residential condominium units, 137 town homes, 20,000 square feet (SF) of local serving retail and 24,000 SF of community center space. The site plan is shown on Figure 1-2.

According to the 24VAC30-155 ("Chapter 870") regulations, all development proposals which meet certain specific trip generation thresholds are subject to the regulations as outlined in the Virginia Department of Transportation's (VDOT) Traffic Impact Analysis Regulations Administrative Guidelines ("Administrative Guidelines"). In January 2012, an amendment to the Administrative Guidelines took effect, which determined a development proposal is considered to substantially impact the transportation network if it generates 5,000 or more net new daily vehicle trips located on, or within 3,000 feet of, a VDOT maintained roadway. Based on the trips anticipated to be generated by the subject development, the development would not require a VDOT Chapter 870 compliant traffic study.

Although a traffic impact analysis is not required per 24VAC30-155, the City of Fairfax requires the submission of a traffic study in conjunction with any development application.

This traffic study was completed in accordance with the City of Fairfax policies and guidelines and is intended to address the following issues:

1. Estimation of the net new vehicle trip ends generated by the planned land uses during the AM and PM commuter peak hours and during the PM school peak hour.

2. Determination of the effects of the proposed development on the surrounding local roadway network.

3. Identification of potential road and/or operational improvements necessary to accommodate the project.

Based on the traffic study scoping form provided in Appendix A, tasks undertaken to prepare this study included the following:

1. A review of the applicant's conceptual plans for the subject site.

2. A field review of the subject site in order to determine existing roadway and intersection geometrics and traffic controls, access opportunities and/or constraints, and general traffic conditions.

3. Peak hour turning movement counts obtained at the following study intersections:

    - Lee Highway/Fairfax Boulevard/Main Street
    - Fairfax Boulevard/Fairchester Drive, Walnut Street
    - Fairfax Boulevard/Meredith Drive/Oak Street
    - Fairfax Boulevard/The Shops at Fairfax Entrance-Future Site Entrance.
    - Fairfax Boulevard/Paul VI Entrance (Future Site Entrance)
    - Fairfax Boulevard/McLean Avenue/Warwick Avenue
    - Walnut Street/Cedar Avenue
    - Oak Street/Cedar Avenue
    - McLean Avenue/Cedar Avenue

4. Calculation of existing AM and PM commuter peak hour and PM school peak hour intersection levels of service at the study intersections.

5. Identification of the number of net new peak hour trips that would be generated by the proposed mixed-use development based on standard Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition equations less trips currently generated by the existing Paul VI Catholic High School determined from traffic counts.

6. Determination of future background traffic forecasts based on regional traffic growth and estimates of traffic that would be generated by other approved/planned developments in the site vicinity.

7. Calculation of future levels of service with and without the proposed development at the key study intersections for a proposed build-out year of 2027.

Sources of data for this analysis include traffic counts conducted by Wells + Associates Inc., information obtained from the City of Fairfax, the Institute of Transportation Engineers (ITE), VDOT, the Highway Capacity Manual 2000 (Synchro software, version 9.1), IDI Companies Group, and the files and library of Wells + Associates.

Conclusions

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

1. The Lee Highway/Fairfax Boulevard/Main Street intersection currently operates at or near capacity at level of service (LOS) "E" during each of the three (3) studied peak periods.

2. All other signalized intersections currently operate at an overall LOS D or better during each of the three (3) studied peak periods based on Highway Capacity Manual calculations, however, substantial queues were observed along Fairfax Boulevard during the peak periods. Specifically, substantial queues along eastbound Fairfax Boulevard were observed during the AM peak period and substantial westbound queues were observed during the PM peak period.

3. Historic VDOT traffic data indicates that average daily traffic counts along Fairfax Boulevard and Main Street have decreased by 0.7% to 1.7% per year between 2008 and 2016.

4. The Novus Fairfax Gateway and Mount Vineyard pipeline developments are anticipated to generate 395 AM commuter peak hour trips, 418 PM school peak hour trips, and 576 PM commuter peak hour trips at full buildout.

5. Under future 2027 traffic conditions, without redevelopment of the Paul VI site, minimal increases in delay at the study intersections are expected due to the trips generated by pipeline development in the vicinity of the site and overall levels of service would remain generally consistent with existing conditions.

6. The existing Paul VI Catholic High School currently generates 1,005 trips during the AM commuter peak hour, 563 trips during the PM school peak hour, and 132 trips during the PM commuter peak hour.

7. The Applicant proposes to redevelop the site with 184 residential condominium units, 137 town homes, 20,000 SF of local serving retail, and 24,000 SF of community center space.

8. The project is estimated to generate 789 ***fewer*** AM peak commuter hour trips, 148 ***fewer*** PM school peak hour trips, and 294 ***more*** PM peak commuter hour trips than are currently generated by the high school.

9. Under future 2027 traffic conditions, with the development of the subject site, intersection levels of service would remain generally consistent with existing and background conditions. The analyses show that the Lee Highway/Fairfax Boulevard/Main Street will continue to operate at LOS E during all three peak periods studied. All other intersections will operate at LOS D or better during each of the studied peak periods.

10. A full turning movement site driveway is proposed along Fairfax Boulevard to align with the existing Shops at Fairfax entrance. The full access signalized intersection would operate at an overall LOS "D" or better during each of the studied peak periods.

11. A full turning movement, side-street stop-controlled entrance is proposed along Fairfax Boulevard between the Shops at Fairfax intersection and McLean Avenue. This unsignalized intersection will operate at LOS "C" or better during each of the studied time periods.

Figure 1-1
Site Location
Paul VI Redevelopment
City of Fairfax, Virginia

NORTH

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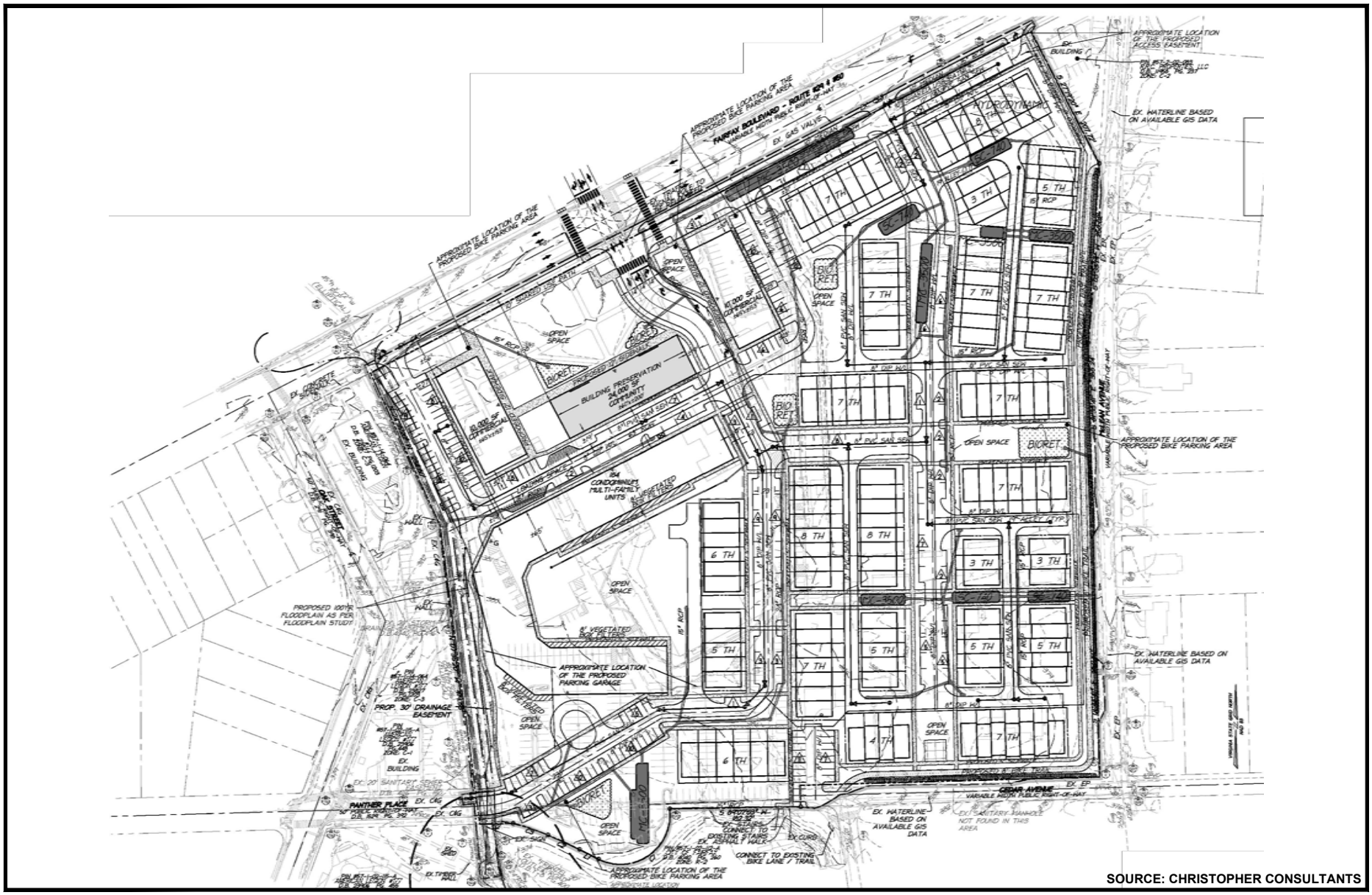


SOURCE: CHRISTOPHER CONSULTANTS

Figure 1-2
Site Plan
Paul VI Redevelopment
City of Fairfax, Virginia

JCP

NORTH

SECTION 2
BACKGROUND INFORMATION

Location and Surrounding Uses

As shown in Figure 1-1, Paul VI is regionally located approximately ½ mile east of Main Street on Fairfax Boulevard in the City of Fairfax. Regional Access is provided by I-66 via Lee Jackson Memorial Highway/Main Street and Chain Bridge Road. Fairfax Boulevard/Arlington Boulevard provides access to/from I-495 (the Capital Beltway).

Properties immediately west and south of the site are generally residential in nature while commercial uses are predominant along Fairfax Boulevard. An existing McDonald's restaurant and a daycare facility are located immediately west of the site and south of Fairfax Boulevard.

Comprehensive Plan Land Use Recommendations

The City's Comprehensive Plan shows the subject parcels as institutional and residential on the Future Land Use Map.

Existing Transportation Network

Existing Road Network. The following are descriptions of the roadways in the vicinity of the proposed development.

Route 29/50 (Fairfax Boulevard). Fairfax Boulevard is classified as an arterial roadway according to the City of Fairfax Comprehensive Plan. Within the vicinity of the subject site, Fairfax Boulevard is constructed as a five-lane, undivided roadway with a center two-way left turn lane and a posted speed limit of 35 miles per hour. Traffic signals are provided at major cross-streets including Main Street, Fairchester Drive/Walnut Street, Meredith Drive/Oak Street, and McLean Avenue/Warwick Avenue. The intersection of Fairfax Boulevard and the driveway to The Shops at Fairfax is also signalized. The Lee Highway/Fairfax Boulevard/Main Street intersection (referred to as Kamp Washington) is a critical signalized intersection within the City of Fairfax. Based on 2016 VDOT average annual daily traffic (AADT) data, Fairfax Boulevard east of Main Street carries approximately 36,000 vehicles per day (vpd).

Route 236 (Main Street). Main Street is also classified by the Comprehensive Plan as an arterial roadway and is constructed as a four-lane, median-divided roadway with a posted speed limit of 35 miles per hour. Based on 2016 VDOT AADT data, Main Street east of the Kamp Washington intersection carries approximately 35,000 vpd.

Cedar Avenue. Cedar Avenue is a two-lane east-west discontinuous roadway. The section of Cedar Avenue west of Paul VI is approximately 30 feet in width, operates as a collector roadway, and provides access to the parking lot in the rear of Paul VI. The section of Cedar Avenue east of Paul VI operates as a residential street and does not provide access to or from the school.

Oak Street. Oak Street is a two-lane north-south undivided roadway with a width of approximately 33 feet. Oak Street provides access to residential and commercial properties south of Fairfax Boulevard and to Paul VI Catholic High School via Cedar Avenue.

Walnut Street. Walnut Street is a two-lane north-south undivided roadway with a width of approximately 33 feet. Walnut Street provides access to residential and commercial properties south of Fairfax Boulevard.

McLean Avenue. McLean Avenue is a two-lane undivided north-south residential street that provides access between Fairfax Boulevard and Cedar Avenue, east of Paul VI Catholic High School.

Existing lane use and traffic control at each of the study intersections is shown on Figure 2-1.

Public Transit Service. The site is served by the City of Fairfax's City-University Energysaver (CUE) Bus "Gold Route" along Main Street and Warwick Avenue and provides access between the George Mason University (GMU) campus and the Vienna/Fairfax-GMU metrorail station, via University Drive, Chain Bridge Road, West Street, Main Street, Lee Highway, Jermantown Road, Orchard Street, Bevan Drive, Warwick Avenue and Fairfax Boulevard. Additionally, the site is served by the "Green Route" which provides service between the GMU campus, Old Town Fairfax, and the Vienna/Fairfax-GMU metrorail station via University Drive, Chain Bridge Road, Eaton Place, Fairfax Boulevard, Fairfax Circle, Arlington Boulevard, Nutley Street, Virginia Center Boulevard, Old Pickett Road, Pickett Road, Main Street, North Street, and George Mason Boulevard.

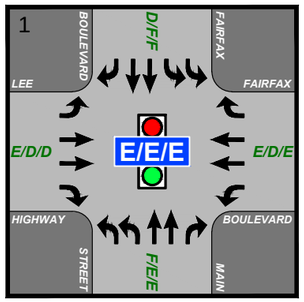
Pedestrian Facilities. Concrete sidewalks are provided along both sides of Fairfax Boulevard and Oak Street, and along the north side of Cedar Avenue east of Oak Street. Marked crosswalks are provided across the north, south, and east legs of the Fairfax Boulevard/ Meredith Drive/Oak Street intersection; across the west leg of the Fairfax Boulevard/McLean Avenue/Warwick Avenue intersection; and across the east leg of the intersection of Fairfax Boulevard and The Shops at Fairfax driveway.

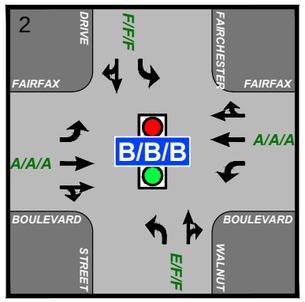
Future Transportation Network

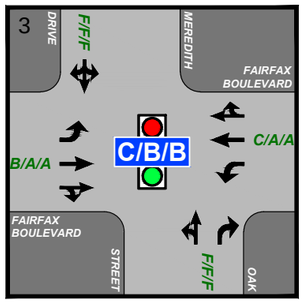
The City of Fairfax's Comprehensive Plan provides recommended strategies for the improvement of the City's transportation network. In general, the Plan recommends that the City should strive to achieve a balance between allowing for the efficient movement of traffic and providing safe and convenient access to City businesses and residences for vehicles, pedestrians, bicycles, and other modes of transport. In terms of roadway operational improvements, the Plan recommends that through traffic should be encouraged to utilize the City's arterial system (cf. Comprehensive Plan, Strategy T-7.4.1). Therefore, no specific capacity improvements (i.e., roadway widening) are recommended for the collector streets that immediately surround the subject site. Any improvements to these streets should focus on enhancing safety and the mobility of pedestrians, bicycles, and public transit.

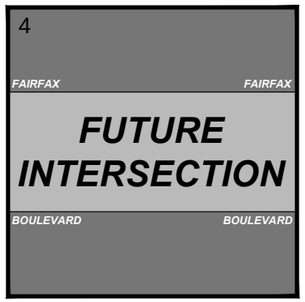
The Comprehensive Plan recommends that Fairfax Boulevard be configured with landscaped medians, where possible, and enhanced streetscape features to encourage pedestrian activity. Slow lanes (with on-street parking), separated from the main travel lanes by landscaped medians should be considered within or adjacent to portions of the Kamp Washington and Northfax Centers if the nature of adjacent redevelopment activity is such that those features would be appropriate.

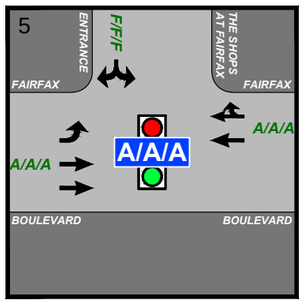
Based on the location of the site, adjacent to the Kamp Washington and Northfax Centers, and the Comprehensive Plan recommendations, a slow lane with on-street parking is proposed along a portion of the site frontage of Fairfax Boulevard.

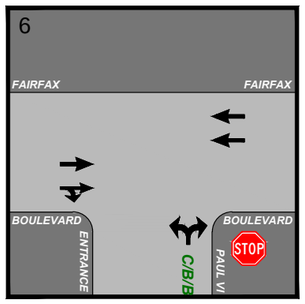


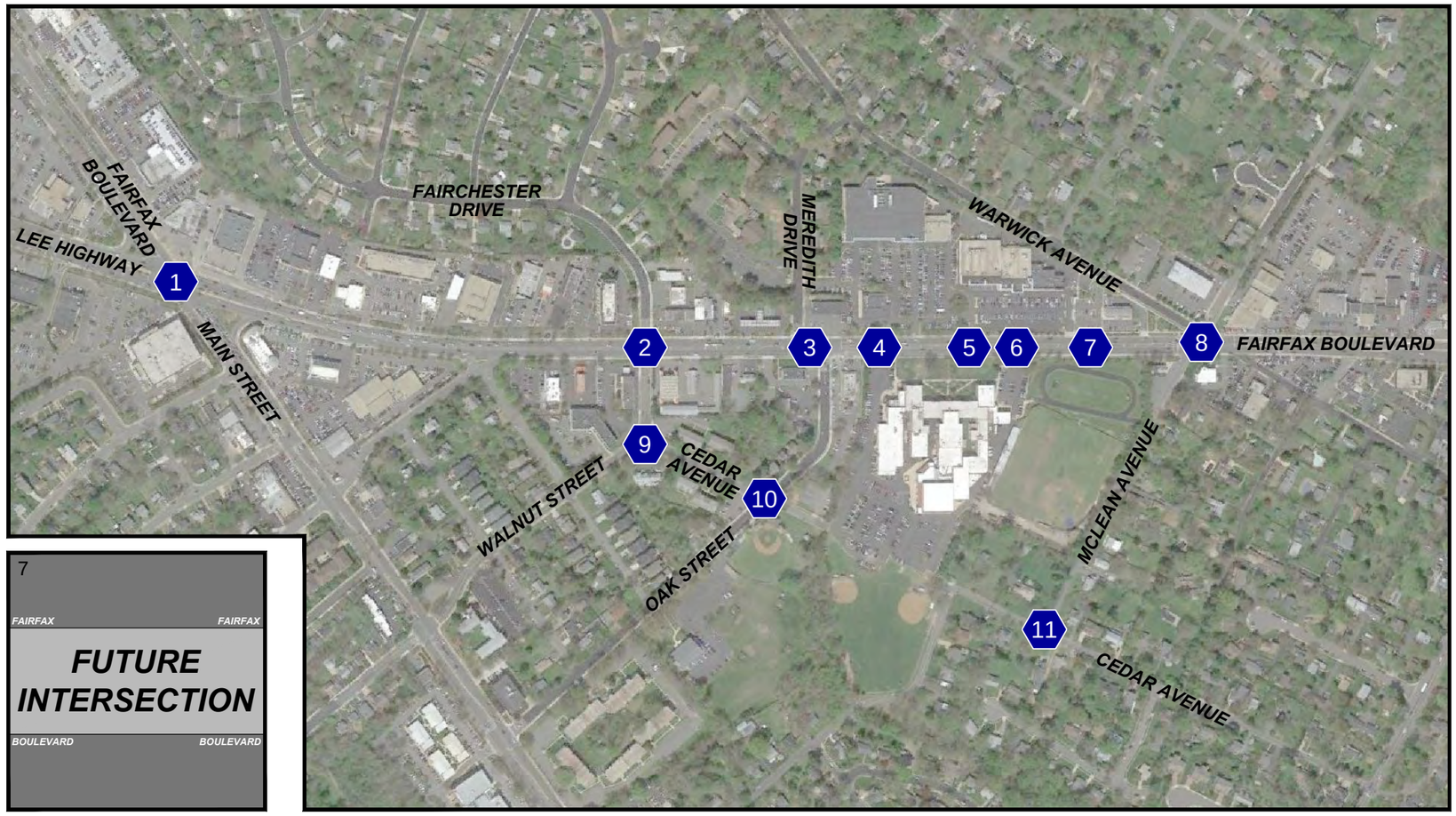


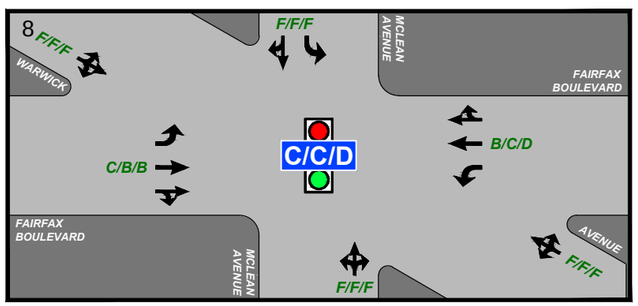


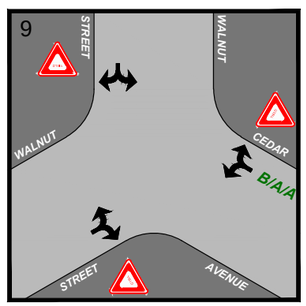


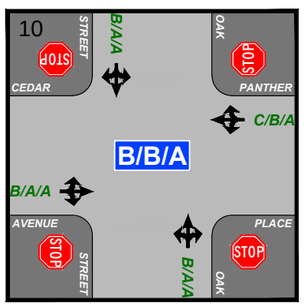


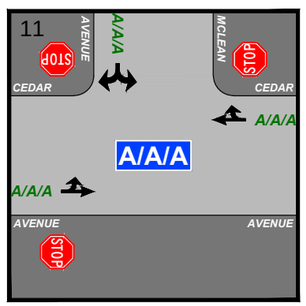


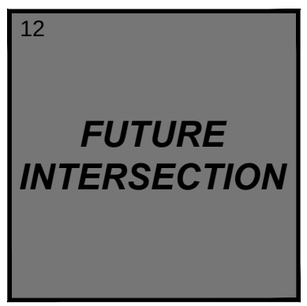












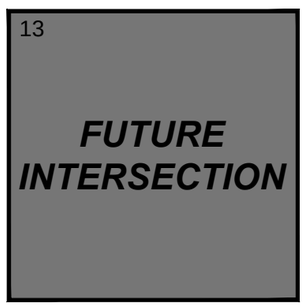


Figure 2-1
Existing Lane Use, Traffic Controls, and Levels of Service

Paul VI Redevelopment

Fairfax County, Virginia

X/X/X Approach Levels of Service

X/X/X Overall Intersection Levels of Service

Represents One Travel Lane

Signalized Intersection

Stop Sign

Yield Sign

NORTH

SECTION 3
STUDY SCOPE AND ANALYSIS PARAMETERS

Overview

The subject site is located south of Fairfax Boulevard, east of Oak Street, and west of McLean Avenue in the City of Fairfax, Virginia. The subject property is comprised of three parcels located at 10675 Fairfax Boulevard, 10600 Cedar Avenue, and 10606 Cedar Avenue totaling 18.5 acres. The parcel located at 10675 Fairfax Boulevard is zoned CR and the two Cedar Avenue parcels are zoned RM.

The primary objective of this study is to assess the impacts of the proposed development plan on the surrounding street system.

This traffic study was conducted in accordance with the scoping document and discussions with Wells + Associates, City staff, and the Applicant. The traffic study scope was approved by the Applicant and City staff on January 12, 2017 and is provided in Appendix A.

Study Area

The study area was determined based on the intersections and roadways that potentially would be affected by implementation of the proposed development plan. The following intersections were selected for analysis and evaluation:

- Lee Highway/Fairfax Boulevard/Main Street
- Fairfax Boulevard/Fairchester Drive, Walnut Street
- Fairfax Boulevard/Meredith Drive/Oak Street
- Fairfax Boulevard/The Shops at Fairfax Entrance-Future Site Entrance.
- Fairfax Boulevard/Paul VI Entrance (Future Site Entrance)
- Fairfax Boulevard/McLean Avenue/Warwick Avenue
- Walnut Street/Cedar Avenue
- Oak Street/Cedar Avenue
- McLean Avenue/Cedar Avenue

Site Development Program

The Applicant proposes to develop the site with 184 residential condominium units, 137 town homes, 20,000 SF of local serving retail and 24,000 SF of community center space.

Analysis Study Periods

The intersections within the study area were analyzed under AM and PM commuter peak hour conditions and under the PM school peak hour condition.

Existing Traffic Volumes

Existing AM commuter, school PM, and PM commuter peak hour turning movements and pedestrian counts were conducted on Wednesday, February 3, 2016, and Thursday, January 5, 2017, at the study intersections from 6:00 AM to 9:00 AM and from 2:00 PM to 7:00 PM.

The existing vehicular traffic volumes used in the analyses are provided on Figure 3-1. All existing count data are included in Appendix B.

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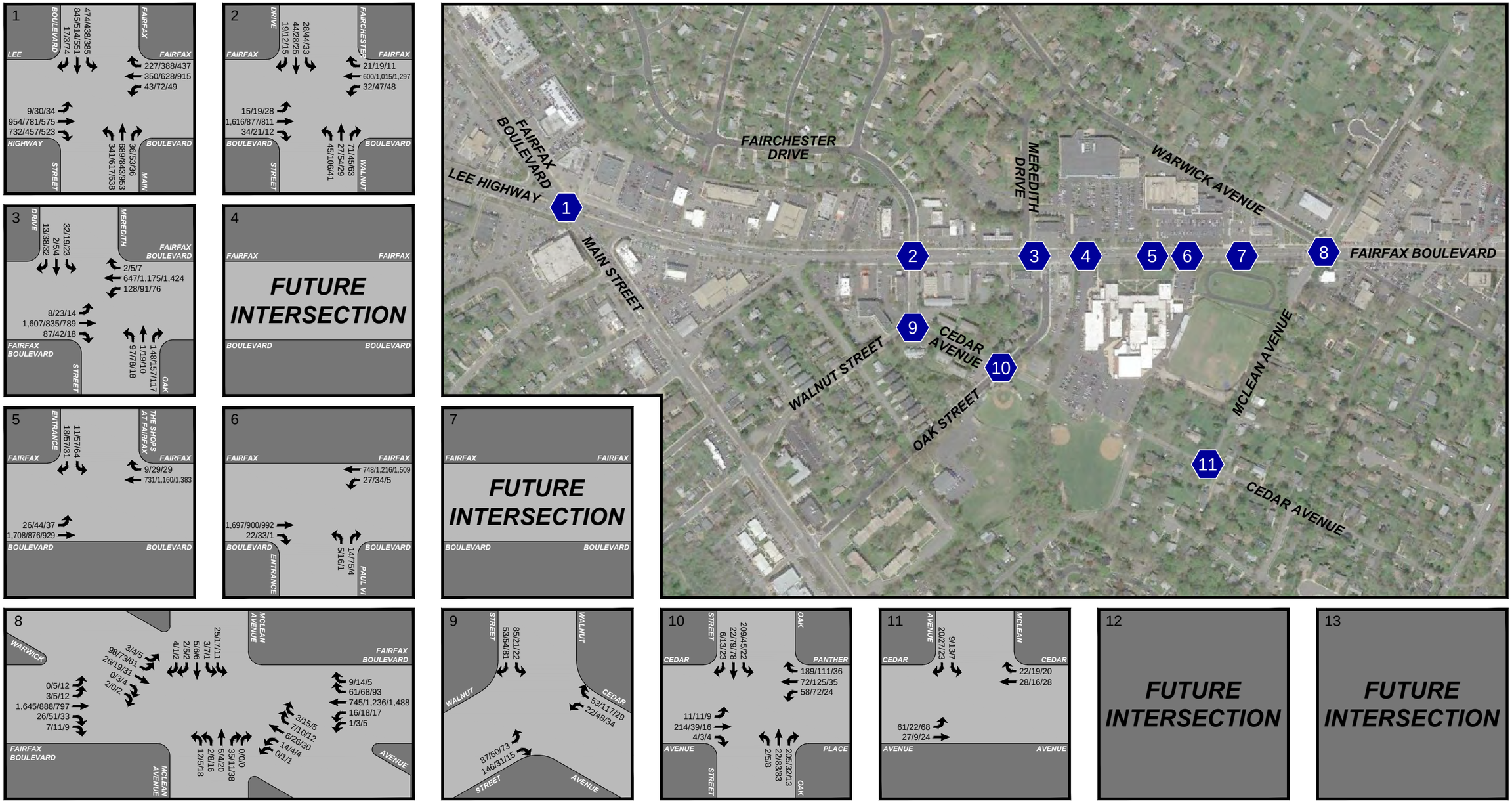


Figure 3-1
Existing Peak Hour Traffic Volumes

Paul VI Redevelopment

Fairfax County, Virginia

AM PEAK HOUR
SCHOOL PM PEAK HOUR
PM PEAK HOUR
000 / 000 / 000

NORTH

SECTION 4
EXISTING CONDITIONS ANALYSIS

Existing Intersection Levels of Service

Peak hour levels of service were calculated for the study intersections based on the existing lane use and traffic controls shown on Figure 2-1, the existing traffic volumes shown on Figure 3-1, and the 2000 Highway Capacity Manual (HCM) analysis procedures for signalized and unsignalized intersections. The results are presented in Appendix C and summarized on Table 4-1.

The analyses show that the Lee Highway/Fairfax Boulevard/Main Street intersection currently operates at or near capacity at LOS "E" during each of the peak hours (AM commuter peak, School PM peak, and PM commuter peak) with an average delay per vehicle of between 62.3 and 71.5 seconds.

Other signalized intersections along Fairfax Boulevard in the vicinity of the site operate at adequate overall LOS "D" or better during each of the three peak periods studied. However, the side street approaches operate at LOS "E" and "F" with average delays between 76.1 seconds and 128.0 seconds. The volume-to-capacity (v/c) ratios for the side street approaches at intersections along Fairfax Boulevard east of Main Street are well below 1.0, indicating that the lengthy delays are the result of long cycle lengths (190 seconds during the AM commuter peak hour and 220 seconds during the PM school peak and PM commuter peak hours) and the assignment of the predominance of the green time to the Fairfax Boulevard approaches, rather than insufficient capacity.

All approaches at the unsignalized intersections of Walnut Street/Cedar Avenue, Oak Street/Cedar Avenue, and McLean Avenue/Cedar Avenue operate at LOS "C" or better during each of the peak periods.

Table 4-1

Paul VI Redevelopment

Existing Intersection Capacity Analysis Summary[1]

	Intersection	Intersection Control	Approach	Existing		
				AM Peak	PM School Peak	PM Peak
1.	Lee Highway & Fairfax Boulevard & Main Street[2]	Signal	EB Appr	D (54.0)	F (87.3)	F (91.3)
			WB Appr	F (96.0)	E (70.1)	E (76.3)
			NB Appr	E (74.9)	D (45.1)	D (39.1)
			SB Appr	E (57.4)	D (49.5)	E (71.5)
			Overall	**E (71.5)**	**E (62.3)**	**E (69.8)**
2.	Fairfax Boulevard & Fairchester Drive/Walnut Street	Signal	EB Appr	A (8.2)	A (1.4)	A (1.4)
			WB Appr	A (5.3)	A (2.6)	A (1.7)
			NB Appr	E (76.1)	F (87.5)	F (90.9)
			SB Appr	F (88.8)	F (93.7)	F (118.8)
			Overall	**B (14.1)**	**B (13.0)**	**B (10.1)**
3.	Fairfax Boulevard & Meredith Drive/Oak Street	Signal	EB Appr	B (15.7)	A (4.3)	A (3.3)
			WB Appr	C (23.3)	A (7.4)	A (8.3)
			NB Appr	F (83.8)	F (100.1)	F (100.0)
			SB Appr	F (89.5)	F (102.4)	F (102.5)
			Overall	**C (25.1)**	**B (18.1)**	**B (14.1)**
4.	Fairfax Boulevard & Site Entrance	Free	EB Appr	Future Intersection		
			NB Appr			
5.	Fairfax Boulevard & Shops at Fairfax Entrance/Site Entrance (Future)	Signal	EB Appr	A (2.0)	A (1.0)	A (1.4)
			WB Appr	A (0.6)	A (1.2)	A (0.5)
			NB Appr	Future Approach		
			SB Appr	F (84.1)	F (104.7)	F (103.9)
			Overall	**A (2.6)**	**A (6.4)**	**A (4.8)**
6.	Fairfax Boulevard & Paul VI Entrance	Stop	NB Appr	C (21.1)	B (13.6)	B (12.6)
7.	Fairfax Boulevard & Site Exit	Stop	NB Appr	Future Intersection		
8.	Fairfax Boulevard & McLean Avenue & Warwick Road[3]	Signal	EB Appr	F (115.4)	F (117.3)	F (128.0)
			WB Appr	F (90.4)	F (103.7)	F (103.2)
			NB Appr	F (88.2)	F (106.5)	F (115.4)
			SB Appr	F (85.3)	F (104.4)	F (93.1)
			NE Appr	C (21.9)	B (12.3)	B (11.5)
			SW Appr	B (19.7)	C (23.3)	D (39.1)
			Overall	**C (28.5)**	**C (26.6)**	**D (37.9)**
9.	Walnut Street & Cedar Avenue[4]	Stop	WB Appr	B (10.1)	A (9.4)	A (9.5)
10.	Oak Street & Cedar Avenue	Stop	EB Appr	B (13.9)	A (8.5)	A (7.8)
			WB Appr	C (15.6)	B (10.9)	A (8.0)
			NB Appr	B (12.6)	A (9.0)	A (8.0)
			SB Appr	B (14.8)	A (9.4)	A (8.1)
			Overall	**B (14.3)**	**B (10.0)**	**A (8.0)**
11.	Cedar Avenue & McLean Avenue	Stop	EB Appr	A (7.7)	A (7.4)	A (7.7)
			WB Appr	A (7.1)	A (6.9)	A (7.1)
			SB Appr	A (7.0)	A (6.9)	A (7.0)
			Overall	**A (7.4)**	**A (7.0)**	**A (7.4)**
12.	Internal Road & Frontage Road	Stop	NB Appr	Future Intersection		
13.	Internal Road & Frontage Road	Stop	NB Appr	Future Intersection		

Notes:
1. Capacity analysis based on Highway Capacity Manual methodology, using Synchro 9.1.
2. Fairfax Boulevard/Main Street analyzed as east-west road; Lee Highway/Fairfax Boulevard analyzed as north-south roadway.
3. Warwick Road analyzed as east-west road; McLean Avenue analyzed as north-south roadway; Fairfax Boulevard analyzed as northeast-southwest roadway.
4. Analyzed with northbound and southbound as free movements along Walnut Street, and westbound movements along Cedar Avenue as stop-controlled.

SECTION 5
ANALYSIS OF FUTURE CONDITIONS WITHOUT SITE DEVELOPMENT

Overview

Forecasts for traffic conditions without the redevelopment of Paul VI were estimated at the study intersections based on a composite of existing traffic and pipeline development trips as described in Section 3 of this report. Future levels of service under these forecasted conditions were evaluated at the study intersections.

Regional Traffic Growth

A review of VDOT AADT volumes along Fairfax Boulevard and Main Street in the vicinity of the site indicates a modest reduction in traffic volumes over the past eight (8) years. AADT volumes along Fairfax Boulevard east of Main Street fell from 38,000 vehicles in 2008 to 36,000 vehicles in 2016, an average annual decrease of approximately 0.7% per year. AADT volumes along Main Street south of Fairfax Boulevard fell from 40,000 vehicles in 2008 to 35,000 vehicles in 2016, an average annual decrease of approximately 1.7% per year.

In order to present a conservative (or worst case) analysis, no continuing decrease in regional traffic volumes was assumed in this analysis.

Traffic from Other Approved/Pending Developments

At the request of City staff, the following approved/pending developments were included as approved (i.e., "pipeline") developments:

- Novus Fairfax Gateway
  - 4,000 SF Office
  - 5,000 SF Quality Restaurant
  - 7,400 SF High Turn-Over Sit-Down Restaurant
  - 12,600 SF Shopping Center
  - 395 Residential Apartments

- Mount Vineyard
  - 132 Residential Condominiums/Townhouses

As shown in Table 5-1, these pipeline developments are anticipated to generate 395 AM peak commuter hour trips, 418 PM school peak hour trips, and 576 PM commuter peak hour trips at full buildout.

Background Traffic Forecasts

The existing traffic volumes depicted on Figure 3-1 and the pipeline trip assignments shown on Figure 5-1 were added together to yield the background future traffic forecasts at the study intersections, shown on Figure 5-2.

Background Future Levels of Service

Peak hour levels of service were calculated for the study intersections based on the existing lane use and traffic controls, background future traffic forecasts, and the 2000 Highway Capacity Manual (HCM) analysis procedures for signalized and unsignalized intersections. The results are provided in Appendix D, shown on Figure 5-3, and summarized in Table 5-2.

As shown on Table 5-2, the Lee Highway/Fairfax Boulevard/Main Street intersection will continue to operate at or near capacity at LOS "E" during each of the peak hours (AM commuter peak, School PM peak, and PM commuter peak). When compared to existing conditions, the average delay per vehicle at this intersection will increase to between 64.0 and 75.0 seconds during the peak hours, an increase of between 1.7 seconds per vehicle and 3.6 seconds per vehicle.

Other signalized intersections along Fairfax Boulevard in the vicinity of the site continue to operate at an adequate overall LOS "D" or better during each of the three peak periods studied. As with the existing conditions analysis, the side street approaches will continue to operate at LOS "E" and "F" due to the combination of long cycle lengths (190 seconds during the AM commuter peak hour and 220 seconds during the PM school peak and PM commuter peak hours) and the assignment of the predominance of the green time to the Fairfax Boulevard approaches. The side street approaches at signalized intersections east of Main Street will continue to operate with v/c ratios well below 1.0.

All approaches at the unsignalized intersections of Walnut Street/Cedar Avenue, Oak Street/ Cedar Avenue, and McLean Avenue/Cedar Avenue will continue to operate at LOS "C" or better during each of the peak hours.

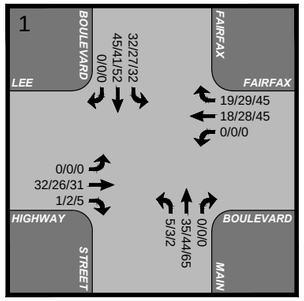
Table 5-1

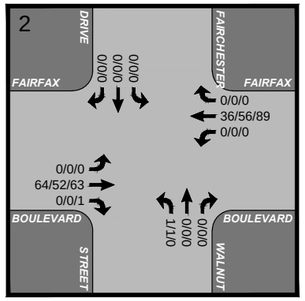
Paul VI Redevelopment

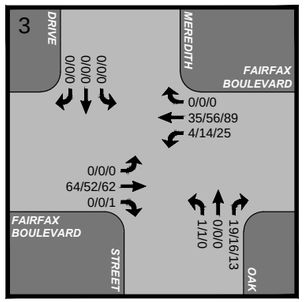
Pipeline Development Trip Generation

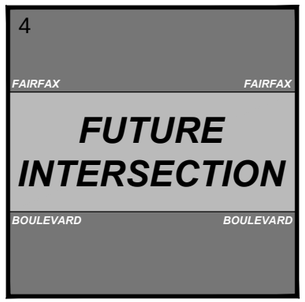
Development	ITE Land Use Code[1]	Amount	Units	AM Peak Hour			School PM Peak Hour			PM Peak Hour			Average Daily Trips
				In	Out	Total	In	Out	Total	In	Out	Total	
Novus Fairfax Gateway													
Office	710	4,000	SF	5	1	6	1	2	3	1	5	6	44
Quality Restaurant	931	5,000	SF	2	2	4	5	5	10	25	12	37	450
High Turnover Restaurant	932	7,400	SF	44	36	80	9	9	18	44	29	73	941
Shopping Center	820	12,600	SF	27	17	44	69	78	147	72	78	150	1,767
Apartments	220	395	DU	39	158	197	102	79	181	153	82	235	2,517
Total Novus Fairfax Gateway Trips				**117**	**214**	**331**	**186**	**173**	**359**	**295**	**206**	**501**	**5,719**
Mount Vineyard													
Condominiums/Townhomes	230	132	DU	**11**	**53**	**64**	**33**	**26**	**59**	**50**	**25**	**75**	**819**
Total Background Development Trips				**128**	**267**	**395**	**219**	**199**	**418**	**345**	**231**	**576**	**6,538**

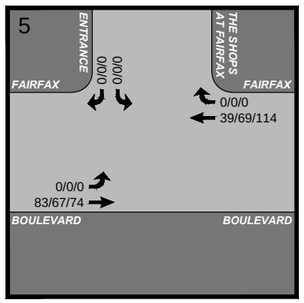
Notes: 1. Institute of Transportation Engineer's (ITE), Trip Generation Manual, 9th Edition

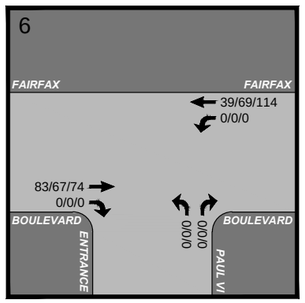


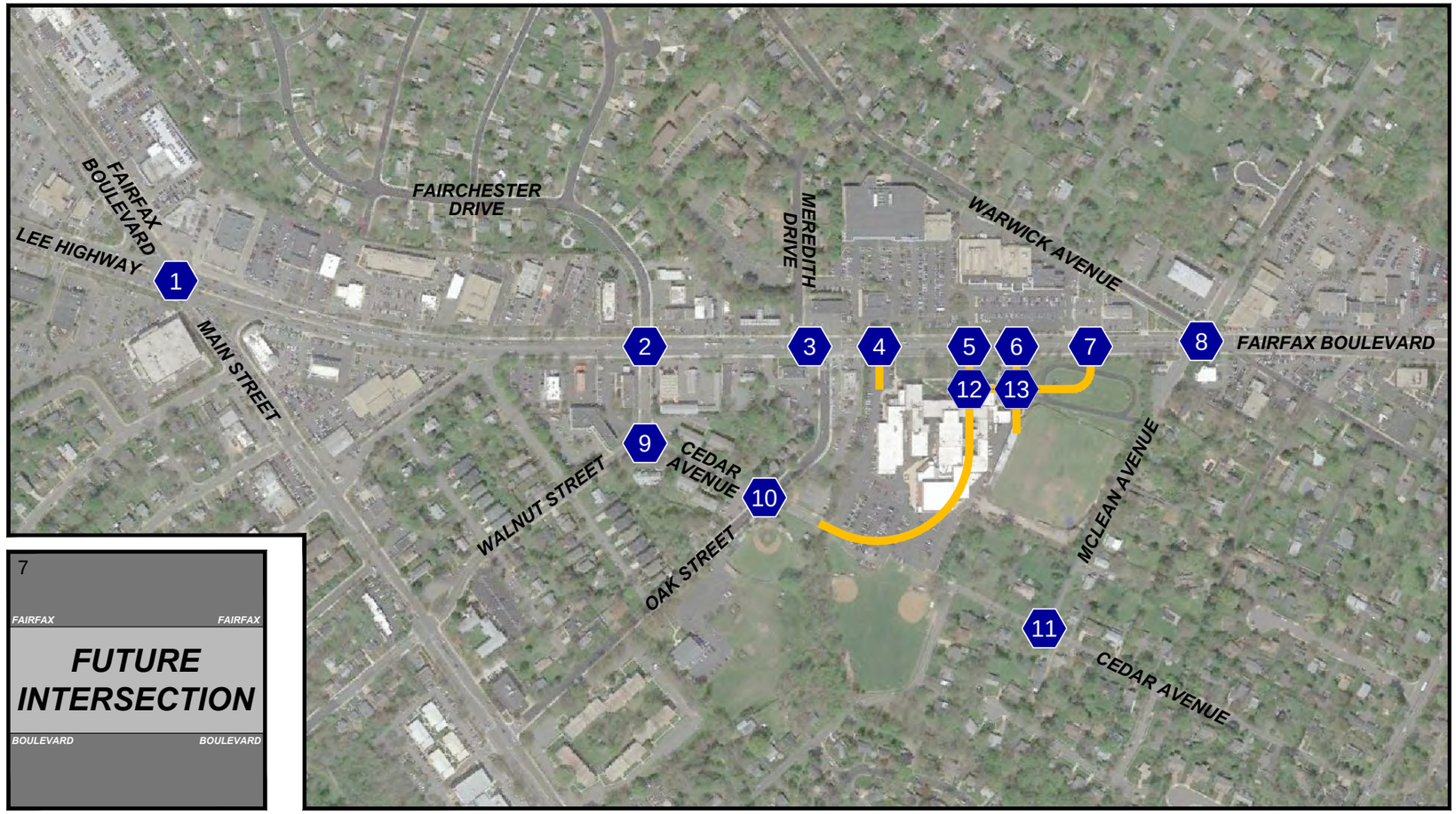


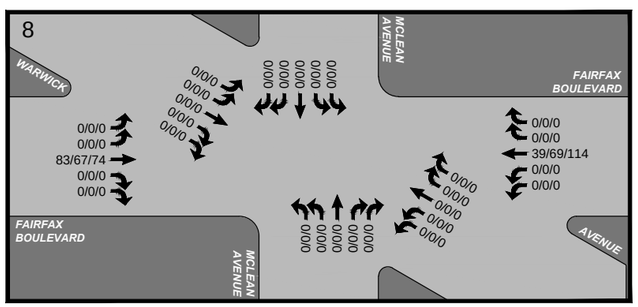


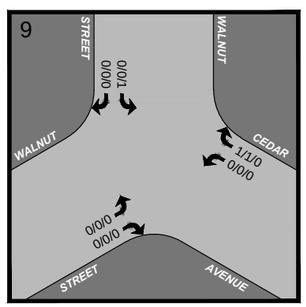


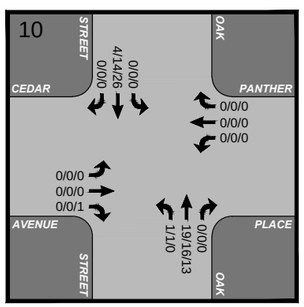


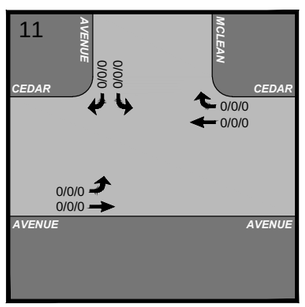


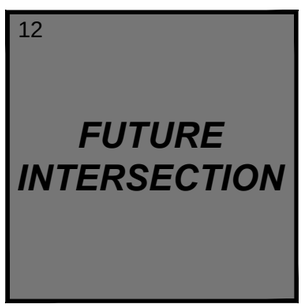












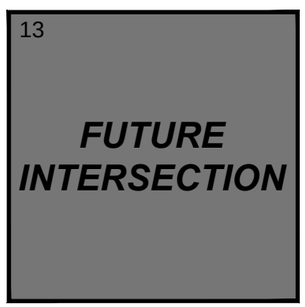


Figure 5-1
Pipeline Development Site Generated Traffic Assignments

Paul VI Redevelopment

Fairfax County, Virginia

AM PEAK HOUR
SCHOOL PM PEAK HOUR
PM PEAK HOUR
000 / 000 / 000

NORTH

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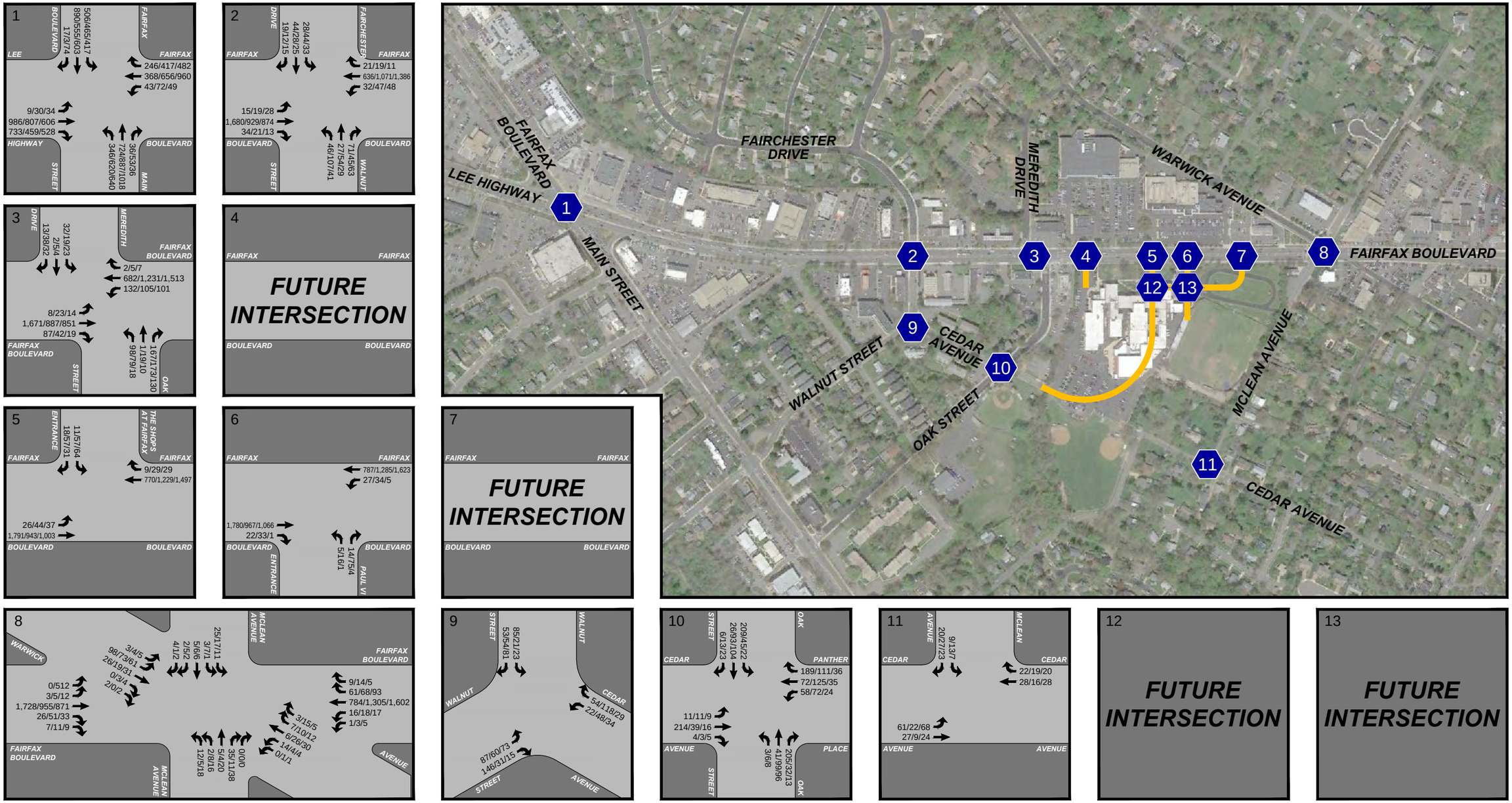


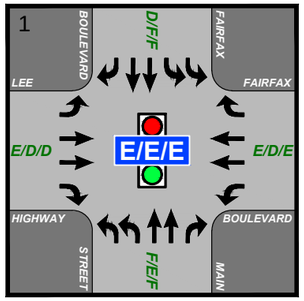
Figure 5-2
2027 Background Future Peak Hour Traffic Forecasts

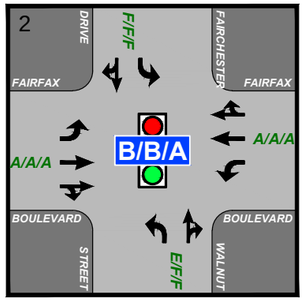
Paul VI Redevelopment

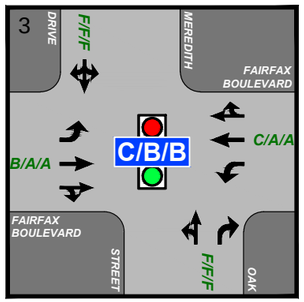
Fairfax County, Virginia

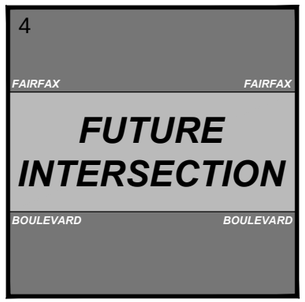
AM PEAK HOUR
SCHOOL PM PEAK HOUR
PM PEAK HOUR
000 / 000 / 000

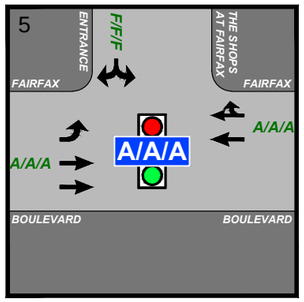
NORTH

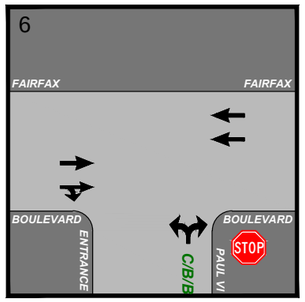


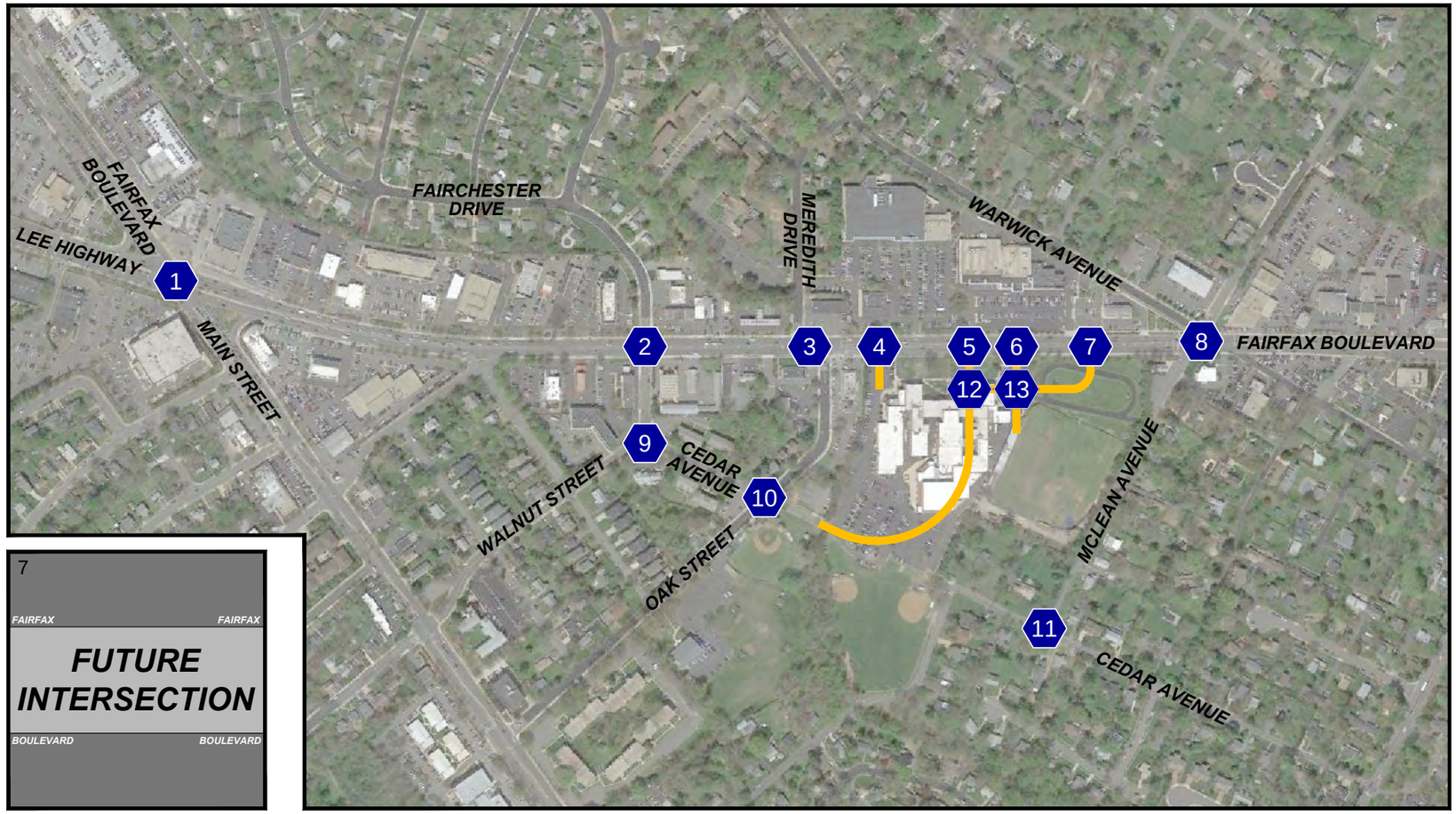


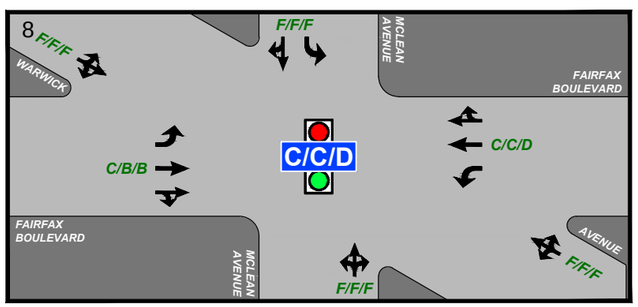


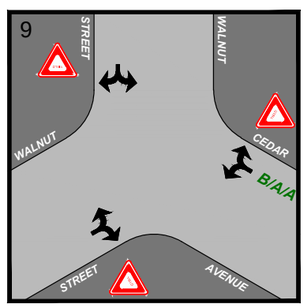


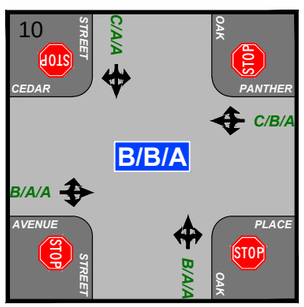


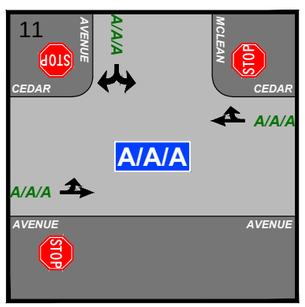


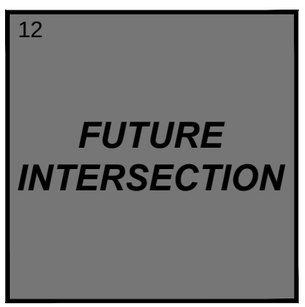












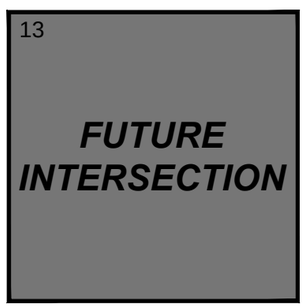


Figure 5-3
Existing Lane Use, Traffic Controls, and Background Future Levels of Service

Paul VI Redevelopment

Fairfax County, Virginia

X/X/X Approach Levels of Service

X/X/X Overall Intersection Levels of Service

Represents One Travel Lane

Signalized Intersection

Stop Sign

Yield Sign

NORTH

Table 5-2

Paul VI Redevelopment

Background Future Intersection Capacity Analysis Summary[1]

	Intersection	Intersection Control	Approach	Existing			Background Future		
				AM Peak	PM School Peak	PM Peak	AM Peak	PM School Peak	PM Peak
1.	Lee Highway & Fairfax Boulevard & Main Street[2]	Signal	EB Appr	D (54.0)	F (87.3)	F (91.3)	D (54.8)	F (89.0)	F (95.6)
			WB Appr	F (96.0)	E (70.1)	E (76.3)	F (106.3)	E (72.0)	F (82.9)
			NB Appr	E (74.9)	D (45.1)	D (39.1)	E (78.4)	D (46.0)	D (40.0)
			SB Appr	E (57.4)	D (49.5)	E (71.5)	E (56.5)	D (51.1)	E (72.4)
			Overall	**E (71.5)**	**E (62.3)**	**E (69.8)**	**E (75.0)**	**E (64.0)**	**E (73.4)**
2.	Fairfax Boulevard & Fairchester Drive/Walnut Street	Signal	EB Appr	A (8.2)	A (1.4)	A (1.4)	A (9.0)	A (1.4)	A (1.5)
			WB Appr	A (5.3)	A (2.6)	A (1.7)	A (5.4)	A (2.6)	A (1.8)
			NB Appr	E (76.1)	F (87.5)	F (90.9)	E (76.0)	F (87.6)	F (90.9)
			SB Appr	F (88.8)	F (93.7)	F (118.8)	F (88.7)	F (93.6)	F (118.8)
			Overall	**B (14.1)**	**B (13.0)**	**B (10.1)**	**B (14.4)**	**B (12.6)**	**A (9.6)**
3.	Fairfax Boulevard & Meredith Drive/Oak Street	Signal	EB Appr	B (15.7)	A (4.3)	A (3.3)	B (19.2)	A (4.3)	A (3.4)
			WB Appr	C (23.3)	A (7.4)	A (8.3)	C (23.3)	A (7.5)	A (9.5)
			NB Appr	F (83.8)	F (100.1)	F (100.0)	F (83.7)	F (99.7)	F (99.8)
			SB Appr	F (89.5)	F (102.4)	F (102.5)	F (89.5)	F (102.4)	F (102.5)
			Overall	**C (25.1)**	**B (18.1)**	**B (14.1)**	**C (27.4)**	**B (18.1)**	**B (14.8)**
4.	Fairfax Boulevard & Site Entrance	Free	EB Appr	Future Intersection			Future Intersection		
			NB Appr						
5.	Fairfax Boulevard & Shops at Fairfax Entrance/Site Entrance (Future)	Signal	EB Appr	A (2.0)	A (1.0)	A (1.4)	A (2.4)	A (1.0)	A (1.4)
			WB Appr	A (0.6)	A (1.2)	A (0.5)	A (0.6)	A (1.3)	A (0.5)
			NB Appr	Future Approach			Future Approach		
			SB Appr	F (84.1)	F (104.7)	F (103.9)	F (84.1)	F (104.7)	F (103.9)
			Overall	**A (2.6)**	**A (6.4)**	**A (4.8)**	**A (2.8)**	**A (6.2)**	**A (4.5)**
6.	Fairfax Boulevard & Paul VI Entrance	Stop	NB Appr	C (21.1)	B (13.6)	B (12.6)	C (22.4)	B (14.2)	B (13.1)
7.	Fairfax Boulevard & Site Exit	Stop	NB Appr	Future Intersection			Future Intersection		
8.	Fairfax Boulevard & McLean Avenue & Warwick Road[3]	Signal	EB Appr	F (115.4)	F (117.3)	F (128.0)	F (115.4)	F (117.3)	F (128.0)
			WB Appr	F (90.4)	F (103.7)	F (103.2)	F (90.4)	F (103.7)	F (103.2)
			NB Appr	F (88.2)	F (106.5)	F (115.4)	F (88.2)	F (106.5)	F (115.4)
			SB Appr	F (85.3)	F (104.4)	F (93.1)	F (85.3)	F (104.4)	F (93.1)
			NE Appr	C (21.9)	B (12.3)	B (11.5)	C (24.2)	B (13.2)	B (12.6)
			SW Appr	B (19.7)	C (23.3)	D (39.1)	C (20.1)	C (24.3)	D (43.7)
			Overall	**C (28.5)**	**C (26.6)**	**D (37.9)**	**C (29.7)**	**C (27.1)**	**D (40.4)**
9.	Walnut Street & Cedar Avenue[4]	Stop	WB Appr	B (10.1)	A (9.4)	A (9.5)	B (10.1)	A (9.4)	A (9.5)
10.	Oak Street & Cedar Avenue	Stop	EB Appr	B (13.9)	A (8.5)	A (7.8)	B (14.3)	A (8.7)	A (7.9)
			WB Appr	C (15.6)	B (10.9)	A (8.0)	C (16.2)	B (11.2)	A (8.1)
			NB Appr	B (12.6)	A (9.0)	A (8.0)	B (13.6)	A (9.3)	A (8.2)
			SB Appr	B (14.8)	A (9.4)	A (8.1)	C (15.3)	A (9.7)	A (8.4)
			Overall	**B (14.3)**	**B (10.0)**	**A (8.0)**	**B (14.9)**	**B (10.2)**	**A (8.2)**
11.	Cedar Avenue & McLean Avenue	Stop	EB Appr	A (7.7)	A (7.4)	A (7.7)	A (7.7)	A (7.4)	A (7.7)
			WB Appr	A (7.1)	A (6.9)	A (7.1)	A (7.1)	A (6.9)	A (7.1)
			SB Appr	A (7.0)	A (6.9)	A (7.0)	A (7.0)	A (6.9)	A (7.0)
			Overall	**A (7.4)**	**A (7.0)**	**A (7.4)**	**A (7.4)**	**A (7.0)**	**A (7.4)**
12.	Internal Road & Frontage Road	Stop	NB Appr	Future Intersection			Future Intersection		
13.	Internal Road & Frontage Road	Stop	NB Appr	Future Intersection			Future Intersection		

Notes:
1. Capacity analysis based on Highway Capacity Manual methodology, using Synchro 9.1.
2. Fairfax Boulevard/Main Street analyzed as east-west road; Lee Highway/Fairfax Boulevard analyzed as north-south roadway.
3. Warwick Road analyzed as east-west road; McLean Avenue analyzed as north-south roadway; Fairfax Boulevard analyzed as northeast-southwest roadway.
4. Analyzed with northbound and southbound as free movements along Walnut Street, and westbound movements along Cedar Avenue as stop-controlled.

SECTION 6
SITE ANALYSIS

Overview

Trips anticipated to be generated by the proposed development plan forecasted and assigned to the surrounding roadway network. The generation, distribution, and assignment of site trips were based on the proposed redevelopment plan and program, as well as the locations of future site entrances in relation to the surrounding roadway network.

Existing Site Trips

As stated previously, the site is currently developed with the Paul VI Catholic High School. The redevelopment plan calls for the elimination of the school use and the construction of a mix of residential, retail, and community uses. Trips currently generated by the school were tabulated through existing traffic counts. As shown in Table 6-1, the Paul VI Catholic High School currently generates 1,005 trips during the AM commuter peak hour, 563 trips during the PM school peak hour, and 132 trips during the PM commuter peak hour.

A portion of the existing school will remain and will be repurposed as local serving retail and/or community use. Existing traffic volumes generated by the high school were eliminated from the existing traffic streams based on the existing driveway counts conducted at existing school access drives. The existing traffic volumes less the existing school trips removed at each of the study intersections are shown on Figure 6-1.

Proposed Site Access

The site plan provided on Figure 1-2 shows that a slow lane (with on-street parking), separated from the main travel lanes by a landscaped median is proposed along a portion of the Fairfax Boulevard site frontage. Access between the site and Fairfax Boulevard is proposed via two (2) full access driveways; one (1) will be located directly across Fairfax Boulevard from the existing signalized driveway to/from the Shops at Fairfax, and the other will be located approximately 570’ east of the existing signalized driveway to/from the Shops at Fairfax and approximately 260’ west of the Fairfax Boulevard/Mclean Avenue/Warwick Avenue intersection. A right-in/right-out driveway will be provided from Fairfax Boulevard west of the existing signalized driveway to/from the Shops at Fairfax. An additional right-in/right-out driveway will be provided from the proposed slow lane and access to/from the southern portion of the property will be provided via Cedar Avenue to/from the west. Access between the site and Cedar Avenue to/from the east is not proposed by the Applicant, however access to a new 22-space parking lot for the existing ball fields located south of the Paul VI property is proposed.

Trip Generation

Overview. Trip generation estimates for the AM and PM peak hours, as well as the average daily traffic, were derived from the standard Institute of Transportation Engineers (ITE) trip generation rates, as published in the Trip Generation Manual, 9th edition. The "Residential Condominium/ Townhouse" (230) land use code was used for the proposed townhomes units. The "High-Rise Residential Condominium/Townhouse" (232) land use code was used for the single family attached units as this building will be three (3) or more floors in height. The "Shopping Center" (820) land use code was used for the retail uses, and the "Recreational Community Center" (495) land use code was used for the community center use to be operated by the City of Fairfax.

Existing trips generated by Paul VI were determined through traffic counts at the existing site driveways. The trip generation analysis for the existing uses and the proposed uses is presented in Table 6-1.

Net Site Trips. The net vehicle trips that would be generated by the proposed development plan were determined by subtracting the current trip generation of Paul VI from the trips anticipated to be generated by the site after redevelopment. This comparison is shown in Table 6-1 and illustrates that the proposed site will generate 789 ***fewer*** AM peak commuter hour trips, 148 ***fewer*** PM school peak hour trips, and 294 ***more*** PM peak commuter hour trips than are currently generated by the high school.

It should be noted that no reduction in site generated trips due to transit mode split was taken in this analysis. However, it is anticipated that the project would take advantage of public transit opportunities available in the proximity of the site.

Site Trip Distribution

As agreed upon in the scope with City staff, site trip distribution used in the analysis was based on existing travel patterns and engineering judgment. For purposes of this analysis, the following distribution was used in the forecasting of future site traffic:

- To/from the west on Lee Highway/Fairfax Boulevard: 35%
- To/from the northeast on Fairfax Boulevard: 50%
- To/from the southeast on Main Street: 15%

Site Trip Assignments

The assignments of the total vehicle trips generated upon the future build-out of the Paul VI redevelopment was based on the above distribution, and are depicted on Figure 6-2.

Table 6-1

Paul VI Redevelopment

Site Trip Generation Analysis

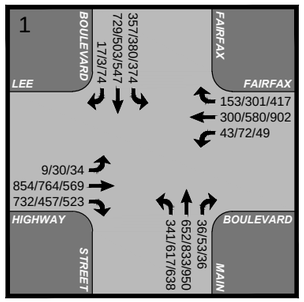
Development	ITE Land Use Code[1]	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM School Peak (2:45-3:45) In	PM School Peak (2:45-3:45) Out	PM School Peak (2:45-3:45) Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Average Daily Trips
Existing													
Private High School[2,3]			Actual Trips	671	334	1,005	174	389	563	46	86	132	3,270
Proposed[4]													
Condominiums	232	184	DU	16	66	82	37	29	66	48	30	78	917
Townhomes	230	137	DU	11	55	66	44	38	82	52	26	78	846
Subtotal Residential		321	DU	27	121	148	81	67	148	100	56	156	1,763
Community Center	495	24,000	SF	32	17	49	28	41	69	32	34	66	812
Local Serving Retail	820	20,000	SF	12	7	19	93	105	198	98	106	204	2,386
Total Proposed Trips				**71**	**145**	**216**	**202**	**213**	**415**	**230**	**196**	**426**	**4,961**
Comparison													
Proposed vs. Existing				**-600**	**-189**	**-789**	**28**	**-176**	**-148**	**184**	**110**	**294**	**1,691**

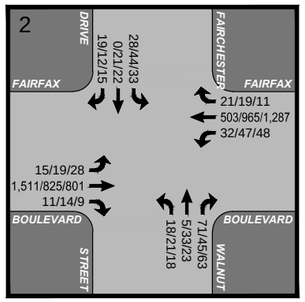
Notes: 1. Institute of Transportation Engineer's (ITE), Trip Generation Manual, 9th Edition

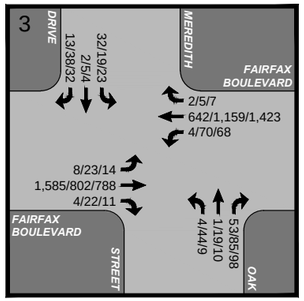
2. Based on traffic counts completed on February 3, 2016.

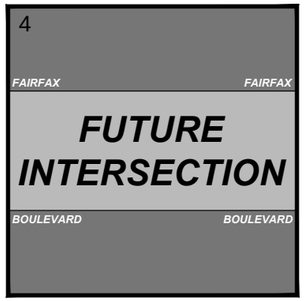
3. Actual ADT estimated based on ITE ADT and PM school peak ratio.

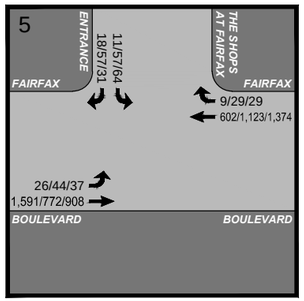
4. PM School Peak trips based on residential and retail diurnal rates compiled from ITE and Wells + Associates files.

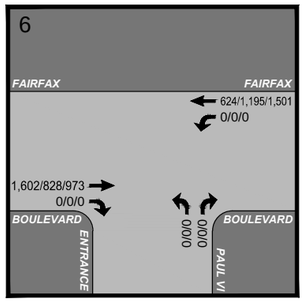


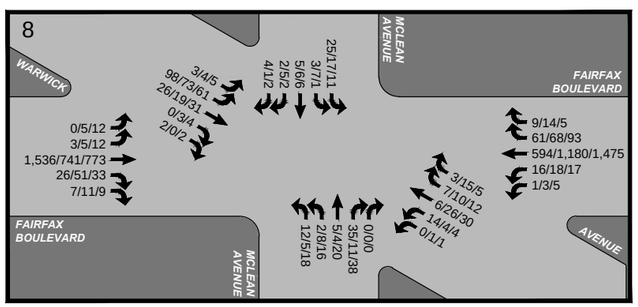


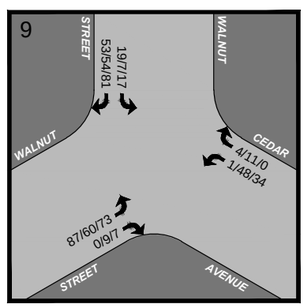


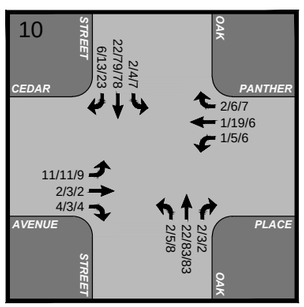


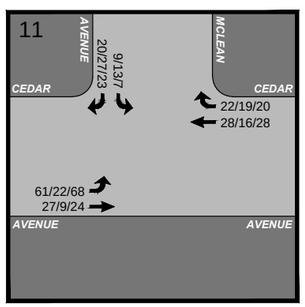


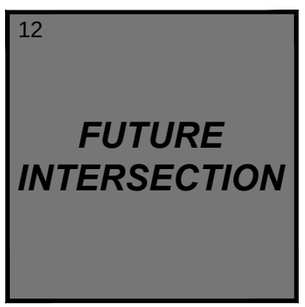


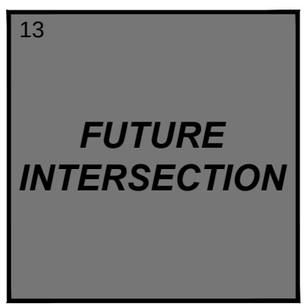












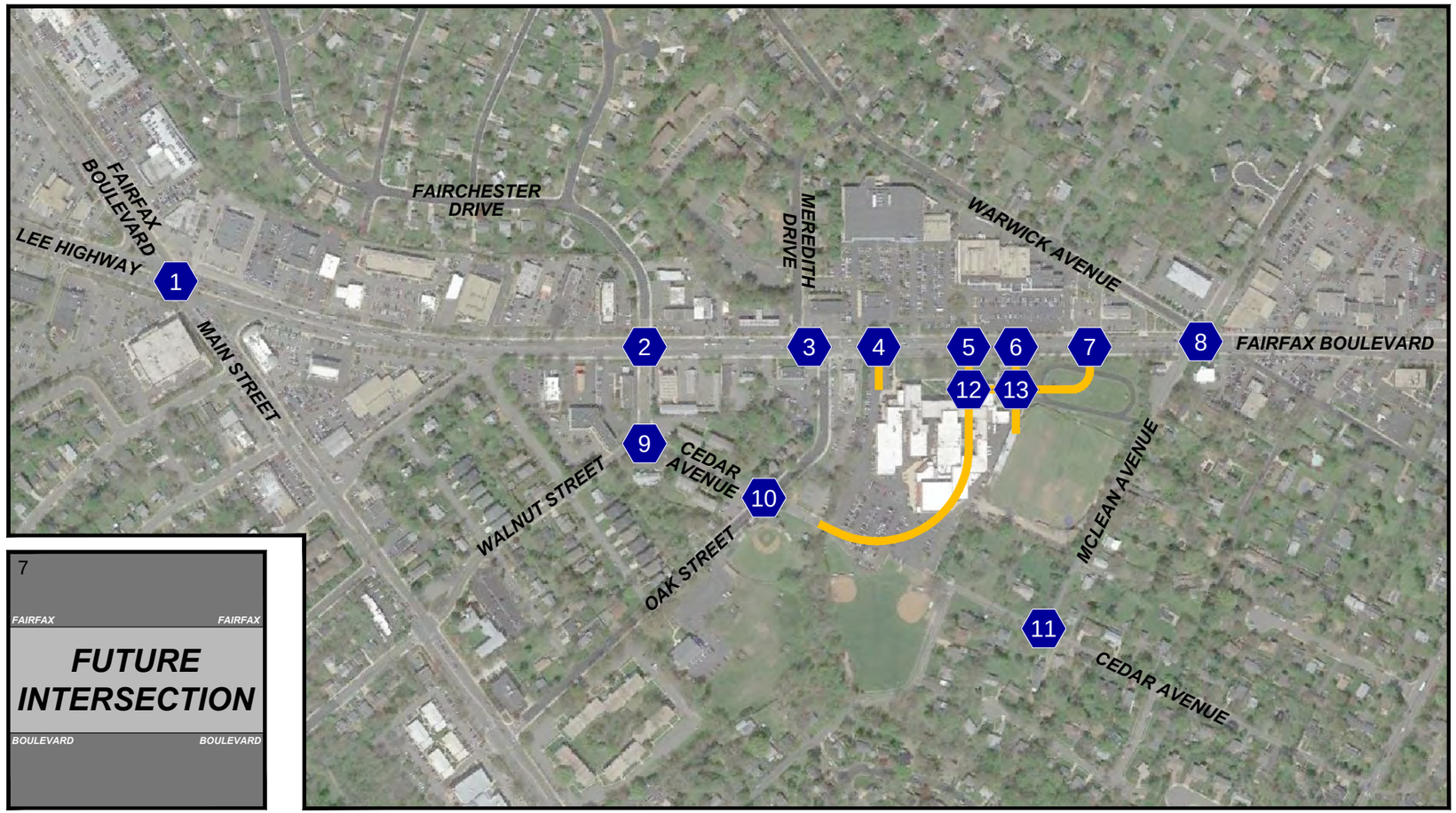


Figure 6-1
Existing Traffic Volumes Less Existing Site Trips

Paul VI Redevelopment

Fairfax County, Virginia

AM PEAK HOUR
SCHOOL PM PEAK HOUR
PM PEAK HOUR
000 / 000 / 000

NORTH

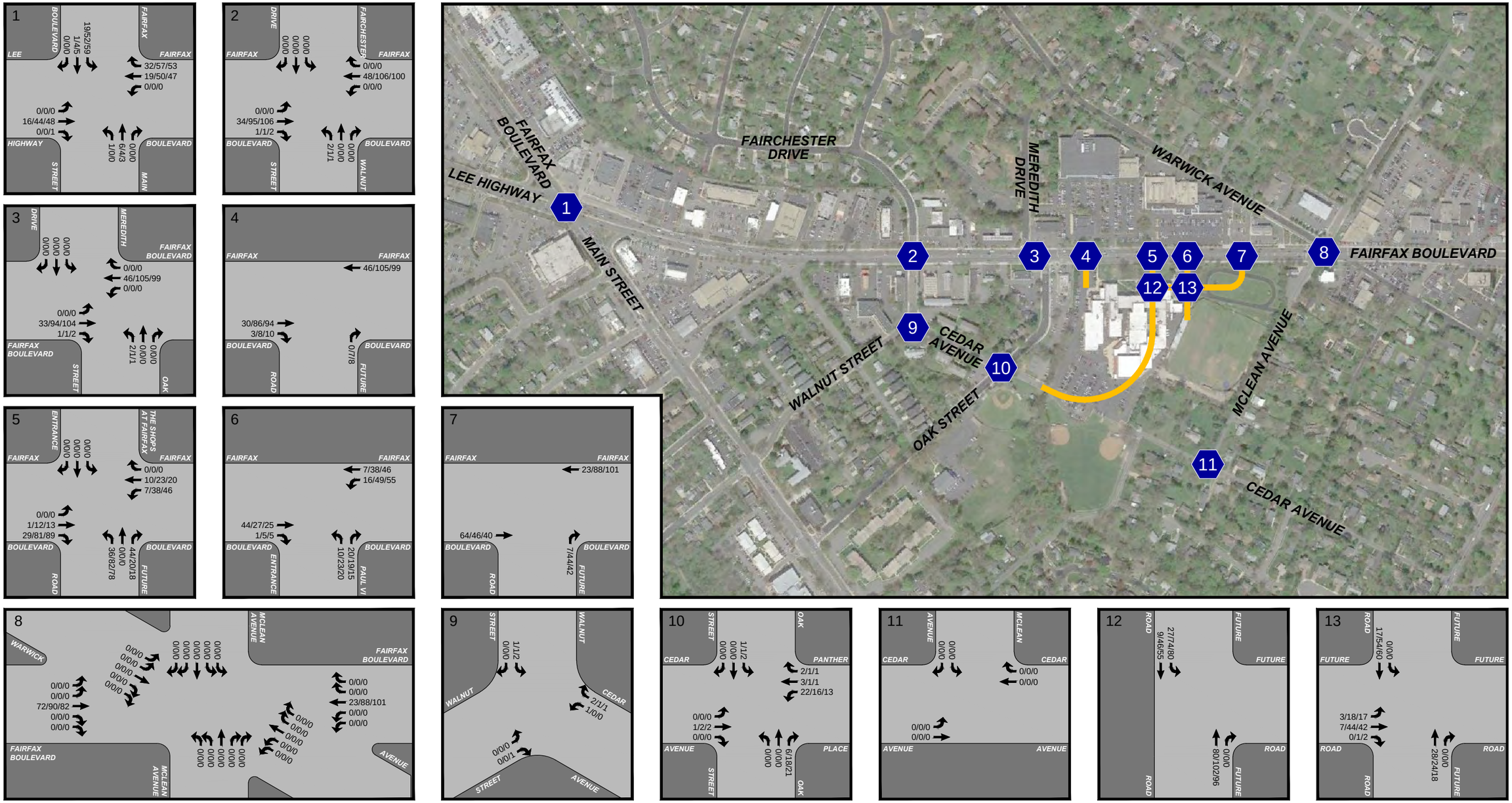


Figure 6-2
Site Trip Assignments

Paul VI Redevelopment

Fairfax County, Virginia

AM PEAK HOUR
SCHOOL PM PEAK HOUR
PM PEAK HOUR
000 / 000 / 000

NORTH

SECTION 7
ANALYSIS OF FUTURE CONDITIONS WITH SITE DEVELOPMENT

Total Future Traffic Forecasts

Site trip assignments shown on Figure 6-2 were added to the existing traffic volumes less the existing site trips at each of the study intersections, shown on Figure 6-1, and pipeline trip assignments shown on Figure 5-2 to yield 2027 total future traffic forecasts, shown on Figure 7-1.

Proposed Improvements

Provision of a slow lane (with on-street parking), separated from the main travel lanes by landscaped medians is proposed along the portion of the Fairfax Boulevard site frontage east of the Fairfax Boulevard/The Shops at Fairfax signalized intersection. Access between the site and Fairfax Boulevard is proposed via two (2) full access driveways and one (1) right-in/right-out driveway. One of the proposed full access site driveways will form the fourth (south) leg at the Fairfax Boulevard/The Shops at Fairfax signalized intersection and will provide two northbound and one southbound lanes. The other full access driveway will be located along Fairfax Boulevard approximately 570' east of the existing signalized driveway to/from the Shops at Fairfax and approximately 260' west of the Fairfax Boulevard/Mclean Avenue intersection. A right-in/right-out driveway from Fairfax Boulevard will be provided west of the Fairfax Boulevard/The Shops at Fairfax signalized intersection.

Lane use and traffic control at each of the study intersections for 2027 total future conditions is shown on Figure 7-2.

Total Future Levels of Service with Proposed Development Plan

Future levels of service with the proposed development plan were estimated at the study intersections based on the future traffic volumes shown on Figure 7-1, future lane use and traffic control shown on Figure 7-2, and the 2000 HCM methodologies for signalized and unsignalized intersections. The results of these analyses are provided in Appendix E and summarized in Table 7-1.

As shown in Table 7-1, levels of service under future site development conditions would remain generally consistent with future background conditions (i.e., without site development).

The Lee Highway/Fairfax Boulevard/Main Street intersection will continue to operate at an overall LOS E during all three studied peak periods under total future conditions. When compared to background future conditions, the intersection will experience minor ***reductions*** in delay (0.3 – 5.8 seconds) during the AM, PM school peak period, and PM peak commuter periods.

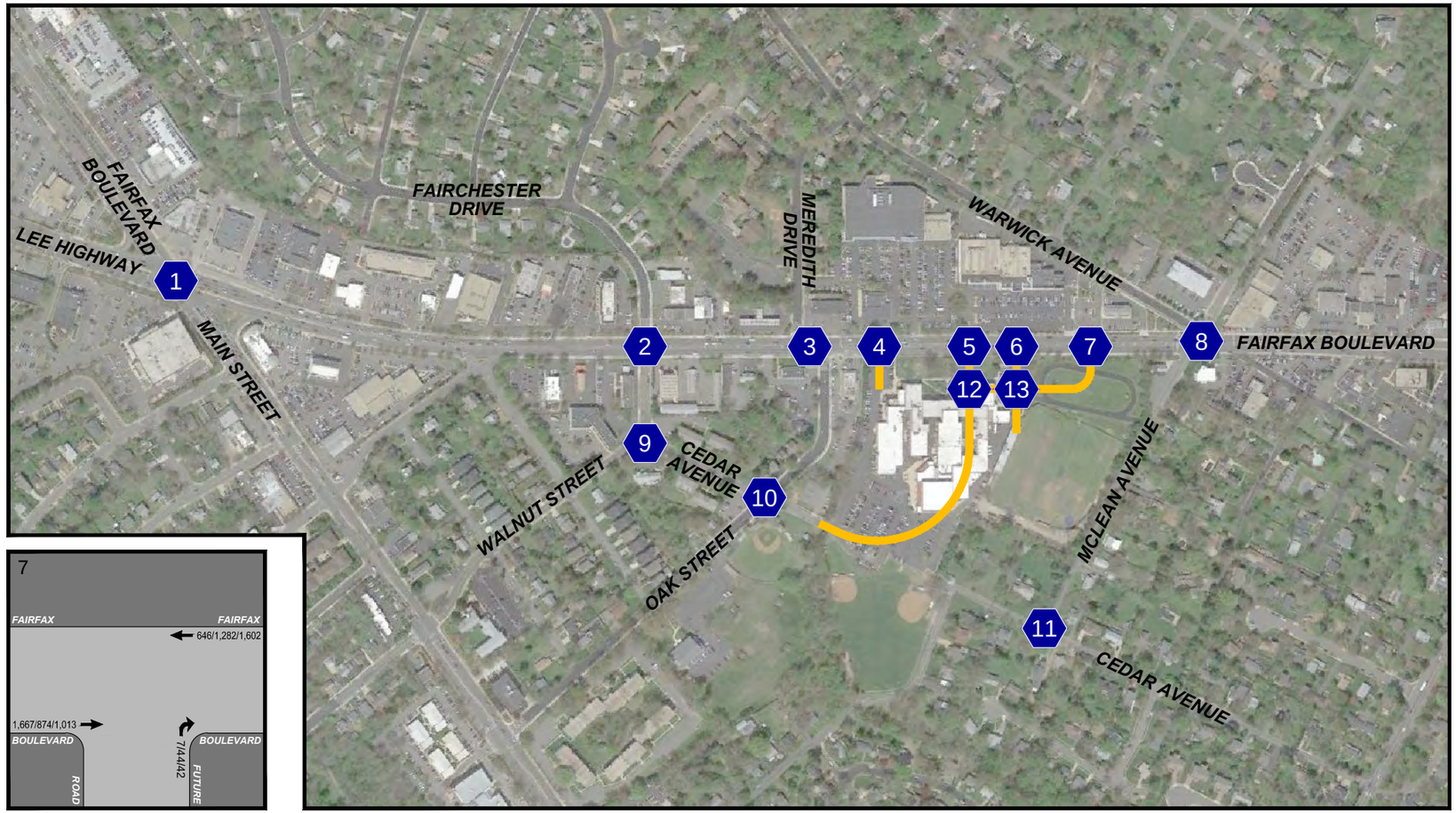
When compared to background future conditions, the Fairfax Boulevard/Fairchester Drive, Walnut Street intersection will experience minor ***reductions*** in overall delay during each of the three peak periods.

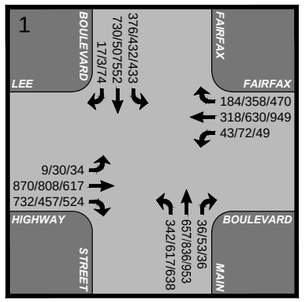
When compared to background future conditions, the Fairfax Boulevard/Meredith Drive/Oak Street will experience a significant ***reduction*** (18.8 seconds) in delay during the AM commuter peak period and minor ***increases*** in delay during the PM school and PM commuter peak periods.

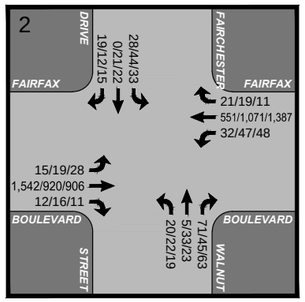
When compared to background future conditions, the Fairfax Boulevard/Shops at Fairfax Driveway/Site Driveway intersection will experience a decline in LOS due to the addition of a fourth (northbound) leg at this intersection. However, this intersection will operate at an acceptable LOS "D" or better during all three (3) peak periods studied.

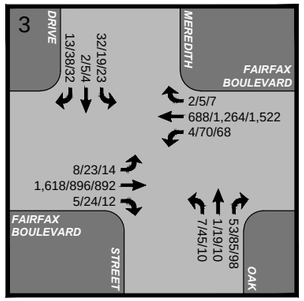
When compared to background future conditions, the Fairfax Boulevard/McLean Avenue/Warwick Road intersection will experience a minor ***reduction*** in delay during the AM commuter peak period and minor ***increases*** in delay during the PM school and PM commuter peak periods.

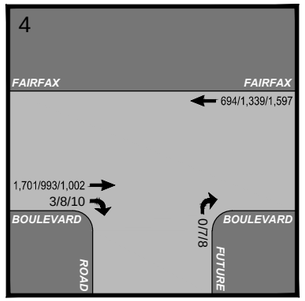
All studied unsignalized intersections will operate at LOS "C" or better during each of the peak periods.

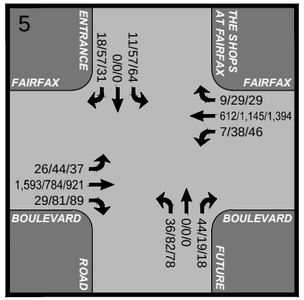


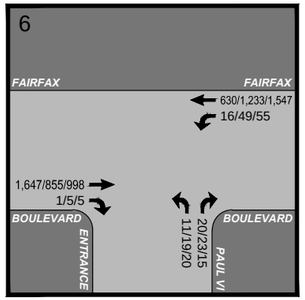


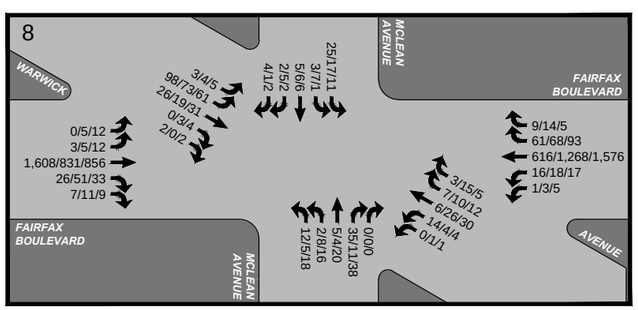


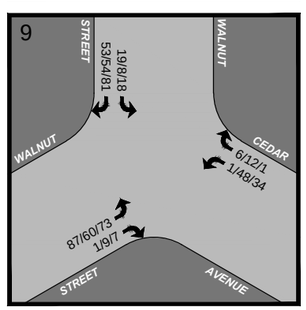


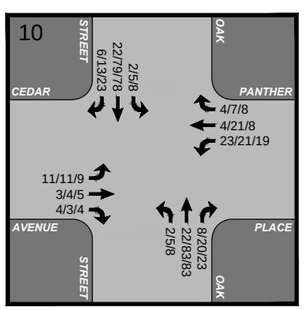


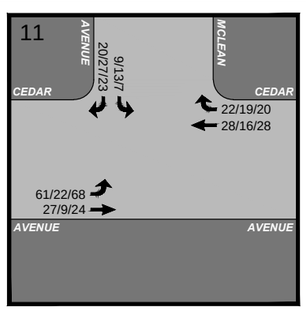


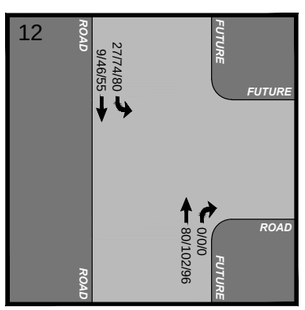












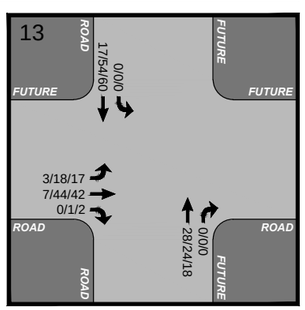


Figure 7-1
2027 Total Future Peak Hour Traffic Forecasts

Paul VI Redevelopment

Fairfax County, Virginia

AM PEAK HOUR
SCHOOL PM PEAK HOUR
PM PEAK HOUR
000 / 000 / 000

NORTH

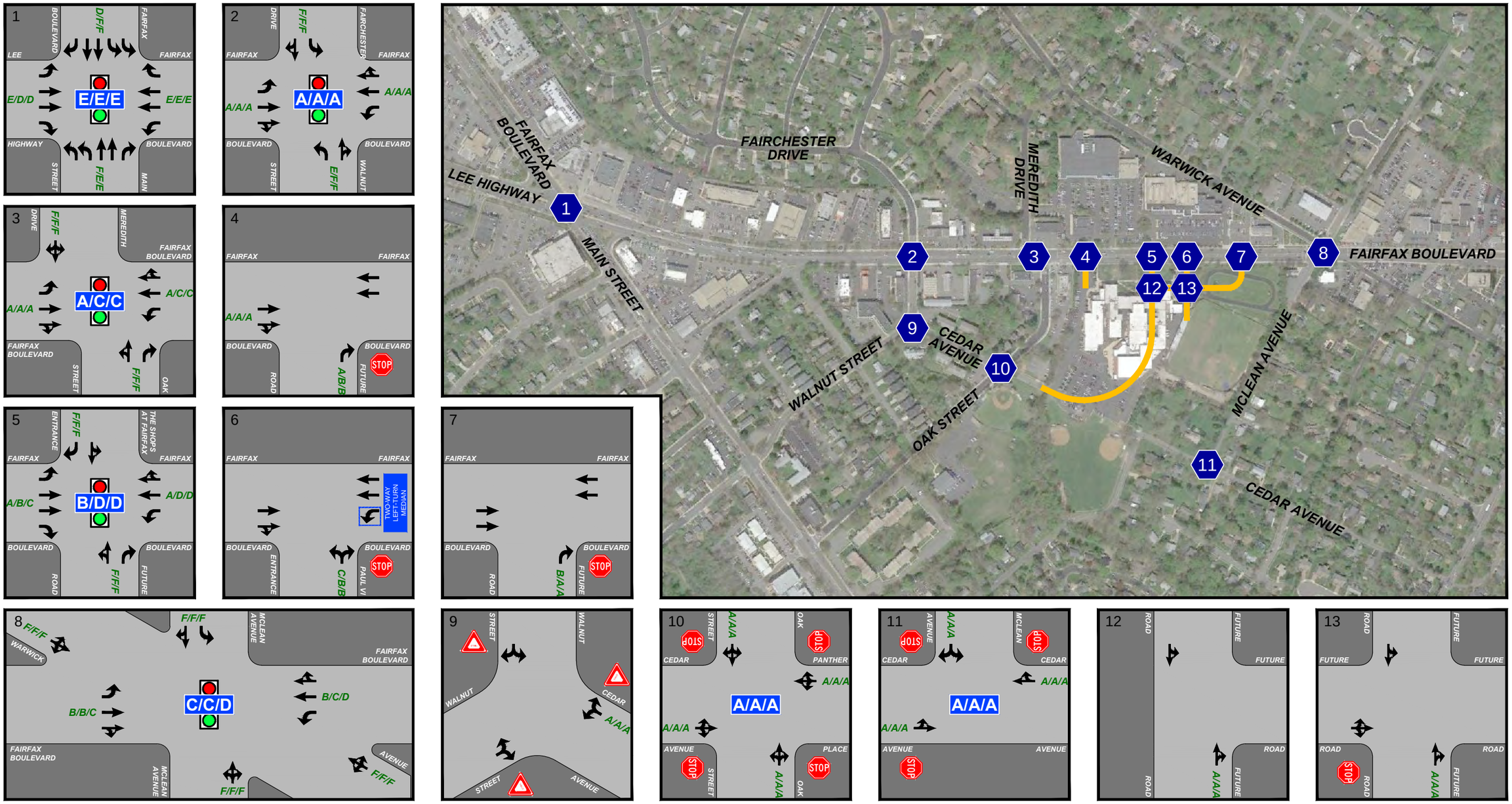


Figure 7-2
Total Future Lane Use, Traffic Controls, and Levels of Service

Paul VI Redevelopment

Fairfax County, Virginia

X/X/X Approach Levels of Service

X/X/X Overall Intersection Levels of Service

Represents One Travel Lane

Signalized Intersection

Stop Sign

Yield Sign

NORTH

Table 7-1

Paul VI Redevelopment

Total Future Intersection Capacity Analysis Summary[1]

	Intersection	Intersection Control	Approach	Existing			Background Future			Total Future		
				AM Peak	PM School Peak	PM Peak	AM Peak	PM School Peak	PM Peak	AM Peak	PM School Peak	PM Peak
1.	Lee Highway & Fairfax Boulevard & Main Street[2]	Signal	EB Appr	D (54.0)	F (87.3)	F (91.3)	D (54.8)	F (89.0)	F (95.6)	D (52.0)	F (87.0)	F (91.8)
			WB Appr	F (96.0)	E (70.1)	E (76.3)	F (106.3)	E (72.0)	F (82.9)	F (88.4)	E (69.9)	E (76.3)
			NB Appr	E (74.9)	D (45.1)	D (39.1)	E (78.4)	D (46.0)	D (40.0)	E (69.6)	D (46.0)	D (40.3)
			SB Appr	E (57.4)	D (49.5)	E (71.5)	E (56.5)	D (51.1)	E (72.4)	E (71.7)	E (55.8)	E (62.5)
			Overall	**E (71.5)**	**E (62.3)**	**E (69.8)**	**E (75.0)**	**E (64.0)**	**E (73.4)**	**E (69.8)**	**E (63.7)**	**E (67.6)**
2.	Fairfax Boulevard & Fairchester Drive/Walnut Street	Signal	EB Appr	A (8.2)	A (1.4)	A (1.4)	A (9.0)	A (1.4)	A (1.5)	A (6.7)	A (1.3)	A (1.5)
			WB Appr	A (5.3)	A (2.6)	A (1.7)	A (5.4)	A (2.6)	A (1.8)	A (0.9)	A (1.2)	A (2.8)
			NB Appr	E (76.1)	F (87.5)	F (90.9)	E (76.0)	F (87.6)	F (90.9)	E (75.1)	F (88.8)	F (89.8)
			SB Appr	F (88.8)	F (93.7)	F (118.8)	F (88.7)	F (93.6)	F (118.8)	F (94.5)	F (111.4)	F (114.7)
			Overall	**B (14.1)**	**B (13.0)**	**B (10.1)**	**B (14.4)**	**B (12.6)**	**A (9.6)**	**A (9.8)**	**A (8.8)**	**A (9.0)**
3.	Fairfax Boulevard & Meredith Drive/Oak Street	Signal	EB Appr	B (15.7)	A (4.3)	A (3.3)	B (19.2)	A (4.3)	A (3.4)	A (5.0)	A (3.9)	A (3.1)
			WB Appr	C (23.3)	A (7.4)	A (8.3)	C (23.3)	A (7.5)	A (9.5)	A (4.4)	C (20.3)	C (23.4)
			NB Appr	F (83.8)	F (100.1)	F (100.0)	F (83.7)	F (99.7)	F (99.8)	F (86.3)	F (98.6)	F (100.4)
			SB Appr	F (89.5)	F (102.4)	F (102.5)	F (89.5)	F (102.4)	F (102.5)	F (89.5)	F (102.4)	F (102.5)
			Overall	**C (25.1)**	**B (18.1)**	**B (14.1)**	**C (27.4)**	**B (18.1)**	**B (14.8)**	**A (8.6)**	**C (20.8)**	**C (21.6)**
4.	Fairfax Boulevard & Site Entrance	Stop[3]	EB Appr	Future Intersection			Future Intersection			A (0.0)	A (0.0)	A (0.0)
			NB Appr							A (0.0)	B (10.2)	B (10.5)
5.	Fairfax Boulevard & Shops at Fairfax Entrance/Site Entrance	Signal	EB Appr	A (2.0)	A (1.0)	A (1.4)	A (2.4)	A (1.0)	A (1.4)	A (7.9)	B (17.6)	C (26.5)
			WB Appr	A (0.6)	A (1.2)	A (0.5)	A (0.6)	A (1.3)	A (0.5)	A (5.4)	D (42.5)	D (40.6)
			NB Appr	Future Approach			Future Approach			F (105.2)	F (96.0)	F (95.5)
			SB Appr	F (84.1)	F (104.7)	F (103.9)	F (84.1)	F (104.7)	F (103.9)	F (88.2)	F (93.9)	F (96.2)
			Overall	**A (2.6)**	**A (6.4)**	**A (4.8)**	**A (2.8)**	**A (6.2)**	**A (4.5)**	**B (11.5)**	**D (37.7)**	**D (39.1)**
6.	Fairfax Boulevard & Site Entrance	Stop	NB Appr	C (21.1)	B (13.6)	B (12.6)	C (22.4)	B (14.2)	B (13.1)	C (20.0)	B (12.5)	B (13.3)
7.	Fairfax Boulevard & Site Exit	Stop	NB Appr	Future Intersection			Future Intersection			B (11.4)	A (9.8)	A (9.8)
8.	Fairfax Boulevard & McLean Avenue & Warwick Road[4]	Signal	EB Appr	F (115.4)	F (117.3)	F (128.0)	F (115.4)	F (117.3)	F (128.0)	F (115.4)	F (117.3)	F (128.0)
			WB Appr	F (90.4)	F (103.7)	F (103.2)	F (90.4)	F (103.7)	F (103.2)	F (90.4)	F (103.7)	F (103.2)
			NB Appr	F (88.2)	F (106.5)	F (115.4)	F (88.2)	F (106.5)	F (115.4)	F (88.2)	F (106.5)	F (115.4)
			SB Appr	F (85.3)	F (104.4)	F (93.1)	F (85.3)	F (104.4)	F (93.1)	F (85.3)	F (104.4)	F (93.1)
			NE Appr	C (21.9)	B (12.3)	B (11.5)	C (24.2)	B (13.2)	B (12.6)	B (16.3)	B (15.2)	C (27.7)
			SW Appr	B (19.7)	C (23.3)	D (39.1)	C (20.1)	C (24.3)	D (43.7)	B (18.6)	C (23.8)	D (42.5)
			Overall	**C (28.5)**	**C (26.6)**	**D (37.9)**	**C (29.7)**	**C (27.1)**	**D (40.4)**	**C (25.2)**	**C (28.2)**	**D (44.6)**
9.	Walnut Street & Cedar Avenue[5]	Stop	WB Appr	B (10.1)	A (9.4)	A (9.5)	B (10.1)	A (9.4)	A (9.5)	A (8.9)	A (9.4)	A (9.9)
10.	Oak Street & Cedar Avenue	Stop	EB Appr	B (13.9)	A (8.5)	A (7.8)	B (14.3)	A (8.7)	A (7.9)	A (7.2)	A (7.6)	A (7.6)
			WB Appr	C (15.6)	B (10.9)	A (8.0)	C (16.2)	B (11.2)	A (8.1)	A (7.3)	A (7.8)	A (7.7)
			NB Appr	B (12.6)	A (9.0)	A (8.0)	B (13.6)	A (9.3)	A (8.2)	A (7.1)	A (7.7)	A (7.7)
			SB Appr	B (14.8)	A (9.4)	A (8.1)	C (15.3)	A (9.7)	A (8.4)	A (7.1)	A (7.7)	A (7.7)
			Overall	**B (14.3)**	**B (10.0)**	**A (8.0)**	**B (14.9)**	**B (10.2)**	**A (8.2)**	**A (7.2)**	**A (7.7)**	**A (7.7)**
11.	Cedar Avenue & McLean Avenue	Stop	EB Appr	A (7.7)	A (7.4)	A (7.7)	A (7.7)	A (7.4)	A (7.7)	A (7.7)	A (7.4)	A (7.7)
			WB Appr	A (7.1)	A (6.9)	A (7.1)	A (7.1)	A (6.9)	A (7.1)	A (7.1)	A (6.9)	A (7.1)
			SB Appr	A (7.0)	A (6.9)	A (7.0)	A (7.0)	A (6.9)	A (7.0)	A (7.0)	A (6.9)	A (7.0)
			Overall	**A (7.4)**	**A (7.0)**	**A (7.4)**	**A (7.4)**	**A (7.0)**	**A (7.4)**	**A (7.4)**	**A (7.0)**	**A (7.4)**
12.	Internal Road & Frontage Road	Stop	NB Appr	Future Intersection			Future Intersection			A (5.6)	A (4.8)	A (4.7)
13.	Internal Road & Frontage Road	Stop	NB Appr	Future Intersection			Future Intersection			A (9.2)	A (9.7)	A (9.7)

Notes:
1. Capacity analysis based on Highway Capacity Manual methodology, using Synchro 9.1.
2. Fairfax Boulevard/Main Street analyzed as east-west road; Lee Highway/Fairfax Boulevard analyzed as north-south roadway.
3. The eastbound right movement is neither signal nor stop-controlled.
4. Warwick Road analyzed as east-west road; McLean Avenue analyzed as north-south roadway; Fairfax Boulevard analyzed as northeast-southwest roadway.
5. Analyzed with northbound and southbound as free movements along Walnut Street, and westbound movements along Cedar Avenue as stop-controlled.

SECTION 8
TRANSPORTATION DEMAND MANAGEMENT

To take full advantage of the site's proximity to various transit facilities and services, a project sponsored Transportation Demand Management (TDM) program would encourage the use of transit, ridesharing, bicycling, and walking which would serve to decrease reliance on the single occupancy vehicles (SOV).

TDM is a general term for strategies that result in more efficient use of transportation resources. There are many different TDM strategies with a variety of results. They can improve the transportation options available to consumers, provide an incentive to choose more efficient travel patterns, or reduce the need for physical travel through mobility substitutes or more efficient land use. TDM strategies can change travel timing, route, destination, or mode.

The following strategies should be considered:

A. Designate a Transportation Management Coordinator (TMC) to implement the TDM program and advise residents, tenants, and employees of the availability and location of the TDM coordinator and program. It is anticipated that after the for sell units are sold, the Home Owner's Association (HOA) would assume the TMC duties and would provide information regarding the TDM program at least once a year. The TMC functions may include the following:

   1. Assist residents and employees in making effective and efficient commuting choices.

   2. Disseminate Metrorail, Metrobus, ridesharing, and other relevant transit options to new residents and employees.

   3. Solicit support from the Metropolitan Washington Council of Governments Commuter Connections (MWCOGCC) program, the Washington Metropolitan Area Transit Authority, the City of Fairfax, etc.

   4. Provide on-site assistance to residents and employees in forming and maintaining carpools and vanpools.

   5. Disseminate park-and-ride lot information to prospective carpoolers and vanpoolers.

   6. Encourage carpool/vanpool participants, transit users, bicyclists, and walkers to register in MWCOGCC Guaranteed Ride Home (GRH) program.

   7. Encourage residents and employees to ride bikes or walk to work.

   8. Provide on-site facilities for bicycle parking and/or storage, including bike racks for visitors and bike storage lockers for residents.

9. Market and promote the TDM Program among residents and employees through printed materials obtained from the City, MWCOGCC, Metro and/or the projects' web site (if available).

B. Commuter Center.

1. Designate a centralized space on-site as a "Commuter Center".

2. Install display racks that would provide information on local transit options.

3. Promote transit and multi-modal options provided by the City.

C. Incentives to use transit, including:

1. Providing information on Metrorail, CUE Bus, Metrobus, and other public transportation facilities, services, routes, schedules, and fares.

2. Disseminating information to transit users regarding free guaranteed rides home in cases of emergency.

3. Providing safe, convenient, and attractive pedestrian connections on site that connect to off-site facilities.

D. Carpool programs, including:

1. Disseminating information to carpoolers regarding free guaranteed rides home in cases of emergency.

2. Reserve a number of conveniently-located, parking spaces for carpools only for commercial use with registration.

E. Parking management, including:

1. Reserving a number of conveniently-located, parking spaces for carpools, and/or hybrid vehicles.

2. Implementing a parking pass system in order to manage the number of vehicular parking spaces allotted per resident or dwelling unit.

3. Providing an on-street parking space for a car sharing service (i.e., Zip or Flex Car).

SECTION 9
CONCLUSIONS

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

1. The Lee Highway/Fairfax Boulevard/Main Street intersection currently operates at or near capacity at level of service (LOS) "E" during each of the three (3) studied peak periods.

2. All other signalized intersections currently operate at an overall LOS D or better during each of the three (3) studied peak periods based on Highway Capacity Manual calculations, however, substantial queues were observed along Fairfax Boulevard during the peak periods. Specifically, substantial queues along eastbound Fairfax Boulevard were observed during the AM peak period and substantial westbound queues were observed during the PM peak period.

3. Historic VDOT traffic data indicates that average daily traffic counts along Fairfax Boulevard and Main Street have decreased by 0.7% to 1.7% per year between 2008 and 2016.

4. The Novus Fairfax Gateway and Mount Vineyard pipeline developments are anticipated to generate 395 AM commuter peak hour trips, 418 PM school peak hour trips, and 576 PM commuter peak hour trips at full buildout.

5. Under future 2027 traffic conditions, without redevelopment of the Paul VI site, minimal increases in delay at the study intersections are expected due to the trips generated by pipeline development in the vicinity of the site and overall levels of service would remain generally consistent with existing conditions.

6. The existing Paul VI Catholic High School currently generates 1,005 trips during the AM commuter peak hour, 563 trips during the PM school peak hour, and 132 trips during the PM commuter peak hour.

7. The Applicant proposes to redevelop the site with 184 residential condominium units, 137 town homes, 20,000 SF of local serving retail, and 24,000 SF of community center space.

8. The project is estimated to generate 789 ***fewer*** AM peak commuter hour trips, 148 ***fewer*** PM school peak hour trips, and 294 ***more*** PM peak commuter hour trips than are currently generated by the high school.

9. Under future 2027 traffic conditions, with the development of the subject site, intersection levels of service would remain generally consistent with existing and background conditions. The analyses show that the Lee Highway/Fairfax Boulevard/Main Street will continue to operate at LOS E during all three peak periods studied. All other intersections will operate at LOS D or better during each of the studied peak periods.

10. A full turning movement site driveway is proposed along Fairfax Boulevard to align with the existing Shops at Fairfax entrance. The full access signalized intersection would operate at an overall LOS "D" or better during each of the studied peak periods.

11. A full turning movement, side-street stop-controlled entrance is proposed along Fairfax Boulevard between the Shops at Fairfax intersection and McLean Avenue. This unsignalized intersection will operate at LOS "C" or better during each of the studied time periods.

APPENDIX A

City of Fairfax Scoping Agreement

SCOPE OF WORK MEETING FORM

Information on the Project
Traffic Impact Analysis Base Assumptions

PAUL VI REDEVELOPMENT
CITY OF FAIRFAX, VIRGINIA
December 29, 2016

Contact Information			
Consultant Name: Tele: E-mail:	Christopher Turnbull - Wells + Associates, Inc. 703-917-6620 cturnbull@wellsandassociates.com		
Developer/Owner Name: Tele: E-mail:	Enrico C. Cecchi – Patrick Rhodes IDI Group Companies 703-558-7348 ececchi@idigroup.com		
Project Information			
Project Name:	Paul VI Redevelopment	Locality/County:	City of Fairfax
Project Location: (Attach regional and site specific location map)	The project is generally located south of Fairfax Boulevard, between Main Street and Chain Bridge Road. See Attachment 1 for the site location.		
Submission Type	Comp Plan ☐	Rezoning ☒ (SUP)	Site Plan ☐	Subd Plat ☐
Project Description: (Including details on the land use, acreage, phasing, access location, etc. Attach additional sheet if necessary)	The Applicant is proposing to redevelop the property with 575 residential units to include active adult, condominiums, townhomes, and multifamily units. Twenty thousand (20,000) square feet of commercial and community space is also proposed. The conceptual development plan is provided as Attachment 2.		
Proposed Use(s): (Check all that apply; attach additional pages as necessary)	Residential ☐	Commercial ☐	Mixed Use ☒	Other ☐
(See Attachment – 3)	**Residential Uses(s)** Number of Units: 575 ITE LU Code(s): 220, 230, & 251 **Commercial Use(s)** ITE LU Code(s): 820 Square Ft or Other Variable: 10,000		**Other Use(s)** ITE LU Code(s): _____ _____ _____ Independent Variable(s): _____ _____ _____	

Total Peak Hour Trip Projection:	Less than 100 ☐	100 – 499 ☒	500 – 999 ☐	1,000 or more ☐

Traffic Impact Analysis Assumptions

Study Period	Existing Year: 2017	Build-out Year: 2027	Design Year: n/a
Study Area Boundaries	North: Fairfax Boulevard (US Route 50)	South: Cedar Avenue	
	East: McLean Avenue	West: Oak Street	
External Factors That Could Affect Project (Planned road improvements, other nearby developments)	• Novus Fairfax Gateway redevelopment • Mount Vineyard (Oak Knolls) • Kamp Washington intersection improvements • Fairfax Boulevard at Chain Bridge Road intersection improvements		
Consistency With Comprehensive Plan (Land use, transportation plan)	A change in land use from Institutional was not anticipated with the lastest Comp. Plan Update. The current C-2 Commercial/R-2 zoning would permit the proposed land use via a rezoning. The roadway network is consistent with the intent of the City Transportation Plan.		
Available Traffic Data (Historical, forecasts)	VDOT historical traffic count data indicates: 2015 VDOT Average Annual Daily Traffic (AADT): Fairfax Boulevard (US Route 50): 35,000 vpd (Main Street to Chain Bridge Road) 2014 VDOT Average Annual Daily Traffic (AADT): Fairfax Boulevard (US Route 50): 36,000 vpd (Main Street to Chain Bridge Road) 2013 VDOT Average Annual Daily Traffic (AADT): Fairfax Boulevard (US Route 50): 36,000 vpd (Main Street to Chain Bridge Road) Future Forecasts will be developed		
Trip Distribution (Pending data from existing traffic counts) (See Attachment 4)	From the West: 35%	From the Northeast: 50%	
	From the North: 0%	From the Southeast: 15%	
Annual Vehicle Trip Growth Rate:	1% or per VDOT AADT counts	Peak Period for Study (check all that apply)	☒ AM ☒ PM ☐ SAT
		Peak Hour of the Generator	N/A
Study Intersections and/or Road Segments (See Attachment 4)	1. Fairfax Boulevard/Main Street	6. Walnut Street/Cedar Avenue	
	2. Fairfax Boulevard/Fairchester Drive, Walnut Street	7. Oak Street/Cedar Avenue	
	3. Fairfax Boulevard/Meredith Drive, Oak Street	8. McLean Avenue/Cedar Avenue	
	4. Fairfax Boulevard/Shopping Center Entrance – Future Site Entrance	9. Chain Bridge Road/Cedar Avenue	
	5. Fairfax Boulevard /McLean Avenue/ Warwick Avenue		
Trip Adjustment Factors	Internal allowance: ☐ Yes ☒ No Reduction: _____% trips	Pass-by allowance: ☐ Yes ☒ No Reduction: _____ %trips	

Software Methodology	☒ Synchro ☐ HCS (v.2000/+) ☐ aaSIDRA ☐ CORSIM ☐ Other ____
Traffic Signal Proposed or Affected (Analysis software to be used, progression speed, cycle length)	Project anticipates adding 4th leg to Fairfax Drive/Shopping Center signal. Capacity analyses will be based on Synchro (version 9.1).
Improvement(s) Assumed or to be Considered	A full-access entrance is proposed as noted above along with a frontage road or slow lane as envisioned in the Master Plan for Fairfax Boulevard.
Background Traffic Studies Considered	• Novus Fairfax Gateway Traffic Impact Analysis • Mount Vineyard (Oak Knolls) Traffic Impact Study
Plan Submission	☐ Master Development Plan (MDP) ☒ Generalized Development Plan (GDP) ☐ Preliminary/Sketch Plan ☐ Other Plan type (Final Site, Subd. Plan)
Additional Issues to be Addressed	☐ Queuing analysis ☐ Actuation/Coordination ☐ Weaving analysis ☐ Merge analysis ☐ Bike/Ped Accommodations ☐ Intersection(s) ☐ TDM Measures ☐ Other ____

NOTES on ASSUMPTIONS:

1. Synchro 9.1 will be used to conduct capacity analysis with peak hour factors measured in the field for existing conditions (0.85<PHF<0.92). Under background and total future conditions a PHF of 0.92 will be used for all movements.
2. Existing Synchro (signal timing) files to be provided by the city.

SCOPE OF WORK MEETING

ADDITIONS TO THE REQUIRED ELEMENTS, CHANGES TO THE METHODOLOGY OR STANDARD ASSUMPTIONS, AND SIGNATURE PAGE

Any additions to the Required Elements or changes to the Methodology or Standard Assumptions due to special circumstances that are approved by the City of Fairfax:

_____

_____

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_____

AGREED: _____ DATE: 12/29/2016
Consultant

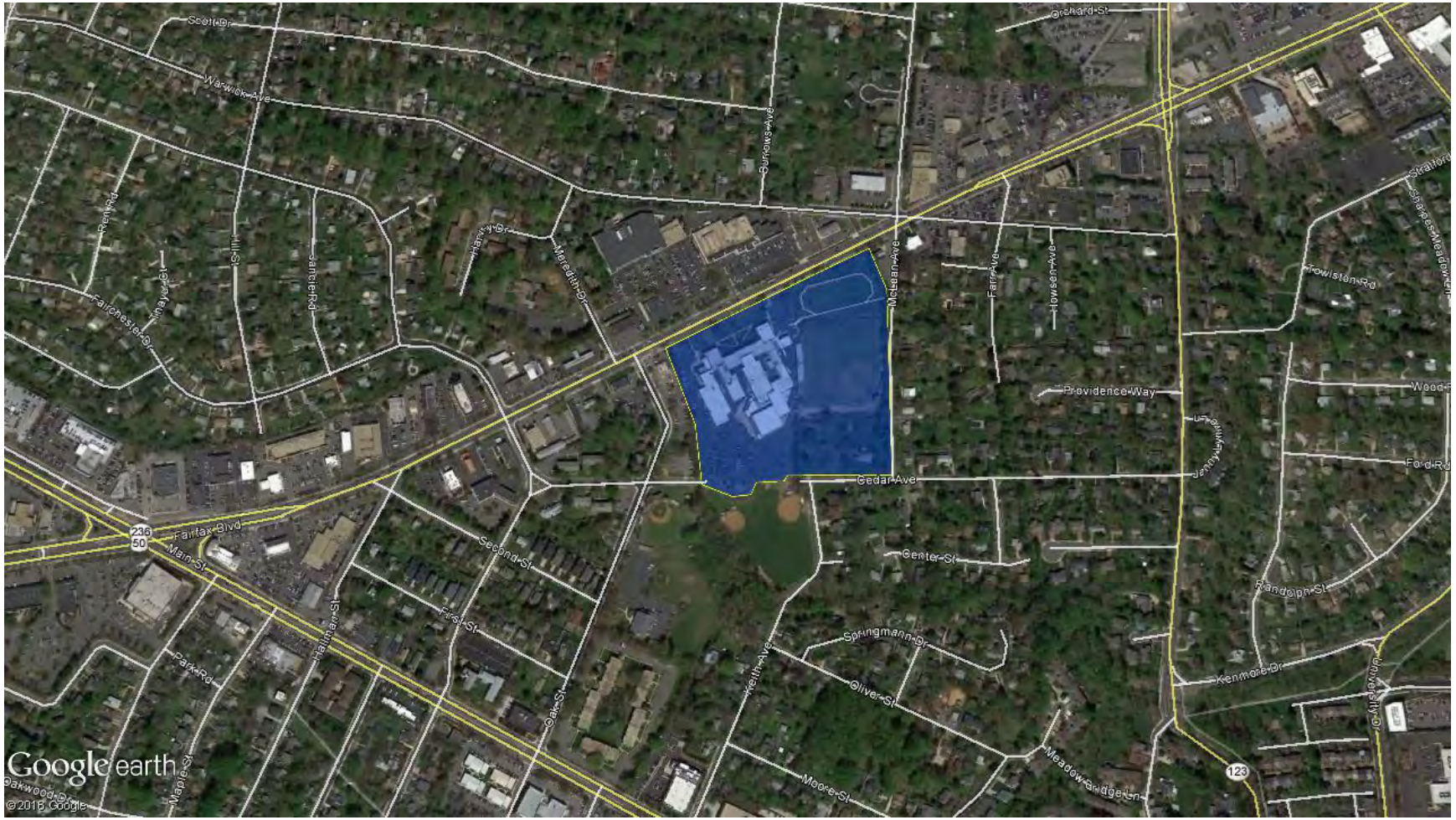
PRINT NAME: Christopher Turnbull
Consultant

SIGNED: Wendy Block Sanford DATE: January 12, 2017

PRINT NAME: Wendy Sanford

Attachments:
Attachment 1 - Site Location
Attachment 2 – Conceptual Development Plans – Paul VI Scheme B
Attachment 3 – Trip Generation
Attachment 4 – Study Intersections and Site Trip Distribution Percentages

Attachment 1 – Site Location



Attachment 2 - Conceptual Development Plan

THE IDI GROUP COMPANIES

SCHEME B

Paul VI Development | Fairfax, Virginia

BLANK ROME | WELLS + ASSOCIATES | Thunderbird | christopher consultants | streetsense.

July 26, 2016

Attachment 3

Paul VI Redevelopment - Scheme B

Site Trip Generation Comparison

Development	ITE Land Use Code[1]	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM School Peak (2:45-3:45) In	PM School Peak (2:45-3:45) Out	PM School Peak (2:45-3:45) Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Average Daily Trips
Existing													
Private High School[2,3]			Actual Trips	676	311	987	157	397	554	37	74	111	3,270
Current Zoning[4]													
Retail	**820**	**132,500**	**SF**	**79**	**48**	**127**	**318**	**359**	**677**	**347**	**376**	**723**	**8,154**
Proposed[4]													
Apartments	220	214	DU	22	87	109	58	45	102	88	47	135	1,420
Condominiums/Townhomes	230	327	DU	23	110	133	37	32	69	107	52	159	1,803
Senior Housing	251	34	DU	13	23	36	37	35	73	12	8	20	181
Subtotal Residential		575	DU	58	220	278	132	111	243	207	107	314	3,404
Local Serving Retail	820	10,000	SF	6	4	10	59	67	126	61	67	128	1,520
Total Proposed Trips				**64**	**224**	**288**	**191**	**178**	**369**	**268**	**174**	**442**	**4,924**
Comparison													
Actual vs. Current Zoning				**-597**	**-263**	**-860**	**161**	**-38**	**123**	**310**	**302**	**612**	**4,884**
Actual vs. Proposed				**-612**	**-87**	**-699**	**34**	**-219**	**-185**	**231**	**100**	**331**	**1,654**

Notes:

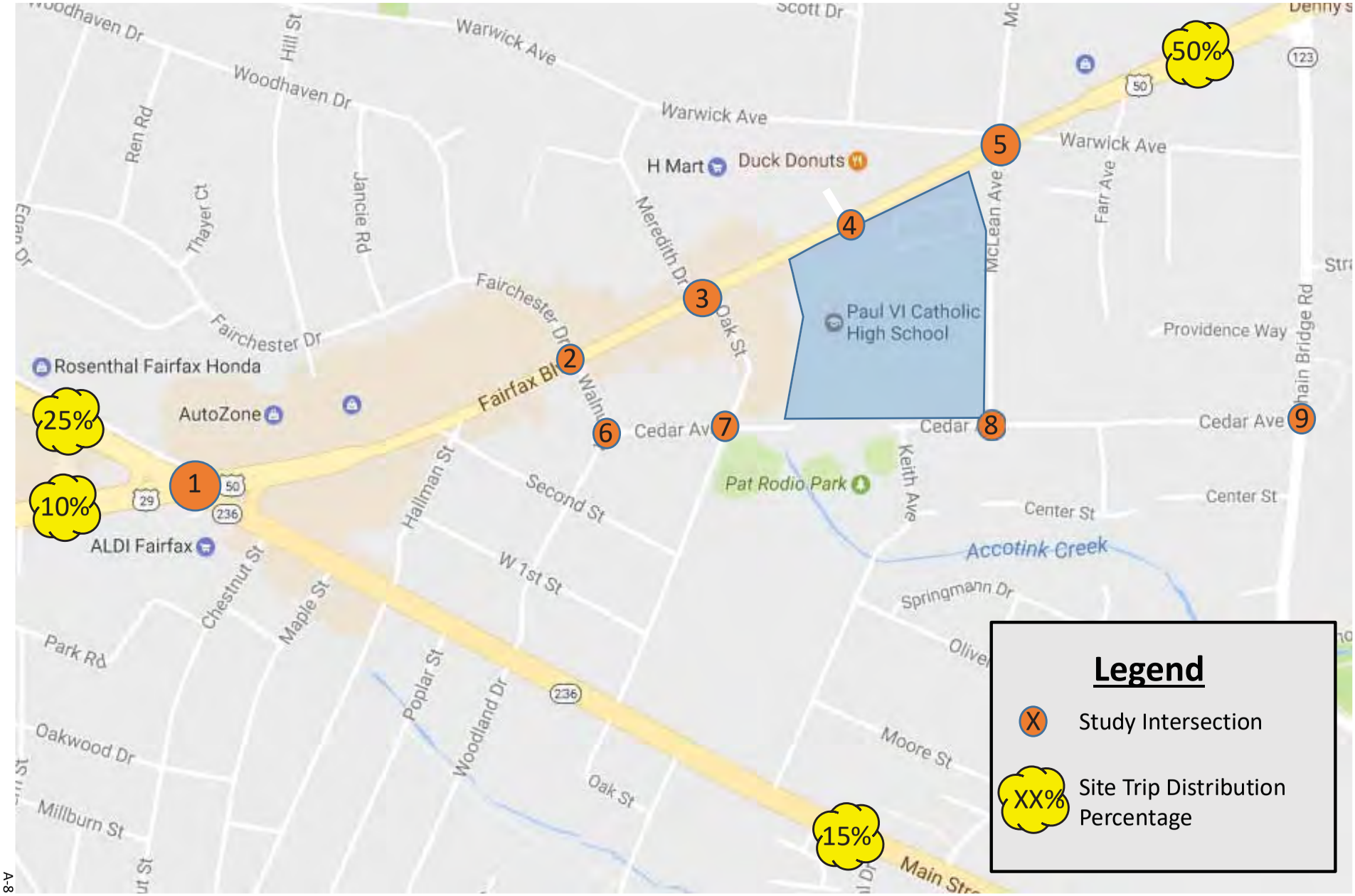
1 Institute of Transportation Engineer's (ITE), Trip Generation Manual, 9th Edition

2 Based on traffic counts completed on February 3, 2016.

3 Actual ADT estimated based on ITE ADT and PM school peak ratio.

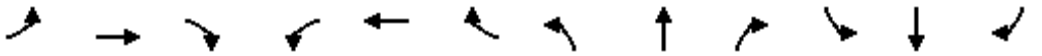
4 PM School Peak trips based on residential and retail diurnal rates compiled from ITE and Wells + Associates files.

Attachment 4 - Study Intersections and Site Trip Distribution Percentages



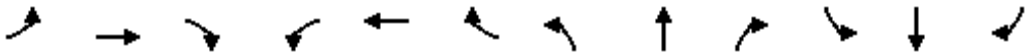
APPENDIX E

2027 Total Future Capacity Analysis Worksheets



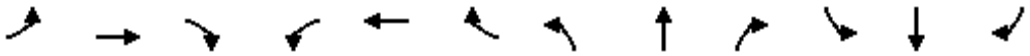
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	376	730	17	342	657	36	9	870	732	43	318	184
Future Volume (vph)	376	730	17	342	657	36	9	870	732	43	318	184
Ideal Flow (vphpl)	2500	2500	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	5.1		4.3	4.3	6.3	4.8	5.6	5.6	4.8	5.6	5.6
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	4430	4556		3335	3539	1509	1805	3539	1568	1703	3343	1524
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.46	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	4430	4556		3335	3539	1509	875	3539	1568	137	3343	1524
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)	409	793	18	372	714	39	10	946	796	47	346	200
RTOR Reduction (vph)	0	1	0	0	0	31	0	0	0	0	0	63
Lane Group Flow (vph)	409	810	0	372	714	8	10	946	796	47	346	137
Heavy Vehicles (%)	4%	4%	0%	5%	2%	7%	0%	2%	3%	6%	8%	6%
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	5	2		1	6		3	8	8 1	7	4	4 5
Permitted Phases						6	8			4		
Actuated Green, G (s)	59.9	59.9		37.8	37.8	37.8	64.5	57.4	95.2	64.5	57.4	124.4
Effective Green, g (s)	61.9	61.9		39.8	39.8	37.8	68.5	59.4	99.2	68.5	59.4	121.3
Actuated g/C Ratio	0.33	0.33		0.21	0.21	0.20	0.36	0.31	0.52	0.36	0.31	0.64
Clearance Time (s)	7.1	7.1		6.3	6.3	6.3	6.8	7.6		6.8	7.6	
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)	1443	1484		698	741	300	360	1106	818	124	1045	972
v/s Ratio Prot	0.09	c0.18		0.11	0.20		0.00	0.27	c0.51	c0.02	0.10	0.09
v/s Ratio Perm						0.01	0.01			0.12		
v/c Ratio	0.28	0.55		0.53	0.96	0.03	0.03	0.86	0.97	0.38	0.33	0.14
Uniform Delay, d1	47.6	52.5		66.8	74.4	61.3	45.3	61.3	44.1	79.0	50.1	13.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.16	1.30	5.55
Incremental Delay, d2	0.5	1.4		2.9	25.3	0.2	0.0	8.5	25.6	1.9	0.8	0.3
Delay (s)	48.1	54.0		69.7	99.7	61.4	45.4	69.8	69.7	93.8	66.2	76.1
Level of Service	D	D		E	F	E	D	E	E	F	E	E
Approach Delay (s)		52.0			88.4			69.6			71.7	
Approach LOS		D			F			E			E	

Intersection Summary			
HCM 2000 Control Delay	69.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	79.8%	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												
Traffic Volume (vph)	15	1542	12	32	551	21	20	5	71	28	0	19
Future Volume (vph)	15	1542	12	32	551	21	20	5	71	28	0	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6		5.6	5.6		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.86		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	3502		1805	3394		1805	1463		1752	1615	
Flt Permitted	0.41	1.00		0.10	1.00		0.74	1.00		0.48	1.00	
Satd. Flow (perm)	719	3502		199	3394		1413	1463		892	1615	
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)	16	1676	13	35	599	23	22	5	77	30	0	21
RTOR Reduction (vph)	0	0	0	0	1	0	0	68	0	0	20	0
Lane Group Flow (vph)	16	1689	0	35	621	0	22	14	0	30	1	0
Heavy Vehicles (%)	8%	3%	0%	0%	6%	0%	0%	5%	12%	3%	3%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			7			3	
Permitted Phases	2			6			7			3		
Actuated Green, G (s)	148.5	144.3		151.5	145.8		20.3	20.3		9.2	9.2	
Effective Green, g (s)	150.5	145.3		153.5	146.8		22.3	22.3		11.2	11.2	
Actuated g/C Ratio	0.79	0.76		0.81	0.77		0.12	0.12		0.06	0.06	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	595	2678		217	2622		165	171		52	95	
v/s Ratio Prot	0.00	c0.48		c0.01	0.18			0.01			0.00	
v/s Ratio Perm	0.02			0.12			c0.02			c0.03		
v/c Ratio	0.03	0.63		0.16	0.24		0.13	0.08		0.58	0.01	
Uniform Delay, d1	4.2	10.2		8.3	6.0		75.2	74.7		87.1	84.2	
Progression Factor	0.42	0.57		0.25	0.11		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.0		0.3	0.2		0.4	0.2		14.6	0.1	
Delay (s)	1.7	6.7		2.4	0.9		75.6	74.9		101.7	84.2	
Level of Service	A	A		A	A		E	E		F	F	
Approach Delay (s)		6.7			0.9			75.1			94.5	
Approach LOS		A			A			E			F	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



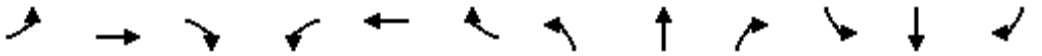
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	1618	5	4	688	2	7	1	53	32	2	13
Future Volume (vph)	8	1618	5	4	688	2	7	1	53	32	2	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	4.6		5.6	4.6			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.97	
Satd. Flow (prot)	1597	3504		1805	3405			1819	1615		1769	
Flt Permitted	0.34	1.00		0.09	1.00			0.96	1.00		0.97	
Satd. Flow (perm)	566	3504		163	3405			1819	1615		1769	
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)	9	1759	5	4	748	2	8	1	58	35	2	14
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	55	0	8	0
Lane Group Flow (vph)	9	1764	0	4	750	0	0	9	3	0	43	0
Heavy Vehicles (%)	13%	3%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		4	4		7	7	
Permitted Phases	2			6					4			
Actuated Green, G (s)	140.0	137.2		137.2	135.8			7.3	7.3		8.9	
Effective Green, g (s)	142.0	139.2		139.2	137.8			9.3	9.3		10.9	
Actuated g/C Ratio	0.75	0.73		0.73	0.73			0.05	0.05		0.06	
Clearance Time (s)	6.6	6.6		6.6	6.6			6.5	6.5		6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	443	2567		140	2469			89	79		101	
v/s Ratio Prot	c0.00	c0.50		0.00	0.22			c0.00			c0.02	
v/s Ratio Perm	0.01			0.02					0.00			
v/c Ratio	0.02	0.69		0.03	0.30			0.10	0.04		0.43	
Uniform Delay, d1	6.4	13.7		13.0	9.2			86.4	86.1		86.5	
Progression Factor	0.69	0.28		0.53	0.45			1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.2		0.1	0.3			0.5	0.2		2.9	
Delay (s)	4.5	5.1		7.0	4.4			86.9	86.3		89.5	
Level of Service	A	A		A	A			F	F		F	
Approach Delay (s)		5.0			4.4			86.3			89.5	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1701	3	0	694	0	0
Future Volume (Veh/h)	1701	3	0	694	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1849	3	0	754	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	173			384		
pX, platoon unblocked			0.72		0.75	0.72
vC, conflicting volume			1852		2228	926
vC1, stage 1 conf vol					1850	
vC2, stage 2 conf vol					377	
vCu, unblocked vol			1408		1642	125
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			346		135	651

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	1233	619	377	377	0
Volume Left	0	0	0	0	0
Volume Right	0	3	0	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.73	0.36	0.22	0.22	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					A
Approach Delay (s)	0.0		0.0		0.0
Approach LOS					A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	1593	29	7	612	9	36	0	44	11	0	18
Future Volume (vph)	26	1593	29	7	612	9	36	0	44	11	0	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		5.0	5.2			6.2	6.2		6.2	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1805	3496		1770	3433			1770	1583		1805	1615
Flt Permitted	0.37	1.00		0.10	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	708	3496		186	3433			1770	1583		1805	1615
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)	28	1732	32	8	665	10	39	0	48	12	0	20
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	46	0	0	19
Lane Group Flow (vph)	28	1763	0	8	675	0	0	39	2	0	12	1
Heavy Vehicles (%)	0%	3%	2%	2%	5%	0%	2%	2%	2%	0%	2%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases	2			6					4			3
Actuated Green, G (s)	153.4	147.8		147.8	145.0			7.0	7.0		8.8	8.8
Effective Green, g (s)	155.4	148.8		147.8	146.0			7.0	7.0		8.8	8.8
Actuated g/C Ratio	0.82	0.78		0.78	0.77			0.04	0.04		0.05	0.05
Clearance Time (s)	5.0	6.2		5.0	6.2			6.2	6.2		6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	617	2737		168	2637			65	58		83	74
v/s Ratio Prot	c0.00	c0.50		0.00	0.20			c0.02			c0.01	
v/s Ratio Perm	0.04			0.04					0.00			0.00
v/c Ratio	0.05	0.64		0.05	0.26			0.60	0.03		0.14	0.01
Uniform Delay, d1	3.4	9.0		8.2	6.3			90.1	88.2		87.0	86.5
Progression Factor	1.33	0.77		0.98	0.81			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.9		0.1	0.2			34.8	1.0		3.6	0.3
Delay (s)	4.5	7.9		8.1	5.4			124.9	89.2		90.6	86.8
Level of Service	A	A		A	A			F	F		F	F
Approach Delay (s)		7.9			5.4			105.2			88.2	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1647	1	16	630	11	20
Future Volume (Veh/h)	1647	1	16	630	11	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1790	1	17	685	12	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	378			458		
pX, platoon unblocked			0.77		0.82	0.77
vC, conflicting volume			1791		2167	896
vC1, stage 1 conf vol					1790	
vC2, stage 2 conf vol					376	
vCu, unblocked vol			1423		1439	256
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			95		91	96
cM capacity (veh/h)			363		141	570

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1193	598	17	342	342	34
Volume Left	0	0	17	0	0	12
Volume Right	0	1	0	0	0	22
cSH	1700	1700	363	1700	1700	275
Volume to Capacity	0.70	0.35	0.05	0.20	0.20	0.12
Queue Length 95th (ft)	0	0	4	0	0	10
Control Delay (s)	0.0	0.0	15.4	0.0	0.0	20.0
Lane LOS			C			C
Approach Delay (s)	0.0		0.4			20.0
Approach LOS						C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1667	0	0	646	0	7
Future Volume (Veh/h)	1667	0	0	646	0	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1812	0	0	702	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	536			300		
pX, platoon unblocked			0.76		0.81	0.76
vC, conflicting volume			1812		2163	906
vC1, stage 1 conf vol					1812	
vC2, stage 2 conf vol					351	
vCu, unblocked vol			1443		1413	255
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			355		137	568

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	906	906	351	351	8
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	8
cSH	1700	1700	1700	1700	568
Volume to Capacity	0.53	0.53	0.21	0.21	0.01
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	11.4
Lane LOS					B
Approach Delay (s)	0.0		0.0		11.4
Approach LOS					B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL2	EBL	EBT	EBR2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	3	98	26	2	14	6	7	3	12	2	5	35
Future Volume (vph)	3	98	26	2	14	6	7	3	12	2	5	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.0			5.0					5.0	
Lane Util. Factor			1.00			1.00					1.00	
Frt			1.00			0.95					0.91	
Flt Protected			0.96			0.98					0.99	
Satd. Flow (prot)			1477			1719					1710	
Flt Permitted			0.96			0.98					0.91	
Satd. Flow (perm)			1477			1719					1583	
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)	3	107	28	2	15	7	8	3	13	2	5	38
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	140	0	0	33	0	0	0	0	58	0
Heavy Vehicles (%)	100%	0%	100%	100%	7%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Split	NA		Split	NA			Perm	Perm	NA	
Protected Phases		3	3		4	4					7	
Permitted Phases	3								7	7		
Actuated Green, G (s)			19.7			8.0					12.4	
Effective Green, g (s)			21.2			9.5					13.9	
Actuated g/C Ratio			0.11			0.05					0.07	
Clearance Time (s)			6.5			6.5					6.5	
Vehicle Extension (s)			3.0			3.0					3.0	
Lane Grp Cap (vph)			164			85					115	
v/s Ratio Prot			c0.09			c0.02						
v/s Ratio Perm											c0.04	
v/c Ratio			0.85			0.39					0.50	
Uniform Delay, d1			82.9			87.4					84.7	
Progression Factor			1.00			1.00					1.00	
Incremental Delay, d2			32.6			2.9					3.5	
Delay (s)			115.4			90.4					88.2	
Level of Service			F			F					F	
Approach Delay (s)			115.4			90.4					88.2	
Approach LOS			F			F					F	

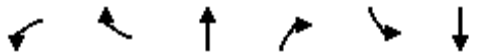
Intersection Summary			
HCM 2000 Control Delay	25.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	25.7
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL2	SBL	SBT	SBR	SBR2	NEL	NET	NER	NER2	SWL2	SWL	SWT
Lane Configurations												
Traffic Volume (vph)	25	3	5	2	4	3	1608	26	7	1	16	616
Future Volume (vph)	25	3	5	2	4	3	1608	26	7	1	16	616
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0			5.6	5.1				5.6	5.1
Lane Util. Factor		1.00	1.00			1.00	0.95				1.00	0.95
Frt		1.00	0.92			1.00	1.00				1.00	0.98
Flt Protected		0.95	1.00			0.95	1.00				0.95	1.00
Satd. Flow (prot)		1805	1745			1752	3599				1805	3471
Flt Permitted		0.61	1.00			0.33	1.00				0.04	1.00
Satd. Flow (perm)		1158	1745			605	3599				76	3471
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)	27	3	5	2	4	3	1748	28	8	1	17	670
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	30	11	0	0	3	1784	0	0	0	18	746
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	2%
Turn Type	Perm	Perm	NA			pm+pt	NA			pm+pt	pm+pt	NA
Protected Phases			7			1	6			5	5	2
Permitted Phases	7	7				6				2	2	
Actuated Green, G (s)		12.4	12.4			113.4	112.2				119.0	115.0
Effective Green, g (s)		13.9	13.9			116.4	114.2				122.0	117.0
Actuated g/C Ratio		0.07	0.07			0.61	0.60				0.64	0.62
Clearance Time (s)		6.5	6.5			7.1	7.1				7.1	7.1
Vehicle Extension (s)		3.0	3.0			3.0	4.0				3.0	4.0
Lane Grp Cap (vph)		84	127			386	2163				98	2137
v/s Ratio Prot			0.01			0.00	c0.50				c0.01	c0.21
v/s Ratio Perm		0.03				0.00					0.11	
v/c Ratio		0.36	0.09			0.01	0.82				0.18	0.35
Uniform Delay, d1		83.8	82.1			14.7	30.0				30.6	17.9
Progression Factor		1.00	1.00			0.31	0.44				1.00	1.00
Incremental Delay, d2		2.6	0.3			0.0	3.0				0.9	0.5
Delay (s)		86.4	82.4			4.6	16.3				31.5	18.3
Level of Service		F	F			A	B				C	B
Approach Delay (s)			85.3				16.3					18.6
Approach LOS			F				B					B

Intersection Summary

Movement	SWR	SWR2
Lane Configurations		
Traffic Volume (vph)	61	9
Future Volume (vph)	61	9
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	66	10
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	0
Heavy Vehicles (%)	7%	0%
Turn Type		
Protected Phases		
Permitted Phases		
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot		
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1		
Progression Factor		
Incremental Delay, d2		
Delay (s)		
Level of Service		
Approach Delay (s)		
Approach LOS		

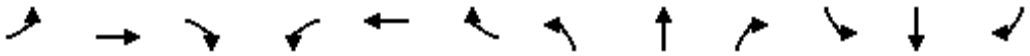
Intersection Summary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	6	87	1	19	53
Future Volume (Veh/h)	1	6	87	1	19	53
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	7	95	1	21	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						366
pX, platoon unblocked						
vC, conflicting volume	196	96			96	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	196	96			96	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			99	
cM capacity (veh/h)	782	961			1498	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	8	96	79
Volume Left	1	0	21
Volume Right	7	1	0
cSH	1098	1700	1498
Volume to Capacity	0.01	0.06	0.01
Queue Length 95th (ft)	1	0	1
Control Delay (s)	8.9	0.0	2.1
Lane LOS	A		A
Approach Delay (s)	8.9	0.0	2.1
Approach LOS	A		

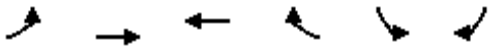
Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	3	4	23	4	4	2	22	8	2	22	6
Future Volume (vph)	11	3	4	23	4	4	2	22	8	2	22	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	3	4	25	4	4	2	24	9	2	24	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	19	33	35	33
Volume Left (vph)	12	25	2	2
Volume Right (vph)	4	4	9	7
Hadj (s)	0.03	0.11	-0.11	-0.08
Departure Headway (s)	4.1	4.2	3.9	4.0
Degree Utilization, x	0.02	0.04	0.04	0.04
Capacity (veh/h)	855	844	889	890
Control Delay (s)	7.2	7.3	7.1	7.1
Approach Delay (s)	7.2	7.3	7.1	7.1
Approach LOS	A	A	A	A

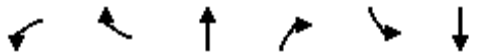
Intersection Summary			
Delay	7.2		
Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	61	27	28	22	9	20
Future Volume (vph)	61	27	28	22	9	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	66	29	30	24	10	22

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	95	54	32
Volume Left (vph)	66	0	10
Volume Right (vph)	0	24	22
Hadj (s)	0.17	-0.23	-0.32
Departure Headway (s)	4.2	3.8	3.9
Degree Utilization, x	0.11	0.06	0.03
Capacity (veh/h)	846	924	881
Control Delay (s)	7.7	7.1	7.0
Approach Delay (s)	7.7	7.1	7.0
Approach LOS	A	A	A

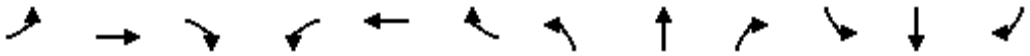
Intersection Summary			
Delay	7.4		
Level of Service	A		
Intersection Capacity Utilization	21.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	80	0	27	9
Future Volume (Veh/h)	0	0	80	0	27	9
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	87	0	29	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						90
pX, platoon unblocked						
vC, conflicting volume	155	87			87	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	155	87			87	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			98	
cM capacity (veh/h)	820	971			1509	

Direction, Lane #	NB 1	SB 1
Volume Total	87	39
Volume Left	0	29
Volume Right	0	0
cSH	1700	1509
Volume to Capacity	0.05	0.02
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	5.6
Lane LOS		A
Approach Delay (s)	0.0	5.6
Approach LOS		

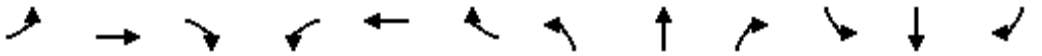
Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	12.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	7	0	0	0	0	0	28	0	0	17	0
Future Volume (Veh/h)	3	7	0	0	0	0	0	28	0	0	17	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	8	0	0	0	0	0	30	0	0	18	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	48	48	18	52	48	30	18			30		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	48	48	18	52	48	30	18			30		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	100	100	100	100			100		
cM capacity (veh/h)	953	844	1061	940	844	1044	1599			1583		

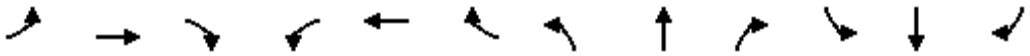
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	11	30	18
Volume Left	3	0	0
Volume Right	0	0	0
cSH	871	1700	1583
Volume to Capacity	0.01	0.02	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	9.2	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.2	0.0	0.0
Approach LOS	A		

Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			



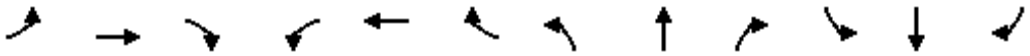
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	432	507	3	617	836	53	30	808	457	72	630	358
Future Volume (vph)	432	507	3	617	836	53	30	808	457	72	630	358
Ideal Flow (vphpl)	2500	2500	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	5.1		4.3	4.3	6.3	4.8	5.6	5.6	4.8	5.6	5.6
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	4430	4565		3335	3539	1509	1805	3539	1568	1703	3343	1524
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.25	1.00	1.00	0.15	1.00	1.00
Satd. Flow (perm)	4430	4565		3335	3539	1509	472	3539	1568	272	3343	1524
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)	470	551	3	671	909	58	33	878	497	78	685	389
RTOR Reduction (vph)	0	0	0	0	0	40	0	0	0	0	0	44
Lane Group Flow (vph)	470	554	0	671	909	18	33	878	497	78	685	345
Heavy Vehicles (%)	4%	4%	0%	5%	2%	7%	0%	2%	3%	6%	8%	6%
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	5	2		1	6		3	8	8 1	7	4	4 5
Permitted Phases						6	8			4		
Actuated Green, G (s)	37.9	37.9		68.9	68.9	68.9	85.4	78.4	147.3	85.4	78.4	123.4
Effective Green, g (s)	39.9	39.9		70.9	70.9	68.9	89.4	80.4	151.3	89.4	80.4	120.3
Actuated g/C Ratio	0.18	0.18		0.32	0.32	0.31	0.41	0.37	0.69	0.41	0.37	0.55
Clearance Time (s)	7.1	7.1		6.3	6.3	6.3	6.8	7.6		6.8	7.6	
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)	803	827		1074	1140	472	246	1293	1078	169	1221	833
v/s Ratio Prot	0.11	c0.12		0.20	c0.26		0.01	c0.25	0.32	c0.02	0.20	0.23
v/s Ratio Perm						0.01	0.05			0.17		
v/c Ratio	0.59	0.67		0.62	0.80	0.04	0.13	0.68	0.46	0.46	0.56	0.41
Uniform Delay, d1	82.5	83.9		63.3	68.0	52.5	60.9	58.9	15.7	78.8	55.7	29.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.20	1.07	1.24
Incremental Delay, d2	3.1	4.3		2.7	5.8	0.2	0.2	2.9	1.4	1.8	1.7	1.4
Delay (s)	85.6	88.2		66.0	73.8	52.7	61.1	61.8	17.1	96.6	61.5	37.5
Level of Service	F	F		E	E	D	E	E	B	F	E	D
Approach Delay (s)		87.0			69.9			46.0			55.8	
Approach LOS		F			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	63.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	77.1%	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												
Traffic Volume (vph)	19	920	16	47	1071	19	22	33	45	44	21	12
Future Volume (vph)	19	920	16	47	1071	19	22	33	45	44	21	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6		5.6	5.6		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	3498		1805	3400		1805	1592		1752	1763	
Flt Permitted	0.22	1.00		0.25	1.00		0.73	1.00		0.49	1.00	
Satd. Flow (perm)	379	3498		477	3400		1394	1592		909	1763	
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)	21	1000	17	51	1164	21	24	36	49	48	23	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	26	0	0	9	0
Lane Group Flow (vph)	21	1017	0	51	1185	0	24	59	0	48	27	0
Heavy Vehicles (%)	8%	3%	0%	0%	6%	0%	0%	5%	12%	3%	3%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			7			3	
Permitted Phases	2			6			7			3		
Actuated Green, G (s)	172.7	168.5		178.9	171.6		24.5	24.5		15.1	15.1	
Effective Green, g (s)	174.7	169.5		180.9	172.6		26.5	26.5		17.1	17.1	
Actuated g/C Ratio	0.79	0.77		0.82	0.78		0.12	0.12		0.08	0.08	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	331	2695		442	2667		167	191		70	137	
v/s Ratio Prot	0.00	0.29		c0.00	c0.35			c0.04			0.02	
v/s Ratio Perm	0.05			0.09			0.02			c0.05		
v/c Ratio	0.06	0.38		0.12	0.44		0.14	0.31		0.69	0.20	
Uniform Delay, d1	5.4	8.2		4.5	7.8		86.6	88.4		98.8	95.0	
Progression Factor	0.08	0.12		0.16	0.09		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.1	0.5		0.4	0.9		24.3	0.7	
Delay (s)	0.5	1.3		0.8	1.2		87.0	89.3		123.2	95.7	
Level of Service	A	A		A	A		F	F		F	F	
Approach Delay (s)		1.3			1.2			88.8			111.4	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



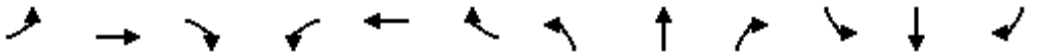
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	896	24	70	1264	5	45	19	85	19	5	38
Future Volume (vph)	23	896	24	70	1264	5	45	19	85	19	5	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	4.6		5.6	4.6			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.98	
Satd. Flow (prot)	1597	3494		1805	3405			1836	1615		1716	
Flt Permitted	0.15	1.00		0.24	1.00			0.97	1.00		0.98	
Satd. Flow (perm)	252	3494		456	3405			1836	1615		1716	
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)	25	974	26	76	1374	5	49	21	92	21	5	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	85	0	26	0
Lane Group Flow (vph)	25	1000	0	76	1379	0	0	70	7	0	41	0
Heavy Vehicles (%)	13%	3%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		4	4		7	7	
Permitted Phases	2			6					4			
Actuated Green, G (s)	157.7	151.9		162.5	154.3			13.7	13.7		11.0	
Effective Green, g (s)	159.7	153.9		164.5	156.3			15.7	15.7		13.0	
Actuated g/C Ratio	0.73	0.70		0.75	0.71			0.07	0.07		0.06	
Clearance Time (s)	6.6	6.6		6.6	6.6			6.5	6.5		6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	224	2444		397	2419			131	115		101	
v/s Ratio Prot	0.00	0.29		c0.01	c0.41			c0.04			c0.02	
v/s Ratio Perm	0.08			0.13					0.00			
v/c Ratio	0.11	0.41		0.19	0.57			0.53	0.06		0.40	
Uniform Delay, d1	11.6	13.9		9.0	15.5			98.6	95.2		99.8	
Progression Factor	0.33	0.24		1.84	1.27			1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.5		0.2	0.8			4.1	0.2		2.6	
Delay (s)	4.0	3.9		16.7	20.5			102.8	95.5		102.4	
Level of Service	A	A		B	C			F	F		F	
Approach Delay (s)		3.9			20.3			98.6			102.4	
Approach LOS		A			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	993	8	0	1339	0	7
Future Volume (Veh/h)	993	8	0	1339	0	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1079	9	0	1455	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	173			384		
pX, platoon unblocked			0.88		0.85	0.88
vC, conflicting volume			1088		1811	544
vC1, stage 1 conf vol					1084	
vC2, stage 2 conf vol					728	
vCu, unblocked vol			826		969	208
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			704		330	702

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	719	369	728	728	8
Volume Left	0	0	0	0	0
Volume Right	0	9	0	0	8
cSH	1700	1700	1700	1700	702
Volume to Capacity	0.42	0.22	0.43	0.43	0.01
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	10.2
Lane LOS					B
Approach Delay (s)	0.0		0.0		10.2
Approach LOS					B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	784	81	38	1145	29	82	0	20	57	0	57
Future Volume (vph)	44	784	81	38	1145	29	82	0	20	57	0	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		5.0	5.2			6.2	6.2		6.2	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1805	3459		1770	3429			1770	1583		1805	1615
Flt Permitted	0.15	1.00		0.26	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	293	3459		480	3429			1770	1583		1805	1615
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)	48	852	88	41	1245	32	89	0	22	62	0	62
RTOR Reduction (vph)	0	3	0	0	1	0	0	0	20	0	0	56
Lane Group Flow (vph)	48	937	0	41	1276	0	0	89	2	0	62	6
Heavy Vehicles (%)	0%	3%	2%	2%	5%	0%	2%	2%	2%	0%	2%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases	2			6					4			3
Actuated Green, G (s)	151.4	143.9		148.2	142.3			24.8	24.8		21.8	21.8
Effective Green, g (s)	153.4	144.9		148.2	143.3			24.8	24.8		21.8	21.8
Actuated g/C Ratio	0.70	0.66		0.67	0.65			0.11	0.11		0.10	0.10
Clearance Time (s)	5.0	6.2		5.0	6.2			6.2	6.2		6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	262	2278		357	2233			199	178		178	160
v/s Ratio Prot	c0.01	0.27		0.00	c0.37			c0.05			c0.03	
v/s Ratio Perm	0.12			0.07					0.00			0.00
v/c Ratio	0.18	0.41		0.11	0.57			0.45	0.01		0.35	0.04
Uniform Delay, d1	14.9	17.6		13.1	21.3			91.2	86.7		92.5	89.6
Progression Factor	0.72	0.99		1.39	1.99			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.5		0.1	0.9			7.1	0.1		5.3	0.4
Delay (s)	11.1	18.0		18.4	43.3			98.3	86.9		97.8	90.1
Level of Service	B	B		B	D			F	F		F	F
Approach Delay (s)		17.6			42.5			96.0			93.9	
Approach LOS		B			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	855	5	49	1233	23	19
Future Volume (Veh/h)	855	5	49	1233	23	19
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	929	5	53	1340	25	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	378			458		
pX, platoon unblocked			0.88		0.81	0.88
vC, conflicting volume			934		1708	467
vC1, stage 1 conf vol					932	
vC2, stage 2 conf vol					776	
vCu, unblocked vol			642		725	109
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			94		94	97
cM capacity (veh/h)			822		403	809

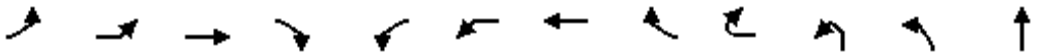
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	619	315	53	670	670	46
Volume Left	0	0	53	0	0	25
Volume Right	0	5	0	0	0	21
cSH	1700	1700	822	1700	1700	523
Volume to Capacity	0.36	0.19	0.06	0.39	0.39	0.09
Queue Length 95th (ft)	0	0	5	0	0	7
Control Delay (s)	0.0	0.0	9.7	0.0	0.0	12.5
Lane LOS			A			B
Approach Delay (s)	0.0		0.4			12.5
Approach LOS						B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	874	0	0	1282	0	44
Future Volume (Veh/h)	874	0	0	1282	0	44
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	950	0	0	1393	0	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	536			300		
pX, platoon unblocked			0.88		0.81	0.88
vC, conflicting volume			950		1646	475
vC1, stage 1 conf vol					950	
vC2, stage 2 conf vol					696	
vCu, unblocked vol			665		651	123
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	94
cM capacity (veh/h)			808		403	794

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	475	475	696	696	48
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	48
cSH	1700	1700	1700	1700	794
Volume to Capacity	0.28	0.28	0.41	0.41	0.06
Queue Length 95th (ft)	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	9.8
Lane LOS					A
Approach Delay (s)	0.0		0.0		9.8
Approach LOS					A

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		

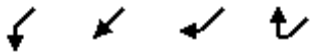


Movement	EBL2	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT
Lane Configurations												
Traffic Volume (vph)	4	73	19	3	1	4	26	10	15	5	8	4
Future Volume (vph)	4	73	19	3	1	4	26	10	15	5	8	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.0				5.0					5.0
Lane Util. Factor			1.00				1.00					1.00
Frt			1.00				0.94					0.95
Flt Protected			0.96				1.00					0.98
Satd. Flow (prot)			1444				1769					1756
Flt Permitted			0.96				1.00					0.84
Satd. Flow (perm)			1444				1769					1518
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)	4	79	21	3	1	4	28	11	16	5	9	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	107	0	0	0	60	0	0	0	0	30
Heavy Vehicles (%)	100%	0%	100%	100%	0%	7%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Split	NA		Perm	Split	NA			Perm	Perm	NA
Protected Phases		3	3			4	4					7
Permitted Phases	3				4					7	7	
Actuated Green, G (s)			20.1				12.9					8.6
Effective Green, g (s)			21.6				14.4					10.1
Actuated g/C Ratio			0.10				0.07					0.05
Clearance Time (s)			6.5				6.5					6.5
Vehicle Extension (s)			3.0				3.0					3.0
Lane Grp Cap (vph)			141				115					69
v/s Ratio Prot			c0.07				c0.03					
v/s Ratio Perm												c0.02
v/c Ratio			0.76				0.52					0.43
Uniform Delay, d1			96.7				99.5					102.2
Progression Factor			1.00				1.00					1.00
Incremental Delay, d2			20.6				4.2					4.3
Delay (s)			117.3				103.7					106.5
Level of Service			F				F					F
Approach Delay (s)			117.3				103.7					106.5
Approach LOS			F				F					F

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	25.7
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBR	SBL2	SBL	SBT	SBR	SBR2	NEL2	NEL	NET	NER	NER2	SWL2
Lane Configurations												
Traffic Volume (vph)	11	17	7	6	5	1	5	5	831	51	11	3
Future Volume (vph)	11	17	7	6	5	1	5	5	831	51	11	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.0	5.0				5.6	5.1			
Lane Util. Factor			1.00	1.00				1.00	0.95			
Frt			1.00	0.93				1.00	0.99			
Flt Protected			0.95	1.00				0.95	1.00			
Satd. Flow (prot)			1805	1768				1778	3573			
Flt Permitted			0.77	1.00				0.12	1.00			
Satd. Flow (perm)			1461	1768				219	3573			
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)	12	18	8	7	5	1	5	5	903	55	12	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	26	13	0	0	0	10	970	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%
Turn Type		Perm	Perm	NA			custom	pm+pt	NA			pm+pt
Protected Phases				7				1	6			5
Permitted Phases		7	7				1	6				2
Actuated Green, G (s)			8.6	8.6				141.9	139.3			
Effective Green, g (s)			10.1	10.1				144.9	141.3			
Actuated g/C Ratio			0.05	0.05				0.66	0.64			
Clearance Time (s)			6.5	6.5				7.1	7.1			
Vehicle Extension (s)			3.0	3.0				3.0	4.0			
Lane Grp Cap (vph)			67	81				173	2294			
v/s Ratio Prot				0.01				0.00	0.27			
v/s Ratio Perm			0.02					0.04				
v/c Ratio			0.39	0.16				0.06	0.42			
Uniform Delay, d1			101.9	100.9				18.5	19.3			
Progression Factor			1.00	1.00				1.23	0.75			
Incremental Delay, d2			3.7	0.9				0.1	0.5			
Delay (s)			105.6	101.8				22.9	15.1			
Level of Service			F	F				C	B			
Approach Delay (s)				104.4					15.2			
Approach LOS				F					B			

Intersection Summary



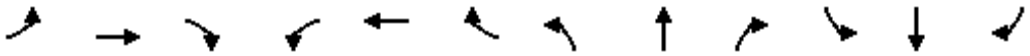
Movement	SWL	SWT	SWR	SWR2
Lane Configurations				
Traffic Volume (vph)	18	1268	68	14
Future Volume (vph)	18	1268	68	14
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.6	5.1		
Lane Util. Factor	1.00	0.95		
Frt	1.00	0.99		
Flt Protected	0.95	1.00		
Satd. Flow (prot)	1805	3499		
Flt Permitted	0.24	1.00		
Satd. Flow (perm)	448	3499		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	1378	74	15
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	23	1467	0	0
Heavy Vehicles (%)	0%	2%	7%	0%
Turn Type	pm+pt	NA		
Protected Phases	5	2		
Permitted Phases	2			
Actuated Green, G (s)	147.5	142.1		
Effective Green, g (s)	150.5	144.1		
Actuated g/C Ratio	0.68	0.65		
Clearance Time (s)	7.1	7.1		
Vehicle Extension (s)	3.0	4.0		
Lane Grp Cap (vph)	349	2291		
v/s Ratio Prot	c0.00	c0.42		
v/s Ratio Perm	0.04			
v/c Ratio	0.07	0.64		
Uniform Delay, d1	13.1	22.6		
Progression Factor	1.00	1.00		
Incremental Delay, d2	0.1	1.4		
Delay (s)	13.2	23.9		
Level of Service	B	C		
Approach Delay (s)		23.8		
Approach LOS		C		

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	48	12	60	9	8	54
Future Volume (Veh/h)	48	12	60	9	8	54
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	52	13	65	10	9	59
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						366
pX, platoon unblocked						
vC, conflicting volume	147	70			75	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	147	70			75	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	99			99	
cM capacity (veh/h)	840	993			1524	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	65	75	68
Volume Left	52	0	9
Volume Right	13	10	0
cSH	1050	1700	1524
Volume to Capacity	0.06	0.04	0.01
Queue Length 95th (ft)	5	0	0
Control Delay (s)	9.4	0.0	1.0
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	1.0
Approach LOS	A		

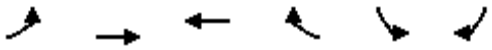
Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	4	3	21	21	7	5	83	20	5	79	13
Future Volume (vph)	11	4	3	21	21	7	5	83	20	5	79	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	4	3	23	23	8	5	90	22	5	86	14

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	19	54	117	105
Volume Left (vph)	12	23	5	5
Volume Right (vph)	3	8	22	14
Hadj (s)	0.07	0.03	-0.07	-0.04
Departure Headway (s)	4.5	4.4	4.1	4.2
Degree Utilization, x	0.02	0.07	0.13	0.12
Capacity (veh/h)	754	761	850	846
Control Delay (s)	7.6	7.8	7.7	7.7
Approach Delay (s)	7.6	7.8	7.7	7.7
Approach LOS	A	A	A	A

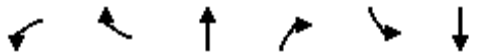
Intersection Summary				
Delay	7.7			
Level of Service	A			
Intersection Capacity Utilization	17.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	22	9	16	19	13	27
Future Volume (vph)	22	9	16	19	13	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	10	17	21	14	29

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	34	38	43
Volume Left (vph)	24	0	14
Volume Right (vph)	0	21	29
Hadj (s)	0.18	-0.30	-0.31
Departure Headway (s)	4.2	3.7	3.7
Degree Utilization, x	0.04	0.04	0.04
Capacity (veh/h)	842	949	932
Control Delay (s)	7.4	6.9	6.9
Approach Delay (s)	7.4	6.9	6.9
Approach LOS	A	A	A

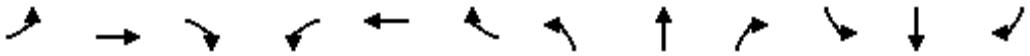
Intersection Summary			
Delay	7.0		
Level of Service	A		
Intersection Capacity Utilization	18.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	102	0	74	46
Future Volume (Veh/h)	0	0	102	0	74	46
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	111	0	80	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						90
pX, platoon unblocked	0.99					
vC, conflicting volume	321	111			111	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	313	111			111	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			95	
cM capacity (veh/h)	639	942			1479	

Direction, Lane #	NB 1	SB 1
Volume Total	111	130
Volume Left	0	80
Volume Right	0	0
cSH	1700	1479
Volume to Capacity	0.07	0.05
Queue Length 95th (ft)	0	4
Control Delay (s)	0.0	4.8
Lane LOS		A
Approach Delay (s)	0.0	4.8
Approach LOS		

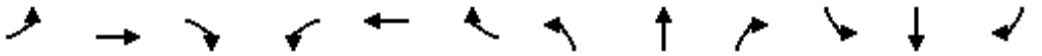
Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	16.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	44	1	0	0	0	0	24	0	0	54	0
Future Volume (Veh/h)	18	44	1	0	0	0	0	24	0	0	54	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	48	1	0	0	0	0	26	0	0	59	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	85	85	59	110	85	26	59			26		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	85	85	59	110	85	26	59			26		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	94	100	100	100	100	100			100		
cM capacity (veh/h)	901	805	1007	828	805	1050	1545			1588		

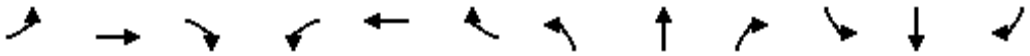
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	69	26	59
Volume Left	20	0	0
Volume Right	1	0	0
cSH	833	1700	1588
Volume to Capacity	0.08	0.02	0.00
Queue Length 95th (ft)	7	0	0
Control Delay (s)	9.7	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.7	0.0	0.0
Approach LOS	A		

Intersection Summary				
Average Delay	4.4			
Intersection Capacity Utilization	13.4%	ICU Level of Service	A	
Analysis Period (min)	15			



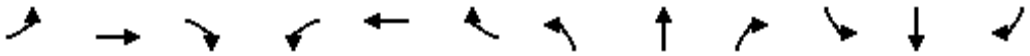
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	433	552	74	638	953	36	34	617	524	49	949	470
Future Volume (vph)	433	552	74	638	953	36	34	617	524	49	949	470
Ideal Flow (vphpl)	2500	2500	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	5.1		4.3	4.3	6.3	4.8	5.6	5.6	4.8	5.6	5.6
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	4430	4507		3335	3539	1509	1805	3539	1568	1703	3343	1524
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.09	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	4430	4507		3335	3539	1509	168	3539	1568	459	3343	1524
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)	471	600	80	693	1036	39	37	671	570	53	1032	511
RTOR Reduction (vph)	0	5	0	0	0	27	0	0	0	0	0	30
Lane Group Flow (vph)	471	675	0	693	1036	12	37	671	570	53	1032	481
Heavy Vehicles (%)	4%	4%	0%	5%	2%	7%	0%	2%	3%	6%	8%	6%
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	5	2		1	6		3	8	8 1	7	4	4 5
Permitted Phases						6	8			4		
Actuated Green, G (s)	37.9	37.9		68.9	68.9	68.9	85.4	78.4	147.3	85.4	78.4	123.4
Effective Green, g (s)	39.9	39.9		70.9	70.9	68.9	89.4	80.4	151.3	89.4	80.4	120.3
Actuated g/C Ratio	0.18	0.18		0.32	0.32	0.31	0.41	0.37	0.69	0.41	0.37	0.55
Clearance Time (s)	7.1	7.1		6.3	6.3	6.3	6.8	7.6		6.8	7.6	
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)	803	817		1074	1140	472	135	1293	1078	237	1221	833
v/s Ratio Prot	0.11	c0.15		0.21	c0.29		c0.01	0.19	0.36	0.01	c0.31	0.32
v/s Ratio Perm						0.01	0.10			0.08		
v/c Ratio	0.59	0.83		0.65	0.91	0.03	0.27	0.52	0.53	0.22	0.85	0.58
Uniform Delay, d1	82.5	86.7		63.8	71.5	52.3	84.0	54.7	16.9	62.1	64.1	33.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.08	1.05	1.11
Incremental Delay, d2	3.1	9.4		3.0	12.1	0.1	1.1	1.5	1.9	0.4	6.4	2.5
Delay (s)	85.6	96.1		66.8	83.6	52.4	85.1	56.1	18.7	67.2	73.8	39.2
Level of Service	F	F		E	F	D	F	E	B	E	E	D
Approach Delay (s)		91.8			76.3			40.3			62.5	
Approach LOS		F			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	67.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	906	11	48	1387	11	19	23	63	33	22	15
Future Volume (vph)	28	906	11	48	1387	11	19	23	63	33	22	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6		5.6	5.6		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.89		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	3500		1805	3403		1805	1536		1752	1754	
Flt Permitted	0.14	1.00		0.26	1.00		0.73	1.00		0.41	1.00	
Satd. Flow (perm)	246	3500		496	3403		1380	1536		762	1754	
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)	30	985	12	52	1508	12	21	25	68	36	24	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	52	0	0	11	0
Lane Group Flow (vph)	30	997	0	52	1520	0	21	41	0	36	29	0
Heavy Vehicles (%)	8%	3%	0%	0%	6%	0%	0%	5%	12%	3%	3%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			7			3	
Permitted Phases	2			6			7			3		
Actuated Green, G (s)	176.2	170.5		179.4	172.1		22.5	22.5		13.1	13.1	
Effective Green, g (s)	178.2	171.5		181.4	173.1		24.5	24.5		15.1	15.1	
Actuated g/C Ratio	0.81	0.78		0.82	0.79		0.11	0.11		0.07	0.07	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	242	2728		458	2677		153	171		52	120	
v/s Ratio Prot	0.00	0.28		c0.00	c0.45			c0.03			0.02	
v/s Ratio Perm	0.10			0.09			0.02			c0.05		
v/c Ratio	0.12	0.37		0.11	0.57		0.14	0.24		0.69	0.24	
Uniform Delay, d1	6.4	7.5		4.1	9.0		88.2	89.3		100.2	97.0	
Progression Factor	0.13	0.16		0.13	0.25		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3		0.1	0.7		0.4	0.7		33.0	1.0	
Delay (s)	1.0	1.5		0.6	2.9		88.6	90.0		133.1	98.1	
Level of Service	A	A		A	A		F	F		F	F	
Approach Delay (s)		1.5			2.8			89.8			114.7	
Approach LOS		A			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	20.7
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



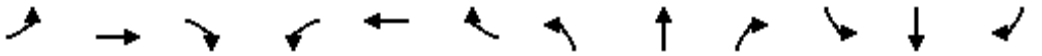
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	892	12	68	1522	7	10	10	98	23	4	32
Future Volume (vph)	14	892	12	68	1522	7	10	10	98	23	4	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	4.6		5.6	4.6			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.98	
Satd. Flow (prot)	1597	3499		1805	3404			1854	1615		1726	
Flt Permitted	0.10	1.00		0.25	1.00			0.98	1.00		0.98	
Satd. Flow (perm)	175	3499		472	3404			1854	1615		1726	
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)	15	970	13	74	1654	8	11	11	107	25	4	35
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	102	0	21	0
Lane Group Flow (vph)	15	983	0	74	1662	0	0	22	5	0	43	0
Heavy Vehicles (%)	13%	3%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		4	4		7	7	
Permitted Phases	2			6					4			
Actuated Green, G (s)	161.0	156.8		168.4	160.5			8.9	8.9		11.2	
Effective Green, g (s)	163.0	158.8		170.4	162.5			10.9	10.9		13.2	
Actuated g/C Ratio	0.74	0.72		0.77	0.74			0.05	0.05		0.06	
Clearance Time (s)	6.6	6.6		6.6	6.6			6.5	6.5		6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	163	2525		419	2514			91	80		103	
v/s Ratio Prot	0.00	0.28		c0.01	c0.49			c0.01			c0.03	
v/s Ratio Perm	0.07			0.13					0.00			
v/c Ratio	0.09	0.39		0.18	0.66			0.24	0.07		0.42	
Uniform Delay, d1	12.6	11.8		7.3	14.7			100.6	99.7		99.7	
Progression Factor	0.32	0.23		1.89	1.55			1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.4		0.2	1.1			1.4	0.4		2.8	
Delay (s)	4.3	3.1		14.0	23.8			102.0	100.0		102.5	
Level of Service	A	A		B	C			F	F		F	
Approach Delay (s)		3.1			23.4			100.4			102.5	
Approach LOS		A			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	24.2
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1002	10	0	1597	0	8
Future Volume (Veh/h)	1002	10	0	1597	0	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1089	11	0	1736	0	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	173			384		
pX, platoon unblocked			0.89		0.77	0.89
vC, conflicting volume			1100		1962	550
vC1, stage 1 conf vol					1094	
vC2, stage 2 conf vol					868	
vCu, unblocked vol			868		1015	251
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			688		316	667

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	726	374	868	868	9
Volume Left	0	0	0	0	0
Volume Right	0	11	0	0	9
cSH	1700	1700	1700	1700	667
Volume to Capacity	0.43	0.22	0.51	0.51	0.01
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	10.5
Lane LOS					B
Approach Delay (s)	0.0		0.0		10.5
Approach LOS					B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	921	89	46	1394	29	78	0	18	64	0	31
Future Volume (vph)	37	921	89	46	1394	29	78	0	18	64	0	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		5.0	5.2			6.2	6.2		6.2	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1805	3461		1770	3431			1770	1583		1805	1615
Flt Permitted	0.10	1.00		0.20	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	193	3461		374	3431			1770	1583		1805	1615
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)	40	1001	97	50	1515	32	85	0	20	70	0	34
RTOR Reduction (vph)	0	3	0	0	1	0	0	0	18	0	0	31
Lane Group Flow (vph)	40	1095	0	50	1546	0	0	85	2	0	70	3
Heavy Vehicles (%)	0%	3%	2%	2%	5%	0%	2%	2%	2%	0%	2%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases	2			6					4			3
Actuated Green, G (s)	148.1	142.2		151.5	143.9			24.8	24.8		21.8	21.8
Effective Green, g (s)	150.1	143.2		151.5	144.9			24.8	24.8		21.8	21.8
Actuated g/C Ratio	0.68	0.65		0.69	0.66			0.11	0.11		0.10	0.10
Clearance Time (s)	5.0	6.2		5.0	6.2			6.2	6.2		6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	182	2252		305	2259			199	178		178	160
v/s Ratio Prot	c0.01	0.32		0.01	c0.45			c0.05			c0.04	
v/s Ratio Perm	0.14			0.11					0.00			0.00
v/c Ratio	0.22	0.49		0.16	0.68			0.43	0.01		0.39	0.02
Uniform Delay, d1	19.3	19.6		13.7	23.3			91.0	86.7		92.9	89.5
Progression Factor	0.81	1.34		0.74	1.74			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.6	0.7		0.1	0.9			6.6	0.1		6.4	0.2
Delay (s)	16.2	26.9		10.3	41.6			97.6	86.9		99.3	89.7
Level of Service	B	C		B	D			F	F		F	F
Approach Delay (s)		26.5			40.6			95.5			96.2	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	998	5	55	1547	20	15
Future Volume (Veh/h)	998	5	55	1547	20	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1085	5	60	1682	22	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	378			458		
pX, platoon unblocked			0.84		0.64	0.84
vC, conflicting volume			1090		2048	545
vC1, stage 1 conf vol					1088	
vC2, stage 2 conf vol					961	
vCu, unblocked vol			727		374	79
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			92		94	98
cM capacity (veh/h)			733		361	812

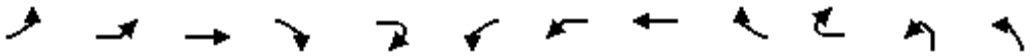
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	723	367	60	841	841	38
Volume Left	0	0	60	0	0	22
Volume Right	0	5	0	0	0	16
cSH	1700	1700	733	1700	1700	471
Volume to Capacity	0.43	0.22	0.08	0.49	0.49	0.08
Queue Length 95th (ft)	0	0	7	0	0	7
Control Delay (s)	0.0	0.0	10.4	0.0	0.0	13.3
Lane LOS			B			B
Approach Delay (s)	0.0		0.4			13.3
Approach LOS						B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1013	0	0	1602	0	42
Future Volume (Veh/h)	1013	0	0	1602	0	42
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1101	0	0	1741	0	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)	536			300		
pX, platoon unblocked			0.84		0.63	0.84
vC, conflicting volume			1101		1972	550
vC1, stage 1 conf vol					1101	
vC2, stage 2 conf vol					870	
vCu, unblocked vol			744		256	89
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	94
cM capacity (veh/h)			724		415	800

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	550	550	870	870	46
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	46
cSH	1700	1700	1700	1700	800
Volume to Capacity	0.32	0.32	0.51	0.51	0.06
Queue Length 95th (ft)	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	9.8
Lane LOS					A
Approach Delay (s)	0.0		0.0		9.8
Approach LOS					A

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL
Lane Configurations												
Traffic Volume (vph)	5	61	31	4	2	1	4	30	12	5	18	16
Future Volume (vph)	5	61	31	4	2	1	4	30	12	5	18	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.0					5.0				
Lane Util. Factor			1.00					1.00				
Frt			0.99					0.96				
Flt Protected			0.97					1.00				
Satd. Flow (prot)			1300					1800				
Flt Permitted			0.97					1.00				
Satd. Flow (perm)			1300					1800				
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)	5	66	34	4	2	1	4	33	13	5	20	17
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	111	0	0	0	0	56	0	0	0	0
Heavy Vehicles (%)	100%	0%	100%	100%	100%	0%	7%	0%	0%	0%	0%	0%
Turn Type	Perm	Split	NA			Perm	Split	NA			Perm	Perm
Protected Phases		3	3				4	4				
Permitted Phases	3					4					7	7
Actuated Green, G (s)			21.5					12.3				
Effective Green, g (s)			23.0					13.8				
Actuated g/C Ratio			0.10					0.06				
Clearance Time (s)			6.5					6.5				
Vehicle Extension (s)			3.0					3.0				
Lane Grp Cap (vph)			135					112				
v/s Ratio Prot			c0.09					c0.03				
v/s Ratio Perm												
v/c Ratio			0.82					0.50				
Uniform Delay, d1			96.5					99.8				
Progression Factor			1.00					1.00				
Incremental Delay, d2			31.5					3.5				
Delay (s)			128.0					103.2				
Level of Service			F					F				
Approach Delay (s)			128.0					103.2				
Approach LOS			F					F				

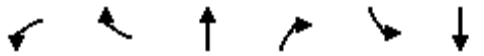
Intersection Summary			
HCM 2000 Control Delay	44.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	25.7
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBT	NBR	SBL2	SBL	SBT	SBR	SBR2	NEL2	NEL	NET	NER	NER2
Lane Configurations												
Traffic Volume (vph)	20	38	11	1	6	2	2	12	12	856	33	9
Future Volume (vph)	20	38	11	1	6	2	2	12	12	856	33	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0	5.0				5.6	5.1		
Lane Util. Factor	1.00			1.00	1.00				1.00	0.95		
Frt	0.94			1.00	0.95				1.00	0.99		
Flt Protected	0.98			0.95	1.00				0.95	1.00		
Satd. Flow (prot)	1762			1805	1796				1778	3584		
Flt Permitted	0.87			0.49	1.00				0.03	1.00		
Satd. Flow (perm)	1568			934	1796				62	3584		
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)	22	41	12	1	7	2	2	13	13	930	36	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	100	0	0	13	11	0	0	0	26	976	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%
Turn Type	NA		Perm	Perm	NA			custom	pm+pt	NA		
Protected Phases	7				7				1	6		
Permitted Phases			7	7				1	6			
Actuated Green, G (s)	17.8			17.8	17.8				134.8	129.2		
Effective Green, g (s)	19.3			19.3	19.3				137.8	131.2		
Actuated g/C Ratio	0.09			0.09	0.09				0.63	0.60		
Clearance Time (s)	6.5			6.5	6.5				7.1	7.1		
Vehicle Extension (s)	3.0			3.0	3.0				3.0	4.0		
Lane Grp Cap (vph)	137			81	157				94	2137		
v/s Ratio Prot					0.01				c0.01	0.27		
v/s Ratio Perm	c0.06			0.01					0.16			
v/c Ratio	0.73			0.16	0.07				0.28	0.46		
Uniform Delay, d1	97.8			92.9	92.1				39.1	24.6		
Progression Factor	1.00			1.00	1.00				2.52	1.02		
Incremental Delay, d2	17.6			0.9	0.2				1.5	0.6		
Delay (s)	115.4			93.8	92.3				100.0	25.7		
Level of Service	F			F	F				F	C		
Approach Delay (s)	115.4				93.1					27.7		
Approach LOS	F				F					C		

Intersection Summary

Movement	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations					
Traffic Volume (vph)	5	17	1576	93	5
Future Volume (vph)	5	17	1576	93	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)		5.6	5.1		
Lane Util. Factor		1.00	0.95		
Frt		1.00	0.99		
Flt Protected		0.95	1.00		
Satd. Flow (prot)		1805	3499		
Flt Permitted		0.23	1.00		
Satd. Flow (perm)		428	3499		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	18	1713	101	5
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	23	1819	0	0
Heavy Vehicles (%)	0%	0%	2%	7%	0%
Turn Type	pm+pt	pm+pt	NA		
Protected Phases	5	5	2		
Permitted Phases	2	2			
Actuated Green, G (s)		134.6	129.1		
Effective Green, g (s)		137.6	131.1		
Actuated g/C Ratio		0.63	0.60		
Clearance Time (s)		7.1	7.1		
Vehicle Extension (s)		3.0	4.0		
Lane Grp Cap (vph)		311	2085		
v/s Ratio Prot		0.00	c0.52		
v/s Ratio Perm		0.04			
v/c Ratio		0.07	0.87		
Uniform Delay, d1		17.8	37.4		
Progression Factor		1.00	1.00		
Incremental Delay, d2		0.1	5.4		
Delay (s)		17.9	42.8		
Level of Service		B	D		
Approach Delay (s)			42.5		
Approach LOS			D		

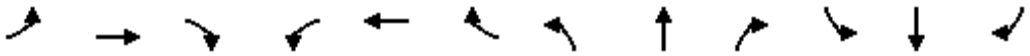
Intersection Summary



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	34	1	73	7	18	81
Future Volume (Veh/h)	34	1	73	7	18	81
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	1	79	8	20	88
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						366
pX, platoon unblocked						
vC, conflicting volume	211	83			87	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	211	83			87	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	100			99	
cM capacity (veh/h)	767	976			1509	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	38	87	108
Volume Left	37	0	20
Volume Right	1	8	0
cSH	788	1700	1509
Volume to Capacity	0.05	0.05	0.01
Queue Length 95th (ft)	4	0	1
Control Delay (s)	9.9	0.0	1.5
Lane LOS	A		A
Approach Delay (s)	9.9	0.0	1.5
Approach LOS	A		

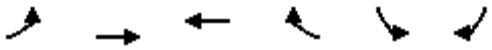
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	21.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	5	4	19	8	8	8	83	23	8	78	23
Future Volume (vph)	9	5	4	19	8	8	8	83	23	8	78	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	5	4	21	9	9	9	90	25	9	85	25

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	19	39	124	119
Volume Left (vph)	10	21	9	9
Volume Right (vph)	4	9	25	25
Hadj (s)	0.01	0.00	-0.07	-0.08
Departure Headway (s)	4.5	4.4	4.1	4.1
Degree Utilization, x	0.02	0.05	0.14	0.13
Capacity (veh/h)	756	755	857	863
Control Delay (s)	7.6	7.7	7.7	7.7
Approach Delay (s)	7.6	7.7	7.7	7.7
Approach LOS	A	A	A	A

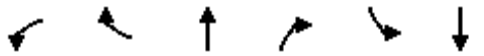
Intersection Summary				
Delay	7.7			
Level of Service	A			
Intersection Capacity Utilization	18.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	68	24	28	20	7	23
Future Volume (vph)	68	24	28	20	7	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	26	30	22	8	25

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	100	52	33
Volume Left (vph)	74	0	8
Volume Right (vph)	0	22	25
Hadj (s)	0.18	-0.22	-0.37
Departure Headway (s)	4.2	3.8	3.9
Degree Utilization, x	0.12	0.06	0.04
Capacity (veh/h)	844	919	891
Control Delay (s)	7.7	7.1	7.0
Approach Delay (s)	7.7	7.1	7.0
Approach LOS	A	A	A

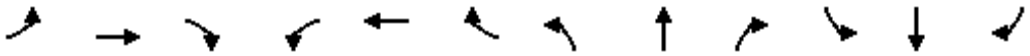
Intersection Summary			
Delay	7.4		
Level of Service	A		
Intersection Capacity Utilization	21.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	96	0	80	55
Future Volume (Veh/h)	0	0	96	0	80	55
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	104	0	87	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						90
pX, platoon unblocked	0.99					
vC, conflicting volume	338	104			104	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	328	104			104	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			94	
cM capacity (veh/h)	622	951			1488	

Direction, Lane #	NB 1	SB 1
Volume Total	104	147
Volume Left	0	87
Volume Right	0	0
cSH	1700	1488
Volume to Capacity	0.06	0.06
Queue Length 95th (ft)	0	5
Control Delay (s)	0.0	4.7
Lane LOS		A
Approach Delay (s)	0.0	4.7
Approach LOS		

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	17.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	42	2	0	0	0	0	18	0	0	60	0
Future Volume (Veh/h)	17	42	2	0	0	0	0	18	0	0	60	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	46	2	0	0	0	0	20	0	0	65	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	85	85	65	110	85	20	65			20		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	85	85	65	110	85	20	65			20		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	94	100	100	100	100	100			100		
cM capacity (veh/h)	901	805	999	829	805	1058	1537			1596		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	66	20	65
Volume Left	18	0	0
Volume Right	2	0	0
cSH	834	1700	1596
Volume to Capacity	0.08	0.01	0.00
Queue Length 95th (ft)	6	0	0
Control Delay (s)	9.7	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.7	0.0	0.0
Approach LOS	A		

Intersection Summary				
Average Delay	4.2			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			