Downtown Florence Parking Study

Conducted by:

CDM Smith

CDM Smith Inc.

Conducted for:

City of FLORENCE
SOUTH CAROLINA

The City of Florence
Florence, South Carolina

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CHAPTER 1: BACKGROUND

Introduction

Downtown Florence, South Carolina is undergoing a substantial transformation with several new projects having recently been completed, several that are under construction, and some that are in the advanced planning stage. These changes have lead city leaders to develop a comprehensive parking plan that will meet short and long terms needs. This study fulfills that need in that it identifies the number of short and long term parking spaces needed and where they should be located. Moreover, this study discusses parking management strategies that should be considered as downtown Florence continues to grow.

The purpose of this study is as follows:

- Determine appropriate parking generation rates for downtown Florence

- Develop a dynamic Excel-based parking model to estimate future parking needs

- Quantify short and long term parking needs

- Assess parking supply options necessary to meet the projected future parking needs

- Evaluation and make a recommendation on acceptable walking distances

- Present parking management options and discuss the benefits and drawbacks of each

Previous Study

As a part of the Cheves Street Parking Garage due diligence process, CDM Smith conducted a parking study and submitted a draft report in March 2015. That study was based on inventory and usage data collected in late-February 2014. It concluded that sufficient existing supply was available but that new developments would create a parking space deficit. A rapidly changing downtown development landscape and the construction of the Cheves Street Parking Garage necessitated that further parking planning efforts be suspended until a later date. More recently, the City of Florence Planning and Development Department conducted parking planning studies that resulted in a plan to add supply in strategic locations. This study affirms the results of that planning work. The Appendix includes the Cheves Street Parking Study Draft Report.

Study Area

The primary study area, as shown in **Figure 1**, consist of nine blocks bounded by Baroody Street on the north, Coit Street on the east, Palmetto Street on the south, and Baroody Street/ Railroad Avenue on the west. At present, the area consists of mainly restricted surface parking lots. Nearly half of the available on street parking spaces are 2-hour limited parking.   Land use is a mixture of institutional, residential, office, restaurant, and retail. Some of the more significant buildings include the Florence City-County Complex, Hotel Florence, Florence Museum, and the Francis Marion University Performing Arts facility.

STUDY AREA AND BLOCK DESIGNATION

Downtown Parking Study
Florence, South Carolina

LEGEND

Study Area and Block

Block Number

SCALE: 1" = 385'

N

FIGURE 1

CDM Smith

Existing Parking Inventory

Figure 2 illustrates the off street parking inventory in the study area. Some parking facilities (highlighted in yellow) no longer exist because of new developments. The new Judicial Center in Block 1, which is under construction, has displaced all of the surface lots in that block except two. Likewise, the Cheves Street Parking Garage and apartments eliminated three surface lots in Block 5. The garage's opening date, which is being driven by the apartment construction schedule, should be late fall 2016. The City of Florence developed a Dargan Service Alley surface parking lot in Block 3 that contains approximately 85 spaces. This facility, located behind the row of buildings along Dargan Street, will contain unrestricted parking spaces.

In 2014 there were 2,712 parking spaces in the study area with almost 88 percent in off street surface lots and the remaining 12 percent on the street. Today, 510 parking spaces have been taken out of service, leaving just over 2,200 if the facilities under construction are excluded. Streetscaping projects on Evans and Dargan Streets have left the on street inventory in a state of flux, but in 2014 there were about 235 spaces with 144 having a two-hour time limit, 122 having no restriction, and most of the remaining being reserved. While the Cheves Street Parking Garage is under construction, some of the angled parking spaces on Evans Street, just south of Dargan Street, is reserved for the Waters Building.
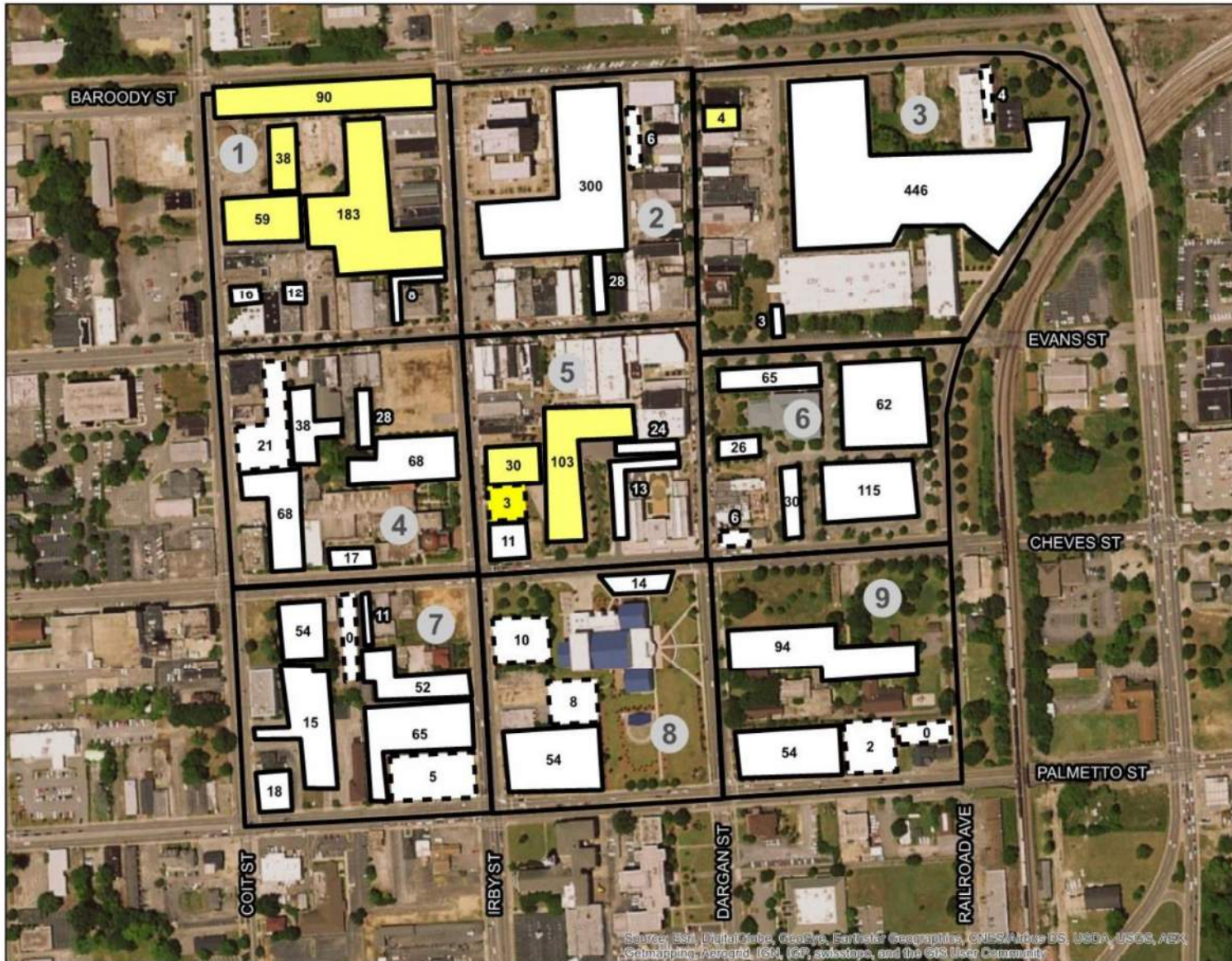
OFF STREET PARKING INVENTORY

**Downtown Parking Study
Florence, South Carolina**

LEGEND

Off Street Restricted Parking Lot

Off Street Unrestricted Parking Lot

No Longer Exists

30 Number of Spaces

6 Block Number

SCALE: 1" = 385'

FIGURE 2

CDM Smith

CHAPTER 2: NEW DEVELOPMENTS

Land use changes in downtown Florence were categorized as short term within the next 5 years or long term in the 5 to 10 year timeframe. For the purpose of this report, the short term developments are labeled as 2021 and the long term as 2026. Short term developments are either under construction or proposed with a high probability of being constructed. Long term projects were classified as speculative, and in each case, involved reuse of an existing building. Recently completed projects not in the short term list include the expansion of Hotel Florence, which added 18 news rooms and two new offices, and the occupancy of the 28,125 square foot Waters Building with 5 tenants.

Short Term Land Use Additions

Table 1 provides a list and description of the proposed new developments in downtown Florence and **Figure 3** illustrates their location. Most of the new development is in various stages of construction from site preparation for the Judicial Center to nearing completion for the Francis Marion University Health/Science Building.

Some of the Judicial Center activities are now occurring in the existing Florence County complex in Block 2. In fact, approximately 42,000 square feet of space in the existing County complex will be vacated by judicial functions and moved to the new complex. It is understood that this vacant space will be backfilled with other County functions resulting in a net neutral condition relative to parking demand. This understanding relies on the assumption that the normal judicial activities will generate approximately the same amount of parking demand as other county functions. The new Judicial Center will contain 120,000 square feet of space and hold 6 courtrooms and numerous courtroom administrative functions.

In addition to those projects listed in Table 1, the Business Technology Center (BTC) will be welcoming new tenants in fall 2016, consequently it will be leased at approximately 90 percent. A new Dialysis Center will operation 24 hours per day, 7 days per week. The BTC management projects the complex will house about 450 employees.

The 52,000 square foot Francis Marion University Health/Science Building will teach nurse practitioners, physician assistants, and 3rd and 4th year medical students. Initially, it will serve approximately 200 students plus facility and staff.

Long Term Land Use Additions

Table 2 provides a list and description of the longer term speculative developments in downtown Florence and **Figure 4** illustrates their location. All told, the speculative developments would add almost 104,000 square feet of occupied space to downtown Florence with approximately 41,000 square feet being retail and 45,000 being office space.

Table 1- 2021 Short Term Land Uses (Constructed & Proposed)

BLOCK NUMBER	LAND USE DESCRIPTION	PID	LAND USE CATEGORY	SIZE	UNITS
1	Judicial Center	90167-01-008	Government	120,000	SF
2	Kress Development[1]	90167-02-011	Office	23,432	SF
3	Art Trail Gallery[2]	90170-01-011	Retail	17,079	SF
3	Coffea Enterprises	90169-01-033	Residential	1	UNITS
3	Coffea Enterprises	90169-01-036	Retail	1,470	SF
4	FMU- Health\Science	90168-01-006	School	230	PEOPLE
5	Apartments & Deck	90168-02-037	Residential	85	UNITS
5	Key Architecture & Chamber	90168-02-014	Office	4,104	SF
6	Project Tulip -- Hotel	R/W	Hotel	114	ROOMS
6	Project Tulip -- Restaurant	R/W	Restaurant	12,000	SF

(1) Restaurant and Apartments as well

(2) Service and Office as well

Table 2- 2026 Long Term Land Uses (Speculative)

BLOCK NUMBER	LAND USE DESCRIPTION	PID	LAND USE CATEGORY	SIZE	UNITS
2	Carolina First	90167-02-001	Office	9,750	SF
2	Poston Partnership	90167-02-004	Retail	9,816	SF
2	Nofal Properties	90167-02-008	Retail	3,650	SF
2	Muhammed	90167-02-013	Restaurant	3,636	SF
2	Chinho Choe	90167-02-015	Restaurant	3,136	SF
2	155 Dargan LLC	90167-02-016	Office	5,360	SF
2	Greenburg 2	90167-02-017	Office	2,364	SF
2	Christina Pena	90167-02-018	Retail	1,722	SF
2	MGL Development	90167-02-020	Office	7,056	SF
2	Hatfield,Temple Law Firm	90167-02-030	Office	6,228	SF
2	Natalie Jones	90167-02-032	Retail	4,650	SF
3	Patel	90170-01-020	Retail	4,356	SF
3	Compass Land group	90170-01-026	Restaurant	5,490	SF
3	Cooper	90169-01-032	Retail	2,352	SF
3	Alvin Davis	90169-01-030	Restaurant	3,344	SF
3	Fernando	90170-01-009	Retail	1,584	SF
3	Lyerly	90170-01-027	Retail	1,227	SF
3	Lyerly 2	90170-01-007	Retail	1,498	SF
3	Lyerly 3	90170-01-006	Retail	3,654	SF
4	Claire Russell	90168-01-015	Retail	2,080	SF
4	Anna Gregg	90168-01-014	Retail	1,998	SF
7	T&W	90087-01-023	Retail	1,962	SF
7	Sandwhich Shop	90087-01-001	Restaurant	1,392	SF
7	231 restaurant	90087-01-010	Office	12,804	SF
7	Old Dentist office	90087-01-015	Office	1,460	SF
7	Richardson	90087-01-012	Storage	1,200	SF
			TOTAL	103,769	SF

Assumed Land Use for Spectulative Vacant Properties based on previous occupants.
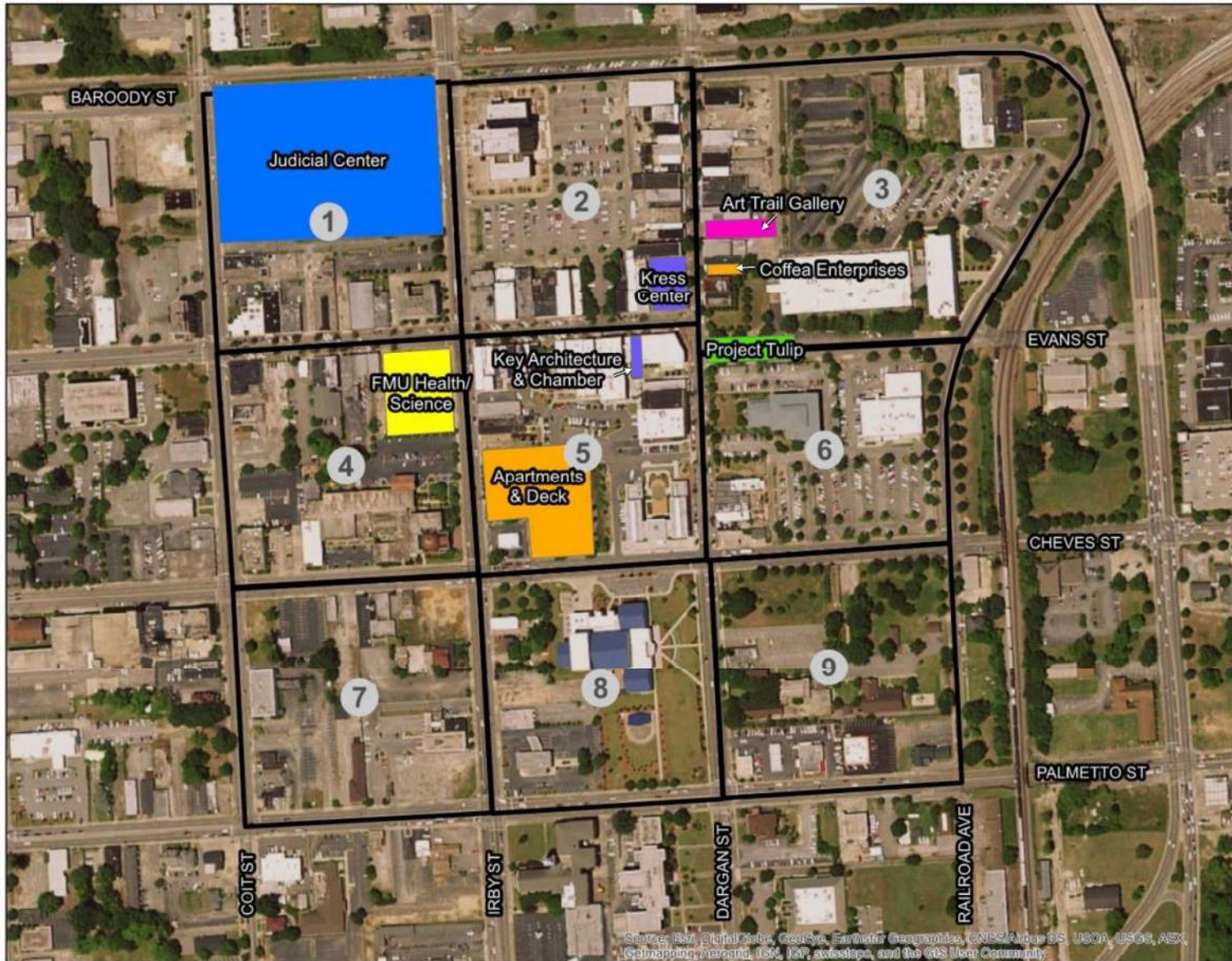
SHORT TERM (2021)
DEVELOPMENT
Downtown Parking Study
Florence, South Carolina

LEGEND

☐ Study Area

⑥ Block Number

DEVELOPMENT TYPE:

Government

Office

Residential

Retail

School

Hotel

SCALE: 1" = 385'

FIGURE 3

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LONG TERM (2026)
DEVELOPMENT
Downtown Parking Study
Florence, South Carolina

LEGEND

☐ Study Area

⑥ Block Number

DEVELOPMENT TYPE:

■ Office

■ Retail

■ Restaurant

■ Storage

SCALE: 1" = 385'

FIGURE 4

CDM Smith
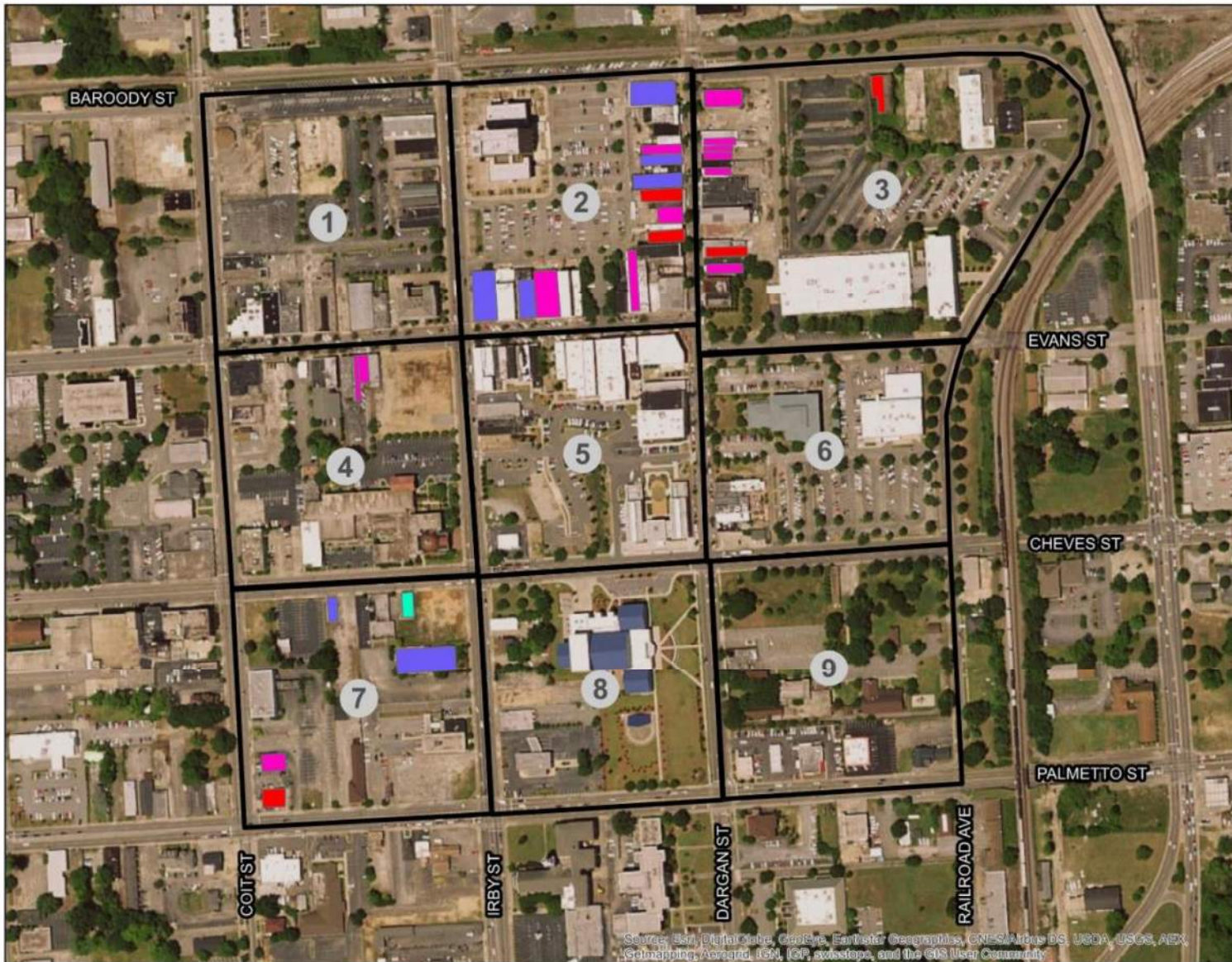
New Parking Supply- Short Term

The City of Florence is aggressively adding new parking supply to meet the growing need in the downtown area. This includes adding 2-hour on street spaces where room is available, adding the Cheves Street Parking Garage with 345 spaces, and utilizing existing surface lots that are underused. **Figure 5** depicts the location and number of spaces for the new parking facilities. The Judicial Center project will add approximately 200 restricted parking spaces and the City of Florence will have available 200 spaces in a redesigned BTC parking lot. Block 3, where the BTC is located, and its surrounding streets will realize the largest increase in parking supply with 469 spaces being added in the BTC lot and 3 separate other locations. Those 3 separate locations include construction of the 85 space City of Florence Dargan Service Alley parking lot that is now complete and 184 spaces on Baroody Street in two locations including 91 on the north edge of Block 3 and 93 on the east edge.
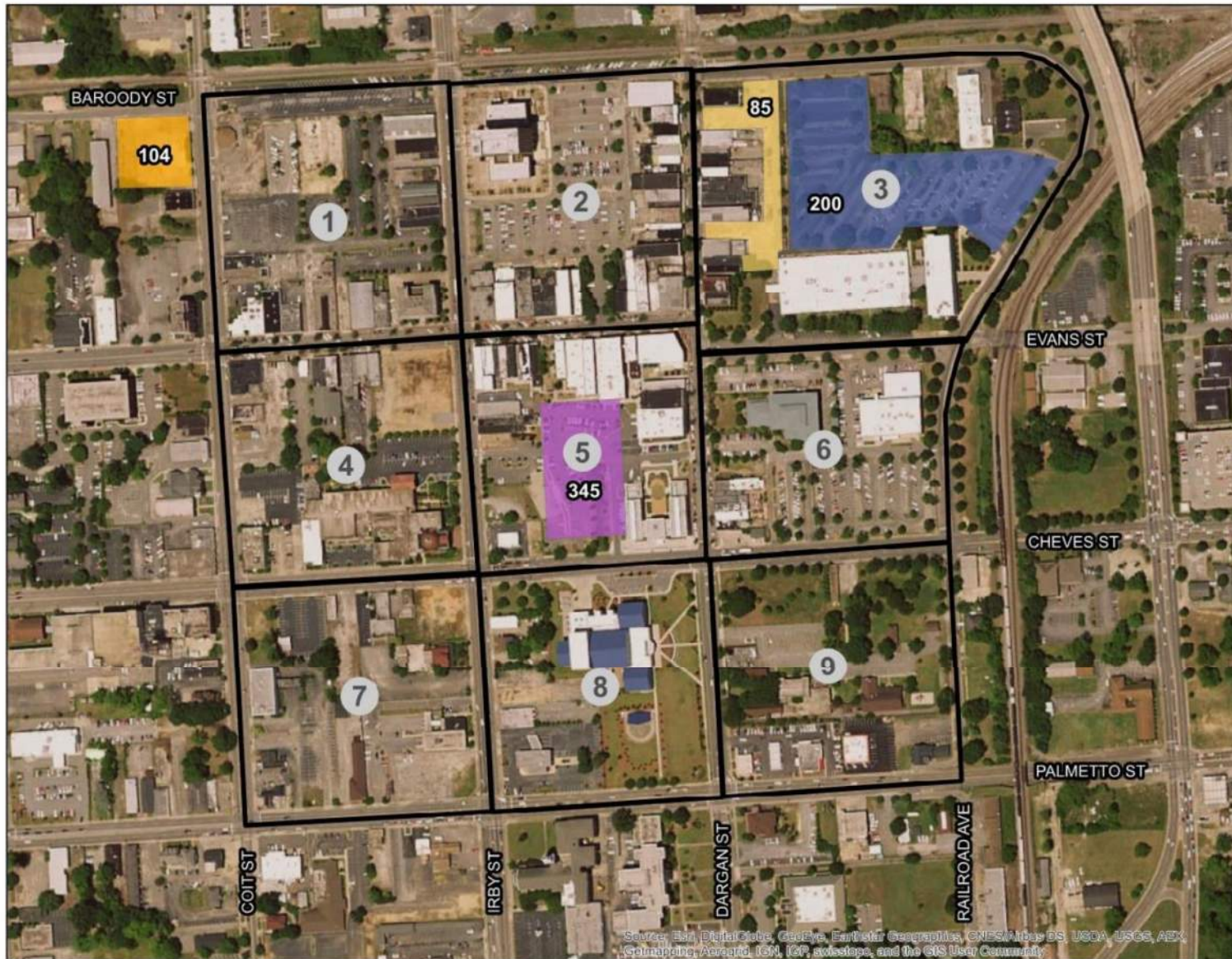
PROPOSED PARKING

Downtown Parking Study
Florence, South Carolina

LEGEND

1   Parking Spaces

6   Block Number

SCALE: 1" = 385'

FIGURE 5

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CHAPTER 3: PARKING DEMAND AND NEEDS

The weekday population of individuals who visit the study area and their mode of transportation influences parking space demand. Parking demand is a measure of the number of spaces necessary to accommodate those parkers destined to a given land area at a given time. Parking demand was calculated for each block within the study area based on the Excel Parking Demand model. Demand was then compared to an adjusted supply value to calculate a parking surplus or deficit for each block.

Parking Model

The parking model developed for downtown Florence was based on land use by block and parking generation rates that are unique to the study area. Existing land use data by land parcel were provided by the City of Florence's Planning and Development Department and that information is contained in the parking model. The Planning and Development Department also provided a set of parcel maps that are included in the Appendix.   The land use categories used for the parking model are: office, retail, bank, service, hotel, residential, restaurant, government, medical office, school (FMU Health/Science) church, warehouse, museum, and performing arts. The model was calibrated using parking usage data from the 2014 surveys and recent anecdotal information. This calibration methodology was necessary because so much of the downtown area is in a state of transition. As a part of the calibration process, CDM Smith set the building occupancy rate at 82 percent for all but one building. For the BTC, the occupancy rate was set at 39 percent to match the 2014 peak accumulation value of their parking lot and 2016 observations.

A base parking generation rate was recorded in the parking model in order to generate initial parking demand values. That rate was factored by a "Shared Parking Rate", which represents the reduction in parking demand associated with land uses that have different peak hours from the norm, or whose parking generation rate is impacted by the downtown setting. The overall peak parking demand in Florence occurs at 10:00 AM on a weekday. The Shared Parking Rate factor adjust the land uses' peak parking demand to a demand occurring at 10:00 AM. For example, a hotel's overall peak hour of parking demand is at approximately 6:00 AM so its 6:00 AM parking generation rate of 0.89 spaces per room was factored down by 0.82 to represent conditions at 10:00 AM.

Parking Generation Rates

After performing the parking model calibration process, the following parking generation rates were identified as appropriate for downtown Florence (BASE RATE/SHARED PARKING FACTOR/FINAL RATE):

- Office (Square Feet) : 2.50/1.00/2.50

- Retail: (Square Feet) 2.50/0.68/1.70

- Bank(Square Feet): 4.00/0.50/2.00

- Service(Square Feet): 1.40/0.70/0.98

- Hotel (Rooms): 0.89/0.82/0.73

- Residential (Units): 2.50/1.00/2.50

- Restaurant(Square Feet): 1.23/0.30/0.37

- Government(Square Feet): 1.64/1.00/1.64

- Medical Office(Square Feet): 1.97/1.00/1.97

- School (FMU Health/Science) (Population) : 0.35/1.00/0.35

- Church(Square Feet): 8.37/0.08/0.67

- Warehouse(Square Feet): 0.51/1.00/0.51

- Museum(Square Feet): 0.98/1.00/0.98

- Performing Arts (Seats): 0.25/0.08/0.02

Thus, proposed new downtown developments were placed into one of these land use categories and inserted into the model.

Walking Distance

Walking distance from a parking space to the parkers' destination as well as the quality of the walk is extremely important in downtown Florence. Generally, parkers with long durations like employees that work all day and rarely leave their employment location are willing to walk longer distances from their parking space to their place of employment. Conversely, parkers who are destined to downtown service-oriented land uses (a dry-cleaner, for example) demand short walks and conveniently located parking spaces. Office visitors and restaurant patrons usually are satisfied with moderate walks because their durations are usually 1 to 2 hours.

CDM Smith has performed numerous parking studies in Greenville, SC that included asking parkers their destination, which resulted in the ability to calculate walking distances. Overall, most Greenville parkers walked an average of 400 feet from their automobile to their destination. Workers walked slightly greater distances with the average length being about 450 feet. However, when considering just parking garage patrons, the average walking distance was about 650 feet. Those destined to restaurants walked even further with an average distance of approximately 900 feet. This speaks to the variety and popularity of restaurants in downtown Greenville and the fact that they are destinations in and of themselves.

Acceptable walking distances are relative, context sensitive, and depend on how compelling a venue or area is. Consequently, very popular destinations usually generate high parking demand with expensive parking and long walks. An article published in the May 2008 PARKING magazine sheds more light on the walking distance issue in Florence. It suggest that outdoor uncovered parking walks of 400 feet should be classified as Level of Service A. Level of Service B is a walking distance of 800 feet and LOS C is a walk of 1,200 feet.

For downtown Florence, short duration parkers will probably tolerate a walking distance of 400 to 600 feet or less, which is an approximately 1.5 to 2-minute walk at an average walking speed of 4 feet per second with no delay from traffic. Note that a city block in Florence is 575 to 610 feet long. Long duration parkers will probably accept an 800 to 1,200 foot walk, which is approximately 3.5 to 5.0 minutes.

Figure 6 illustrates the proposed new public parking facilities and the 400 to 800 foot straight-line catchment area of those.
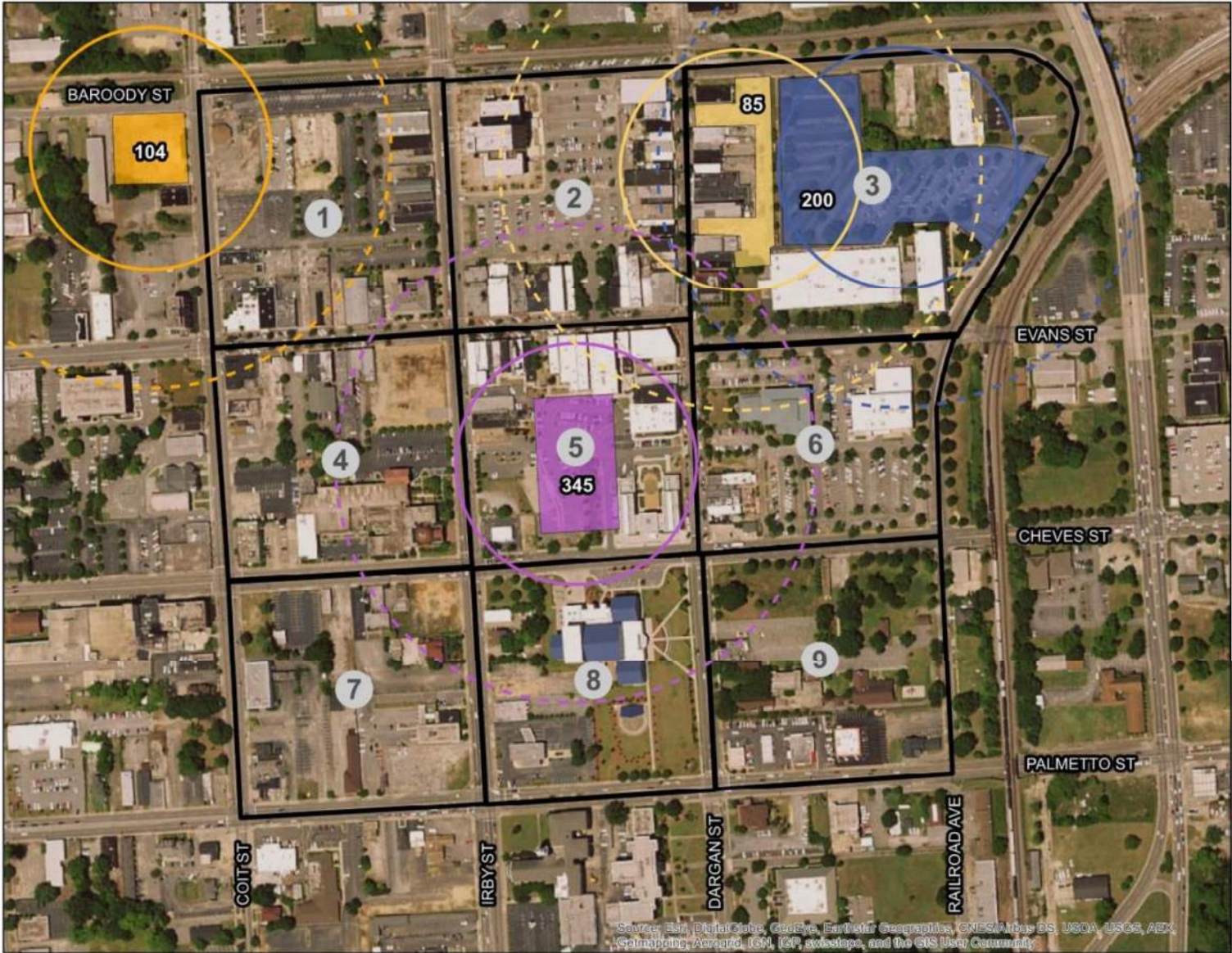
PARKING FACILITY
WALKING DISTANCES
Downtown Parking Study
Florence, South Carolina

LEGEND

◯ 400-foot walk radius

◌ 800-foot walk radius

1 Parking Spaces

6 Block Number

SCALE: 1" = 385'

FIGURE 6

CDM Smith

Existing Parking Needs

In May 2016 downtown Florence has a weekday peak parking demand of 1,232 spaces and an adjusted or practical supply of 1,238 spaces, resulting in a slight overall surplus. There are probably times when peak parking surges result in a slight deficit of parking, or a condition where it is difficult to find a convenient parking space. The City of Florence is relieving some of the current parking inconvenience by providing a pick-up and delivery shuttle service as an interim stopgap measure.   A block-by-block comparison of parking supply and demand is presented in **Table 3** and illustrated in **Figure 7**. Blocks 1 and 5 have a deficit of parking supply, primarily because there is significant land use and very little existing parking supply. Adjacent blocks can and do offset the shortfall in these two blocks and provide an acceptable level of convenience.

The adjusted supply in Table 3 is essentially a practical capacity value whereby on street parking is factored down by 10 percent and off street lots by 15 percent to account for inefficiencies as well as daily and seasonally usage variations. The adjusted supply calculations also take into consideration that private lots are not available to the general public, so excessive supply is not available to offset deficits created by land uses in other locations.

Short Term Parking Needs

Short term parking needs were projected for 2021 when all of the projects under construction and those that are proposed will be completed and operating at an optimum level. The consultant also assumed that buildings currently occupied at less than 100 percent would reach 100 percent by 2021. Finally, the parking lots proposed by the City were included in the analysis.

Table 4 and **Figure 8** summarize the results of the anticipated 2021 parking supply and demand conditions. Parking demand should increase by 909 spaces from 1,232 to 2,141, but supply will increase by 940 spaces leaving a net surplus of 37 parking spaces. Blocks 1, 2, and 4 should have a deficit of parking supply. Block 3 is projected to have a 132 space surplus and will be able to meet the needs of the study area provided acceptable walking distances can be achieved.

Long Term Parking Needs

Speculative developments will increase the parking demand by 249 from 2,141 to 2,390 parking spaces so there should be an overall deficit of 125 spaces in 2026 as shown in **Table 5**. **Figure 9** presents the 2026 supply and demand results in an illustration. Blocks 1, 2, and 4 should operate at a parking space deficit. Some of those needs can be met with surpluses in nearby blocks.

Table 3- 2016 Parking Space Supply and Demand

BLOCK NUMBER	ADJUSTED SUPPLY	DEMAND	SURPLUS	DEFICIENCY
1	44	154		110
2	328	259	69	
3	194	162	32	
4	159	114	45	
5	69	233		164
6	260	182	78	
7	61	46	15	
8	50	46	4	
9	73	36	37	
TOTAL	1238	1232	280	274

NET SURPLUS: 6

Table 4- 2021 Parking Space Supply and Demand

BLOCK NUMBER	ADJUSTED SUPPLY	DEMAND	SURPLUS	DEFICIENCY
1	233	385		152
2	338	375		37
3	602	470	132	
4	149	220		71
5	362	311	51	
6	268	223	45	
7	61	57	4	
8	92	56	36	
9	73	44	29	
TOTAL	2178	2141	297	260

NET SURPLUS: 37

Table 5- 2026 Parking Space Supply and Demand

BLOCK NUMBER	ADJUSTED SUPPLY	DEMAND	SURPLUS	DEFICIENCY
1	233	385		152
2	338	500		162
3	602	545	57	
4	149	227		78
5	362	311	51	
6	268	223	45	
7	148	99	49	
8	92	56	36	
9	73	44	29	
TOTAL	2265	2390	267	392

NET SURPLUS: -125

EXISTING (2016)
PARKING SPACE SURPLUS/ DEFICIT
Downtown Parking Study
Florence, South Carolina

LEGEND

Demand Met within Block

Demand Met from Outside Block

+/- XX   Surplus/ Deficit Value

6   Block Number

Overall Study Area Surplus: 6 Spaces

SCALE: 1" = 385'

FIGURE 7

CDM Smith

SHORT TERM (2021)
PARKING SPACE SURPLUS/ DEFICIT
Downtown Parking Study
Florence, South Carolina

LEGEND

Demand Met within Block

Demand Met from Outside Block

+/- XX   Surplus/ Deficit Value

6   Block Number

Overall Study Area Surplus: 37 Spaces

SCALE: 1" = 385'

FIGURE 8

CDM Smith

LONG TERM (2026)
PARKING SPACE SURPLUS/ DEFICIT
Downtown Parking Study
Florence, South Carolina

LEGEND

Demand Met Within Block

Demand Met from Outside Block

+/- XX   Surplus/ Deficit Value

6   Block Number

Overall Study Area Deficit: 125 Spaces

SCALE: 1" = 385'

N

FIGURE 9

CDM Smith

CHAPTER 4: CONCLUSIONS AND RECOMMENDATIONS

Summary of Short Term Development

The following is a list of short term developments and the number of parking spaces needed on a typical weekday morning:

- 120,000 square foot Judicial Center- 197 spaces on typical day

- Kress Development- 23,432 square feet mixed use- 59 spaces

- Key Architecture and Chamber- 4,104 square feet of office- 10 spaces

- Art Trail Gallery- 17,079 square feet of retail- 29 spaces

- Coffea Enterprises- 1,470 square feet of retail- 2 spaces

- Coffea Enterprises- 1 residential unit- 1 space

- 85 residential units- Cheves Street Parking Garage- 31 daytime spaces

- 114 room hotel with restaurant- 108 spaces

- 52,000 square foot FMU Health/Science- 81 spaces

Summary of Long Term Development

Long term speculative development is defined as infill of existing unoccupied buildings with primarily office, retail, and restaurant uses. Twenty-six building have been identified as having the potential for occupancy and those buildings total 103,769 square feet of space. The breakdown by use and the anticipated parking generation of each category is as follows:

- Office- 45,022 square feet in 7 buildings with a total weekday parking demand of 113 spaces

- Retail- 40,549 square feet in 13 buildings with a total weekday parking demand of 69 spaces

- Restaurant- 18,998 square feet in 5 buildings with a total weekday parking demand of 36 spaces

- Storage- 1,200 square feet in 1 building with a total weekday parking demand of 1 space

Summary of New Parking Facilities

A summary of the new parking facilities being added is shown below:

- Cheves Street Parking Garage in Block 5 with 345 spaces

- Judicial Center Parking Lot in Block 1 with 200 restricted spaces

- BTC reconfigured lot with 200 additional spaces for the City in Block 3

- 104 space lot on southwest corner of Baroody Street at Coit Street

- Dargan Service Alley parking lot with 85 spaces in Block 3

The total number of parking spaces that will be added is 934.

Summary of Parking Supply and Demand

The surplus or deficit of spaces in the following three scenarios is based on the projected land use changes and adding 934 new parking spaces. For analysis purposes, it was assumed that all of the new parking supply will be added in the short term by 2021.

- Existing (May 2016) - Net study area surplus of 6 spaces

- Short Term Future (2021) - Net study area surplus of 37 spaces

- Long Term Future (2026) - Net study area deficit of 125 spaces

The anticipated surplus of parking supply in the short term will allow the City of Florence to attract potential new developments with the assurance that their parking needs can be met at a good level of service.

Conclusions

The southern tier of blocks including Blocks 7, 8 and 9 are self-contained in terms of weekday parking because most buildings have their own parking supply that fully meets their needs. The exception is FMU's performing arts center, which has a small 14 space parking lot, but parking along Dargan Street should help meet its weekday parking need. Likewise, buildings in Block 6 all have their own parking lots that are more than sufficiently sized to meet their existing parking need. Project Tulip in Block 3 will generate parking demand that can be met with Block 3 supply. Blocks 1-5 will realize the largest amount of development in the foreseeable future and require the most parking spaces.

Blocks 1 and 2 are, or will be in the case of Block 1, characterized by large Florence County buildings plus significant office, retail, and restaurant space along commercial street corridors. The County buildings will take care of their own parking needs, except when surges occur in the Judicial Center, but the commercial development, when fully realized, will need off-site parking.

The walking distance analysis in Figure 6 suggest that most new developments will have some parking supply within an acceptable walking distance. New parking supply, however is skewed towards the northeast portion of the study area in Block 3. The Cheves Street Parking Garage is centrally located to meet the projected short term deficits in the surrounding Blocks 1, 2, and 4.

Figure 10 provides another perspective of the availability of parking for downtown Florence. Each land use for Blocks 1-6 is shown along with its peak parking demand. More importantly, the illustration depicts the number of parking spaces within a 400 foot walk of the land use. For example, the FMU Health/Science Building on Evans Street at Irby Street has a parking demand of 81 spaces and 929 parking spaces within a 400 foot walk.

AMOUNT OF PARKING SUPPLY NEAR DEMAND
Downtown Parking Study
Florence, South Carolina

LEGEND

Demand Locations

400-foot Buffer

Public Parking Lots

Black = Demand

Red = total Parking Within 400 Feet of Parking Lot

FIGURE 10

CDM Smith

Recommendations

A list of principal recommendations is provided below:

- The vast majority of on street parking spaces along Evans Street, Cheves Street, Coit Street, Irby Street, and Dargan Street should be marked with a 2-hour duration. Enforcement of the 2-hour duration spaces will need to continue. The greatest need for 2-hour time limited spaces is on Evans Street and Dargan Street.

- Parking meters are not recommended for probably the next 5-years, but their need should be reevaluated each year.

- Charging for parking is not recommended for the next 5-years in the public lots, parking garage, or on street.

- It is understood that a comprehensive downtown parking wayfinding program is being developed. CDM Smith fully supports this. It is extremely important for downtown visitors to know where they can park. This system will include the "P" parking symbol. The city should consider a parking website describing the location of downtown parking supply.

- Reserved parking spaces should be avoided to the extent possible.

- The new parking spaces along Baroody Street should be unrestricted and serve the Hotel Tulip project and downtown employees who should be able to tolerate a longer walking distance.

- When it opens in fall 2016, time restrictions or reserved spaces are not needed in the Cheves Street Parking Garage. However, as developments come on-line in downtown Florence, it will be necessary to place some restrictions on spaces in the Cheves Street Parking Garage. In the foreseeable future, it may need to contain primary short duration turnover parking spaces.

- By 2026, a 125-space deficit is anticipated if infill of vacant buildings occurs. That shortfall can be met by adding parking spaces along Baroody Street.

APPENDIX

Parking Study Block Map

Block 1
Block 2
Block 3
Block 4
Block 5
Block 6
Block 7
Block 8
Block 9

COURTHOUSE

LUCAS
CHURCH
EVANS
RAILROAD
DARGAN
N B BAROODY
COIT
EVANS
CHEVES
IRBY
PALMETTO
MCQUEEN
CHASE PARK

N

0 125 250   500   750   1,000 Feet

Parking Study Block 1

IRBY

COURTHOUSE

EVANS

N B BAROODY

NB BAROODY

COIT

90167-01-007

90167-01-006

90167-01-005

90167-01-008

90167-01-025

90167-01-004

90167-01-003

90167-01-027

90167-01-026

90167-01-023

90167-01-002

90167-01-001

N

0   65   130   260   390   520 Feet

Parking Study Block 2

90167-02-034

N B BAROODY

90167-02-020
90167-02-019
90167-02-033
90167-02-018
90167-02-017
90167-02-016
90167-02-015
90167-02-032
90167-02-014
90167-02-013
90167-02-035
90167-02-011
90167-02-009
90167-02-008

DARGAN

90167-02-007

COURTHOUSE

90167-02-006
90167-02-005
90167-02-004
90167-02-003
90167-02-030
90167-02-001

EVANS

IRBY

0 62.5 125 250 375 500 Feet

Parking Study Block 3

N B BAROODY

EVANS

DAMGAN

EVANS

90170-01-021
90170-01-022
90170-01-023
90170-01-024
90170-01-025
90170-01-026
90170-01-028
90169-01-041
90169-01-042
90169-01-002
90170-01-020
90170-01-004
90170-01-005
90170-01-006
90170-01-007
90170-01-027
90170-01-008
90170-01-009
90170-01-010
90170-01-011
90170-01-012
90169-01-030
90169-01-031
90169-01-032
90169-01-033
90169-01-034
90169-01-035
90169-01-038
90169-01-037
90169-01-039
90169-01-040

0   62.5   125   250   375   500 Feet

Parking Study Block 4

IRBY

EVANS

CHEVES

COIT

90168-01-006

90168-01-005

90168-01-025

90168-01-004

90168-01-003

90168-01-013

90168-01-015

90168-01-014

90168-01-016

90168-01-017

90168-01-018

90168-01-019

90168-01-026

90168-01-002

90168-01-028

90168-01-001

90168-01-022

90168-01-023

90168-01-021

0   62.5   125   250   375   500 Feet

Parking Study Block 5

N

EVANS

DARGAN

CHEVES

IRBY

EVANS

90168-02-013
90168-02-012
90168-02-011
90168-02-010
90168-02-009
90168-02-008
90168-02-007
90168-02-006
90168-02-039

90168-02-014
90168-02-040
90168-02-041
90168-02-015
90168-02-016
90168-02-042
90168-02-043
90168-02-038
90168-02-018
90168-02-044
90168-02-019
90168-02-045
90168-02-046
90168-02-037
90168-02-021
90168-02-022
90168-02-047
90168-02-033
90168-02-002
90168-02-022
90168-02-023
90168-02-024
90168-02-025
90168-02-029
90168-02-030
90168-02-031
90168-02-032
90168-02-036
90168-02-001
90168-02-026
90168-02-027
90168-02-028

0   62.5   125   250   375   500 Feet

Parking Study Block 6

RAILROAD

EVANS

CHEVES

DARGAN

90169-01-029

90169-01-013

90169-01-014

90169-01-015

90169-01-017

90169-01-044

90169-01-019

90169-01-043

90169-01-020

90169-01-021

90169-01-022

90169-01-023

90169-01-001

0   62.5   125   250   375   500 Feet

Parking Study Block 7

IRBY

CHEVES

COIT

PALMETTO

90087-01-011

90087-01-012

90087-01-013

90087-01-010

90087-01-009

90087-01-007

90087-01-015

90087-01-004

90087-01-016

90087-01-017

90087-01-018

90087-01-019

90087-01-024

90087-01-021

90087-01-023

90087-01-001

0   62.5   125   250   375   500 Feet

Parking Study Block 8

N

DARGAN

CHEVES

PALMETTO

IRBY

90087-02-022

90087-02-002

90087-02-011

90087-02-012

90087-02-013

90087-02-015

90087-02-016

90087-02-017

90087-02-018

90087-02-001

0   62.5   125   250   375   500 Feet

Parking Study Block 9

RAILROAD

DARGAN

CHEVES

PALMETTO

90087-03-006
90087-03-007
90087-03-008
90087-03-009
90087-03-010
90087-03-011
90087-03-012
90087-03-016
90087-03-003
90087-03-002
90087-03-018
90087-03-017
90087-03-001

0   62.5   125   250   375   500 Feet

Draft
Parking Demand Study

Cheves Street Parking Garage

Conducted by:

CDM Smith

CDM Smith Inc.

Conducted for:

City of FLORENCE SOUTH CAROLINA

The City of Florence
Florence, South Carolina

March 2015

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Chapter 1

INTRODUCTION

In order to meet the parking needs of the public, the City of Florence, South Carolina will be constructing a new parking facility behind the Hotel Florence. Considerable new and redeveloped building sites are creating the need for new parking supply.

Purpose and Scope

The purpose of this study is to quantify existing parking supply and demand and to estimate projected short-range future parking needs in the vicinity of downtown Florence. Existing parking supply was compared to the existing demand to determine which blocks have deficiencies. Once existing conditions have been established, parking from new developments and the in-fill of vacant building space was considered. The results are identified by city block with parking surpluses and deficiencies.

Study Area

The primary study area, as shown in **Figure 1**, consist of 9 blocks bounded by Baroody Street on the north, Coit Street on the east, Palmetto Street on the south, and Baroody Street/ Railroad Avenue on the west. At present, the area consists of mainly restricted surface parking lots. Nearly half of the available on street parking spaces were 2-hour limited parking. Land use is a mixture of institutional, residential, office, restaurant, and retail. Some of the more significant buildings include the Florence City-County Complex, Hotel Florence, Florence Museum, and Francis Marion University Performing Arts Center.

STUDY AREA AND BLOCK DESIGNATION

Cheves Street Parking Garage Demand Study
Florence, South Carolina

LEGEND

Study Area

⑥ Block Number

SCALE: 1" = 385'

N

FIGURE 1

CDM Smith

Field Studies and Data Collection

On February 23, 2015 a parking inventory was conducted whereby the capacity, rates, availability, and restrictions were noted at all parking facilities in the study area. On February 25th, a parking accumulation study was conducted to ascertain the existing usage levels at all parking facilities in the study area. The accumulation included all on-street parking, 35 restricted surface lots, and 12 unrestricted, or unmarked, surface lots in the primary study area. Accumulation counts were conducted every two-hours beginning at 9:00 AM to 5:00 PM.

Order of Presentation

Subsequent parts of this report present the findings and conclusions resulting from the data collection and analysis. Chapter 2 identifies the existing conditions relative to available parking supply and usage characteristics. Chapter 3 includes the results of the existing supply and demand comparison and projects future short range parking requirements. Chapter 4 summarizes the parking demand analysis and presents recommendations of the parking facilities to be provided.

Chapter 2

EXISTING PARKING CHARACTERISTICS

Field studies were conducted to establish existing conditions relative to the number and spatial distribution of existing spaces, and to measure selected usage characteristics. These studies were primarily confined to the 9 block study area shown in Figure 1.

Parking Inventory

An inventory of existing curb and off-street parking was conducted to determine the amount and location of parking available within the study area. The detailed inventory by block is presented in Table A1 of the appendix. Table A2 of the appendix provides the detailed inventory by facility type. Also, **Figure 2** and **Figure 3** illustrate the location and number of all on-street parking spaces as well as the location and capacity of all off street parking lots in the study area, respectively.

On-Street Spaces- Curb parking spaces make up 12.4 percent of the total study area parking inventory. As shown in **Table 1**, 4.5 percent of the inventory is unrestricted on-street spaces. Parking signs with a 2-hour time limit make up 5.3 percent of the on-street inventory while spaces with a 15-minute time limit make up a much smaller percentage of 0.2. On-street permit, or reserved, parking at the Florence City- County Complex covers 1.3 percent of the on-street inventory and the Florence Business Technology Center permit parking comprises 0.2 percent. Parking meters do not exist in downtown Florence. There is one on-street loading zone in the study area at the City- County Complex that has four spaces. There are also four un-metered police vehicle parking spaces that is a small fraction of the overall inventory.

Off-Street Spaces- Approximately 88 percent of the inventory is located in off street parking facilities. The study area contains 35 restricted surface parking lots with a total of 2,308 parking spaces. There are also 12 areas that contain un-marked or unpaved lots with observed vehicle parking within the study area. These areas had a maximum accumulation of 69 vehicles during the study period, which was set as their inventory. The City of Florence does not own or operate any of the restricted surface lots in the study area; however, some parking spaces are reserved for specific businesses. Blocks 1 and 2 have parking facilities that are restricted to personnel of the Florence City- County Complex. Block 3 contains a large surface lot restricted to the Business Technology Center, with some spaces reserved for visitors and employees of the Aiken Bridges law firm. Blocks 1 and 4 contain lots limited to use for members and employees of the Central United Methodist Church. Block 5 has spaces reserved for employees of businesses located in the Waters Building on S. Dargan Street. Block 6 has several lots designated for

employees and patrons of Florence Health Services. Block 9 has a parking facility restricted to members and employees of St. John's Episcopal Church.

Vehicles were also observed parking in unrestricted lots. These lots are unpaved or unmarked areas often located near restricted surface parking lots. Two lots in Block 9 were unrestricted due to building vacancy.

ON STREET PARKING INVENTORY

Cheves Street Parking Garage Demand Study
Florence, South Carolina

LEGEND

——	Unrestricted
——	No Parking
✛✛✛	Bus Stop
——	Handicap
·······	Loading Zone
·······	2 Hour Parking
·······	15 Minute Parking
✛✛✛	Permit Parking
·······	Police Parking

Note: Block 2 permit parking for Florence County judges and officials.
Block 3 permit parking for BTC Staff.

SCALE: 1" = 385'
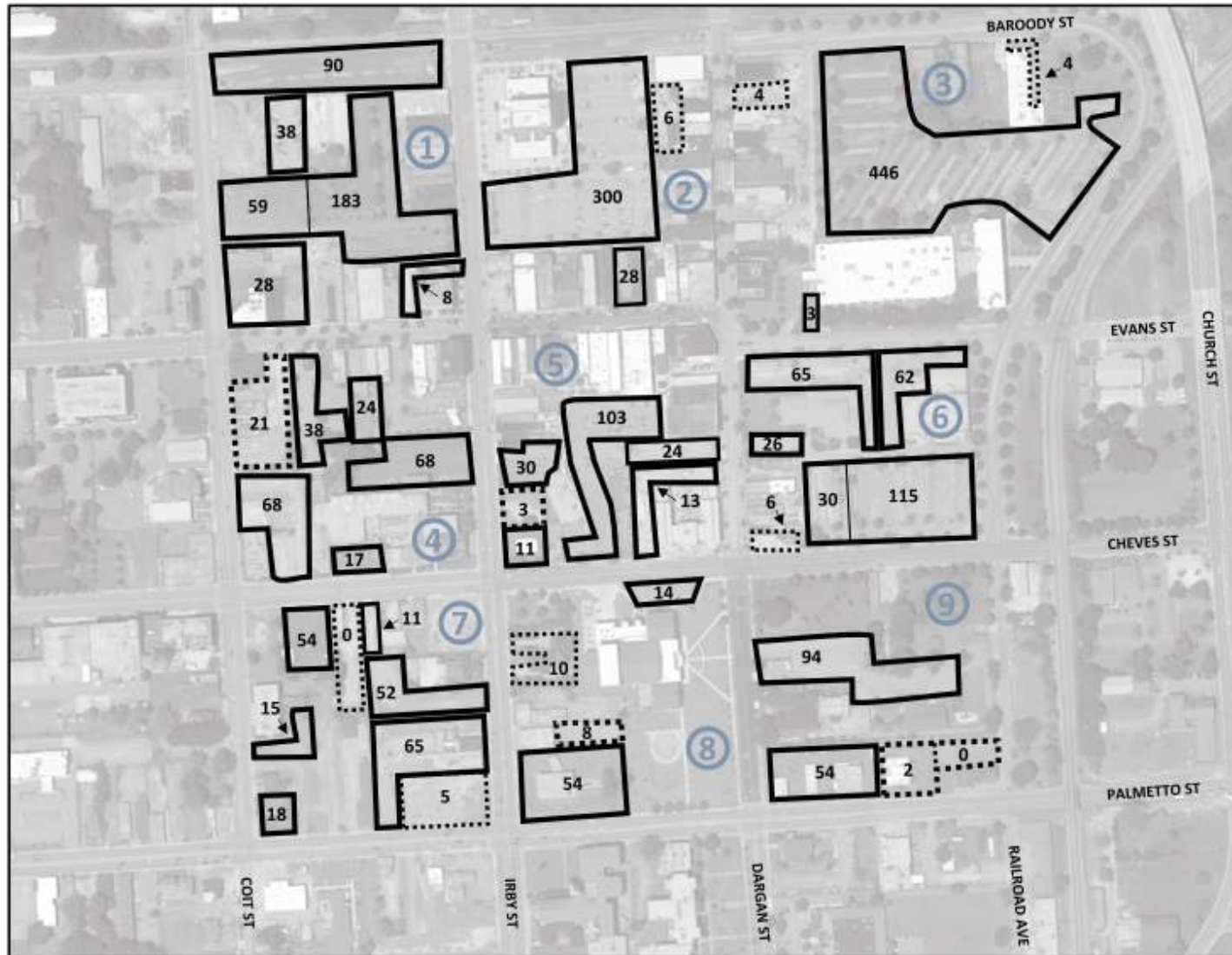
N

FIGURE 2

CDM Smith

OFF STREET PARKING INVENTORY

Cheves Street Parking Garage Demand Study
Florence, South Carolina

LEGEND

Off Street Restricted Parking Lot

Off Street Unrestricted Parking Lot

30 Number of Spaces

6 Block Number

SCALE: 1" = 385'

FIGURE 3

CDM Smith

Table 1
PARKING INVENTORY
Cheves Street Parking Garage
Florence, SC

TYPE PARKING	NUMBER SPACES	PERCENT OF TOTAL
CURB		
15 Minute (Sign)	5	0.2
2-Hour Parking Signs	144	5.3
Police Vehicle Parking	4	0.1
Handicapped	14	0.5
Loading Zone	4	0.1
City County Permit Parking	36	1.3
BTC Permit Parking	6	0.2
Unrestricted Parking	122	4.5
Subtotal Curb	**335**	**12.4**
OFF STREET		
Surface Restricted	2308	85.1
Surface Unrestricted	69	2.5
Sub total Off-Street	**2377**	**87.6**
Total	**2712**	**100.0**

Accumulation of Parked Vehicles

Table 2 presents a summary of the parking space usage by facility type. The on-street parking space usage peak hour occurs between 11:00 AM and 1:00 PM when 127 of the 335 spaces were occupied (37.9 percent). Tables A3 and A4 in the appendix include details of the accumulation study by block and facility type, respectively. The peak accumulation for the off-street restricted surface parking lots also occurs between 11:00 AM and 1:00 PM when 40.7 percent of the spaces were occupied. During the same time period, 72.5 percent of the maximum off-street unrestricted accumulation occurs. The peak accumulation for all parking spaces was from 11:00 AM to 1:00 PM when 1117 of the 2712 (41.2 percent) of the total spaces were occupied.

For all parking spaces, the accumulation of parked vehicles increased from 9:00 AM to 1:00 PM. After 1:00 PM, accumulation began to decrease from 41.2 to 34.7 percent.

Table 2
ACCUMULATION PERCENTAGE BY FACILITY TYPE
Cheves Street Parking Garage
Florence, SC

Hour Beginning	ON-STREET (1)		OFF-STREET RESTRICTED LOT (2)		OFF-STREET UNRESTRICTED LOT (3)		ALL SPACES (4)	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
9:00 AM	81	24.2	540	23.4	30	43.5	651	24.0
11:00 AM	127	37.9	940	40.7	50	72.5	1117	41.2
1:00 PM	110	32.8	784	34.0	48	69.6	942	34.7
3:00 PM	123	36.7	819	35.5	48	69.6	990	36.5

(1) Available On Street (Curb) Spaces   335
(2) Available Off Street Restricted Spaces   2308
(3) Available Off Street Unrestricted Spaces   69
(4) Total Spaces (Off and On Street)   2712

Parking Rates

Within the nine block study area, there are no parking meters; however, time limited parking spaces with signs were observed. Two-hour parking spaces are prevalent throughout the study area, occupying 5.3 percent of the study area parking spaces. Five 15-minute parking spaces were observed at the entrance to the Florence Hotel.

Chapter 3

PARKING DEMAND AND NEEDS

The weekday population of individuals who visit the study area and their mode of transportation influences parking space demand. Parking demand is a measure of the number of spaces necessary to accommodate those parkers destined to a given land area at a given time. Parking demand was calculated for each block within the study area based on the peak accumulation of parked vehicles and the parker destination within the study area.

Adjusted Supply

Practical parking supply was calculated by reducing the actual parking space inventory to reflect the inefficiency caused by ingress and egress maneuvers, to account for variations in activity levels on different weekdays and at other times of the year, to account for parkers that occupy two spaces, and to allow for a slight reserve of spaces. For private off-street facilities, the adjusted supply was considered to be either 85 percent of the total number of spaces, or the peak accumulation, whichever is less. This procedure is reasonable because private facilities are not considered accessible to all parkers. For example, the empty spaces in the Central United Methodist Church parking facility in Block 7 are not available to the general public. Curb spaces are more efficient than off-street facilities so they were adjusted downward by a factor of 0.90. However, only curb spaces that are not reserved were adjusted, as the full supply of reserved spaces is assumed to be consumed.

Parking Demand

Study area-wide parking demand was estimated by measuring the accumulation of parked vehicles throughout a typical weekday. The peak accumulation for each of the nine blocks was aggregated and that value was considered to be the overall study area parking demand. This methodology assures that parking demand is not overestimated or underestimated as a result of using empirical parking demand indices that ignore the unique makeup of the study area.

Once the study area parking demand has been determined, the next step is to disaggregate it to the blocks. In this study, demand was manually assigning to blocks based on where individuals parked. For example, in Block 1, the 90-space surface lot is advertised as public parking for the City- County Complex; therefore, its peak accumulation was assigned to Block 2, which contains that building.

Once parking demand for each block was determined, it was compared to the block's adjusted supply and the result was either a surplus, deficiency, or a balance between supply and demand.

Existing Parking Supply and Demand Comparison

Block-by-block parking supply and demand is provided in **Table 3** along with the resulting surplus or deficiency. The adjusted supply worktable is shown in appendix Table A5 and block-by-block parking demand from the manual assignment is presented in Table A6.

All blocks, except for one (Block 2), have an adjusted parking supply greater than its parking demand. In Block 2, the parking demand exceeds its supply by 28 vehicles. Overall, the nine block study area as a whole has a surplus of 179 parking spaces.

The net surplus of 179 spaces considers all parking supply within the study area. It should be noted that some of the parking facilities within the study are private and unavailable to the general public. **Figure 4** illustrates the parking surplus and deficit for each block of the study area. The Block 2 parking deficit is illustrated as overflow parking in Block 1 as additional parking is advertised here for the surface lot in Block 2.

Table 3
2015 PARKING SPACE SUPPLY AND DEMAND
Cheves Street Parking Garage
Florence, South Carolina

BLOCK NUMBER	ADJUSTED SUPPLY	DEMAND	SURPLUS	DEFICIENCY
1	132	67	65	0
2	307	335	0	28
3	197	171	26	0
4	158	107	51	0
5	125	118	7	0
6	242	228	14	0
7	61	35	26	0
8	38	29	9	0
9	73	64	9	0
TOTAL	1333	1154	207	28

NET SURPLUS: 179
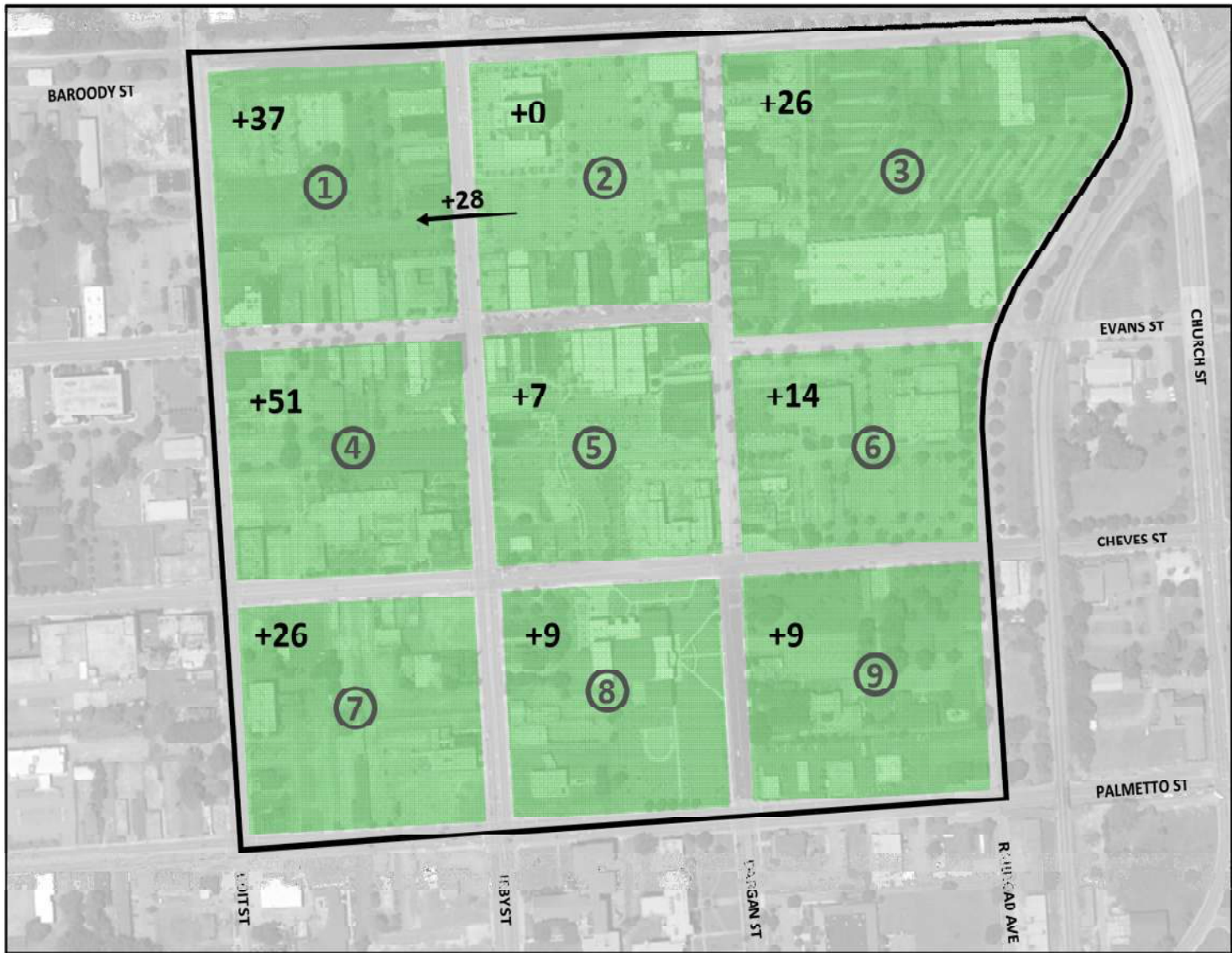
2015 PARKING SPACE SURPLUS/ DEFICIT

Cheves Street Parking Garage Demand Study
Florence, South Carolina

LEGEND

☐ Study Area

⑥ Block Number

▨ Parking Space Surplus

▨ Parking Space Deficit

+/- XX Surplus/ Deficit Value

→ Overflow Parking

SCALE: 1" = 385'

FIGURE 4

CDM Smith

Downtown Florence Land Use Status

Many redevelopment efforts are currently happening within the study area of downtown Florence. **Figure 4** reflects CDM Smith's windshield survey of building occupancy. The revitalization of downtown Florence is underway with significant new development completed, committed, or under construction. Some buildings are empty and not yet committed for redevelopment, and new tenants would stress the parking system, even more than what is reflected in this report.

The Francis Marion University Performing Arts Center (PAC) is one example of new development that is stimulating other development. This 61,000 square foot building will generate large amounts of traffic and significant parking needs, especially when a performance occurs. The Hotel Florence is another example of recent development that is generating synergy and economic development momentum in downtown Florence.
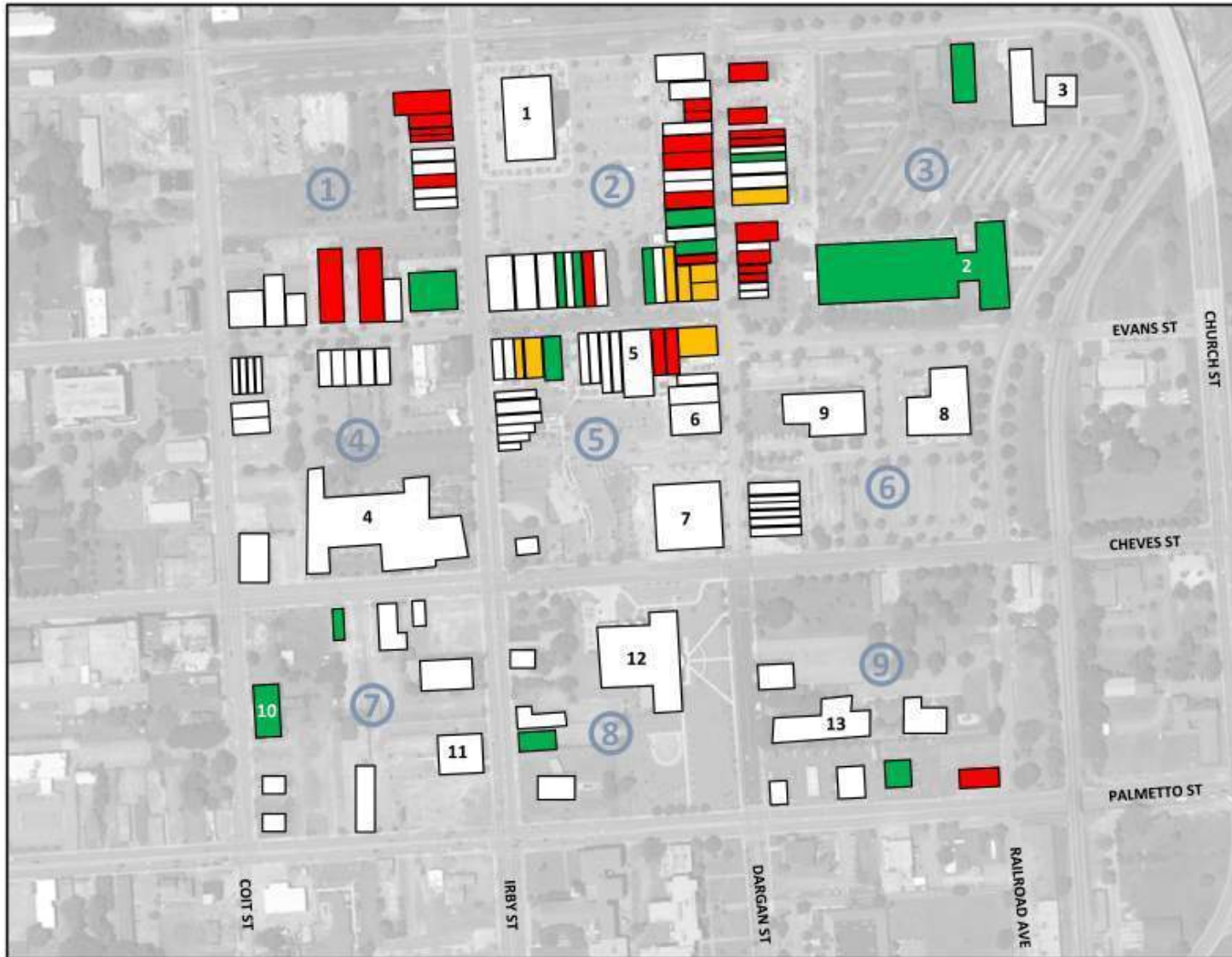
EXISTING DEVELOPMENT

Cheves Street Parking Garage Demand Study
Florence, South Carolina

Points of Interest:
1. Florence City- County Complex
2. Florence Business Technology Center
3. Pee Dee Speech and Hearing Center
4. Central United Methodist Church
5. Hotel Florence
6. Waters Building
7. Florence County Museum
8. Pee Dee Mental Health Center
9. Florence County Health DHEC
10. Greater Florence Chamber of Commerce
11. Bank of America
12. Francis Marion University Performing Arts Center
13. St. John's Episcopal Church

LEGEND

☐	Occupied
🟥	Vacant/ Closed
🟩	For Sale/ For Lease
🟧	Under Construction
1	Point of Interest

SCALE: 1" = 385'

FIGURE 5

CDM Smith

Committed and Potential Development and New Trip Generation

There is a significant amount of projected development and in-fill of vacant building space that will generate a significant amount of parking demand. Many of the sites where the in-fill of vacant buildings or new development is planned would lack a reasonable and financially feasible alternative to provide parking on-site.

A brief description of the anticipated developments is provided below. Note that the identification number shown in the description corresponds to the number shown in **Figure 5**.

1. Carolina Bank
2. FMU Health Science Center- The vacant parcel of land has been selected as the location for a new development that will contain up to 52,000 square feet of classrooms, offices, and laboratories for nursing students and professors…
3. Med-Enroll Headquarters & Processing Center
4. Restaurant- Boxcar Pizzeria?
5. Kress Building Project
6. Hotel Expansion
7. Royal Knight Building Project
8. Theatre
9. Apartment Complex- An 82-unit apartment complex will be located in the center of Block Five that is expected to generate a parking need of 41 spaces during the day.
(10) Waters Building
(11) Museum
(12) Dining Cluster
(13) Performing Arts Center

Table 4 shows the parking demands of the nine committed development projects mentioned above. Within the Florence Parking Study Area environs, the parking spaces needs will increase by _____ spaces in 2015 and _____ spaces in 2020. Figure 5 illustrates all committed and potential development within the study area, including the in-fill of vacancies within the buildings. A brief description of potential filled vacancy development is provided below. Note that the identification number shown in the description corresponds to the number shown in Figure 5.

10. Law Office Complex at Dargan St. and Evans St. - This building currently has up to 20,000 square feet marketed as leasable area. A public parking lot is located to the north side of the

complex, which is advertised as public parking for the Florence City-County Complex. At least 150 spaces remain in this bordering lot during its maximum accumulation.

11. Business Technology Center- Nearly 63,000 square feet of building space is advertised as leasable. Though the assumed number of parking spaces generated by filling this vacancy is ____, it is assumed that the 301 spaces that remain empty in the restricted lot of Block 3 during its peak accumulation period will suffice.

12. Chamber of Commerce Building- Currently, the first and second floors of this building are vacant (?), leaving the Chamber as the only occupants of the building and parking lot. The parking lot, which totals 91 spaces only has 15 open to the Chamber, and has the remaining 76 spaces blocked off by barriers. If the vacant ___ square feet in the building is leased out, it should generate _____ parking spaces during the day, which will be able to park in the adjacent lot.

Table 5 shows the parking demands of the potential development projects mentioned above. Within the Florence Parking Study Area environs, the total parking space needs, including those of the committed projects will have parking demands totaling ____ spaces in 2015 and ____ spaces in 2020. Some of this parking demand could be met

POTENTIAL OR COMMITTED DEVELOPMENT
Cheves Street Parking Garage Demand Study
Florence, South Carolina

Points of Interest:

1. Carolina Bank
2. FMU Health Science Center
3. Med-Enroll Headquarters
4. Restaurant
5. Kress Building Project
6. Hotel Expansion
7. Royal Knight Building Project
8. Theatre
9. Apartment Complex
10. Law Offices – For Lease (20,000 sf)
11. Business Technology Center- For Lease (63,000 sf)
12. Chamber of Commerce Building (*)

LEGEND

- Building Footprint
- Committed Development
- Potential Development- For Sale/ For Lease
- 1 Point of Interest

SCALE: 1" = 385'

FIGURE 6

CDM Smith

Projected 2020 Supply and Demand Comparison – Study Area

The proposed changes in the study area described in the Committed Development and New Trip Generation Potential section were incorporated into the adjusted supply and parking demand comparison and the results are shown in **Table 6**. In 2020, parking demand in five blocks will increase the overall study area demand by 61 percent. The largest of these will be in Block 7 where the parking demand will go from zero to 299 spaces needed. Similarly, Block 13 will go from eight to 161 spaces needed. The other three blocks affected will be blocks 4, 6 and 12. It is assumed the Commonwealth employees who park inside the study area and work outside the area will no longer occupy the 90 spaces currently used.

The overall study area parking demand will increase by 585 spaces from 958 to 1543 spaces. The result is that an existing surplus of 159 spaces will change to a short range future deficit of 321 spaces. If the 100 empty residential permit parking spaces are considered unavailable to the general public, then the deficit will be 421 spaces.

Chapter 4

RECOMMENDATIONS

Summary and Recommendations

In February 2015, the Florence study area had a parking space surplus of 179 spaces. This measured surplus occurred during a period of ongoing development within downtown Florence, with much of the study area either currently undergoing construction or available for lease. Growth plans for Downtown Florence call for remodeling and occupying of several historical buildings, building expansion, and some new complexes.

Much of the committed development for the study area is anticipated to occupy both daytime and evening peak hours, requiring a need for a parking facility that can maintain the varying flows of traffic projected for Florence. By 2020, the parking need is expected to swell to about ____ spaces.

There are other potential developments in the study area that will require parking. These developments may not entirely fill their vacancies; however, it was assumed they would do so by Year 2020. A summary of these needs is presented below:

- Dargan/ Evans St. Law Complex Building- Parking Demand: ___ spaces;
- Business Technology Center – Daytime Parking Demand: ____ spaces; and,
- Chamber of Commerce Building- Parking Demand- ____ spaces.

By Year 2020, the projected parking space deficit in the study area is _____ parking spaces. Noteworthy assumptions were made regarding this projected shortfall:

- on street unrestricted spaces will no longer find these to be a viable alternative; and,
- The permit parking spaces will be available

Heretofore the discussion has been limited to parking needs based on the committed developments. Speculative development could potentially increase the parking space deficit to ___ parking spaces. If any of these developments were to reach a committed status, the size of the potential parking garage would need to be

A parking garage is currently planned for construction in Block 5 that would displace a 103-space restricted lot housing vehicles from patrons of the Evans and Dargan Street strip of buildings.

Ideally, a _____ space parking deck should be constructed to meet the parking needs within the study area environs.

Based on assumptions of parking demand

Phased approach to construction—temporary surface lot?

APPENDIX

TRAFFIC COUNTS

Counted by: Allyson Foster

Groups Printed- Unshifted

Start Time	DARGAN ST Southbound				EVANS ST Westbound				DARGAN ST Northbound				EVANS ST Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	1	1	2	2	1	2	5	6	1	0	7	0	8	4	12	26
07:15 AM	0	2	1	3	0	0	0	0	0	2	1	3	0	8	4	12	18
07:30 AM	1	6	1	8	0	1	0	1	2	2	0	4	0	8	3	11	24
07:45 AM	0	5	1	6	2	1	0	3	5	5	2	12	2	19	3	24	45
Total	1	14	4	19	4	3	2	9	13	10	3	26	2	43	14	59	113
08:00 AM	1	4	2	7	4	3	1	8	4	3	3	10	1	20	1	22	47
08:15 AM	0	10	2	12	1	2	1	4	6	0	2	8	4	13	9	26	50
08:30 AM	0	6	0	6	0	1	0	1	7	8	1	16	2	15	12	29	52
08:45 AM	0	5	1	6	1	2	3	6	5	4	2	11	3	11	7	21	44
Total	1	25	5	31	6	8	5	19	22	15	8	45	10	59	29	98	193
*** BREAK ***																	
04:00 PM	1	17	6	24	4	10	5	19	11	15	1	27	4	10	17	31	101
04:15 PM	2	14	7	23	2	18	1	21	8	10	0	18	4	7	9	20	82
04:30 PM	3	11	3	17	8	15	2	25	15	11	2	28	4	1	18	23	93
04:45 PM	0	11	5	16	2	13	5	20	10	9	1	20	2	4	14	20	76
Total	6	53	21	80	16	56	13	85	44	45	4	93	14	22	58	94	352
05:00 PM	0	16	9	25	12	16	3	31	3	8	3	14	4	5	11	20	90
05:15 PM	0	23	5	28	9	25	5	39	9	18	1	28	4	4	9	17	112
05:30 PM	1	14	1	16	5	18	1	24	9	20	0	29	5	10	14	29	98
05:45 PM	0	9	2	11	1	20	3	24	5	9	1	15	8	5	6	19	69
Total	1	62	17	80	27	79	12	118	26	55	5	86	21	24	40	85	369
*** BREAK ***																	
Grand Total	9	154	47	210	53	146	32	231	105	125	20	250	47	148	141	336	1027
Apprch %	4.3	73.3	22.4		22.9	63.2	13.9		42	50	8		14	44	42		
Total %	0.9	15	4.6	20.4	5.2	14.2	3.1	22.5	10.2	12.2	1.9	24.3	4.6	14.4	13.7	32.7	

Counted by: Allyson Foster

File Name : Dargan_Evans
Site Code : 00000000
Start Date : 2/25/2015
Page No : 2

Start Time	DARGAN ST Southbound				EVANS ST Westbound				DARGAN ST Northbound				EVANS ST Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	5	1	6	2	1	0	3	5	5	2	12	2	19	3	24	45
08:00 AM	1	4	2	7	4	3	1	8	4	3	3	10	1	20	1	22	47
08:15 AM	0	10	2	12	1	2	1	4	6	0	2	8	4	13	9	26	50
08:30 AM	0	6	0	6	0	1	0	1	7	8	1	16	2	15	12	29	52
Total Volume	1	25	5	31	7	7	2	16	22	16	8	46	9	67	25	101	194
% App. Total	3.2	80.6	16.1		43.8	43.8	12.5		47.8	34.8	17.4		8.9	66.3	24.8		
PHF	.250	.625	.625	.646	.438	.583	.500	.500	.786	.500	.667	.719	.563	.838	.521	.871	.933
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	11	5	16	2	13	5	20	10	9	1	20	2	4	14	20	76
05:00 PM	0	16	9	25	12	16	3	31	3	8	3	14	4	5	11	20	90
05:15 PM	0	23	5	28	9	25	5	39	9	18	1	28	4	4	9	17	112
05:30 PM	1	14	1	16	5	18	1	24	9	20	0	29	5	10	14	29	98
Total Volume	1	64	20	85	28	72	14	114	31	55	5	91	15	23	48	86	376
% App. Total	1.2	75.3	23.5		24.6	63.2	12.3		34.1	60.4	5.5		17.4	26.7	55.8		
PHF	.250	.696	.556	.759	.583	.720	.700	.731	.775	.688	.417	.784	.750	.575	.857	.741	.839

CDM SMITH Inc.
1100 Marion Street, Suite 300
Knoxville, TN 37921
(865) 963-4300

Counted by: Allyson Foster

Groups Printed- Unshifted

Start Time	IRBY ST Southbound				CHEVES ST Westbound				IRBY ST Northbound				CHEVES ST Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	3	41	1	45	1	14	1	16	2	41	20	63	2	14	0	16	140
07:15 AM	4	39	0	43	4	15	1	20	4	45	15	64	0	14	2	16	143
07:30 AM	3	42	1	46	11	30	2	43	0	55	20	75	1	25	3	29	193
07:45 AM	4	46	2	52	5	30	0	35	4	55	26	85	0	33	2	35	207
Total	14	168	4	186	21	89	4	114	10	196	81	287	3	86	7	96	683
08:00 AM	2	53	0	55	7	34	3	44	6	55	21	82	3	47	4	54	235
08:15 AM	2	44	2	48	7	35	4	46	8	72	31	111	1	29	4	34	239
08:30 AM	6	54	2	62	6	39	6	51	15	75	18	108	1	39	8	48	269
08:45 AM	4	73	5	82	19	35	1	55	11	65	25	101	0	24	4	28	266
Total	14	224	9	247	39	143	14	196	40	267	95	402	5	139	20	164	1009

*** BREAK ***

Start Time	IRBY ST Southbound				CHEVES ST Westbound				IRBY ST Northbound				CHEVES ST Eastbound				Int. Total
04:00 PM	4	184	5	193	27	58	15	100	12	98	9	119	5	41	25	71	483
04:15 PM	6	147	1	154	33	68	8	109	6	91	8	105	0	27	7	34	402
04:30 PM	4	95	2	101	32	70	10	112	8	106	9	123	3	39	2	44	380
04:45 PM	7	113	2	122	28	57	10	95	16	107	16	139	1	24	14	39	395
Total	21	539	10	570	120	253	43	416	42	402	42	486	9	131	48	188	1660
05:00 PM	19	157	2	178	24	71	10	105	6	107	3	116	3	57	14	74	473
05:15 PM	12	218	0	230	28	108	3	139	7	105	7	119	5	61	12	78	566
05:30 PM	7	145	2	154	25	55	12	92	6	106	4	116	3	44	12	59	421
05:45 PM	5	128	4	137	20	32	4	56	9	81	8	98	2	30	11	43	334
Total	43	648	8	699	97	266	29	392	28	399	22	449	13	192	49	254	1794
Grand Total	92	1579	31	1702	277	751	90	1118	120	1264	240	1624	30	548	124	702	5146
Apprch %	5.4	92.8	1.8		24.8	67.2	8.1		7.4	77.8	14.8		4.3	78.1	17.7		
Total %	1.8	30.7	0.6	33.1	5.4	14.6	1.7	21.7	2.3	24.6	4.7	31.6	0.6	10.6	2.4	13.6	

Counted by: Allyson Foster

	IRBY ST Southbound				CHEVES ST Westbound				IRBY ST Northbound				CHEVES ST Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	2	53	0	55	7	34	3	44	6	55	21	82	**3**	**47**	4	**54**	235
08:15 AM	2	44	2	48	7	35	4	46	8	72	**31**	**111**	1	29	4	34	239
08:30 AM	**6**	54	2	62	6	**39**	**6**	51	**15**	**75**	18	108	1	39	**8**	48	**269**
08:45 AM	4	**73**	**5**	**82**	**19**	35	1	**55**	11	65	25	101	0	24	4	28	266
Total Volume	14	224	9	247	39	143	14	196	40	267	95	402	5	139	20	164	1009
% App. Total	5.7	90.7	3.6		19.9	73	7.1		10	66.4	23.6		3	84.8	12.2		
PHF	.583	.767	.450	.753	.513	.917	.583	.891	.667	.890	.766	.905	.417	.739	.625	.759	.938
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	7	113	**2**	122	**28**	57	10	95	**16**	**107**	**16**	**139**	1	24	**14**	39	395
05:00 PM	**19**	157	2	178	24	71	10	105	6	107	3	116	3	57	14	74	473
05:15 PM	12	**218**	0	**230**	28	**108**	3	**139**	7	105	7	119	**5**	**61**	12	**78**	**566**
05:30 PM	7	145	2	154	25	55	**12**	92	6	106	4	116	3	44	12	59	421
Total Volume	45	633	6	684	105	291	35	431	35	425	30	490	12	186	52	250	1855
% App. Total	6.6	92.5	0.9		24.4	67.5	8.1		7.1	86.7	6.1		4.8	74.4	20.8		
PHF	.592	.726	.750	.743	.938	.674	.729	.775	.547	.993	.469	.881	.600	.762	.929	.801	.819

Counted by: Allyson Foster

Groups Printed- Unshifted

Start Time	IRBY ST Southbound				EVANS ST Westbound				IRBY ST Northbound				EVANS ST Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	41	2	43	0	3	1	4	9	37	0	46	2	14	4	20	113
07:15 AM	1	32	1	34	2	0	0	2	6	39	0	45	1	11	7	19	100
07:30 AM	0	35	3	38	0	2	0	2	8	50	1	59	2	12	9	23	122
07:45 AM	3	48	1	52	2	7	4	13	4	53	2	59	2	21	4	27	151
Total	4	156	7	167	4	12	5	21	27	179	3	209	7	58	24	89	486
08:00 AM	0	49	2	51	0	6	1	7	14	53	0	67	2	23	6	31	156
08:15 AM	0	56	6	62	2	4	2	8	3	55	6	64	7	26	7	40	174
08:30 AM	0	57	6	63	2	1	1	4	10	92	1	103	7	26	9	42	212
08:45 AM	0	64	12	76	3	6	1	10	12	71	2	85	11	22	18	51	222
Total	0	226	26	252	7	17	5	29	39	271	9	319	27	97	40	164	764
*** BREAK ***																	
04:00 PM	4	153	15	172	4	19	7	30	22	117	6	145	14	20	19	53	400
04:15 PM	3	119	17	139	5	21	5	31	21	115	5	141	28	15	13	56	367
04:30 PM	3	92	14	109	2	18	4	24	27	104	4	135	13	13	20	46	314
04:45 PM	2	116	19	137	7	29	3	39	20	125	7	152	20	13	12	45	373
Total	12	480	65	557	18	87	19	124	90	461	22	573	75	61	64	200	1454
05:00 PM	1	128	15	144	8	31	2	41	14	102	4	120	8	12	19	39	344
05:15 PM	2	176	22	200	4	37	2	43	18	140	1	159	11	11	26	48	450
05:30 PM	2	126	16	144	1	26	5	32	17	108	3	128	11	29	16	56	360
05:45 PM	3	120	7	130	2	24	1	27	13	105	2	120	8	13	17	38	315
Total	8	550	60	618	15	118	10	143	62	455	10	527	38	65	78	181	1469
*** BREAK ***																	
Grand Total	24	1412	158	1594	44	234	39	317	218	1366	44	1628	147	281	206	634	4173
Apprch %	1.5	88.6	9.9		13.9	73.8	12.3		13.4	83.9	2.7		23.2	44.3	32.5		
Total %	0.6	33.8	3.8	38.2	1.1	5.6	0.9	7.6	5.2	32.7	1.1	39	3.5	6.7	4.9	15.2	

Counted by: Allyson Foster

File Name : Irby_Evans
Site Code : 00000000
Start Date : 2/25/2015
Page No : 2

Start Time	IRBY ST Southbound				EVANS ST Westbound				IRBY ST Northbound				EVANS ST Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	49	2	51	0	**6**	1	7	**14**	53	0	67	2	23	6	31	156
08:15 AM	0	56	6	62	2	4	**2**	8	3	55	**6**	64	7	**26**	7	40	174
08:30 AM	0	57	6	63	2	1	1	4	10	**92**	1	**103**	7	26	9	42	212
08:45 AM	0	**64**	**12**	**76**	**3**	6	1	**10**	12	71	2	85	**11**	22	**18**	**51**	**222**
Total Volume	0	226	26	252	7	17	5	29	39	271	9	319	27	97	40	164	764
% App. Total	0	89.7	10.3		24.1	58.6	17.2		12.2	85	2.8		16.5	59.1	24.4		
PHF	.000	.883	.542	.829	.583	.708	.625	.725	.696	.736	.375	.774	.614	.933	.556	.804	.860
Peak Hour Analysis From 04:00 PM to 06:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**2**	116	19	137	7	29	3	39	**20**	125	**7**	152	**20**	13	12	45	373
05:00 PM	1	128	15	144	**8**	31	2	41	14	102	4	120	8	12	19	39	344
05:15 PM	2	**176**	**22**	**200**	4	**37**	2	**43**	18	**140**	1	**159**	11	11	**26**	48	**450**
05:30 PM	2	126	16	144	1	26	**5**	32	17	108	3	128	11	**29**	16	**56**	360
Total Volume	7	546	72	625	20	123	12	155	69	475	15	559	50	65	73	188	1527
% App. Total	1.1	87.4	11.5		12.9	79.4	7.7		12.3	85	2.7		26.6	34.6	38.8		
PHF	.875	.776	.818	.781	.625	.831	.600	.901	.863	.848	.536	.879	.625	.560	.702	.839	.848

5 0.03 | 12 0.05
148 0.87 | 196 0.74
18 0.10 | 52 0.21
171 | 250

13 0.07 | 35 0.08
138 0.78 | 291 0.68
25 0.15 | 105 0.24
176 | 431

IRBY ST

25 (41)

7 (28)

EVANS

(48) 25

8 (5)
22 (55)
31 (3)

57 (140)

4 (16) 0.47 (0.29)

NB = 0.47 (0.39)
SB = 0.53 (0.61)
ADT = 3100
0.03 (0.07)

(0.61)
0.53
28 (89)
51 (92)
41 (52)

12 (26)
139 (325)
27 (80)

178 (431)

176 (431)

13 (35)
138 (291)
25 (105)

CHEVES

247 (234)

(186) 148 →

96 (30)

0.49 (0.43)

258 (261)

(13) 8
(193) 224
(55) 26

9 (16)
22 (52)

11 (17)

EB = 0.49 (0.43)
WB = 0.51 (0.57)
ADT = 5800
0.06 (0.10)

68 (141)

44 (58)

DARGAN ST

Florence, SC- 2009 ADT (SCDOT)

3400

800

10200

800

5400

10600

12500

5700

2000

21300

2300

3600

5700

Florence US-76

18400

16700

2900

9500

0   500   1,000   2,000 Feet

Florence, SC- 2012 ADT (SCDOT)

Florence, SC- 2013 ADT (SCDOT)

TRIP GENERATION

	TRIPS	Enter (%)	Exit (%)	Entering	Exiting
AM	267	15	85	40	227
PM	267	85	15	227	40

Garage Access

	EB L	EB T	EB R	WB L	WB T	WB R	NB L	NB T	NB R	SB L	SB T	SB R	Total
Distribution(%)	0	0	0	51	0	49	0	0	49	51	0	0	
AM	0	0	0	116	0	111	0	0	20	20	0	0	267
PM	0	0	0	20	0	20	0	0	111	116	0	0	267

Irby/ Evans

	EB L	EB T	EB R	WB L	WB T	WB R	NB L	NB T	NB R	SB L	SB T	SB R	Total
Distribution(%)	0	0	6	1	0	0	14	34	1	0	44	0	
AM	0	0	2	0	0	0	32	77	2	0	18	0	132
PM	0	0	14	2	0	0	6	14	0	0	100	0	135

Irby/ Cheves

	EB L	EB T	EB R	WB L	WB T	WB R	NB L	NB T	NB R	SB L	SB T	SB R	Total
Distribution(%)	1	0	0	0	0	3	0	45	0	4	47	0	
AM	0	0	0	0	0	1	0	18	0	9	107	0	135
PM	2	0	0	0	0	7	0	102	0	2	19	0	132

Dargan/ Evans

	EB L	EB T	EB R	WB L	WB T	WB R	NB L	NB T	NB R	SB L	SB T	SB R	Total
Distribution(%)	0	1	0	0	0	0	0	0	0	0	0	1	
AM	0	2	0	0	0	0	0	0	0	0	0	0	3
PM	0	0	0	0	0	0	0	0	0	0	0	2	3

Dargan/ Cheves

	EB L	EB T	EB R	WB L	WB T	WB R	NB L	NB T	NB R	SB L	SB T	SB R	Total
Distribution(%)	0	1	3	0	3	0	0	0	0	0	0	0	
AM	0	2	7	0	1	0	0	0	0	0	0	0	10
PM	0	0	1	0	7	0	0	0	0	0	0	0	8

SYNCHRO ANALYSES
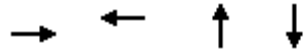
| | → | ← | ↑ | ↓ |
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	219	44	446	305
v/c Ratio	0.67	0.14	0.23	0.14
Control Delay	39.7	25.4	6.1	4.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	39.7	25.4	6.1	4.8
Queue Length 50th (ft)	101	16	44	24
Queue Length 95th (ft)	#194	34	50	37
Internal Link Dist (ft)	1259	545	566	617
Turn Bay Length (ft)				
Base Capacity (vph)	327	323	1933	2186
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.67	0.14	0.23	0.14

Intersection Summary

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

Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⟷			⟷			⟷↟			⟷↟	
Volume (vph)	27	97	40	7	17	5	39	271	9	0	226	26
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			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.96			0.98			0.99			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1473			1542			3297			3257	
Flt Permitted		0.93			0.91			0.87			1.00	
Satd. Flow (perm)		1384			1427			2894			3257	
Peak-hour factor, PHF	0.61	0.93	0.56	0.58	0.71	0.63	0.70	0.74	0.38	1.00	0.88	0.54
Adj. Flow (vph)	44	104	71	12	24	8	56	366	24	0	257	48
RTOR Reduction (vph)	0	19	0	0	6	0	0	5	0	0	16	0
Lane Group Flow (vph)	0	200	0	0	38	0	0	441	0	0	289	0
Parking (#/hr)	13	13	13	8	8	8		2	2		3	3
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		20.0			20.0			60.0			60.0	
Effective Green, g (s)		20.0			20.0			60.0			60.0	
Actuated g/C Ratio		0.22			0.22			0.67			0.67	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		307			317			1929			2171	
v/s Ratio Prot											0.09	
v/s Ratio Perm		c0.14			0.03			c0.15				
v/c Ratio		0.65			0.12			0.23			0.13	
Uniform Delay, d1		31.8			28.0			5.9			5.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		10.2			0.8			0.3			0.1	
Delay (s)		42.0			28.7			6.2			5.6	
Level of Service		D			C			A			A	
Approach Delay (s)		42.0			28.7			6.2			5.6	
Approach LOS		D			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.33			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	39.3%	ICU Level of Service	A	
Analysis Period (min)	15			

c   Critical Lane Group
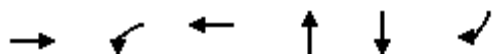
Lane Group	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	144	16	16	72	44	8
v/c Ratio	0.23	0.03	0.02	0.12	0.06	0.01
Control Delay	13.9	11.9	10.2	11.1	12.2	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	11.9	10.2	11.1	12.2	0.6
Queue Length 50th (ft)	38	4	3	15	11	0
Queue Length 95th (ft)	68	7	8	19	19	0
Internal Link Dist (ft)	545		1125	566	581	
Turn Bay Length (ft)		100				50
Base Capacity (vph)	630	565	770	614	692	614
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.03	0.02	0.12	0.06	0.01

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⊕		⬏	⬐			⊕			⬐	⬏
Volume (vph)	9	67	25	7	7	2	22	16	8	1	25	5
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			5.0			5.0	5.0
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	1.00
Frt		0.95		1.00	0.96			0.98			1.00	0.85
Flt Protected		0.99		0.95	1.00			0.98			1.00	1.00
Satd. Flow (prot)		1495		1770	1793			1527			1632	1393
Flt Permitted		0.98		0.71	1.00			0.91			0.99	1.00
Satd. Flow (perm)		1471		1319	1793			1418			1617	1393
Peak-hour factor, PHF	0.56	0.84	0.52	0.44	0.58	0.50	0.79	0.50	0.67	0.25	0.63	0.63
Adj. Flow (vph)	16	80	48	16	12	4	28	32	12	4	40	8
RTOR Reduction (vph)	0	0	0	0	2	0	0	7	0	0	0	5
Lane Group Flow (vph)	0	144	0	16	14	0	0	65	0	0	44	3
Parking (#/hr)	11	11	11				9	9	9		4	4
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		30.0		30.0	30.0			30.0			30.0	30.0
Effective Green, g (s)		30.0		30.0	30.0			30.0			30.0	30.0
Actuated g/C Ratio		0.43		0.43	0.43			0.43			0.43	0.43
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	5.0
Lane Grp Cap (vph)		630		565	768			607			693	597
v/s Ratio Prot					0.01							
v/s Ratio Perm		c0.10		0.01				c0.05			0.03	0.00
v/c Ratio		0.23		0.03	0.02			0.11			0.06	0.01
Uniform Delay, d1		12.7		11.6	11.5			12.0			11.7	11.5
Progression Factor		1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2		0.8		0.1	0.0			0.4			0.2	0.0
Delay (s)		13.5		11.7	11.6			12.3			11.9	11.5
Level of Service		B		B	B			B			B	B
Approach Delay (s)		13.5			11.6			12.3			11.9	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.17			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	29.8%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				
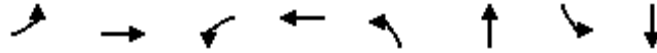
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	220	76	179	60	423	24	311
v/c Ratio	0.03	0.21	0.22	0.17	0.10	0.20	0.04	0.15
Control Delay	25.2	24.3	18.7	14.6	9.0	6.8	8.6	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	24.3	18.7	14.6	9.0	6.8	8.6	8.6
Queue Length 50th (ft)	5	49	21	21	15	42	6	40
Queue Length 95th (ft)	9	63	23	35	24	64	10	50
Internal Link Dist (ft)		1270		545		629		566
Turn Bay Length (ft)	75		175		150		120	
Base Capacity (vph)	357	1052	343	1053	629	2074	558	2107
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.21	0.22	0.17	0.10	0.20	0.04	0.15

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↑↱		↱	↑↱		↱	↑↱		↱	↑↱	
Volume (vph)	5	139	20	39	143	14	40	267	95	14	224	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	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3462		1770	3468		1770	3385		1770	3505	
Flt Permitted	0.64	1.00		0.61	1.00		0.56	1.00		0.50	1.00	
Satd. Flow (perm)	1190	3462		1144	3468		1048	3385		931	3505	
Peak-hour factor, PHF	0.42	0.74	0.63	0.51	0.92	0.58	0.67	0.89	0.77	0.58	0.77	0.45
Adj. Flow (vph)	12	188	32	76	155	24	60	300	123	24	291	20
RTOR Reduction (vph)	0	14	0	0	13	0	0	44	0	0	5	0
Lane Group Flow (vph)	12	206	0	76	166	0	60	379	0	24	306	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	30.0	30.0		30.0	30.0		60.0	60.0		60.0	60.0	
Effective Green, g (s)	30.0	30.0		30.0	30.0		60.0	60.0		60.0	60.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.60	0.60		0.60	0.60	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	357	1038		343	1040		628	2031		558	2103	
v/s Ratio Prot		0.06			0.05			c0.11			0.09	
v/s Ratio Perm	0.01			c0.07			0.06			0.03		
v/c Ratio	0.03	0.20		0.22	0.16		0.10	0.19		0.04	0.15	
Uniform Delay, d1	24.7	26.1		26.2	25.7		8.5	9.0		8.2	8.8	
Progression Factor	1.00	1.00		0.64	0.61		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.4		1.5	0.3		0.3	0.2		0.1	0.1	
Delay (s)	24.9	26.5		18.3	16.1		8.8	9.2		8.4	8.9	
Level of Service	C	C		B	B		A	A		A	A	
Approach Delay (s)		26.4			16.7			9.2			8.9	
Approach LOS		C			B			A			A	

Intersection Summary					
HCM 2000 Control Delay		13.6	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.20			
Actuated Cycle Length (s)		100.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization		38.2%	ICU Level of Service		A
Analysis Period (min)		15			

c   Critical Lane Group

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	280	193	10	28	10	15	46
v/c Ratio	0.28	0.21	0.01	0.03	0.01	0.02	0.05
Control Delay	19.9	25.8	8.2	8.3	1.6	8.2	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	25.8	8.2	8.3	1.6	8.2	4.4
Queue Length 50th (ft)	45	46	2	7	0	4	4
Queue Length 95th (ft)	67	74	9	18	4	12	18
Internal Link Dist (ft)	545	1096		667			566
Turn Bay Length (ft)			100			75	
Base Capacity (vph)	996	926	812	1117	849	826	883
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.21	0.01	0.03	0.01	0.02	0.05

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↻			↔↻		↰	↑	↱	↰	↻	
Volume (vph)	8	224	26	27	139	12	9	26	9	14	15	28
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	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95			0.95		1.00	1.00	1.00	1.00	1.00	
Frt		0.98			0.99		1.00	1.00	0.85	1.00	0.90	
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3481			3477		1770	1863	1401	1770	1454	
Flt Permitted		0.95			0.88		0.73	1.00	1.00	0.74	1.00	
Satd. Flow (perm)		3295			3070		1354	1863	1401	1377	1454	
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	243	28	29	151	13	10	28	10	15	16	30
RTOR Reduction (vph)	0	8	0	0	6	0	0	0	4	0	12	0
Lane Group Flow (vph)	0	272	0	0	187	0	10	28	6	15	34	0
Parking (#/hr)									3		7	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		30.0			30.0		60.0	60.0	60.0	60.0	60.0	
Effective Green, g (s)		30.0			30.0		60.0	60.0	60.0	60.0	60.0	
Actuated g/C Ratio		0.30			0.30		0.60	0.60	0.60	0.60	0.60	
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		988			921		812	1117	840	826	872	
v/s Ratio Prot								0.02			c0.02	
v/s Ratio Perm		c0.08			0.06		0.01		0.00	0.01		
v/c Ratio		0.27			0.20		0.01	0.03	0.01	0.02	0.04	
Uniform Delay, d1		26.7			26.1		8.1	8.1	8.0	8.1	8.2	
Progression Factor		0.75			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.7			0.5		0.0	0.0	0.0	0.0	0.1	
Delay (s)		20.6			26.6		8.1	8.2	8.0	8.1	8.3	
Level of Service		C			C		A	A	A	A	A	
Approach Delay (s)		20.6			26.6			8.1			8.2	
Approach LOS		C			C			A			A	

Intersection Summary					
HCM 2000 Control Delay		20.3	HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio		0.12			
Actuated Cycle Length (s)		100.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization		32.2%	ICU Level of Service		A
Analysis Period (min)		15			
c Critical Lane Group					
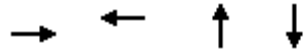
Lane Group	→ EBT	← WBT	↑ NBT	↓ SBT
Lane Group Flow (vph)	299	200	667	796
v/c Ratio	1.09	0.65	0.39	0.38
Control Delay	112.4	41.9	7.5	7.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	112.4	41.9	7.5	7.0
Queue Length 50th (ft)	~180	101	77	88
Queue Length 95th (ft)	138	158	100	97
Internal Link Dist (ft)	1259	545	566	617
Turn Bay Length (ft)				
Base Capacity (vph)	275	309	1701	2085
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.09	0.65	0.39	0.38

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⟷			⟷			⟷			⟷	
Volume (vph)	50	65	73	20	123	12	69	475	15	7	546	72
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			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.95			0.99			0.99			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1463			1568			3304			3279	
Flt Permitted		0.77			0.87			0.77			0.95	
Satd. Flow (perm)		1148			1372			2546			3113	
Peak-hour factor, PHF	0.63	0.56	0.70	0.63	0.83	0.60	0.86	0.85	0.54	0.88	0.78	0.82
Adj. Flow (vph)	79	116	104	32	148	20	80	559	28	8	700	88
RTOR Reduction (vph)	0	21	0	0	5	0	0	3	0	0	11	0
Lane Group Flow (vph)	0	278	0	0	195	0	0	664	0	0	785	0
Parking (#/hr)	13	13	13	8	8	8		2	2		3	3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		20.0			20.0			60.0			60.0	
Effective Green, g (s)		20.0			20.0			60.0			60.0	
Actuated g/C Ratio		0.22			0.22			0.67			0.67	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		255			304			1697			2075	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.14			c0.26			0.25	
v/c Ratio		1.09			0.64			0.39			0.38	
Uniform Delay, d1		35.0			31.8			6.8			6.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		82.5			10.0			0.7			0.5	
Delay (s)		117.5			41.8			7.4			7.2	
Level of Service		F			D			A			A	
Approach Delay (s)		117.5			41.8			7.4			7.2	
Approach LOS		F			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio	0.57			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization	65.0%	ICU Level of Service		C
Analysis Period (min)	15			
c Critical Lane Group				
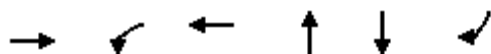
Lane Group	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	116	48	120	132	95	36
v/c Ratio	0.19	0.08	0.15	0.21	0.14	0.06
Control Delay	13.6	12.4	11.0	12.9	12.9	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	12.4	11.0	12.9	12.9	4.8
Queue Length 50th (ft)	30	12	26	32	24	0
Queue Length 95th (ft)	37	19	42	47	38	6
Internal Link Dist (ft)	545		1125	566	581	
Turn Bay Length (ft)		100				50
Base Capacity (vph)	600	592	788	616	696	617
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.08	0.15	0.21	0.14	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⟨⊕⟩		⬋	⬊			⟨⊕⟩			⬋	⬈
Volume (vph)	15	23	48	28	72	14	31	55	5	1	64	20
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			5.0			5.0	5.0
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	1.00
Frt		0.93		1.00	0.97			0.99			1.00	0.85
Flt Protected		0.99		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)		1459		1770	1816			1550			1636	1393
Flt Permitted		0.95		0.74	1.00			0.91			0.99	1.00
Satd. Flow (perm)		1401		1381	1816			1426			1626	1393
Peak-hour factor, PHF	0.75	0.58	0.86	0.58	0.72	0.70	0.78	0.69	0.42	0.25	0.70	0.56
Adj. Flow (vph)	20	40	56	48	100	20	40	80	12	4	91	36
RTOR Reduction (vph)	0	0	0	0	10	0	0	5	0	0	0	21
Lane Group Flow (vph)	0	116	0	48	110	0	0	127	0	0	95	15
Parking (#/hr)	11	11	11				9	9	9		4	4
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		30.0		30.0	30.0			30.0			30.0	30.0
Effective Green, g (s)		30.0		30.0	30.0			30.0			30.0	30.0
Actuated g/C Ratio		0.43		0.43	0.43			0.43			0.43	0.43
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	5.0
Lane Grp Cap (vph)		600		591	778			611			696	597
v/s Ratio Prot					0.06							
v/s Ratio Perm		c0.08		0.03				c0.09			0.06	0.01
v/c Ratio		0.19		0.08	0.14			0.21			0.14	0.03
Uniform Delay, d1		12.5		11.8	12.2			12.5			12.1	11.6
Progression Factor		1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2		0.7		0.3	0.4			0.8			0.4	0.1
Delay (s)		13.2		12.1	12.5			13.3			12.5	11.6
Level of Service		B		B	B			B			B	B
Approach Delay (s)		13.2			12.4			13.3			12.3	
Approach LOS		B			B			B			B	

Intersection Summary					
HCM 2000 Control Delay		12.8	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.20			
Actuated Cycle Length (s)		70.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization		31.6%	ICU Level of Service		A
Analysis Period (min)		15			
c Critical Lane Group					

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	301	112	482	64	493	76	875
v/c Ratio	0.10	0.29	0.37	0.46	0.21	0.24	0.15	0.41
Control Delay	26.8	25.1	23.2	19.8	11.3	9.0	9.7	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.8	25.1	23.2	19.8	11.3	9.0	9.7	11.3
Queue Length 50th (ft)	9	69	30	64	17	66	20	144
Queue Length 95th (ft)	18	85	67	80	22	92	26	138
Internal Link Dist (ft)		1270		545		629		566
Turn Bay Length (ft)	75		175		150		120	
Base Capacity (vph)	209	1051	299	1054	309	2095	511	2122
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.29	0.37	0.46	0.21	0.24	0.15	0.41

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↱	
Volume (vph)	12	186	52	105	291	35	35	425	30	45	633	6
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	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3440		1770	3486		1770	3470		1770	3534	
Flt Permitted	0.37	1.00		0.53	1.00		0.28	1.00		0.46	1.00	
Satd. Flow (perm)	696	3440		996	3486		516	3470		853	3534	
Peak-hour factor, PHF	0.60	0.76	0.93	0.94	0.67	0.73	0.55	0.99	0.47	0.59	0.73	0.75
Adj. Flow (vph)	20	245	56	112	434	48	64	429	64	76	867	8
RTOR Reduction (vph)	0	20	0	0	8	0	0	12	0	0	1	0
Lane Group Flow (vph)	20	281	0	112	474	0	64	481	0	76	874	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	30.0	30.0		30.0	30.0		60.0	60.0		60.0	60.0	
Effective Green, g (s)	30.0	30.0		30.0	30.0		60.0	60.0		60.0	60.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.60	0.60		0.60	0.60	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	208	1032		298	1045		309	2082		511	2120	
v/s Ratio Prot		0.08			c0.14			0.14			c0.25	
v/s Ratio Perm	0.03			0.11			0.12			0.09		
v/c Ratio	0.10	0.27		0.38	0.45		0.21	0.23		0.15	0.41	
Uniform Delay, d1	25.2	26.7		27.6	28.4		9.1	9.3		8.8	10.6	
Progression Factor	1.00	1.00		0.69	0.66		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.7		3.4	1.4		1.5	0.3		0.6	0.6	
Delay (s)	26.1	27.3		22.5	20.0		10.7	9.5		9.4	11.2	
Level of Service	C	C		C	C		B	A		A	B	
Approach Delay (s)		27.3			20.5			9.7			11.1	
Approach LOS		C			C			A			B	

Intersection Summary				
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.43			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	50.3%	ICU Level of Service	A	
Analysis Period (min)	15			

c   Critical Lane Group

Lane Group	→ EBT	← WBT	↖ NBL	↑ NBT	↗ NBR	↘ SBL	↓ SBT
Lane Group Flow (vph)	284	468	18	57	17	27	125
v/c Ratio	0.29	0.55	0.02	0.05	0.02	0.03	0.14
Control Delay	16.7	31.8	8.3	8.5	2.9	8.4	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	31.8	8.3	8.5	2.9	8.4	3.1
Queue Length 50th (ft)	37	128	4	14	0	7	7
Queue Length 95th (ft)	56	181	13	30	7	18	30
Internal Link Dist (ft)	545	1096		667			566
Turn Bay Length (ft)			100			75	
Base Capacity (vph)	973	853	756	1117	849	804	893
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.55	0.02	0.05	0.02	0.03	0.14

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↑	↱	↰	↥	
Volume (vph)	13	193	55	80	325	26	17	52	16	25	26	89
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	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95			0.95		1.00	1.00	1.00	1.00	1.00	
Frt		0.97			0.99		1.00	1.00	0.85	1.00	0.88	
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3419			3475		1770	1863	1401	1770	1424	
Flt Permitted		0.92			0.81		0.68	1.00	1.00	0.72	1.00	
Satd. Flow (perm)		3163			2828		1261	1863	1401	1341	1424	
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)	14	210	60	87	353	28	18	57	17	27	28	97
RTOR Reduction (vph)	0	25	0	0	5	0	0	0	7	0	39	0
Lane Group Flow (vph)	0	260	0	0	463	0	18	57	10	27	86	0
Parking (#/hr)									3		7	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		30.0			30.0		60.0	60.0	60.0	60.0	60.0	
Effective Green, g (s)		30.0			30.0		60.0	60.0	60.0	60.0	60.0	
Actuated g/C Ratio		0.30			0.30		0.60	0.60	0.60	0.60	0.60	
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		948			848		756	1117	840	804	854	
v/s Ratio Prot								0.03			c0.06	
v/s Ratio Perm		0.08			c0.16		0.01		0.01	0.02		
v/c Ratio		0.27			0.55		0.02	0.05	0.01	0.03	0.10	
Uniform Delay, d1		26.7			29.3		8.1	8.3	8.1	8.2	8.5	
Progression Factor		0.68			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.7			2.5		0.1	0.1	0.0	0.1	0.2	
Delay (s)		18.8			31.8		8.2	8.3	8.1	8.2	8.8	
Level of Service		B			C		A	A	A	A	A	
Approach Delay (s)		18.8			31.8			8.3			8.7	
Approach LOS		B			C			A			A	

Intersection Summary					
HCM 2000 Control Delay		22.4	HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio		0.25			
Actuated Cycle Length (s)		100.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization		40.2%	ICU Level of Service		A
Analysis Period (min)		15			
c Critical Lane Group					
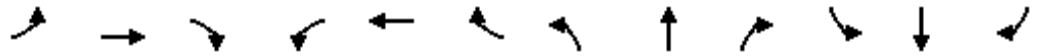
Lane Group	→ EBT	← WBT	↑ NBT	↓ SBT
Lane Group Flow (vph)	219	44	446	305
v/c Ratio	0.50	0.10	0.27	0.17
Control Delay	21.4	12.0	5.3	6.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.4	12.0	5.3	6.6
Queue Length 50th (ft)	63	6	27	25
Queue Length 95th (ft)	127	14	29	42
Internal Link Dist (ft)	1259	545	566	617
Turn Bay Length (ft)				
Base Capacity (vph)	442	432	1627	1835
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.50	0.10	0.27	0.17

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⊕			⊕			↟↟			↟↟	
Volume (vph)	27	97	40	7	17	5	39	271	9	0	226	26
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			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.96			0.98			0.99			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1473			1542			3297			3257	
Flt Permitted		0.94			0.91			0.88			1.00	
Satd. Flow (perm)		1393			1425			2909			3257	
Peak-hour factor, PHF	0.61	0.93	0.56	0.58	0.71	0.63	0.70	0.74	0.38	1.00	0.88	0.54
Adj. Flow (vph)	44	104	71	12	24	8	56	366	24	0	257	48
RTOR Reduction (vph)	0	25	0	0	6	0	0	6	0	0	21	0
Lane Group Flow (vph)	0	195	0	0	38	0	0	440	0	0	284	0
Parking (#/hr)	13	13	13	8	8	8		2	2		3	3
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		21.0			21.0			39.0			39.0	
Effective Green, g (s)		21.0			21.0			39.0			39.0	
Actuated g/C Ratio		0.30			0.30			0.56			0.56	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		417			427			1620			1814	
v/s Ratio Prot											0.09	
v/s Ratio Perm		c0.14			0.03			c0.15				
v/c Ratio		0.47			0.09			0.27			0.16	
Uniform Delay, d1		19.9			17.6			8.1			7.5	
Progression Factor		1.00			0.74			0.62			1.00	
Incremental Delay, d2		3.7			0.4			0.4			0.2	
Delay (s)		23.7			13.5			5.4			7.7	
Level of Service		C			B			A			A	
Approach Delay (s)		23.7			13.5			5.4			7.7	
Approach LOS		C			B			A			A	

Intersection Summary				
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.34			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	39.3%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				
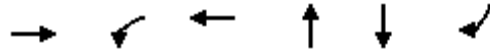
Lane Group	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	144	16	16	72	44	8
v/c Ratio	0.23	0.03	0.02	0.12	0.06	0.01
Control Delay	6.6	11.9	10.2	13.3	12.2	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	11.9	10.2	13.3	12.2	0.6
Queue Length 50th (ft)	13	4	3	17	11	0
Queue Length 95th (ft)	22	7	8	21	19	0
Internal Link Dist (ft)	545		1125	566	581	
Turn Bay Length (ft)		100				50
Base Capacity (vph)	630	565	770	614	692	614
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.03	0.02	0.12	0.06	0.01

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⟷		⤚	⤙			⟷			⤙	⤚
Volume (vph)	9	67	25	7	7	2	22	16	8	1	25	5
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			5.0			5.0	5.0
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	1.00
Frt		0.95		1.00	0.96			0.98			1.00	0.85
Flt Protected		0.99		0.95	1.00			0.98			1.00	1.00
Satd. Flow (prot)		1495		1770	1793			1527			1632	1393
Flt Permitted		0.98		0.71	1.00			0.91			0.99	1.00
Satd. Flow (perm)		1471		1319	1793			1418			1617	1393
Peak-hour factor, PHF	0.56	0.84	0.52	0.44	0.58	0.50	0.79	0.50	0.67	0.25	0.63	0.63
Adj. Flow (vph)	16	80	48	16	12	4	28	32	12	4	40	8
RTOR Reduction (vph)	0	0	0	0	2	0	0	7	0	0	0	5
Lane Group Flow (vph)	0	144	0	16	14	0	0	65	0	0	44	3
Parking (#/hr)	11	11	11				9	9	9		4	4
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		30.0		30.0	30.0			30.0			30.0	30.0
Effective Green, g (s)		30.0		30.0	30.0			30.0			30.0	30.0
Actuated g/C Ratio		0.43		0.43	0.43			0.43			0.43	0.43
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	5.0
Lane Grp Cap (vph)		630		565	768			607			693	597
v/s Ratio Prot					0.01							
v/s Ratio Perm		c0.10		0.01				c0.05			0.03	0.00
v/c Ratio		0.23		0.03	0.02			0.11			0.06	0.01
Uniform Delay, d1		12.7		11.6	11.5			12.0			11.7	11.5
Progression Factor		0.44		1.00	1.00			1.21			1.00	1.00
Incremental Delay, d2		0.8		0.1	0.0			0.4			0.2	0.0
Delay (s)		6.4		11.7	11.6			14.8			11.9	11.5
Level of Service		A		B	B			B			B	B
Approach Delay (s)		6.4			11.6			14.8			11.9	
Approach LOS		A			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.17			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	29.8%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				
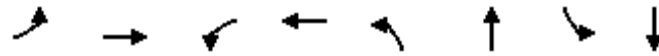
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	220	76	179	60	423	24	311
v/c Ratio	0.03	0.19	0.20	0.15	0.11	0.23	0.05	0.17
Control Delay	16.4	15.1	12.5	9.2	8.9	6.5	6.6	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	15.1	12.5	9.2	8.9	6.5	6.6	6.4
Queue Length 50th (ft)	3	30	15	14	12	32	4	24
Queue Length 95th (ft)	6	42	17	25	21	53	7	31
Internal Link Dist (ft)		1270		545		629		566
Turn Bay Length (ft)	75		175		150		120	
Base Capacity (vph)	391	1156	375	1155	554	1846	497	1859
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.19	0.20	0.15	0.11	0.23	0.05	0.17

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↑↱		↱	↑↱		↱	↑↱		↱	↑↱	
Volume (vph)	5	139	20	39	143	14	40	267	95	14	224	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	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3462		1770	3468		1770	3385		1770	3505	
Flt Permitted	0.64	1.00		0.61	1.00		0.56	1.00		0.51	1.00	
Satd. Flow (perm)	1190	3462		1144	3468		1048	3385		941	3505	
Peak-hour factor, PHF	0.42	0.74	0.63	0.51	0.92	0.58	0.67	0.89	0.77	0.58	0.77	0.45
Adj. Flow (vph)	12	188	32	76	155	24	60	300	123	24	291	20
RTOR Reduction (vph)	0	19	0	0	16	0	0	58	0	0	7	0
Lane Group Flow (vph)	12	201	0	76	163	0	60	365	0	24	304	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	23.0	23.0		23.0	23.0		37.0	37.0		37.0	37.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		37.0	37.0		37.0	37.0	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.53	0.53		0.53	0.53	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	391	1137		375	1139		553	1789		497	1852	
v/s Ratio Prot		0.06			0.05			c0.11			0.09	
v/s Ratio Perm	0.01			c0.07			0.06			0.03		
v/c Ratio	0.03	0.18		0.20	0.14		0.11	0.20		0.05	0.16	
Uniform Delay, d1	15.9	16.7		16.9	16.6		8.3	8.7		8.0	8.5	
Progression Factor	1.00	1.00		0.65	0.61		1.00	1.00		0.77	0.76	
Incremental Delay, d2	0.1	0.3		1.2	0.3		0.4	0.3		0.2	0.2	
Delay (s)	16.1	17.1		12.1	10.4		8.6	9.0		6.4	6.7	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		17.0			10.9			8.9			6.6	
Approach LOS		B			B			A			A	

Intersection Summary					
HCM 2000 Control Delay		10.2	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.20			
Actuated Cycle Length (s)		70.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization		38.2%	ICU Level of Service		A
Analysis Period (min)		15			

c   Critical Lane Group

Lane Group	EBT →	WBT ←	NBL ↖	NBT ↑	NBR ↗	SBL ↘	SBT ↓
Lane Group Flow (vph)	280	193	10	28	10	15	46
v/c Ratio	0.22	0.16	0.02	0.03	0.01	0.02	0.07
Control Delay	10.6	13.6	10.0	10.1	1.1	7.4	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	13.6	10.0	10.1	1.1	7.4	3.7
Queue Length 50th (ft)	30	25	2	6	0	3	0
Queue Length 95th (ft)	48	46	9	18	2	11	16
Internal Link Dist (ft)	545	1096		667			566
Turn Bay Length (ft)			100			75	
Base Capacity (vph)	1284	1204	638	878	676	649	700
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.16	0.02	0.03	0.01	0.02	0.07
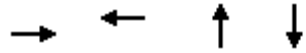
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↤↱			↤↱		↰	↑	↱	↰	↱	
Volume (vph)	8	224	26	27	139	12	9	26	9	14	15	28
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	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95			0.95		1.00	1.00	1.00	1.00	1.00	
Frt		0.98			0.99		1.00	1.00	0.85	1.00	0.90	
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3481			3477		1770	1863	1401	1770	1454	
Flt Permitted		0.95			0.89		0.73	1.00	1.00	0.74	1.00	
Satd. Flow (perm)		3298			3104		1354	1863	1401	1377	1454	
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	243	28	29	151	13	10	28	10	15	16	30
RTOR Reduction (vph)	0	12	0	0	7	0	0	0	5	0	16	0
Lane Group Flow (vph)	0	268	0	0	186	0	10	28	5	15	30	0
Parking (#/hr)									3		7	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		27.0			27.0		33.0	33.0	33.0	33.0	33.0	
Effective Green, g (s)		27.0			27.0		33.0	33.0	33.0	33.0	33.0	
Actuated g/C Ratio		0.39			0.39		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		1272			1197		638	878	660	649	685	
v/s Ratio Prot								0.02			c0.02	
v/s Ratio Perm		c0.08			0.06		0.01		0.00	0.01		
v/c Ratio		0.21			0.16		0.02	0.03	0.01	0.02	0.04	
Uniform Delay, d1		14.4			14.0		9.9	9.9	9.8	9.9	10.0	
Progression Factor		0.75			1.00		1.00	1.00	1.00	0.73	0.62	
Incremental Delay, d2		0.4			0.3		0.0	0.1	0.0	0.1	0.1	
Delay (s)		11.2			14.3		9.9	10.0	9.8	7.3	6.4	
Level of Service		B			B		A	A	A	A	A	
Approach Delay (s)		11.2			14.3			9.9			6.6	
Approach LOS		B			B			A			A	

Intersection Summary						
HCM 2000 Control Delay		11.6		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.12				
Actuated Cycle Length (s)		70.0		Sum of lost time (s)		10.0
Intersection Capacity Utilization		32.2%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

Lane Group	→ EBT	← WBT	↑ NBT	↓ SBT
Lane Group Flow (vph)	299	200	667	796
v/c Ratio	0.61	0.38	0.52	0.51
Control Delay	22.1	15.5	10.9	12.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.1	15.5	10.9	12.7
Queue Length 50th (ft)	88	51	68	108
Queue Length 95th (ft)	81	84	87	125
Internal Link Dist (ft)	1259	545	566	617
Turn Bay Length (ft)				
Base Capacity (vph)	489	522	1288	1569
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.61	0.38	0.52	0.51

Intersection Summary
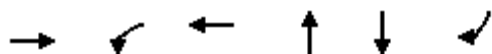
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↮			↮	
Volume (vph)	50	65	73	20	123	12	69	475	15	7	546	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.95			0.99			0.99			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1463			1568			3304			3279	
Flt Permitted		0.87			0.92			0.77			0.95	
Satd. Flow (perm)		1294			1449			2566			3112	
Peak-hour factor, PHF	0.63	0.56	0.70	0.63	0.83	0.60	0.86	0.85	0.54	0.88	0.78	0.82
Adj. Flow (vph)	79	116	104	32	148	20	80	559	28	8	700	88
RTOR Reduction (vph)	0	28	0	0	6	0	0	5	0	0	14	0
Lane Group Flow (vph)	0	271	0	0	194	0	0	663	0	0	783	0
Parking (#/hr)	13	13	13	8	8	8		2	2		3	3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		25.0			25.0			35.0			35.0	
Effective Green, g (s)		25.0			25.0			35.0			35.0	
Actuated g/C Ratio		0.36			0.36			0.50			0.50	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		462			517			1283			1556	
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.13			c0.26			0.25	
v/c Ratio		0.59			0.38			0.52			0.50	
Uniform Delay, d1		18.3			16.7			11.8			11.7	
Progression Factor		1.00			0.81			0.79			1.00	
Incremental Delay, d2		5.4			2.1			1.5			1.2	
Delay (s)		23.7			15.7			10.7			12.9	
Level of Service		C			B			B			B	
Approach Delay (s)		23.7			15.7			10.7			12.9	
Approach LOS		C			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	14.1		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55			
Actuated Cycle Length (s)	70.0		Sum of lost time (s)	10.0
Intersection Capacity Utilization	65.0%		ICU Level of Service	C
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	116	48	120	132	95	36
v/c Ratio	0.19	0.08	0.15	0.21	0.14	0.06
Control Delay	8.2	12.4	11.0	11.1	12.9	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	12.4	11.0	11.1	12.9	4.8
Queue Length 50th (ft)	17	12	26	27	24	0
Queue Length 95th (ft)	22	19	42	41	38	6
Internal Link Dist (ft)	545		1125	566	581	
Turn Bay Length (ft)		100				50
Base Capacity (vph)	600	592	788	616	696	617
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.08	0.15	0.21	0.14	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⊕		⤴	⇡			⊕			⬎	⬏
Volume (vph)	15	23	48	28	72	14	31	55	5	1	64	20
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			5.0			5.0	5.0
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	1.00
Frt		0.93		1.00	0.97			0.99			1.00	0.85
Flt Protected		0.99		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)		1459		1770	1816			1550			1636	1393
Flt Permitted		0.95		0.74	1.00			0.91			0.99	1.00
Satd. Flow (perm)		1401		1381	1816			1426			1626	1393
Peak-hour factor, PHF	0.75	0.58	0.86	0.58	0.72	0.70	0.78	0.69	0.42	0.25	0.70	0.56
Adj. Flow (vph)	20	40	56	48	100	20	40	80	12	4	91	36
RTOR Reduction (vph)	0	0	0	0	10	0	0	5	0	0	0	21
Lane Group Flow (vph)	0	116	0	48	110	0	0	127	0	0	95	15
Parking (#/hr)	11	11	11				9	9	9		4	4
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		30.0		30.0	30.0			30.0			30.0	30.0
Effective Green, g (s)		30.0		30.0	30.0			30.0			30.0	30.0
Actuated g/C Ratio		0.43		0.43	0.43			0.43			0.43	0.43
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	5.0
Lane Grp Cap (vph)		600		591	778			611			696	597
v/s Ratio Prot					0.06							
v/s Ratio Perm		c0.08		0.03				c0.09			0.06	0.01
v/c Ratio		0.19		0.08	0.14			0.21			0.14	0.03
Uniform Delay, d1		12.5		11.8	12.2			12.5			12.1	11.6
Progression Factor		0.59		1.00	1.00			0.85			1.00	1.00
Incremental Delay, d2		0.6		0.3	0.4			0.8			0.4	0.1
Delay (s)		7.9		12.1	12.5			11.5			12.5	11.6
Level of Service		A		B	B			B			B	B
Approach Delay (s)		7.9			12.4			11.5			12.3	
Approach LOS		A			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.20			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	31.6%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				
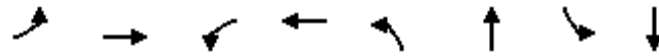
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	301	112	482	64	493	76	875
v/c Ratio	0.09	0.30	0.37	0.48	0.21	0.25	0.15	0.43
Control Delay	19.9	17.8	17.8	15.1	9.7	7.2	5.0	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	17.8	17.8	15.1	9.7	7.2	5.0	5.5
Queue Length 50th (ft)	6	45	24	51	12	45	9	55
Queue Length 95th (ft)	14	61	50	56	17	68	11	51
Internal Link Dist (ft)		1270		545		629		566
Turn Bay Length (ft)	75		175		150		120	
Base Capacity (vph)	213	1011	302	1008	298	2000	501	2021
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.30	0.37	0.48	0.21	0.25	0.15	0.43

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↳		↰	↑↑↳		↰	↑↑↳		↰	↑↑↳	
Volume (vph)	12	186	52	105	291	35	35	425	30	45	633	6
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	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3440		1770	3486		1770	3470		1770	3534	
Flt Permitted	0.40	1.00		0.57	1.00		0.28	1.00		0.47	1.00	
Satd. Flow (perm)	746	3440		1058	3486		524	3470		878	3534	
Peak-hour factor, PHF	0.60	0.76	0.93	0.94	0.67	0.73	0.55	0.99	0.47	0.59	0.73	0.75
Adj. Flow (vph)	20	245	56	112	434	48	64	429	64	76	867	8
RTOR Reduction (vph)	0	29	0	0	12	0	0	17	0	0	1	0
Lane Group Flow (vph)	20	272	0	112	470	0	64	476	0	76	874	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	20.0	20.0		20.0	20.0		40.0	40.0		40.0	40.0	
Effective Green, g (s)	20.0	20.0		20.0	20.0		40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.57	0.57		0.57	0.57	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	213	982		302	996		299	1982		501	2019	
v/s Ratio Prot		0.08			c0.13			0.14			c0.25	
v/s Ratio Perm	0.03			0.11			0.12			0.09		
v/c Ratio	0.09	0.28		0.37	0.47		0.21	0.24		0.15	0.43	
Uniform Delay, d1	18.3	19.4		20.0	20.6		7.3	7.5		7.0	8.5	
Progression Factor	1.00	1.00		0.69	0.67		1.00	1.00		0.60	0.56	
Incremental Delay, d2	0.9	0.7		3.4	1.6		1.6	0.3		0.6	0.6	
Delay (s)	19.2	20.1		17.2	15.4		9.0	7.7		4.8	5.4	
Level of Service	B	C		B	B		A	A		A	A	
Approach Delay (s)		20.0			15.7			7.9			5.3	
Approach LOS		C			B			A			A	

Intersection Summary				
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.45			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	50.3%	ICU Level of Service	A	
Analysis Period (min)	15			

c   Critical Lane Group

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	284	468	18	57	17	27	125
v/c Ratio	0.23	0.43	0.03	0.06	0.02	0.04	0.17
Control Delay	8.9	17.6	9.6	9.9	2.4	6.7	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	17.6	9.6	9.9	2.4	6.7	3.0
Queue Length 50th (ft)	21	75	4	12	0	5	0
Queue Length 95th (ft)	43	114	13	29	6	15	1
Internal Link Dist (ft)	545	1096		667			566
Turn Bay Length (ft)			100			75	
Base Capacity (vph)	1212	1084	612	904	696	651	741
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.43	0.03	0.06	0.02	0.04	0.17

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↱			↰↱		⤴	↑	⤵	⤴	↰	
Volume (vph)	13	193	55	80	325	26	17	52	16	25	26	89
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	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95			0.95		1.00	1.00	1.00	1.00	1.00	
Frt		0.97			0.99		1.00	1.00	0.85	1.00	0.88	
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3419			3475		1770	1863	1401	1770	1424	
Flt Permitted		0.93			0.83		0.68	1.00	1.00	0.72	1.00	
Satd. Flow (perm)		3174			2902		1261	1863	1401	1341	1424	
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)	14	210	60	87	353	28	18	57	17	27	28	97
RTOR Reduction (vph)	0	35	0	0	7	0	0	0	9	0	50	0
Lane Group Flow (vph)	0	249	0	0	461	0	18	57	8	27	75	0
Parking (#/hr)									3		7	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		26.0			26.0		34.0	34.0	34.0	34.0	34.0	
Effective Green, g (s)		26.0			26.0		34.0	34.0	34.0	34.0	34.0	
Actuated g/C Ratio		0.37			0.37		0.49	0.49	0.49	0.49	0.49	
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		1178			1077		612	904	680	651	691	
v/s Ratio Prot								0.03			c0.05	
v/s Ratio Perm		0.08			c0.16		0.01		0.01	0.02		
v/c Ratio		0.21			0.43		0.03	0.06	0.01	0.04	0.11	
Uniform Delay, d1		15.0			16.4		9.4	9.5	9.3	9.4	9.8	
Progression Factor		0.69			1.00		1.00	1.00	1.00	0.68	0.68	
Incremental Delay, d2		0.4			1.2		0.1	0.1	0.0	0.1	0.3	
Delay (s)		10.7			17.7		9.5	9.7	9.3	6.5	6.9	
Level of Service		B			B		A	A	A	A	A	
Approach Delay (s)		10.7			17.7			9.6			6.9	
Approach LOS		B			B			A			A	

Intersection Summary				
HCM 2000 Control Delay		13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio		0.25		
Actuated Cycle Length (s)		70.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization		40.2%	ICU Level of Service	A
Analysis Period (min)		15		
c Critical Lane Group				

Lane Group	→ EBT	← WBT	↑ NBT	↓ SBT
Lane Group Flow (vph)	243	51	490	338
v/c Ratio	0.53	0.11	0.31	0.20
Control Delay	21.6	10.9	6.2	7.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.6	10.9	6.2	7.3
Queue Length 50th (ft)	71	12	34	30
Queue Length 95th (ft)	138	26	36	48
Internal Link Dist (ft)	1259	545	566	617
Turn Bay Length (ft)				
Base Capacity (vph)	461	450	1571	1708
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.53	0.11	0.31	0.20

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		♦			♦			♠♦			♠♦	
Volume (vph)	30	107	44	8	19	6	43	298	10	1	249	29
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			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.96			0.97			0.99			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1472			1538			3297			3255	
Flt Permitted		0.93			0.90			0.87			0.95	
Satd. Flow (perm)		1389			1411			2883			3107	
Peak-hour factor, PHF	0.61	0.93	0.56	0.58	0.71	0.63	0.70	0.74	0.38	1.00	0.88	0.54
Adj. Flow (vph)	49	115	79	14	27	10	61	403	26	1	283	54
RTOR Reduction (vph)	0	25	0	0	7	0	0	6	0	0	22	0
Lane Group Flow (vph)	0	218	0	0	44	0	0	484	0	0	316	0
Parking (#/hr)	13	13	13	8	8	8		2	2		3	3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		22.0			22.0			38.0			38.0	
Effective Green, g (s)		22.0			22.0			38.0			38.0	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		436			443			1565			1686	
v/s Ratio Prot												
v/s Ratio Perm		c0.16			0.03			c0.17			0.10	
v/c Ratio		0.50			0.10			0.31			0.19	
Uniform Delay, d1		19.5			17.0			8.8			8.1	
Progression Factor		1.00			0.70			0.65			1.00	
Incremental Delay, d2		4.1			0.4			0.5			0.2	
Delay (s)		23.6			12.4			6.2			8.4	
Level of Service		C			B			A			A	
Approach Delay (s)		23.6			12.4			6.2			8.4	
Approach LOS		C			B			A			A	

Intersection Summary					
HCM 2000 Control Delay		10.9	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.38			
Actuated Cycle Length (s)		70.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization		42.1%	ICU Level of Service		A
Analysis Period (min)		15			
c Critical Lane Group					
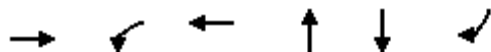
	→	↰	←	↑	↓	↲
Lane Group	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	160	18	18	79	48	10
v/c Ratio	0.25	0.03	0.02	0.13	0.07	0.02
Control Delay	7.6	11.9	10.3	9.6	12.2	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	11.9	10.3	9.6	12.2	1.3
Queue Length 50th (ft)	21	4	3	17	12	0
Queue Length 95th (ft)	31	7	8	22	20	0
Internal Link Dist (ft)	545		1125	566	581	
Turn Bay Length (ft)		100				50
Base Capacity (vph)	628	549	774	614	693	614
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.03	0.02	0.13	0.07	0.02

Intersection Summary
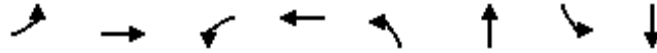
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⊕		⬆	⬆			⊕			⬆	⬆
Volume (vph)	10	74	28	8	8	2	24	18	9	1	28	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	5.0
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	1.00
Frt		0.95		1.00	0.97			0.98			1.00	0.85
Flt Protected		0.99		0.95	1.00			0.98			1.00	1.00
Satd. Flow (prot)		1494		1770	1801			1528			1632	1393
Flt Permitted		0.98		0.69	1.00			0.91			0.99	1.00
Satd. Flow (perm)		1468		1283	1801			1416			1618	1393
Peak-hour factor, PHF	0.56	0.84	0.52	0.44	0.58	0.50	0.79	0.50	0.67	0.25	0.63	0.63
Adj. Flow (vph)	18	88	54	18	14	4	30	36	13	4	44	10
RTOR Reduction (vph)	0	0	0	0	2	0	0	7	0	0	0	6
Lane Group Flow (vph)	0	160	0	18	16	0	0	72	0	0	48	4
Parking (#/hr)	11	11	11				9	9	9		4	4
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		30.0		30.0	30.0			30.0			30.0	30.0
Effective Green, g (s)		30.0		30.0	30.0			30.0			30.0	30.0
Actuated g/C Ratio		0.43		0.43	0.43			0.43			0.43	0.43
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	5.0
Lane Grp Cap (vph)		629		549	771			606			693	597
v/s Ratio Prot					0.01							
v/s Ratio Perm		c0.11		0.01				c0.05			0.03	0.00
v/c Ratio		0.25		0.03	0.02			0.12			0.07	0.01
Uniform Delay, d1		12.8		11.6	11.5			12.0			11.8	11.5
Progression Factor		0.50		1.00	1.00			0.86			1.00	1.00
Incremental Delay, d2		0.9		0.1	0.0			0.4			0.2	0.0
Delay (s)		7.4		11.7	11.6			10.7			12.0	11.5
Level of Service		A		B	B			B			B	B
Approach Delay (s)		7.4			11.6			10.7			11.9	
Approach LOS		A			B			B			B	

Intersection Summary				
HCM 2000 Control Delay		9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio		0.19		
Actuated Cycle Length (s)		70.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization		30.6%	ICU Level of Service	A
Analysis Period (min)		15		
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	14	242	84	197	66	466	26	341
v/c Ratio	0.04	0.21	0.23	0.17	0.12	0.25	0.05	0.18
Control Delay	16.5	15.4	13.4	9.8	9.1	6.6	6.4	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	15.4	13.4	9.8	9.1	6.6	6.4	6.4
Queue Length 50th (ft)	4	34	17	15	13	36	4	24
Queue Length 95th (ft)	7	46	19	28	23	58	m7	30
Internal Link Dist (ft)		1270		545		629		566
Turn Bay Length (ft)	75		175		150		120	
Base Capacity (vph)	384	1156	368	1156	538	1852	474	1859
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.21	0.23	0.17	0.12	0.25	0.05	0.18

Intersection Summary

m   Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↑↱		↱	↑↱		↱	↑↱		↱	↑↱	
Volume (vph)	6	153	22	43	157	15	44	294	105	15	246	10
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	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3462		1770	3469		1770	3384		1770	3505	
Flt Permitted	0.63	1.00		0.60	1.00		0.55	1.00		0.48	1.00	
Satd. Flow (perm)	1170	3462		1120	3469		1018	3384		897	3505	
Peak-hour factor, PHF	0.42	0.74	0.63	0.51	0.92	0.58	0.67	0.89	0.77	0.58	0.77	0.45
Adj. Flow (vph)	14	207	35	84	171	26	66	330	136	26	319	22
RTOR Reduction (vph)	0	19	0	0	17	0	0	64	0	0	7	0
Lane Group Flow (vph)	14	223	0	84	180	0	66	402	0	26	334	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	23.0	23.0		23.0	23.0		37.0	37.0		37.0	37.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		37.0	37.0		37.0	37.0	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.53	0.53		0.53	0.53	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	384	1137		368	1139		538	1788		474	1852	
v/s Ratio Prot		0.06			0.05			c0.12			0.10	
v/s Ratio Perm	0.01			c0.07			0.06			0.03		
v/c Ratio	0.04	0.20		0.23	0.16		0.12	0.22		0.05	0.18	
Uniform Delay, d1	16.0	16.9		17.1	16.6		8.3	8.8		8.0	8.6	
Progression Factor	1.00	1.00		0.67	0.65		1.00	1.00		0.75	0.75	
Incremental Delay, d2	0.2	0.4		1.4	0.3		0.5	0.3		0.2	0.2	
Delay (s)	16.1	17.2		12.9	11.0		8.8	9.1		6.2	6.6	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		17.2			11.6			9.1			6.6	
Approach LOS		B			B			A			A	

Intersection Summary				
HCM 2000 Control Delay		10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio		0.23		
Actuated Cycle Length (s)		70.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization		39.7%	ICU Level of Service	A
Analysis Period (min)		15		

c   Critical Lane Group

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	309	213	11	32	11	16	52
v/c Ratio	0.24	0.18	0.02	0.04	0.02	0.02	0.07
Control Delay	10.6	13.9	10.0	10.2	1.4	9.4	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	13.9	10.0	10.2	1.4	9.4	5.7
Queue Length 50th (ft)	32	28	2	7	0	3	0
Queue Length 95th (ft)	51	51	10	20	3	10	15
Internal Link Dist (ft)	545	1096		667			566
Turn Bay Length (ft)			100			75	
Base Capacity (vph)	1281	1191	635	878	676	646	702
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.18	0.02	0.04	0.02	0.02	0.07

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↱			↰↱		↰	↑	↱	↰	↱	
Volume (vph)	9	246	29	30	153	13	10	29	10	15	17	31
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	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95			0.95		1.00	1.00	1.00	1.00	1.00	
Frt		0.98			0.99		1.00	1.00	0.85	1.00	0.90	
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3479			3477		1770	1863	1401	1770	1453	
Flt Permitted		0.95			0.88		0.72	1.00	1.00	0.74	1.00	
Satd. Flow (perm)		3293			3070		1347	1863	1401	1372	1453	
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)	10	267	32	33	166	14	11	32	11	16	18	34
RTOR Reduction (vph)	0	12	0	0	7	0	0	0	6	0	18	0
Lane Group Flow (vph)	0	297	0	0	206	0	11	32	5	16	34	0
Parking (#/hr)									3		7	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		27.0			27.0		33.0	33.0	33.0	33.0	33.0	
Effective Green, g (s)		27.0			27.0		33.0	33.0	33.0	33.0	33.0	
Actuated g/C Ratio		0.39			0.39		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		1270			1184		635	878	660	646	684	
v/s Ratio Prot								0.02			c0.02	
v/s Ratio Perm		c0.09			0.07		0.01		0.00	0.01		
v/c Ratio		0.23			0.17		0.02	0.04	0.01	0.02	0.05	
Uniform Delay, d1		14.5			14.2		9.9	9.9	9.8	9.9	10.0	
Progression Factor		0.74			1.00		1.00	1.00	1.00	0.93	1.01	
Incremental Delay, d2		0.4			0.3		0.0	0.1	0.0	0.1	0.1	
Delay (s)		11.1			14.5		9.9	10.0	9.8	9.2	10.2	
Level of Service		B			B		A	B	A	A	B	
Approach Delay (s)		11.1			14.5			10.0			10.0	
Approach LOS		B			B			A			A	

Intersection Summary				
HCM 2000 Control Delay		12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio		0.13		
Actuated Cycle Length (s)		70.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization		33.5%	ICU Level of Service	A
Analysis Period (min)		15		
c Critical Lane Group				

	→	←	↑	↓
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	330	220	734	876
v/c Ratio	0.68	0.42	0.60	0.56
Control Delay	25.1	16.0	12.5	13.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	25.1	16.0	12.5	13.4
Queue Length 50th (ft)	103	56	84	124
Queue Length 95th (ft)	91	91	106	141
Internal Link Dist (ft)	1259	545	566	617
Turn Bay Length (ft)				
Base Capacity (vph)	486	519	1218	1567
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.68	0.42	0.60	0.56

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⟡			⟡			⟡			⟡	
Volume (vph)	55	72	80	22	135	13	76	523	17	8	601	79
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			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.95			0.99			0.99			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1464			1568			3304			3279	
Flt Permitted		0.87			0.91			0.73			0.95	
Satd. Flow (perm)		1287			1439			2425			3108	
Peak-hour factor, PHF	0.63	0.56	0.70	0.63	0.83	0.60	0.86	0.85	0.54	0.88	0.78	0.82
Adj. Flow (vph)	87	129	114	35	163	22	88	615	31	9	771	96
RTOR Reduction (vph)	0	27	0	0	6	0	0	5	0	0	14	0
Lane Group Flow (vph)	0	303	0	0	214	0	0	730	0	0	863	0
Parking (#/hr)	13	13	13	8	8	8		2	2		3	3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		25.0			25.0			35.0			35.0	
Effective Green, g (s)		25.0			25.0			35.0			35.0	
Actuated g/C Ratio		0.36			0.36			0.50			0.50	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		459			513			1212			1554	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.15			c0.30			0.28	
v/c Ratio		0.66			0.42			0.60			0.56	
Uniform Delay, d1		18.9			17.0			12.5			12.1	
Progression Factor		1.00			0.80			0.81			1.00	
Incremental Delay, d2		7.3			2.5			2.2			1.4	
Delay (s)		26.2			16.0			12.3			13.5	
Level of Service		C			B			B			B	
Approach Delay (s)		26.2			16.0			12.3			13.5	
Approach LOS		C			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	70.2%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	128	53	131	146	104	39
v/c Ratio	0.21	0.09	0.17	0.24	0.15	0.06
Control Delay	8.5	12.5	11.4	11.0	13.0	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	12.5	11.4	11.0	13.0	4.7
Queue Length 50th (ft)	18	13	29	31	26	0
Queue Length 95th (ft)	25	20	46	45	41	6
Internal Link Dist (ft)	545		1125	566	581	
Turn Bay Length (ft)		100				50
Base Capacity (vph)	596	579	788	612	697	619
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.09	0.17	0.24	0.15	0.06

Intersection Summary
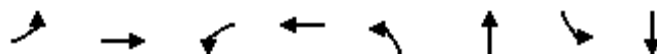
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⟷		⬏	⬐			⟷			⬏	⬐
Volume (vph)	17	25	53	31	79	15	34	61	6	1	70	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	5.0
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	1.00
Frt		0.93		1.00	0.98			0.99			1.00	0.85
Flt Protected		0.99		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)		1458		1770	1818			1549			1636	1393
Flt Permitted		0.95		0.73	1.00			0.90			0.99	1.00
Satd. Flow (perm)		1392		1353	1818			1417			1627	1393
Peak-hour factor, PHF	0.75	0.58	0.86	0.58	0.72	0.70	0.78	0.69	0.42	0.25	0.70	0.56
Adj. Flow (vph)	23	43	62	53	110	21	44	88	14	4	100	39
RTOR Reduction (vph)	0	0	0	0	10	0	0	6	0	0	0	22
Lane Group Flow (vph)	0	128	0	53	121	0	0	140	0	0	104	17
Parking (#/hr)	11	11	11				9	9	9		4	4
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		30.0		30.0	30.0			30.0			30.0	30.0
Effective Green, g (s)		30.0		30.0	30.0			30.0			30.0	30.0
Actuated g/C Ratio		0.43		0.43	0.43			0.43			0.43	0.43
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	5.0
Lane Grp Cap (vph)		596		579	779			607			697	597
v/s Ratio Prot					0.07							
v/s Ratio Perm		c0.09		0.04				c0.10			0.06	0.01
v/c Ratio		0.21		0.09	0.16			0.23			0.15	0.03
Uniform Delay, d1		12.6		11.9	12.2			12.7			12.2	11.6
Progression Factor		0.61		1.00	1.00			0.83			1.00	1.00
Incremental Delay, d2		0.6		0.3	0.4			0.9			0.5	0.1
Delay (s)		8.2		12.2	12.7			11.4			12.7	11.7
Level of Service		A		B	B			B			B	B
Approach Delay (s)		8.2			12.5			11.4			12.4	
Approach LOS		A			B			B			B	

Intersection Summary					
HCM 2000 Control Delay		11.3	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.22			
Actuated Cycle Length (s)		70.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization		32.6%	ICU Level of Service		A
Analysis Period (min)		15			
c Critical Lane Group					

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	331	123	531	71	543	85	962
v/c Ratio	0.12	0.33	0.43	0.53	0.27	0.27	0.18	0.48
Control Delay	20.5	18.4	19.5	16.0	11.0	7.4	4.3	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	18.4	19.5	16.0	11.0	7.4	4.3	4.6
Queue Length 50th (ft)	7	51	26	56	14	51	8	50
Queue Length 95th (ft)	15	67	55	64	20	76	10	46
Internal Link Dist (ft)		1270		545		629		566
Turn Bay Length (ft)	75		175		150		120	
Base Capacity (vph)	191	1010	288	1008	262	2000	470	2021
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.33	0.43	0.53	0.27	0.27	0.18	0.48

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↱	
Volume (vph)	13	205	57	116	320	39	39	468	33	50	696	7
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	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3441		1770	3486		1770	3471		1770	3534	
Flt Permitted	0.36	1.00		0.54	1.00		0.25	1.00		0.44	1.00	
Satd. Flow (perm)	670	3441		1010	3486		461	3471		823	3534	
Peak-hour factor, PHF	0.60	0.76	0.93	0.94	0.67	0.73	0.55	0.99	0.47	0.59	0.73	0.75
Adj. Flow (vph)	22	270	61	123	478	53	71	473	70	85	953	9
RTOR Reduction (vph)	0	28	0	0	12	0	0	17	0	0	1	0
Lane Group Flow (vph)	22	303	0	123	519	0	71	526	0	85	961	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	20.0	20.0		20.0	20.0		40.0	40.0		40.0	40.0	
Effective Green, g (s)	20.0	20.0		20.0	20.0		40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.57	0.57		0.57	0.57	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	191	983		288	996		263	1983		470	2019	
v/s Ratio Prot		0.09			c0.15			0.15			c0.27	
v/s Ratio Perm	0.03			0.12			0.15			0.10		
v/c Ratio	0.12	0.31		0.43	0.52		0.27	0.27		0.18	0.48	
Uniform Delay, d1	18.5	19.6		20.3	21.0		7.6	7.6		7.2	8.8	
Progression Factor	1.00	1.00		0.70	0.68		1.00	1.00		0.47	0.44	
Incremental Delay, d2	1.2	0.8		4.4	1.9		2.5	0.3		0.7	0.7	
Delay (s)	19.7	20.4		18.7	16.2		10.1	7.9		4.1	4.6	
Level of Service	B	C		B	B		B	A		A	A	
Approach Delay (s)		20.4			16.7			8.2			4.5	
Approach LOS		C			B			A			A	

Intersection Summary					
HCM 2000 Control Delay		10.4	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.49			
Actuated Cycle Length (s)		70.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization		53.4%	ICU Level of Service		A
Analysis Period (min)		15			

c   Critical Lane Group

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	311	517	21	62	20	30	139
v/c Ratio	0.26	0.48	0.03	0.07	0.03	0.05	0.19
Control Delay	11.5	18.4	9.7	9.9	2.9	7.7	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	18.4	9.7	9.9	2.9	7.7	3.9
Queue Length 50th (ft)	26	85	4	13	0	6	3
Queue Length 95th (ft)	61	127	15	32	7	18	10
Internal Link Dist (ft)	545	1096		667			566
Turn Bay Length (ft)			100			75	
Base Capacity (vph)	1209	1069	604	904	696	648	747
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.48	0.03	0.07	0.03	0.05	0.19

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↤↦			↤↦		↰	↑	↱	↰	↥	
Volume (vph)	14	212	61	88	358	29	19	57	18	28	29	98
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	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95			0.95		1.00	1.00	1.00	1.00	1.00	
Frt		0.97			0.99		1.00	1.00	0.85	1.00	0.88	
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3418			3474		1770	1863	1401	1770	1425	
Flt Permitted		0.92			0.82		0.67	1.00	1.00	0.72	1.00	
Satd. Flow (perm)		3164			2862		1245	1863	1401	1335	1425	
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	230	66	96	389	32	21	62	20	30	32	107
RTOR Reduction (vph)	0	35	0	0	7	0	0	0	10	0	55	0
Lane Group Flow (vph)	0	276	0	0	510	0	21	62	10	30	84	0
Parking (#/hr)									3		7	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		26.0			26.0		34.0	34.0	34.0	34.0	34.0	
Effective Green, g (s)		26.0			26.0		34.0	34.0	34.0	34.0	34.0	
Actuated g/C Ratio		0.37			0.37		0.49	0.49	0.49	0.49	0.49	
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		1175			1063		604	904	680	648	692	
v/s Ratio Prot								0.03			c0.06	
v/s Ratio Perm		0.09			c0.18		0.02		0.01	0.02		
v/c Ratio		0.24			0.48		0.03	0.07	0.01	0.05	0.12	
Uniform Delay, d1		15.2			16.8		9.4	9.6	9.3	9.5	9.8	
Progression Factor		0.87			1.00		1.00	1.00	1.00	0.78	0.92	
Incremental Delay, d2		0.5			1.6		0.1	0.1	0.0	0.1	0.4	
Delay (s)		13.6			18.4		9.5	9.7	9.4	7.5	9.4	
Level of Service		B			B		A	A	A	A	A	
Approach Delay (s)		13.6			18.4			9.6			9.1	
Approach LOS		B			B			A			A	

Intersection Summary				
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.28			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	49.1%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				
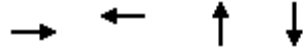
		→	←	↑	↓
Lane Group		EBT	WBT	NBT	SBT
Lane Group Flow (vph)		246	51	646	358
v/c Ratio		0.56	0.12	0.43	0.20
Control Delay		23.0	12.2	7.7	7.0
Queue Delay		0.0	0.0	0.0	0.0
Total Delay		23.0	12.2	7.7	7.0
Queue Length 50th (ft)		74	8	55	31
Queue Length 95th (ft)		144	16	58	50
Internal Link Dist (ft)		1259	545	206	617
Turn Bay Length (ft)					
Base Capacity (vph)		442	429	1519	1752
Starvation Cap Reductn		0	0	0	0
Spillback Cap Reductn		0	0	0	0
Storage Cap Reductn		0	0	0	0
Reduced v/c Ratio		0.56	0.12	0.43	0.20

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⟷			⟷			⟷			⟷	
Volume (vph)	30	107	46	8	19	6	75	375	12	1	267	29
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			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.95			0.97			0.99			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1471			1538			3292			3260	
Flt Permitted		0.93			0.90			0.82			0.95	
Satd. Flow (perm)		1387			1407			2716			3111	
Peak-hour factor, PHF	0.61	0.93	0.56	0.58	0.71	0.63	0.70	0.74	0.38	1.00	0.88	0.54
Adj. Flow (vph)	49	115	82	14	27	10	107	507	32	1	303	54
RTOR Reduction (vph)	0	26	0	0	7	0	0	5	0	0	21	0
Lane Group Flow (vph)	0	220	0	0	44	0	0	641	0	0	337	0
Parking (#/hr)	13	13	13	8	8	8		2	2		3	3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		21.0			21.0			39.0			39.0	
Effective Green, g (s)		21.0			21.0			39.0			39.0	
Actuated g/C Ratio		0.30			0.30			0.56			0.56	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		416			422			1513			1733	
v/s Ratio Prot												
v/s Ratio Perm		c0.16			0.03			c0.24			0.11	
v/c Ratio		0.53			0.10			0.42			0.19	
Uniform Delay, d1		20.4			17.7			9.0			7.7	
Progression Factor		1.00			0.75			0.76			1.00	
Incremental Delay, d2		4.8			0.5			0.9			0.3	
Delay (s)		25.1			13.9			7.7			7.9	
Level of Service		C			B			A			A	
Approach Delay (s)		25.1			13.9			7.7			7.9	
Approach LOS		C			B			A			A	

Intersection Summary				
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio	0.46			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization	45.9%	ICU Level of Service		A
Analysis Period (min)	15			
c Critical Lane Group				
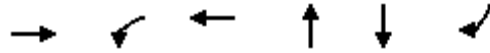
Lane Group	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	162	18	18	79	48	10
v/c Ratio	0.26	0.03	0.02	0.13	0.07	0.02
Control Delay	8.0	11.9	10.3	11.7	12.2	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	11.9	10.3	11.7	12.2	1.3
Queue Length 50th (ft)	17	4	3	18	12	0
Queue Length 95th (ft)	28	7	8	22	20	0
Internal Link Dist (ft)	545		1125	566	581	
Turn Bay Length (ft)		100				50
Base Capacity (vph)	630	548	774	614	693	614
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.03	0.02	0.13	0.07	0.02

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↰	↱			↔			↰	↱
Volume (vph)	10	76	28	8	8	2	24	18	9	1	28	6
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			5.0			5.0	5.0
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	1.00
Frt		0.95		1.00	0.97			0.98			1.00	0.85
Flt Protected		0.99		0.95	1.00			0.98			1.00	1.00
Satd. Flow (prot)		1495		1770	1801			1528			1632	1393
Flt Permitted		0.98		0.69	1.00			0.91			0.99	1.00
Satd. Flow (perm)		1469		1279	1801			1416			1618	1393
Peak-hour factor, PHF	0.56	0.84	0.52	0.44	0.58	0.50	0.79	0.50	0.67	0.25	0.63	0.63
Adj. Flow (vph)	18	90	54	18	14	4	30	36	13	4	44	10
RTOR Reduction (vph)	0	0	0	0	2	0	0	7	0	0	0	6
Lane Group Flow (vph)	0	162	0	18	16	0	0	72	0	0	48	4
Parking (#/hr)	11	11	11				9	9	9		4	4
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		30.0		30.0	30.0			30.0			30.0	30.0
Effective Green, g (s)		30.0		30.0	30.0			30.0			30.0	30.0
Actuated g/C Ratio		0.43		0.43	0.43			0.43			0.43	0.43
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	5.0
Lane Grp Cap (vph)		629		548	771			606			693	597
v/s Ratio Prot					0.01							
v/s Ratio Perm		c0.11		0.01				c0.05			0.03	0.00
v/c Ratio		0.26		0.03	0.02			0.12			0.07	0.01
Uniform Delay, d1		12.8		11.6	11.5			12.0			11.8	11.5
Progression Factor		0.53		1.00	1.00			1.05			1.00	1.00
Incremental Delay, d2		0.9		0.1	0.0			0.4			0.2	0.0
Delay (s)		7.7		11.7	11.6			13.0			12.0	11.5
Level of Service		A		B	B			B			B	B
Approach Delay (s)		7.7			11.6			13.0			11.9	
Approach LOS		A			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.19			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	30.7%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	19	242	84	199	66	485	41	480
v/c Ratio	0.05	0.21	0.23	0.17	0.14	0.26	0.09	0.26
Control Delay	16.6	15.4	13.3	9.5	9.5	7.0	7.5	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	15.4	13.3	9.5	9.5	7.0	7.5	7.9
Queue Length 50th (ft)	6	34	17	16	13	39	7	44
Queue Length 95th (ft)	8	46	19	28	23	63	11	51
Internal Link Dist (ft)		1270		545		629		280
Turn Bay Length (ft)	75		175		150		120	
Base Capacity (vph)	383	1156	368	1157	465	1851	462	1862
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.21	0.23	0.17	0.14	0.26	0.09	0.26

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↑↱		↱	↑↱		↱	↑↱		↱	↑↱	
Volume (vph)	8	153	22	43	157	16	44	311	105	24	353	10
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	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3462		1770	3465		1770	3390		1770	3515	
Flt Permitted	0.63	1.00		0.60	1.00		0.47	1.00		0.47	1.00	
Satd. Flow (perm)	1167	3462		1120	3465		881	3390		875	3515	
Peak-hour factor, PHF	0.42	0.74	0.63	0.51	0.92	0.58	0.67	0.89	0.77	0.58	0.77	0.45
Adj. Flow (vph)	19	207	35	84	171	28	66	349	136	41	458	22
RTOR Reduction (vph)	0	19	0	0	19	0	0	59	0	0	5	0
Lane Group Flow (vph)	19	223	0	84	180	0	66	426	0	41	475	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	23.0	23.0		23.0	23.0		37.0	37.0		37.0	37.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		37.0	37.0		37.0	37.0	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.53	0.53		0.53	0.53	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	383	1137		368	1138		465	1791		462	1857	
v/s Ratio Prot		0.06			0.05			0.13			c0.14	
v/s Ratio Perm	0.02			c0.07			0.07			0.05		
v/c Ratio	0.05	0.20		0.23	0.16		0.14	0.24		0.09	0.26	
Uniform Delay, d1	16.0	16.9		17.1	16.6		8.4	8.9		8.2	9.0	
Progression Factor	1.00	1.00		0.67	0.64		1.00	1.00		0.84	0.84	
Incremental Delay, d2	0.2	0.4		1.4	0.3		0.6	0.3		0.4	0.3	
Delay (s)	16.3	17.2		12.8	10.9		9.0	9.2		7.3	7.9	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		17.2			11.5			9.2			7.9	
Approach LOS		B			B			A			A	

Intersection Summary				
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.25			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	40.2%	ICU Level of Service	A	
Analysis Period (min)	15			

c   Critical Lane Group

Lane Group	→ EBT	← WBT	↖ NBL	↑ NBT	↗ NBR	↘ SBL	↓ SBT
Lane Group Flow (vph)	319	214	11	32	11	16	52
v/c Ratio	0.25	0.18	0.02	0.04	0.02	0.02	0.07
Control Delay	10.5	13.9	10.0	10.2	1.4	7.7	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.5	13.9	10.0	10.2	1.4	7.7	4.1
Queue Length 50th (ft)	33	29	2	7	0	3	0
Queue Length 95th (ft)	53	51	10	20	3	10	15
Internal Link Dist (ft)	545	1096		667			566
Turn Bay Length (ft)			100			75	
Base Capacity (vph)	1282	1189	635	878	676	646	702
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.18	0.02	0.04	0.02	0.02	0.07

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↤↱			↤↱		↰	↑	↱	↰	↱	
Volume (vph)	9	248	36	30	154	13	10	29	10	15	17	31
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	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95			0.95		1.00	1.00	1.00	1.00	1.00	
Frt		0.98			0.99		1.00	1.00	0.85	1.00	0.90	
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3469			3478		1770	1863	1401	1770	1453	
Flt Permitted		0.95			0.87		0.72	1.00	1.00	0.74	1.00	
Satd. Flow (perm)		3285			3066		1347	1863	1401	1372	1453	
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)	10	270	39	33	167	14	11	32	11	16	18	34
RTOR Reduction (vph)	0	15	0	0	7	0	0	0	6	0	18	0
Lane Group Flow (vph)	0	304	0	0	207	0	11	32	5	16	34	0
Parking (#/hr)									3		7	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		27.0			27.0		33.0	33.0	33.0	33.0	33.0	
Effective Green, g (s)		27.0			27.0		33.0	33.0	33.0	33.0	33.0	
Actuated g/C Ratio		0.39			0.39		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		1267			1182		635	878	660	646	684	
v/s Ratio Prot								0.02			c0.02	
v/s Ratio Perm		c0.09			0.07		0.01		0.00	0.01		
v/c Ratio		0.24			0.17		0.02	0.04	0.01	0.02	0.05	
Uniform Delay, d1		14.6			14.2		9.9	9.9	9.8	9.9	10.0	
Progression Factor		0.74			1.00		1.00	1.00	1.00	0.75	0.71	
Incremental Delay, d2		0.4			0.3		0.0	0.1	0.0	0.1	0.1	
Delay (s)		11.3			14.5		9.9	10.0	9.8	7.5	7.2	
Level of Service		B			B		A	B	A	A	A	
Approach Delay (s)		11.3			14.5			10.0			7.3	
Approach LOS		B			B			A			A	

Intersection Summary				
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio	0.14			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization	33.8%	ICU Level of Service		A
Analysis Period (min)	15			
c Critical Lane Group				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	116	111	315	20	20	301
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)	126	121	342	22	22	327
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			360			286
pX, platoon unblocked	1.00					
vC, conflicting volume	560	182			364	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	559	182			364	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	72	85			98	
cM capacity (veh/h)	450	829			1191	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	247	228	136	131	218
Volume Left	126	0	0	22	0
Volume Right	121	0	22	0	0
cSH	580	1700	1700	1191	1700
Volume to Capacity	0.43	0.13	0.08	0.02	0.13
Queue Length 95th (ft)	53	0	0	1	0
Control Delay (s)	15.7	0.0	0.0	1.5	0.0
Lane LOS	C			A	
Approach Delay (s)	15.7	0.0		0.6	
Approach LOS	C				

Intersection Summary				
Average Delay		4.2		
Intersection Capacity Utilization		41.5%	ICU Level of Service	A
Analysis Period (min)		15		
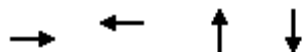
Lane Group	EBT →	WBT ←	NBT ↑	SBT ↓
Lane Group Flow (vph)	335	252	882	951
v/c Ratio	0.78	0.55	0.71	0.56
Control Delay	32.4	29.2	12.1	11.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.4	29.2	12.1	11.5
Queue Length 50th (ft)	101	88	66	123
Queue Length 95th (ft)	#236	123	69	167
Internal Link Dist (ft)	1259	545	206	617
Turn Bay Length (ft)				
Base Capacity (vph)	427	457	1235	1698
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.78	0.55	0.71	0.56

Intersection Summary

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

Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⊕			⊕			⊕↑⇂			⊕↑⇂	
Volume (vph)	55	72	94	24	135	13	78	537	17	8	701	79
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			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.93			0.99			0.99			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1431			1571			3298			3258	
Flt Permitted		0.83			0.91			0.68			0.95	
Satd. Flow (perm)		1198			1438			2265			3088	
Peak-hour factor, PHF	0.61	0.93	0.56	0.58	0.71	0.63	0.70	0.74	0.38	1.00	0.88	0.54
Adj. Flow (vph)	90	77	168	41	190	21	111	726	45	8	797	146
RTOR Reduction (vph)	0	51	0	0	5	0	0	5	0	0	21	0
Lane Group Flow (vph)	0	284	0	0	247	0	0	877	0	0	930	0
Parking (#/hr)	13	13	13	8	8	8		2	2		3	3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		22.0			22.0			38.0			38.0	
Effective Green, g (s)		22.0			22.0			38.0			38.0	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		376			451			1229			1676	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.17			c0.39			0.30	
v/c Ratio		0.75			0.55			0.71			0.55	
Uniform Delay, d1		21.6			19.9			11.9			10.5	
Progression Factor		1.00			1.22			0.70			1.00	
Incremental Delay, d2		13.1			4.7			3.5			1.3	
Delay (s)		34.7			28.9			11.8			11.8	
Level of Service		C			C			B			B	
Approach Delay (s)		34.7			28.9			11.8			11.8	
Approach LOS		C			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization	73.5%	ICU Level of Service		D
Analysis Period (min)	15			
c Critical Lane Group				
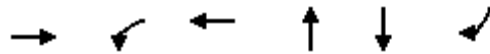
Lane Group	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	162	70	166	174	115	38
v/c Ratio	0.28	0.13	0.21	0.28	0.16	0.06
Control Delay	12.1	12.9	11.9	15.2	13.1	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	12.9	11.9	15.2	13.1	4.7
Queue Length 50th (ft)	37	18	38	52	29	0
Queue Length 95th (ft)	m52	19	43	50	40	8
Internal Link Dist (ft)	545		1125	566	581	
Turn Bay Length (ft)		100				50
Base Capacity (vph)	576	547	788	623	697	618
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.13	0.21	0.28	0.16	0.06

Intersection Summary

m   Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⊕		↰	↱			⊕			↰	↱
Volume (vph)	17	25	53	31	79	15	34	61	6	1	70	24
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			5.0			5.0	5.0
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	1.00
Frt		0.92		1.00	0.97			0.99			1.00	0.85
Flt Protected		0.99		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)		1427		1770	1812			1562			1636	1393
Flt Permitted		0.93		0.69	1.00			0.92			0.99	1.00
Satd. Flow (perm)		1345		1278	1812			1448			1627	1393
Peak-hour factor, PHF	0.56	0.84	0.52	0.44	0.58	0.50	0.79	0.50	0.67	0.25	0.63	0.63
Adj. Flow (vph)	30	30	102	70	136	30	43	122	9	4	111	38
RTOR Reduction (vph)	0	0	0	0	11	0	0	3	0	0	0	22
Lane Group Flow (vph)	0	162	0	70	155	0	0	171	0	0	115	16
Parking (#/hr)	11	11	11				9	9	9		4	4
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		30.0		30.0	30.0			30.0			30.0	30.0
Effective Green, g (s)		30.0		30.0	30.0			30.0			30.0	30.0
Actuated g/C Ratio		0.43		0.43	0.43			0.43			0.43	0.43
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	5.0
Lane Grp Cap (vph)		576		547	776			620			697	597
v/s Ratio Prot					0.09							
v/s Ratio Perm		c0.12		0.05				c0.12			0.07	0.01
v/c Ratio		0.28		0.13	0.20			0.28			0.16	0.03
Uniform Delay, d1		13.0		12.1	12.5			13.0			12.3	11.6
Progression Factor		0.83		1.00	1.00			1.08			1.00	1.00
Incremental Delay, d2		1.0		0.5	0.6			1.1			0.5	0.1
Delay (s)		11.7		12.6	13.1			15.1			12.8	11.6
Level of Service		B		B	B			B			B	B
Approach Delay (s)		11.7			12.9			15.1			12.5	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay		13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio		0.28		
Actuated Cycle Length (s)		70.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization		32.6%	ICU Level of Service	A
Analysis Period (min)		15		
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	33	367	227	429	58	683	90	943
v/c Ratio	0.12	0.32	0.72	0.37	0.24	0.37	0.26	0.51
Control Delay	17.9	15.1	27.7	10.9	12.3	10.1	11.7	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	15.1	27.7	10.9	12.3	10.1	11.7	11.2
Queue Length 50th (ft)	10	49	45	35	13	81	16	101
Queue Length 95th (ft)	13	62	41	54	24	113	m27	131
Internal Link Dist (ft)		1270		545		629		280
Turn Bay Length (ft)	75		175		150		120	
Base Capacity (vph)	283	1164	317	1159	237	1860	352	1867
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.32	0.72	0.37	0.24	0.37	0.26	0.51

Intersection Summary

m   Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↱	
Volume (vph)	14	205	57	116	320	47	39	570	33	52	714	7
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	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.97		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3409		1770	3439		1770	3506		1770	3530	
Flt Permitted	0.46	1.00		0.52	1.00		0.24	1.00		0.36	1.00	
Satd. Flow (perm)	864	3409		965	3439		449	3506		666	3530	
Peak-hour factor, PHF	0.42	0.74	0.63	0.51	0.92	0.58	0.67	0.89	0.77	0.58	0.77	0.45
Adj. Flow (vph)	33	277	90	227	348	81	58	640	43	90	927	16
RTOR Reduction (vph)	0	45	0	0	29	0	0	7	0	0	2	0
Lane Group Flow (vph)	33	322	0	227	400	0	58	676	0	90	941	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	23.0	23.0		23.0	23.0		37.0	37.0		37.0	37.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		37.0	37.0		37.0	37.0	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.53	0.53		0.53	0.53	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	283	1120		317	1129		237	1853		352	1865	
v/s Ratio Prot		0.09			0.12			0.19			c0.27	
v/s Ratio Perm	0.04			c0.24			0.13			0.14		
v/c Ratio	0.12	0.29		0.72	0.35		0.24	0.36		0.26	0.50	
Uniform Delay, d1	16.4	17.4		20.6	17.9		8.9	9.6		9.0	10.6	
Progression Factor	1.00	1.00		0.61	0.62		1.00	1.00		1.04	0.96	
Incremental Delay, d2	0.8	0.6		12.6	0.8		2.4	0.6		1.6	0.9	
Delay (s)	17.2	18.1		25.2	11.8		11.4	10.2		10.9	11.0	
Level of Service	B	B		C	B		B	B		B	B	
Approach Delay (s)		18.0			16.5			10.3			11.0	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay		13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio		0.59		
Actuated Cycle Length (s)		70.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization		53.9%	ICU Level of Service	A
Analysis Period (min)		15		

c   Critical Lane Group

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	313	526	21	62	20	30	139
v/c Ratio	0.25	0.47	0.04	0.07	0.03	0.05	0.19
Control Delay	9.4	17.5	10.3	10.5	3.1	9.8	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	17.5	10.3	10.5	3.1	9.8	5.0
Queue Length 50th (ft)	24	85	5	14	0	6	0
Queue Length 95th (ft)	53	127	16	33	8	17	0
Internal Link Dist (ft)	545	1096		667			566
Turn Bay Length (ft)			100			75	
Base Capacity (vph)	1255	1113	586	878	676	629	728
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.47	0.04	0.07	0.03	0.05	0.19

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		�										
Lane Configurations		↤↦			↤↦		↱	↑	↱	↱	↥	
Volume (vph)	14	212	63	88	366	29	19	57	18	28	29	98
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	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95			0.95		1.00	1.00	1.00	1.00	1.00	
Frt		0.97			0.99		1.00	1.00	0.85	1.00	0.88	
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3416			3475		1770	1863	1401	1770	1425	
Flt Permitted		0.92			0.82		0.67	1.00	1.00	0.72	1.00	
Satd. Flow (perm)		3162			2870		1245	1863	1401	1335	1425	
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	230	68	96	398	32	21	62	20	30	32	107
RTOR Reduction (vph)	0	36	0	0	7	0	0	0	11	0	57	0
Lane Group Flow (vph)	0	277	0	0	519	0	21	62	9	30	82	0
Parking (#/hr)									3		7	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		27.0			27.0		33.0	33.0	33.0	33.0	33.0	
Effective Green, g (s)		27.0			27.0		33.0	33.0	33.0	33.0	33.0	
Actuated g/C Ratio		0.39			0.39		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		1219			1107		586	878	660	629	671	
v/s Ratio Prot								0.03			c0.06	
v/s Ratio Perm		0.09			c0.18		0.02		0.01	0.02		
v/c Ratio		0.23			0.47		0.04	0.07	0.01	0.05	0.12	
Uniform Delay, d1		14.5			16.1		9.9	10.1	9.8	10.0	10.4	
Progression Factor		0.76			1.00		1.00	1.00	1.00	0.95	1.17	
Incremental Delay, d2		0.4			1.4		0.1	0.2	0.0	0.1	0.4	
Delay (s)		11.4			17.6		10.1	10.3	9.9	9.6	12.5	
Level of Service		B			B		B	B	A	A	B	
Approach Delay (s)		11.4			17.6			10.2			12.0	
Approach LOS		B			B			B			B	

Intersection Summary					
HCM 2000 Control Delay		14.3	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.28			
Actuated Cycle Length (s)		70.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization		49.4%	ICU Level of Service		A
Analysis Period (min)		15			
c Critical Lane Group					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	⍫		↑↟		⍦	
Volume (veh/h)	20	20	520	111	116	703
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)	22	22	565	121	126	764
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh)						
Upstream signal (ft)			360		286	
pX, platoon unblocked	0.90	0.91			0.91	
vC, conflicting volume	1260	343			686	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	620	79			456	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	98			87	
cM capacity (veh/h)	331	879			1002	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	43	377	309	381	509
Volume Left	22	0	0	126	0
Volume Right	22	0	121	0	0
cSH	481	1700	1700	1002	1700
Volume to Capacity	0.09	0.22	0.18	0.13	0.30
Queue Length 95th (ft)	7	0	0	11	0
Control Delay (s)	13.2	0.0	0.0	3.9	0.0
Lane LOS	B			A	
Approach Delay (s)	13.2	0.0		1.7	
Approach LOS	B				

Intersection Summary				
Average Delay		1.3		
Intersection Capacity Utilization		54.0%	ICU Level of Service	A
Analysis Period (min)		15		