French Quarter Safety and Security

Traffic Study

City of New Orleans Department of Public Works

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Prepared for:

City of New Orleans Department of Public Works

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The French Quarter Safety and Security Traffic Study is comprised of the following sections:

1. INTRODUCTION TO REPORT

This report, the analyses conducted as part of the project, and the recommendations contained herein were all provided in support of a comprehensive strategy outlined in the New Orleans Citywide Public Safety Improvements, 2017 and intended to enhance the City's ability to deter, detect, and prosecute crime and to ensure that the City is better prepared to prevent and react to public safety threats. This report specifically supports Action 5: Upgrade Infrastructure to Reduce Terror Risk of the City of New Orleans Citywide Public Safety Improvements, 2017.

Figure 1 An image from The City's Public Safety Press Conference

Action 5: Upgrade Infrastructure to Reduce Terror Risk

The French Quarter is often densely packed with pedestrians and represents an area where a mass casualty incident could occur. This area also presents a risk and target area for terrorism that the FBI has identified as a concern that the City must address. Following the attacks in Nice, France; in London, England; and the recent NYC Times Square incident that cited bollards saved lives, it has become clear how popular tourist areas can be threatened by attackers with vehicles and weapons.

To mitigate this risk, the City of New Orleans Citywide Public Safety Improvements, 2017 strategy includes the establishment of an integrated camera and surveillance program, a centralized command center, optimizing NOPD patrols, enhanced lighting for increased visibility, and infrastructure upgrades. Since Bourbon Street is one of the focal points in the French Quarter for pedestrians, it was recommended that the City consider closing Bourbon Street to vehicular traffic, with the exception of emergency vehicles, at designated times to be determined as one of its risk mitigation measures. Before making any changes, the City commissioned this traffic and parking study change.

This study builds upon the data collected and analysis already completed as part of the Downtown Traffic Conditions Analysis by the AECOM project team. The Downtown Traffic Conditions Analysis is a comprehensive assessment of traffic patterns and curb space usage in the French Quarter and Central Business District that was initiated by the City about a year ago in partnership with the Downtown Development District, Regional Transit Authority, Port of New Orleans, Convention Center, and Regional Planning Commission. Recommendations from this analysis on changes to traffic patterns and the management of curb space to reduce congestion and optimize the usage of curb space are expected later this summer.

The same AECOM project team that was assigned to the Downtown Traffic Conditions Analysis study was asked to develop recommendations for balancing safety, access, and mobility in the French Quarter and assess the traffic and curb-use impacts of the closure of Bourbon St.

The intent of this assignment was to support the creation of an operations plan so that the streets in the French Quarter can be used more efficiently and safely, reduce the risk to public safety from uncontrolled vehicles, and to mitigate the impacts of any closure of Bourbon St on traffic and local businesses and residents.

2. EXISTING CONDITIONS

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Approach

Permanent or even partial closure of a major street in North America is rare. There is no established protocol or engineering standards for such. What available guidance there is for street closures is mostly specific to a temporary closure of a street, often for use during City festivals.

With guidance from the City's Department of Public Works, the project team developed an analytical approach using the following framework (see figure below). The approach was also greatly influenced by the General Services Administration (GSAs) Site Security Design Guide.

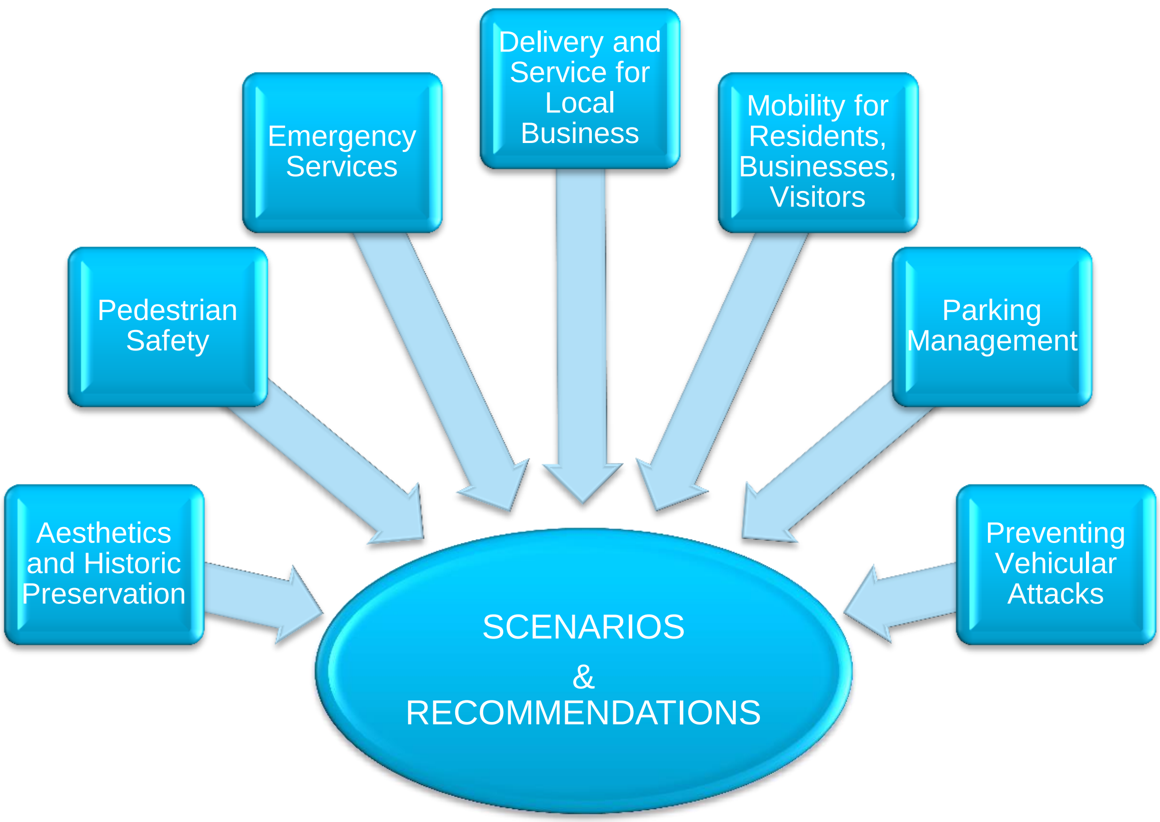


Figure 2 Approach to a Balance Outcome

The study area extends between the far sides of Canal and St. Philip Streets, and between the far sides of Dauphine and Royal Streets. (see Figure 3). The Impact Area includes two areas that have undergone different levels of evaluation.

The project team has leveraged existing, available information, field observations and measurements, and engaged stakeholders to determine and document existing conditions. Field teams were deployed to collect traffic counts, measure roadway dimensions, and collect related information. The team conducted over 60 stakeholder interviews with business owners on Bourbon St. The team gathered input through an online survey from 128 residents and 93 businesses located throughout the French Quarter. The stakeholder interviews were also key in making sound recommendations and practical operations decisions.

Survey	Number of Responses
Business Survey #1	60
Business Survey #2	33
Resident Survey	128

Figure 3 Study Area (green and red - direct impact area, blue - perimeter impact area)

Existing Conditions

Bourbon St, as we know it today, has changed greatly from its early residential character. And, it is likely that the culture, use, and management of Bourbon St will continue to evolve for generations.

Bourbon St has historically been a mixed-use neighborhood street with a commercial presence and streetcar service. The Desire streetcar line was routed down Bourbon St, on its way to its terminus in the Ninth Ward. As can be seen in Figure 4, cars and deliveries dominated the streetscape. Only during carnival and festivals would large crowds of pedestrians gathering in the street.

The entertainment-oriented commercial nature of Bourbon St began to emerge after the U.S. Navy and others effectively closed the Storyville red light district. Storyville's fabled offerings were discontinued in the 1920s. Some of these offerings migrated to Bourbon St, especially live music venues. "Burlesque clubs began to pop up on Bourbon, continuing the merger of sex, music, and celebration that is New Orleans Jazz." (Branley. 2010)

Figure 4 Streetcar on the Desire line moving down Bourbon St. Source - Bergeron Studio of Photography, via Vintage New Orleans

In 1948, the streetcar line was removed from Bourbon St. In 1946, Owen Edward Brennan opened his French restaurant on Bourbon St. (McNulty. 2016)

Early in the 1960s, the City and State ramped up enforcement of gambling laws, and closed many illicit backroom gambling halls. This had a subsequent impact on the nightclubs and bars that benefitted from these backroom commercial activities.

In the 1970s, the pedestrian mall was created and the sales of liquor from open doorways began, leading to the current practice of 'partying' in the street. (Webster. 2015)

Periodic calls for change on Bourbon St have emerged over the years. Often, residents call for moderation and tightened controls on adult entertainment, walk-up liquor sales, noise, etc.

Others assert that, even though it is not an 'historic' tradition, the current uses and character of Bourbon St has become historical.

Turning Movement Count Methodology

A turning movement count was performed on the 10 cross streets affected by the proposed Bourbon St closure on Thursday, February 23rd for the morning (8:00 AM to 10:00 AM), mid-day (12:00 PM to 2:00 PM), and evening (4:00 PM to 6:00 PM) peak periods. The goal of collecting these counts was to get a clear understanding of how closure of Bourbon St and side streets would affect the range of vehicle trip types throughout the day. The counts were performed in person at each intersection for 30-minute intervals during each peak period. Bourbon St traffic, cross street through traffic, and cross street turning movements were counted for each of the intersections:

- Iberville St
- Bienville St
- Conti St
- St. Louis St
- Toulouse St
- St. Peter St
- Orleans St
- St. Ann St
- Dumaine St
- St. Philip St

The traffic data collection effort specifically differentiated between vehicle types in a specialized manner to aid in the analysis of scenarios for the Bourbon St Closure that will ban some types of vehicles. Vehicle fleet mix was separated into five categories:

Table 1 Vehicle Classification Descriptions

Category	Description
Private Automobiles	all vehicles operated for private use such as commuters and drivers running errands
Delivery/Maintenance:	restaurant supply deliveries (liquor, food, linen service, etc.) as well as vehicles doing repairs and maintenance to residences and businesses in the area
Taxi/Bus:	traditionally marked taxi cabs, drivers working for ride hailing services (Uber, Lyft, etc.) as well as tour busses and school busses
Safety/Crew:	police vehicles of all jurisdictions, including French Quarter Special Duty four-wheeler vehicles and smart cars, as well as NOPD, Louisiana State Police, and Orleans (or other) Parish Sheriff's Office vehicles as well as street cleaning and trash pickup/recycling trucks
Mule Carts:	mule drawn carriage tours traveling in the study area

Traffic Volume

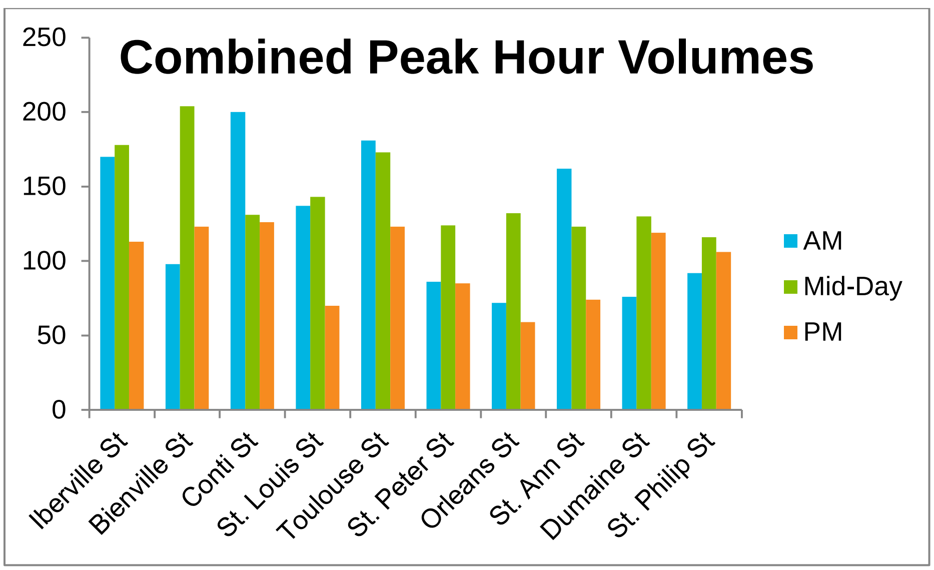
Traffic on the Bourbon St corridor, between Iberville St and St. Philip St, shows variation in volume and location throughout the day. Overall, traffic is greatest – at most of the intersections – during the mid-day peak and slightly less during the morning peak.

Table 2 Peak Period Volumes on Bourbon St and Cross Streets

Period	Total Volume
AM	1274
Mid-Day	1454
PM	998

Figure 5 shows the combined traffic volume of all movements - Bourbon St through and turning combined with cross street through and cross street turning. The total amount of traffic (all movements at all locations, combined) was observed to be much lower during the PM peak as compared to the AM and Mid-Day peaks. Field observations revealed that the Bienville St Mid-Day peak period and Conti St AM peak period (204 vehicles and 200 vehicles, respectively) were observed to have the highest traffic volume of any intersections during any peak period. Toulouse St, Iberville St, and Conti St were the busiest intersections over the course of the entire observation period.

Figure 5 Bourbon St Peak Period Traffic by Time of Day



AM PEAK

Table 3 AM Peak Traffic Volume Analysis

Quality	Intersections
Busiest Intersections	Iberville St, Conti St, Toulouse St, St. Ann St
Highest Bourbon St Volume	Iberville St, Conti St, St. Louis St, St. Ann St
Highest Cross Street Volume	Iberville St, Conti St, Toulouse St

During the morning peak period, the intersection at Iberville St, Conti St, Toulouse St, and St. Ann St have the highest observed combined traffic volumes and are considered the busiest intersections, in general. Iberville St, Conti St, St. Louis St, and St. Ann St show the highest traffic volume for vehicles traveling along Bourbon St. Iberville St, Conti St, and Toulouse St were observed to have the highest amount of cross street traffic during the AM peak. Taken together a clear pattern emerges showing Iberville St, Conti St, Toulouse St, St. Louis St, and St. Ann St as the busiest intersections during the AM Peak.

Table 4 AM Peak Period Traffic Volume and Cross St Turning Movements

	Bourbon St		Thru		Turning		
Street	#	%	#	%	#	%	Intersection Total
Iberville St	70	41%	89	52%	11	6%	170
Bienville St	40	41%	30	31%	28	29%	98
Conti St	74	37%	100	50%	26	13%	200
St. Louis St	80	58%	48	35%	9	7%	137
Toulouse St	40	22%	126	70%	15	8%	181
St. Peter St	56	65%	9	10%	21	24%	86
Orleans St	49	68%	18	25%	5	7%	72
St. Ann St	117	72%	31	19%	14	9%	162
Dumaine St	37	49%	23	30%	16	21%	76
St. Philip St	39	42%	41	45%	12	13%	92

MID-DAY PEAK

Conditions during the Mid-Day Peak were observed to have slightly higher volumes than the AM Peak but similar to the AM Peak in terms of how the traffic was distributed. Table 6 shows Iberville St, Bienville St, and Toulouse St to be the busiest intersections in the study area. Notably, traffic volume at the Bienville St intersection more than doubled in the Mid-Day Peak compared with the morning peak whereas volumes at Conti St and St. Ann St went down between the same periods.

Table 5 Mid-Day Peak Period Analysis

Quality	Intersections
Busiest Intersections	Iberville St, Bienville St, Toulouse St
Highest Bourbon St Volume	Bienville St
Highest Cross Street Volume	Iberville St, Bienville St, Toulouse St

Traffic traveling along Bourbon St was highest during the Mid-Day Peak at Bienville St with 115 vehicles passing through that intersection. Bourbon St traffic was fairly consistent during this period, around 70 vehicles in one half-hour observation period, at each of the other intersections. Table 5 and Table 6 show Iberville St, Bienville St, and Toulouse St were observed to have the highest volume of traffic crossing Bourbon St during the Mid-Day Peak.

Table 6 Mid-Day Peak Period Traffic Volume and Cross St Turning Movements

Cross Street	Bourbon St		Thru		Turning		Mid-Day Intersection Total
	#	%	#	%	#	%	
Iberville St	69	39%	79	44%	30	17%	178
Bienville St	115	56%	65	32%	24	12%	204
Conti St	70	53%	49	37%	12	9%	131
St. Louis St	67	47%	59	41%	17	12%	143
Toulouse St	64	37%	83	48%	26	15%	173
St. Peter St	73	59%	35	28%	16	13%	124
Orleans St	51	39%	71	54%	10	8%	132
St. Ann St	70	57%	37	30%	16	13%	123
Dumaine St	81	62%	29	22%	20	15%	130
St. Philip St	70	60%	35	30%	11	9%	116

PM PEAK

Traffic volumes greatly decreased during the PM Peak observation period after the 5 PM closure of Bourbon St. Table 8 shows that the total number of observations dropped by over 450 vehicles from the Mid-Day Peak Period to the PM Peak period. Table 7 and Table 8 show that the highest traffic volumes during the PM Peak continue to be located in the upriver intersections at Bienville St and Conti St. Further, traffic in the middle intersections from St. Peter St to St. Ann St decrease significantly.

Table 7 PM Peak Traffic Volume Analysis

Quality	Intersections
Busiest Intersections	Bienville St, Conti St, Toulouse St, Dumaine St
Highest Bourbon St Volume	Iberville St, Dumaine St, St. Philip St
Highest Cross Street Volume	Bienville St, Conti St

Bourbon St traffic volumes are greatest at the edges of the study area: Iberville St on the upriver side and Dumaine St and St. Philip St on the downriver side. The highest cross street volumes during the evening are still located further upriver at the Bienville St and Conti St intersections.

Table 8 PM Peak Traffic Volume and Cross St Turning Movement Count

Cross Street	Bourbon St		Thru		Turning		PM Intersection Total
	#	%	#	%	#	%	
Iberville St	54	48%	56	50%	3	3%	113
Bienville St	7	6%	116	94%	0	0%	123
Conti St	2	2%	122	97%	2	2%	126
St. Louis St	0	0%	70	100%	0	0%	70
Toulouse St	19	15%	94	76%	10	8%	123
St. Peter St	4	5%	70	82%	11	13%	85
Orleans St	16	27%	41	69%	2	3%	59
St. Ann St	3	4%	49	66%	22	30%	74
Dumaine St	49	41%	51	43%	19	16%	119
St. Philip St	47	44%	42	40%	17	16%	106

Fleet Mix

The type of vehicles traveling along and across Bourbon St within the study varies by location and time of day. Vehicles were grouped into five classifications for this analysis (see Table 1 for full description):

- private automobiles
- delivery/maintenance vehicles
- taxi/bus
- safety/crew
- mule carts

Table 9 shows that the majority of vehicles observed traveling along and across Bourbon St are private vehicles. Private vehicles make up around two-thirds of the vehicles traveling in the study area throughout the day. Delivery and maintenance vehicle traffic was observed to compose around 16% of the traffic during the morning and mid-day peak periods but can be over 20% of the traffic at some intersections. Delivery and maintenance traffic shows a significant decrease during the PM peak period, as would be expected. Taxi and bus traffic volumes are roughly similar on average to delivery and maintenance vehicle volumes but show a increase during the PM Peak Period. Vehicle traffic attributed to Safety and Crew was observed to be highest during the morning peak period and was mostly concentrated between Conti St and St. Philip St. Traffic from mule drawn carriages was observed to begin increasing around the mid-day peak and was highest during the PM peak.

Table 9 Fleet Mix Summary Table

Vehicle Type	Avg. AM Peak Mix	Avg. Mid-Day Peak Mix	Avg. PM Peak Mix
Private	66%	63%	68%
Delivery/Maintenance	16%	17%	4%
Taxi/Bus	13%	15%	21%
Safety/Crew	5%	2%	4%
Mule	0%	2%	4%

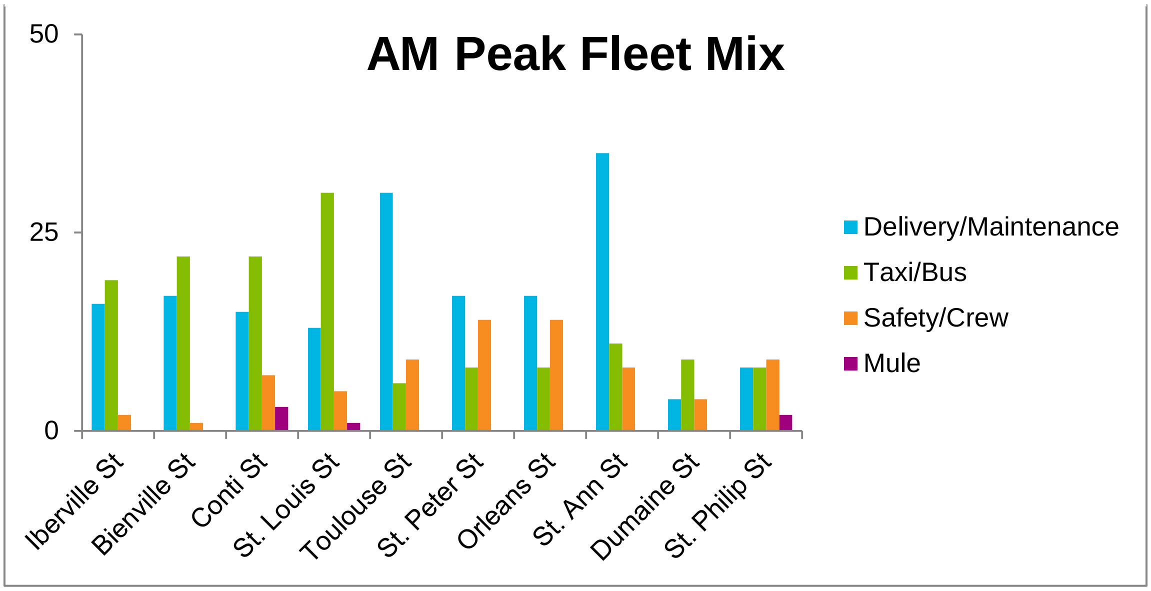
AM PEAK

Vehicle fleet mix during the morning peak period is dominated by private vehicle traffic. Table 9 and Table 10 show that between half and three-fourths of the traffic volume is made up of private vehicles. The rest of the fleet mix is divided fairly evenly between delivery and maintenance vehicles and taxis and buses. The AM Peak also had the highest number and proportion of police and city crew vehicles.

Table 10 AM Peak Period Fleet Mix

Cross Street	Private		Delivery/Maintenance		Taxi/Bus		Safety/Crew		Mule	
	#	%	#	%	#	%	#	%	#	%
Iberville St	133	78%	16	9%	19	11%	2	1%	0	0%
Bienville St	58	59%	17	17%	22	22%	1	1%	0	0%
Conti St	112	56%	45	23%	36	18%	7	4%	0	0%
St. Louis St	65	47%	34	25%	30	22%	7	5%	1	1%
Toulouse St	136	75%	30	17%	6	3%	9	5%	0	0%
St. Peter St	47	55%	17	20%	8	9%	14	16%	0	0%
Orleans St	51	71%	9	13%	12	17%	0	0%	0	0%
St. Ann St	108	67%	35	22%	11	7%	8	5%	0	0%
Dumaine St	59	78%	4	5%	9	12%	4	5%	0	0%
St. Philip St	65	71%	8	9%	8	9%	9	10%	2	2%

Figure 6 AM Peak Period Fleet Mix



MID-DAY PEAK

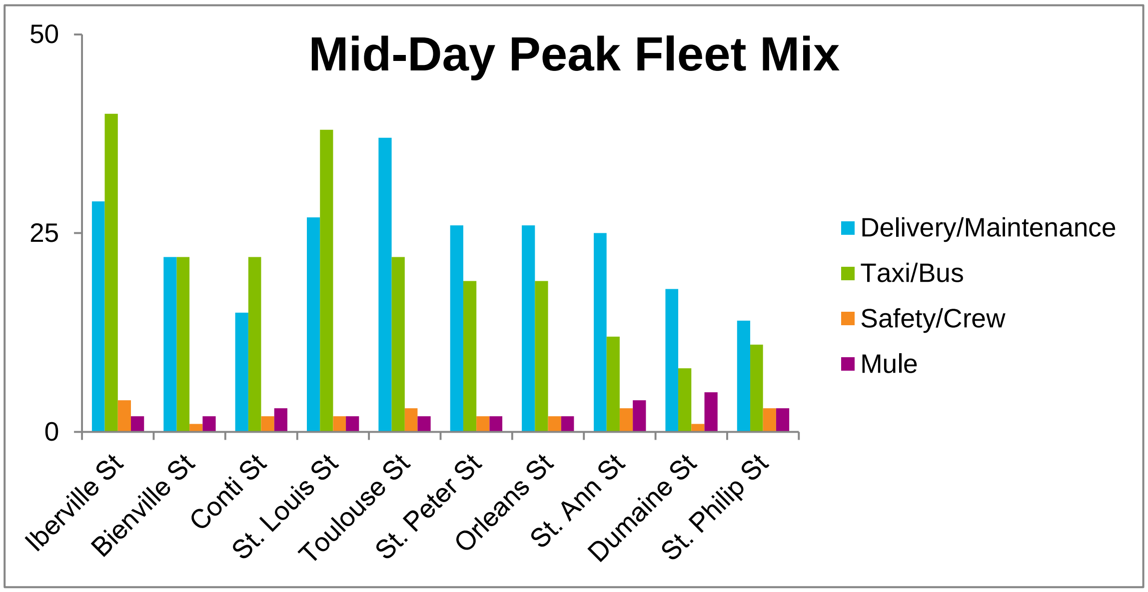
Vehicle fleet mix during the mid-day peak is also dominated heavily by private automobile traffic. Table 11 shows that aside from the intersection at Bienville St, more than half and as much as 77% of the traffic at each of the intersections is from private automobiles.

Table 11 Mid-Day Peak Fleet Mix

Cross Street	Private		Delivery/Maintenance		Taxi/Bus		Safety/Crew		Mule	
	#	%	#	%	#	%	#	%	#	%
Iberville St	99	56%	29	16%	40	22%	4	2%	6	3%
Bienville St	117	57%	32	16%	48	24%	4	2%	3	1%
Conti St	83	63%	21	16%	22	17%	2	2%	3	2%
St. Louis St	74	52%	27	19%	38	27%	2	1%	2	1%
Toulouse St	109	63%	37	21%	22	13%	3	2%	2	1%
St. Peter St	75	60%	26	21%	19	15%	2	2%	2	2%
Orleans St	84	64%	22	17%	17	13%	6	5%	3	2%
St. Ann St	79	64%	25	20%	12	10%	3	2%	4	3%
Dumaine St	99	76%	18	14%	7	5%	1	1%	5	4%
St. Philip St	85	73%	14	12%	11	9%	3	3%	3	3%

Figure 7 shows a graph of the mid-day peak period fleet mix without private automobiles revealing a fleet mix very similar to the AM peak period. However, the volume of taxi/bus and delivery/maintenance vehicles during this period was observed to be higher than the AM peak though the volume is split fairly evenly between these two vehicle classes. Iberville St, Conti St, and St. Louis St were observed to have more taxi and bus traffic during this period but the rest of the intersections were mostly travelled by delivery and maintenance vehicles. The relative and total numbers of police and crew vehicles were observed to decrease from the AM peak period as well. Mule drawn carriage traffic increased from the AM Peak period count of six observations up to 27 observations.

Figure 7 Mid-Day Peak Period Fleet Mix



PM PEAK

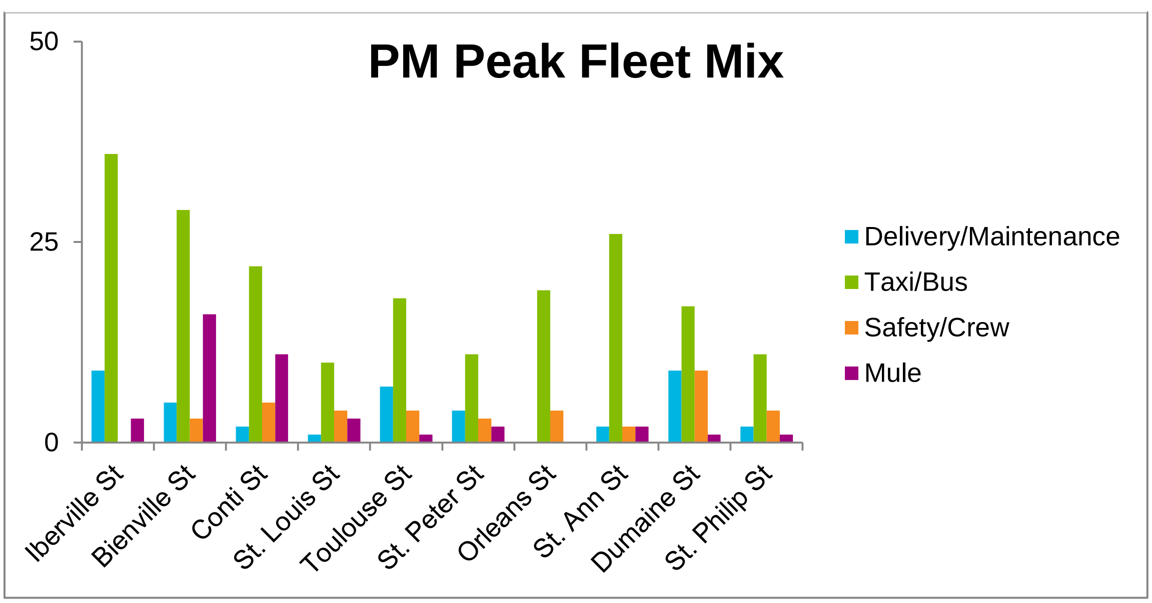
Fleet mix during the evening peak period, similar to the other peaks, consists mostly of private vehicles. Table 12 shows that between 58% and 80% of the observed vehicles at the study intersections were private automobiles.

Table 12 PM Peak Period Fleet Mix

Cross Street	Private		Delivery/Maintenance		Taxi/Bus		Safety/Crew		Mule	
	#	%	#	%	#	%	#	%	#	%
Iberville St	65	58%	9	8%	36	32%	0	0%	3	3%
Bienville St	70	57%	5	4%	29	24%	3	2%	16	13%
Conti St	86	68%	2	2%	22	17%	5	4%	11	9%
St. Louis St	52	74%	1	1%	10	14%	4	6%	3	4%
Toulouse St	93	76%	7	6%	18	15%	4	3%	1	1%
St. Peter St	65	76%	4	5%	11	13%	3	4%	2	2%
Orleans St	36	61%	0	0%	19	32%	4	7%	0	0%
St. Ann St	42	57%	2	3%	26	35%	2	3%	2	3%
Dumaine St	83	70%	9	8%	17	14%	9	8%	1	1%
St. Philip St	71	80%	2	2%	11	12%	4	4%	1	1%

Figure 8 shows that, aside from private automobiles, PM peak traffic mostly consists of taxis and buses – including vehicles working for ride hailing services such as Uber and Lyft. Around one-third of the traffic volume at Iberville St, Orleans St, and St. Ann St was observed to be in the taxi and bus classification. Further, delivery and maintenance vehicle traffic was still observed during the PM peak period especially at the Iberville St, Toulouse St, and Dumaine St intersections. Mule drawn carriage traffic was also highest during this period, most notably at the intersections of Bienville St and Conti St.

Figure 8 PM Peak Period Fleet Mix



STREET WIDTHS

Widths of the streets in the study area were very uniform with few exceptions. For most block segments, the width of the street – from curb-face to curb face – was 21.5 feet. However, Table 13 shows the exceptions that were observed:

Table 13 Street Widths

Street	Block Segment	Width (ft)
Orleans St	Royal St to Burgundy St	24
Bourbon St	St. Louis St to Toulouse St	29.5
All others	--	21.5

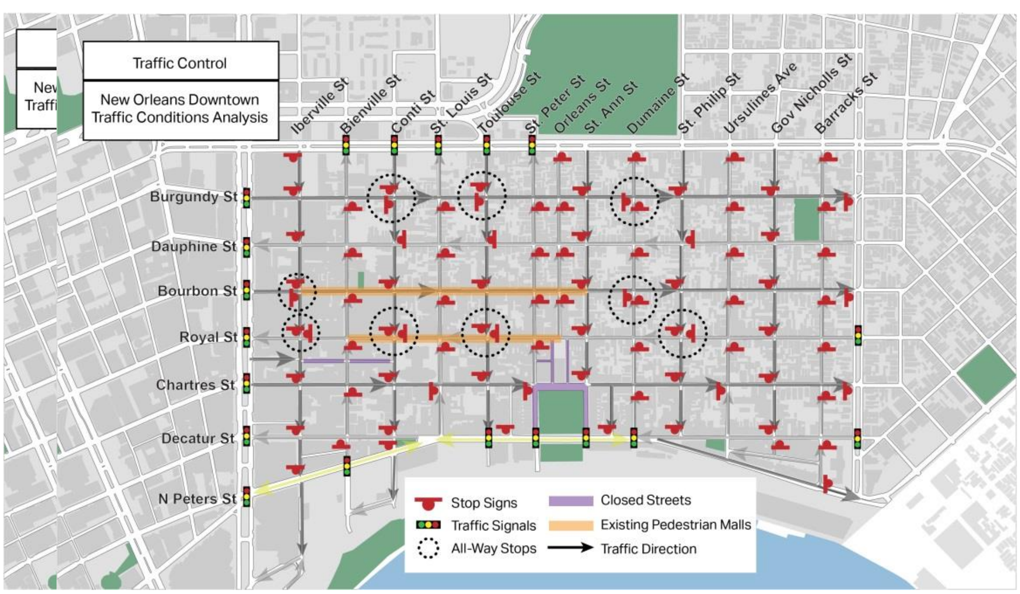
TRAFFIC CIRCULATION

The streets of the French Quarter form a grid pattern composed of alternating one-way streets bounded by higher capacity two-way streets – Canal St, Decatur St, N Rampart St, Esplanade Ave. Exceptions to this pattern include permanent closures of Chartres St, St. Peter St, and St. Ann St around Jackson Square as well as two blocks of Exchange Place between Iberville St and Conti St.

Intersection Control

Most intersections in the French Quarter are controlled by a single stop sign. Most frequently the stop control is on the riverbound or lakebound streets with only nine all-way stop intersections. Upriver and downriver bound streets are frequently without intersection control for multiple blocks at a stretch. The only traffic signals in the French Quarter are located along the edge on N Rampart St, Canal St, N Peters St, Decatur St, and Esplanade Ave.

FigFigure 10 French Quarter Intersection Control



Existing Roadway Closures

Section 154-608 of the New Orleans City Code – "Vieux Carre Malls" – details when Bourbon St and Royal St are closed off to motor vehicle traffic throughout the day.

The **Bourbon St** closure has the following stipulations:

1. The roadway is closed from Iberville St to St. Ann St
2. The closure is in effect from 8 PM to 11 AM each day with the exception of Mardi Gras Day and New Year's Day
3. Only delivery, freight, and services vehicles are allowed
4. From 6 AM to 4 PM each day delivery, freight and service vehicles are allowed to park within designated areas
5. Taxis picking up or dropping off in the 300 block of Bourbon St are permitted to enter the Bourbon St mall from 6 AM to 4 PM

The **Royal St** closure has the following stipulations:

6. The roadway is closed from Bienville St to Orleans St
7. The closure is in effect from 11 AM to 4 PM on weekdays and 11 AM to 7 PM on Saturdays and Sundays

In practice the implementation of the Bourbon St closure is different than what is listed in ordinance. Based on the discretion of law enforcement officials, Bourbon St is closed from around 4 PM to 4 AM each day.

Pedestrian Analysis

Bourbon St from Canal St to Esplanade Ave consists of both residential and business properties, to include hotels, bars, clubs, and restaurants. As the culture of Bourbon St has evolved, and is now oriented toward bars, clubs, and restaurants almost exclusively; its role as a transportation corridor for transit and personal vehicles has diminished. The recent trends for Bourbon St have been based around the rising role of the pedestrian. Bourbon St, however, is not monolithic. The blocks between Canal St and St. Ann St are much different than the more residential and less boisterous blocks downriver.

The commercially oriented portion of Bourbon St between Canal St and Dumaine St likely has some of the highest pedestrian volumes in the City of New Orleans. A 2013 study commissioned by the Downtown Development District observed that, along Canal St, the intersection with Bourbon St has the heaviest pedestrian traffic– over 20,000 pedestrians in one eight-hour observation period.

Studies have proven that large numbers of pedestrian sharing space with personal vehicles, deliveries, and service vehicles generates conflicts and unsafe conditions. The City of New Orleans Pedestrian Safety Action Plan, 2014 (PSAP) revealed that Bourbon St has two of the most dangerous intersections in the city, according to their metrics. Bourbon St at Canal St is ranked #4 on their list and Bourbon St at St. Ann St is listed among the 50 most dangerous intersections in the city. Bourbon St does not stand alone in that several other intersections in the French Quarter were identified in this study.

Still, putting the pedestrian conflicts common to Bourbon St further into context is the fact that Orleans Parish has a pedestrian crash rate (78 crashes/100,000 residents) that is three times that of the state (26 crashes/100,000 residents). The PSAP goes on to say that, “A case could be made for closing down Bourbon St to any vehicular traffic, expect for deliveries (8am to 3pm) and emergency vehicles.”

This study was commissioned based on Action 5 of the Citywide Public Safety Improvements Plan which recommended closure Bourbon St to passenger vehicles and restrict all motor vehicle. The closure is meant to, “…reduce conflicts between delivery vehicles, hotel and tour vehicles, sanitation vehicles, and pedestrian uses…”

The following analysis examines Bourbon St in terms of pedestrian accessibility, connectivity, and Level of Service (LOS). Data on the volume of pedestrians in the area was analysed along with the available space they are allotted – in this case the sidewalk and the sidewalk plus the street. Other considerations such as pedestrian attractors, pedestrian infrastructure network geometry, and possible impediments to the flow of pedestrians also factored into this analysis.

This analysis is built upon the recent pedestrian analysis performed for the New Orleans Downtown Traffic Conditions Analysis (NODTCA).The study area specified in this study was examined at a less granular level of detail in the NODTCA using the same methodology for analysis and data collection. Additional data related to motor vehicle volumes has been added in this study to further contextualize these results. A more robust and detailed explanation of the calculations associated with the following analyses is available in the NODTCA document.

Data Collection

Data was collected to inform the pedestrian level of service (LOS) analysis, accessibility and connectivity analysis, and LEGION modeling. These data included:

- **Pedestrian network links**: sidewalks and streets that make up the basic pedestrian infrastructure network
- **Sidewalk widths and conditions**: to produce pedestrian Level of service for all network links in the study area, adjusted by sidewalk condition
- **Public transit stop locations:** for streetcar and bus, plus initial weightings for relative usage, to inform accessibility and connectivity analysis, and pedestrian flow estimates
- **Pedestrian demand and flows:** describing the locations of main pedestrian attractions and relative pedestrian usage of regions within the study area
- **Pedestrian count data** for key intersections within the study area collected in Spring of 2016
- **Additional data** from the *Canal Street Pedestrian Report* commissioned by the Downtown Development District in 2013 was used to supplement the original data collection.
- **Building and sidewalk outline files**: used to define obstacles in pedestrian microsimulation modeling.
- **Signal timings**: to inform crossing availability in the Synchro (traffic) and pedestrian simulation models.

Assumptions and Augmentation of data

- **Pedestrian survey data:** Outbound pedestrian flow count data was synthesized from the inbound intersection data assuming the same output proportions. This was required in order to estimate two-way flows on all links in the study area.
- **Sidewalk quality data and network:** A more detailed investigation of 'poor' quality segments was conducted in the field and in Google Streetview to quantify any reduction in pedestrian link capacity caused by the poor quality.
- **Public transit usage weightings:** Public transit stop congestion was used to recalibrate the model better reflecting local conditions around the stop locations.

The distribution and movement of pedestrians in the study area have been analyzed to assess the connectivity and completeness of the pedestrian network. Connectivity and completeness are defined as access to transit stops and major attractors, as well as other important parameters of pedestrian walkability. A combination of Excel-based static analysis and UNA scripting-based network analysis has been used to evaluate pedestrian network around the study area.

Local knowledge has informed the major pedestrian attraction points in the study area as well as the relative attractiveness of these locations for the peak periods. Figure 12 shows location of the identified attractors for the entire NODTCA study area. The French Quarter based attractors were used for this analysis. Some attractions are represented by more than one point to more accurately represent the actual area occupied by attractions.

Each pedestrian attraction has been allocated the attractiveness grade between 0 and 5, with 0 being the lowest, 3 being the default average and 5 being the highest grade of attractiveness. Figure 12 illustrates the assigned weights for all attraction points during the late PM peak that was used for this analysis.

The attractor analysis for the Late PM time frame shows high pedestrian activity near Bourbon St, Royal St and Jackson Square, following the closure of Bourbon St to traffic. These locations are assigned the highest attractiveness to pedestrians. Canal St is also assumed to be busier during the late PM period, compared to the AM and early PM periods, and this route also serves the neighboring attraction points by public transit.

Figure 12 Assigned weights for attractions for late PM Peak Period

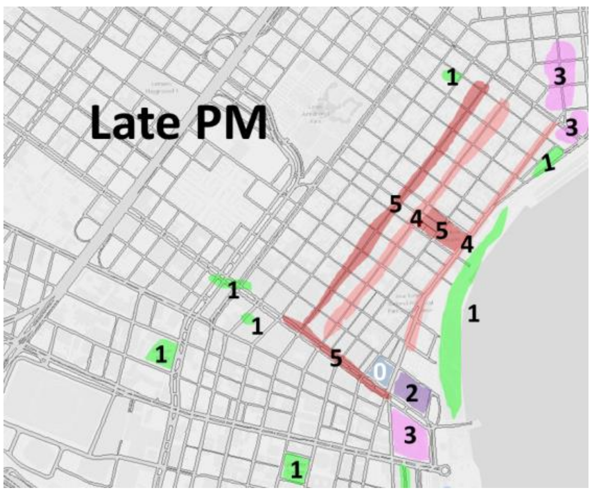
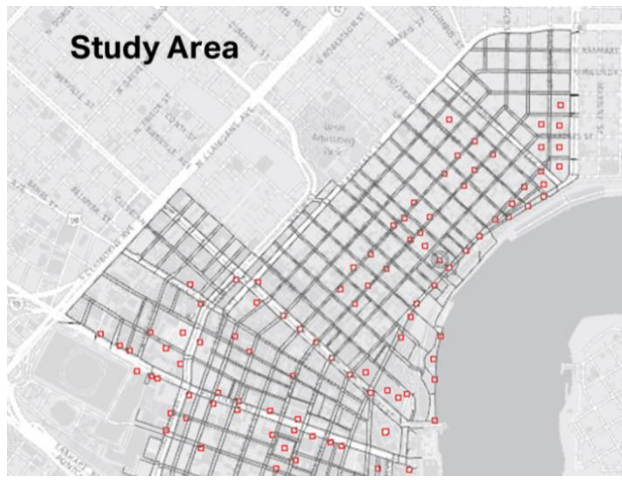


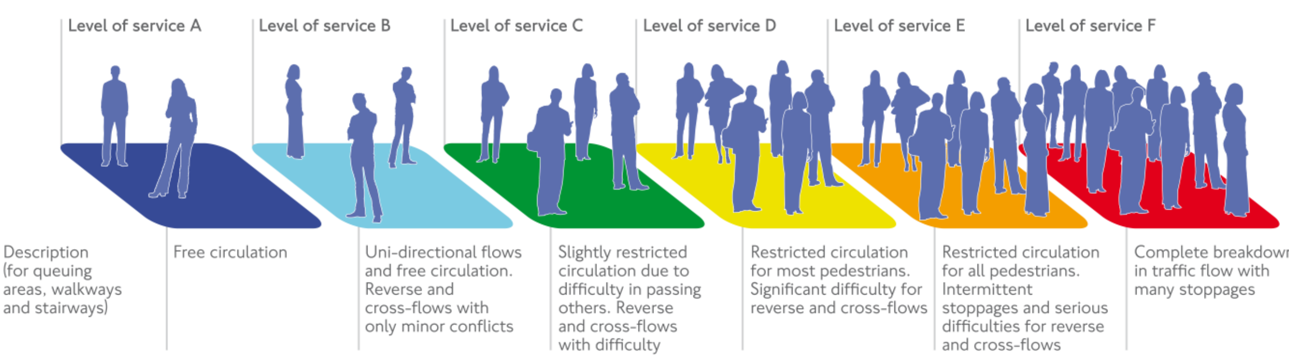
Figure 12 Map of attractions in the study area



Pedestrian flows & level of service

One of the most widely used concepts of pedestrian level of service is the Fruin's Level of service classification. This metric attributes a grade to the pedestrian environment based on the volume of pedestrian activity relative to the available size and quality of the pedestrian infrastructure (see Figure 13 and the NODTCA main document. Based on this classification,

Figure 13 Fruin's level of service (London Underground Limited [LUL] 2000)



pedestrian Level of service for the sidewalks depends on the density of pedestrian flows measured as a flow rate of persons per minute per meter.

In case of the sidewalks, the Level of service A is the highest level of service providing the most circulation freedom for pedestrians and Level of service F is the most restrictive and is considered unsafe if predominant in an area over a sustained time period. In case of intersections, the highest Level of service reflects the lowest probability of risky pedestrian behaviour.

Fruin's classification system cannot fully describe the differences in pedestrian experience in different parts of the pedestrian network for this study. Hence, it was decided to base this level of service analysis on the qualitative assessment of the sidewalks in the area, compared with the expected activity level in these sidewalks.

Accessibility of attractors

In the early PM, before Bourbon St closes to traffic, the potential pedestrian high-demand hotspots include:

- Jackson Square
- The junction between N Peters St and Canal St
- The junction between N Peters St and Conti St
- The French Market

In the late PM, after Bourbon St is closed to traffic, it is expected that the hotspot around Jackson Square becomes even more congested, as it accommodates part of Bourbon St and Royal St pedestrian flows during the peak evening activity.

Regression was undertaken against the following variables to try and extrapolate likely pedestrian flows over the rest of the study area network. Producing the final flows on the network was a two-step process due to the relative sparsity of data (both in terms of counts and input variables for the regression to be undertaken on). First, the above relationships were used to determine the expected *relative usage* of each link in the study area by pedestrians.

Second, a normalization curve was fitted to the existing survey data, so that the surveyed links expected to see the lowest usage corresponded to the lowest flows surveyed, and the highest-usage surveyed links corresponded to the highest flow data surveyed.

The curve that best fit the data, for both AM and PM peaks, has equation:

$$Normalised\ Predicted\ Flow = \frac{e^{(predicted\ flow/14)}}{e^{(\boldsymbol{maximum}\ predicted\ flow/14)}}$$

The flows predicted in regression were then also fitted to this normalization curve to produce the final predicted flows for all links in the study area.

For the AM, the most significant relationship was a negative correlation between flows and distance from public transit stops. For the PM, the most significant relationships to flows were a negative correlation with distance to the main tourist attractions and, again, a negative correlation with distance from public transit stops.

In conclusion, all of the links have acceptable width and flows under normal conditions. The roadways, of course, have LOS A only under normal conditions of peak flows on an average weekday. But for special event days or for an average weekday 20 years in the future, there will be a wide range of predicted densities across the various links in the pedestrian network.

Corridor	Condition	Average Width (ft.)	Average 15-min flows(from regression)	Flow Rate (ppmpm)
Elysian Fields Ave	Good	10.9	7	0.014
Basin St	Good	8.6	10	0.023
Canal St	Good	16.7	24	0.031
N Peters St	Good	12.0	8	0.013
Bourbon St (sidewalks only)	Good	10.0	**253**	**5.536**
Bourbon St (sidewalks + Road)	Good	20.5**	**253**	**2.701**

*adjusted by sidewalk condition

**please note that flow is calculated for each 'side' of the road – so although in this scenario the total width available to pedestrians using Bourbon St is 41 feet, calculations have been done for one 'side' of the road only – which has width 20.5 feet.

On Bourbon St, the analysis proved that, as is evident to residents and visitors alike, the sidewalk alone is not wide enough for a good level of service during events. These events include many tourist-season weekend nights as well. During Special Events, the LOS of A can only be achieved with a pedestrian mall design, allowing the visitors to Bourbon St to safely walk in the street.

Scenario	Flow per minute	Sidewalks only	Sidewalks + Roadway
PM general weekday	45	LOS A	LOS A
Special Event	240	>LOS C	>LOS A

LAND USE

To understand the landscape of building use in the study area, the project team completed a walking survey of each building on Bourbon St from Iberville St to St. Philip St and at each of the 10 cross streets between Royal St and Dauphine St. Each address was recorded and coded for the ground floor and the upper stories along with the number of stories in the building. The following codes were used:

- Commercial
- Residential
- Parking Garage
- School

- Hotel

Building use in the study area is predominantly commercial with several hotels and parking garages but few residential uses on the ground floor between Iberville St and St. Peter St. Iberville St and Bienville St contain several parking garages and hotels in addition to almost exclusively commercial ground floor uses. After Bienville St, most of the hotels between Royal St and Dauphine St are located on Conti St and Toulouse St. Starting at St. Peter St heading downriver the concentration of residential uses increases (especially between Bourbon St and Dauphine St). Three schools located in the study area on St. Ann St and Dumaine St between Bourbon St and Dauphine St, and one on St. Philip St between Royal St and Bourbon St.

Building use on Bourbon St follows a fairly simple pattern. Between Iberville St an St. Ann St the building uses are almost completely commercial hotels located on the blocks between Canal St and Iberville, Bienville St and Conti St, St. Louis St to Toulouse St, and Orleans to St. Ann St. Starting at St. Ann St the building use on Bourbon St becomes mostly residential with businesses mostly located on the corners.

Please refer to the Appendix for a table of field-collected land use data.

3. STAKEHOLDER INPUT

Table of Contents

Figures

Tables

Introduction

In order to understand the needs and desires of local businesses, property owners, and residents, one round stakeholder interviews and two surveys were conducted. Additionally, two public meetings and meetings with interest groups like the French Quarter Business Association were completed. The Bourbon St Freight and Delivery interviews was collected in person, by staff in the field visiting businesses. The stakeholder surveys were executed using an online polling system.

The following sections summarize the findings of the three sets of stakeholder input. The data is described in graphs and narrative. Select comments are provided in blue boxes. These comments are not necessarily representative of the entire set of comments.

Bourbon St Business Interviews

In an effort to design a cohesive transportation plan for the Bourbon St corridor, AECOM conducted a survey of businesses on Bourbon St regarding operations, deliveries, freight access, and related issues.

A representative of each business was asked the following questions:

- How often do you receive deliveries?
- What time of day do you receive most of your deliveries?
- How many different companies deliver to your business?
- Do you have the capacity to receive larger deliveries less frequently?
- How far from your business do your delivery trucks usually park?
- Do you have back/side access (not on Bourbon St) for freight deliveries?
- What concerns do you have about the street closures?
- Any particular location or issue the design team needs to focus on?
- If access to Bourbon St were provided for a short time each day, when should that be?
- Any additional comments or suggestions?

AECOM conducted surveyed on Monday March 6th from 9 am to 1 pm, on Wednesday March 8th from 9:30 am to 3 pm, and Monday March 13th from 2:00 to 6:00 pm. Some businesses within the corridor either requested to be contacted via email, or were closed during survey hours. All businesses for which an email was provided or could be found were sent a link to the survey, in the afternoon of Wednesday March 8th, and an additional reminder email on Monday March 13th. A final attempt to reach businesses in-person was conducted on Monday March 13th.

At the first public meeting on April 4, 2017, a few business owners notified the City that they had not been surveyed and would like to participate. The AECOM team then conducted surveys of those business after the public meeting.

Respondents

Over 60 stakeholders completed the survey. The respondents consist of restaurants, gift shops, bars, entertainment, and other services. A list of respondents, as of March 14th, is highlighted below in Table 1.

Table 1 List of Respondents

Stakeholder Name	Stakeholder Address
Four Points Sheraton / Hotel	541 Bourbon St
Deanie's Seafood / Restaurant	841 Iberville St
Pat O'Brien's / Restaurant & Bar	718 St. Peter St
The Court of Two Sisters / Restaurant	613 Royal St
Red Fish Grill / Restaurant	115 Bourbon St
B Mac's Bar and Courtyard / Bar	819 St. Louis St
Bourbon Heat / Bar	711 Bourbon St
Oz / Bar & Nightclub	800 Bourbon St
Daiquiri Delight / Bar	300 Bourbon St
Hyatt Centric / Hotel	800 Iberville St
Antoine's Restaurant / Restaurant	713 St. Louis St
Royal Sonesta / Hotel	300 Bourbon St
Washing Well Laundryteria / Services	841 Bourbon St
Cornet / Restaurant & Bar	700 Bourbon St
Jester Mardi Gras Daiquiris / Bar	200 Bourbon St
Hotel Le Marais / Hotel	717 Conti St
Saints and Sinners / Restaurant & Bar	627 Bourbon St
Spirits On Bourbon / Bar	615 Bourbon St
Hard Rock Café / Restaurant & Bar	125 Bourbon St
Bourbon Pride / Gift Shop	909 Bourbon St
Old Absinthe House / Bar	240 Bourbon St
Crowne Plaza / Hotel	739 Canal St
Bayou Threads Gifts / Gift Shop	529 Bourbon St
Johnny White's Pub & Grill / Restaurant & Bar	720 Bourbon St
Sweet Things & Grill / Restaurant	806 Conti St
Bourbon Bandstand / Bar	441 Bourbon St
The Little Tropical Isle / Bar	435 Bourbon St
Maison Bourbon / Bar	641 Bourbon St
Bourbon Pub Parade / Bar	801 Bourbon St
Rev. Zombie's House of Voodoo / Gift Shop	725 St. Peter St
Compac -Liquors & Wine Store / Service	713-799 St. Louis St
Traders' Emporium Outlet / Gift Shop	222 Bourbon St
Tickler's Dueling Piano Bar / Bar	635 Bourbon St
Crescent City Pizza Works	730 Orleans St
The Beach on Bourbon / Bar	227 Bourbon St
Dickie Brennan's Steakhouse / Restaurant	716 Iberville St
The Swamp / Bar	516 Bourbon St

Stakeholder Name	Stakeholder Address
Rick's Cabaret / Entertainment	315 Bourbon St
Remoulade by Arnaud’s / Restaurant	813 Bienville St
Galatorie’s / Restaurant	209 Bourbon St
Crescent City Pizza Works / Restaurant	407 Bourbon St
Arcadian Books and Prints / Service	714 Orleans St
Bourbon Orleans Hotel / Hotel	717 Orleans St
Preservation Hall / Entertainment	726 St. Peter St
Fritzel's European Jazz Pub / Bar	733 Bourbon St
Tricou Gifts / Gift Shop	709 Bourbon St
Nola Po’boys / Restaurant	908 Bourbon St
Willie's Chicken Shack / Restaurant	630 Bourbon St
Bourbon Novelties / Gift Shop	522 Bourbon St
Bayou Burger / Restaurant	504 Bourbon St
Prince Conti Hotel / Hotel	830 Conti St
Felix's Restaurant & Oyster Bar / Restaurant & Bar	739 Iberville St
Bourbon Cowboy / Bar	241 Bourbon St
Stiletto's on Bourbon / Entertainment	325 Bourbon St
Hustler Club / Entertainment	225 Bourbon St
Hustler Hollywood Store / Gift Shop	111 Bourbon St
Anonymous	N/A

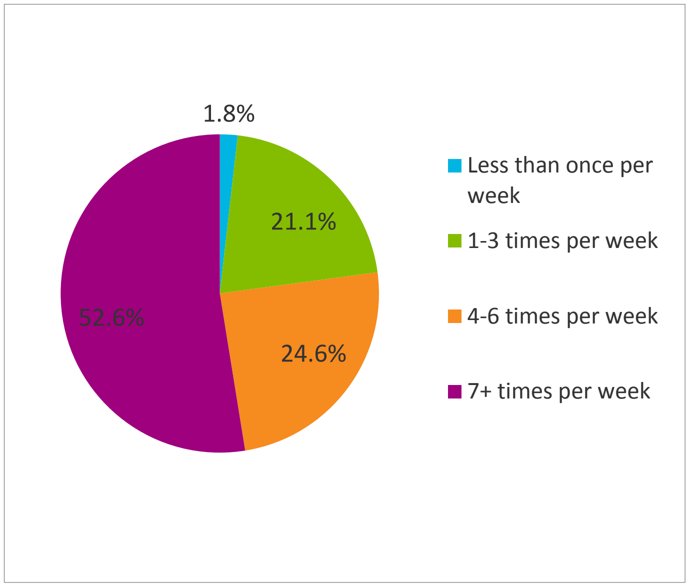
Source: Bourbon St Freight Access Survey

Results by Question

Question 1: How often do you receive deliveries?

The majority of respondents, 52.6%, receive deliveries 7 or more times each week. An additional 24.6% receive deliveries 4-6 times per week. 21.2% receive deliveries 1-3 times per week, and only 1.8% receive deliveries less than 1 time per week. The data suggests that there is a need for deliveries seven days a week. However, it could be said that the current traffic operations and parking conditions actually encourage daily delivery. With the proposed restricts, it will be more important to organize and efficiently manage delivery schedules. Some of the businesses already do so.

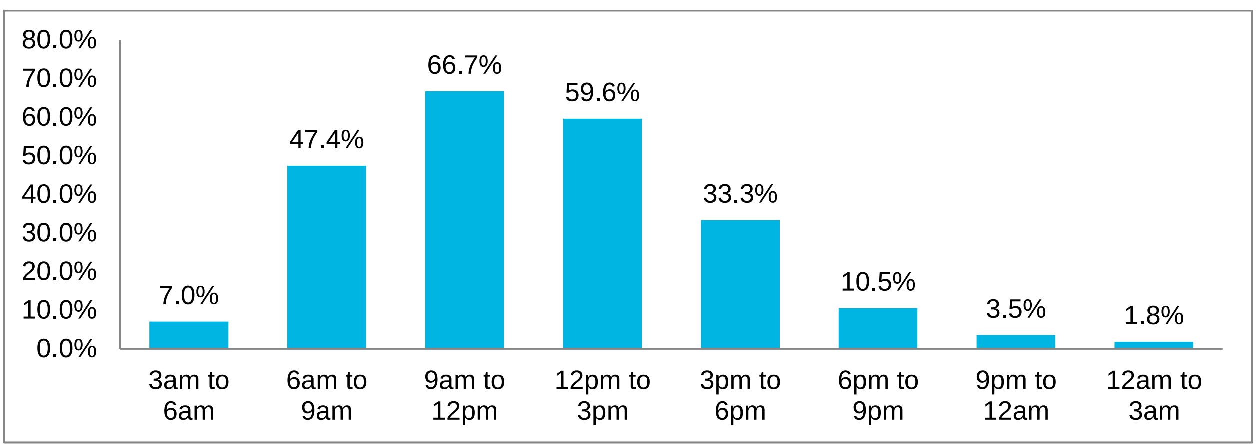
Figure 1 How often do you receive deliveries?



Question 2: What time of day do you receive most of your deliveries?

Several respondents selected multiple times. 66.7% of respondents reported 9 am to 12 pm was the time of day they receive the most deliveries, while an additional 59.6% reported 12 pm to 3 pm. 47.4% reported 6 am to 9 am, 33.3% reported 3 pm to 6 pm, and 10.5% reported 6 pm to 9 pm. Less than 10% of respondents reported that most of their deliveries occur between 3 am and 6 am, 9 pm to 12 am, and 12 am to 3 am.

Figure 2 What time of day do you receive most of your deliveries?



Question 3: How many different companies deliver to your business?

86% of respondents reported that four or more companies deliver to their business. 8.8% reported that 3 companies delivered, 3.5% reported 2 companies delivered, and only 1.8% reported that 1 company delivered to their business.

Figure 3 How many different companies deliver to your business?

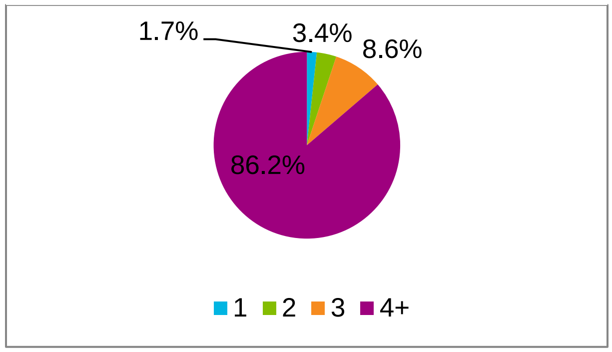
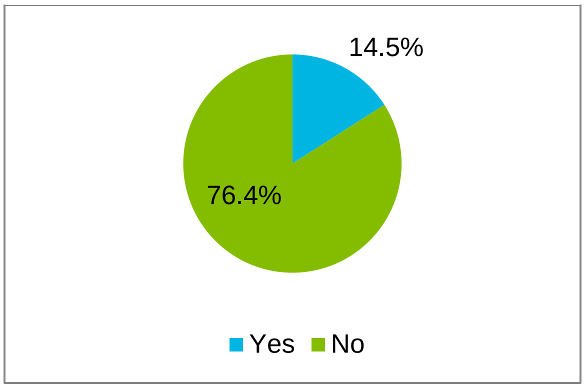


Figure 4 Do you have the capacity to receive larger deliveries less frequently?



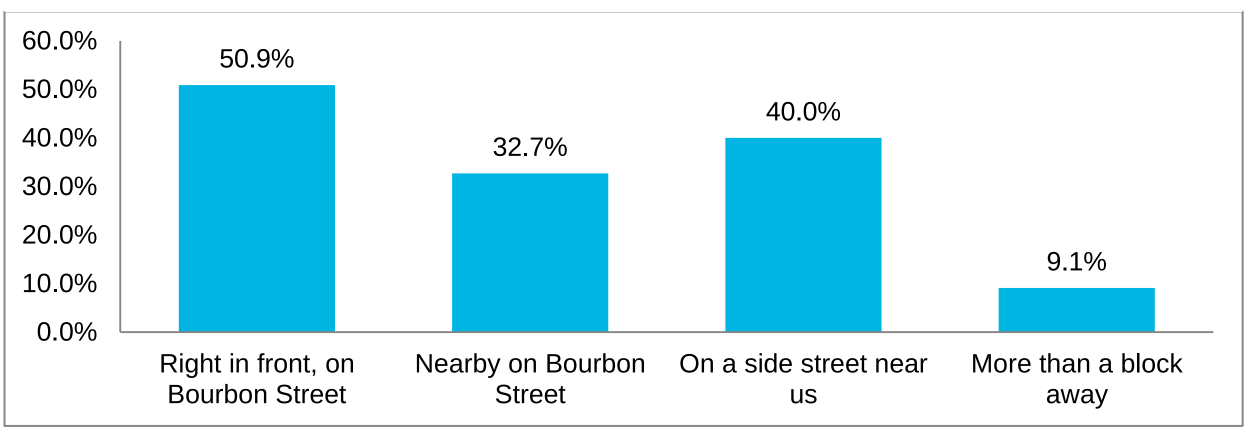
Question 4: Do you have the capacity to receive larger deliveries less frequently?

Of the respondents that answered this question, 76.4% answered ‘no’, 14.5% answered ‘yes’, and 9.1% answered with a specific comment. Some of the comments note that the capacity to receive larger deliveries depend on the type of product.

Question 5: How far from your business do your delivery trucks usually park?

Of the respondents that answered this question, 51.9% answered that delivery trucks park in front of their business, on Bourbon St. 40.7% answered that delivery trucks park on a side street near their business, 33.3% park nearby on Bourbon St, and 7.4% answered that they park more than a block away. Almost 50% of the respondents indicated that delivery trucks are not unloading from Bourbon St in front of their businesses. Presumably, these businesses would experience less of an impact if Bourbon St was closed for deliveries.

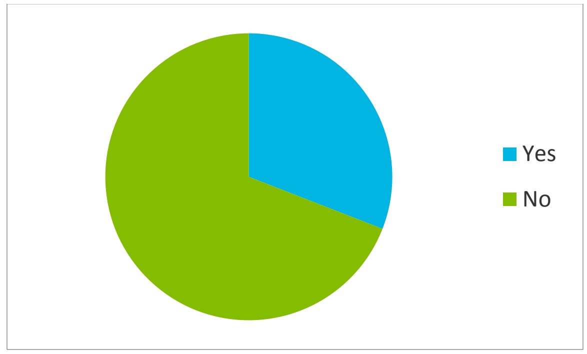
Figure 5 How far from your business do your delivery trucks usually park?



Question 6: Do you have back/side access (not on Bourbon St) for freight deliveries?

Of the respondents that answered this question, 69.1% answered that they do not have back or side access. 30.9% of respondents do have back or side access. The number of businesses with side or back access is higher than what was expected by the project team.

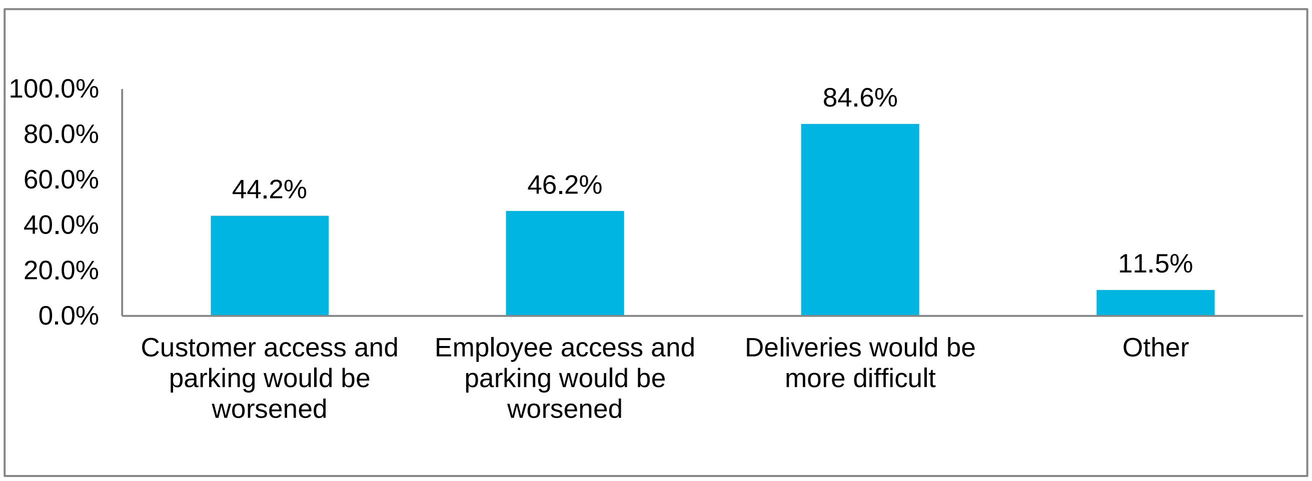
Figure 6 Do you have back/side access for freight deliveries?



Question 7: What concerns do you have about the street closures?

Of the respondents that answered this question, 84.6% believe that deliveries would be more difficult, 46.2% believe employee access and parking would be worsened, 44.2% believe customer access and parking would be worsened. Another 11.5% of respondents have other concerns. Their comments note that their concerns depend on the time of day of restrictions, traffic in the French Quarter, loading for offsite events, traffic on side streets, and lack of access to cross Bourbon St. Several stakeholders have concerns over customers being able to access their business, and expressed a need for a drop-off area to allow easier access even during restricted hours.

Figure 7 What concerns do you have about the street closures?



“The cars, taxi's, Uber, Lyft, etc. that "cruise" the area create unnecessary traffic.”

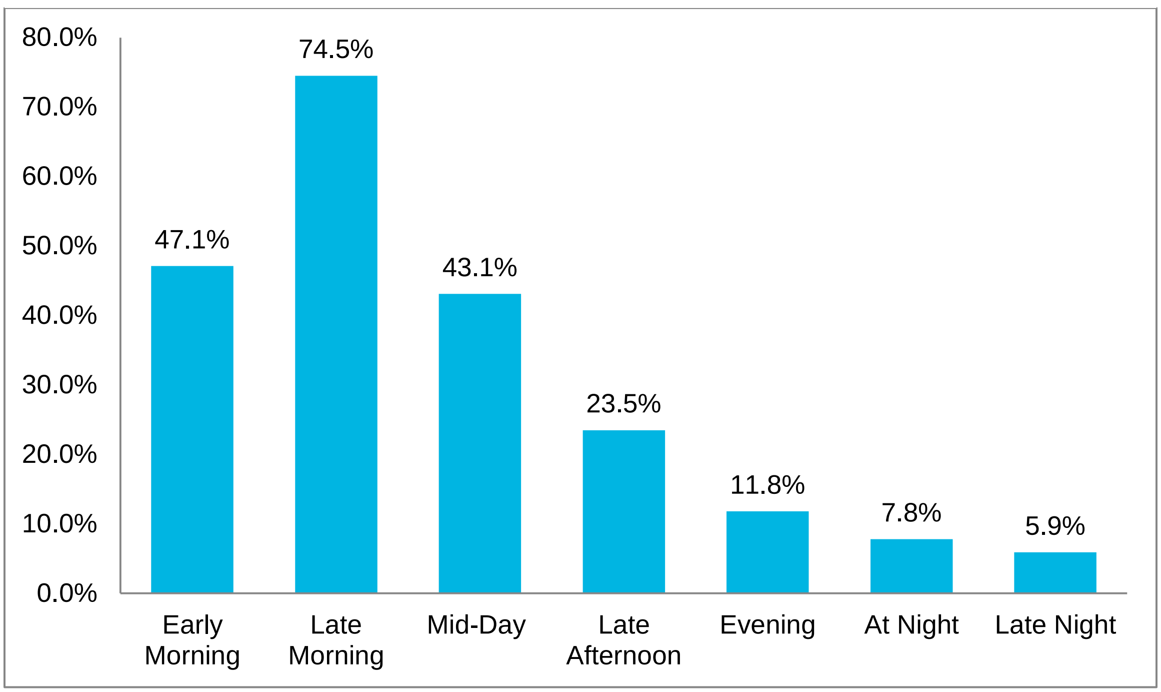
Question 8: Any particular location or issue the design team needs to focus on?

Of the respondents that answered this question, 45.5% answered ‘no’. Of those that answered ‘yes’, their comments note that their issues include needing more freight zones, crowd control, parking, access issues, and timely deliveries. The most frequent concern of stakeholders was their need for access to side streets immediately adjacent to Bourbon St.

Question 9: If access to Bourbon St were provided for a short time each day, when should that be?

Of the respondents that answered this question, 74.5% answered that access should be provided during late morning, from 9 am to 11 am. 47.1% answered early morning (4 am to 8 am), 43.1% answered mid-day (12 pm to 3 pm), 23.5% answered late afternoon (2 to 5 pm), and 11.8% reported evening (7 to 9 pm). Less than 10% answered that access should be provided at night (9 pm to 12 am) and late at night (12 to 3 am).

Figure 8 If access to Bourbon St were provided for a short time each day, when should that be?



Any additional comments or suggestions?

21 respondents provided additional comments or suggestions. These comments include the need for access for caterers, musicians, florists, and other hospitality companies during late hours; a request that weekends do not vary from weekdays; and many noted that they like the restrictions the way they are.

> *"Aside from the beer companies, liquor companies, linens, supplies, Sysco, Inland Seafood etc. during the day, there is completely different delivery traffic in the afternoons and at night. We entertain all of the "tourists" visiting New Orleans in the French Quarter on World Famous Bourbon Street! Caterers, musicians, florists, decor companies, transportation companies...all of the hospitality industry companies that service the French Quarter NEED ACCESS during the day and then again with hot food, fresh flowers, instruments, sound, etc. to deliver load in/out for night events 5pm-3am. Restricting traffic on Bourbon Street is not a resolution for safety. It will inhibit business."*

> *"Weekends should not vary from weekdays - need deliveries too; sewage and water block street and deliveries are late."*

Conclusions regarding Freight Delivery

Understandably, a large majority of businesses (around 85%) are concerned that a change to Bourbon St closure policy would make receiving deliveries more difficult than it already is. Many Bourbon St businesses are high-volume bars and restaurants, making delivery vehicle access essential.

The results of this survey provide a very clear picture of how deliveries occur at Bourbon St businesses.

- Most deliveries occur during the mid to late morning – yet more than half of the respondents receive deliveries after 3pm.
- Most businesses on Bourbon St receive deliveries 4-7 times per week.
- Most businesses get deliveries from more than 4 companies.
- Most businesses do not claim to have capacity for larger, less-frequent deliveries.

Survey data and field observations reveal that deliveries occur in a fast paced manner over a short period of time with most of the delivery trucks parking on Bourbon St within one block of their destination. Most deliveries occur mid-morning, with the hours from approximately 9AM to 11AM appearing to be the most crucial. To address this, freight vehicle access to Bourbon St should be ensured during this time. It was also made clear that late afternoon and evening deliveries are also a priority. To address this, a curb use policy adjustment allocating freight zones on cross streets adjacent to Bourbon St needs to be provided.

With this information understood, the range of options for closure of Bourbon St becomes clearer. Currently, Bourbon St is closed off to traffic starting at 5PM. Based on the survey results closing the street as early as 11:30AM is a viable option - as are closures at 1PM, 3PM, and 5PM. A reconfiguration of curb use policy on the streets crossing Bourbon St within the closure area allowing for a greater volume and convenient placement of freight zones should also be studied.

French Quarter Residents

In an effort to design a cohesive transportation plan for the Bourbon St corridor, AECOM conducted a survey of residents within the study area regarding the proposed closure of Bourbon St, a possible closure of surrounding streets, and related topics.

The residents were asked the following questions:

- Does your residence have a driveway?
- Do you own or rent your residence?
- How long have you lived in the French Quarter?
- Does your commute to work require you to travel on and/or cross Bourbon St?
- What time do you usually leave your residence for work?
- What time do you usually arrive home from work?
- Currently, on the weekends, Bourbon St is closed from around 4 pm to 4 am. Do you support any changes to the existing Bourbon St closure?
- On weekdays, Bourbon St is closed to vehicles around 5 pm to 5 am. Do you support any changes to the existing Bourbon St closure policy?
- Of these options, which Bourbon St closure extend do you prefer, for typical (no special events) weekdays?
- Of these options, which Bourbon St closure extent do you prefer, for typical weekends?
- Please suggest an optimal time for the start of the closure of Bourbon St on weekdays?
- Do you support the closure of side streets crossing Bourbon as part of the proposal?
- What are your main concerns related to closure plan for Bourbon St?
- Would you like to see in increase in weekday parking enforcement in the French Quarter (e.g. ticketing, towing, booting, etc.)?
- Would you like to see an increase in weekend parking enforcement in the French Quarter? (E.g. ticketing, towing, booting, etc.)
- How effective is the Residential Parking Program in suiting you residential parking needs?
- Do you have any other comments?

The project team collected survey data from Friday, April 21, 2017 to Friday April 28, 2017. Survey data was collected online from 128 responses.

Respondents

Over 125 stakeholders completed the survey. A list of respondents, as of April 28th, is highlighted below in Table 2.

Table 2 List of Respondents

Stakeholder Address
1000 Conti St
1000 Saint Louis St
1001 St Ann St
1002 Bienville St
1005 Gov. Nicholls St
1007 Ursulines Avenue
1009 St. Louis St
1010 Toulouse St
1015 Governor Nicholls St
1016 Esplanade Avenue
1017 Saint Louis St
1018 Dumaine St
1020 Esplanade Avenue
1023 Gov. Nicholls St
1024 Bourbon St
1026 Esplanade Avenue
1027 Chartres St
1029 Orleans Avenue
1032 Royal St
1104 Dauphine St
1107 Dauphine St
1109 Burgundy St
1111 Bourbon St
1119 Burgundy St
1120 Dauphine St
1127 Bourbon St
1131 Burgundy St
1139 Bourbon St
1201 Chartres St
1206 Burgundy
1218 Burgundy
1224 Bourbon St
1226 Dauphine St
1308 Chartres St
1350 Bourbon St
201 North Peters St
324 Chartres St
418 Burgundy St

Stakeholder Address
422 Burgundy St
422 Chartres St
508 Barracks St
508 Toulouse St
509 Gov. Nicholls St
511 Royal St
513 Gov. Nicholls St
514 Dumaine St
518 Gov. Nicholls St
524 Esplanade Avenue
528 Dumaine St
530 St. Philip St
534 Chartres St
534 Esplanade Avenue
535 St. Philip St
537 Bienville St
606 Esplanade Avenue
607 Barracks St
609 Dumaine St

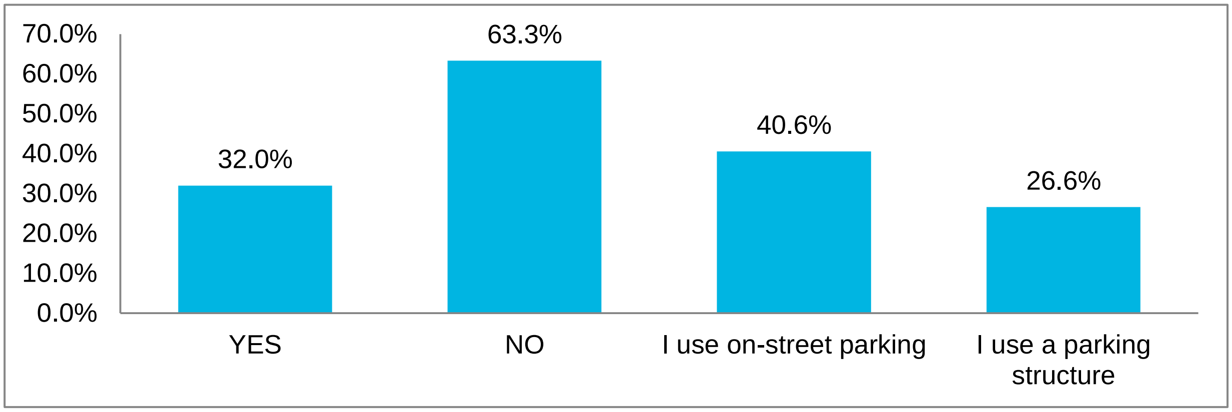
Source: Bourbon St Closure Residents Survey

Results by Question

Question 1: Does your residence have a driveway

The majority of respondents, 63.3%, do not have a driveway.40% of respondents noted that they utilize on-street parking and another 26.6% use a parking structure. 32.0% of respondents do have driveways. The data suggests that the majority of French Quarter residences do not have a driveway and that changes to Bourbon St will likely not affect their driveway.

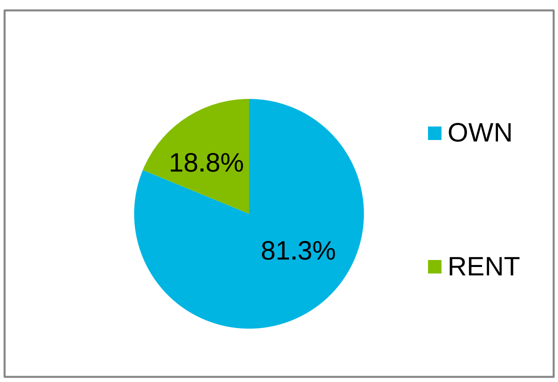
Figure 9 Does your residence have a driveway?



Question 2: Do you own or rent your residence?

81.3% of residences report that they own their residence, with the remaining 18.8% reporting that they rent their residence.

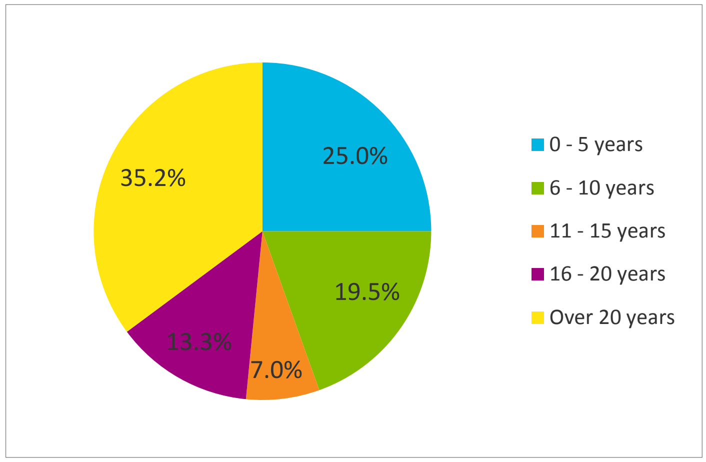
Figure 10 Do you rent or own your residence?



Question 3: How long have you lived in the French Quarter?

35.2% of the respondents have lived in the French Quarter for over 20 years, some of which have been living in the French Quarter as far back as 1947. Another 25% of respondents have been living in the French Quarter for 0 to 5 years, 19.5% from 6 to 10 years, 13.3% from 16 to 20 years, and 7% from 11 to 15 years. From this, we can see that the respondents are fairly diverse in their time spent in the French Quarter, with the majority of respondent having lived there over 20 years, or under 5 years.

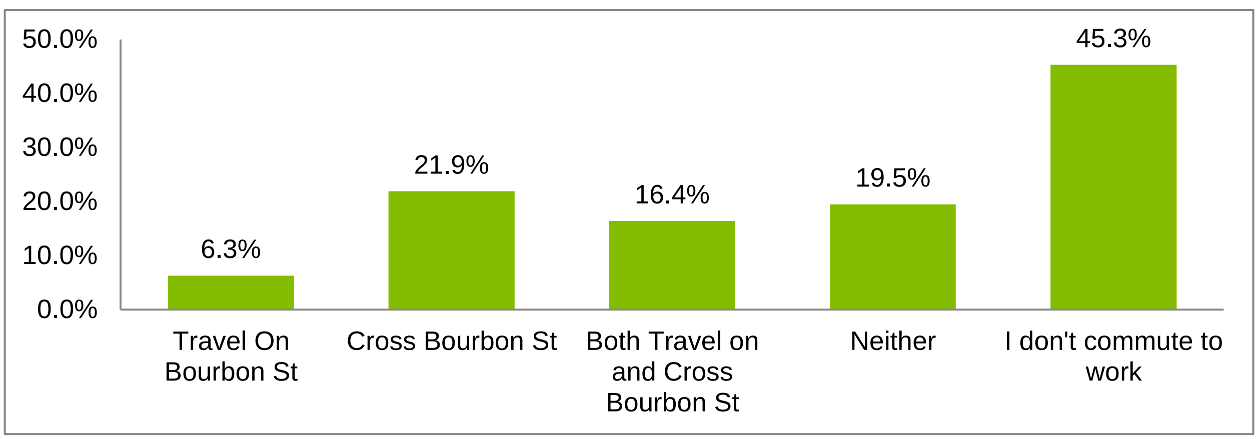
Figure 11 How long have you lived in the French Quarter?



Question 4: Does your commute (to work) require you to travel on and/or cross Bourbon St?

Approximately 45.3% of respondents reported that they do not commute to work, and an additional 19.5% stated that they do not travel or cross Bourbon St during their commute. Of the remaining 35.2% of respondents, the majority only cross Bourbon, with some respondents traveling on Bourbon St, and others that both travel and cross.

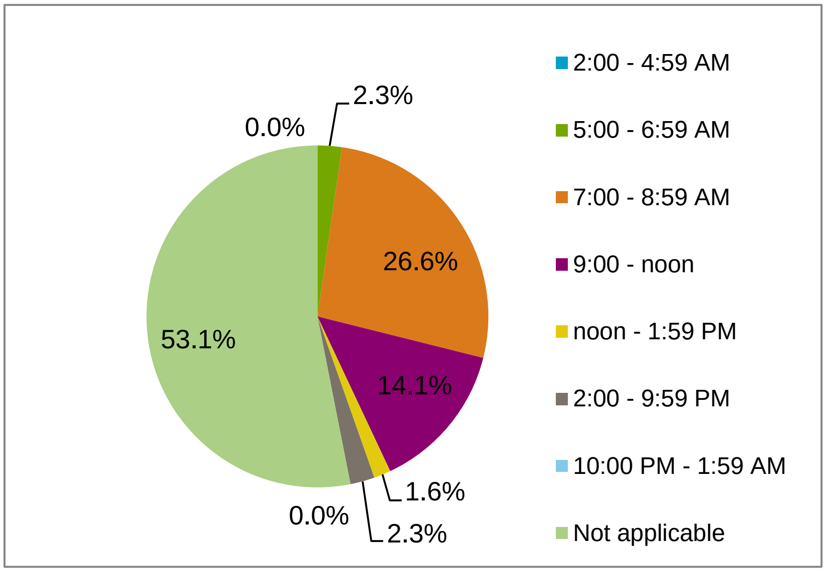
Figure 12 Does your commute require you to travel on and/or cross Bourbon St?



Question 5: What time do you usually leave your residence for work?

53.1% of the respondents answered that this question is not applicable. This could be because they belong to the 45.3% of respondents that do not commute to work, or because the time of their commute varies. Of those that provided a time, most stated that they leave their residence for work from 7:00 to 8:59 am, with the next busiest time being from 9:00 am to noon, and a few respondents leaving from 5:00 to 6:59 am, noon to 1:59 pm, and 2:00 to 9:59 pm.

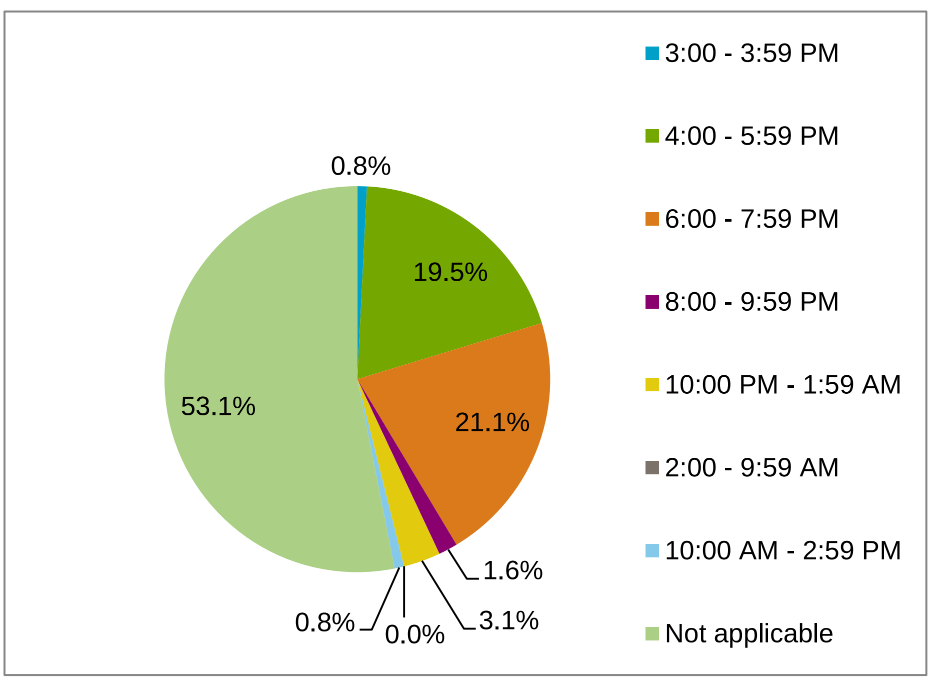
Figure 13 What time do you usually leave your residence for work?



Question 6: What time do you usually arrive home from work?

Similarly to Question 5, 53.1% of respondents stated that this question is not applicable. Of those that were able to provide a time, the majority arrive home from work from 6:00 to 7:59 pm or from 4:00 to 5:59 pm. Some other respondents arrive home from 3:00 to 3:59 pm, 8:00 to 9:59 pm, or from 10:00 am to 2:59 pm

Figure 14 What time do you usually arrive home from work?



Question 7: Currently, on the weekends, Bourbon St is closed from around 4 pm to 4 am. Do you support any changes to the existing Bourbon St closure policy for weekends?

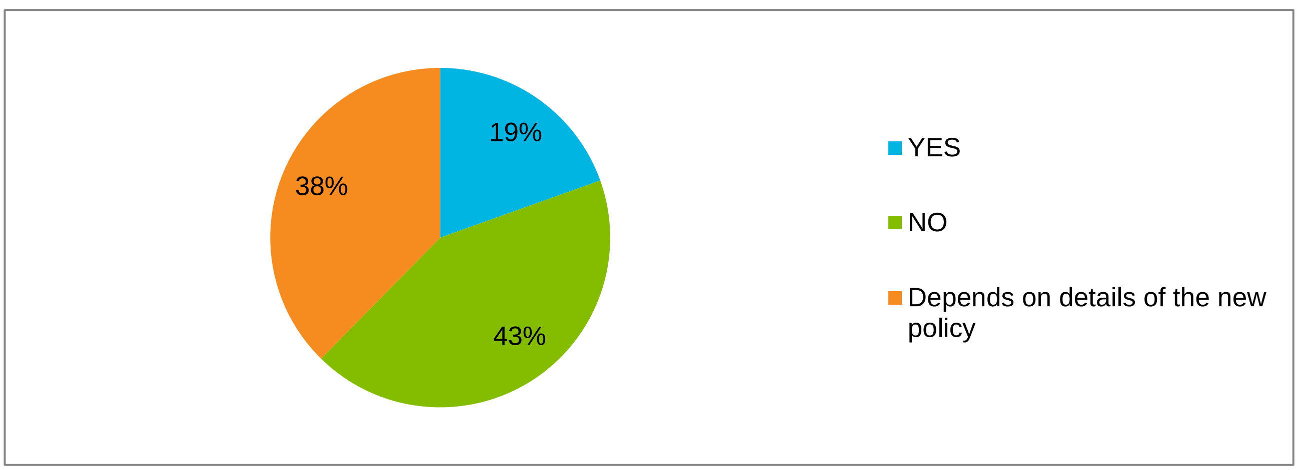
44.5% of respondents stated that they do not support any changes to the existing policy. Of the remaining 55.0% of respondents, 20.3% answered “Yes”. Others answered that it “depends on the details of the new policy” and some provided their other in a comment box. Some of the suggestions, which vary in opinion, include:

> *“It should be closed less hours, from 6 pm to 3 am”*

> *“The closure should be the entire length of Bourbon Street”*

> *“I do not support the closure of any street crossing Bourbon Street, but I do support the changes in time on Bourbon Street”*

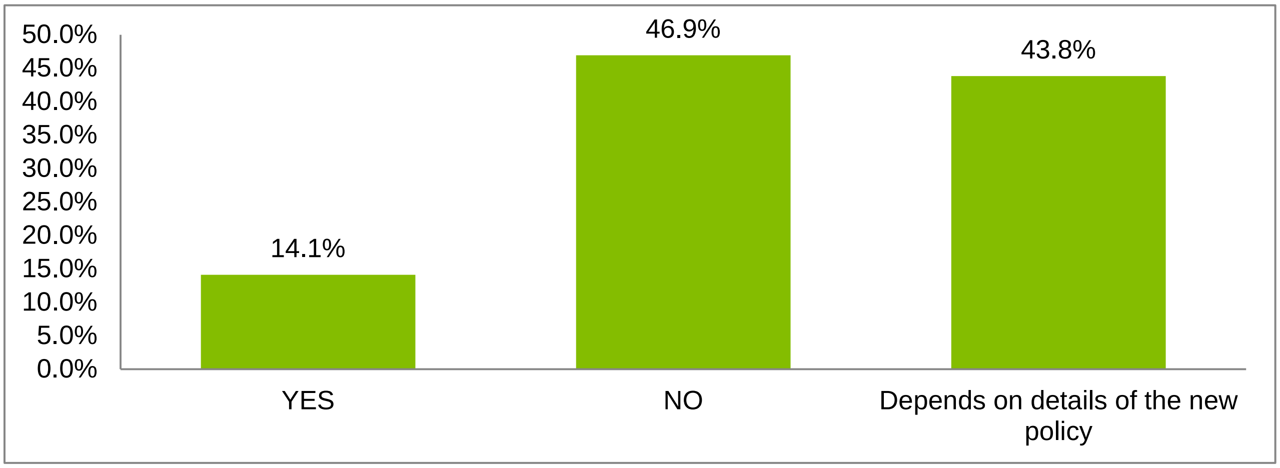
Figure 15 Do you support any changes to the existing Bourbon Street closure policy for weekends?



Question 8: On weekdays, Bourbon St is closed to vehicles around 5 pm to 4 am. Do you support any changes to the existing Bourbon St closure policy for weekdays?

Similar to the answers in Question 7, 46.9% of respondents do not support changes to the existing policy. Of those that remain, 14.1% answered “yes” they support the changes, and the remaining respondents state that it “depends on the details of the new policy”.

Figure 16 Do you support any changes to the existing Bourbon St closure policy for weekdays?



Question 9: Of these options, which Bourbon St closure extent do you prefer for typical (no special events) weekdays?

A vast majority, 80.5%, of respondents stated that they support closure from the northern curb of Iberville St to the southern curb of St. Ann St. An additional 14.8%support from the northern curb of Canal St to the southern curb of Dumaine St, and 7.0% support from the northern curb of Iberville street to the southern curb of Dumaine St.

Figure 17 Of these options, which Bourbon St closure do you prefer for typical weekdays?

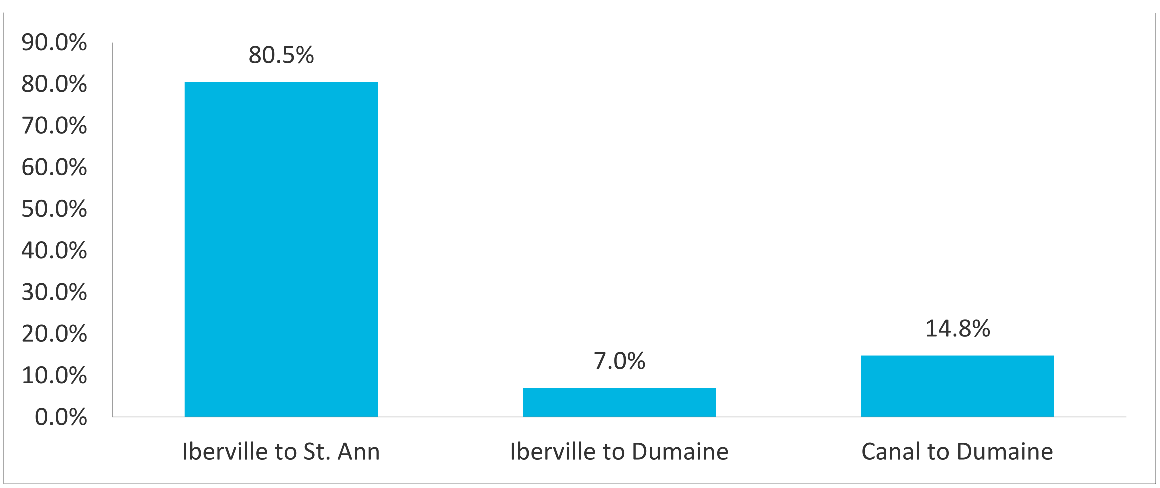
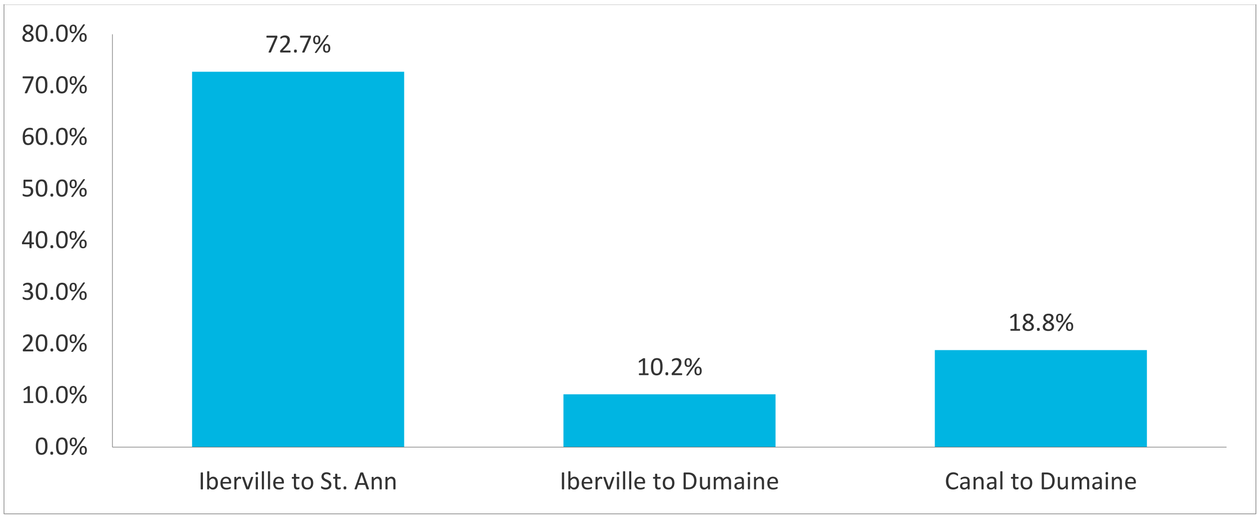


Figure 18 Of these options, which Bourbon St closure do you prefer for typical weekends?



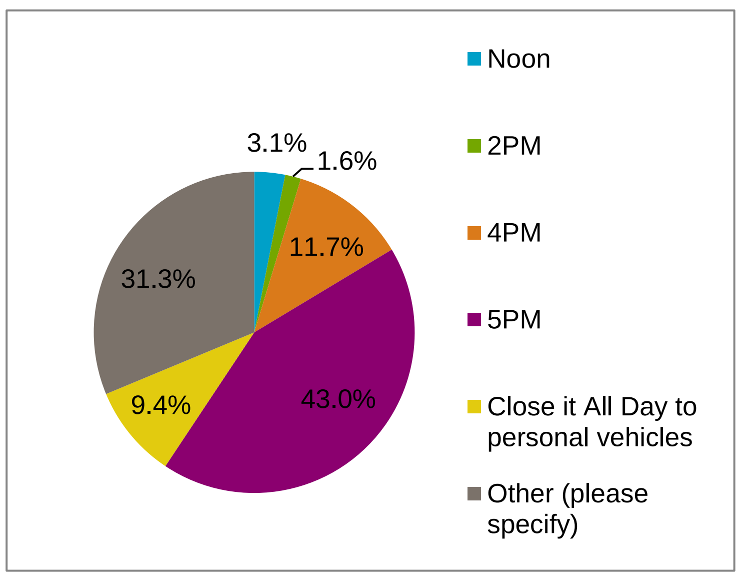
Question 10: Of these options, which Bourbon St closure extent do you prefer for typical weekends?

For the weekends, more respondents were supportive of extending the closure to include additional parts of Bourbon St. For weekends, 18.8% support from the northern curb of Canal St to the southern curb of Dumaine St, and 10.2% support from the northern curb of Iberville to the southern curb of Dumaine St. 72.7% still support only from the northern curb of Iberville St to the southern curb of St. Ann St.

Question 11: Please suggest an optimal time for the start of the closure on Bourbon St on weekdays?

43.0% of respondents stated that the optimal time to close Bourbon St on weekdays is 5 pm. Another 11.7% stated 4 pm, 3.1% stated noon, and 1.6% stated 2 pm. 9.4% of respondents stated that Bourbon St should be closed all day. 31.3% of respondents stated provided their other suggestion in a comment box.

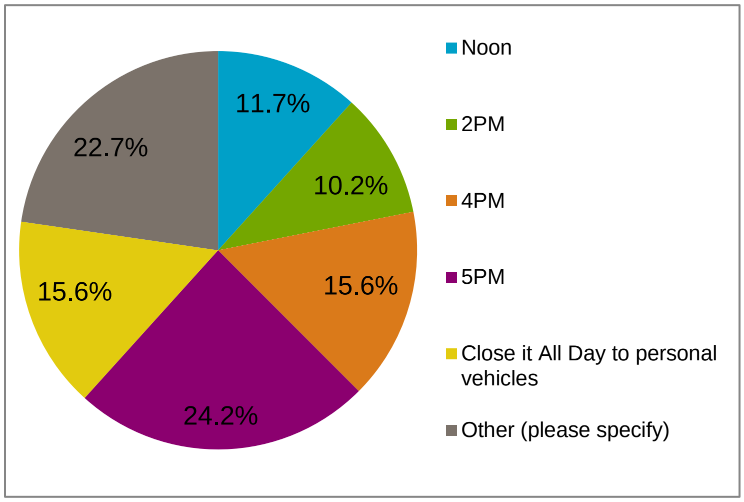
Figure 19 Please suggest an optimal start time for the closure of Bourbon St for weekdays?



Question 12: Please suggest an optimal time for the start of the closure of Bourbon St on weekends?

Many respondents still support at 5 pm closure on the weekends. However, more respondents, 15.6%, are supportive of Bourbon St being closed all day on the weekends. An additional 22.7% of respondents gave other suggestions in the comment box, some of these include: "5 pm only if Royal St is open at 5 pm, and that delivery trucks are restricted to 7 am to noon

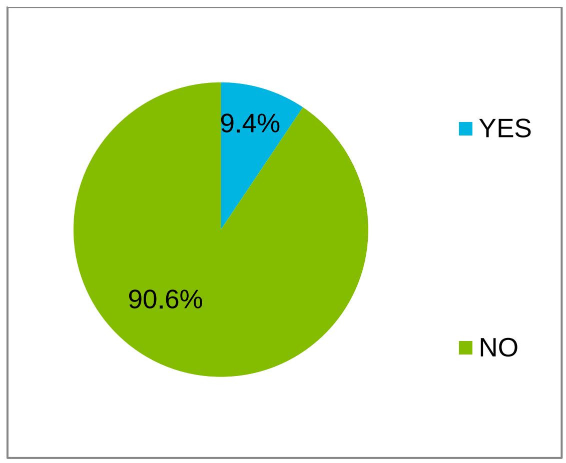
Figure 20 Please suggest an optimal start time for the closure of Bourbon St on Weekends. ?



Question 13: Do you support the closure of the side streets crossing Bourbon as part of the proposal?

90.6% of respondents do not support the closure of side streets crossing Bourbon St as part of the proposal. The other 9.4% of respondents do support this.

Figure 21 Do you support the closure of side streets crossing Bourbon?



Question 13: What are your main concerns related to the closure plan for Bourbon St?

Many respondents provided responses to the selected answers.

> "This will place more traffic in my neighborhood, instead of it being evenly distributed throughout the French Quarter"
>
> "It may impact the ability of Emergency Services, such as EMS, getting to a major event"

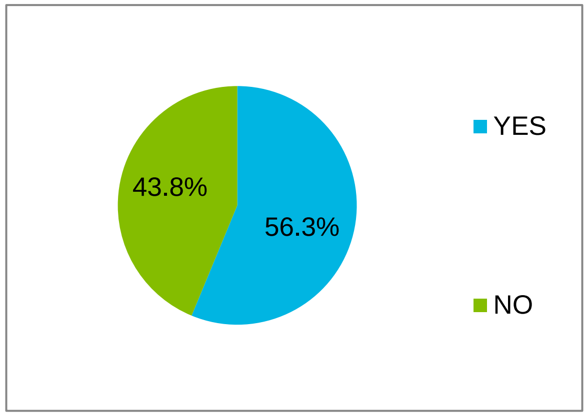
Question 14: Would you like to see an increase in weekday parking enforcement in the French Quarter?

The majority of respondents, 56.3%, stated that 'Yes" they would like to see an increase in weekday enforcement.

Question 15: Would you like to see an increase in weekend parking enforcement in the French Quarter?

Even more respondents, 68.0%, were supportive of additional enforcement for weekends in the French Quarter.

Figure 22 Would you like to see an increase in weekday parking enforcement?



Question 16: How effective is the Residential Parking Program to suit your residential parking needs?

The respondents ranked the RPP from 1 to 5, 1 being the lowest. The average rating was 2.75.

Figure 23 Would you like to see an increase in weekend parking enforcement?

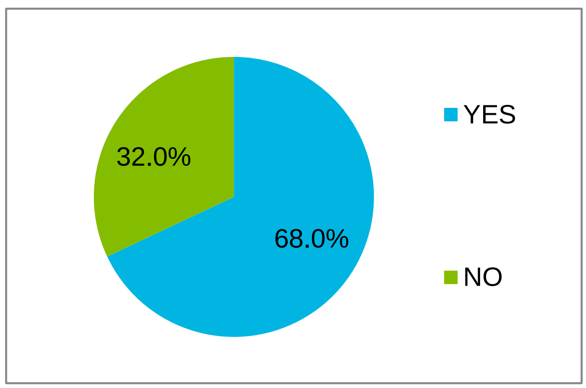
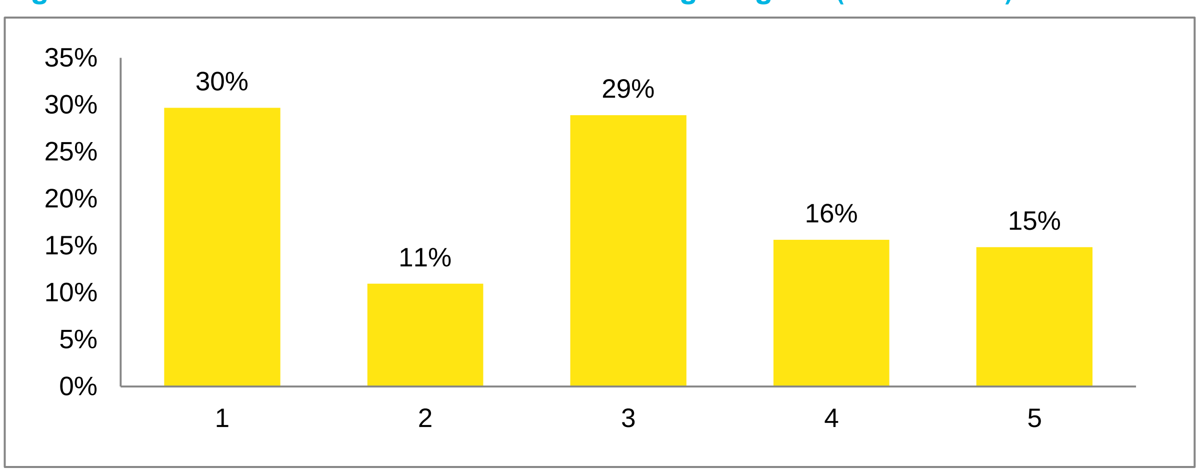


Figure 24 How effective is the Residential Parking Program (scale of 1-5)?



Question 17: Do you have any additional comments or suggestions?

83 respondents provided additional comments or suggestions. These comments include the need for access for caterers, musicians, florists, and other hospitality companies during late hours; a request that weekends do not vary from weekdays; and many noted that they like the restrictions the way they are.

> *"Parking should be limited to Residential only"*

> *"Since New Orleans is often portrayed as the most European city in the country, why not emulate them and have all deliveries completed before 11 am, as they do in France"*

> *"After hearing the plan proposed by the City in the last public forum and the difficulties with Bourbon closure as well as the safety concerns, I think the closure of the entire Quarter should be considered. This could be accomplished by allowing deliveries to business on two (early morning; late afternoon) or three (early morning; late afternoon and after midnight) time frames. Security would have to be provided for late night or early (before 6) morning delivery and emergency access be open at all times. Residents should be allowed to enter at all times. All others (tourists and employees) could be shuttled into the Quarter from a transportation center where they could park. I suggest the Basin lot (by the tourist information center) and the M. Jackson complex. The shuttle could circle or go through the Quarter to set pick up points continuously and be free to those who park in these lots."*

Conclusions from Residents

Of the 128 responses to the resident survey, most of the respondents are concerned with traffic congestion, resident parking and access, and secondary quality of life impacts as a result of a change to the Bourbon St closure policy. Most respondents (81.3%) are owners with about half of the respondents having lived in the French Quarter for more than 10 years. In terms of parking, most (63%) do not have a driveway and use either on-street or structured parking to station their personal automobile.

Most of the respondents (about 65%) either don't commute to work (45%) or have a commute that does not involve Bourbon St (19%); 6% commute using Bourbon St and 21% cross Bourbon St. Of those who do commute more than half (57%) leave before 9AM and almost all (87%) arrive home between 4PM and 8PM.

The existing closure extent and starting time – Iberville St to St. Ann St starting at 5PM – are the most popular option with survey respondents. In terms of weekend closure starting time policy, the survey revealed mixed opinion amongst respondents with the 5PM option achieving a slim majority. The vast majority (90%) are opposed to closure of the streets crossing Bourbon St.

French Quarter Businesses *not* on Bourbon St

In an effort to design a cohesive transportation plan for the Bourbon St corridor, AECOM conducted a survey of businesses within the study area regarding operations, deliveries, freight access, and related issues.

A representative of each business was asked the following questions:

- What is your role in your business?
- How long have you owned and/or operated your French Quarter business?
- How long has your business been in operation?
- Where do most of your employees, who drive to work, park their vehicles?
- If you drive to work, where do you park your vehicle?
- How many blocks do you and/or your employees walk to work after parking their car?
- On a given day, what percent of your customers drive to exclusively access your business?
- On a given day, what percent of your customers drive to the French Quarter and happen to access your business while they are in the area?
- Of your customers that do drive to access your business (exclusively or as part of a larger trip), where do they park?
- Does the French Quarter Residential Parking Permit Program impact your business?
- Currently, on the weekends, Bourbon St is closed from around 4 pm to 4 am. Do you support any changes to the existing Bourbon St closure policy for weekends?
- On weekdays, Bourbon St is closed to vehicles around 5 pm to 4 am. Do you support any changes to the existing Bourbon St closure policy for weekdays?
- Of the following options, which Bourbon St closure do you prefer?
- Please suggest an optimal time for closure of Bourbon St.
- Do you support the closure of side streets that cross Bourbon St between Iberville and St Ann?
- What concerns do you have about the Bourbon St closure changes?
- What concerns do you have about the cross street closures?
- Would you like to see an increase in parking enforcement in the French Quarter?
- Would you support a change in the number of freight loading/unloading zones in the French Quarter?
- Would you support a change in the number of passenger loading/unloading zones in the French Quarter?
- Would you support a change in the number of taxi/hack stands in the French Quarter?
- How often do you receive deliveries?
- What time of day do you receive most of your deliveries?

- How many different companies deliver to your business?
- Would any of the proposed changes to the Bourbon St closure policy impact deliveries to your business?
- Is there a particular location or issue the design team needs to focus on?
- Do you have any additional comments or suggestions?

The project team collected survey data from Friday, April 21, 2017 to Friday April 28, 2017. Survey data was collected online from 33 responses

Respondents

33 stakeholders completed the survey. The respondents consist of restaurants, gift shops, bars, entertainment, and other services. A list of respondents, as of April 28th, is highlighted below in Table 3Table 1.

Table 3 List of Respondents

Stakeholder Name	Stakeholder Address
Hotel Monteleone	214 Royal St
Dixieland T-Shirt Shop	434 Bourbon St
Nadine Blake	1036 Royal St
P & J	1030 Toulouse St
Ralph Brennan Restaurant Group	115 Bourbon St
La Petit Fleur, Inc.	534 Royal St
Antoine's Restaurant	7130 St. Louis St
Hotel Monteleone	214 Royal St
Me Bs Bistro	201 Royal St
The Ritz-Carlton, New Orleans	910 Canal St
TSYS Merchant Solutions	2117 Veterans Blvd (Metairie)
Planet Beach	301 Burgundy St
Antoines Restaurant, LLC	713 St Louis St
New Orleans Hotel Collection	730 Iberville St
Trader Emporium	222 Bourbon St
Muriel's Jackson Square	801 Chartres St
Boutique du Vampyre	709 St. Ann St
Arnaud's Restaurant	813 Bienville St
G L-f de Villiers Tours	1137 Bourbon St
Pelican New Orleans	941 Decatur St
Holiday Inn Chateau LeMoyne	301 Dauphine St
New Orleans Creole Cookery	510 Toulouse St
Pigeonhole Mini Storage	1001 Bienville St
Hotel Provincial	1024 Chartres St
Sysco Foods	1451 River Oaks Rd. West
Royal Sonesta New Orleans	300 Bourbon St
Bayou Threads Gifts	529 Bourbon St
Bourbons Best	241 Bourbon St
Real Estate Investments	1039/1041 Bourbon St
Royal Carriages	1824 N Rampart St
Historic New Orleans Collection	533 Royal St
Earth Odyssey	306 Chartres St
Bayou Threads Gifts	529 Bourbon St

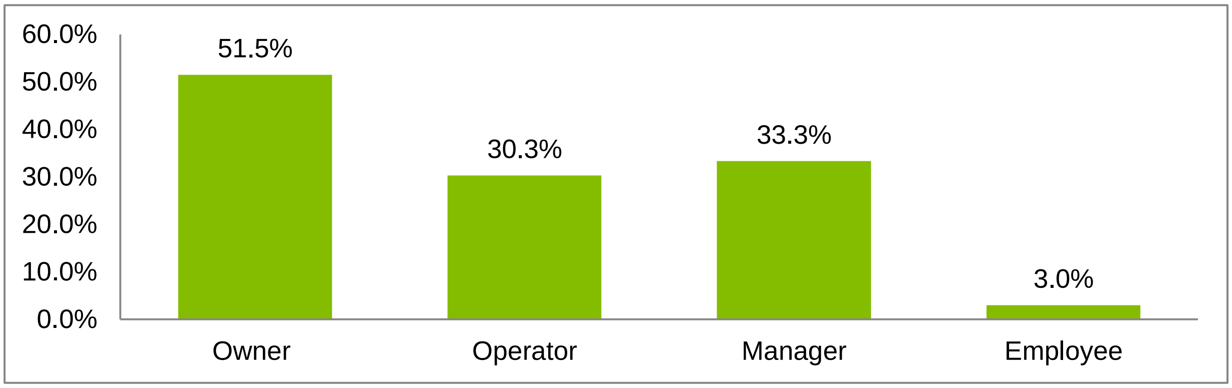
Source: French Quarter Business Survey

Results by Question

Question 1: What is your role in your business?

The majority of respondents, 51.5%, were business owners. An additional 30.3% were operators, 33.3% managers, and 3% employees.

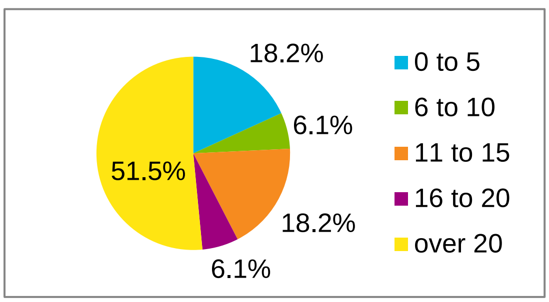
Figure 25 What is your role in your business?



Question 2: How long have you owned and/or operated your French Quarter business?

Over 51.5% of the respondents have been operating their business for over 20 years. Another 18.2% have been operating from 11 to 15 years, as well as 0 to 5 years. 6.1% of businesses have been operating either 6 to 10 years or 16 to 20 years.

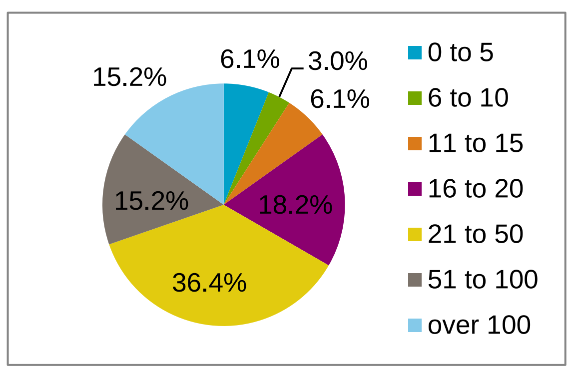
Figure 26 How long have you owned or operated your business?



Question 3: How long has your business been in operation?

36.4% of businesses have been operating for 21 to 50 years, and another 18.2% from 16 to 20 years. 15.2% have been operating either 51 to 100 years or over 100 years, some of which have been operating for up to 177 years. Lastly, 3.0% have been operating from 6 to 10 years and 6.1% for 0 to 5 years.

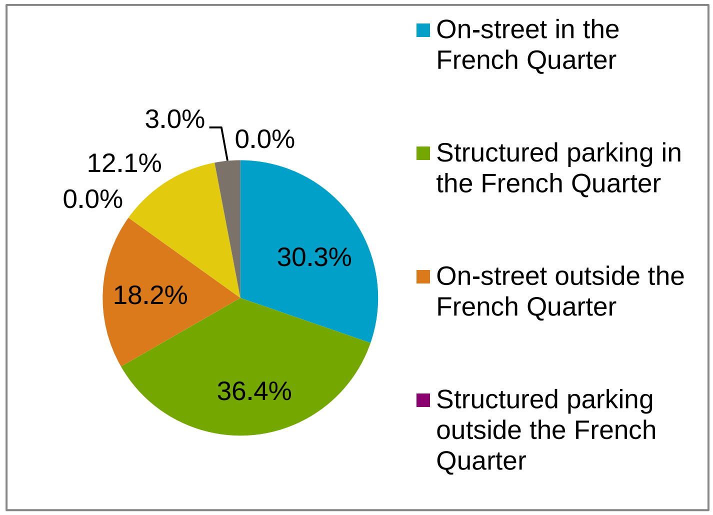
Figure 27 How long has your business been in operation?



Question 4: Where do most of your employees, who drive to work, park their vehicles?

36.4% of the respondent's employees park in structured parking in the French Quarter and another 30.3% park on-street in the French Quarter. Another 18.2% park on-street outside of the French Quarter, 12.1% park in a facility owned by the business, and 3% either do not drive or the question wasn't applicable. No employees park in structured parking outside of the French Quarter.

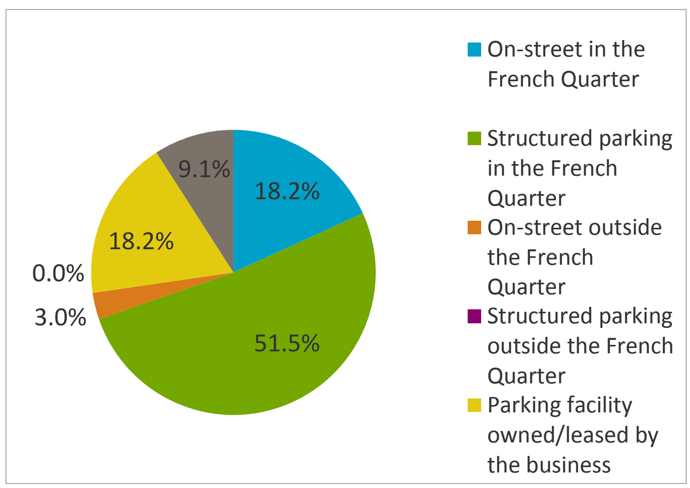
Figure 28 Where do most of your employees park their vehicles??



Question 5: If you drive to work, where do you park your vehicle?

The majority of respondents, 51.5%, park in structured parking in the French Quarter, with another 18.2% parking either on-street in the French Quarter, or in a facility owned by the business. Only 3% park on-street outside of the French Quarter, while 9.1% do not drive to work.

Figure 29 Where do you park your vehicle?



Question 6: Currently, how many blocks do you and/or your employees have to walk to work after parking their car?

The majority of employees, 57.6%, only walk 1 to 5 blocks to work after parking their car. Another 18.2% of employees park at their place of work. Only 3% of employees park 6 to 10 blocks or 11 to 15 blocks away. Approximately 18.2% did not answer the question or it was not applicable.

Figure 30 How many blocks do your employees have to walk after parking?

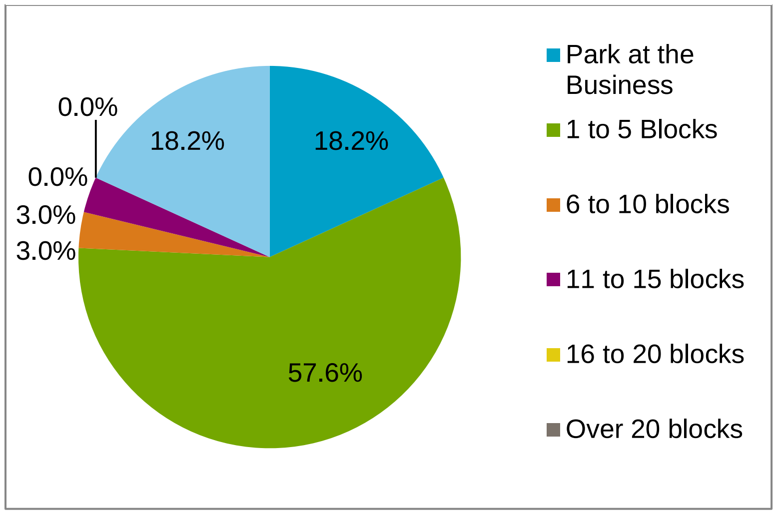
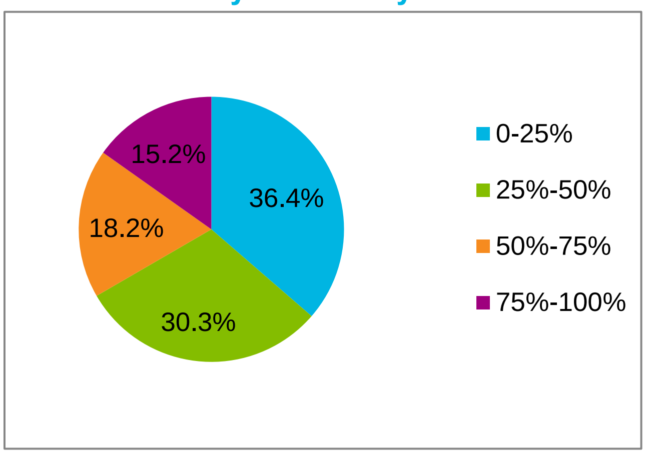


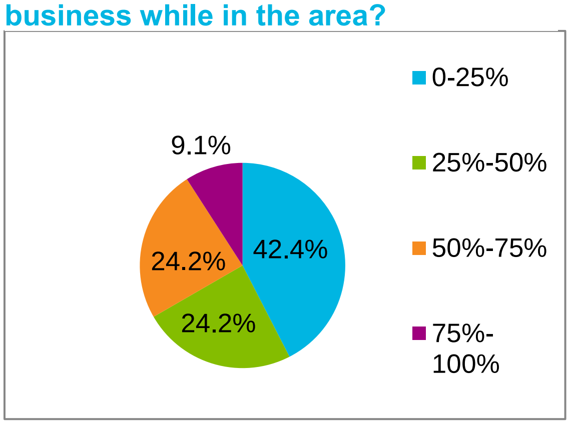
Figure 31 What percent of your customers drive exclusively to access your business?



Question 7: On a given day, what percent of your customers drive to exclusively access your business?

Approximately 36.4% of respondents believe that up to one quarter of their customers are driving exclusively in order to access their business only. Another 30.3% believe that between a quarter and one half of their customers are driving to exclusively access their business. 18.2% and 15.2%, respectively, believe 50% to 75% and 75% to 100% of their customers drive to exclusively visit their establishments.

Figure 32 What percent of your customers happen to access your business while in the area?



Question 8: On a given day, what percent of your customers drive to the French Quarter and happen to access your business while they are in the area?

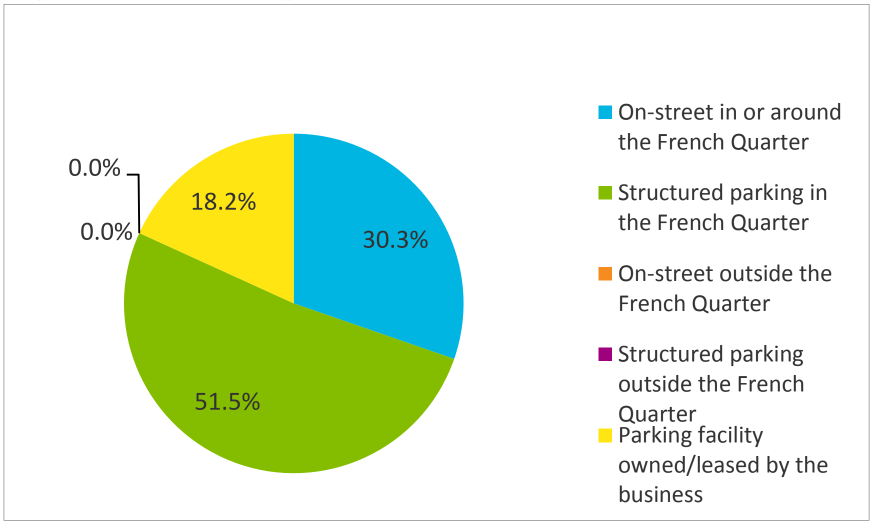
Just under half (42.4%) of the respondents believes that up to 25% of their customers access their business as part of a larger trip. About one quarter (24.2%) believe 25% to 50% or 50% to 75% of their customers behave this way. Only 9.1% believe that 75% to 100% of their customers behave this way.

Question 9: Of your customers that do drive to access your business (exclusively or as part of a larger trip), where do they park?

The majority of respondents, 51.5%, believe that their customers park in structured parking in the French Quarter.

Another 30.3% believe that their customers park on-street in the French Quarter, and the remaining 18.2% believe in a structure owned by the business. No respondents believe that their customers are parking outside of the French Quarter.

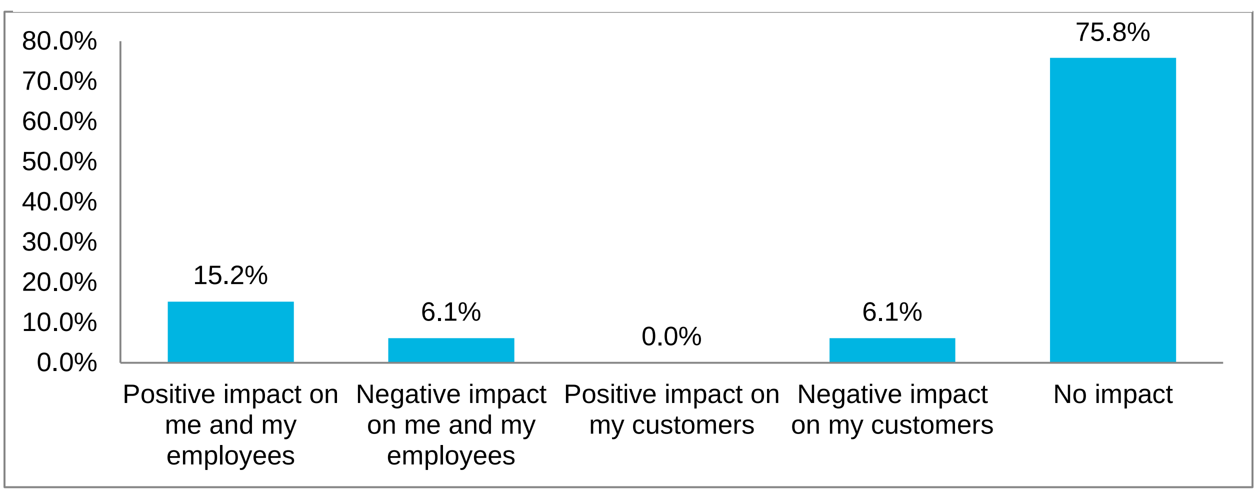
Figure 33 Where do your customers park?



Question 10: Does the French Quarter Residential Parking Permit program impact your business?

The vast majority, 75.8%, of respondents believe that the Residential Parking Program has no impact on their business. 15.2% believes that it has a positive impact on the business and its employees. However, 6.1% believe it has a negative impact on their business and employees, as well as a negative impact on its customers.

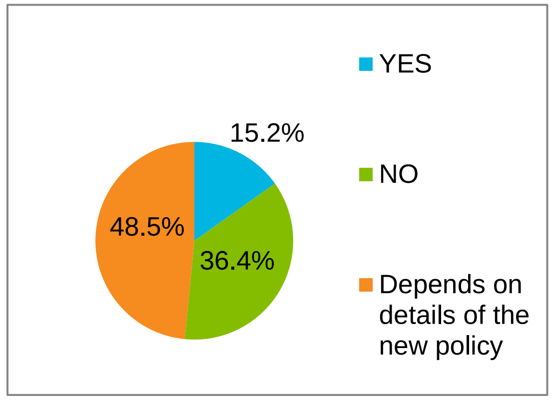
Figure 34 Does the French Quarter Residential Parking Program impact your business?



Question 11: Currently, on the weekends, Bourbon St is closed from around 4 pm to 4 am. Do you support any changes to the existing Bourbon St closure?

More French Quarter businesses are supportive of changes when compared to French Quarter residents, with only 36.4% stating that they are not supportive. Approximately 15.2% responded "yes" they are supportive, and another 48.5% stated that it "depends on the details of the policy".

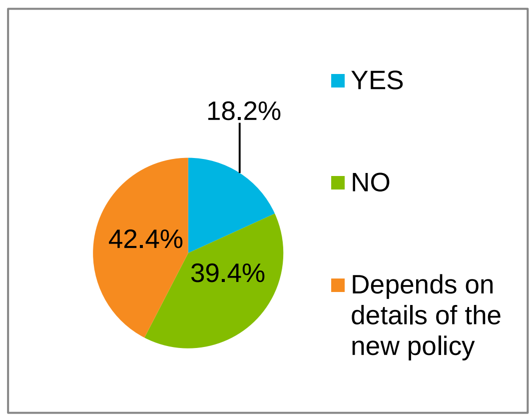
Figure 35 Do you support any changes to the existing Bourbon Street closure on weekends?



Question 12: On weekdays, Bourbon St is closed to vehicles around 5 pm to 4 am. Do you support any changes to the existing Bourbon St closure policy?

Unlike residents, more businesses oppose change on the weekends, whereas residents were more open to change on the weekends. 39.4% responded "no" they are not supportive.

Figure 36 Do you support any changes to the existing Bourbon Street closure on weekdays?



Question 13: Of the following options, which Bourbon St closure do you prefer?

48.5% of respondents stated that they prefer the northern curb of Iberville to the southern curb of St. Ann, while an additional 30.3% stated none of the above. 15.2% stated from the northern curb of Canal St to the southern curb of Dumaine, and 6.1% stated that they have other suggestions.

Figure 37 Which Bourbon Street closure do you prefer?

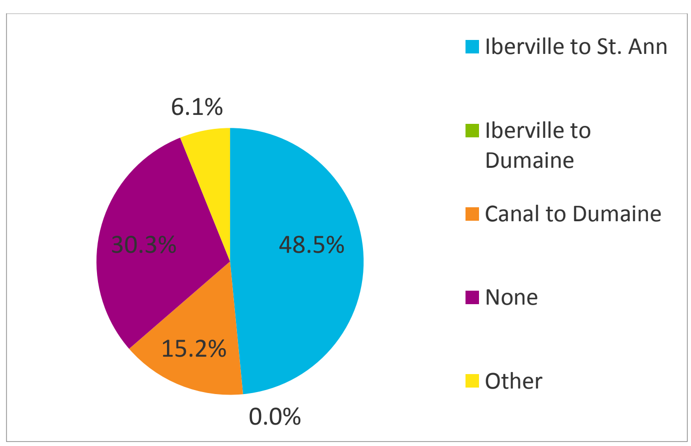
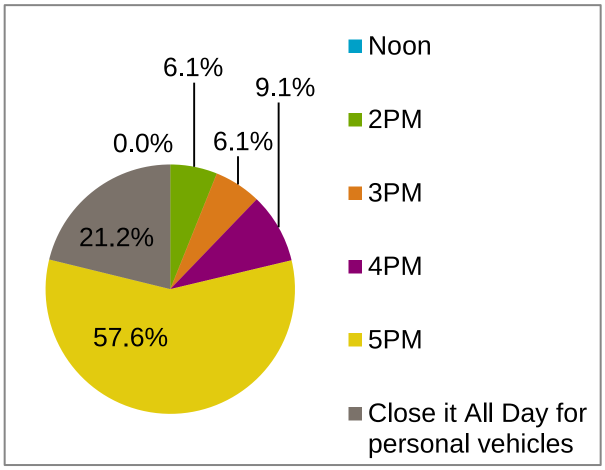


Figure 38 Please suggest an optimal time for closure of Bourbon Street?



Question 14: Please suggest an optimal time for closure of Bourbon St?

Unlike residents, more businesses oppose change on the weekends, whereas residents were more open to change on the weekends. 39.4% responded "no" they are not supportive

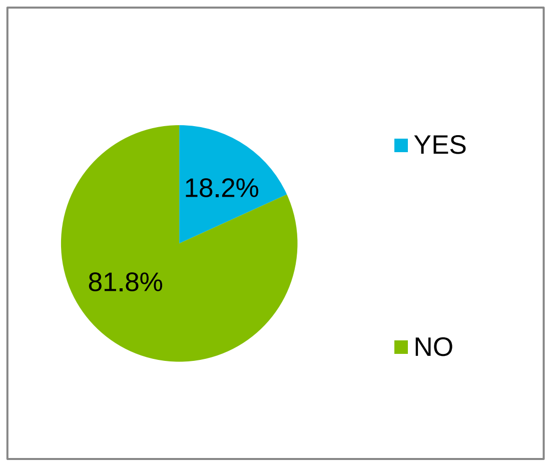
Question 15: Do you support the closure of side streets that cross Bourbon St between Iberville and St. Ann?

81.8% of respondents were not supportive of the closure of side streets that cross Bourbon St. Only 18.2% were fully supportive, responding "yes". Several respondents provided other answers, some of these include:

> *"It would be optimum of Bourbon Street closed at 4 pm, but the cross streets did not close until 6 pm"*

> *"I would be supportive of this only on Friday or Saturday"*

Figure 39 Do you support the closure of side streets?

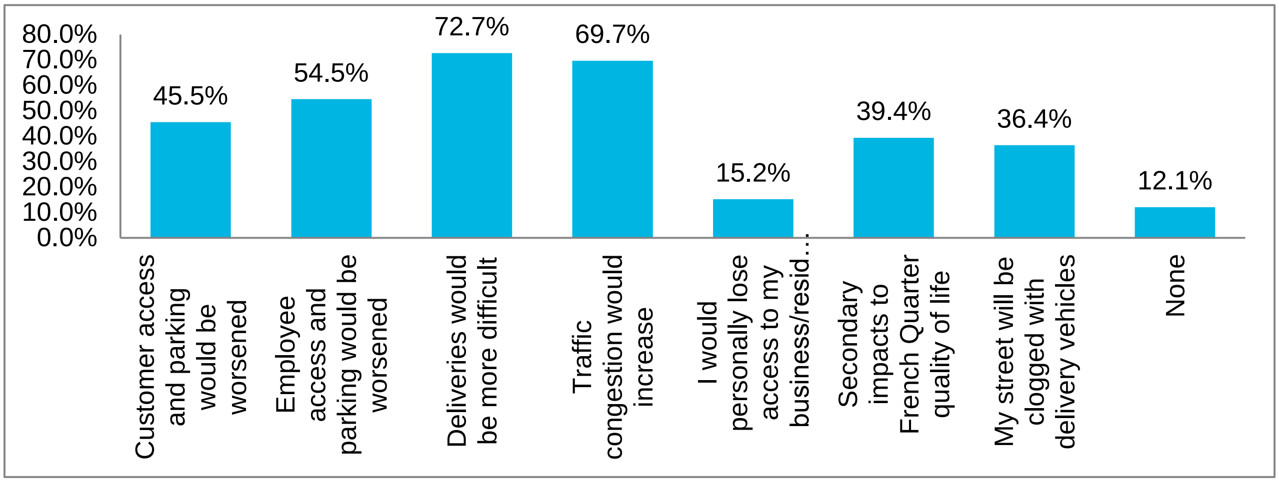


Question 16: What concerns do you have about the Bourbon St closure changes?

The respondents answered both by selecting available answers, shown in Figure 40, and also by providing other suggestions. Some of these suggestions include:

> *"Increased enforcement is needed prior to 6 pm against street performers and buskers. I support Bourbon Street as a pedestrian mall, but street performers and buskers should not block businesses during the daytime, disrupt pedestrian flows, or block store entrances"*

Figure 40 What concerns do you have about the Bourbon Street closures?



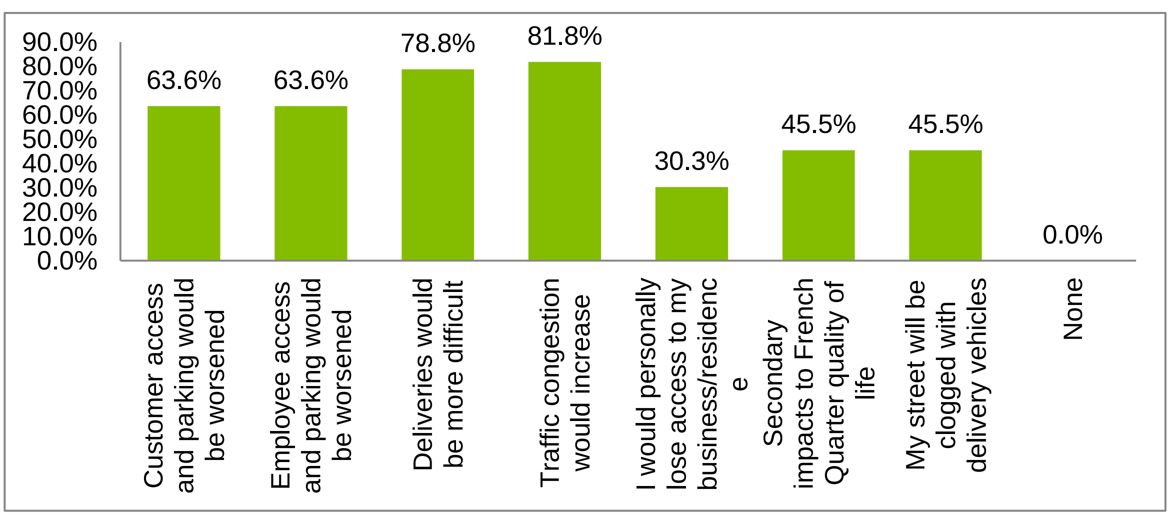
Question 17: What concerns do you have about the cross street closures?

The respondents answered both by selecting available answers, shown in Figure 41 , and also by providing other suggestions. Some of these suggestions include:

> *"Dauphine and Royal Street will become too congested"*

> *"If both Royal and Bourbon Streets are closed during the day, that leaves Chartres as a main artery where parking is already a problem".*

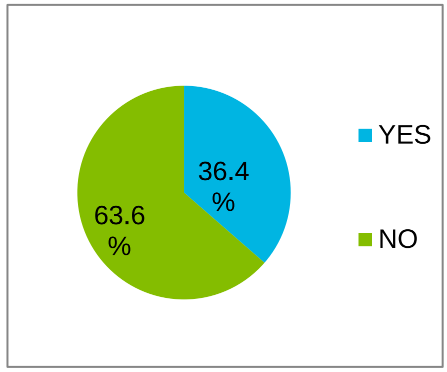
Figure 41 What concerns do you have about the cross street closures?



Question 18: Would you like to see an increase in parking enforcement in the French Quarter?

A large majority, 63.6%, stated that "no" they do not want an increase in enforcement. The remaining 36.4% selected, "yes", they would like to see additional enforcement.

Figure 42 Would you like to see an increase in parking enforcement?



Question 19: Would you support a change in the number of freight loading/unloading zones in the French Quarter?

Respondents were quite varied in their answers for this question. Approximately 36.4% do not support changes, but would support an increase in enforcement. Another 24.2% believe that "Yes, we need more", and the same amount state "No, change nothing". Finally, 15.2% believe there should be fewer freight loading/unloading zones.

Question 20: Would you support a change in the number of passenger loading/unloading zones in the French Quarter?

Respondents were again quite varied in their answers for this question. Approximately 39.4% do no support changes, but would support an increase in enforcement. Another 27.3% stated "No, change nothing". 18.2% would support a change to fewer passenger zones, and finally, 15.2% believe there should be more passenger zones

Figure 43 Would you support a change in the number of freight zones?

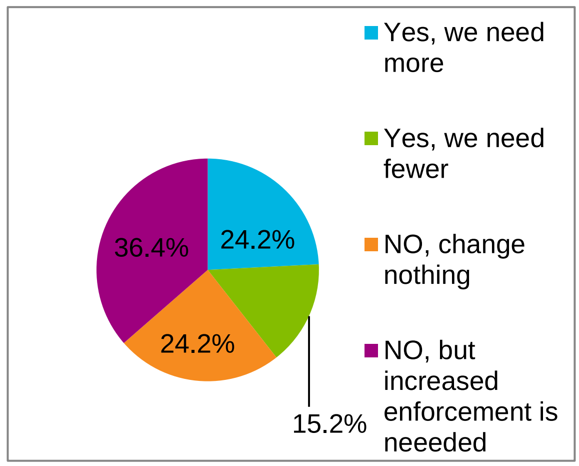


Figure 44 Would you support a change in the number of passenger zones?

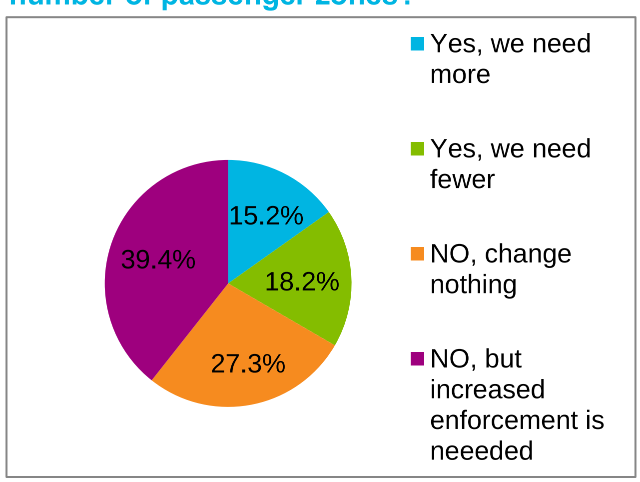
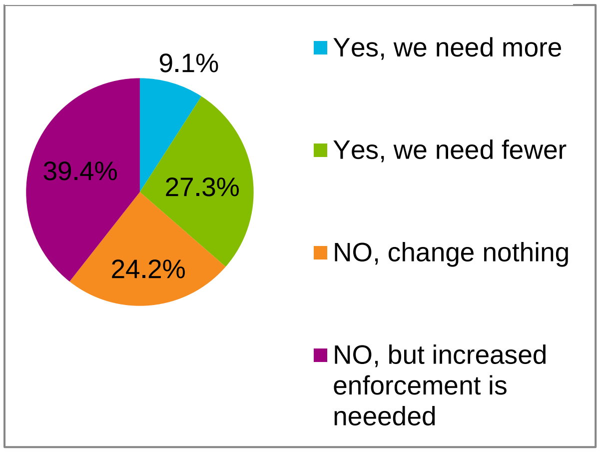


Figure 45 Would you support a change in the number of taxi stands?



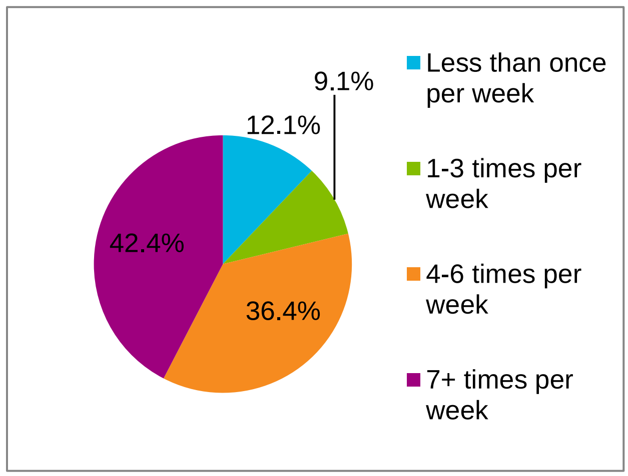
Question 21: Would you support a change in the number of taxi/hack stands in the French Quarter?

Respondents were again quite varied regarding taxi stands. Approximately 39.4% do no support changes, but would support an increase in enforcement. Another 27.3% stated "Yes, we need fewer". 24.2% stated "No, change nothing", and finally, 9.1% believe there should be more taxi stands

Question 22: How often do you receive deliveries?

42.4% receive deliveries more than 7 times per week and another 36.4% receive deliveries 4-6 times per week. Few respondents, 9.1% and 12.1%, respectively, receive deliveries 1-3 times per week, or less than one time per week.

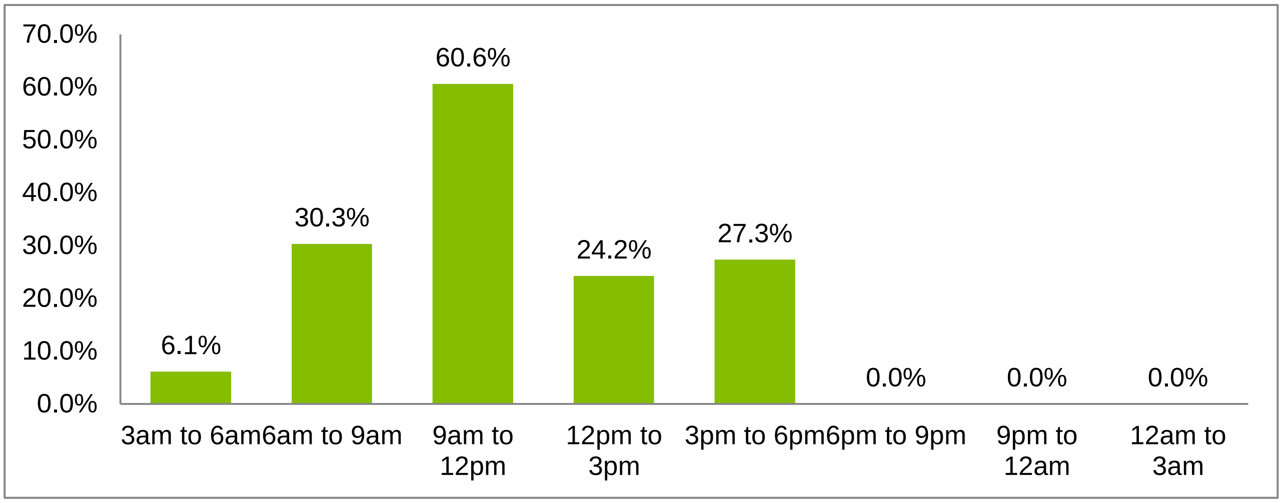
Figure 46 How often do you receive deliveries?



Question 23: What time of day do you receive most of your deliveries?

The majority of respondents, 60.6%, receive their deliveries from 9 am to 12 pm. Another 30.3% receive their deliveries from 6 am to 9 am, 27.3% from 3 pm to 6 pm, and 24.2% from 12 pm to 3 pm. No respondents receive deliveries after 6 pm.

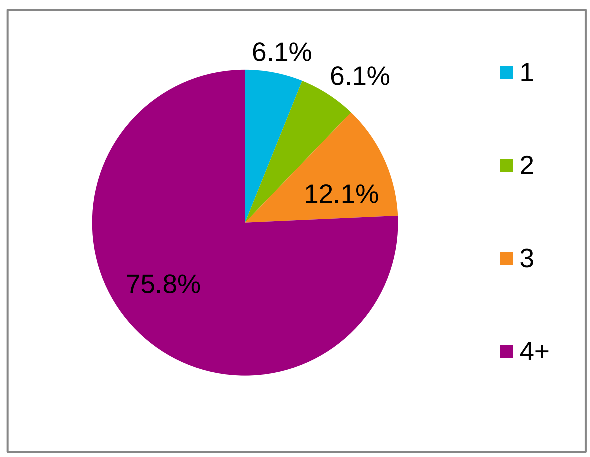
Figure 47 What time of day do you receive most of your deliveries?



Question 24: How many different companies deliver to your business?

A large majority of respondents, 75.8%, receive deliveries from 4 or more different companies. About one quarter of respondents receive deliveries from three or fewer companies.

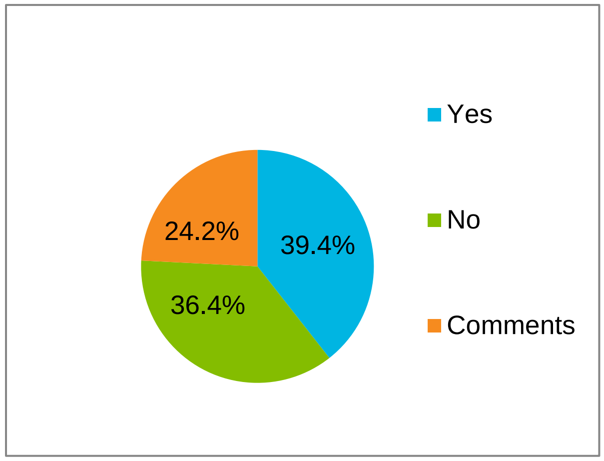
Figure 48 How many companies delivery to your business?



Question 25: Would any of the proposed changes to the Bourbon St closure policy impact deliveries to your business?

36.4% responded that “No” the changes would not impact deliveries to their business. 39.4% responded “Yes”, and the remaining 24.2% responded with other comments. Some of these comments include:

Figure 49 Would any of the proposed changes impact deliveries to your business?



“It will impact tremendously for late night catering. It is already difficult”

“Allowing only trucks to park on Bourbon Street from Iberville to St. Ann from 5:00 am to 11:30 am would expedite my delivery truck time on Bourbon Street”

Question 26: Is there any particular location or issue the design team needs to focus on?

20 respondents provided other suggestions for the design team to focus on. Some of these include:

“Focus on trash pickup times”

“Traffic congestion impacts to fire and other emergency services”

Question 27: Any additional comments or suggestions?

18 respondents provided additional comments or suggestions. These comments include the need for access for deliveries, increased police presence, and a desire for careful consideration of historic qualities. Some examples include:

"We need to preserve the feel of the Quarter. Part of that is the fact that people live and work in the Quarter. Make it easier for people to live here –"

"I love the French Quarter and want to see the streets, sidewalks and lighting repaired. It is long overdue."

Conclusions from Businesses

Overall, the responses from French Quarter businesses *not* located on Bourbon St are very similar to responses from French Quarter residents - they are interested in keeping the Bourbon St closure situation as close to existing conditions as possible. All of the 33 survey respondents were business owners, managers, or operators – most of who have been at their business for over 10 years – half claim over 20 years of service.

Most respondents believe that automobile access directly to their business is crucial, responding that more than half of their customers drive exclusively to visit their establishment and not as a part of some larger French Quarter based trip. Half of the respondents assume that more than half of their customers park in structured parking and around one-third believe their customers mostly use on-street parking.

Many respondents were interested in changing the current Bourbon St closure policy – depending on the details of that policy. One-third of respondents were not interested in any change to the current policy. Similar to the residents survey results, the most popular closure extent and starting time are the same as existing – Iberville St to St. Ann St starting at 5PM. A large majority (82%) are not in favor of closing side streets – citing a potential increase in traffic congestion as the main reason for opposition.

4. SECURITY

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Introduction

This Chapter addresses elements of The City's Plan - Action 5: Upgrade Infrastructure to Reduce Terror Risk. Though a separate team was assembled to focus exclusively on the design of bollards and other security upgrades, this Chapter is meant to put those options and considerations into the broader context of traffic and transportation.

Action 5: Upgrade Infrastructure to Reduce Terror Risk
In the French Quarter, Bourbon St is often densely packed with pedestrians. This presents a risk and target for terrorism and the FBI has identified it as a concern that the City must address. Following the attacks in Nice, France and in London, it has become clear how popular tourist areas can be threatened by attackers with vehicles and weapons.

Security and Barrier Design

The AECOM design team coordinated with in-house staff familiar with security design, having benefitted from experience protecting some of the prominent national resources in Washington DC and New York City. AECOM staff had also contributed to the development of the GSA Site Security Design Guide, developed for the National General Services Administration (GSA). The GSA is responsible for design and operation of many federal facilities, especially administrative buildings.

The following basic approach to site security was used for the assessment of Bourbon St, and is derived from the GSA Design Guide. The project team met and developed buffers around the main study area, separating these into three zones. The zones are discussed below.

Zonal Approach

The design team approached the threat assessment and traffic planning by zone. This enabled the team to assess perimeter and internal threats and to develop a multi-layered approach for maximum effectiveness. As with many Federal Buildings, the security design for Bourbon St is premised on having layers of increasing protection.

ZONE 1 Neighborhood

The team assessed the blocks surrounding Bourbon St and the perimeter of the French Quarter. During design workshops, the team developed a simple vector analysis, to determine the directions, angles, and speeds from which a terrorist-controlled vehicle could approach. Ideally, deflecting the vectors prior to any hardened perimeter is a best practice. For example, many military installations will have Entry Control Facilities within round-a-bouts so that an attacking vehicle must swerve and would thereby be slowed.

The design team looked for opportunities to deflect vehicles in Zone 1. But due to numerous constraints, no such opportunity was identified. Constraints include the existing grid of 4 way intersections, lack of additional right of way, historic preservation and neighborhood character. However, because the street grid of the French Quarter and the blocks between it and Canal St is dense, and because nearly every street has on-street parking. Thankfully, there is limited ability for a vehicle to attain high speeds along a single vector, toward the highest pedestrian centers along Bourbon St.

Some of the Scenarios developed by the project team close side streets, or other full blocks within the French Quarter. These scenarios are already employed during Mardi Gras and other very large events. But these scenarios are not feasible for typical weekdays or weekends. Should threat levels increase, and make it necessary to take stronger defensive actions, these more impactful Scenarios should be reconsidered.

ZONE 2 Standoff Perimeter

A perimeter is often planned to address vehicle-borne explosives, which is not the focus of this effort, but is a consideration for the City's Safety security professionals. The perimeter keeps the vehicles at a distance from key sites (e.g. Federal buildings, Courthouses, etc.)

In Zone 2, a variety of infrastructures are used to 'harden' the area and make it less accessible to those intending harm. The City and its various teams have assessed numerous options. Options include bollards, seating barriers, walls, hardened street furniture, fences, topography, dry moats, collapsible surfaces, water, landscaping and plantings. See Figure 1 for additional information on some of these design options.

Figure 1 Summary of Standoff Perimeter Barrier Elements

Source - GAS Site Security Design Guide

Element	Advantages	Disadvantages	Design Tips
Bollards	• Have proven performance • Are permeable to pedestrians • Are available in high – and low-cost options	• Are overused • Sometimes are oversized • Are often installed at tight, urban locations where achieved setback does not significantly reduce risk • Require deep foundations that may conflict with underground utilities	• Do not overspecify performance requirements • Use vector analysis to determine appropriate performance requirements for different areas of the site • Take aesthetic cues from building and neighborhood context • Do not rely on bollards exclusively; layer with other elements and create a varied edge
Sculptural or seating barriers	• Can double as informal seating • Are flexible • Create visual interest • Do not appear to be security	• Require deep foundations that may conflict with underground utilities	• Design the feature to harmonize with the character of the site (e.g., choice of materials, shapes, sizes)
Walls	• Can serve dual purpose as security and amenity • Can double as informal seating • Enable security to become part of the landscape and, therefore, unobtrusive	• Require continuous deep foundations that may conflict with underground utilities • May impact lines of sight to and from a facility	• Choose a design and materials that continue or accent the character of site architecture and other site amenities • Ensure that the design satisfies barrier requirements by collaborating with a structural engineer during team decision-making process

Hardened street furniture	• Can serve a dual purpose as security and amenity	• Requires regular maintenance to be effective aesthetically • Is easy to overscale and overengineer	• Develop a family of elements (e.g., bollards, benches, lighting) • Do not overuse • Avoid overdesigning and over-engineering
Fences	• Can provide high levels of security • Are made of various materials to suit different styles and applications • Can deter individual intruders	• May impact lines of sight to and from a facility • May weaken secure perimeter (e.g., at gates and entry points) • Create a closed-off appearance if too high, particularly in urban contexts	• Choose different heights and types of materials for specific areas of the site, depending on the level of risk and likelihood of attack • Use in high-security sites where individual intruders, rather than vehicles, are a threat • Consider vigilant surveillance or patrols where fences are not appropriate
Topography	• Can limit access to site and serve as a perimeter barrier when shaped thoughtfully • Enables security to become part of the landscape and, therefore, unobtrusive	• Can create areas of concealment	• Consider sight lines and visibility carefully when designing the topography of a site to avoid creating areas of possible concealment
Dry moats	• Allow for elimination or reduction of walls or bollards • May be less visually intrusive	• Require greater perimeter depth compared to hardened elements • Restrict pedestrian movement across site	• Use in areas with sufficient setback • Combine with low walls, possibly designed as seats, where there is limited setback

For obvious reasons, many of these options are not applicable in the French Quarter. There is no reasonable way to use water or topography in the perimeter zone. Other options may be technically feasible, but have been met with public skepticism or disapproval. For example, introducing walls or hardened planters have been criticized in stakeholder meetings about the new design for a safer Bourbon St. Bollards are likely a very functional and adaptable design element that can be utilized in the Operations Plans for Bourbon St. These are especially useful given the near-term recommendation that traffic and deliveries be allowed to use Bourbon St for part of the day.

Bollard Designs

The City has developed affordable options for using operable bollards to control access along Bourbon St (see Figure 2.) When closed, these bollards will provide sufficient protection to prevent any unauthorized vehicle from accessing the roadway. Emergency vehicles and trash collectors may have access to the roadway through provision of a key system that would allow them to activate the moveable bollards. This pass key system would be backed up by a video monitoring system that is an additional provision of the New Orleans Citywide Public Safety Program.

Figure 2 Preliminary Choice for Bollard Installations

A relevant case study for the closure of Bourbon St can be found in new York City, in Times Square. Construction started in 2009, and was concluded in late 2016. In 2009, the city removed a segment of Broadway from the traffic network, essentially making a pedestrian mall of the same space (between West 43rd and West 42nd streets). Eleven granite benches, permanent bollards and a roadway curb protect the space, which often holds thousands of visitors.

Field investigations and interviews with City of New York Police Officers reveals three key elements in the design. These elements should be considered by the City of New Orleans as the design for the security treatments progress.

First is the use of roadway curbs. It is increasingly popular to design heavily pedestrian area as Shared Streets or Festival Streets with no curb at all. This eliminates a tripping hazard and integrates the entire space. The curb remains in parts of Times Square, and serves to enhance the bollards. An oncoming vehicle will lose considerable momentum when striking the curb (see Figure 3).

Figure 3 Times Square Design with Curb and Bollard

Second is the use of permanent, non-operable bollards. The stakeholder process for the Bourbon St Plan has repeatedly faced opposition on this because it may limit access to specific businesses. Access could be impeded for visitors, deliveries, emergency responders, and others; and this has not been welcomed by business owners, residents or others.

Interestingly, the Times Square bollards are not operable or removable. There is no access to the fronts of those very high-volume businesses. There is no access for employees, taxis, Ubur, deliveries, or garbage collection. Yet these business locations are highly sought after, and are currently occupied by some of the most successful retail entities in America.

Third, the space includes demarcated zones for pedestrian flow, and those for standing and enjoying the site. This reduces pedestrian conflicts by clearly identifying the area to walk, for those passing through the site, versus those coming to enjoy the site.

ZONE 3 Within the Site

Within the site, it is important to regulate site access and parking. These issues are the centerpiece of the traffic and transportation study. It is far easier to control access to a military base or a single federal building, than it is to control access to an urban neighborhood and a center for tourist activity. The other chapters explore the many potential scenarios for this approach, and their respective impacts to traffic, access, deliveries, etc.

Within this Zone, the GSA Design Guide encourages consideration of drop-off areas, truck loading and unloading, and parking. Each of these issues are explored in other chapters of this report. GSA Guidance includes:

- Monitoring of loading and service areas
- Maintaining clear access routes for first responders
- Establishing clear pedestrian circulation routes
- Establishing secure parking areas inside and outside the standoff perimeter

Installation Priorities

The City of New Orleans Office of Homeland Security and Emergency Preparedness (NOHSEP) is the city's coordinating public safety agency and assumes the lead on several key aspects of the Bourbon St closure proposal. In a meeting in April of 2017, NOSHEP officials provided a framework for the access restrictions to be included in the Bourbon St closure scenarios. These are described below.

The study area was broken down into a set of four priority bollard location arrangements. Organizing the closures by priority reflects a threat mitigation strategy. These Priorities have been considered in the development of the Traffic Scenarios. These priorities also speak to the City's desire to have other design treatments that could enhance the infrequent closures associated with major special events.

Recommended – Preferred Options

Priority 1 Installations: This includes closing Bourbon St between the northern curb of the Iberville St intersection and the northern approach of the St. Ann St intersection as well as closing Royal St between the northern approach of Conti St and the southern approach of St. Ann St. This priority would allow vehicles to cross both Bourbon St and Royal St.

Priority 2a Installations: This priority includes bollards for the closure of Bourbon St at the northern approach of the Canal St intersection and the southern approach of the Dumaine St intersection.

Priority 2b Installations: This priority includes bollards for the southern and northern approaches of Royal St at St. Peter St

Recommended Options for Future Consideration

Priority 3 Installations: These closures include the southern and northern approaches of St. Louis St and Toulouse St on Royal St.

Priority 4 Installations: This priority includes bollards to close off the cross streets running perpendicular to Bourbon St from Iberville St to St. Ann St. These are intended for use only during very large events, such as the current operations on Mardi Gras, and during the recent NBA All-Start Game.

Key Issues:

Traffic flow

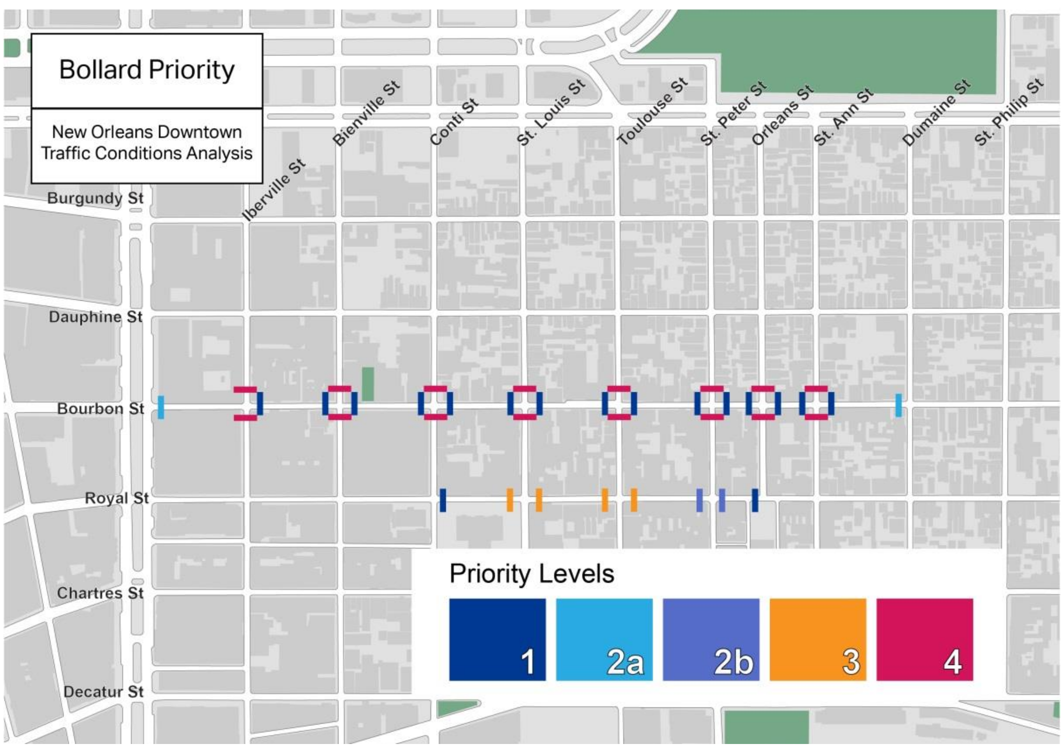
Traffic flow and operation under each priority level will be increasingly restrictive as increasing numbers of the Royal St and Bourbon St blocks are closed to traffic.

Priority 1

Implementation of the Priority 1 installations resembles the existing closure policy but makes it more rigid. Currently, the city policy is for closure from 8 PM until 11 AM. In practice, Bourbon St is closed starting at some point between 5 PM and 7 PM until around 4 AM depending on the day. Traffic counts revealed that the existing closures on Bourbon St also allow some vehicles to pass through the existing barriers. Implementation of the security plan should start a strict operations pattern wherein the barriers are completely shut to traffic between consistent time points.

Since Priority 1 installations are very similar to existing conditions, this arrangement would have

Figure 4 Bollard Priority



the least impact on traffic operations. Vehicles with destinations on a block of Bourbon St that is closed to traffic must access their destination using a cross street parking as close as possible and arriving at their destination on foot. Since the cross streets would remain open during the Priority 1 closure pattern, achieving access to a destination on one of the closed Bourbon St segments would be dependent upon the level of traffic congestion on the side streets. Please refer to Chapter 5 for discussions of the traffic Scenarios, which incorporates the bollard priorities.

The Royal St portion of the Priority 1 arrangement also conforms to existing conditions and should not impact traffic flow differently than existing conditions. Under this closure pattern vehicles with a destination on Royal St between Orleans St and Conti St (from 11 AM to 4 PM on weekdays and 11 AM to 7 PM on weekends) must get as close as possible using a side street and achieve access on foot.

Priority 2a

Priority 2a installations would have a notable impact on traffic flow and access if implemented. Closing Bourbon St at the Canal St approach would restrict Bourbon St access to Iberville St which is home to several significant parking garage access points below the Bourbon St intersection. With this closure in place, traffic bound for those parking garages would need to access Iberville St using either Burgundy St or N Rampart St or elsewhere. This would result in an increase in traffic volumes in several places. First, on Iberville St from vehicles destined for parking garages below Bourbon St. Second, left turning volumes from Canal St onto Burgundy St would also increase, resulting in a re-examination of the signal timing at the Canal St/Burgundy St intersection relative to the amount of left turn time in the signal phase. Third, left and right turning volumes off of N Rampart St onto Bienville St would also increase, necessitating an examination of the traffic signal timing there as well. Though closing the first block of Bourbon St would have these adverse effects on traffic, it would improve the pedestrian environment on Bourbon St. This short stretch of Bourbon St and the intersections at its end are the site of numerous crashes each year.

The Dumaine St approach closure portion of the Priority 2a installations would restrict access to several residential driveways in that area. Field observations revealed that the blocks of lower Bourbon St, including the block between St. Ann St and Dumaine St, are mostly residential and are home to driveways that provide access to properties both directly on Bourbon St and to properties that have addresses on the side streets.

Priority 2b and Priority 3

Priority 2b and Priority 3 installations would not have a drastic impact on traffic flows. The bollards included in these installations are located within the existing Priority 1 installations and would serve more of a reinforcement function as opposed to an expansion of closure. Traffic with destinations around these intersections would still need to access that area using some nearby cross street and achieve final access on foot.

Priority 4

As is fully described in Chapter 5, the traffic scenario which blocks the side streets, is not recommended for every day installation at this time. This arrangement of bollards is currently not budgeted for and will mainly be used for special events.

Priority 4 installations would cause the most disruption to existing traffic patterns. This closure pattern would force all riverbound or lakebound French Quarter vehicle traffic between Iberville St and St. Ann St (seeking to cross Bourbon St) to circumvent the area using an alternate route. The grid pattern of the French Quarter provides several clear options for achieving access to a destination on the opposite side of Bourbon St from any point. Most of the traffic that would normally use one of the cross streets closed under the Priority 4 arrangement would be shifted to Canal St to achieve lakebound or riverbound travel. During the portion of the day when Royal St is open, Dumaine St, St. Philip St, or another open lakebound/riverbound street in the French Quarter could be used as well. Re-routed traffic would use Dauphine St, Burgundy St, N Rampart St, or Decatur N Peters to achieve upriver/downriver movement depending on the destination.

Bollard Operations Procedure

The logistics of opening and closing the bollard sets will need to be integrated into several aspects of Bourbon St operations, including deliveries, parking enforcement, sanitation, and security. The following is a conceptual timeline of how bollard closing and opening procedures could work.

In these scenarios “H” represents the hour chosen for the bollards to be opened or closed. This concept could be adapted to whatever time is chosen.

Opening of Bollards

Table 1 shows the timeline for the first four hours of Bourbon St operations starting with the opening of the bollards. This concept relies on City staff to open the bollards at each intersection – which is very similar to existing conditions. After a four hour garbage collection period delivery vehicles would be allowed to occupy curb space.

Table 1 Bollard Opening Timeline

Time	Operation
H	City crew opens bollards
H+1	Sanitation cleans streets and sidewalks
H+1 – H+4	Garbage Collection
H+4	No stopping restrictions end to allow for deliveries

Closing of Bollards

Table 2 details the timeline for the two hours leading up to the closure of the bollards and the bollard closure itself. Two hours before the bollards close a “No Stopping” curb use policy goes into effect for the blocks in the closure area. Thirty minutes later DPW crews would make a sweep of Bourbon St to remove any parked vehicles. An hour before closure sanitation crews would make a final run to clean the street and sidewalk concurrently with the evening garbage collection. At the specified time City staff would close the bollards for the evening.

Table 2 Bollard Closing Timeline

Time	Operation
H-2	No stopping restriction go into effect
H-1:30	DPW sweep to remove parked vehicles
H-1	Sanitation sweep to clean street – evening garbage pickup run
H	City closes bollards

5. Scenarios and Options

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Introduction

This chapter provides the details and analysis of ten Bourbon St closure SCENARIOS and eight safety and traffic pattern OPTIONS. The scenarios are unique arrangements of infrastructure, operations and policy regarding when Bourbon St is closed, which vehicles are allowed on Bourbon St and at what times. The scenarios also discuss motor vehicle access and mobility, a basic discussion on security implications, and a basic discussion on staffing implications.

The eight safety and traffic pattern options attempt to mitigate traffic related issues thorough a change in infrastructure or policy. These options are meant to function independently of the range of scenarios. No two options are bound together and each option would work with any other.

Table 1 Bourbon St Closure Scenarios

#	Scenario Name	Scenario Description	Bourbon St Closure	Time Bourbon St is Closed	Closes Side St Crossings
1	Status Quo	Lightweight barriers, moved into placed, law enforcement monitored	Partial (at set times)	5 PM - 4 AM	No
2	Bourbon St, Partial Pedestrian Mall	Improved Barriers, Current Ops	Partial (at set times)	5 PM - 4 AM	No
3	Bourbon St, Partial Pedestrian Mall	Improved Barriers, Mid-afternoon Closure, No Weekend Difference	Partial (at set times)	3 PM - 4 AM	No
4	Bourbon St, Partial Pedestrian Mall	Improved Barriers, Early-afternoon Closure, No Weekend Difference	Partial (at set times)	1 PM - 4 AM	No
5	Bourbon St, Partial Pedestrian Mall	Improved Barriers, Late-morning Closure, No Weekend Difference	Partial (at set times)	11:30 AM	No
6	Bourbon St, Partial Pedestrian Mall, Deliveries Only	Deliveries only, no private autos.	Partial (by time and vehicle)	3:00 PM	No
7	Bourbon St, Segmented Pedestrian Mall	Bourbon St, alone, is closed to all vehicles except for emergency access	All Times	All Times	No
8	Bourbon St, Full Pedestrian Mall	Bourbon St and Side Streets Closed	All Times	All Times	Yes
9	French Quarter, Pedestrian Mall Crescent	Linking together Bourbon St., Royal St., Jackson Square, through to Moon Walk	Variable	1:00 PM	Variable
10	Car-Free French Quarter	Close Interior of French Quarter to all autos, except for emergencies	At least for Mardi Gras, possibly for other times	All Times	Yes

This essentially provides the City and stakeholders with a menu of options - though further hybridization is also possible. The Final decisions for Bourbon St will likely be one of the Scenarios with one or more Option.

Table 2 Bourbon St Closure Options

#	Option Name	Option Description	Additional Notes
100	Local Access Only	Reserves street capacity for trips with origin or destination within the Quarter. Prohibits cruising, circling for rideshare, through tour buses.	Four quadrants provide circulating access to all destinations, with no through outlets.
200	Speed Studies and Mitigation	Conduct speed study of all corridors with multiple blocks allowing free-flow travel	
300	Parking Stall Regulatory Reallocation	On-street stalls reallocated in order to provide greater efficiency and access.	
400	Convergent Iberville and Dauphine Egress	Numerous garages and other uses require high level of access on Iberville. Iberville reverses to Dauphine. Dauphine used as egress, with two lanes onto Canal St.	
500	Management of Evening Garbage Collection	Currently, Bourbon St businesses benefit from a second haul at 5 PM. It is recommended that these be discontinued, and offset with waste reduction strategies, or the trash-bin corrals on side streets be used as they are during the Bourbon St reconstruction.	
600	Termini of Bourbon St Closure	Upriver options include closure at Canal or North of Iberville crossing.	
700	Intersection Safety Treatments	To reduce risk of vehicle-pedestrian crashes, pavement markings, lighting and signage can be employed. It is recommended that a design approval process be used to come to agreement.	
800	Bourbon St Weekend Closure Time	On weekends, there are often more visitors. So closures times can be earlier on weekends.	

Scenario 1: Status Quo

Introduction

The existing conditions scenario for the Bourbon St closure is set out by Sec. 154-608 of the New Orleans City Code, titled “Vieux Carré malls.” In summary, this ordinance states that Bourbon St should be closed from the northern curb of Iberville St to the southern curb of St. Ann St from 8:00 PM to 11:00 AM each day. Certain vehicles are allowed to travel down Bourbon St during this time frame, including delivery, freight, and service as well as taxi cabs. Parking is also covered by this ordinance with the stipulation that deliver, freight, and service vehicles only are permitted to park – only in specific areas – from 6:00AM to 4:00PM. As will be described later, administrative changes have occurred over time.

This ordinance also covers the Royal St pedestrian mall which is closed from 11:00AM to 4:00PM on weekdays and 11:00AM to 7:00PM on Saturdays and Sundays. Infrastructure

Infrastructure

Originally, the infrastructure in place to block off the street was a set of four to five bollards set into concrete footings. The bollards were located on both sides of Bourbon St, on each side of the intersection, at the edge of the curb return. The bollards have since been removed. Now, portable police barricades are placed on the northern curb of each intersection. As stated in the “Vieux Carré malls” ordinance, the closures are located at each intersection between Iberville St and St. Ann St.

Figure 1 Existing Bourbon St Bollard Footings

Operations

While the city ordinance stipulates that the street is to be closed (and the police barricades to be in place) from 8:00 PM to 11:00 AM the existing operations are much different. Per the discretion of law enforcement, and the trash pickup schedule, Bourbon St closes around 5:00 PM and re-opens to vehicles around 4:00 AM – with a few exceptions.

Though the “Vieux Carré malls” ordinance allows for certain vehicles to drive on Bourbon St during the closure hours, in practice almost every vehicle is prohibited. Exceptions to this practice include emergency vehicles and some evening deliveries. Additionally, there are vehicle operators who will move the barricades to gain access to Bourbon St after the closure period.

Unlike residential and commercial sections of the rest of New Orleans, the French Quarter has a special commercial trash collection schedule. Commercial trash is collected twice per day, one round between 4:00AM and 9:00AM and the second round between 5:00PM and 7:00PM. Interviews revealed that the trash collectors will often try to collect on Bourbon St right at 5:00PM and take the step of putting the police barricades in place as they go. Field observations and interviews revealed that a small number of delivery vehicles will regularly violate the closure as well.

Table 3 Scenario 1 Operations Summary

OPERATIONS SUMMARY	
Closure Hours:	5:00PM to 4:00AM
Vehicles allowed during open hours:	all types
Vehicles allowed during closure hours:	police and emergency vehicles

Evaluation Criteria

Access

General

Under existing conditions curb use regulation along most of Bourbon St, within the study area, only allows for freight loading and unloading , and passenger loading and unload in hotel zones– passenger vehicles are not allowed to park on the street, within the study area.

During the closure time, motor vehicles trying to access a destination on Bourbon St using the closest possible side street. Often, the side streets and the area around Bourbon St have significantly high pedestrian volumes as well as a high rate of parking occupancy. This level of congestion makes the kind of quick trips that are common in different parts of the city less feasible in the French Quarter.

Access for those using active transportation – transit riders, pedestrians, people on bikes, pedicabs – is similar regardless of the time of day.

Delivery/Service Vehicles

During the hours when Bourbon St is open to all vehicles (4:00AM to 5:00PM) the street is heavily used by delivery vehicles – which report being able to park, typically, within a block or less of their destination. During closure times delivery vehicles must access a given destination on Bourbon St using the closest possible side street. Observations and interviews reveal that some delivery and service vehicles will still access Bourbon St after the closure time begins.

Emergency Vehicles

Emergency vehicles have access to Bourbon St 24 hours per day, seven days per week. High pedestrian volumes during evening and late night hours can impede the mobility of these vehicles, however. Small format emergency vehicles are being introduced in the French Quarter.

Residential Access/Driveways

There are few residences in this section of Bourbon St – Iberville St to St. Ann St:

Table 4 Bourbon St Closure Area Residences

Block of Bourbon St	# Residences
400 Block	2 (1 vacant)
600 Block	1
700 Block	1

No private vehicle on-street parking is permitted on Bourbon St for any of these locations. The existing Bourbon St closure infrastructure and operations do not impede residential or driveway access any more than the existing parking policy.

Mobility

Level of service and volume to capacity ratio analyses performed on key corridors show that the street grid is able to handle the amount of existing traffic in the area. Data in the Traffic Chapter indicates that nearly every corridor serving the French Quarter and surrounding area functions at a level of service between A and C, which is within an acceptable range. Burgundy St operates at level of service D and has a volume capacity ratio of .45 - meaning that it can handle a little more than twice as much traffic volume as it currently experiences. This corridor is notable because the analysis assumes that much of the current Bourbon St traffic redirected from the closure would shift to Burgundy St.

However, during the closure period downriver bound vehicles must use Burgundy St, Chartres St, or N Peters St/Decatur St Corridor instead of Bourbon St. The streets crossing Bourbon St, in the closure area, have no policies that restrict mobility. However, traffic volumes combined with high pedestrian volumes during the closure hours lead to high congestion levels.

Studies as far back as the 1970 Vieux Carré Traffic Study have remarked that traffic congestion in the French Quarter is caused, in part, by vehicles with no origin or destination in the area.

Security

The current system of police barricades provides a low level of security for the area. Barricades can, and often are, moved by hand to provide vehicle access that is in violation of the city ordinance declaring this area a pedestrian mall. Would be vehicle borne attackers could just as easily move – or drive straight through – these barricades.

Staffing

Interviews and observations reveal that the barricades are often put in place by trash collectors and street performers located in the area. Police presence along this section of Bourbon St is not governed by the infrastructure or operations plans.

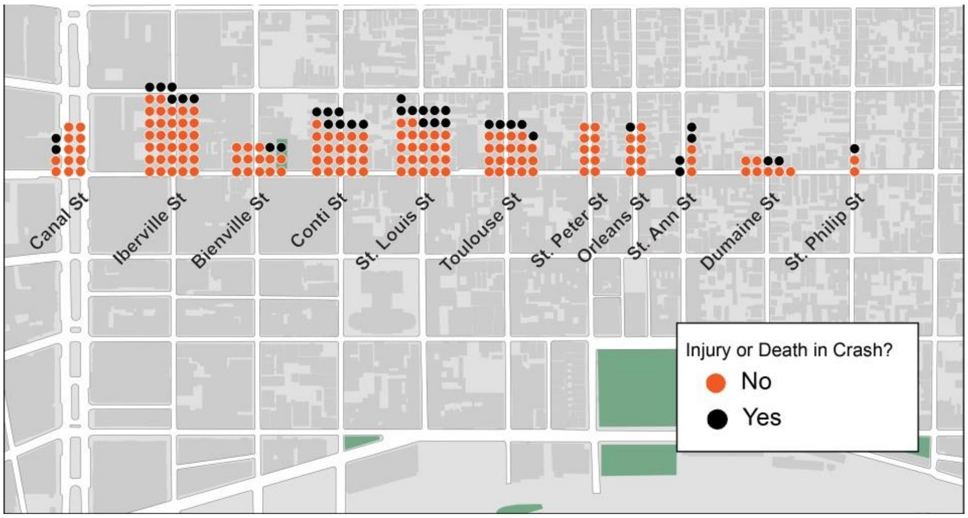
Traffic Safety/Intersection Safety

From 2013-2015 a total of 189 traffic crashes occurred at the intersections in the closure area. Of those crashes 39 (20%) involved a death or serious injury and 15 (7%) involved a pedestrian.

Table 5 Bourbon St Crash Statistics, 2013-2015

Year	Total # Crashes	# Crashes with Killed or Severely Injured	# Crashes with Pedestrians Involved
2013	70	15	4
2014	60	13	5
2015	59	11	6
2013-2015	189	39	15

Figure 2 Bourbon Street Crashes, 2013-2015



Scenario 2: 5pm to 4am Closure

Introduction

This scenario is very similar to existing conditions with the main difference being the provision of improved barriers. The new barriers would be placed at the same intersections as the police barricades that are currently in use. However, the new barriers would be placed at both the north and south sides of the intersection on Bourbon St. The hours of operation would also be the same (5:00PM to 4:00AM).

For the sake of brevity, this scenario will be referred to in the discussion of other scenarios. In essence, this scenario is as close to a ‘no-build’ scenario as possible and serves as a basis for comparison for scenarios 3-10 which are more restrictive in several ways. The infrastructure used in this scenario is the same technology that would be employed in all subsequent scenarios.

Infrastructure

The existing bollard footings are set to be removed during repaving and replaced with Heald Matador 4 Surface Mount Sliding Bollards. This make and model were chosen by New Orleans Department of Homeland Security and are applicable to all scenarios. The four bollards anchored into the concrete or attached to a metal plate that is anchored into in the roadway. The two center mounted bollards are inserted in a track system that allows them to slide backward and directly behind the outer two bollards that are fixed in place. The inside space that is cleared when these bollards shift will be great enough to allow for vehicles to pass.

These bollard plate sets would be located at each of the intersection approaches in the existing closure area – Iberville St to St. Ann St.

Operations

Operations under Scenario 1 would be identical to existing conditions with a few key exceptions. The new bollard infrastructure would cut down on non-compliance with the closure policy that currently occurs. Emergency vehicles and trash collectors could have access to the roadway through provision of a key system that would allow them to activate the moveable bollards. This pass key system may be backed up by a video monitoring system that is an additional provision of the New Orleans Citywide Public Safety Improvements Plan.

Figure 3 Matador Bollard Example

Table 6 Scenario 2 Operations Summary

OPERATIONS SUMMARY	
Closure Hours:	5:00PM to 4:00AM
Vehicles allowed during open hours:	all types
Vehicles allowed during closure hours:	police and emergency vehicles; others with special key access

Evaluation Criteria

Access

General

In general, access to destinations on and around Bourbon St, under this scenario, would be the same as existing conditions.

Delivery/Service Vehicles

Delivery and service vehicle access would be the same as existing conditions with one exception: non-compliance to the closure policy would no longer be an option. Deliveries and service calls that are scheduled for after 5:00PM would not be able to get onto Bourbon St blocks without a pass key.

Emergency Vehicles

Emergency vehicles would not see much of a change under this scenario. EMS and Fire Department vehicles would be able to access Bourbon St blocks through the use of a pass key.

Residential Access/Driveways

Access to residences and driveways would be the same as existing conditions under this scenario.

Mobility

Traffic mobility would be the same under this scenario as they are under existing conditions. Non-compliance with the closure policy, however, would no longer occur.

Security

The new bollard infrastructure is rated to stop all commercially available passenger vehicles and light trucks. Vehicles matching this description could not enter Bourbon St past these bollards with this infrastructure in place. The locking system employed by this bollard system also removes the possibility of entrance by simply moving a barricade that currently exists.

Staffing

Staffing necessary for this scenario includes personnel to open and close the bollard sets at the beginning and ending of the closure period. Another staff person would be needed to monitor the CCTV security system – however, it must be noted that this staff person is not required solely because of this scenario but rather is a part of larger security plan.

Scenario 3: 3pm to 4am Closure

Introduction

This scenario is identical to Existing Conditions/Scenario 2 in terms of infrastructure and the mix of vehicles able to access Bourbon St when the roadway is open. The only difference is policy for the closure time. In this scenario the closure time would be from 3:00PM until 4:00AM which reduces the amount of time that Bourbon St is open to all vehicles by two hours. This also creates an overlap between the Bourbon St closure and the Royal St closure which occurs between 11:00AM and 4:00PM each weekday and 11:00AM to 7:00PM on weekends.

Traffic counts revealed that volumes in the French Quarter are highest in the morning and afternoon with the peak occurring from noon until 2:00PM. This closure scenario is designed to allow for peak traffic activity to occur and implement the bollards as soon after the peak as possible.

Infrastructure

The infrastructure in this scenario is the same as in Scenario 2.

Operations

The only operations difference between this scenario and Scenario 1/Existing Conditions is that the Bourbon St closure hours would be extended by two hours to start at 3:00 PM.

Table 7 Scenario 3 Operations Summary

OPERATIONS SUMMARY	
Closure Hours:	3:00PM to 4:00AM
Vehicles allowed during open hours:	all types
Vehicles allowed during closure hours:	police and emergency vehicles; others with special key access

Evaluation Criteria

Access

General

General access to the area by motor vehicles under this scenario will be almost identical to Scenarios 1&2 with the exception of reduced number of hours that Bourbon St is open to all vehicles.

Under this scenario there will be one hour of overlap between the Bourbon St closure and Royal St pedestrian mall closure during week days (3:00PM to 4:00PM). The existing weekend closure overlap between the two pedestrian malls lasts for three hours (4:00PM to 7:00PM) and would be extended by one hour under this scenario (3:00PM to 7:00PM). Alternately, the closure hours for Royal St may be adjusted.

Delivery/Service Vehicles

Delivery and service vehicle access will change very little. These vehicles will have the same access to the area aside from the two-hour reduction in open Bourbon St time. Delivery and service vehicle access to Bourbon St during closure hours through non-compliance with the closure policy will all but end.

Garbage trucks, also, would be restricted in their access to the area. Currently, garbage is collected in the morning and the evening. Under this scenario, the evening garbage pickup would have be eliminated or coordinate to allow for a waste collection system located off of Bourbon St accessible to garbage trucks.

Evening deliveries for items such as music equipment, catering, and floral will need to be serviced from the cross streets.

Emergency Vehicles

Emergency vehicle access to the area will be the same as Scenario 2/Existing Conditions except for the expansion of closure time by two hours.

Residential Access/Driveways

Access to residences and driveways would be the same as Scenario 2/Existing Conditions under this scenario with the exception of the extended closure time between 3:00PM and 5:00PM.

Mobility

Traffic mobility would be the same under this scenario as they are under existing conditions with the following exceptions.

1. Non-compliance with the closure policy, however, would no longer occur
2. Through traffic on Bourbon St would be closed from Iberville St to St. Ann St between 3:00PM and 5:00PM on weekdays
3. There would be a one hour overlap of the closure of the Bourbon St pedestrians mall and the Royal St pedestrian mall on weekdays between 3:00PM and 4:00PM

Security

The new bollard infrastructure is rated to stop all commercial passenger vehicles and light trucks. Vehicles matching this description could not enter Bourbon St past these bollards with this infrastructure in place. The locking system employed by this bollard system also removes the possibility of entrance by simply moving a barricade that currently exists.

The number of hours that Bourbon St is protected by these bollards would increase by about 20% from 11 hours to 13 hours per day.

Staffing

Additional staffing necessary for this scenario includes personnel to open and close the bollard sets at the beginning and ending of the closure period. Another staff person would be needed to monitor the CCTV security system – however, it must be noted that this staff person is not required solely because of this scenario but rather is a part of larger security plan.

Scenario 4: 1pm to 4am Closure

Introduction

This scenario is identical to Existing Conditions/Scenario 2 in terms of infrastructure and the mix of vehicles able to access Bourbon St when the roadway is open. The only difference is policy for the closure time. In this scenario the closure time would be from 1:00PM until 4:00AM which reduces the amount of time that Bourbon St is currently open to all vehicles by four hours. This also creates an overlap between the Bourbon St closure and the Royal St closure which occurs between 11:00AM and 4:00PM each weekday and 11:00AM to 7:00PM on weekends.

Infrastructure

The infrastructure in this scenario is the same as in Scenario 2.

Operations

The only operations difference between this scenario and Scenario 1/Existing Conditions is that the Bourbon St closure hours would be extended by four hours to start at 1:00 PM.

Table 8 Scenario 4 Operations Summary

OPERATIONS SUMMARY	
Closure Hours:	1:00PM to 4:00AM
Vehicles allowed during open hours:	all types
Vehicles allowed during closure hours:	police and emergency vehicles; others with special key access

Evaluation Criteria

Access

General

General access to the area by motor vehicles under this scenario will be almost identical to Scenarios 1&2 with the exception of reduced number of hours that Bourbon St is open to all vehicles.

Delivery/Service Vehicles

Delivery and service vehicle access will change under this scenario. While these vehicles will have the same access to the area, aside from the four hour reduction in open Bourbon St time, it must be noted that the bulk of the deliveries to Bourbon St occur and early to mid-afternoon time period. Closing Bourbon St to vehicle traffic in the early afternoon should accommodate most deliveries however it could initially create some scheduling issues for both delivery companies and establishments. The compressed delivery time period could also force delivery vehicles to compete for curb space more than existing conditions.

Garbage trucks, also, would be restricted in their access to the area. Currently, garbage is collected in the morning and the evening. Under this scenario, the evening garbage pickup would have be eliminated or coordinate to allow for a waste collection system located off of Bourbon St accessible to garbage trucks.

Delivery and service vehicle access to Bourbon St during closure hours through non-compliance with the closure policy will all but end. Evening deliveries for items such as music equipment, catering, and floral will need to be serviced from the cross streets.

Emergency Vehicles

Emergency vehicle access to the area will be the same as Scenario 2/Existing Conditions except for the expansion of closure time by four hours.

Residential Access/Driveways

Access to residences and driveways would be the same as Scenario 2/Existing Conditions under this scenario.

Mobility

Traffic mobility would roughly be the same under this scenario as they are under existing conditions and Scenario 2. Traffic volume data collected for this study showed highest peak volumes occur during the mid-day. However, analysis using Synchro software shows that the intersection level of service at each of the cross streets will be the same under this scenario.

Non-compliance with the closure policy, however, would no longer occur.

Security

The new bollard infrastructure is rated to stop all commercial passenger vehicles and light trucks. Vehicles matching this description could not enter Bourbon St past these bollards with this infrastructure in place. The locking system employed by this bollard system also removes the possibility of entrance by simply moving a barricade that currently exists.

The number of hours that Bourbon St is protected by these bollards would increase by about 35% from 11 hours to 15 hours on weekdays.

Staffing

Staffing necessary for this scenario includes personnel to open and close the bollard sets at the beginning and ending of the closure period. Another staff person would be needed to monitor the CCTV security system – however, it must be noted that this staff person is not required solely because of this scenario but rather is a part of larger security plan.

Scenario 5: 11:30AM – 4:00AM Closure

Introduction

This scenario is identical to Existing Conditions/Scenario 2 in terms of infrastructure and the mix of vehicles able to access Bourbon St when the roadway is open. The only difference is policy for the closure time. In this scenario the closure time would be from 11:30AM until 4:00AM which cuts five and a half hours off of the amount of time that Bourbon St is currently open to all vehicles. This also creates an overlap between the Bourbon St closure and the Royal St closure which occurs between 11:00AM and 4:00PM each weekday and 11:00AM to 7:00PM on weekends.

Infrastructure

The infrastructure in this scenario is the same as in Scenario 2.

Operations

The only operations difference between this scenario and Scenario 1/Existing Conditions is that the Bourbon St closure hours would be extended by five and a half hours to start at 11:30AM.

Table 9 Scenario 5 Operations Summary

OPERATIONS SUMMARY	
Closure Hours:	11:30AM to 4:00AM
Vehicles allowed during open hours:	all types
Vehicles allowed during closure hours:	police and emergency vehicles; others with special key access

Evaluation Criteria

Access

General

General access to the area by motor vehicles under this scenario will be almost identical to Scenarios 1&2 with the exception of reduced number of hours that Bourbon St is open to all vehicles.

Delivery/Service Vehicles

Delivery and service vehicle access will change under this scenario. While these vehicles will have the same access to the area, aside from the five and a half hour reduction in open Bourbon St time, it must be noted that the bulk of the deliveries that to Bourbon St occur during the early to mid-afternoon time period. Closing Bourbon St to vehicle traffic this early in the day could initially create a scheduling issue for both delivery companies and establishments, particularly those that do not open or have staff on hand before 11:30AM. Such a compressed delivery time period could also force delivery vehicles to compete for curb space more than existing conditions. The possibility for consolidating deliveries into less frequent yet larger loads was unpopular – about 76% respondents claim that this concept would not work for them - according to the business survey.

Garbage trucks, also, would be restricted in their access to the area. Currently, garbage is collected in the morning and the evening. Under this scenario, the evening garbage pickup would have be eliminated or coordinate to allow for a waste collection system located off of Bourbon St accessible to garbage trucks.

Delivery and service vehicle access to Bourbon St during closure hours through non-compliance with the closure policy will all but end. Evening deliveries for items such as music equipment, catering, and floral will need to be serviced from the cross streets.

Emergency Vehicles

Emergency vehicle access to the area will be the same as Scenario 2/Existing Conditions except for the expansion of closure time by five and a half hours.

Residential Access/Driveways

Access to residences and driveways would be the same as Scenario 2/Existing Conditions under this scenario.

Mobility

Traffic mobility would roughly be the same under this scenario as they are under existing conditions and Scenario 2. Traffic volume data collected for this study showed highest peak volumes occur during the mid-day. However, analysis using Synchro software shows that the intersection level of service at each of the cross streets will be the same under this scenario.

Non-compliance with the closure policy, however, would no longer occur.

Security

The new bollard infrastructure is rated to stop all commercial passenger vehicles and light trucks. Vehicles matching this description could not enter Bourbon St past these bollards with this infrastructure in place. The locking system employed by this bollard system also removes the possibility of entrance by simply moving a barricade that currently exists.

The number of hours that Bourbon St is protected by these bollards would increase by five and a half hours.

Staffing

Additional staffing necessary for this scenario includes personnel to open and close the bollard sets at the beginning and ending of the closure period. Another staff person would be needed to monitor the CCTV security system – however, it must be noted that this staff person is not required solely because of this scenario but rather is a part of larger security plan.

Scenario 6: 3PM, No Private Autos

Introduction

This scenario is identical to Existing Conditions/Scenario 2 in terms of infrastructure. However, the mix of vehicles able to access Bourbon St when the roadway is open would be reduced to delivery vehicles, service vehicles, and emergency vehicles only. Private vehicles would no longer be allowed to travel down Bourbon St under any time of day under this scenario.

Closure time under this scenario would be similar to Scenario 3 in that Bourbon St would be closed from 3:00 PM until 4:00AM which cuts two hours off of the amount of time that Bourbon St is currently open to vehicles. This also creates an overlap between the Bourbon St closure and the Royal St closure which occurs between 11:00AM and 4:00PM each weekday and 11:00AM to 7:00PM on weekends.

Infrastructure

The infrastructure in this scenario is the same as in Scenario 2.

Operations

The only operations difference between this scenario and Scenario 1/Existing Conditions is that the Bourbon St closure hours would be extended by five and a half hours to start at 11:30AM.

Table 10 Scenario 6 Operations Summary

OPERATIONS SUMMARY	
Closure Hours:	3:00PM to 4:00AM
Vehicles allowed during open hours:	Delivery, service, emergency
Vehicles allowed during closure hours:	police and emergency vehicles; others with special key access

Evaluation Criteria

Access

General

General access to the area by motor vehicles under this scenario would be different than all previously described scenarios. Under Scenario 6, private vehicles would no longer have access to Bourbon St at any time of day. Only delivery, service, and emergency vehicles would be allowed to access Bourbon St during the hours that it is open.

Delivery/Service Vehicles

Delivery and service vehicle access will change very little. These vehicles will have the same access to the area aside from the two-hour reduction in open Bourbon St time. Delivery and service vehicle access to Bourbon St during closure hours through non-compliance with the closure policy will all but end.

Garbage trucks, also, would be restricted in their access to the area. Currently, garbage is collected in the morning and the evening. Under this scenario, the evening garbage pickup would have be eliminated or coordinate to allow for a waste collection system located off of Bourbon St accessible to garbage trucks.

Delivery and service vehicle access to Bourbon St during closure hours through non-compliance with the closure policy will all but end. Evening deliveries for items such as music equipment, catering, and floral will need to be serviced from the cross streets.

Emergency Vehicles

Emergency vehicle access to the area will be the same as Scenario 2/Existing Conditions except for the expansion of closure time by two hours.

Residential Access/Driveways

Access to residences and driveways on Bourbon St would be completely restricted to private automobiles.

Mobility

Traffic mobility would different under this scenario than any of the others previously described because private automobiles could no longer drive down Bourbon St at any time. Traffic counts revealed that private automobiles account for the majority of the traffic traveling along Bourbon St during the times that the road is open to traffic. These volumes, however, are relatively low. Synchro analysis shows that the redistribution of these volumes will not have a significant impact on the operational capabilities of the rest of the street grid in the French Quarter.

Security

The new bollard infrastructure is rated to stop all commercial passenger vehicles and light trucks. Vehicles matching this description could not enter Bourbon St past these bollards with this infrastructure in place. The locking system employed by this bollard system also removes the possibility of entrance by simply moving a barricade that currently exists.

The number of hours that Bourbon St is protected by these bollards would increase by two hours.

Staffing

The staffing implications of this scenario are uncertain but are likely to be more involved than previously described scenarios. Keeping a roadway open yet restricting the vehicles allowed to travel down it based on the class of vehicle would require a staff person on hand to make that decision and direct traffic. On the initial roll-out of the policy and infrastructure this effort would need to be robust. However, as the situation becomes part of the “normal” traffic operations in the area it is possible that fewer staff people would be needed and that signage could assume some of the responsibility. It is also likely, however, that non-compliance with the no private vehicles policy could become an issue and staff located at key intersections could help maintain a suitable level of compliance.

Scenario 7: 24/7 Closure – Side Streets Open

Introduction

In terms of infrastructure this scenario is identical to Existing Conditions/Scenario 2. The other details of this scenario are much different. In short, under Scenario 7 no vehicles would be allowed on Bourbon St at any time of day – save for emergency vehicles. The bollards would be permanently raised except to allow for emergency vehicle access. The implications of this scenario are far reaching and likely prove too disruptive relative to the level of safety provided to be recommended at this time.

Infrastructure

The infrastructure in this scenario is the same as in Scenario 2.

Operations

Under this scenario the bollards at each intersection would be permanently raised except to allow for emergency vehicle access.

Table 11 Scenario 7 Operations Summary

OPERATIONS SUMMARY	
Closure Hours:	24/7
Vehicles allowed during open hours:	Emergency
Vehicles allowed during closure hours:	Emergency

Evaluation Criteria

Access

General

In general, access to Bourbon St itself – between Iberville St and St. Ann St – would be removed for every type of vehicle except emergency vehicles.

Delivery/Service Vehicles

Under this scenario delivery and service vehicles would have to park on side streets nearest their destination and access the store fronts on foot. This would add substantial commercial traffic to side streets.

Emergency Vehicles

Under this scenario emergency vehicles would have access to move center bollards and enter Bourbon St. Access keys would be provided to emergency vehicles operators and the bollards would be under surveillance associated with the rest of the New Orleans Citywide Public Safety Improvements Plan.

Residential Access/Driveways

Access to residences and driveways on Bourbon St, in the closure area between Iberville St and St. Ann St, would be significantly restricted.

Mobility

Traffic mobility would be much different than the status quo, and most other scenarios, under this scenario. Banning all traffic except for emergency vehicles on Bourbon St would have several effects on traffic in the French Quarter.

First, data collection for this study revealed a maximum of roughly 1800 vehicles per day traveling down the busiest part of Bourbon St – see the existing conditions section of this report for a more detailed examination of traffic volumes and patterns. More than half of the volume on Bourbon St is attributed to private vehicles. Since there is no on-street parking allowed for private vehicles on Bourbon St, almost all of this existing private vehicle traffic is through traffic that will redistribute onto other downriver bound routes such as N Rampart St, Burgundy St, Chartres St, or N Peters St.

Second, delivery and maintenance vehicle traffic on Bourbon St will also have to redistribute to other downriver bound routes. These vehicles will travel as far downriver as the closest cross street to the vehicle's final Bourbon St based destination.

Third, there is a relationship between delivery and service vehicle access and the mobility of other vehicles that is worth noting. Under this scenario delivery and service vehicles will need to park on side streets and access their final destinations on foot. The presence of a high volume of large vehicles parked on the side streets near Bourbon St could restrict vehicle flows on these side streets. Parking policy on the side streets would need to undergo a thorough study and overhaul in order to accommodate this scenario.

Security

From a security standpoint this scenario would create a safer environment than any of the previous iterations. Banning all vehicles from Bourbon St would make the presence of any vehicles, or the image of a vehicle attempting to enter Bourbon St something out of the ordinary. After a completely car free Bourbon St was culturally established, any approaching vehicles would be easily noticed by both visitors and the law enforcement professionals on site. In summary, the lack of vehicles combined with the culture of a car free area would combine to increase security in the area.

Staffing

The staffing needs associated with this scenario would be lower than with other scenarios. Keeping the bollards in place and only moving them for emergencies would require few, if any, staff for operations.

Scenario 8: 24/7 Closure – Side Streets Closed

Introduction

This scenario uses the same infrastructure as all the others with the addition of bollards at the cross-streets but would close both Bourbon St and all of the side streets at all times. The implications of this scenario are far reaching and would prove far too disruptive relative to the level of safety provided to be recommended at this time.

Infrastructure

The infrastructure in this scenario is the same as in Scenario 2.

Operations

Under this scenario the bollards at each intersection would be permanently raised except to allow for emergency vehicle access.

Table 12 Scenario 8 Operations Summary

OPERATIONS SUMMARY	
Closure Hours:	24/7
Vehicles allowed during open hours:	Emergency
Vehicles allowed during closure hours:	Emergency

Evaluation Criteria

Access

General

In general, access to Bourbon St itself – between Iberville St and St. Ann St – would be eliminated for every type of vehicle except emergency vehicles. Additionally, each of the streets that run perpendicular from Bienville St to St. Ann St would be closed so that traffic could not cross Bourbon St. Access to these side streets could be maintained using highly context sensitive design and policy changes for each individual side street.

Many of the side streets have a diverse set of land uses, including residence, that require, or are entitled to, direct personal vehicle access. Maintaining that access would require an in-depth examination of each street for at least one block on either side of Bourbon St.

Delivery/Service Vehicles

Access to Bourbon St for delivery and service vehicles under this scenario would be greatly reduced from the status quo and most other closure scenarios discussed previously. These vehicles would require significant access to side streets in order to get close enough to their final Bourbon St based destinations to reasonably provide service comparable to what exists at present. Of note, large delivery vehicles in particular would need to park on streets running parallel to Bourbon St because of their limited turning radius and lack of ability to exit a dead end side street.

Emergency Vehicles

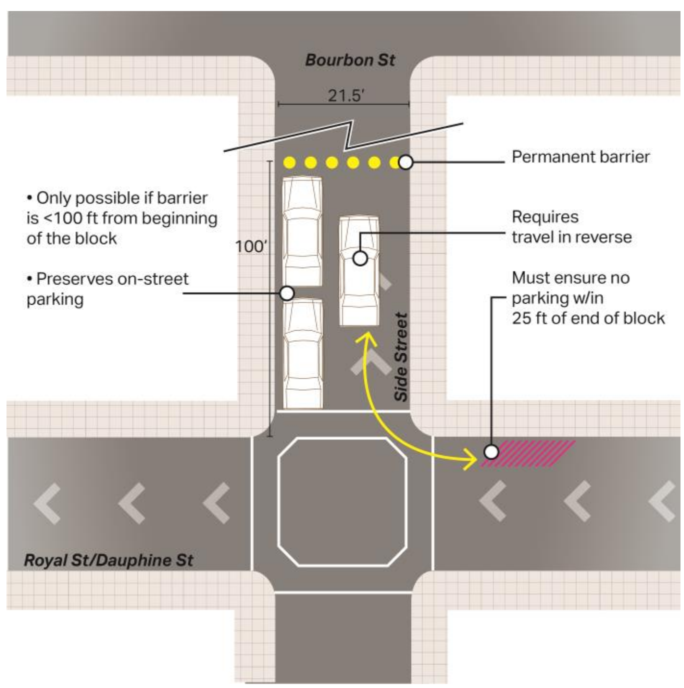
Similar to Scenario 7 emergency vehicles would be provided access during emergency situations under this scenario.

Residential Access/Driveways

Residential access would be a key factor in the design and implementation of this scenario. Many of the side streets in the closure area have residential land uses and other properties with driveways that are entitled to direct vehicle access. A fine grain, context sensitive suite of design and policy changes for each side street – for the blocks from Bourbon St to Dauphine St and from Bourbon St to Royal St – would need to be created to serve each area's particular needs. This would include the location of bollards as well as adjustment to parking and curb use policy. Each policy would attempt to balance the needs for access, mobility, and security for every block.

The impact that these roadway closures will have is dependent upon the exact placement of the bollards. There are two

Figure 4 Backing Out of Side Street Scenario 8



options that make the most sense. The first option is to locate the bollards as close to Bourbon St as possible. This placement will ensure access for every property on the block segment and help maintain as much on-street parking as possible.

The second option is to locate the bollards just “downstream” of the last active driveway on the cross street segment. This option would allow for access to as many currently operable driveways as possible but would eliminate on street parking downstream of the last driveway.

While both options allow for as much property access as possible, they both also create a problem for vehicles exiting the side street. Egress from the side streets closed under the Priority 4 bollard pattern would require vehicles to either back out in reverse or make a u-turn – both of which present serious issues.

Requiring vehicles to reverse into oncoming traffic on either Royal St or Dauphine St has benefits and constraints. First, maintaining one direction of travel would preserve space for on-street parking. However, the logistics of backing down an entire block and then re-orienting the vehicle with traffic on Royal St/Dauphine St leaves significant space for errors. A potential mitigation for this issue is a space left vacant on the curb face of Royal St/Dauphine St to allow vehicles backing out of side streets to re-orient themselves toward the direction of travel. The amount of space required to accommodate this maneuver would be similar to the existing no-parking area marked out at every intersection approach under existing conditions.

The other option for egress from the Priority 4 bollard placement is to allow vehicles to turn around and access Royal St/Dauphine St going against the flow of traffic. This option presents several issues. First, the streets in the French Quarter are typically about 21.5 feet wide which makes performing a three point turn difficult. Second, some if not all of the on-street parking would need to be removed to accommodate the three point turn movements as well. Third, the Priority 4 bollard placement is intended to be activated only on special occasions such as Mardi Gras, Sugar Bowl, and Essence Fest. Changing the direction of traffic on these street sections for only a few days of the year would require comprehensive temporary signage and clear communication with residents and visitors.

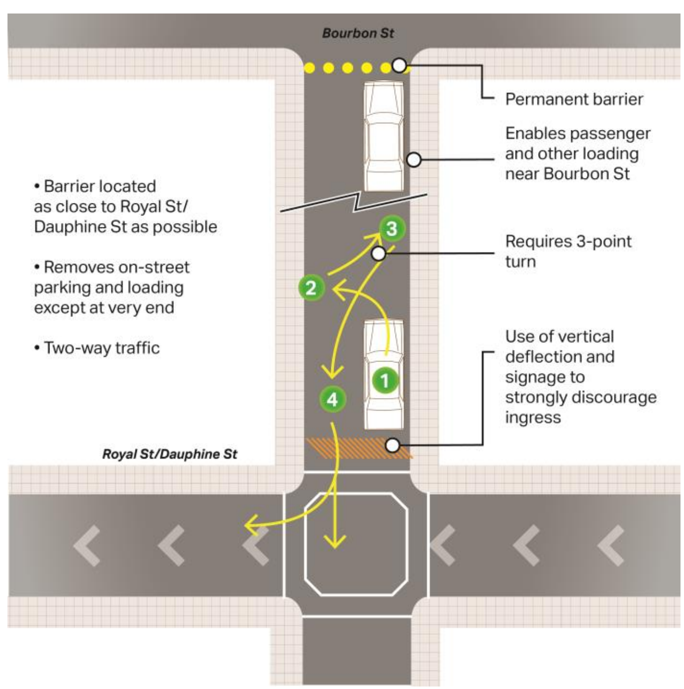
None of the options for closing the side streets would be consistent with typical engineering standards.

Mobility

The roughly 1800 vehicles that typically travel along Bourbon St would redistribute on the French Quarter in the same way street grid under this scenario as previously discussed in Scenario 7.

Unique to this scenario are the traffic circulation impacts of the cross street closures. Trips that would normally cross Bourbon St on a side street between Bienville St and St. Ann St, or end as close as possible to a Bourbon St intersection will be re-routed depending on the origin and destination of the trip. Trips that start and end on the same side of Bourbon St (lake side or river side) will not have a significant route change. These trips will, however, likely require a

Figure 5 Three Point Turn Scenario 8



longer walk between where the vehicle is parked and the final destination/land use access point – if that point is on Bourbon St or within one block of Bourbon St.

Trips starting on one side of Bourbon St and ending on the other side however would be rerouted. Those that would normally use a street between Bienville St and St. Ann St to cross Bourbon St would need to use Canal St, N Rampart St, or N Peters St to get above or below Bourbon St as the case may be. Current traffic volumes on each of these major roads are low enough to absorb the modest volumes coming from the streets that cross Bourbon St within the closure area. Final access to a location on Bourbon St, within the closure area would require a likely longer final walking approach between the where the car is parked and the final destination.

Security

From a security standpoint this scenario would be very secure in terms of pedestrian safety on Bourbon St and repelling Nice-style terrorist attacks. Under this scenario pedestrians would have very limited interactions with motor vehicles. The lack of interaction would necessarily lead to a drastic reduction in conflicts between the two.

Complete restriction of automobile access to cross street traffic, in addition to Bourbon St access, would add another layer of security from a vehicle looking to hit pedestrians on Bourbon St.

Staffing

Staffing for this scenario would not likely be any greater than Scenario 7. Initially, however, the changes to the traffic pattern would require vigilant staff presence on the ground to direct lost or confused drivers and ensure that traffic is flowing properly.

Scenario 9: Pedestrian Mall Crescent

Introduction

This scenario builds upon the premise of Scenarios 2-5 but adds an additional provision of creating a larger pedestrian mall connecting Bourbon St to the Mississippi River. Through closing St. Peter St, Orleans St, St. Ann St individually or in some combination, between Bourbon St and Royal St the Bourbon St closure would connect with the Royal St pedestrian mall, link to Jackson Square through Pirate’s Alley/Pere Antoine Alley and create a pedestrian only zone stretching from Bourbon St and Iberville St to the Moon Walk along the Mississippi River.

This concept was developed by the project team during a workshop session. However, public pushback to even the most modest of changes delayed the development of this scenario until a later date.

Infrastructure

The infrastructure for this scenario is the same as for Scenario 2.

Operations

Bollards would be in place similar to Scenario 2 but with cross streets closed at St. Peter St, Orleans St, and St. Ann St.

Table 13 Scenario 9 Operations Summary

OPERATIONS SUMMARY	
Closure Hours:	Variable, Scenarios 2-5 could apply
Vehicles allowed during open hours:	Delivery, Service, Emergency
Vehicles allowed during closure hours:	Emergency

Evaluation Criteria

Access

General

General access to Bourbon St for this scenario is similar to Scenario 6 wherein only delivery, service, and emergency vehicles would be allowed on Bourbon St during the times that it is open. During the closure time period only emergency vehicles would be allowed to access Bourbon St. Access would be restricted to St. Peter St, Orleans St, St. Ann St individually or in some combination depending on the scenario.

Delivery/Service Vehicles

These vehicles would be allowed access to Bourbon St during the time that it is open. Access to Bourbon St during closure hours through non-compliance with the closure policy will no longer occur.

Emergency Vehicles

Emergency vehicle access to the area will be the same as Scenario 2/Existing Conditions. Expansion of closure time by is variable depending on which time frame is judged to be optimal.

Residential Access/Driveways

Several significant driveway and access points are located on the blocks of St. Peter St, Orleans St, and St. Ann St between Royal St and Bourbon St. Allowing access to these locations could be provided given context sensitive design and policy changes. However, this scenario does call for closure to all vehicles (other than emergency vehicles) for a time range similar to what is described in Scenarios 2-5. One option is to provide access keys to residents and property owners with access points on these three cross streets. Another is to tailor the closure time to conform to the check in and check out times of the Bourbon Orleans hotel located between Orleans St and St. Ann St.

Mobility

For the most part, traffic circulation associated with this scenario would be very similar to Scenarios 2-5 depending on the closure time. The added closure of St. Peter St, Orleans St, and St. Ann St presents would require some traffic redistribution. Lake bound traffic that would normally travel on St. Peter or Orleans St could use Bienville St, St. Louis St, Dumaine St, Ursulines Ave within the French Quarter or Canal St or Esplanade Ave on the edge of the area. Riverbound traffic that would normally use St. Ann St could use St. Philip St, Gov. Nicholls St or

Esplanade Ave to achieve the same ends. The volumes on these streets are so low that they would not create a capacity issue on any other street in the area. Closure of these streets would not create a significant traffic circulation or mobility issue.

Security

Both pedestrian safety and security issues would be better served under this scenario than the status quo. Establishment of the pedestrian mall between Bourbon St and Mississippi River would allow for a traffic conflict free area for those on foot that would eliminate the potential for crashes. From a national security perspective this scenario would eliminate two more access points that a would be attacker could use to gain access to the large volumes of people on foot on Bourbon St. Similar to Scenario 7 and Scenario 8 this would also create a car free culture in the area that would raise suspicion at the sight of any car thus alerting everyone to danger by the mere presence of a vehicle.

Staffing

Staffing requirements for this scenario would be greater than the base level scenarios 2-5 due to the need to ensure some access to the land uses along St. Peter St, Orleans St, and St. Ann St.

Scenario 10: Car-Free French Quarter

Introduction

This scenario would close the interior of the French Quarter to all automobiles except for emergency vehicles. This scenario would likely only take place during very large scale events such as Mardi Gras. Implementation during other times is not advisable.

Infrastructure

The type of infrastructure used in this scenario would be the same as in Scenarios 2-9. However, the amount of that infrastructure would be increased greatly. Stopping vehicles from entering the French Quarter would require bollards to be located at each of the 13 riverbound/lakebound streets and two bollards on either edge of the 7 upriver/downriver bound streets – a total of 27 sets of bollards in place.

Operations

Under this scenario the bollards would be put in place and left in the position to block motor vehicles unless an emergency vehicle needed access.

Evaluation Criteria

Access

General

General access to the French Quarter would have to be achieved on foot or by the riverfront streetcar.

Delivery/Service Vehicles

Being that this scenario would only be implemented during special times such as Mardi Gras, a system to provide food and beverage deliveries would need to be arranged and coordinated with the entire French Quarter business community. Service vehicle access would need to be arranged for between the requesting party, service provider, and law enforcement.

Emergency Vehicles

Emergency vehicles would have access to the French Quarter street grid through the use of a special access key and/or CCTV surveillance team.

Residential Access/Driveways

Residences, and every other land use for that matter, would not have access under this scenario.

Mobility

Traffic inside the French Quarter street grid would no longer be possible under this scenario. All traffic inside the French Quarter would be redirected onto the roads outside of it. Since this scenario is only likely to occur during special events, the level of mobility would be impaired beyond this scope of analysis.

Security

In terms of securing the French Quarter from terrorism during special events, this scenario could achieve a high level of safety.

Staffing

Staffing for such a scenario would be more controlled by the special event than the street closure.

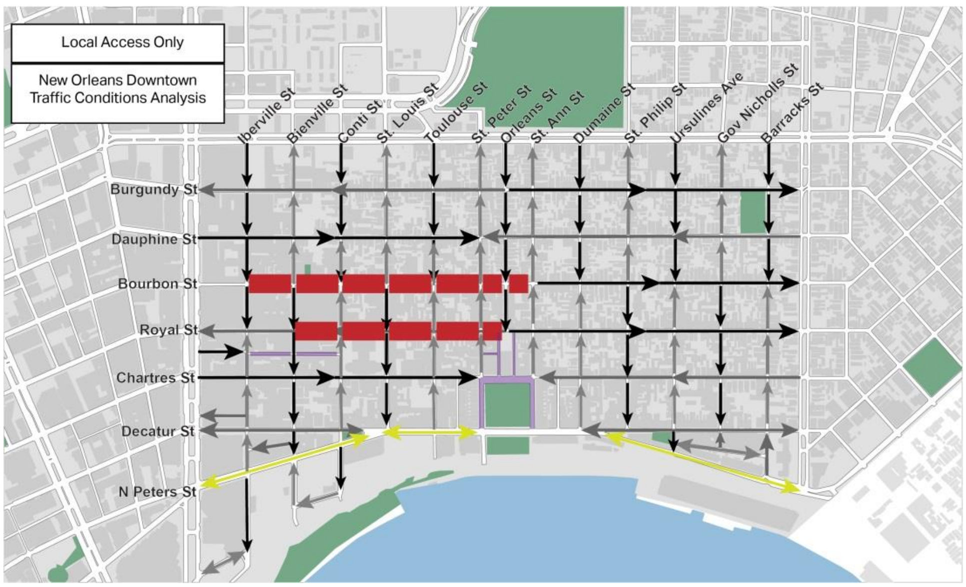
Safety and Traffic Pattern Options

The following Options can be combined with different Scenarios for different effects.

Option 100 - Local Access Only

A significant portion of traffic congestion in the French Quarter has been attributed to through traffic for almost 50 years. The Vieux Carre Traffic Study conducted in 1970 attempted to deal with the issue of through traffic with a plan that was only partially implemented. Still, the problem of through traffic creating congestion in the French Quarter persists. This section details a proposal to change the traffic pattern in the French Quarter in a way that could reduce un-necessary traffic volume. The pattern shown in Figure 6 is a series of converging and diverging one-way streets that would effectively eliminate through traffic in the French Quarter while maintaining the same level of access for residents and businesses.

Figure 6 Local Access Only Traffic Pattern



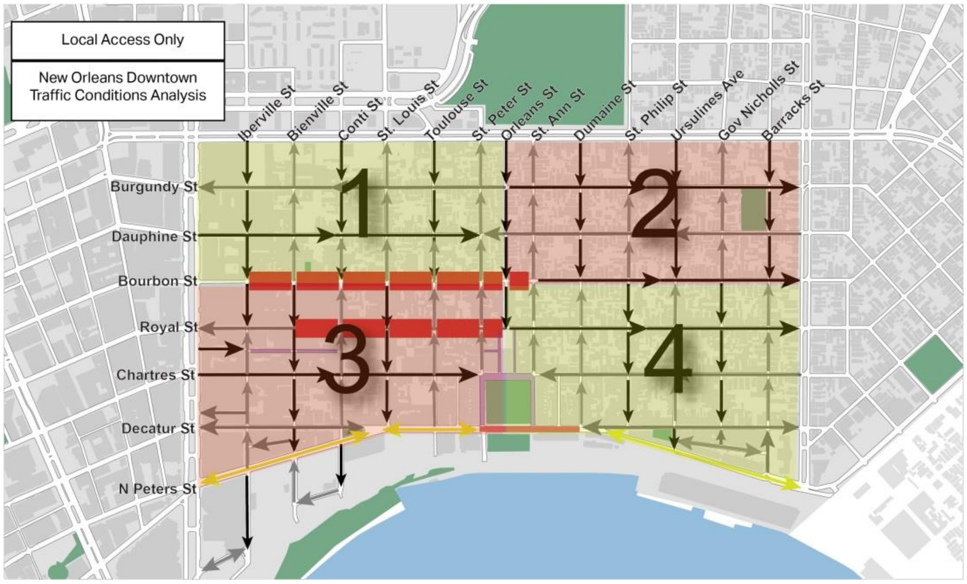
This change to the French Quarter traffic pattern is designed to afford access and mobility to those who have an origin or destination within the French Quarter – such as residents, business owners, employees, delivery and maintenance vehicles, and emergency vehicles – but greatly reduce the amount of traffic passing through the area. The cumbersome nature of traveling through the French Quarter under this scenario discourages and prohibits the use of French Quarter streets as thoroughfares. Trips without an origin or destination in the French Quarter are pushed onto bordering streets that are designed to accommodate higher vehicle capacities.

Traffic Flow Description

The proposed arrangement of traffic flows follows a basic pattern with a few key exceptions. Riverbound and lakebound streets alternately converge and diverge at Bourbon St. Upriver and downriver bound streets alternately converge and diverge at Orleans St. Two-way traffic is allowed on N. Peters St/Decatur St.

The traffic grid that results from this travel direction pattern breaks the French Quarter into quadrants (see Figure 7). All points within quadrant can be reached, however the travel direction pattern prohibits travel between quadrants – with a couple of exceptions. Starting from any point within any quadrant, a vehicle can escape the French Quarter with a maximum of two turns.

Figure 7 Local Access Only Quadrants

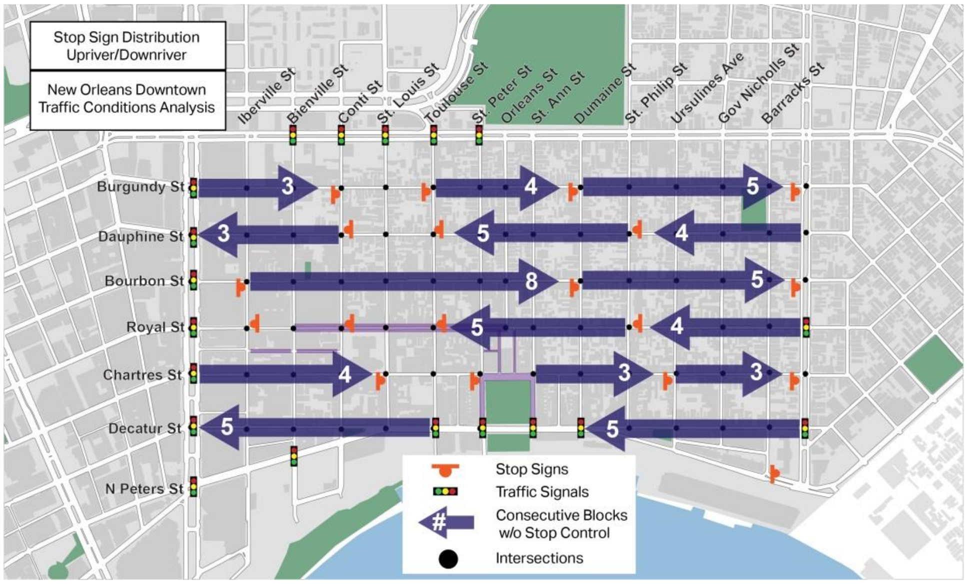


Option 200 – Traffic Calming Using Stop Signs

The dispersion and pattern of stop signs in the French Quarter, presently, creates a traffic safety and congestion problem. Figure 8 points out series of consecutive block faces in the upriver and downriver direction. The number of consecutive blocks without stop control ranges from three to eight with five as the most common number. Such a large run of blocks without stop control allows drivers to pick up speed to a problematic degree. Interviews and field observations revealed that these areas tend to have speeding drivers.

It is recommended that a series of traffic studies be conducted to determine if any new stop signs are warranted.

Figure 8 Upriver-Downriver Bound Stop Sign Locations



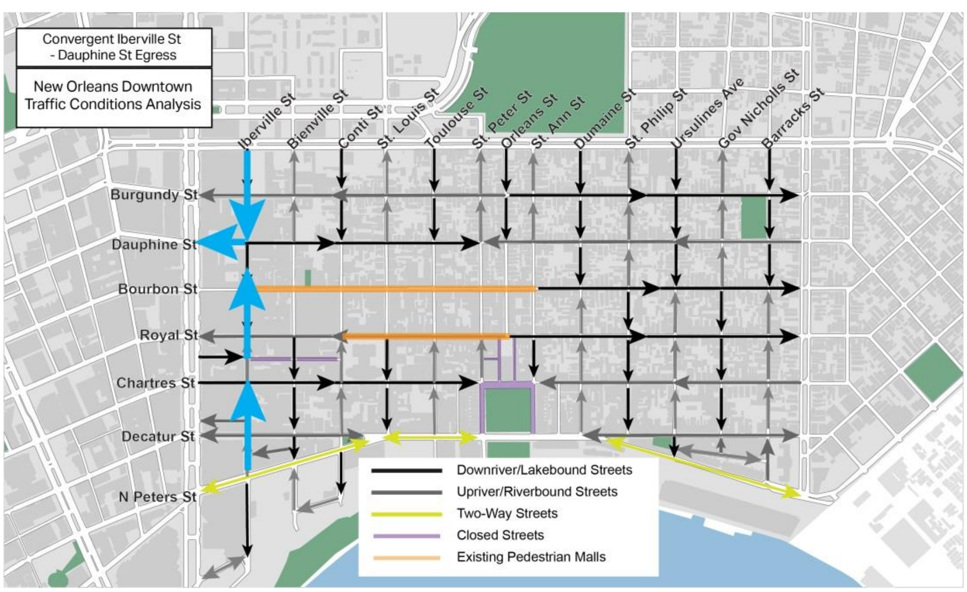
Option 300 – Parking Stall Regulatory Reallocation

Please see Chapter 7: Parking for a full discussion of parking policy and suggested changes.

Option 400 – Convergent Iberville and Dauphine Egress

The intersection of Bourbon St and Iberville St has a high rate of pedestrian related crashes. Current traffic flow on Iberville St is riverbound between Rampart St and N Peters St. Iberville St provides access to several large parking garages and high-end land uses. As the Iberville St edge of the Bourbon St closure becomes less permeable with the addition of enhanced bollards, redirection of traffic at the intersection of Bourbon St and Iberville St is likely to be exacerbated.

Figure 9 Convergent Iberville St - Dauphine St Egress



Changing the direction of traffic flow on Iberville St to converge at Dauphine St – running lakebound from N. Peters St to Dauphine St and remain running riverbound from N Rampart St to Dauphine (see Figure 9) – will help alleviate these issues. Reducing the use of Iberville St as a route to travel through the French Quarter will take pressure off of the Bourbon St and Iberville St intersection. Vehicles turning off of N Rampart St will have access to a destination or be directed to turn at Dauphine St. Vehicles seeking access to land uses below Bourbon St can still reach their destination using Chartres St or N. Peters St.

Option 500 – Management of Evening Garbage Collection

Currently, garbage is collected on Bourbon St twice per day – one round between 4:00AM and 9:00AM and the second round between 5:00PM and 7:00PM. Garbage vehicle access to Bourbon St during the evening closure period presents a set of operations problems related to raising and lowering the bollard security system.

There are two possible solutions to work around this issue. First is to eliminate the pickup altogether by implementing waste reduction strategies throughout the Bourbon St bars and restaurants. Second, is to change the evening trash pickup system to allow garbage collection on the cross streets throughout the closure area. The use of garbage corrals on side streets is being tested during road re-construction project. The impacts of scaling up the side street garbage corral strategy should be continuously monitored during the roadway reconstruction process.

Option 600 – Termini of Bourbon St Closure

Options for the termini of the Bourbon St closure area would have impacts on traffic mobility, access, and security. These options include

Table 14 Bourbon St Termini Options

Option	Start	End
1	Iberville St	St. Ann St
2	Iberville St	Dumaine St
3	Canal St	St. Ann St
4	Canal St	Dumaine St

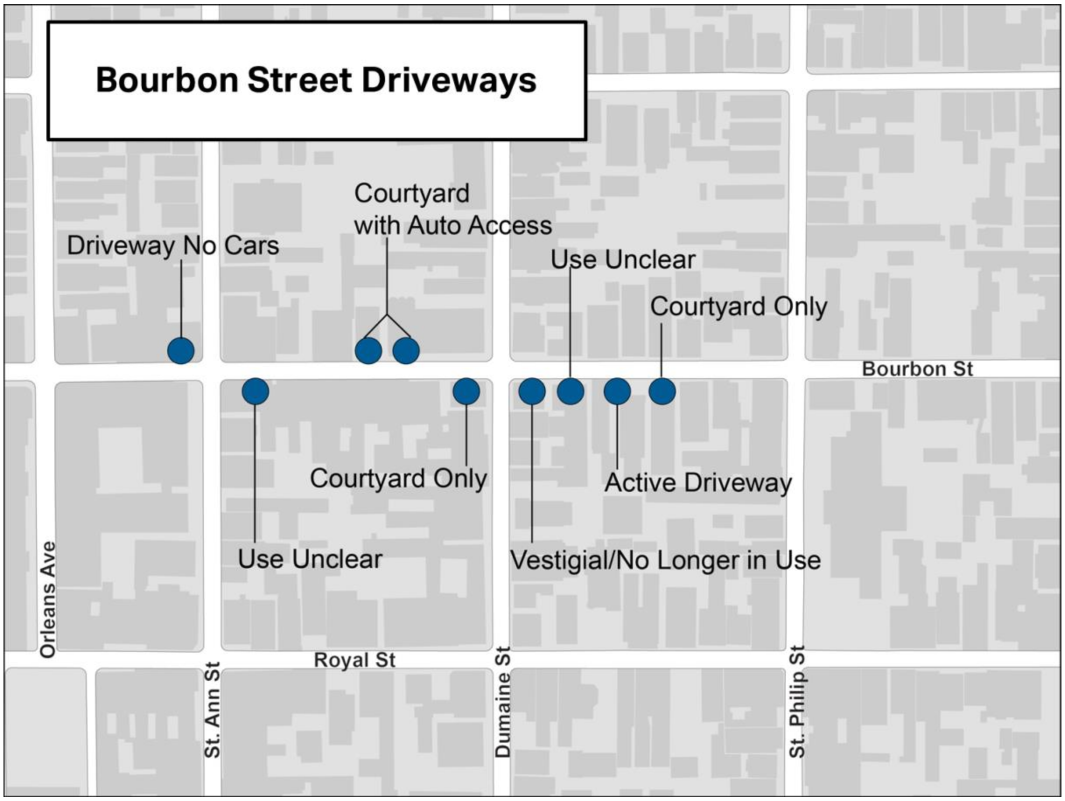
Sub-Option 1 Iberville St to St. Ann St

This closure termini option is the same as existing conditions. Traffic operations in the area would be almost identical with the exception of eliminating non-compliance with the closure policy.

Sub-Option 2 Iberville St to Dumaine St

This option maintains the same closure beginning in Iberville St but would extend the closure by one block down to Dumaine St. While this option would provide a secure pedestrian environment for an additional block of Bourbon St there are several residential driveways that would lose access during closure (see Figure 10).

Figure 10 Lower Bourbon St Driveways



Sub-Option 3 Canal St to St. Ann St

This option would move the beginning of the closure from Iberville St up to Canal St and maintain the downriver extent at St. Ann. In order to for this option to work, however, the bollard must be carefully located to make very clear to drivers that access to Bourbon St off of Canal St is restricted.

Intensive communication and signage would be crucial to successful implementation of this option. The potential for severe congestion at the Canal St and Bourbon St intersection due to driver confusion is also a serious consideration. Further study into the operations impacts of this closure termini option would be necessary to fully understand the feasibility of this option.

Sub-Option 4 Canal St to Dumaine St

The same trade-offs associated with options 3 and 4 also apply to this scenario.

Option 700 – Intersection Safety Treatments

High volumes of pedestrians mix with moving vehicles at the cross streets on Bourbon St. High crash rates at these locations necessitate the use of design treatments to increase safety. Since people will naturally walk in the middle of the street (as well as on the sidewalk) along the block faces protected by bollards they will certainly attempt to navigate the cross streets using that same space. Therefore, both the cross walks and the street portion of these intersections – the 'mixing zone' – are appropriate for treatment aimed at promoting safety.

Traffic Calming at Side Street Crossings

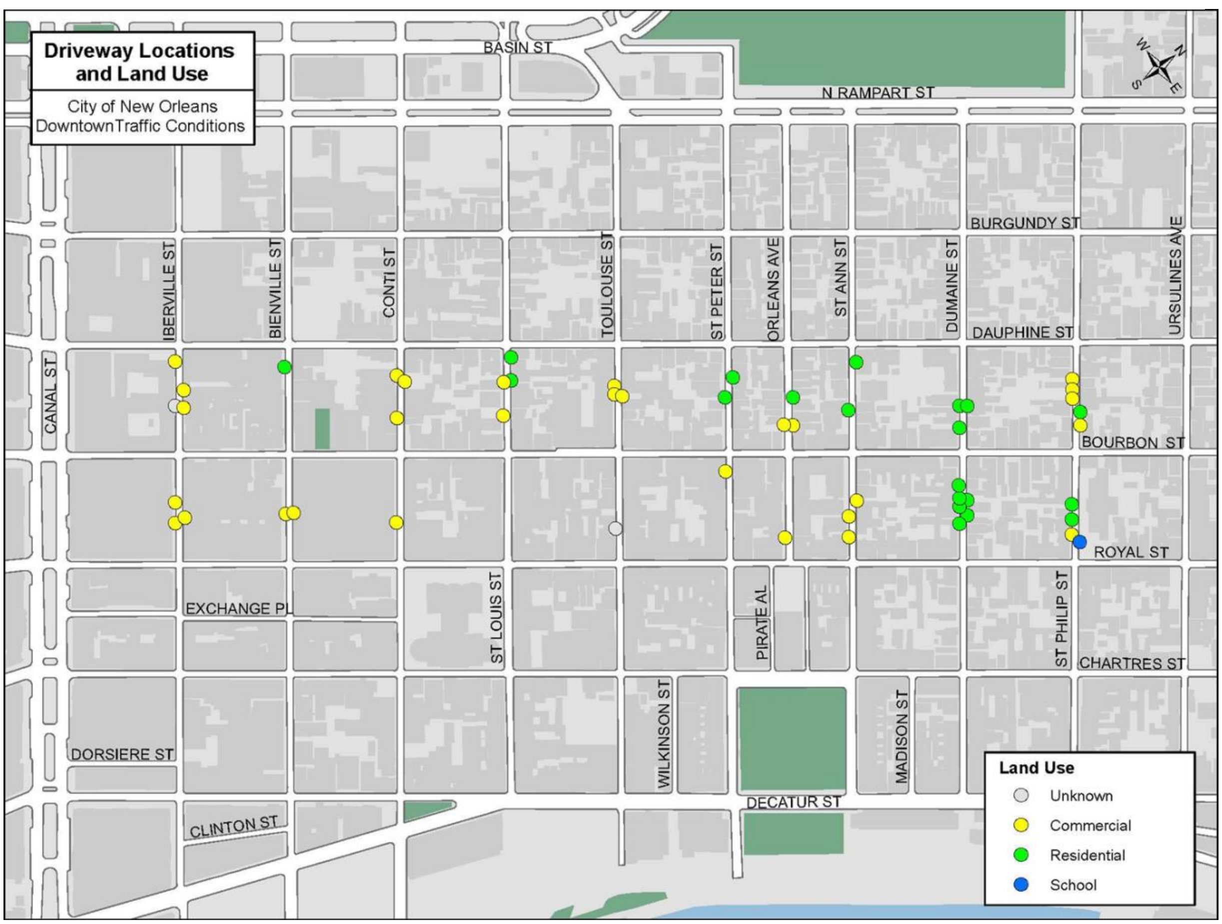
The closure of side streets, those crossing Bourbon St, on a daily basis, is not easily achieved. The closure of these intersections would certainly reduce the number of crashes, and improve the pedestrian experience. However, the resulting adverse effects are not acceptable.

The only feasible side street to close is one without a driveway access. In the study area, the only side street without a driveway is St. Louis St between Royal and Bourbon Streets. All the other side streets have driveways. These driveways may lead to large parking garages, parking in a former courtyard space, or just a simple driveway (see Figure 11). But, at this time, the City is not pursuing any driveway closures; nor is it acquiring properties in order to close driveways.

If these crossings cannot be closed, then they should be differently managed. It will be important to make sure that:

- Vehicles are moving slowly,
- Pedestrians understand where it is safe to stand, and where it is not, and
- Calming designs do not impeded pedestrians, cyclists, pedicels, mule drawn carriages or emergency vehicles.

Figure 11 Driveway Locations on Side Streets



Numerous approaches to calming have been undertaken in cities across the United States and in New Orleans. The following types of treatments are recommended, but could be deployed in different combinations and in varying designs.

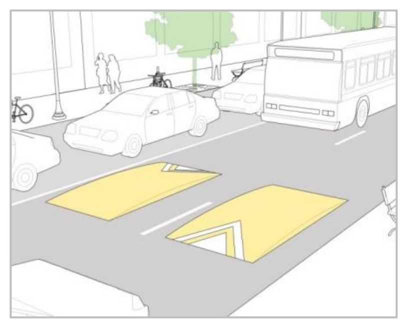
Vertical Speed Control

Vertical speed control is a technical term used to describe roadway elements that create changes in the vertical profile of the roadway – they create something for vehicles to go up and over. The assumption behind vertical speed control is that drivers will slow down in order to avoid damage to the vehicle that could be caused by hitting the element in the road at too great a rate of speed. All in all, this is not a new idea – speed bumps have been in nearly every community for decades. However, experimentation in the design of vertical deflection has progressed in the last few years to provide increased safety. Vertical speed control is most commonly applied on neighborhood, residential streets where low-speeds are encouraged and freight traffic is discouraged. Observations and stakeholder interviews revealed that speeding is an issue in the French Quarter. Vertical speed control has been shown to slow vehicle speeds. (NACTO)

Speed tables

This is an application of vertical deflection where the street rises to meet the sidewalk height, typically for the length of a crosswalk. Speed tables serve a dual purpose in slowing vehicles down and providing a safe space for pedestrians to cross. Speed tables must be designed to mitigate drainage impacts as well.

Speed Cushions



Speed cushions are similar to humps and tables but feature wheel cutouts to allow large vehicles and bicycles to avoid the deflection. Special consideration is also made during implementation to allow for emergency vehicles to avoid deflection.

Visual Clues for Pedestrians

Cities around the world have experimented with mixing zone treatments that are both attractive and attention-getting for pedestrian and drivers alike. San Francisco’s Castro neighborhood used crosswalk design to celebrate the LGBT history of the area.

Neighborhoods in Portland, Oregon have taken a large scale mural approach to crosswalk beautification. These designs are less in line with existing traffic control convention than those in Madrid and San Francisco, but serve the same purpose to draw attention to the space so that people walking and in cars recognize the mixing zone. Similar intersections paintings have been completed in Lafayette Louisiana, in the McComb-Veazey neighbohoods. The paintings can be artistic expressions, can provide wayfinding for visitors, and most importantly, can be used to identify where to stand and where not to stand, as vehicles approach. In some cities, the painting will be done at or in place of a painted crosswalk.

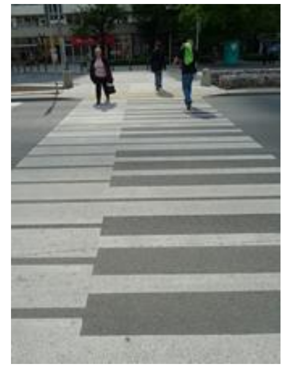
Figure 12 Street Paintings in Lafayette, LA

Source McComb- Veazey Neighborhood Coterie.

Figure 13 San Francisco, Castro Neighborhood.

Source: The Atlantic City Lab

Figure 14 Miscellaneous examples of painted crosswalks.


Several crosswalks in Madrid were commissioned to an artist for treatment. The resulting designs are both beautiful and functional. It is recommended that a design review committee be established that could develop or jury design ideas submitted by French Quarter artists. Alternately, an existing design review body could be used to facilitate a decision.

Participants/ represented entities should include organizations such as: various City Departments; The Vieux Carré Commission; French Quarter Business Association; Louisiana Restaurant Association; French Quarter Citizens,Inc; Arts Council of New Orleans, French Quarter Management District, the New Orleans Tourism Marketing Corporation, and others.

Figure 15 Crosswalk Areas in Madrid

Source - boredpanda.com madrid

The following parameters should be employed in developing a design.

Vertical Deflection

- The side streets should have vertical deflection to slow drivers, alert them to the potential for crashes ahead, and possibly to produce a rumbling sound to alert pedestrians.
- The vertical deflection should be approved by representatives of the Police, Fire and Public Works Departments.
- Consideration should be made to giving narrow wheel passages so that cyclists, and maybe mule carts can avoid the vertical impact. This is most important with bumps, and is not appropriate with the speed tables when used as crosswalks.

Painting

- The paintings must be agreed upon by those who are empowered to preserve the unique and valuable character of the French Quarter.
- The paintings should indicate where pedestrians should stand when cars are passing. This can be done with lines and lettering, or perhaps in other ways with iconography and more conventional crosswalk markings.
- The paintings should not be centered on the travel lane, and encourage people to take photographs of themselves or others in the travel lane.

Signals and Signage

- There are signs that can be used to indicate where pedestrians should stand. There are also pedestrian traffic signals, and pedestrian-activated traffic signals that can enhance the safety of these intersections.
- These treatments require more planning, and are higher in cost that the treatments listed above. The levels of compliance with these signals are in doubt, given the nature of events on Bourbon St. Adding new signs and signals along Bourbon St is not recommended at this time.

800 – Bourbon St Weekend Closure Time Change

Weekend traffic and pedestrian patterns are different from weekday patterns. Field observations revealed that pedestrian volumes, in particular, are higher during the weekends and that high volume periods begin earlier in the day. To ensure pedestrian safety a closure time starting as early as 11:30AM or 1:00PM could be implemented.

Recommendations

At this time, the project team recommends immediate implementation of a Scenario much like the status quo, but with earlier closure of Bourbon St. The team also recommends adoption of certain Options – such as parking re-allocation, and design treatments at intersections. A more formal recommendation will be developed with the Department of Public Works, following the second Public Meeting in late May. Table 15 and Table 16 show additional recommendation details.

Table 15 Bourbon St Closure Scenario Preliminary Recommendations

#	Scenario Name	Scenario Description	Bourbon St Closure	Time Bourbon St is Closed	Closes Side St	Preliminary Recommendations
1	Status Quo	Lightweight barriers, moved into placed, law enforcement monitored	Partial (at set times)	5 PM - 4 AM	No	Not Safe - unacceptable
2	Bourbon St, Partial Pedestrian Mall	Improved Barriers, Current Ops	Partial (at set times)	5 PM - 4 AM	No	Preferred Option
3	Bourbon St, Partial Pedestrian Mall	Improved Barriers, Mid-afternoon Closure, No Weekend Difference	Partial (at set times)	3 PM - 4 AM	No	For Consideration
4	Bourbon St, Partial Pedestrian Mall	Improved Barriers, Early-afternoon Closure, No Weekend Difference	Partial (at set times)	1 PM - 4 AM	No	For Consideration
5	Bourbon St, Partial Pedestrian Mall	Improved Barriers, Late-morning Closure, No Weekend Difference	Partial (at set times)	11:30 AM	No	For Consideration
6	Bourbon St, Partial Pedestrian Mall, Deliveries Only	Deliveries only, no private autos.	Partial (by time and vehicle)	3:00 PM	No	Not recommended
7	Bourbon St, Segmented Pedestrian Mall	Bourbon St, alone, is closed to all vehicles except for emergency access	All Times	All Times	No	Not recommended
8	Bourbon St, Full Pedestrian Mall	Bourbon St and Side Streets Closed	All Times	All Times	Yes	Not feasible at this time
9	French Quarter, Pedestrian Mall Crescent	Linking together Bourbon St., Royal St., Jackson Square, through to Moon Walk	Variable	1:00 PM	Variable	Not recommended at this time
10	Car-Free French Quarter	Close Interior of French Quarter to all autos, except for emergencies	At least for Mardi Gras, possibly for other times	All Times	Yes	Not feasible at this time

Table 16 Bourbon St Closure Options Preliminary Recommendations

#	Option Name	Option Description	Additional Notes	Preliminary Recommendations
100	Local Access Only	Reserves street capacity for trips with origin or destination within the Quarter. Prohibits cruising, circling for rideshare, through tour buses.	Four quadrants provide circulating access to all destinations, with no through outlets.	Not Recommended at this time.
200	Speed Studies and Mitigation	Conduct traffic study of all corridors with multiple blocks allowing free-flow travel		
300	Parking Stall Regulatory Reallocation	On-street stalls reallocated in order to provide greater efficiency and access.		For Consideration
400	Convergent Iberville and Dauphine Egress	Numerous garages and other uses require high level of access on Iberville. Iberville reverses to Dauphine. Dauphine used as egress, with two lanes onto Canal St.		Not recommended at this time
500	Management of Evening Garbage Collection	Currently, Bourbon St businesses benefit from a second haul at 5 PM. It is recommended that these be discontinued, and offset with waste reduction strategies, or the trash-bin corrals on side streets be used as they are during the Bourbon St reconstruction.		For Consideration
600	Termini of Bourbon St Closure	Upriver options include closure at Canal or North of Iberville crossing.		Not recommended at this time
700	Intersection Safety Treatments	To reduce risk of vehicle-pedestrian crashes, pavement markings, lighting and signage can be employed. It is recommended that a design approval process be used to come to agreement.		Recommended – for further study
800	Bourbon St Weekend Closure Time	On weekends, there are often more visitors. So closures times can be earlier on weekends.		For Consideration

6. Traffic

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Introduction

This Bourbon St Closure Traffic Study is to analyze the scenario of Bourbon St closure in the French Quarter of New Orleans' Downtown Area.

The purpose of this report is to provide traffic analyses for the study corridors and intersections located within the study limits. The analyses include evaluation of daily traffic volumes for study corridors and analysis of AM and Mid-Day peak hour traffic volumes for the study intersections. This study compares the existing condition to the proposed analysis scenario, in which a section of Bourbon St is to be closed and traffic is redirected to utilize other corridors.

This report includes the documentation of existing volumes, methodology of traffic analysis, and the results of traffic analysis. The corridor Level-of-Service (LOS) is based on the Highway Capacity Manual (HCM) 2010 methodology. The study intersections are modeled using Synchro (ver. 9.1) – a traffic analysis software program to evaluate traffic operations. The measures of effectiveness for this analysis are vehicle delay, LOS, and queue lengths.

The scenarios analyzed in this document are referred to as 'existing conditions' and 'redirected,' generally. Existing conditions sets a baseline of how traffic is operating at present. The redirected scenario conceptualizes how traffic that would normally travel down Bourbon St would redistribute among the rest of the street grid in the study area. The conclusions drawn from the redirected analysis condition can be applied to scenarios 2 through 6 detailed in the previous chapter. Conceptual analysis of more extensive closures of the French Quarter to traffic would require a much more intensive level of data collection reflecting a multi-year study including outreach and land use planning that is not part of the scope of this project.

Study Area

The study boundary is within the downtown area and bounded by four major streets – Canal St, Rampart St, N. Peters St/Decatur St, and Esplanade Avenue. Local streets within the boundary streets, including Bourbon St, are one-way, one-lane streets, forming a grid-like street network.

Canal St is a 6-lane divided roadway, generally running in the lakebound and riverbound direction. Rampart St is a 4-lane divided roadway running in the upriver-downriver direction. The N. Peters St/Decatur St corridor runs in the upriver-downriver direction and has three lanes between Canal St and Toulouse St and two lanes between Toulouse St and Dumaine St.

This study includes the existing and proposed redirected daily traffic operational analyses for the following corridors:

- Canal St
- Rampart St
- N. Peters St
- Downriver bound one-way Streets: Burgundy St, Bourbon St, Chartres St,
- Upriver bound one-way Streets: Royal St

- Riverbound one-way Streets: Iberville St, Conti St, Toulouse St, St. Ann St
- Lakebound one-way Streets: Bienville St, St. Louis St, St. Peters St, Orleans St, Dumaine St, and St. Philip St

The intersection operational analyses for the AM and Mid-Day peak hours for the existing scenario and proposed redirected scenario are performed for the following six signalized intersections and 16 unsignalized intersections:

<u>Signalized Intersections</u>

- Canal St at: Burgundy St, Bourbon St, Chartres St, and N. Peters St
- N. Peters St at: Bienville St and Toulouse St

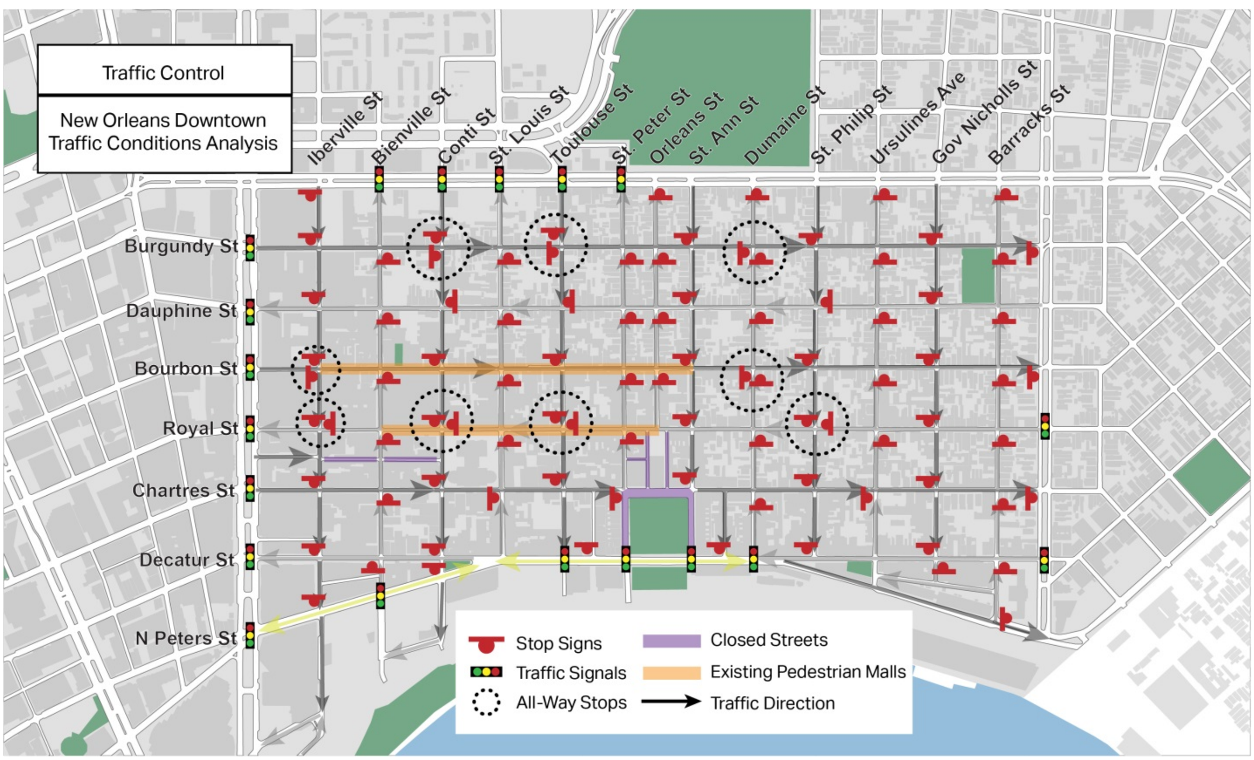
<u>Unsignalized Intersections</u>

- Burgundy St at: Iberville St, Conti St, Toulouse St, and St. Ann St
- Bourbon St at: Iberville St, Bienville St, Conti St, St. Louis St,

Toulouse St, St. Peter St, St. Ann St, and Dumaine St

- Chartres St at: Bienville St, St. Louis St, St. Peter St, and Dumaine St

Figure 1 Study Area and Intersection Control



Data Collection

Traffic Data

The average daily traffic (ADT) volumes in the study area is available for the following five corridors from the Regional Planning Commission website:

- Decatur St from St. Philip St to Dumaine St
- Esplanade Avenue at N. Peters St
- Dauphine St at St. Louis St
- Canal St from Chartres St to Royal St
- Rampart St at Conti St

Thirty-minute turning movement counts for the AM peak hour, Mid-Day peak hour, and PM peak hour were collected for this study at the 10 intersections along Bourbon St from Iberville St to St. Philip St on Thursday, February 16, 2017. The data includes turning movement volumes along the cross streets and only approach volumes along Bourbon St.

Turning movement counts were collected for this study in Spring 2016 during 7:00 am - 9:00 am and 4:00 pm- 6:00 pm for the 6 intersections listed below. Volumes are available for each turning movement from Canal St, N Peters St, and Decatur St, but are not available for the approaches of the cross streets. Based on observing the traffic volumes and flow patterns, counts for 8-9 AM are used as the AM peak hour volumes, and counts for 4-5 PM are used as the Mid-Day peak hour volumes for these intersections.

- Canal St at: Carondelet St/Bourbon St, Baronne St/Dauphine St, Tchoupitoulas St/N Peters St, and Camp St/Chartres St
- N Peters St at : Bienville St
- Decatur St at: Toulouse St

The raw traffic count data are provided in **Appendix B**.

Signal Timing Data

The signal timing plans for the signalized study intersections were provided by the City of New Orleans. The signal phasing and timing were coded into Synchro. The signal timing data are provided in **Appendix C**.

Traffic Volumes

Existing Volumes

Existing Average Daily Traffic (ADT) Volumes for the Study Corridors

For N Rampart St, the ADT is based on data from the Regional Planning Commission.

For the remaining study corridor segments, an estimated ADT was calculated from either 30-minute or 1-hour approach volumes and a k-factor of 10%. Thirty-minute turning movement volumes were doubled to represent a one-hour period. The highest peak hour (AM, Mid-Day, or PM) volume was divided by 10% to derive the estimated ADT. When a segment included multiple intersection approaches, an average number was used to represent the ADT for that segment.

Traffic volumes for Burgundy St, Chartres St, Royal St are not available. Therefore, engineering judgment and local knowledge was used to assume volumes for these corridor segments. The estimated ADT for Bourbon St is calculated based on the traffic volumes for the nearest two blocks to Canal St. The 2,000 vehicles per day figure used in this analysis is higher than the result of the previously described calculation. This figure was used in an effort to create a prudent traffic analysis that accounts for future growth.

For Burgundy St segments, the ADT is assumed to be twice (4,000 vehicles per day (vpd)) of that for Bourbon St (2,000 vpd). For Chartres St, the ADT is assumed to be 2,500 vpd (500 vpd more than Bourbon St). The ADT for the Royal St segment from Dumaine St to Orleans St is assumed to be the same as that for Bourbon St because it is currently closed during mid-day.

The ADT volumes for the study corridor segments are shown in **Figure 2**.

Existing Turning Movement Volumes for the Study Intersections

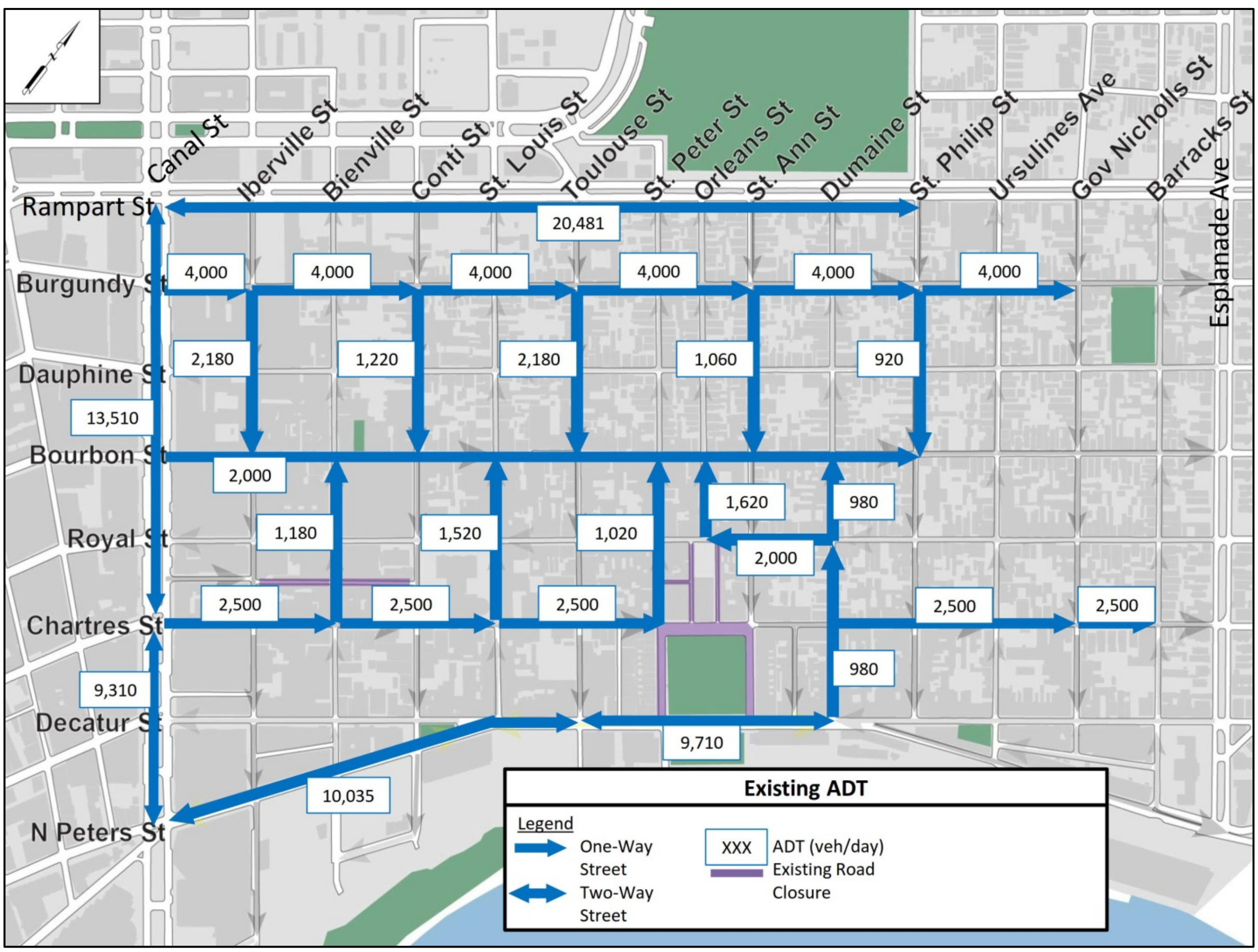
The existing turning movement count data is limited; therefore, for the purpose of this study, engineering judgment and standard traffic engineering practices are utilized to determine existing turning movement volumes at study intersections. The assumptions are listed below:

- Along Canal St, existing traffic counts are available for Dauphine St, Bourbon St, Chartres St, and N. Peters St intersections. Since the volumes for the approaches on the eastbound approach volumes are not available, they are inferred based on the volumes for nearby streets or balancing in the street network.

- Along Bourbon St, the eastbound approach volumes are available but not the turning movement volumes. Eastbound turning volumes are inferred based on balancing from the downstream approach volume and the cross street turning movements.
- Traffic counts are not available for Chartres St. For the intersections along Chartres St, the turning movement volumes for the cross streets are inferred to match the turning movement volumes for the cross streets along Bourbon St. For the Chartres St eastbound approaches, the approach volumes are assumed to be the same as the eastbound approach volumes for Bourbon St. The turning movement percentages are assumed to be the same of the those of turning movements on the cross street approaches at Bourbon St.
- For intersections along Burgundy St, the same method as Chartres St was utilized to derive the volumes for the turning movements. However, due to the assumed higher ADT (twice of that for Bourbon St), the inferred volumes were multiplied by two to derive the volumes for the turning movements.

The existing turning movement volumes are provided in the Synchro analysis outputs in **Appendix D**.

Figure 2 Existing ADT



Trip Redistribution

The traffic redistribution in this study focuses on the impact of the proposed Bourbon St closure on the streets within the French Quarter. For the purpose of this study, alternative routes were simplified to Burgundy St, Chartres St, N. Peters St, and the north-south cross streets to access the activities in areas near Bourbon street based on engineering judgment. In reality, drivers may choose to use other routes, such as Rampart St.

Due to the proposed roadway closure on Bourbon St, it is assumed that a total of 1,000 vehicles per day entering from the north side of the study area through Canal St, and a total of 1,000 vehicles per day entering from the south side would be redirected to travel on other corridors. In the existing conditions, drivers of these vehicles would make northbound right turn and eastbound through movements at the Canal St/Bourbon St intersection. However, due to the proposed Bourbon St closure, they are redistributed to Burgundy St, Chartres St, N. Peters St, Iberville St, Conti St, Toulouse St, St. Ann St, Bienville St, St. Louis St, St. Peter St, Dumaine St, and short segments of Orleans St and Royal St to access blocks just north and south of Bourbon St.

Figures 3 and 4 show the redirected ADT traffic volumes and percentages of ADT, respectively.

In the AM and Mid-Day conditions, it is assumed that the percentage of the redirected traffic volumes remain the same as the daily condition. However, the total numbers redirected, instead of 2,000 vpd, are the sum of the traffic entering Bourbon St in the AM peak hour (140 vph) and Mid-Day peak hour (138 vph).

Figures 5 and 6 show the redirected turning movement volumes in the AM and Mid-Day peak hours.

Figure 3 Redirected ADT Volumes

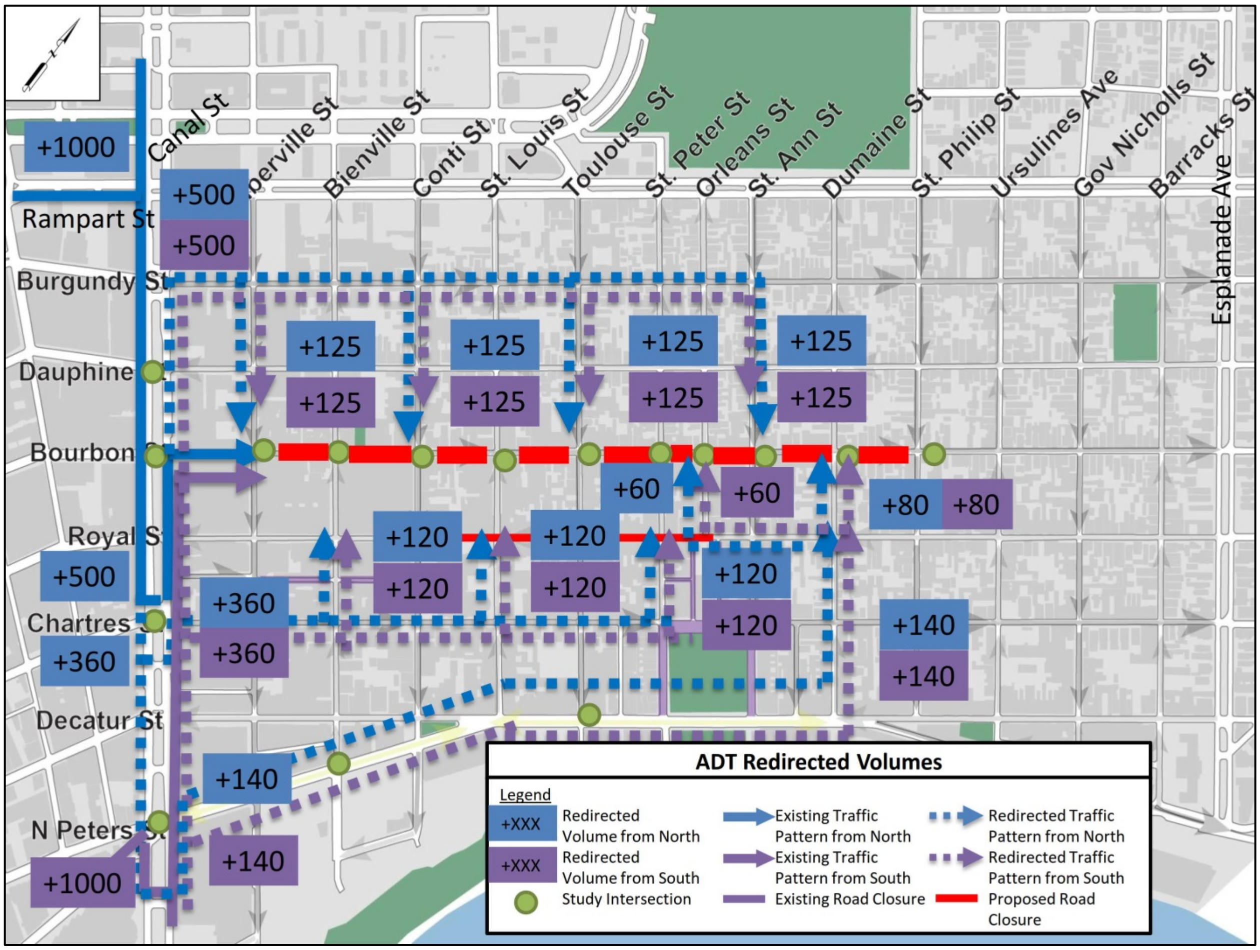


Figure 4 Redirected Percentages

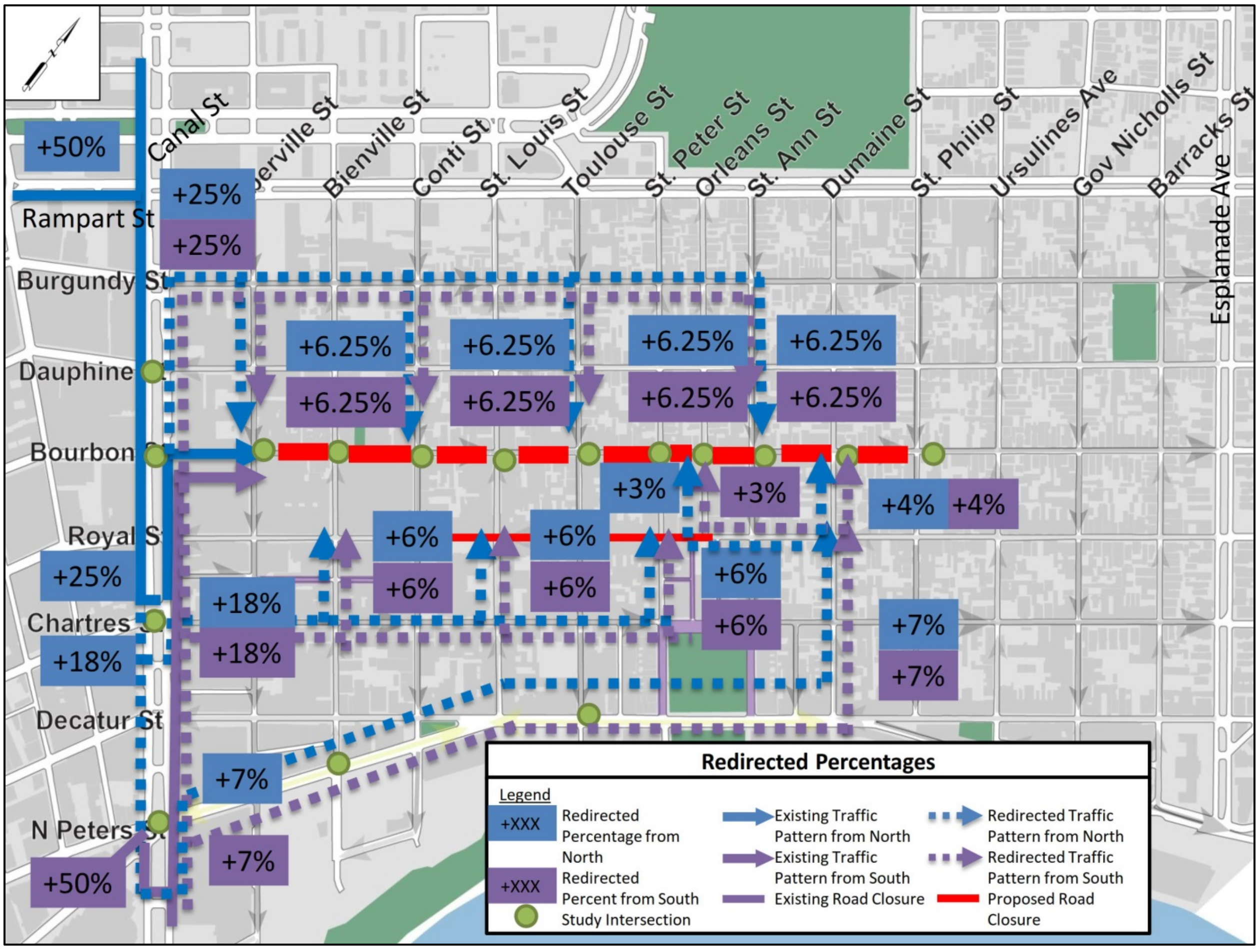


Figure 5 Redirected AM Peak Hour Volumes

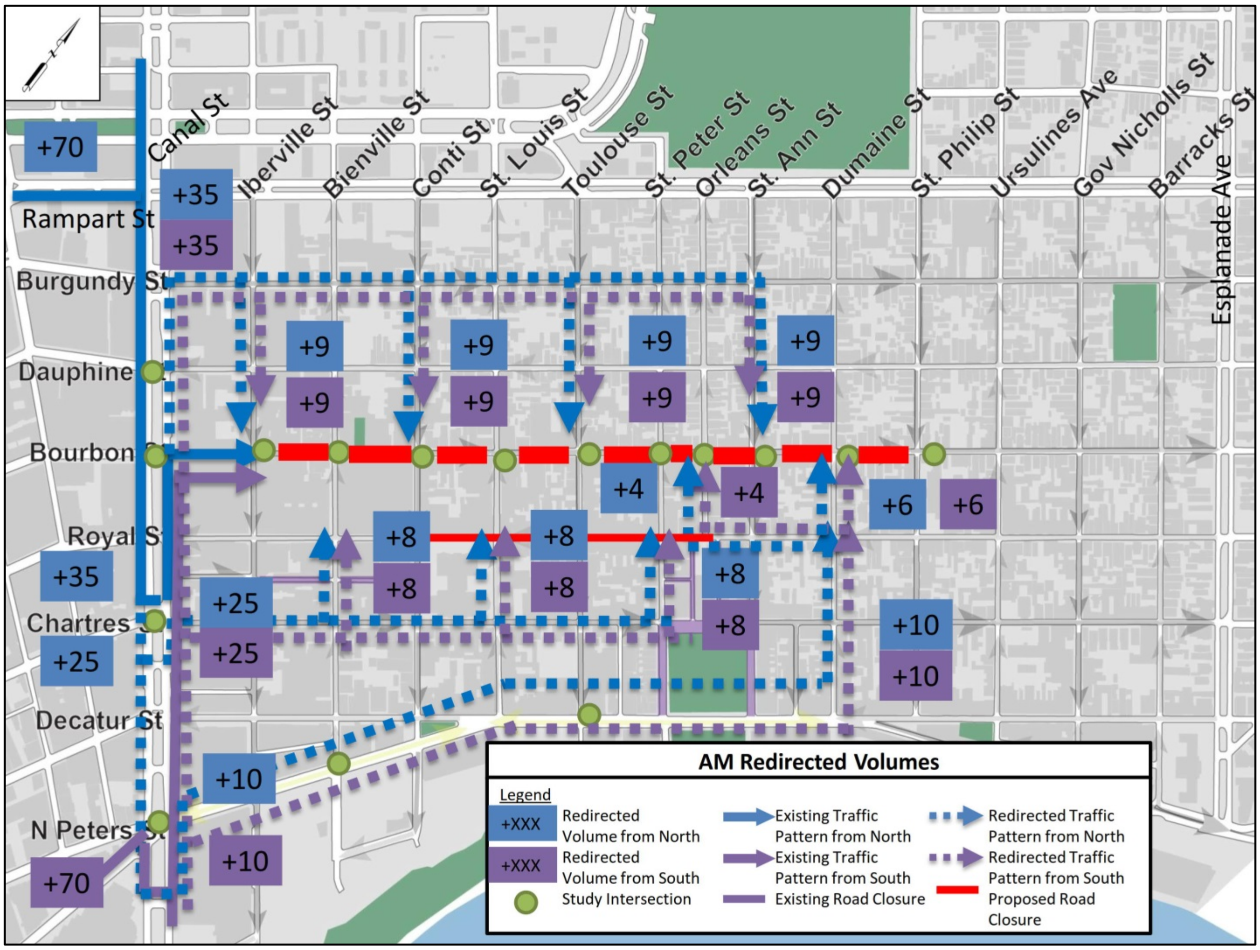
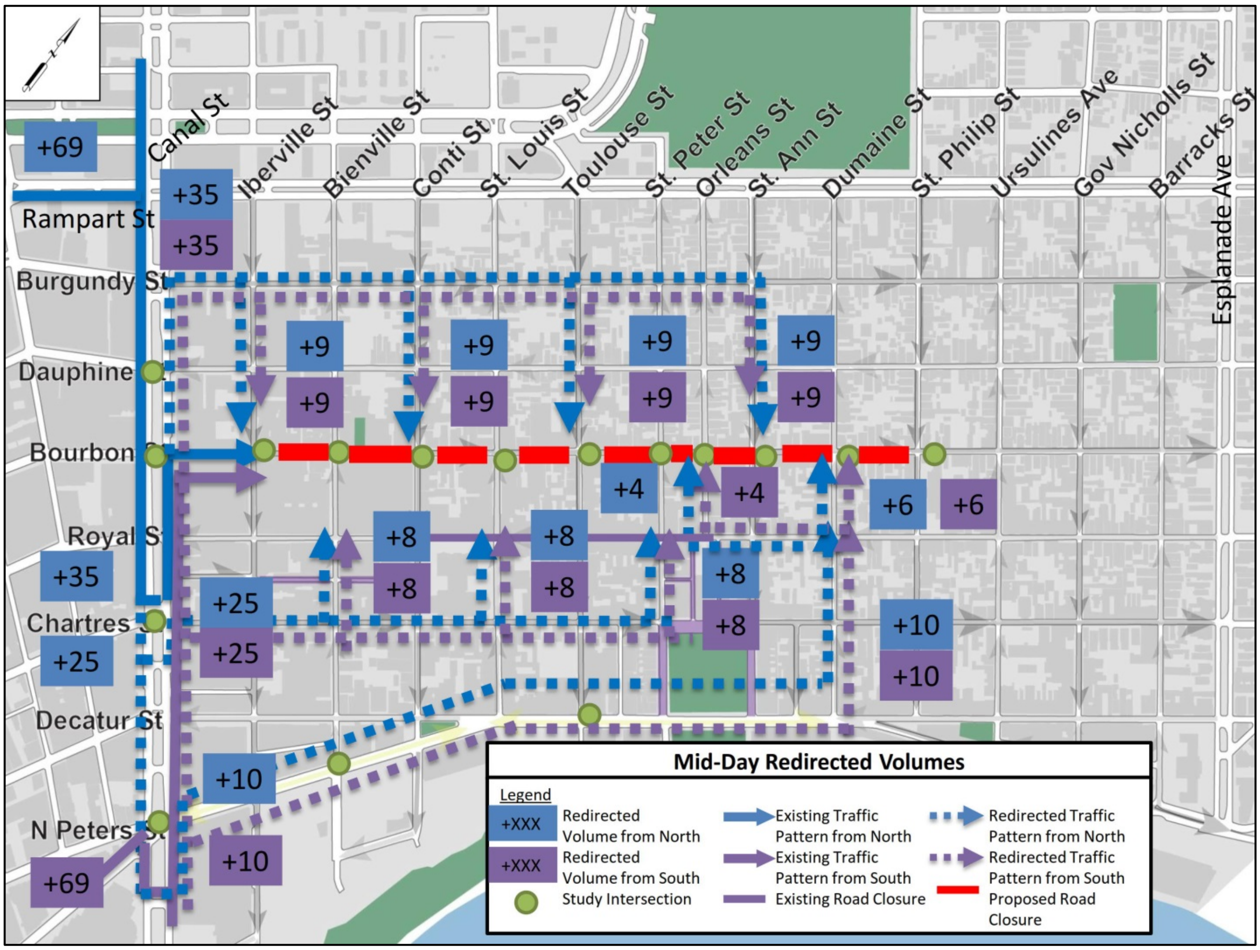


Figure 6 Redirected Mid-Day Peak Hour Volumes



Traffic Analysis Methodology

Different Measures of Effectiveness (MOEs) were evaluated including corridor and intersection delay and Level of Service (LOS), volume to capacity ratios, and 95th percentile queue lengths. Based on delay or density values, a "grade" or LOS ranging from LOS A to LOS F(best to worst) are assigned.

Corridor Analysis Methodology

The corridor-level performance for the study corridors was analyzed by comparing ADT to the capacity, measured in vehicles per day (vpd). The capacity and LOS are based on Exhibit 16-14 Generalized Daily Service Volumes for Urban Street Facilities in the HCM 2010. The D factor of 55% and K factor of 10% were assumed to look up for the capacity. The capacity limits associated with different LOS and number of lanes are presented in **Table 1**.

Table 1 Arterial Level-of-Service (LOS) Criteria

Level of Service	1-LANE* (vpd)	2-LANE (vpd)	3-LANE (vpd)	4-LANE (vpd)	6-LANE (vpd)
A-C	2,650	5,300	7,700	10,100	14,700
D	6,900	13,800	21,000	28,200	41,800
E	8,950	17,900	26,000	34,100	48,900

* One-lane capacity is calculated from halving the 2-lane capacity

Source: Highway Capacity Manual (HCM) 2010

Volume to Capacity (V/C) ratio is also calculated for study corridor segments to see how close the traffic volume is to the capacity.

Stop Controlled Intersections

The capacity analysis procedures for stop-sign controlled approaches for unsignalized intersections are characterized by the approach delay. The delay based on the HCM 2010 methodology was obtained from Synchro outputs. Defined by the Transportation Research Board, the thresholds of LOS associated with average control delay for unsignalized intersections are shown as follows in **Table 2**. For all-way stop control intersections, the weighted average control delay of the overall intersection was reported.

Table 2 Stop-Controlled Intersection Level-of-Service (LOS) Criteria

Level of Service	Average Control Delay (sec/veh)
A	≤ 10.0
B	10.0 to 15.0
C	15.0 to 25.0
D	25.0 to 35.0
E	**35.0 to 50.0**
F	**> 50.0**

Source: Highway Capacity Manual 2010

Signalized Intersections

The capacity analysis procedures for signalized intersections are characterized by the average control delay. The delay for the signalized study intersections was obtained from Synchro outputs, based on the Synchro methodology. The thresholds of LOS associated with average control delay for signalized intersections are shown in **Table 3**.

Table 3 Signalized Intersection Level-of-Service (LOS) Criteria

Level of Service	Signalized Intersection Average Control Delay (sec/veh)
A	≤ 10.0
B	10.0 to 20.0
C	20.0 to 35.0
D	35.0 to 55.0
E	**55.0 to 80.0**
F	**> 80.0**

Source: Highway Capacity Manual 2010

Traffic Operational Analysis Results

Corridor Analysis

Existing Corridor Analysis

The existing ADT and the capacity for the study corridor segments are presented in **Table 4**. The planning level operational condition shows that most of the study corridors operate at LOS C or better. Burgundy St, N. Peters St, and Rampart St operate at LOS D. All of the volumes for the study corridor segments in the existing condition are less than capacity.

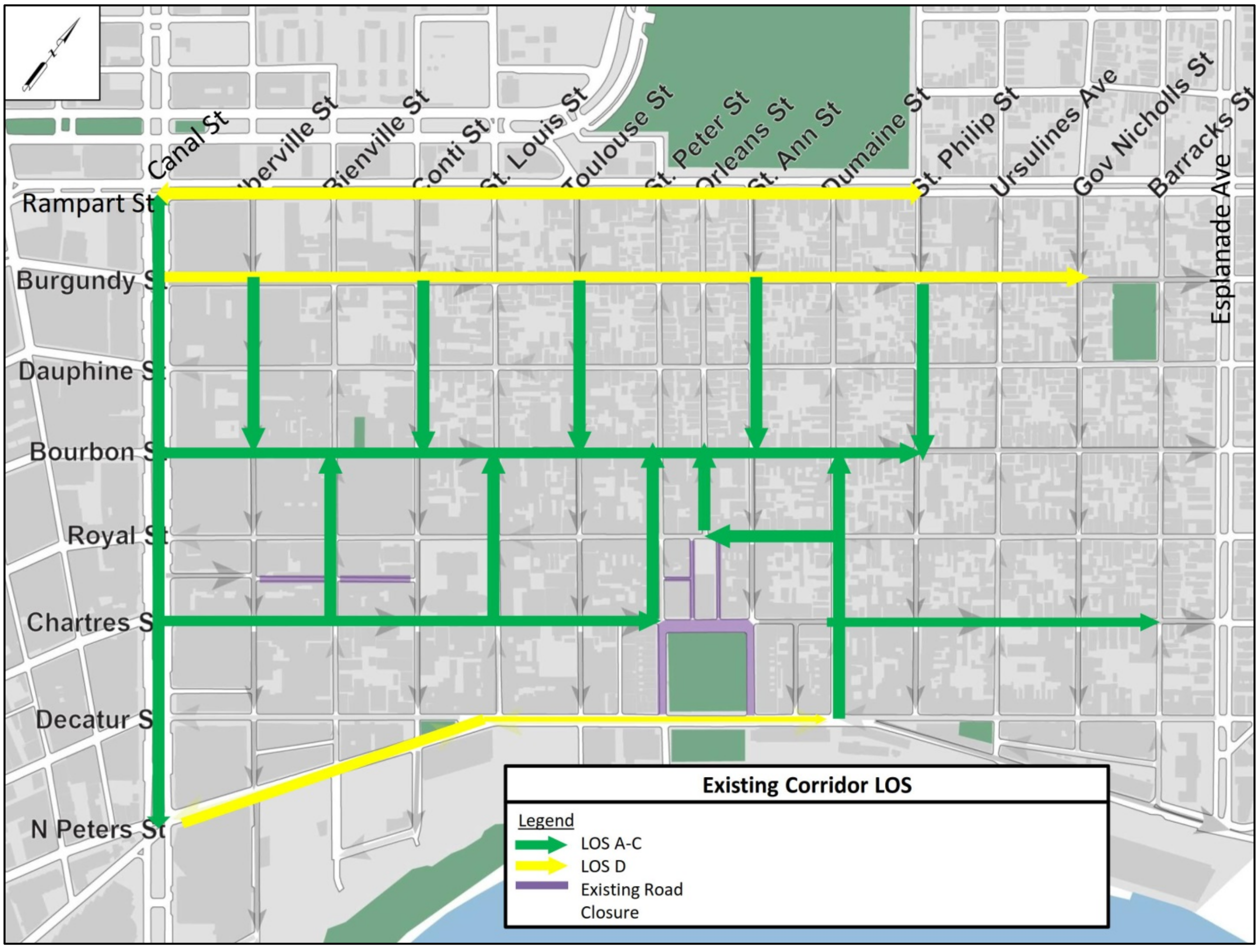
Figure 7 shows the LOS for the study corridor segments graphically.

Table 4 Existing Corridor LOS Results

Corridor	From	To	No. of Lanes	ADT (vpd)	Capacity (vpd)	V/C	LOS
Canal*	Rampart	Chartres	6	13,510	48,900	0.28	A-C
	Chartres	N. Peters	6	9,310	48,900	0.19	A-C
Burgundy	Canal	Iberville	1	4,000	8,950	0.45	D
	Iberville	Conti	1	4,000	8,950	0.45	D
	Conti	Toulouse	1	4,000	8,950	0.45	D
	Toulouse	St. Ann	1	4,000	8,950	0.45	D
	St. Ann	St. Phillip	1	4,000	8,950	0.45	D
	St. Phillip	Gov Nicholls	1	4,000	8,950	0.45	D
Chartres	Canal	Bienville	1	2,500	8,950	0.28	A-C
	Bienville	St. Louis	1	2,500	8,950	0.28	A-C
	St. Louis	St. Peter	1	2,500	8,950	0.28	A-C
	Dumaine	Gov Nicholls	1	2,500	8,950	0.28	A-C
	Gov Nicholls	Barracks	1	2,500	8,950	0.28	A-C
N. Peters	Canal	Toulouse	3	10,035	26,000	0.39	D
	Toulouse	Dumaine	2	9,710	17,900	0.54	D
Iberville	Burgundy	Bourbon	1	2,180	8,950	0.24	A-C
Conti	Burgundy	Bourbon	1	1,220	8,950	0.14	A-C
Toulouse	Burgundy	Bourbon	1	2,180	8,950	0.24	A-C
St. Ann	Burgundy	Bourbon	1	1,060	8,950	0.12	A-C
Bienville	Chartres	Bourbon	1	1,180	8,950	0.13	A-C
St. Louis	Chartres	Bourbon	1	1,520	8,950	0.17	A-C
St. Peter	Chartres	Bourbon	1	1,020	8,950	0.11	A-C
Dumaine	Decatur	Royal	1	980	8,950	0.11	A-C
	Royal	Bourbon	1	980	8,950	0.11	A-C
Orleans	Royal	Bourbon	1	1,620	8,950	0.18	A-C
St. Philip	Burgundy	Bourbon	1	920	8,950	0.10	A-C
Royal	Dumaine	Orleans	1	2,000	8,950	0.22	A-C
Rampart	Canal	St. Phillip	4	20,481	34,100	0.60	D
Bourbon	Canal	St. Phillip	1	2,000	8,950	0.22	A-C

*In the case of Canal St LOS and v/c ratio belie the actual experience of using the roadway. Traffic on Canal St is often impeded by curb use from hotels and shops and frequently turning vehicles making the experience of using Canal St much different than these metrics would imply.

Figure 7 Existing Corridor LOS



Redirected Corridor Analysis

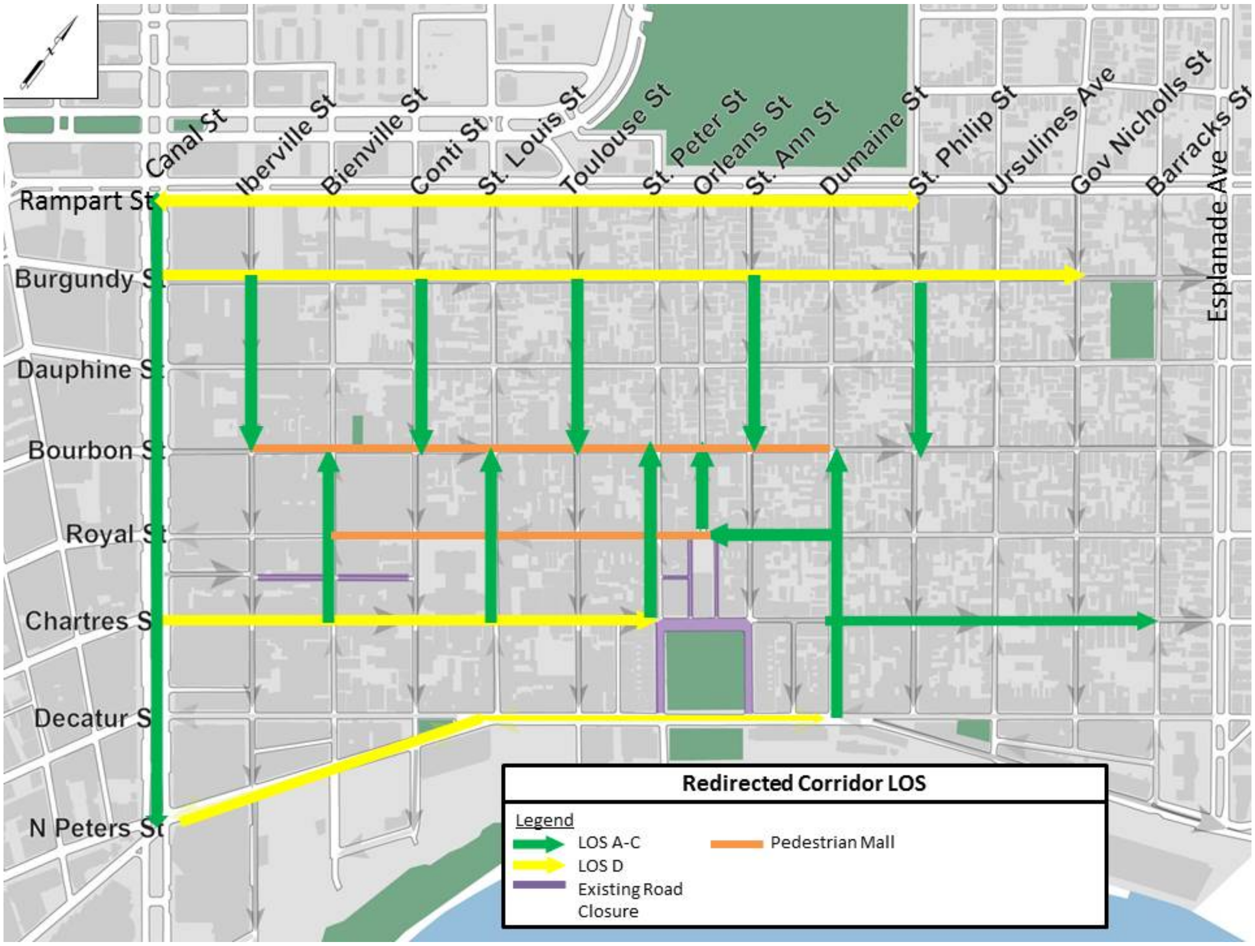
The ADT volumes in the redirected condition and the LOS are shown **Table 5**. The planning level operational condition shows that most of the study corridors still operate at LOS C or better. Burgundy St, N. Peters St, and Rampart St still operate at LOS D; however, the operational condition for the segments of Chartres St from Canal St to St. Peter St changes from LOS C to LOS D. None of volumes for the study corridor segments are close to capacity.

Figure 8 shows the LOS for the study corridor segments graphically.

Table 5 Redirected Corridor Analysis

Corridor	From	To	No. of Lanes	Adjusted ADT	Capacity	V/C	LOS
Canal	Rampart	Chartres	6	13,010	48,900	0.27	A-C
	Chartres	N. Peters	6	9,310	48,900	0.19	A-C
Burgundy	Canal	Iberville	1	5,000	8,950	0.56	D
	Iberville	Conti	1	4,750	8,950	0.53	D
	Conti	Toulouse	1	4,500	8,950	0.50	D
	Toulouse	St. Ann	1	4,250	8,950	0.47	D
	St. Ann	St. Phillip	1	4,000	8,950	0.45	D
	St. Phillip	Gov Nicholls	1	4,000	8,950	0.45	D
Chartres	Canal	Bienville	1	3,220	8,950	0.36	D
	Bienville	St. Louis	1	2,980	8,950	0.33	D
	St. Louis	St. Peter	1	2,740	8,950	0.31	D
	Dumaine	Gov Nicholls	1	2,500	8,950	0.28	A-C
	Gov Nicholls	Barracks	1	2,500	8,950	0.28	A-C
N. Peters	Canal	Toulouse	3	10,315	26,000	0.40	D
	Toulouse	Dumaine	2	9,990	17,900	0.56	D
Iberville	Burgundy	Bourbon	1	2,430	8,950	0.27	A-C
Conti	Burgundy	Bourbon	1	1,470	8,950	0.16	A-C
Toulouse	Burgundy	Bourbon	1	2,430	8,950	0.27	A-C
St. Ann	Burgundy	Bourbon	1	1,310	8,950	0.15	A-C
Bienville	Chartres	Bourbon	1	1,420	8,950	0.16	A-C
St. Louis	Chartres	Bourbon	1	1,760	8,950	0.20	A-C
St. Peters	Chartres	Bourbon	1	1,260	8,950	0.14	A-C
Dumaine	Decatur	Royal	1	1,260	8,950	0.14	A-C
	Royal	Bourbon	1	1,140	8,950	0.13	A-C
Orleans	Royal	Bourbon	1	1,740	8,950	0.19	A-C
St. Philip	Burgundy	Bourbon	1	920	8,950	0.10	A-C
Royal	Dumaine	Orleans	1	2,120	8,950	0.24	A-C
Rampart	Canal	St. Phillip	4	20,481	34,100	0.60	D
Bourbon	Canal	St. Phillip	1	0	8,950	0.00	N/A

Figure 8 Redirected Corridor LOS



Intersection Operational Analysis

Intersection LOS

The operational analysis results for the AM peak hour existing and redirected conditions are shown in **Table 6** and **Figures 9 and 10**. In the existing condition, all of the study intersections operate at LOS C or better. In the redirected scenario, almost every intersection still operates at LOS C or better. The intersection of Burgundy St and Iberville St changes from LOS C to LOS D, which is acceptable.

The Synchro output files are included in **Appendix D**.

Table 6 AM Existing and Redirected Intersection Operational Analysis

Corridor	Cross Street	Control Type	AM Existing		AM Redirected	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Canal	Burgundy	Signalized	20.5	C	20.1	C
	Bourbon		11.4	B	10.4	B
	Chartres		25.3	C	25.1	C
	N. Peters		26.9	C	25.1	C
Burgundy	Iberville	Unsignalized	23.1	C	29.1	D
	Conti		17.7	C	19	C
	Toulouse		17.8	C	18.4	C
	St. Ann		17.4	C	17.7	C
Bourbon	Iberville	Unsignalized	8.4	A	-	-
	Bienville		9.9	A	-	-
	Conti		12.6	B	-	-
	St. Louis		9.8	A	-	-
	Toulouse		12.2	B	-	-
	St. Peter		9.7	A	-	-
	St. Ann		10.6	B	-	-
	Dumaine		7.4	A	-	-
Chartres	Bienville	Unsignalized	9.7	A	10	B
	St. Louis		11.0	B	11.4	B
	St. Peter		9.2	A	9.3	A
	Dumaine		9.5	A	9	A
N. Peters	Bienville	Signalized	15.8	B	15.8	B
	Toulouse		14.1	B	12.9	B

Figure 9 Existing AM Intersection LOS

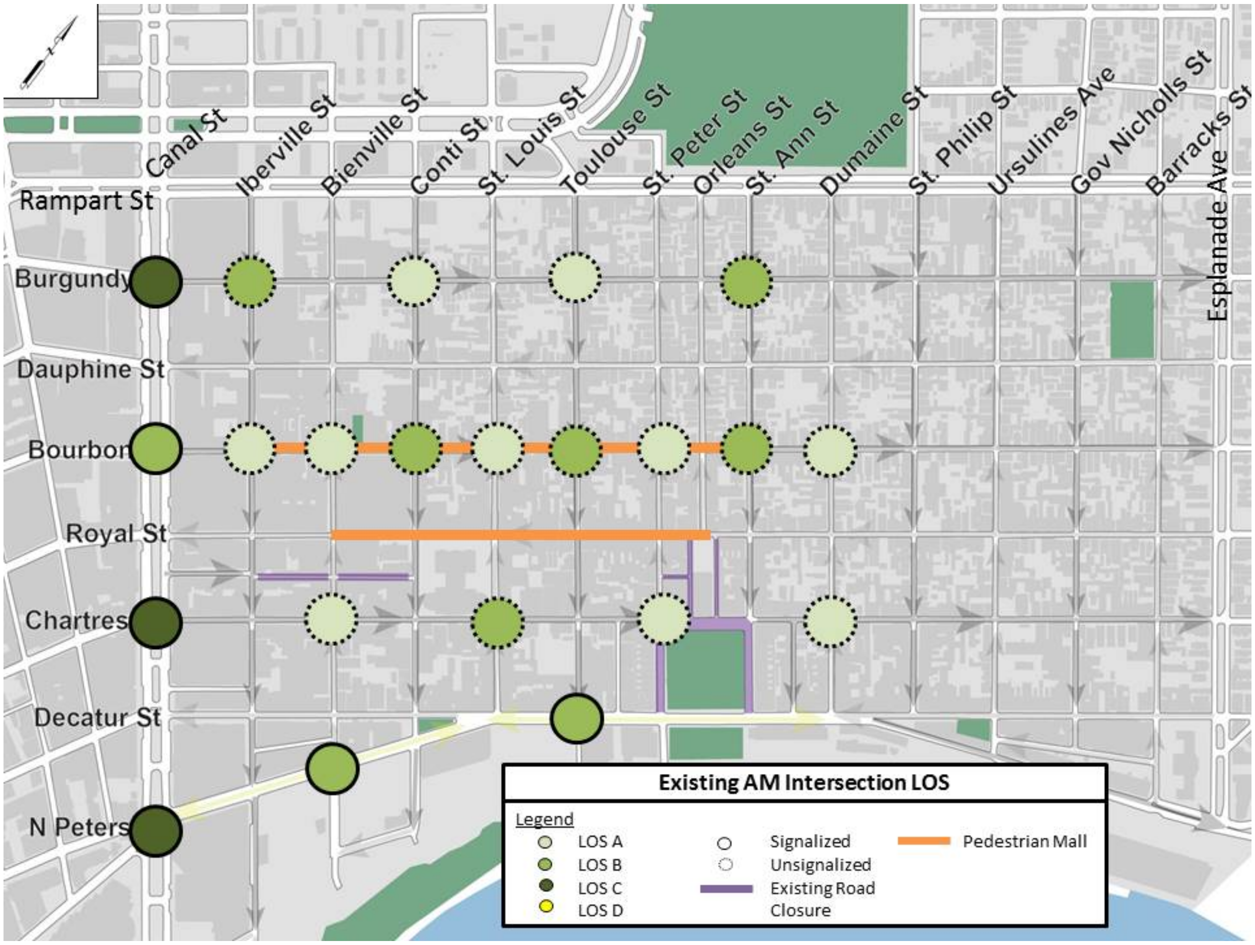
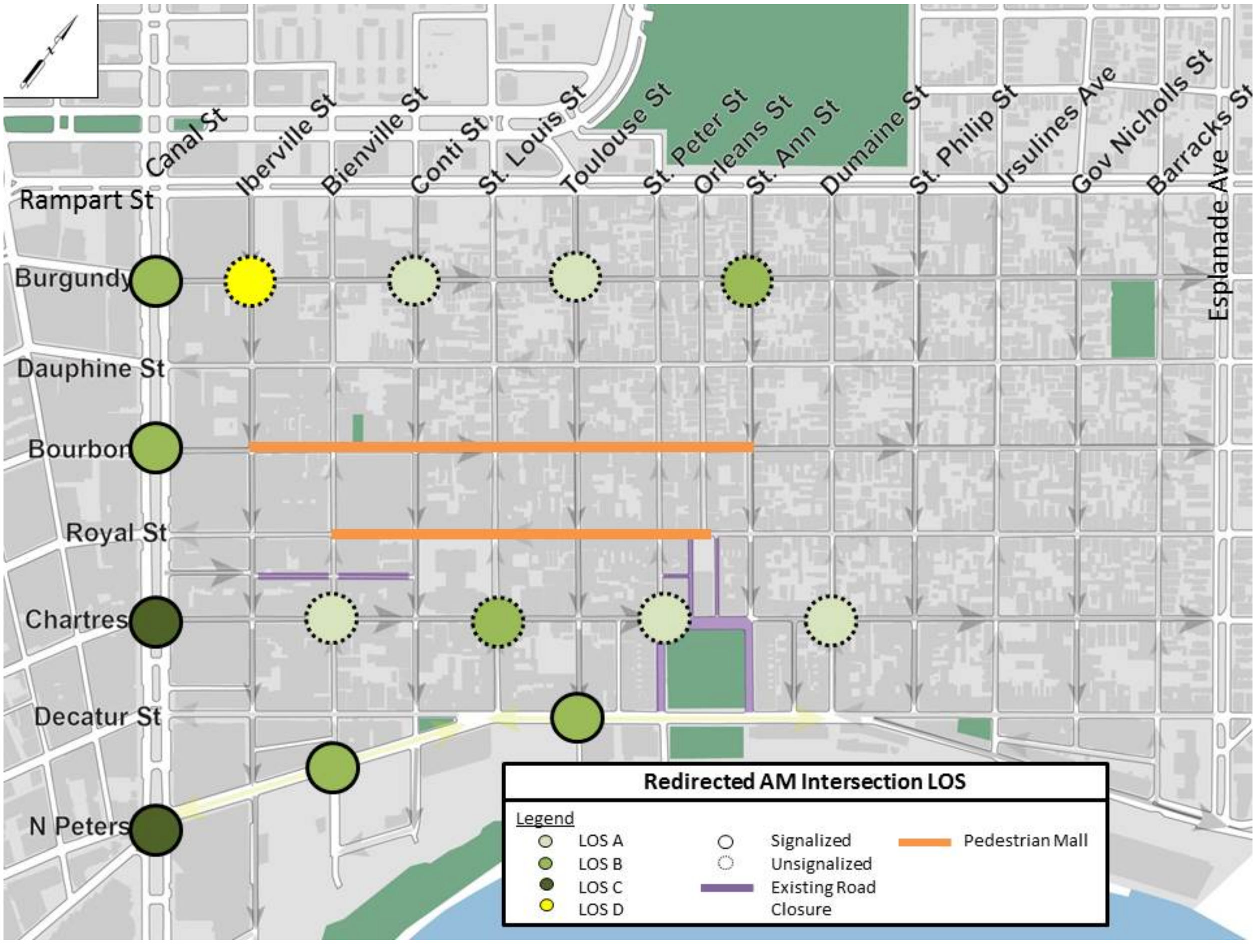


Figure 10 Redirected AM Intersection LOS



Queue Length

The HCM 95th percentile queue length for stop-controlled approaches is reported from the Synchro outputs. The output unit, number of vehicles; is multiplied by 25 feet, approximate length of a vehicle, to derive queue length.

In both the AM existing and redirected conditions, three approaches – Iberville St, Conti St, and Toulouse St southbound approaches at Burgundy St show queue length over 100 feet. The length of a block on these approaches is approximately 350 feet. In the AM peak hour, the highest queue length is 188 feet in length, which is just slightly over half of the block length. It indicates that even in the redirected condition, the queue is still at an acceptable level.

Table 7 shows the queue lengths for the stop controlled approaches.

Table 7 AM Peak Hour Existing and Redirected Queue Length

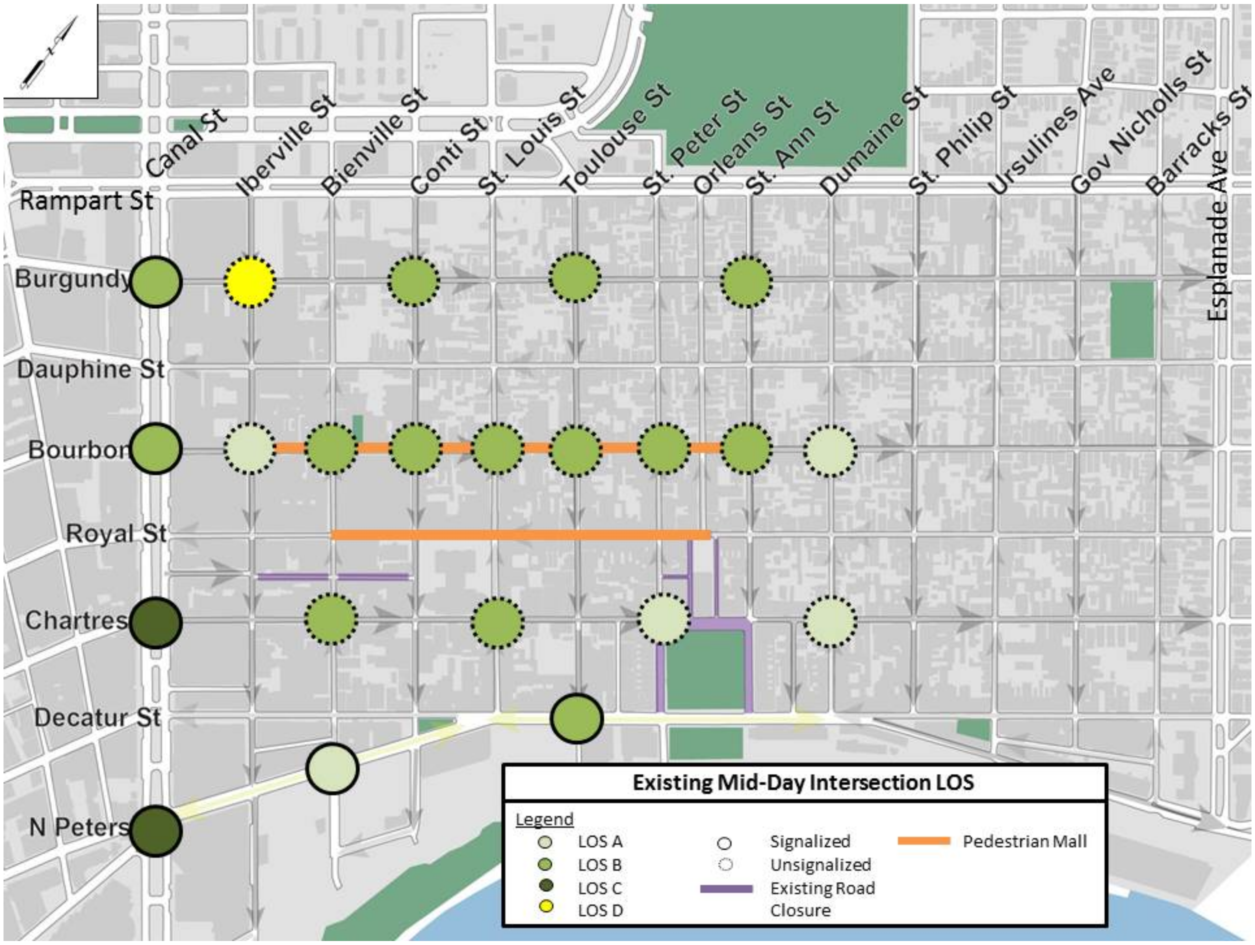
Corridor	Cross Street	AM Existing			AM Redirected		
		EB Approach (ft)	NB Approach (ft)	SB Approach (ft)	EB Approach (ft)	NB Approach (ft)	SB Approach (ft)
Burgundy	Iberville	-	-	140	-	-	173
	Conti	63	-	163	85	-	175
	Toulouse	25	-	178	33	-	188
	St. Ann	-	-	48	-	-	50
Bourbon	Iberville	15	-	25	-	-	-
	Bienville	-	13	-	-	-	-
	Conti	-	-	43	-	-	-
	St. Louis	-	13	-	-	-	-
	Toulouse	-	-	45	-	-	-
	St. Peter	-	8	-	-	-	-
	St. Ann	-	-	13	-	-	-
	Dumaine	8	8	-	-	-	-
Chartres	Bienville	-	13	-	-	13	-
	St. Louis	23	-	-	28	-	-
	St. Peter	3	-	-	5	-	-
	Dumaine	-	8	-	-	10	-

The operational analysis results for the Mid-Day peak hour existing and redirected conditions are shown in **Table 8** and **Figures 11 and 12**. In the existing condition, all of the study intersections operate at LOS C or better except the intersection of Burgundy St and Iberville St, which operate at LOS D.

Table 8 : Mid-Day Existing and Redirected Intersection Operational Analysis

Corridor	Cross Street	Control Type	AM Existing		PM Redirected	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Canal	Burgundy	Signalized	16.2	B	15.4	B
	Bourbon		18.9	B	18.4	B
	Chartres		32.5	C	32	C
	N. Peters		26.3	C	26.3	C
Burgundy	Iberville	Unsignalized	25.2	D	32.4	D
	Conti		10.1	B	10.8	B
	Toulouse		13.7	B	14	B
	St. Ann		13.9	B	14.1	B
Bourbon	Iberville	Unsignalized	8.9	A	-	-
	Bienville		10.6	B	-	-
	Conti		10.8	B	-	-
	St. Louis		10.3	B	-	-
	Toulouse		11.8	B	-	-
	St. Peter		10.1	B	-	-
	St. Ann		10.8	B	-	-
	Dumaine		8.0	A	-	-
Chartres	Bienville	Unsignalized	11.3	B	11.8	B
	St. Louis		11.0	B	11.4	B
	St. Peter		9.2	A	9.3	A
	Dumaine		9.4	A	9.5	A
N. Peters	Bienville	Signalized	9.0	A	9.1	A
	Toulouse		11.9	B	12.2	B

Figure 11 Existing Mid-Day Intersection LOS



In both the Mid-Day existing and redirected conditions, two approaches – Iberville St and Toulouse St southbound approaches at Burgundy St show queue length over 100 feet. In the Mid-Day, the highest queue length is 203 feet long. Similar to the AM conditions, the 95th percentile queue length is still at an acceptable level within the length of the block.

Table 9 shows the 95th percentile queue lengths for the stop controlled approaches.

Figure 12 Redirected Intersection LOS

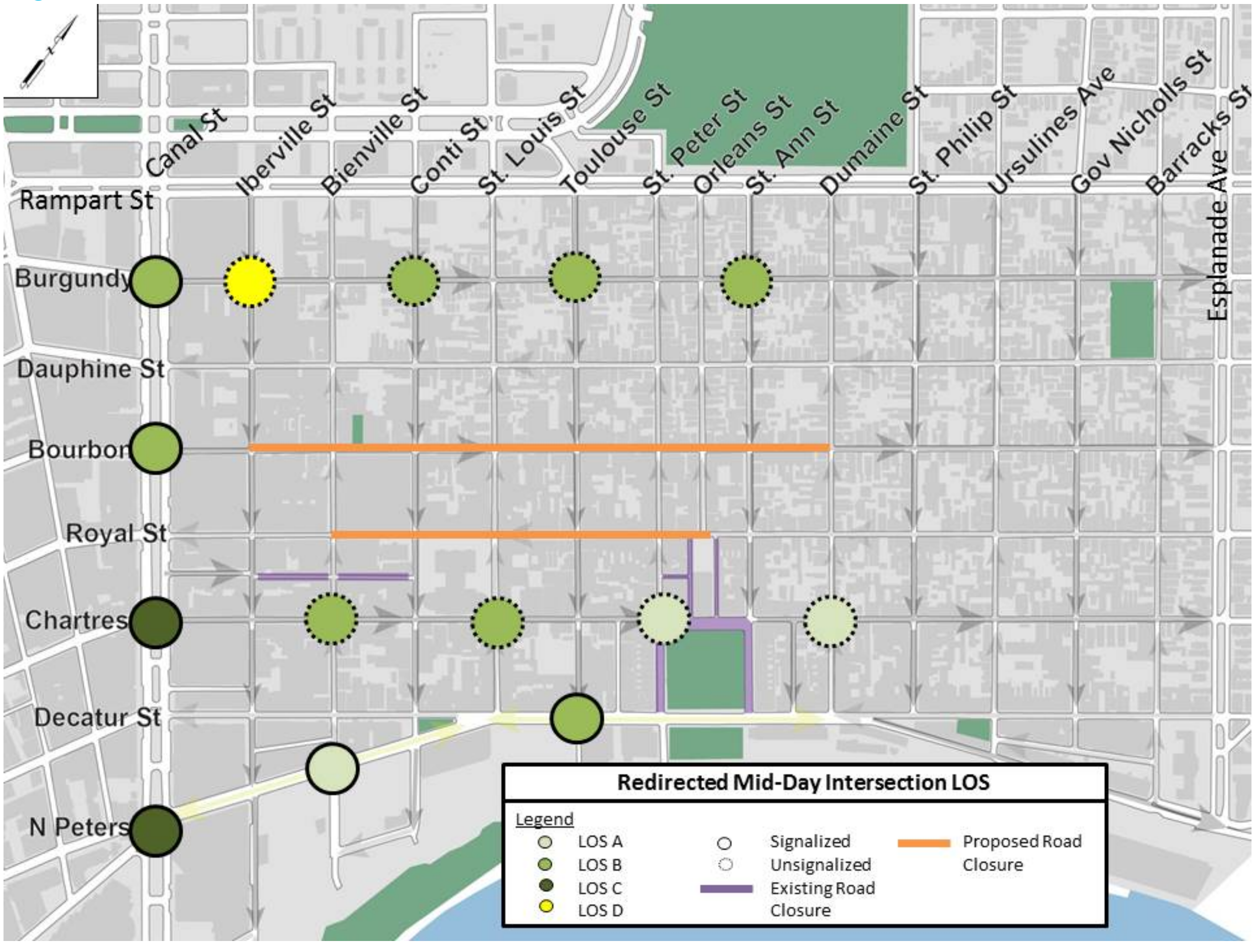


Table 9 Mid-Day Existing and Redirected Queue Length

Corridor	Cross Street	Mid-Day Existing			Mid-Day Redirected		
		EB Approach (ft)	NB Approach (ft)	SB Approach (ft)	EB Approach (ft)	NB Approach (ft)	SB Approach (ft)
Burgundy	Iberville	-	-	165	-	-	203
	Conti	45	-	38	58	-	40
	Toulouse	45	-	108	55	-	113
	St. Ann	-	-	43	-	-	43
Bourbon	Iberville	18	-	30	-	-	-
	Bienville	-	23	-	-	-	-
	Conti	-	-	15	-	-	-
	St. Louis	-	18	-	-	-	-
	Toulouse	-	-	33	-	-	-
	St. Peter	-	13	-	-	-	-
	St. Ann	-	-	13	-	-	-
	Dumaine	20	10	-	-	-	-
Chartres	Bienville	-	-	25	-	-	28
	St. Louis	18	-	-	25	-	-
	St. Peter	5	-	-	5	-	-
	Dumaine	-	-	10	-	-	13

The Synchro output files are included in **Appendix D**.

Summary

The analysis results show that in the existing condition, at the corridor level, Rampart St, Burgundy St, and N. Peters St segments operate at LOS D. Redistributed traffic would worsen the LOS for Chartres St from C to D. However, all of the study corridor segments are expected to operate at an acceptable LOS D or better.

All of the study intersections in the existing AM condition operate at LOS C or better. Redistributed traffic would worsen the LOS for the intersection of Burgundy St and Iberville St from C to D. In the existing Mid-Day and redirected Mid-Day conditions, all of the study intersections operate at LOS C or better, except the intersection of Burgundy and Iberville St. The intersection operates at LOS D in both existing Mid-Day and redirected Mid-Day conditions. All of the study intersections in the existing and redirected conditions operate at an acceptable LOS D or better.

Due to the potential impacts of the proposed closure of Bourbon St between Iberville St and St. Philip St, it is expected that traffic would be redirected to the parallel streets – Burgundy St, Chartres St, and N. Peters St, and the northbound and southbound cross streets to access the destinations north and south of Bourbon St. Redistributed traffic would worsen the LOS on Chartres St between Canal St and St. Peter St, and the intersection of Burgundy and Iberville, but all of the corridor segments and intersections is expected to still operate at an acceptable LOS D or better.

7. PARKING

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Parking Analysis and Recommendations

This section describes the Phase One parking study, which included the Central Business and Warehouse Districts in the study area; the Phase Two assessment recently completed from the immediate study area, and recommendations intended to improve deliveries and customer access to the French Quarter. The initial, Phase One, parking study was conducted in 2015 and 2016. The assessment of parking near Bourbon St was augmented by data collected by the project team and the City Planning Commission in 2017.

Findings from this report can assist the City in near-term decision-making on existing parking, understanding where parking constraints and surpluses exist, and determining whether factors such as abuse of time limits adversely affect access. It can also serve as a basis for longer-term decision making that requires more significant reinvestment in the parking system – e.g., branded parking counter systems (with app tie-ins), on and off-street parking integration, future off-street public supply, etc.

Phase One Parking Analysis

The project team, in consultation with the City of New Orleans, chose a representative sample of parking to analyse. Eight nodes (small but representative study areas) were chosen to accurately depict parking behaviors from varying parts of the larger downtown. These included two nodes located in the French Quarter – located between Canal St and Ursulines Ave and between N Peters and N Rampart streets.

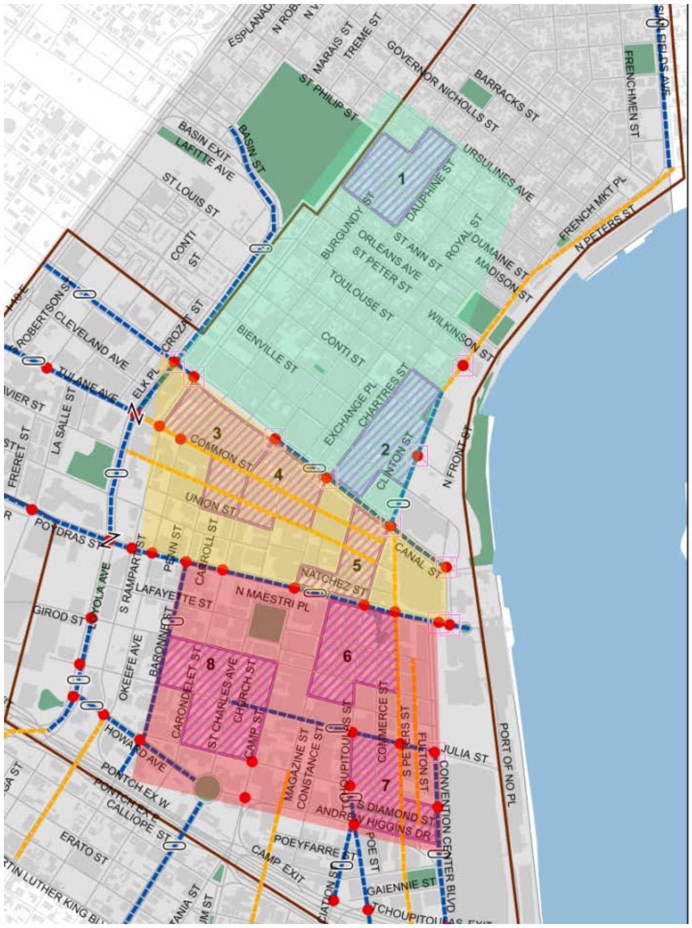


Figure 1 New Orleans Parking Study Areas from Phase One

Each node was carefully chosen to capture a diversity of parking habits and behavior that are exhibited throughout the larger study area. The majority of the on-street parking supply is paid 2-Hour parking at either single-head parking meters or at pay stations from 8:00 AM to 7:00 PM. Some of the parking, primarily in the French Quarter, is designated 2-Hour 'signed' parking where residents are allow to park all day with a properly displayed, valid parking permit.

Elements of the parking inventory and data collection effort included:

1. The creation of a data template for all on-street parking in the study area, denoting stalls by time-stay type. This included the quantification and sizing of freight and passenger loading zones encountered throughout the nodes.
2. A complete survey of on-street parking use on a "typical day"– Tuesday, July 12, 2016[1].
3. Analysis of parking utilization and turnover that included:
   - Quantification of the parking inventory for the eight parking nodes.
   - Staggered hourly occupancy counts beginning at 8:00 AM in the CBD, 9:00 AM in the Warehouse District, and 10:00 AM in the French Quarter. Each data collection was conducted over a 10 hour period, concluding at 6:00 PM, 7:00 PM, and 8:00 PM.

[1] This date was chosen in consultation with the City of New Orleans.

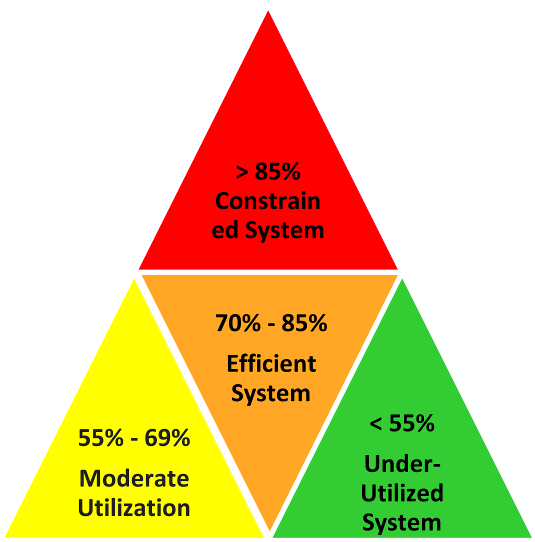
- Parking turnover analysis.
- Parking duration-of-stay analysis.

4. Identification of surpluses and constraints within the parking supply.

The survey involved hourly counts of occupied on-street parking stalls in the study area. The data collection was set up primarily as a turnover study, which involves recording vehicle license plates each hour of the survey day. Turnover analysis provides greater parking behavior detail such as: average duration of stay, turnover, unique vehicles, violation rates, and moving to evade. Turnover counts were taken for all timed limited parking stalls within each of the survey nodes; turnover counts were also conducted in loading zones in three of the nodes, one from each of the three survey zones. Overall, turnover counts were taken for 86% of the total sampled parking supply.

Occupancy counts of loading zones, which simply involve counting parked vehicles, were conducted in the remaining 5 parking nodes. Occupancy counts were taken in 14% of the sampled parking supply. The purpose of the loading zone counts, like the other elements of the survey, was to determine how these stalls are being utilized and by whom (i.e., private vehicles, commercial delivery vehicles, valet services, etc.).

The study team produced peak hour utilization 'heat maps' to provide a visual depiction of occupancies by block face using color. A heat map uses color to display ranges of occupancy levels as measured against an industry standard of 85%: when occupancy exceeds that level, the system is considered constrained. Block faces marked in red indicate areas of constraint (the magenta color indicates occupancies that exceed 100% - where users chance parking illegally). Green represents areas of underutilized parking, while yellow and orange represent the middle ranges of occupancy.



Characteristics of the Parking Supply

There are many 'types' of stalls downtown and in the Quarter. In fact, the City now has 29 different sign types in use, which should be reduced overtime. A more intuitive, simple set of parking regulations is beneficial to residents and visitors alike. The City of New Orleans has done a good job of standardizing time stays, where the majority of stalls in a management area have a “standard” time stay designation, in this case, 2-Hours. This is a customer-friendly practice that reduces confusion and minimizes parking related angst.

Additional Phase One findings include:

- The peak hour for the on-street system occurs between 12:00 and 1:00 PM.
- The Customer supply, made up of 2-Hour signed and metered stalls, No Limit stalls, and ADA Accessible stalls, during the peak hour is becoming constrained reaching nearly 80% occupancy.
- The overall average length of stay for Customers is 2 hours and 8 minutes.
- Approximately 20% of unique vehicles are violating the posted time restriction.
- The average length of stay at a 2-Hour meter, 2 hours and 4 minutes, is slightly less than at a 2-Hour signed stall, 2 hours and 18 minutes.
- Interestingly the violation rate at 2-Hour metered stalls is two percentage points higher than those at signed stalls. Typically users are more compliant with time stays at meters where they pay to park, rather than signed stalls where not payment is required.
- The average time stays in loading zones are similar ranging from 1 hour and 42 minutes in Hotel Zones to 1 hour and 59 minutes in Passenger Zones.
- The average length of stay in Hotel Zones (1 hour and 42 minutes) seems excessive given the assumption that the curb zone is an active valet operation where vehicles should be circulating through those spaces much more quickly – in the 15 minute range.

Table 1 summarizes a number of performance metrics for the downtown on-street system.

Table 1: Summary of Parking Use Characteristics – Turnover Analysis

Use Characteristics	Turnover Stalls Only
Average length of stay	2 hr/ 6 min
Turnover rate[2]	4.76
Violation rate	19.7%
Vehicle hours parked in violation	23.9%
Vehicles parked 5 hours or more (% of total)	151 (5.2%)

Average Length of Stay

- The average stay for all on-street stalls is 2 hours and 6 minutes.

[2] Number of potential vehicles able to access a single parking stall over a 10 hour period based on the system’s calculated average time stay.

- The number of No Limit stalls (76) with an average time stay of almost 4 hours clearly brings up the overall average.

Turnover – Efficiency of the Parking System

In most cities, the primary time limit allows for calculation of an *intended turnover rate.* For example, a 2-Hour stall should allow (at least) 5 vehicles to park in the space over a 10-hour period – as such the stall would have an intended turnover rate of 5.0. If, however, turnover were demonstrated to be at a rate of less than 5.0, the system would be deemed inefficient. A rate in excess of 5.0 would indicate a system that is operating efficiently.

In the New Orleans study area, the on-street parking system has an average turnover rate of 4.76. This indicator suggests the system could be more supportive of customer-based trips, trips vital to street-level activity or retail businesses. This is due in part to the number of No Limit stalls in the supply, which are more conducive to commuter trips than to visitor/customer trips.

Parking Violations

Approximately 20% of unique vehicles parked in time-limited stalls downtown exceed the posted time stay.[3] On the survey day, 427 vehicles exceeded the posted stay on-street. The industry best-practice standard for time stay violations is between 5 and 9 percent. New Orleans's total is well above the high side of the standard. Surveyor crews observed enforcement personnel issuing citations to violators in time limited stalls. Another violation metric worth noting is *Vehicle Hours Parking in Violation*, which evaluates the ratio of total vehicle hours parked against the total hours parked where a vehicle was exceeding the posted time stay. In the case of New Orleans, 24% of all vehicle hours parked were parked violation of the time restriction; that translates to nearly 1 in every 4 hours is non-compliant.

Based on anecdotal observations during the survey, very few citations were issued for users of loading zones; neither non-commercial vehicles in freight zones nor personal vehicles parked in excess of two hours elicited parking citations in loading zones. While it appears enforcement crews do a reasonably good job at enforcing time stays, additional enforcement, particularly vehicles in loading zones, would likely result in better time stay compliance.

Currently a parking citation is $30[4], nearly the equivalent of parking for 9 hours in an on-street stall (at $3.00 per hour). Citations should be at least 150% of the cost of parking all day on-street:

Example: $3.00 per hour X 9 hours = $27 X 150% = $40.50

Excessive time stay

Some violations of posted time stays can be considered an abuse of the system. The consultant team tracked vehicles parked in time-limited stalls for periods of five hours or more. On the survey day, 151 vehicles fell into this category. These vehicles were parked in 2-Hour stalls. It is likely that these vehicles belong to employees.

Though not considered 'violations,' surveyors tracked license plates of vehicles parked in loading zones to see how those zones were being used. Over the course of the survey day they observed 28 vehicles (9% of all users) parked in excess of 5 hours.

[3] Time stay violations can only occur in time-limited stalls and do not include any potential violations in loading zones.
[4] For an expired meter. Some citations are $40 http://www.nola.gov/dpw/parking/parking-101/

Loading Zones & Cab Stands

The large number of stalls devoted to loading prioritizes deliveries and freight movement over other user groups. While a crucial part of downtown commerce, industry standards would suggest a larger percentage of stalls be devoted to shorter-term customer/visitor use. Passenger loading and taxi stand stalls take up a considerable amount of real estate in downtown (492 stalls). If a portion of these stalls were allocated for public use it could result in accommodating a significant number of additional trips not currently captured.

The study team produced peak hour utilization ‘heat maps’ to provide a visual depiction of occupancies by block face using color. A heat map uses color to display ranges of occupancy levels as measured against an industry standard of 85%: when occupancy exceeds that level, the system is considered constrained. Block faces marked in red indicate areas of constraint (the magenta color indicates occupancies that exceed 100% - where users chance parking illegally). Green represents areas of underutilized parking, while yellow and orange represent the middle ranges of occupancy.

French Quarter

Phase One, data collection in this zone was conducted in 2 separate nodes between the hours of 10:00 AM and 8:00 PM. In the evaluation of loading zones turnover counts (i.e., license plates) were taken in one of the two Quarter nodes. There were 277 stalls inventoried in the French Quarter Zone, including 81 loading stalls (29% of all stalls). Table 2 provides a breakout of the inventory. However, these nodes are not representative of the area immediately surrounding Bourbon St. The Phase One survey assessed a heavily commercial corner of the Quarter and the residential corner.

Table 2 Data for Specific Stall Types

Stalls by Type	All	% of Total	Turnover Analysis	% of Total	Occupancy Analysis	% of Total
2 Hours – Signed	118	42.6%	118	47.2%	0	0%
2 Hours – Metered	57	20.6%	57	22.8%	0	0%
ADA ‘Accessible’	2	< 1%	2	< 1%	0	0%
No Limit	8	2.9%	8	3.2%	0	0%
Freight Zone	49	17.7%	46	18.4%	3	11.1%
Passenger Zone	29	10.5%	16	6.4%	13	48.1%
Hotel Zone	3	1.2%	3	1.2%	0	0%
Police Only Zone	8	2.9%	0	0%	8	29.6%
Emergency Vehicle Only	3	1.2%	0	0%	3	11.1%
On-Street Parking Supply	**277**	**100%**	**250**	**100%**	**27**	**100%**

From Table 2 Data for Specific Stall Typesthe following conclusions can be derived:

- Based on the parking sample 67% of the stalls are available for public use (i.e., non-loading, non-police only). A more balance parking format would be to have between 8% and 15% of stalls to serve freight/loading access. The on-street system should be prioritized for customer and visitor access. (This finding may be even more relevant for the Bourbon St study area.)
- 63% of the parking format is 2-Hour stalls.
- Far fewer stalls (only 8) in this zone have no time restriction, shown here as No Limit.

Table 3: New Orleans Parking Utilization – French Quarter provides a parking utilization profile for stalls in the French Quarter by type.

Table 3: New Orleans Parking Utilization – French Quarter

2016 New Orleans On-Street Parking Utilization – Warehouse District								
Type of Stall	**Parking Supply**	**Stalls**	**Peak Hour**	**Peak Occupancy**	**Stalls Available**	**Average Length of Stay**	**Violation Rate**	**Turnover**
	Total	***277***	***7:00 – 8:00 PM***	***76.5%***	***65***	***N/A***	***N/A***	***N/A***
Usage by Time Stay								
2 Hours	**Signed**	**118**	**10:00 – 11:00 AM**	**83.7%**	**15**	**2 hr/ 17 min**	**16.8%**	**4.38**
	Metered	**57**	**7:00 – 8:00 PM**	**84.2%**	**5**	**2 hr/ 5 min**	**23.3%**	**4.80**
	All	**175**	**7:00 – 8:00 PM**	**83.4%**	**9**	**2 hr/ 10 min**	**19.6%**	**4.60**
ADA ' Accessible'	**All**	**2**	**10:00 AM – 2:00 PM 6:00 – 8:00 PM**	**100%**	**0**	**3 hr/ 45 min**	**N/A**	**2.67**
No Limit	**All**	**8**	**7:00 – 8:00 PM**	**87.5%**	**1**	**2 hr/ 35 min**	**N/A**	**3.86**
Freight Zone	**Turnover**	**46**	**7:00 – 8:00 PM**	**69.6%**	**13**	**2 hr/ 7 min**	**N/A**	**4.73**
	Occupancy	**3**	**2:00 – 4:00 PM**	**100%**	**0**	**N/A**	**N/A**	**N/A**
	All	**49**	**7:00 – 8:00 PM**	**69.4%**	**15**	**N/A**	**N/A**	**N/A**
Passenger Zone	**Turnover**	**16**	**10:00 – 11:00 AM**	**54.5%**	**5**	**2 hr/ 20 min**	**N/A**	**4.29**
	Occupancy	**13**	**10:00 – 11:00 AM 12:00 – 2:00 PM**	**53.8%**	**6**	**N/A**	**N/A**	**N/A**
	All	**29**	**12:00 – 2:00 PM**	**48.3%**	**15**	**N/A**	**N/A**	**N/A**
Hotel Zone	**All**	**3**	**3:00 – 4:00 PM**	**100%**	**0**	**1 hr/ 18 min**	**N/A**	**7.69**
Police Only Zone	**All**	**8**	**11:00 AM – 1:00 PM**	**100%**	**0**	**N/A**	**N/A**	**N/A**
Emergency Vehicle Only	**All**	**3**	**4:00 – 6:00 PM**	**66.7%**	**1**	**N/A**	**N/A**	**N/A**

From the table the following conclusions can be derived:

- The highest level of parking activity occurs during an evening peak, a time after enforcement concludes, 7:00 to 8:00 PM.
- Peak hour occupancy for publicly accessible stalls (Turnover) is very high at 89 percent, well in excess of the 85% threshold, signaling there is a parking constraint.
- The average time stay for all stalls in the French Quarter is 2 hours and 8 minutes.
- The 2-Hour stalls preform relatively well with some inefficiencies. Occupancy rates are very robust at 83%, with average time stays (2 hours and 10 minutes) close to their intended design. However, violations at 20% (2-Hour Meters at 23%) of all trips continue to be a problem.
- Freight Zones in the Quarter have a high peak occupancy rate (69%) from 7:00 to 8:00 PM, but several of the zones revert to a standard stall, accessible to anyone, after enforcement hours end at 7:00 PM.

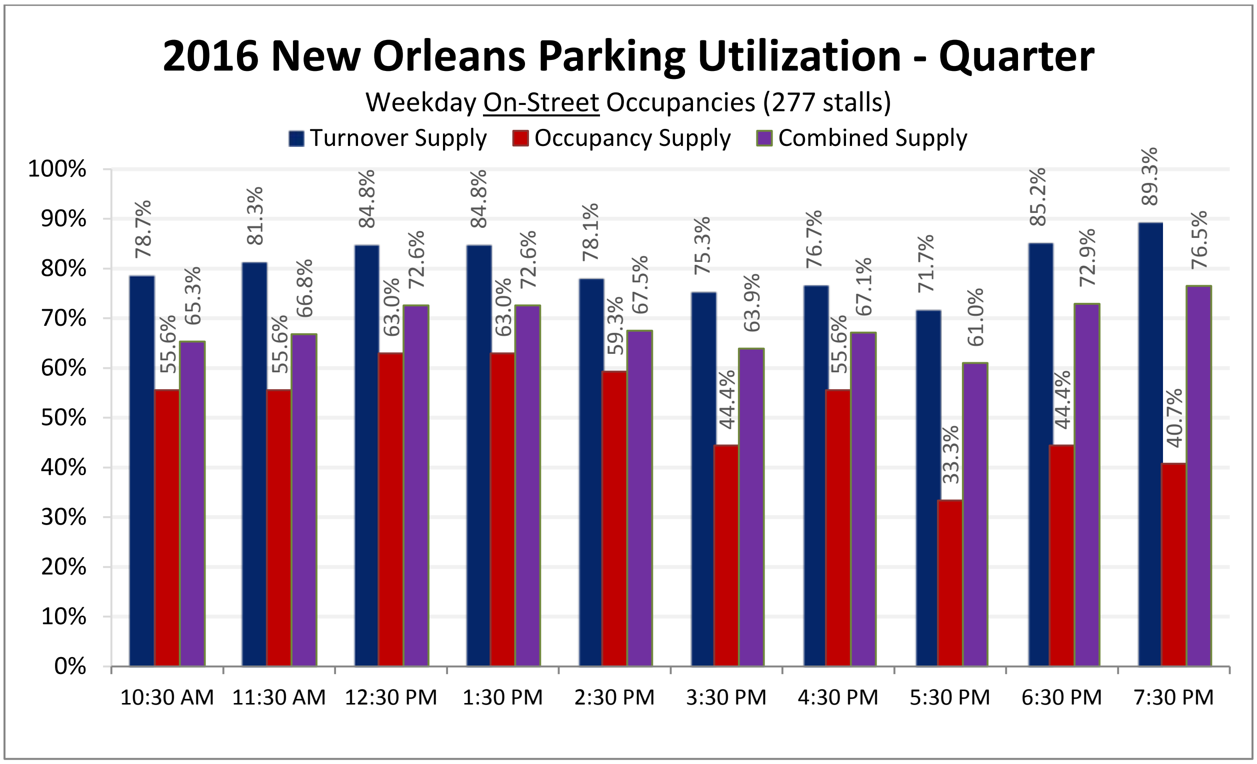
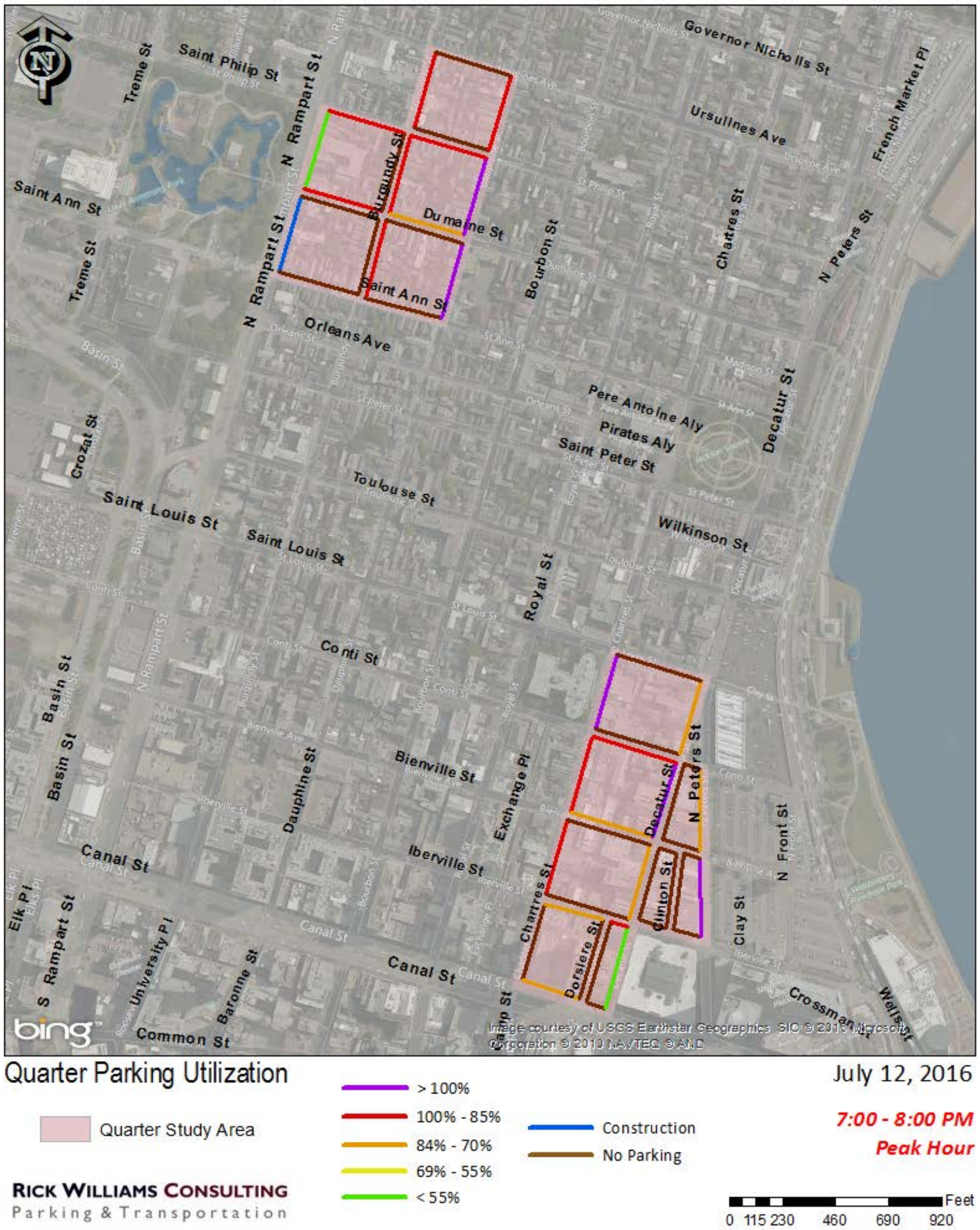


Figure 2 Hourly Parking Utilization by Analysis Method

In 4 out of the 10 hours surveyed parking occupancy levels meet or exceed the 85% occupancy level; in 9 out of 10 hours surveyed occupancies exceed 75 percent. This confirms what many locals already know, parking in the French Quarter is constrained throughout the day.

The study team produced peak hour utilization ‘heat maps’ to provide a visual depiction of occupancies by block face using color. A heat map uses color to display ranges of occupancy levels as measured against an industry standard of 85%: when occupancy exceeds that level, the system is considered constrained. Block faces marked in red indicate areas of constraint (the magenta color indicates occupancies that exceed 100% - where users chance parking illegally). Green represents areas of underutilized parking, while yellow and orange represent

Figure 3 Heat Map of Occupancies from Phase One Study



the middle ranges of occupancy.

Figure 4 provides a visual depiction of parking occupancies by block face using color. Warmer colors indicate areas of parking constraint, while cooler colors indicate areas of surplus. According to the figure 16 of the 25 block faces that allow parking are constrained (exceed 85%, 5 of which exceed 100%) during the French Quarter's 1:00 to 2:00 PM peak hour.

Table 4 summarizes a number of performance metrics for the on-street system in the French Quarter Zone.

Table 4: Summary of Parking Use Characteristics – French Quarter

Use Characteristics	Turnover Stalls Only
Turnover rate	4.68
Violation rate	19.6%
Vehicle hours parked in violation	19.3%
Vehicles parked 5 hours or more (% of total)	34 (5.0%)

- The turnover rate (4.68) is somewhat higher than the system-wide results, but short of the 5.0, the bottom end of the desired turnover range.
- A 20% violation rate is markedly high for any downtown environment and can be reduced by intensified enforcement and a potential increase in the parking citation fee.
- 34 vehicles were observed parking in 2-Hour stalls for at least 5 hours or more without a valid permit or hangtag[5]; this represents 5% of the unique vehicles parked during the survey day.

Off Street Parking

As with most major metropolitan areas, the number of cars entering into the city greatly exceeds available on-street parking inventory. New Orleans is a mixture of old and new with areas such as the French Quarter developed and built out long before the advent of the automobile and other areas such as the CBD built with commuters in mind. The majority of the office towers and larger hotels were built with parking garages adjacent to or contained within the buildings. It is also a city that has seen some older areas demolished and either redeveloped or left empty for future use. A lot of the open space has been converted to surface parking lots around the CBD perimeter and there are also surface lots along the riverfront.

Research Methodology

Research was done into what types of off-street parking is available in the project area particularly in terms of its capacity, utilization, cost, and access restrictions. Almost all of the high-rise buildings in the CBD have parking in the first several levels available to tenants. In most instances these garages are managed by a third party and daily, weekly, or monthly parking rates are available to the general public. This also holds with many of the larger hotels within the study area. These facilities have parking levels in the building that are for hotel guests but do allow for hourly rate parking to the general public when available. There are also several parking garages in the study area for public parking as well as numerous surface lots.

[5] As many as 54 residential parking permits were observed in the French Quarter zone over the 10 hour survey day.

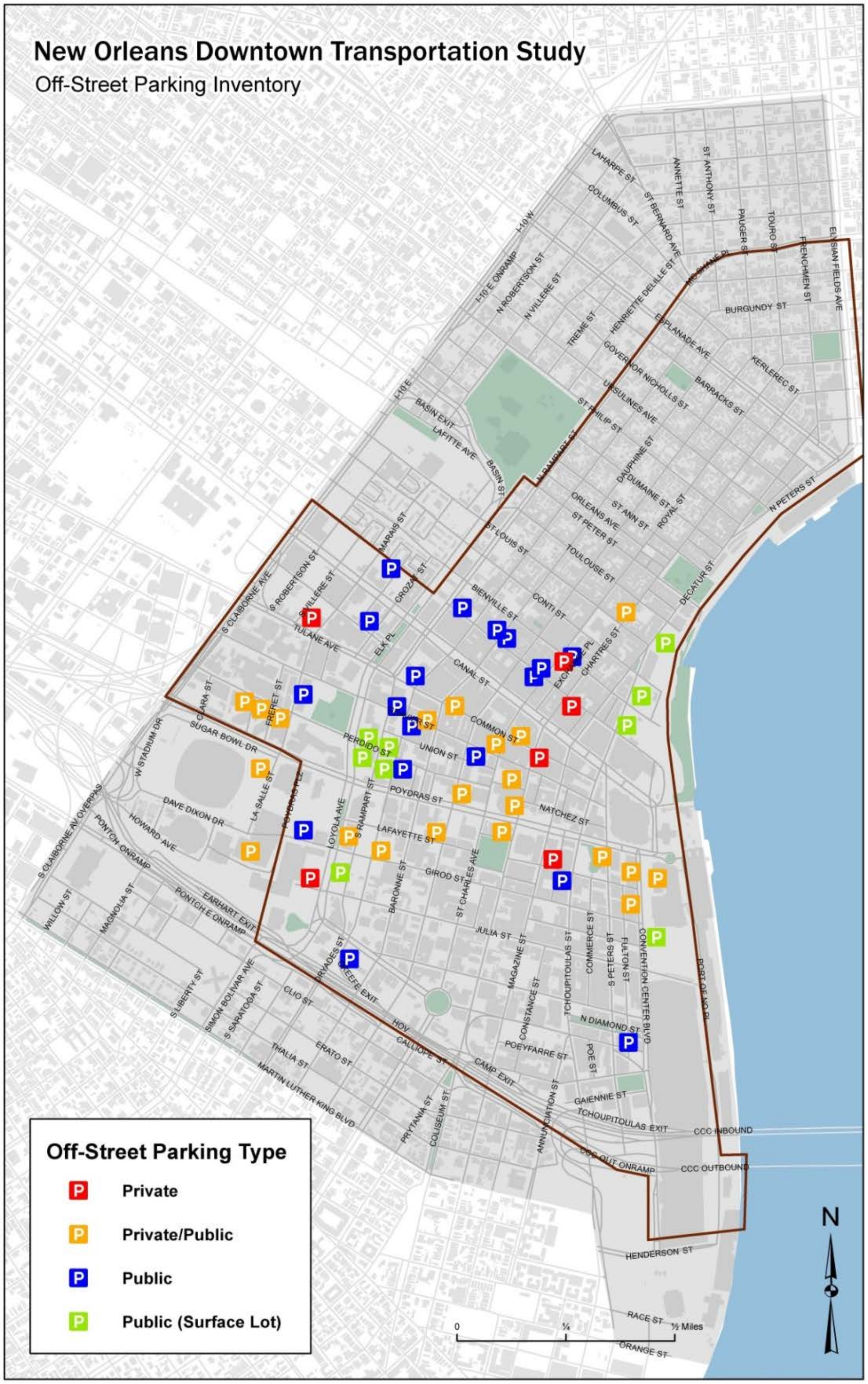
These public garages and surface lots are largely operated by parking management companies that set rates and collect the parking fees.

A desktop survey using aerial images and knowledge of the area was utilized to develop a map to locate parking garages as well as major surface lots within the project area. Along with the location, the type of garage, ownership and operation were identified to the extent possible. The garages were categorized as private, public, or both. It should be reiterated that many of the hotel and office tower garages allow public parking; however, at peak times the garage may be signed as for hotel guests only or monthly contract parking only. Efforts were also made to contact several of the large parking management companies that operate several of the garages and surface lots to obtain data of utilization, rates, and the number of spaces. Few parking management companies provided the requested data.

Inventory

A total of fifty-four off-street parking facilities have been identified within the study area and are displayed on the Off-Street Parking Inventory map. Six of the facilities were identified as "private" which is based on a lack of any signage denoting public parking or usage. These included many office buildings and hospital garages. Twenty-two facilities were identified as being both "private and public". All of these garages are either part of an office tower, hotel, condominium/apartment, or casino. The main reason that these garages are denoted as "private/public" is that during peak times or seasons the garage may revert to hotel guests only for those associated with hotels. The office garages give preference to monthly contract vehicles and if they reach capacity the garage would close for public parking. Twenty-six facilities were identified as "public", this includes nine surface lots. These facilities are open to the public on a space available basis.

Figure 5 Key Off-Street Parking Facilities



Phase One - Key Findings

Key findings from the 2016 data collection and analysis are presented here. Please refer to the Phase One main report for additional details.

- The French Quarter and the CBD are constrained during their individual peak hours – occupancies in excess of 85%.
- Despite enforcement efforts violation rates are high (20%).
- The peak hour is between 12:00 and 1:00 PM.
- The average duration of stay for all on-street parkers is 2 hours 6 minutes.
- On-street turnover (4.76) falls below the parking industry standard (5.0) for a parking system designed to attract and support high street level activity.
- Too much curb space (26%) is devoted to loading zones - freight, passenger, and hotel. These spaces are underutilized (by intended users and abused by unintended users) and poorly regulated.

Phase Two Parking Analysis

Following the completion of the initial parking inventory and study, the team was asked to evaluate options for closing Bourbon St, and other roadways in the French Quarter. In order to achieve the security goals for the French Quarter, these street closures have been identified as critical.

However, the City also seeks to increase the accessibility of the French Quarter. Therefore, the team completed additional field investigations and conducted numerous additional stakeholder interviews in order to augment the Phase One data with more specific about the conditions in the Quarter. The project team was fortunate to have initial parking utilization data provided by the City Planning Commission (CPC). Staff with the CPC had been collecting utilization data for the French Quarter and shared those data with the design team. The team also sent field crews to assess conditions. Initially the crew evaluated each block face on the study area, determining the overall utilization of the on-street stalls. The CPC-collected stall typologies, augmented with additional field data (see Figure 6).

These data did not include hourly documentation of all license plates, as was done in the first phase of the project. The overall findings from the first phase, regarding time stays and violations, are still applicable and were used to develop recommendations for the French Quarter.

The focus of the Phase Two parking study was occupancy, or the number of vehicles parked compared with the number of available parking spaces. Parking occupancy data was collected from Chartres to Royal St, Royal St to Bourbon St, Bourbon St to Dauphine St, and Dauphine St to Burgundy St on the same 10 streets running perpendicular to Bourbon that are the focus of this study.

Figure 6 Existing Parking

The 10 streets in this study area are all one-way with parking generally allowed on the right side of the street when oriented with traffic, with the exception being St. Louis St between Royal St and Chartres St. Vehicles parked on the wrong side of the street were counted and are noted in the data below. There are no block faces where parking is not allowed on either side of the street.

Parking data was collected concurrently with the turning movement data – AM Peak, Mid-Day Peak, and PM Peak. Table 5 displays the parking occupancy observations for each of the 10 streets located in the study area separated by block segment along with the total number of parking spaces on each block segment. The occupancy observations highlighted in yellow reflect points in time where the number of parked vehicles on a given block face meets or exceeds the number of existing parking spaces. Nine block faces have an average parking occupancy that is above their legal capacity:

- Bienville St – Chartres St to Royal St
- Bienville St – Royal St to Bourbon St
- Toulouse St – Bourbon St to Dauphine St
- St. Louis St – Bourbon St to Dauphine St
- St. Ann St – Chartres St to Royal St
-
- St. Ann St – Bourbon St to Dauphine St
- Dumaine St – Royal St to Bourbon St
- Dumaine St – Dauphine St to Burgundy St
- St. Philip St – Bourbon St to Dauphine St
- St. Philip St – Dauphine to Burgundy St

Aside from the block faces that are above capacity, there are 15 other block faces that were observed to have more than 85% parking occupancy – a figure which is widely seen as the ideal occupancy rate.

On average parking was observed to be distributed fairly evenly throughout the study area with most block faces typically close to full. Parking was observed to be in higher demand as the day progressed. Whatever excess capacity that was observed in the morning typically began to fill up during the mid-day and PM peak periods. Overall, the observations show that parking on the 10 side streets in the study area is in high demand.

See for Table 5 Phase Two - Parking Occupancy Data and Figure 7 additional information.

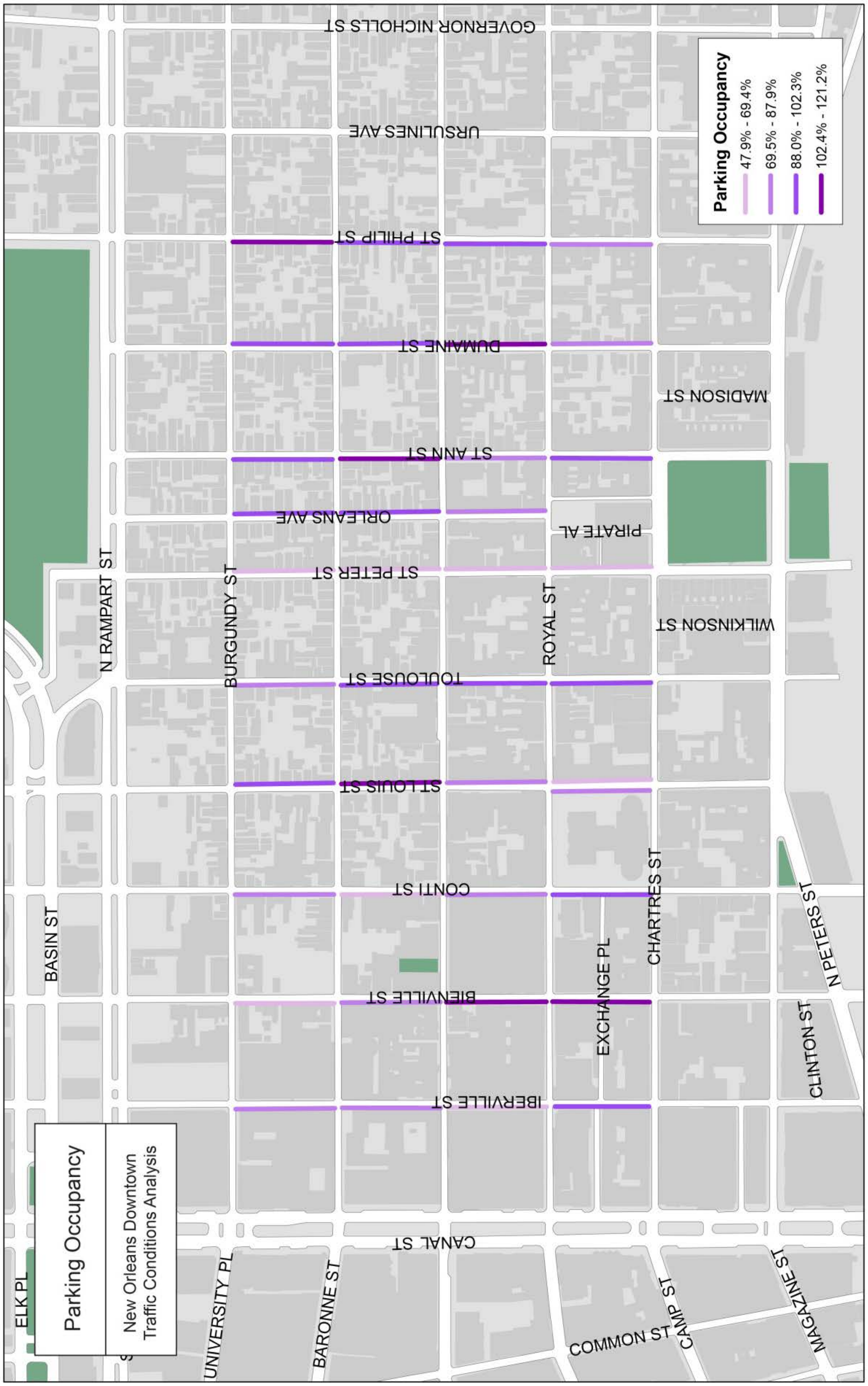


Figure 7 Phase Two Parking Occupancy Data

Table 5 Phase Two - Parking Occupancy Data

Street	Block Segment	# Parking Spaces	AM Peak	Mid-Day Peak	PM Peak	Avg # Parked Cars	% Avg Occupancy
Iberville St	Chartres St to Royal St	9	7	7	7	7	77.8%
Upriver	Royal St to Bourbon St	9	8	4	1	6	66.7%
	Bourbon St to Dauphine St	10	8	10	3	9	86.7%
	Dauphine to Burgundy	6	6	6	4	5	87.5%
Bienville St	Chartres St to Royal St	8	8	10	8	9	**106.3%**
Downriver	Royal St to Bourbon St	6	5	6	6	6	**104.2%**
	Bourbon St to Dauphine St	10	7	7	1	7	72.5%
	Dauphine to Burgundy	13	6	8	8	8	61.5%
Conti St	Chartres St to Royal St	13	10	13	12	12	90.4%
Upriver	Royal St to Bourbon St	11	7	8	9	10	87.9%
	Bourbon St to Dauphine St	12	6	8	7	8	69.4%
	Dauphine to Burgundy	10	4	9	5	8	76.7%
St. Louis St	Chartres St to Royal St (Upriver)	9	7	7	9	8	85.2%
Downriver	Chartres St to Royal St	13	6	10	7	8	59.0%
	Royal St to Bourbon St	13	7	9	12	11	84.6%
	Bourbon St to Dauphine St	11	8	11	12	13	**121.2%**
	Dauphine to Burgundy	12	11	13	10	12	95.8%
Toulouse St	Chartres St to Royal St	12	13	11	8	11	93.8%
Upriver	Royal St to Bourbon St	13	8	11	14	12	90.4%
	Bourbon St to Dauphine St	10	8	13	6	10	**100%**
	Dauphine to Burgundy	12	4	13	12	10	87.5%
St. Peter St	Chartres St to Royal St	12	5	10	7	8	68.8%
Downriver	Royal St to Bourbon St	13	4	12	12	11	82.7%
	Bourbon St to Dauphine St	12	13	9	0	9	77.1%
	Dauphine to Burgundy	15	9	12	13	12	78.3%
Orleans St	Royal St to Bourbon St	14	13	11	9	11	76.8%
Downriver	Bourbon St to Dauphine St	12	9	12	12	12	95.8%
	Dauphine to Burgundy	12	11	11	10	11	93.8%
St. Ann St	Chartres St to Royal St	9	7	9	7	9	**100.0%**
Upriver	Royal St to Bourbon St	13	11	11	10	11	80.8%
	Bourbon St to Dauphine St	13	14	12	15	14	**105.1%**
	Dauphine to Burgundy	12	13	11	10	12	95.8%
Dumaine St	Chartres St to Royal St	11	9	9	4	9	84.8%
Downriver	Royal St to Bourbon St	9	9	10	11	10	**111.1%**
	Bourbon St to Dauphine St	13	12	13	12	13	96.2%

	Dauphine to Burgundy	11	construction	construction	11	11	**100.0%**
St. Philip St	Chartres St to Royal St	11	8	9	10	9	79.5%
Upriver	Royal St to Bourbon St	12	10	12	13	12	97.9%
	Bourbon St to Dauphine St	11	11	12	11	11	**102.3%**
	Dauphine to Burgundy	12	14	13	8	14	**112.5%**

Recommendations

The 2016 data analysis of the on-street parking in New Orleans indicates the system is operating at a relatively high level of utilization. Both the CBD and the French Quarter operate in close to or in excess of 85% occupancies in their individual peak hours. The on-street system shows signs of inefficiencies. Too much of the curb space (26%) is devoted to various types of loading zones (passenger, taxi, freight, etc.), which are not accessible for customer use. The parking turnover rate should be above 5.0, and violation rates are consistently high (20%) across all study area zones. These factors do not contribute to a robust retail environment.

The following changes to the allocation of parking are recommended to address these issues. In developing these recommendations the project team was attempting to:

1. Maximize customer access
2. Improve freight access in nodes where it is deficient.
3. Align allocations with best practices.
4. Utilize stakeholder input to the extent practicable.

The following map and tables indicate the recommended changes to parking regulations and allocations by stall type. These recommendations should be shared with property owners and business representatives to ensure that these changes will not result in unwanted adverse effects.

Figure 8 Proposed Parking Allocations

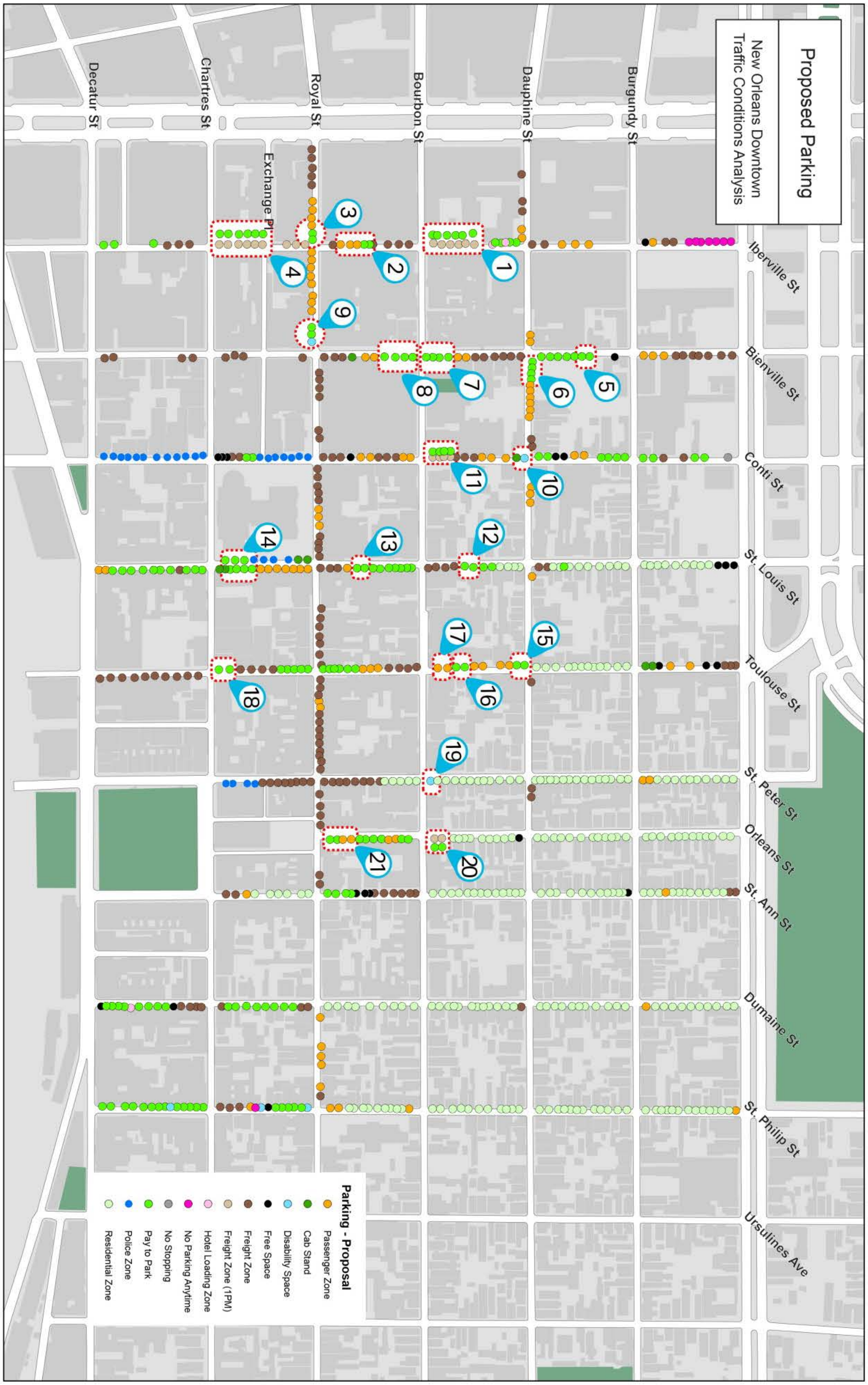


Table 6 Proposed Allocations By Stall Type

	Location (Street)	Location (Between)	Current	Proposed
1	Iberville St.	Dauphine St. & Bourbon St.	6 Freight Zones (6PM)	Change Freight zone to 1PM; then 6 stalls Pay to Park
2	Iberville St.	Bourbon St. & Royal St.	5 Unregulated Stalls	2 Pay to Park Stalls and 3 Passenger Zones
3	Royal St.	Canal St. & Iberville St.	2 Cab Stands	2 Pay to Park Stalls
4	Iberville St.	Royal St. & Chartres St.	9 Freight Zones (6PM)	Change Freight Zones to 1PM; then 6 Pay to Park
5	Bienville St.	Burgundy St & Dauphine St	2 Unregulated Stalls	2 Pay to Park Spaces
6	Dauphine St	Bienville St & Conti St	4 Passenger Zones	4 Pay to Park Spaces
7	Bienville St.	Dauphine St. & Bourbon St.	3 Cab stands and 1 Passenger Zone	Convert to 4 Pay to Park
8	Bienville St.	Bourbon St. & Royal St.	3 Cab stands and 1 Passenger Zone	Convert to 4 Pay to Park Spaces
9	Royal St.	Iberville St. & Bienville St.	3 Cab Stands	Convert 2 to Pay to Park Spaces and 1 Disability Space
10	Conti St	Dauphine St to Bourbon St	1 Cab Stand	1 Disability Space
11	Conti St.	Dauphine St. & Bourbon St.	2 Cab Stands and 2 Free Space	Convert to 1PM Freight Zone Pay to Park after 1PM
12	St. Louis St.	Dauphine St to Bourbon St	2 Freight Zones	2 Pay to Park Spaces
13	St. Louis St.	Bourbon St. & Royal St.	2 Passenger Zones	2 Pay to Park
14	St. Louis St.	Royal St. & Chartres St.	2 Cab Stand and 2 Passenger Zones	Convert to 4 Pay to Park
15	Toulouse St	Dauphine St. & Bourbon St.	2 Passenger Zones	2 Pay to Park Spaces
16	Toulouse St	Dauphine St. & Bourbon St.	2 Passenger Zones	2 Pay to Park Spaces
17	Toulouse St	Dauphine St. & Bourbon St.	2 Cab Stands	2 Pay to Park Spaces
18	Toulouse St	Royal St to Chartres St	2 Free Spaces	2 Pay to Park Spaces
19	St. Peter St	Dauphine St & Bourbon St	Residential Zone	Disability Space
20	Orleans Ave.	Dauphine St. & Bourbon St.	2 Residential Zone	Convert 2 spaces to 1PM Freight Zones Pay to Park after 1 PM
21	Orleans Ave.	Bourbon St. & Royal St.	2 Passenger Zones and 2 Taxi Stands	Convert to 4 Pay to Park Spaces

In addition to the specific changes identified here, the freight loading zones should be differently managed. If more deliveries are consolidated in the earlier hours of the day, prior to the arrival of many visitors, the freight zones can convert to metered spaces, and allow greater visitation.

It is recommended that the freight deliveries be managed to occur prior to lunch, or as early in the afternoon as possible. Currently, the zones are open to freight until 4 PM or in some locations 6 PM. These times should be made earlier, after which new metred capacity will become available in the same locations.

Table 7. Proposed Allocations (Net Effect)

Stall Type	Gains	Losses	Net Effect
Unregulated (Free)	- 0	-11	-11
Freight/ Loading	+ 4	- 8	- 4
Passenger Loading	+ 3	- 11	- 8
Taxi Stand	+ 0	- 20	- 20
Metered (Two-Hour)	+ 56	- 0	+ 56
Disability	+ 3	- 0	+ 3
Additional Metered time following freight hours	+ 22	- 0	+ 22

Other recommendations that were identified in the Phase One report, and are capable of yielding benefits in the French Quarter include:

Policy Changes

Based review of existing programs and operations, the following strategy recommendations are provided for consideration by the City.

A. *Adopt clear and strategic Guiding Principles as formal policies for the operation and management of public parking.*

From our initial observations it does not appear that New Orleans has established clear policies or priorities for parking management. In other words, there is not a policy framework that is intended to guide and/or trigger decision-making. As such, the City's intended role in managing existing public parking and planning for new supply in the future is unclear. Without clear agreement on the purpose of parking on a specific street, in a lot or garage, or within the entire parking supply; it becomes difficult to effectively organize, direct and maximize a parking system.

The statement of purpose in New Orleans' existing code (i.e., *Section 154.681 – Division of Parking* and *Section 154.682 – Powers and Duties*) is directed at describing the duties of the organization and specific regulatory services. The Parking Division webpage underscores this perspective in its description of the organization's role as being "responsible for enforcement of City ordinances in regard to public safety by managing curb space (on-street parking) in certain densely populated areas. Measures include ticketing and towing violating vehicles, immobilizing vehicles, and towing abandoned vehicles. This division is also responsible for establishing and managing residential parking zones throughout the City."[37] This is basically a reactive and regulatory role for parking management. It does not reflect a proactive role to use parking to accomplish specific strategic priorities and outcomes.

It is recommended that guiding standards for how the public supply of parking is, or should be, managed be developed and approved. These principles, developed through community consensus, will define your goals for parking and will guide near- and long-term decisions regarding management of public supply and regulation of private supply. Reaching consensus on principles with the City leadership and other community stakeholders is extremely important.

Principles should be developed (at minimum) in the following topic areas:

1. City's Primary Role and Coordination of Public Supply
   - Organization
   - Role of community – stakeholder input (on-going)
   - Management of existing public supply
   - Responsibility (if any) for new supply
2. Defining Priority Customer for on and off-street systems (public supply)
3. Capacity Management
   - Triggers for decision-making

   - Shared parking
   - Pricing
   - New supply

4. Information Systems
   - Performance metrics, monitoring and reporting
   - User information

5. Integration with other modes

6. Financial Viability

B. *Adopt the 85% Rule as the standard for measuring and monitoring the performance of the parking supply and triggering specific management strategies and rate ranges by discrete zone or area.*

The 85% Rule is an operating principle for coordinating parking supply. When occupancies routinely reach 85% during peak periods, more intensive and aggressive parking management strategies are called for to assist priority users in finding available parking. The 85% Rule will facilitate reasonable and effective decisions regarding time stays, enforcement, and other decisions related to capacity management.

Adopting the 85% Occupancy Standard as both an evaluative tool and decision-making trigger will facilitate more strategic planning. It also provides the City and affected community with a realistic standard to justify strategy actions.

C. *Establish clear and measurable performance standards*

The City should establish a manageable and replicable set of key metrics that it routinely uses to track performance of the system. Once established, "success metrics" should be routinely compiled and expressed in report formats that allow comparative analyses between operating periods; whether that is monthly, quarterly or annually. All compiled information should be combined into a single report (that allows simple comparative review of both on and off-street performance metrics.

D. *Establish best-practice protocols and performance metrics for enforcement personnel and support with appropriate enforcement technology.*

Enforcement is the foundation of sound parking management. Without enforcement, systems designed to encourage turnover and deter employees from parking on-street are ineffective. Consistent, objective enforcement ensures that performance goals for the on-street parking systemare met. Key metrics include duration of stay, turnover, and rate of violation.

Data from the 2016 parking study indicate that approximately 20% of unique vehicles parked in time-limited stalls downtown exceed the posted time stay. The industry best-practice standard for time stay violations is between 5 and 9 percent. New Orleans's total is well above the high side of the standard. Surveyor crews observed enforcement personnel issuing citations to violators in time limited stalls. Another violation metric worth noting is *Vehicle Hours Parking in Violation*, which evaluates the ratio of total vehicle hours parked against the total hours parked where a vehicle was exceeding the posted time stay. In the case of New Orleans, 24% of all vehicle hours parked were parked violation of the time restriction; that translates to nearly 1 in every 4 hours is non-compliant.

Based on anecdotal observations during the survey, very few citations were issued for users of loadingzones; neither non-commercial vehicles in freight zones nor personal vehicles parked in excess of two hours elicited parking citations in loading zones. While it appears enforcement crews do a reasonably good job at enforcing time stays, more targeted enforcement, particularly vehicles in loading zones, would likely result in better time stay compliance.

It is recommended that New Orleans consider:

- Review existing deployment routes to ensure highest efficiency of coverage, and increased loading/ passenger zone enforcement.
- Evaluate violation data and assess methods to improve (lower) current rate of violation (20%) to at least 9%.
- Develop reporting format that separates tickets by type. This ensures that total tickets issued are evaluated in the context of strictly parking related violations, versus tickets issued for non-parking related incidents (e.g., car tabs, warrants, etc.).
- Consider programs (and training) for use of PEO's as positive ambassadors for downtown.
- Implement a routine process (every two years) for review of citation rates to ensure, at minimum, that enforcement revenue covers all operating costs and other performance metrics established for the enforcement program.

E. *Develop and initiate a reasonable schedule of data collection to better assess performance of the downtown parking supply.*

A system for routine data collection will need to be established. The 2016 parking data collection effort has provided very good data for parking activity during the summer peak, but only for one day in eight separate sample zones

What is missing is objective and current data on seasonality and areas not covered in the 2016 survey. The more data available the City and local stakeholders make better-informed decisions as the downtown grows. Parking information can be collected in samples, and other measures of success can be gathered through third-party data collection and/or volunteer processes.

8. DECATUR ST CLOSURE

Introduction

Part of the scope of work for this project was to investigate the feasibility of closing Decatur St at Jackson Square. Closing the street at this location would connect the pedestrian malls on St. Ann St and St. Peter St, bounding Jackson Square, with Washington Artillery Park & Moonwalk and the river. However, closing Decatur St here would create several operational issues related to access and mobility for motor vehicles, transit, mule drawn carriages, as well as pedestrian safety. While it is clear that this closure is possible, it would require a number of operational changes that will significantly impact vehicular traffic flow throughout the French Quarter.

Figure 1: Decatur St Closure Area

Closing Decatur St to motor vehicles at this location would have a positive impact on the pedestrian environment in terms of safety and pedestrian capacity. This area of the French Quarter has a long-standing history as one of the most heavily trafficked pedestrian areas in the city. As a tradeoff to the pedestrian gains, any closure concept would also disrupt automobile and transit traffic patterns. The Decatur St/N Peters St corridor is a popular route for travel through the French Quarter with an ADT of around 10,000 vehicles and two transit lines.

Overview of Intent

The intent of this study is to explore Decatur St closure concepts and determine what would provide the highest benefit for the pedestrian environment and be the least disruptive to access and mobility. The following will show how mobility will change with a Decatur St closure and examine options to mitigate the effects of the closure.

This chapter also contains a conceptual analysis of options for routing automobiles and transit around a closure of Decatur St between Wilkinson St and Madison St. These options can be used to gauge the City’s interest in the idea of a Decatur St closure and the public’s appreciation for it as well. In order to proceed, much additional work is needed – testing these options technically, and through engagement with key stakeholders.

Operational Issues

Motor Vehicles

The combined Decatur St/N Peters St corridor is one of the major motor vehicle links facilitating traffic moving in the dense street grid of the French Quarter. Recent vehicle volume counts show around 10,000 vehicles per day use the corridor. Closing Decatur St at Jackson Square will significantly change motor vehicle mobility around and through the French Quarter. This section examines the options for redirecting vehicles away from the closure area back into the street grid and the redistribution of everyday traffic.

Redirection

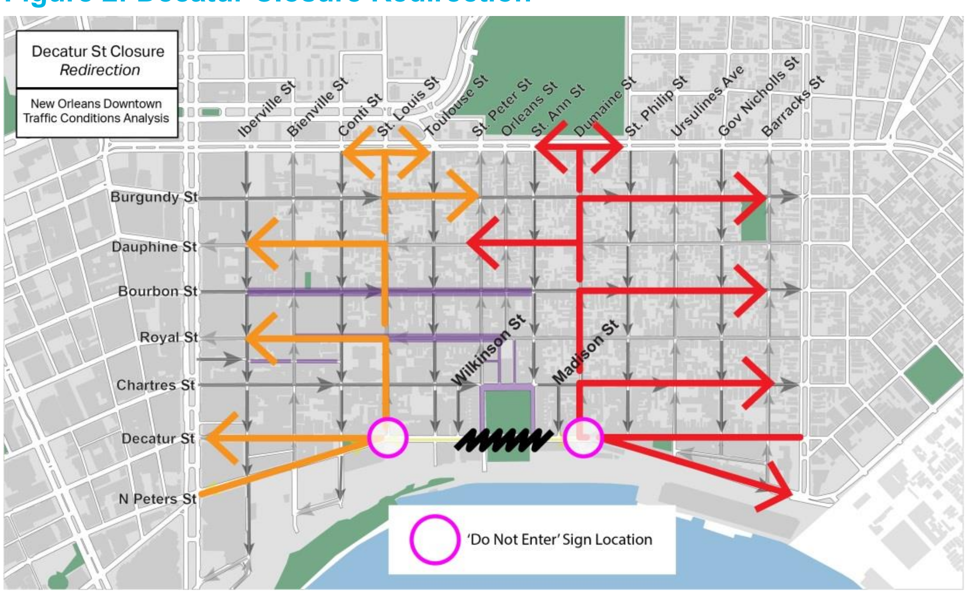
Without any modification to traffic patterns, vehicles traveling on the Decatur St/N Peters St corridor that reaches the closure points - Wilkinson St and Madison St – will be redirected back into the French Quarter street grid and back to the higher capacity edge streets (see Figure 2**).** Redirected traffic will have two basic options.

First, they can make a u-turn type movement at the two points where Decatur St and N Peters diverge/converge on either side of the French Quarter – Dumaine St and St. Louis St. This movement would create a direct route back to the exterior of the French Quarter. These intersections are crucial decision points where signs expressing "do not enter" would likely be located. Figure 2 shows the decision points as well as the various redirection routes.

The second option is to use Dumaine St (for traffic heading upriver) or St. Louis St (for traffic heading downriver) as exits to get back into the French Quarter street grid. Upriver bound drivers would then have the option of using Charters St, Bourbon St, or Burgundy St to get back to Esplanade, take Dauphine St to Canal St, or continue on Dumaine St all the way up to N Rampart St. Downriver bound drivers would use St. Louis St to access Royal St, Dauphine St to get back to Canal St, or Burgundy St to reach Esplanade Ave – St. Louis also extends all the way to N Rampart providing service to Canal St or other points downriver.

The closure location paired with the one-way streets that compose the French Quarter street

Figure 2: Decatur Closure Redirection

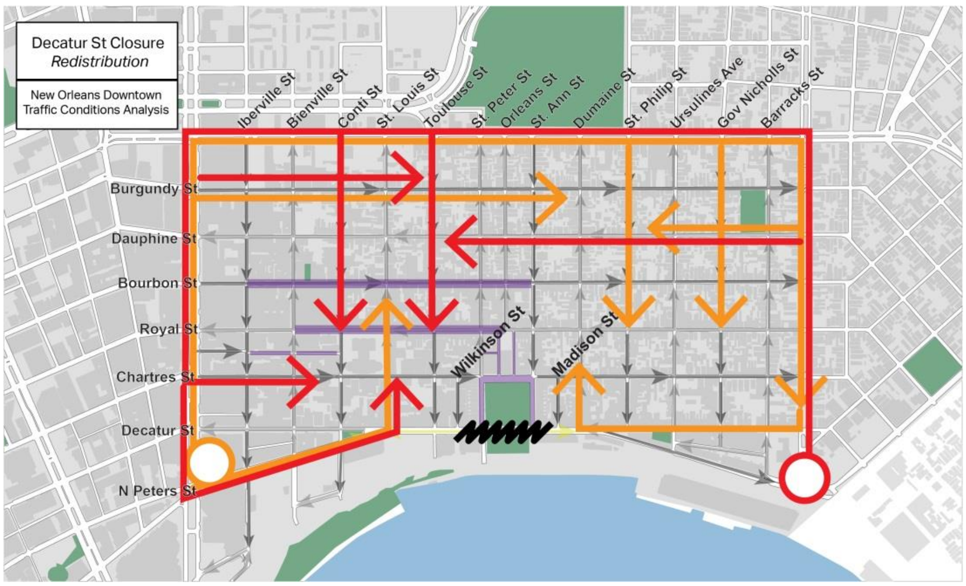


grid mean that St. Louis St and Dumaine St are the last point for vehicles heading toward Jackson Square to turn around or enter the French Quarter street grid. For this reason very clear signage must be installed to obviously communicate to drivers that they can no longer continue toward Jackson Square past St. Louis St or Dumaine St and need to turn. However, Toulouse St and Wilkinson St on the upriver side and Madison St on the downriver side of Jackson Square will still need access to the Decatur St/N Peters St. The presence of vehicles exiting these streets and heading toward Canal St and Esplanade Ave, respectively, will also act as a deterrent for vehicles heading toward Jackson Square.

Redistribution

This section describes the redistribution of daily traffic that would normally use the Decatur St/N Peters St corridor to travel through the French Quarter. These trips will either have to avoid the French Quarter altogether or use the other border roads - Canal St, N Rampart St, Esplanade

Figure 3: Decatur Closure Redistribution



Ave – depending on their destination.

Figure 3 shows the concept of how trips across the French Quarter would redistribute throughout the street grid to reach the opposite side given the closure on Decatur St. Upriver bound trips (red) would use Esplanade Ave, then N Rampart St or Dauphine St to access riverbound streets Toulouse St, Conti St, or Iberville St. Another option would be to use Canal to access the interior of the French Quarter via Burgundy St, Chartres St or N Peters for destinations on the other side of the closure.

Downriver bound trips (orange) would take a similar route using Canal St first, then N Rampart, or Burgundy St with St. Philip and Governor Nicholls Streets providing access to riverbound travel. Esplanade Ave can also be used to access the interior via Dauphine St, Royal St, or Dauphine St.

Transit

Two bus lines – the 55 Elysian Fields and the 5 Marigny/Bywater – use the Decatur St/N Peters St corridor to connect to the French Quarter and the foot of Canal St. Figure 4 shows the extent of each line and their identical path between Elysian Fields Ave and Canal St using the Decatur St/N Peters St corridor. Several stops for these lines are located along Decatur St/N Peters St, two of which inside the potential closure area – Decatur St at Dumaine St and Decatur St at St.

Peter St. Additionally, the Riverfront and Loyola-UPT streetcar lines run on the tracks located between Jackson Square and the Mississippi River. The Dumaine St and Toulouse St stations are the two located nearest to the potential closure area.

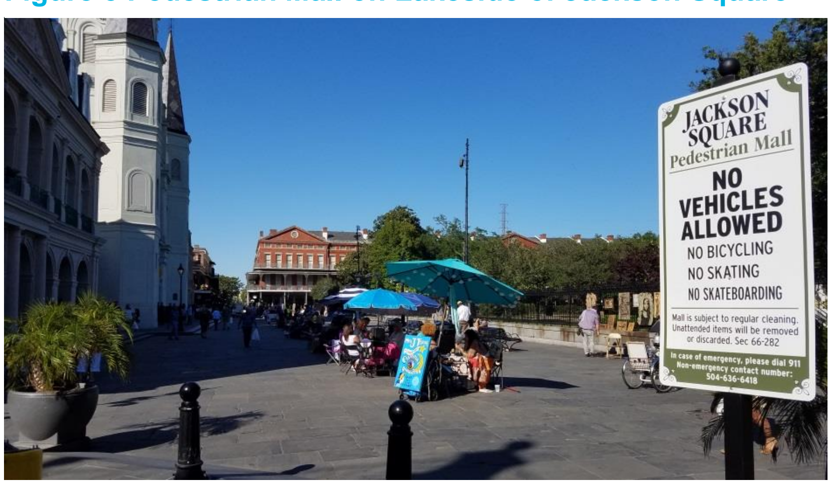
Figure 4: Existing Transit Lines

Connectivity Options

Pedestrian Mall

The umbrella concept for the roadway space opened up by the street closure at Jackson Square is conversion into a pedestrian mall. Properly designed, this space could solidify the link between the French Quarter (specifically Jackson Square) and the Mississippi River. Further, concerns over pedestrian safety in the area would be alleviated through the removal of motor vehicle traffic.

Figure 5 Pedestrian Mall on Lakeside of Jackson Square



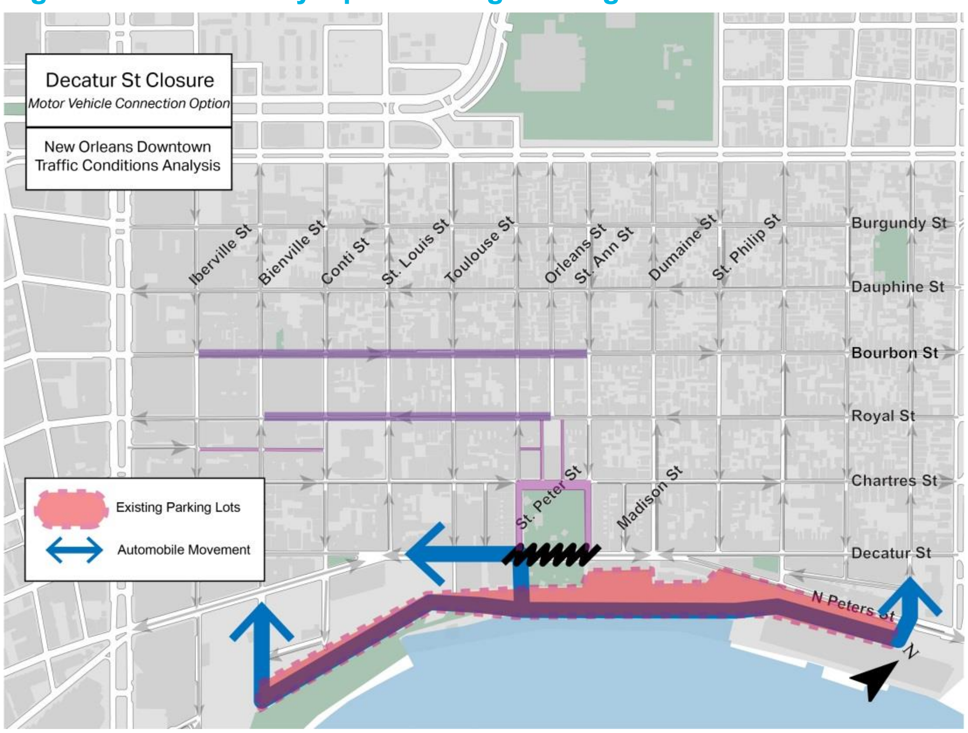
In addition to the safety, operations, and connectivity implications associated with the pedestrian mall concept, it is important to note that this project would be part of a global movement toward allocating former roadway space to pedestrians. International and domestic examples of such conversions are highlighted regularly for their benefits and innovation (e.g. New York City, Denver and Portland in the U.S.; and London, Paris, Madrid internationally).

The options for transit and motor vehicle connectivity have a direct effect on the range programming options that would best suit this space.

Motor Vehicle Connections

One option to maintain some connectivity across this closure is to allow cars to use the network of parking lots running between the French Market and the Mississippi River. This highly utilized string of parking lots is owned by the City of New Orleans. Allowing vehicles to use this space regularly would require the removal of parking spaces, which could be problematic for vehicle access to the area. Further research is necessary should the City continue to pursue this concept any further.

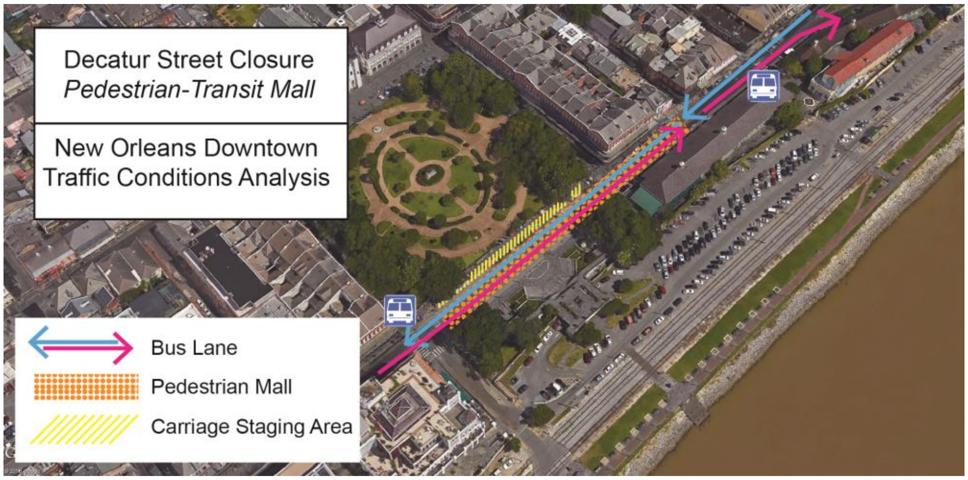
Figure 6: Connectivity Option Using Parking Lots



Transit Connections

Maintaining the existing transit connection on the Decatur St/N Peters St corridor is possible and is preferable when compared to the alternative of re-routing two separate transit lines or discontinuing transit service on these lines. There are three conceptual options available to continue transit service to the area.

Figure 8: Transit and Pedestrian Mall



The first option is for the bus lines to continue on the route that they currently use and share the pedestrian mall on Decatur St connecting the two parts of Jackson Square between transit and pedestrians (Figure 8). The existing roadway is 45 feet wide, excluding the bays for the horse drawn carriage staging area. Existing stops located at Jackson Square ensure that the busses would be moving at a slow pace already, complementing the calm, pedestrian friendly setting.

A useful real-world example is the 16th Street Mall in Denver, CO (see Figure 7). This 1.25 mile long mall stretches the length of Denver's downtown providing two way bus access with a pedestrian area in between the bus lanes. The bus and transit area is bounded by sidewalks. A similar concept could be implemented for the less than one-quarter mile car free zone in this scenario.

Figure 7: 16th Street Mall, Denver

source:villa parada

The second option is to allow transit vehicles to use the space between the French Market and the Mississippi River that is currently a parking lot (Figure 9). This option would allow for the reclaimed roadway space to be allocated solely to a pedestrian mall and transit

Transit vehicles would be able to navigate this busy area while avoiding pedestrian and motor vehicle traffic congestion. The main drawback associated with this concept is the loss of some

Figure 9: Transit Uses Parking Lots

of the off street parking behind the French Market that would be necessary to accommodate the bus way. There are other operational issues related to the ability of a bus to navigate this area that would also need to be studied as well.

The third option would be to run the bus lines in the same right of way as the riverfront streetcar tracks (Figure 10). Busses would be able to bypass the congestion on Decatur St/N Peters St while still providing service to the area and not diminishing parking or assuming right of way from another mode.

Figure 10: Transit Uses Streetcar Alignment

However, this concept would require transforming the existing streetcar tracks into an embedded track. Essentially, a road bed would be required along the tracks much like the in-road streetcar tracks on Loyola Ave and Rampart St. Buses would enter the riverfront tracks at Elysian Fields Ave and exit at N Peters. This concept would be the best long-term solution to provide fast, high-quality transit service to the area.

This concept, also, is not without precedent. Busses run on the same right of way as the Canal Streetcar under special circumstances. Further, the Seattle Transit Tunnel has a similar alignment. This 1.3 mile long tunnel has buses and light rail running on the same right of way with multiple stops since 2009.

Figure 11 Seattle Transit Tunnel

source: wikipedia

Conclusions

Expansion of pedestrian malls may have some benefits. But it is often more easily achieved on roadways with minimal traffic volumes and where alternate paths through the street grid allow easy rerouting. These conditions do not exist for Decatur Street.

The section of Decatur Street that would be closed would be safer for pedestrians and would essentially function as additional park space, open space or as a shared street. It is presumed that cyclists, pedicabs, mule-drawn carriages, and perhaps transit would still use the roadway.

However, there are considerable impacts to traffic and access within the French Quarter. Even subtle changes to the operations in the French Quarter are alarming for some businesses and residents. Therefore, it is not recommended that the closure of Decatur Street be pursued at this time.

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APPENDIX A

Appendix A Land Use Field Data

Table 1 Bourbon Street Land Use Observation Data

	Block (btwn x and x)	Street	Side	Address	Land Use	# of Stor-ies	Story Usage
1	Canal to Iberville	Bourbon	River	739A (Canal)	Commercial	4	1: C 2-4: Unknown
2	Canal to Iberville	Bourbon	River	116	Commercial	2	C
3	Canal to Iberville	Bourbon	River	144	Commercial/Hotel	13	1: C 2-13: Hotel
4	Canal to Iberville	Bourbon	Lake	Unknown	Commercial	4	1: C 2-4: Unknown
5	Canal to Iberville	Bourbon	Lake	111	Commercial	4	1-2: C 3-4: Unknown
6	Canal to Iberville	Bourbon	Lake	115	Commercial	4	1: C 2-4: Hotel
7	Canal to Iberville	Bourbon	Lake	Unknown	Commercial/Hotel	4	1: C 2-4: Hotel
8	Canal to Iberville	Bourbon	Lake	Unknown	Commercial	3	1-2: C 3: Unknown
9	Iberville to Bienville	Bourbon	River	Unknown	Commercial	4	1: C 2-4: Unknown
10	Iberville to Bienville	Bourbon	River	Unknown	Commercial	4	1: C 2-4: Unknown
11	Iberville to Bienville	Bourbon	River	Unknown	Commercial	2	1: C 2: Unknown
12	Iberville to Bienville	Bourbon	River	216	Commercial	1	C
13	Iberville to Bienville	Bourbon	River	222	Commercial	1	C
14	Iberville to Bienville	Bourbon	River	236	Commercial	3	1: C 2-3: Unknown
15	Iberville to Bienville	Bourbon	River	232	Commercial	2	1: C 2: Unknown
16	Iberville to Bienville	Bourbon	River	Unknown	Commercial	2	1: C 2: Unknown
17	Iberville to Bienville	Bourbon	River	Unknown	Commercial	2	1: C 2: Unknown

18	Iberville to Bienville	Bourbon	River	Unknown	Commercial	2	1: C 2: Unknown
19	Iberville to Bienville	Bourbon	Lake	201	Commercial	4	1-2: C 3-4: Unknown
20	Iberville to Bienville	Bourbon	Lake	205	Commercial	3	1-2: C 3: Unknown
21	Iberville to Bienville	Bourbon	Lake	Unknown	Commercial	3	1: C 2-3: Unknown
22	Iberville to Bienville	Bourbon	Lake	Unknown	Commercial (Vacant)	3	None
23	Iberville to Bienville	Bourbon	Lake	Unknown	Commercial	3	1: C 2-3: Unknown
24	Iberville to Bienville	Bourbon	Lake	Unknown	Commercial	2	C
25	Iberville to Bienville	Bourbon	Lake	Unknown	Commercial	2	C
26	Iberville to Bienville	Bourbon	Lake	Unknown and Unknown	Commercial	3	1-2: C 3: Unknown
27	Bienville to Conti	Bourbon	River	300	Commercial	5	Hotel
28	Bienville to Conti	Bourbon	River	340	Commercial/Hotel	5	1: C 2-5: Hotel
29	Bienville to Conti	Bourbon	Lake	Unknown	Commercial	2	1: C 2: Unknown
30	Bienville to Conti	Bourbon	Lake	Unknown	Commercial	2	C
31	Bienville to Conti	Bourbon	Lake	311	Attraction	0	A
32	Bienville to Conti	Bourbon	Lake	Unknown	Commercial	3	C
33	Bienville to Conti	Bourbon	Lake	325 and Unknown	Commercial	3	1: C 2-3: Unknown
34	Bienville to Conti	Bourbon	Lake	327	Commercial	4	1: C 2-4: Unknown
35	Bienville to Conti	Bourbon	Lake	None	Commercial	0	C
36	Bienville to Conti	Bourbon	Lake	333	Commercial	3	C
37	Bienville to Conti	Bourbon	Lake	339	Commercial	2	C
38	Conti to St. Louis	Bourbon	River	412	Commercial	3	1: C 2-3: Unknown
39	Conti to St. Louis	Bourbon	River	416/Unknown	Commercial	2	1: C 2: Unknown
40	Conti to St. Louis	Bourbon	River	420/Unknown	Commercial	1	C
41	Conti to St. Louis	Bourbon	River	424	Commercial	3	1: C 2-3: Unknown
42	Conti to St. Louis	Bourbon	River	438/436/434	Commercial	3	1: C 2-3: Unknown
43	Conti to St. Louis	Bourbon	Lake	Unknown	Commercial	2	C
44	Conti to St. Louis	Bourbon	Lake	Unknown	Commercial	2	C

45	Conti to St. Louis	Bourbon	Lake	Unknown	Commercial	2	C
46	Conti to St. Louis	Bourbon	Lake	Unknown	Commercial	2	C
47	Conti to St. Louis	Bourbon	Lake	411	Commercial	2	C
48	Conti to St. Louis	Bourbon	Lake	417	Commercial	2	C
49	Conti to St. Louis	Bourbon	Lake	425/Unknown	Commercial	2	C
50	Conti to St. Louis	Bourbon	Lake	Unknown	Residential	2	R
51	Conti to St. Louis	Bourbon	Lake	433	Commercial/Residential (Vacant)	3	None
52	Conti to St. Louis	Bourbon	Lake	435	Commercial	3	1: C 2-3: Unknown
53	Conti to St. Louis	Bourbon	Lake	Unknown	Commercial	2	1: C 2: Unknown
54	St. Louis to Toulouse	Bourbon	River	500	Commercial	3	1: C 2-3: Unknown
55	St. Louis to Toulouse	Bourbon	River	504	Commercial	3	1: C 2-3: Unknown
56	St. Louis to Toulouse	Bourbon	River	Unknown	Commercial	2	1: C 2: Unknown
57	St. Louis to Toulouse	Bourbon	River	516	Commercial	3	1: C 2-3: Unknown
58	St. Louis to Toulouse	Bourbon	River	Unknown	Commercial	1	C
59	St. Louis to Toulouse	Bourbon	River	522	Commercial	3	1: C 2-3: Unknown
60	St. Louis to Toulouse	Bourbon	River	526	Commercial	2	1: C 2: Unknown
61	St. Louis to Toulouse	Bourbon	River	534/530	Commercial	2	1: C 2: Unknown
62	St. Louis to Toulouse	Bourbon	River	Unknown	Commercial	2	1: C 2: Unknown
63	St. Louis to Toulouse	Bourbon	Lake	503/501	Commercial	2	1: C 2: Unknown
64	St. Louis to Toulouse	Bourbon	Lake	511	Commercial	2	1: C 2: Unknown
65	St. Louis to Toulouse	Bourbon	Lake	Unknown	Commercial/Hotel	5	1: C and Hotel 2-5: Hotel
66	Toulouse to St. Peter	Bourbon	River	Unknown	Commercial	2	1: C 2: Unknown
67	Toulouse to St. Peter	Bourbon	River	Unknown	Commercial	2	1: C 2: Unknown
68	Toulouse to St. Peter	Bourbon	River	614	Commercial	1	C
69	Toulouse to St. Peter	Bourbon	River	620/618	Commercial	1	C

70	Toulouse to St. Peter	Bourbon	River	624	Commercial	3	1: C 2-3: Unknown
71	Toulouse to St. Peter	Bourbon	River	Unknown	Commercial	2	1: C 2: Unknown
72	Toulouse to St. Peter	Bourbon	River	630	Commercial	2	1: C 2: Unknown
73	Toulouse to St. Peter	Bourbon	River	632	Commercial	2	1: C 2: Unknown
74	Toulouse to St. Peter	Bourbon	River	Unknown	Commercial	2	1: C 2: Unknown
75	Toulouse to St. Peter	Bourbon	Lake	601	Commercial	2	1: C 2: Unknown
76	Toulouse to St. Peter	Bourbon	Lake	605	Commercial	2	1: C 2: Unknown
77	Toulouse to St. Peter	Bourbon	Lake	609	Commercial	2	1: C 2: Unknown
78	Toulouse to St. Peter	Bourbon	Lake	611	Commercial	2	1: C 2: Unknown
79	Toulouse to St. Peter	Bourbon	Lake	Unknown	Commercial	1	C
80	Toulouse to St. Peter	Bourbon	Lake	Unknown	Commercial	2	1: C 2: Unknown
81	Toulouse to St. Peter	Bourbon	Lake	623	Residential	3	R
82	Toulouse to St. Peter	Bourbon	Lake	Unknown	Commercial	2	C
83	Toulouse to St. Peter	Bourbon	Lake	Unknown	Commercial	1	C
84	Toulouse to St. Peter	Bourbon	Lake	635	Commercial	2	1: C 2: Unknown
85	Toulouse to St. Peter	Bourbon	Lake	641	Commercial	2	1: C 2: Unknown
86	St. Peter to Orleans	Bourbon	River	Unknown	Commercial	2	1: C 2: Unknown
87	St. Peter to Orleans	Bourbon	River	Unknown	Commercial	2	1: C 2: Unknown
88	St. Peter to Orleans	Bourbon	River	Unknown	Commercial	2	1: C 2: Unknown
89	St. Peter to Orleans	Bourbon	Lake	Unknown	Commercial	2	1: C 2: Unknown
90	St. Peter to Orleans	Bourbon	Lake	709	Commercial	2	C
91	St. Peter to Orleans	Bourbon	Lake	711	Commercial	2	C
92	St. Peter to Orleans	Bourbon	Lake	715	Commercial	2	C

93	St. Peter to Orleans	Bourbon	Lake	Unknown	Commercial	2	1: C 2: Unknown
94	Orleans to St. Ann	Bourbon	River	734	Commercial/Hotel	4	1: C and Hotel 2-4: Hotel
95	Orleans to St. Ann	Bourbon	Lake	741/739	Commercial	1	C
96	Orleans to St. Ann	Bourbon	Lake	Unknown	Commercial	2	C
97	Orleans to St. Ann	Bourbon	Lake	727	Commercial	1	C
98	Orleans to St. Ann	Bourbon	Lake	Unknown	Commercial	2	1: C 2: Unknown
99	Orleans to St. Ann	Bourbon	Lake	735	Residential	2	R
100	St. Ann to Dumaine	Bourbon	River	800	Commercial	2	1: C 2: Unknown
101	St. Ann to Dumaine	Bourbon	River	810/808	Residential	1	R
102	St. Ann to Dumaine	Bourbon	River	Unknown	Residential	2	R
103	St. Ann to Dumaine	Bourbon	River	818	Residential	3	R
104	St. Ann to Dumaine	Bourbon	River	820	Residential	1	R
105	St. Ann to Dumaine	Bourbon	River	826	Residential	1	R
106	St. Ann to Dumaine	Bourbon	River	828	Residential	2	R
107	St. Ann to Dumaine	Bourbon	River	740/738 (Dumaine)	Residential	1	R
108	St. Ann to Dumaine	Bourbon	Lake	Unknown	Commercial	3	1: C 2-3: Unknown
109	St. Ann to Dumaine	Bourbon	Lake	807	Residential	3	R
110	St. Ann to Dumaine	Bourbon	Lake	811	Residential	3	R
111	St. Ann to Dumaine	Bourbon	Lake	819	Residential	2	R
112	St. Ann to Dumaine	Bourbon	Lake	825	Residential	2	R
113	St. Ann to Dumaine	Bourbon	Lake	Unknown	Residential	2	R
114	St. Ann to Dumaine	Bourbon	Lake	835	Residential	3	R
115	St. Ann to Dumaine	Bourbon	Lake	839	Residential	3	R
116	St. Ann to Dumaine	Bourbon	Lake	841	Commercial	3	1: C 2-3: Unknown
117	Dumaine to St. Phillip	Bourbon	River	Unknown	Commercial	3	1: C 2-3: Unknown
118	Dumaine to St. Phillip	Bourbon	River	906	Commercial	2	1: C 2: Unknown

119	Dumaine to St. Phillip	Bourbon	River	910	Commercial/Residential	3	1: C 2-3: R
120	Dumaine to St. Phillip	Bourbon	River	914	Residential	2	R
121	Dumaine to St. Phillip	Bourbon	River	918/920	Residential	3	R
122	Dumaine to St. Phillip	Bourbon	River	924/922	Residential	2	R
123	Dumaine to St. Phillip	Bourbon	River	930/928	Residential	2	R
124	Dumaine to St. Phillip	Bourbon	River	932	Residential	2	R
125	Dumaine to St. Phillip	Bourbon	River	942/940	Residential	2	R
126	Dumaine to St. Phillip	Bourbon	Lake	Unknown	Commercial	2	1: C 2: Unknown
127	Dumaine to St. Phillip	Bourbon	Lake	907	Commercial	2	1: C 2: Unknown
128	Dumaine to St. Phillip	Bourbon	Lake	909	Commercial	2	1: C 2: Unknown
129	Dumaine to St. Phillip	Bourbon	Lake	915	Residential	2	R
130	Dumaine to St. Phillip	Bourbon	Lake	921/919	Residential	1	R
131	Dumaine to St. Phillip	Bourbon	Lake	925/923	Residential	1	R
132	Dumaine to St. Phillip	Bourbon	Lake	929/927	Residential	2	R
133	Dumaine to St. Phillip	Bourbon	Lake	933	Residential	2	R
134	Dumaine to St. Phillip	Bourbon	Lake	941	Commercial	2	C

Table 2 Side Street Land Use Observation Data

Street	Block (btwn x and x)	Side	Address	Commercial/Residential/Etc.	# of Stories	Story Usage
Iberville	Royal to Bourbon	Upriver	Unknown	Commercial	2	C
Iberville	Royal to Bourbon	Upriver	716	Commercial/ Parking Garage	7	1: C 2-7: PG
Iberville	Royal to Bourbon	Upriver	Unknown	Parking Garage	7	PG
Iberville	Royal to Bourbon	Upriver	724	Commercial	3	1-2: C 3: Unknown
Iberville	Royal to Bourbon	Upriver	144 (Bourbon)	Commercial	4	1: C 2-4:

						Unknown
Iberville	Royal to Bourbon	Downriver	201 (Royal)	Commercial	4	1: C 2-4: Unknown
Iberville	Royal to Bourbon	Downriver	721	Parking Garage	4	PG
Iberville	Royal to Bourbon	Downriver	725	Commercial	3	1: C 2-3: Unknown
Iberville	Royal to Bourbon	Downriver	Unknown	Commercial	3	1: C 2-3: Unknown
Iberville	Royal to Bourbon	Downriver	739	Commercial	4	1: C 2-4: Unknown
Iberville	Royal to Bourbon	Downriver	Unknown	Commercial	3	1: C 2-3: Unknown
Iberville	Bourbon to Dauphine	Upriver	125 (Bourbon)	Commercial	2	C
Iberville	Bourbon to Dauphine	Upriver	Unknown	Commercial	4	None
Iberville	Bourbon to Dauphine	Upriver	Unknown	Hotel	4	Hotel
Iberville	Bourbon to Dauphine	Downriver	201 (Bourbon)	Commercial	3	1: C 2-3: Unknown
Iberville	Bourbon to Dauphine	Downriver	Unknown	Commercial	1	None
Iberville	Bourbon to Dauphine	Downriver	811	Commercial	2	C
Iberville	Bourbon to Dauphine	Downriver	821	Commercial/Parking Garage	5	1: C 2-5 PG
Iberville	Bourbon to Dauphine	Downriver	Unknown	Parking Garage	5	PG
Iberville	Bourbon to Dauphine	Downriver	841	Commercial	3	1: C 2-3: Unknown
Bienville	Royal to Bourbon	Upriver	241 (Royal)	Commercial/Attraction	3	C/A
Bienville	Royal to Bourbon	Upriver	730	Hotel	4	Hotel
Bienville	Royal to Bourbon	Upriver	Unknown	Commercial	4	1: C 2-4: Unknown
Bienville	Royal to Bourbon	Upriver	Unknown	Commercial	2	C
Bienville	Royal to Bourbon	Downriver	711	Commercial	2	C
Bienville	Royal to Bourbon	Downriver	715	Commercial	2	C

Bienville	Royal to Bourbon	Downriver	777/Unknown/300 (Bourbon)	Commercial/Parking Garage/Hotel	5	1: PG/Hotel/C 2-5: Hotel
Bienville	Bourbon to Dauphine	Upriver	241 (Bourbon)	Commercial	2	C
Bienville	Bourbon to Dauphine	Upriver	808	Commercial	3	C
Bienville	Bourbon to Dauphine	Upriver	810	Residential	4	R
Bienville	Bourbon to Dauphine	Downriver	Unknown	Commercial	2	C
Bienville	Bourbon to Dauphine	Downriver	Unknown	Commercial	3	C
Bienville	Bourbon to Dauphine	Downriver	Unknown	Commercial	3	C
Bienville	Bourbon to Dauphine	Downriver	Unknown	Commercial	3	C
Conti	Royal to Bourbon	Upriver	337 (Royal)	Commercial/Attraction	2	C/A
Conti	Royal to Bourbon	Upriver	700	Hotel/Parking Garage	5	Hotel/PG
Conti	Royal to Bourbon	Upriver	Unknown	Commercial	2	C
Conti	Royal to Bourbon	Downriver	Unknown	Commercial/Attraction	2	C/A
Conti	Royal to Bourbon	Downriver	739	Hotel	5	Hotel
Conti	Royal to Bourbon	Downriver	729	Commercial	3	1: C 2-3: R
Conti	Royal to Bourbon	Downriver	725	Commercial	3	C
Conti	Royal to Bourbon	Downriver	717	Commercial	3	C
Conti	Royal to Bourbon	Downriver	707 Conti or 403 (Royal)	Commercial	3	C
Conti	Bourbon to Dauphine	Upriver	339 (Bourbon)	Commercial	2	C
Conti	Bourbon to Dauphine	Upriver	806	Commercial	2	C
Conti	Bourbon to Dauphine	Upriver	830	Commercial/Hotel/Parking Garage	3	C/Hotel/PG
Conti	Bourbon to Dauphine	Upriver	840	Attraction or Residential	2	A or R
Conti	Bourbon to Dauphine	Downriver	Unknown	Commercial	2	1: C 2: Unknown
Conti	Bourbon to Dauphine	Downriver	811	Residential	2	R
Conti	Bourbon to Dauphine	Downriver	Unknown	Commercial	2	C

Conti	Bourbon to Dauphine	Downriver	Unknown	Commercial	3	1: C 2: R 3: Unknown
Conti	Bourbon to Dauphine	Downriver	400 (Dauphine)	Commercial	3	C
St. Louis	Royal to Bourbon	Upriver	441 (Royal)	Commercial	2	C
St. Louis	Royal to Bourbon	Upriver	710	Commercial	2	C
St. Louis	Royal to Bourbon	Upriver	Unknown	Commercial	2	None
St. Louis	Royal to Bourbon	Upriver	Unknown	Commercial	2	C
St. Louis	Royal to Bourbon	Upriver	720	Commercial	2	C
St. Louis	Royal to Bourbon	Upriver	722	Residential	2	R
St. Louis	Royal to Bourbon	Upriver	728	None	2	None
St. Louis	Royal to Bourbon	Upriver	730	Commercial	2	C
St. Louis	Royal to Bourbon	Upriver	440 (Bourbon)	Commercial	2	C
St. Louis	Royal to Bourbon	Downriver	501 (Royal)	Commercial/Attraction	2	C/A
St. Louis	Royal to Bourbon	Downriver	713	Commercial	4	1-2: C 3-4: Unknown
St. Louis	Royal to Bourbon	Downriver	Unknown	Commercial	3	1: C 2-3: Unknown
St. Louis	Royal to Bourbon	Downriver	727	Residential	3	R
St. Louis	Royal to Bourbon	Downriver	Unknown	Commercial	3	C
St. Louis	Royal to Bourbon	Downriver	735	Commercial	3	C
St. Louis	Royal to Bourbon	Downriver	Unknown	Commercial/Attraction	3	C/A
St. Louis	Bourbon to Dauphine	Upriver	Unknown	Commercial	2	C
St. Louis	Bourbon to Dauphine	Upriver	818	Commercial	2	C
St. Louis	Bourbon to Dauphine	Upriver	820	National Park	2	NP
St. Louis	Bourbon to Dauphine	Upriver	828	Commercial	2	C
St. Louis	Bourbon to Dauphine	Upriver	832	Residential	2	R
St. Louis	Bourbon to Dauphine	Downriver	Unknown	Commercial	2	C
St. Louis	Bourbon to Dauphine	Downriver	817	Commercial	2	C

St. Louis	Bourbon to Dauphine	Downriver	819	Commercial	2	C
St. Louis	Bourbon to Dauphine	Downriver	823	Commercial	2	C
St. Louis	Bourbon to Dauphine	Downriver	827	Residential	1	R
St. Louis	Bourbon to Dauphine	Downriver	831	Residential	3	R
St. Louis	Bourbon to Dauphine	Downriver	833	Residential	3	R
St. Louis	Bourbon to Dauphine	Downriver	841	Residential	3	R
Toulouse	Royal to Bourbon	Upriver	708	Commercial/Attraction	2	C/A
Toulouse	Royal to Bourbon	Upriver	722/718	Attraction	2	A
Toulouse	Royal to Bourbon	Upriver	726	Residential	1	R
Toulouse	Royal to Bourbon	Upriver	728	Residential	1	R
Toulouse	Royal to Bourbon	Upriver	Unknown	Commercial	2	C
Toulouse	Royal to Bourbon	Upriver	732	Commercial	2	C
Toulouse	Royal to Bourbon	Upriver	738	Commercial	2	C
Toulouse	Royal to Bourbon	Upriver	Unknown	Commercial	2	C
Toulouse	Royal to Bourbon	Downriver	705	Commercial/Residential	4	1: C 2-4: R
Toulouse	Royal to Bourbon	Downriver	707	Residential	2	R
Toulouse	Royal to Bourbon	Downriver	Unknown	Commercial/Residential	3	1: C 2-3: R
Toulouse	Royal to Bourbon	Downriver	717	Commercial/Residential	3	1: C 2-3: R
Toulouse	Royal to Bourbon	Downriver	719	Commercial	2	C
Toulouse	Royal to Bourbon	Downriver	723	Residential	2	R
Toulouse	Royal to Bourbon	Downriver	727	Hotel	2	Hotel
Toulouse	Royal to Bourbon	Downriver	733	Commercial	2	1: C 2: Unknown
Toulouse	Royal to Bourbon	Downriver	Unknown	Commercial	2	C
Toulouse	Bourbon to Dauphine	Upriver	828	Commercial/Hotel/Parking Garage	2	1: C/Hotel/PG 2: Hotel
Toulouse	Bourbon to Dauphine	Downriver	Unknown	Commercial	2	C

Toulouse	Bourbon to Dauphine	Downriver	Unknown	Commercial	2	C
Toulouse	Bourbon to Dauphine	Downriver	813/815	Commercial	1	C
Toulouse	Bourbon to Dauphine	Downriver	Unknown	Commercial/Hotel/Parking Garage	4	1: C/Hotel/PG 2-4: Hotel/PG
St. Peter	Royal to Bourbon	Upriver	Unknown	Commercial	2	C
St. Peter	Royal to Bourbon	Upriver	704	Residential	2	R
St. Peter	Royal to Bourbon	Upriver	710	Commercial	1	C
St. Peter	Royal to Bourbon	Upriver	714	Commercial	2	C
St. Peter	Royal to Bourbon	Upriver	718	Commercial	2	C
St. Peter	Royal to Bourbon	Upriver	726	Commercial	2	C
St. Peter	Royal to Bourbon	Upriver	Unknown	Commercial	2	1: C 2: Unknown
St. Peter	Royal to Bourbon	Upriver	Unknown	Commercial	2	1: C 2: Unknown
St. Peter	Royal to Bourbon	Downriver	701 (Royal)/705, 707 St. Peter	Commercial/Residential	2	1: C/R 2: R
St. Peter	Royal to Bourbon	Downriver	711	Commercial	2	1: C 2: Unknown
St. Peter	Royal to Bourbon	Downriver	715	Residential	2	R
St. Peter	Royal to Bourbon	Downriver	717	Commercial	3	C
St. Peter	Royal to Bourbon	Downriver	Unknown	Commercial	2	C
St. Peter	Royal to Bourbon	Downriver	727	Commercial	2	1: C 2: Unknown
St. Peter	Royal to Bourbon	Downriver	731	Commercial	2	1: C 2: R
St. Peter	Royal to Bourbon	Downriver	Unknown	Commercial	3	1-2: C 3: Unknown
St. Peter	Bourbon to Dauphine	Upriver	Unknown	Residential	2	R
St. Peter	Bourbon to Dauphine	Upriver	810	Residential	3	R
St. Peter	Bourbon to Dauphine	Upriver	816/818	Residential	1	R
St. Peter	Bourbon to Dauphine	Upriver	822	Residential	1	R

St. Peter	Bourbon to Dauphine	Upriver	826/828	Residential	1	R
St. Peter	Bourbon to Dauphine	Upriver	832	Residential	1	R
St. Peter	Bourbon to Dauphine	Upriver	836	Residential	2	R
St. Peter	Bourbon to Dauphine	Upriver	Unknown	Residential	2	R
St. Peter	Bourbon to Dauphine	Downriver	Unknown	Commercial	2	C
St. Peter	Bourbon to Dauphine	Downriver	811/813	Residential	1	R
St. Peter	Bourbon to Dauphine	Downriver	815/817	Residential	1	R
St. Peter	Bourbon to Dauphine	Downriver	819	Residential	2	R
St. Peter	Bourbon to Dauphine	Downriver	821	Residential	1	R
St. Peter	Bourbon to Dauphine	Downriver	827/829	Residential	2	R
St. Peter	Bourbon to Dauphine	Downriver	831	Residential	3	R
St. Peter	Bourbon to Dauphine	Downriver	835	Residential	2	R
St. Peter	Bourbon to Dauphine	Downriver	Unknown	Commercial	2	1: C 2: Unknown
Orleans	Royal to Bourbon	Upriver	704	Commercial	4	C
Orleans	Royal to Bourbon	Upriver	708	Residential	3	R
Orleans	Royal to Bourbon	Upriver	710	Residential	3	R
Orleans	Royal to Bourbon	Upriver	712	Commercial	3	C
Orleans	Royal to Bourbon	Upriver	714	Commercial	3	C
Orleans	Royal to Bourbon	Upriver	720	Commercial	2	C
Orleans	Royal to Bourbon	Upriver	726	Residential	3	R
Orleans	Royal to Bourbon	Upriver	730	Commercial	3	C
Orleans	Royal to Bourbon	Upriver	734/736	Commercial	2	C
Orleans	Royal to Bourbon	Upriver	720 (Bourbon)	Commercial	2	C
Orleans	Royal to Bourbon	Downriver	721 (Royal)	Commercial/Attraction	2	C/A
Orleans	Royal to Bourbon	Downriver	717	Commercial	2	C
Orleans	Royal to Bourbon	Downriver	Unknown	Commercial/Hotel	4	C/Hotel

Orleans	Bourbon to Dauphine	Upriver	717 (Bourbon)	Commercial/Attraction	2	C/A
Orleans	Bourbon to Dauphine	Upriver	810	Residential	1	R
Orleans	Bourbon to Dauphine	Upriver	814	Residential	1	R
Orleans	Bourbon to Dauphine	Upriver	816A and 816B	Residential	1	R
Orleans	Bourbon to Dauphine	Upriver	820/824	Residential	1	R
Orleans	Bourbon to Dauphine	Upriver	826/828	Residential	2	R
Orleans	Bourbon to Dauphine	Upriver	830/832	Residential	1	R
Orleans	Bourbon to Dauphine	Upriver	834	Residential	3	R
Orleans	Bourbon to Dauphine	Upriver	Unknown	Residential	2	R
Orleans	Bourbon to Dauphine	Downriver	721 (Bourbon)	Commercial	2	C
Orleans	Bourbon to Dauphine	Downriver	811/813	Residential	2	R
Orleans	Bourbon to Dauphine	Downriver	819	Residential	1	R
Orleans	Bourbon to Dauphine	Downriver	Unknown	Residential	2	R
Orleans	Bourbon to Dauphine	Downriver	827	Residential	1	R
Orleans	Bourbon to Dauphine	Downriver	831/833	Residential	2	R
Orleans	Bourbon to Dauphine	Downriver	835/837	Residential	2	R
Orleans	Bourbon to Dauphine	Downriver	839	Residential	1	R
St. Ann	Royal to Bourbon	Upriver	706	Commercial	2	C
St. Ann	Royal to Bourbon	Upriver	713	Commercial	2	C
St. Ann	Royal to Bourbon	Upriver	734	Commercial	2	C/H
St. Ann	Royal to Bourbon	Downriver	707/801 Royal	Commercial	2	C
St. Ann	Royal to Bourbon	Downriver	709	Commercial	3	R
St. Ann	Royal to Bourbon	Downriver	713	Residential	2	R
St. Ann	Royal to Bourbon	Downriver	719	Residential	3	R
St. Ann	Royal to Bourbon	Downriver	727	Residential	2	R
St. Ann	Royal to Bourbon	Downriver	731	Residential	2	R
St. Ann	Royal to	Downriver	733	Residential	1	R

	Bourbon	r				
St. Ann	Royal to Bourbon	Downriver	737	Commercial	2	C
St. Ann	Bourbon to Dauphine	Upriver	741 Bourbon/806 St. Ann	Commercial	1	C
St. Ann	Bourbon to Dauphine	Upriver	808	Commercial	2	C
St. Ann	Bourbon to Dauphine	Upriver	816/820	Residential	2	R
St. Ann	Bourbon to Dauphine	Upriver	822	Residential	2	R
St. Ann	Bourbon to Dauphine	Upriver	826	Residential	2	R
St. Ann	Bourbon to Dauphine	Upriver	740 Dauphine	Commercial	2	C
St. Ann	Bourbon to Dauphine	Downriver	803	Commercial	2	C
St. Ann	Bourbon to Dauphine	Downriver	815	Residential	2	R
St. Ann	Bourbon to Dauphine	Downriver	819	Residential	2	R
St. Ann	Bourbon to Dauphine	Downriver	823	School	3	School
St. Ann	Bourbon to Dauphine	Downriver	833	Residential	2	R
St. Ann	Bourbon to Dauphine	Downriver	839	Commercial	2	C
Dumaine	Royal to Bourbon	Upriver	706	Commercial	3	C
Dumaine	Royal to Bourbon	Upriver	714	Commercial	3	C
Dumaine	Royal to Bourbon	Upriver	716	Commercial	2	C
Dumaine	Royal to Bourbon	Upriver	724	Commercial	3	C
Dumaine	Royal to Bourbon	Upriver	730	Commercial/Hotel	4	Hotel
Dumaine	Royal to Bourbon	Upriver	734-736	Residential	1	R
Dumaine	Royal to Bourbon	Upriver	738-740	Residential	1	R
Dumaine	Royal to Bourbon	Downriver	903 Royal	Commercial/Hotel	3	Hotel
Dumaine	Royal to Bourbon	Downriver	707	Residential	1	R
Dumaine	Royal to Bourbon	Downriver	713-715	Residential	1	R
Dumaine	Royal to Bourbon	Downriver	717	Residential	1	R
Dumaine	Royal to Bourbon	Downriver	719-721	Residential	2	R
Dumaine	Royal to Bourbon	Downriver	729-731	Residential	1	R

Dumaine	Royal to Bourbon	Downriver	733-735-737	Residential	2	R
Dumaine	Royal to Bourbon	Downriver	741	Residential	2	R
Dumaine	Bourbon to Dauphine	Upriver	841 Bourbon	Commercial	3	C
Dumaine	Bourbon to Dauphine	Upriver	808	Residential	3	R
Dumaine	Bourbon to Dauphine	Upriver	810	Residential	3	R
Dumaine	Bourbon to Dauphine	Upriver	820	Residential	2	R
Dumaine	Bourbon to Dauphine	Upriver	820 Dauphine	School	3	School
Dumaine	Bourbon to Dauphine	Downriver	901 Bourbon St	Commercial	2	C
Dumaine	Bourbon to Dauphine	Downriver	807	Residential	2	R
Dumaine	Bourbon to Dauphine	Downriver	809	Residential	2	R
Dumaine	Bourbon to Dauphine	Downriver	811	Residential	2	R
Dumaine	Bourbon to Dauphine	Downriver	813	Residential	2	R
Dumaine	Bourbon to Dauphine	Downriver	815	Residential	2	R
Dumaine	Bourbon to Dauphine	Downriver	817	Residential	2	R
Dumaine	Bourbon to Dauphine	Downriver	825	Residential	2	R
Dumaine	Bourbon to Dauphine	Downriver	829	Residential	2	R
Dumaine	Bourbon to Dauphine	Downriver	831	Residential	2	R
Dumaine	Bourbon to Dauphine	Downriver	837	Residential	2	R
Dumaine	Bourbon to Dauphine	Downriver	839	Residential	2	R
Dumaine	Bourbon to Dauphine	Downriver	841	Residential	2	R
St. Philip	Royal to Bourbon	Upriver	941 Royal St	Commercial	4	C
St. Philip	Royal to Bourbon	Upriver	700	Commercial	4	R
St. Philip	Royal to Bourbon	Upriver	712	Residential	2	R
St. Philip	Royal to Bourbon	Upriver	716	Residential	3	R
St. Philip	Royal to Bourbon	Upriver	718-720	Residential	2	R
St. Philip	Royal to Bourbon	Upriver	724	Residential	1	R
St. Philip	Royal to	Upriver	726-728	Residential	2	R

	Bourbon					
St. Philip	Royal to Bourbon	Upriver	730	Residential	2	R
St. Philip	Royal to Bourbon	Downriver	721	School	3	School
St. Philip	Royal to Bourbon	Downriver	739	Commercial	2	R
St. Philip	Bourbon to Dauphine	Upriver	941 Bourbon St	Commercial	2	C
St. Philip	Bourbon to Dauphine	Upriver	808	Residential	2	R
St. Philip	Bourbon to Dauphine	Upriver	814	Residential	2	R
St. Philip	Bourbon to Dauphine	Upriver	816	Residential	2	R
St. Philip	Bourbon to Dauphine	Upriver	826	Residential	1	R
St. Philip	Bourbon to Dauphine	Upriver	830-832	Residential	4	R
St. Philip	Bourbon to Dauphine	Upriver	834-836	Residential	2	R
St. Philip	Bourbon to Dauphine	Upriver	838-840	Residential	2	R
St. Philip	Bourbon to Dauphine	Downriver	900 Bourbon St	Commercial/Hotel	4	Hotel
St. Philip	Bourbon to Dauphine	Downriver	817	Residential	3	R
St. Philip	Bourbon to Dauphine	Downriver	823	Residential	2	R
St. Philip	Bourbon to Dauphine	Downriver	829-831	Residential	2	R
St. Philip	Bourbon to Dauphine	Downriver	No Address	Residential	2	R
St. Philip	Bourbon to Dauphine	Downriver	841	Residential	2	R

APPENDIX B Traffic Volume Data

Source:	Counts from Regional Planning Comission Website					
	Street	Location	ADT	Year	Source	Original Count
	Decatur St	St. Philip - Dumaine	10,562	2011	RPC	ADT
	Esplanade Ave	N Peters St	5,394	2014	RPC	ADT
	Dauphine St	St. Louis St	7,325	2007	RPC	ADT
	Canal St	Chartres St - Royal St	15,454	2013	RPC	ADT
	Rampart St	Conti St	20,481	2012	RPC	ADT

Source:	AECOM Turning Movement Counts specifically for this study				30-min counts
	Cross St	Bourbon St	Cross St Thru	Cross St Turning	Intersection Total
	Iberville St	*Riverbound*			
	AM	70	89	11	170
	Mid-Day	69	79	30	178
	PM	54	56	3	113
	Bienville St	*Lakebound*			
	AM	40	30	28	98
	Mid-Day	115	65	24	204
	PM	7	116	0	123
	Conti St	*Riverbound*			
	AM	74	100	26	200
	Mid-Day	70	49	12	131
	PM	2	122	2	126
	St. Louis St	*Lakebound*			
	AM	80	48	9	137
	Mid-Day	67	59	17	143
	PM	0	70	0	70
	Toulouse St	*Riverbound*			
	AM	40	126	15	181
	Mid-Day	64	83	26	173
	PM	19	94	10	123
	St. Peter St	*Lakebound*			
	AM	56	9	21	86
	Mid-Day	73	35	16	124
	PM	4	70	11	85
	Orleans St	*Lakebound*			
	AM	49	18	5	72
	Mid-Day	51	71	10	132
	PM	16	41	2	59
	St. Ann St	*Riverbound*			
	AM	117	31	14	162
	Mid-Day	70	37	16	123
	PM	3	49	22	74
	Dumaine St	*Lakebound*			
	AM	37	23	16	76
	Mid-Day	81	29	20	130
	PM	49	51	19	119
	St. Philip St	*Riverbound*			
	AM	39	41	12	92
	Mid-Day	70	35	11	116
	PM	47	42	17	106

Source: AECOM Turning Movement Counts from 1st part of this study

Street	Location	WB Right	WB Thru	EB Right	EB Thru	Total	Time	Year	Source
Canal St	Carondelet St/Bourbon St	54	314	0	449	817	7-8 AM	2016	ITS
Canal St	Carondelet St/Bourbon St	71	412	0	719	1202	8-9 AM	2016	ITS
Canal St	Carondelet St/Bourbon St	124	708	0	514	1346	4-5 PM	2016	ITS
Canal St	Carondelet St/Bourbon St	149	863	0	542	1554	5-6 PM	2016	ITS

Street	Location	EB Right	EB Thru	WB Right	WB Thru	Total	Time	Year	Source
Canal St	Baronne St/Dauphine St	311	619	0	326	1256	7-8 AM	2016	ITS
Canal St	Baronne St/Dauphine St	306	806	0	361	1473	8-9 AM	2016	ITS
Canal St	Baronne St/Dauphine St	149	537	0	847	1533	4-5 PM	2016	ITS
Canal St	Baronne St/Dauphine St	122	478	0	1064	1664	5-6 PM	2016	ITS

Street	Location	WB Right	WB Thru	EB Right	EB Thru	Total	Time	Year	Source
Canal St	Tchoupitoulas St/N Peters St	153	147	104	253	657	7-8 AM	2016	ITS
Canal St	Tchoupitoulas St/N Peters St	174	171	105	277	727	8-9 AM	2016	ITS
Canal St	Tchoupitoulas St/N Peters St	167	250	172	434	1023	4-5 PM	2016	ITS
Canal St	Tchoupitoulas St/N Peters St	195	280	166	386	1027	5-6 PM	2016	ITS

Street	Location	EB Right	EB Thru	WB Right	WB Thru	Total	Time	Year	Source
Canal St	Camp St/Chartres St	0	152	58	442	652	7-8 AM	2016	ITS
Canal St	Camp St/Chartres St	0	178	54	516	748	8-9 AM	2016	ITS
Canal St	Camp St/Chartres St	0	342	61	368	771	4-5 PM	2016	ITS
Canal St	Camp St/Chartres St	0	386	74	375	835	5-6 PM	2016	ITS

Street	Location	WB Right	WB Thru	EB Left	EB Thru	Total	Time	Year	Source
Canal St	Camp St/Chartres St	0	152	58	442	652	7-8 AM	2016	ITS
Canal St	Camp St/Chartres St	0	178	54	516	748	8-9 AM	2016	ITS
Canal St	Camp St/Chartres St	0	342	61	368	771	4-5 PM	2016	ITS
Canal St	Camp St/Chartres St	0	386	74	375	835	5-6 PM	2016	ITS

Street	Location	SB Right	SB Thru	NB Left	NB Thru	Total	Time	Year	Source
N Peters	Bienville St	1	316	13	471	801	7-8 AM	2016	ITS
N Peters	Bienville St	8	421	5	602	1036	8-9 AM	2016	ITS
N Peters	Bienville St	1	315	112	597	1025	4-5 PM	2016	ITS
N Peters	Bienville St	8	283	70	627	988	5-6 PM	2016	ITS

Street	Location	WB Right	WB Thru	EB Right	EB Thru	Total	Time	Year	Source
Decatur St	Toulouse St	0	500	7	272	779	7-8 AM	2016	ITS
Decatur St	Toulouse St	0	495	16	267	778	8-9 AM	2016	ITS
Decatur St	Toulouse St	0	392	6	529	927	4-5 PM	2016	ITS
Decatur St	Toulouse St	0	394	18	559	971	5-6 PM	2016	ITS

Street	Location	WB Right	WB Thru	EB Left	EB Thru	EB Right	Total	Time	Year	Source
Toulouse St	Decatur	0	0	35	15	101	151	7-8 AM	2016	ITS
Toulouse St	Decatur	0	0	45	39	197	281	8-9 AM	2016	ITS
Toulouse St	Decatur	0	0	46	4	111	161	4-5 PM	2016	ITS
Toulouse St	Decatur	0	0	40	3	94	137	5-6 PM	2016	ITS

APPENDIX C Signal Timing Data

CITY OF NEW ORLEANS
DEPARTMENT OF PUBLIC WORKS
DIVISION OF TRAFFIC ADMINISTRATION

TRAFFIC SIGNAL TIMING PARAMETERS

0010 Canal Street at Convention Center Boulevard

	Canal		Conv Center		Pedestrian		Ferry				
pat #	1	2	3	4	5	6	7	8	offset	pat	cycle
1	8	4	8	4	10	5	7	4	46	off	50
2	12	4	11	4	10	5	10	4	49	off	60
3	15	4	13	4	12	6	12	4	43	off	70
4	19	4	16	4	12	6	15	4	48	off	80
5	20	4	10	4	12	6	20	4	20	in	80
6	20	4	25	4	12	6	5	4	44	out	80
7	24	4	12	4	12	6	24	4	20	in	90
8	24	4	31	4	12	6	5	4	53	out	90
9	28	4	14	4	12	6	28	4	20	in	100
10	28	4	37	4	12	6	5	4	59	out	100
11	20	4	20	4	12	6	20	4	4	se-in	90
12	24	4	31	4	12	6	5	4	84	se-out	90

0011 Canal Street at Tchoupitoulas/North-South Peters Streets

	Canal		Tchoup/Peters		Pedestrian						
pat #	1	2	3	4	5	6	7	8	offset	pat	cycle
1	8	4	12	6	14	6	0	0	32	off	50
2	15	4	15	6	14	6	0	0	35	off	60
3	22	4	18	6	14	6	0	0	40	off	70
4	26	4	24	6	14	6	0	0	44	off	80
5	26	4	24	6	14	6	0	0	6	in	80
6	26	4	24	6	14	6	0	0	1	out	80
7	32	4	28	6	14	6	0	0	6	in	90
8	31	4	29	6	14	6	0	0	1	out	90
9	38	4	32	6	14	6	0	0	6	in	100
10	36	4	34	6	14	6	0	0	1	out	100
11	31	4	29	6	14	6	0	0	34	se-in	90
12	31	4	29	6	14	6	0	0	32	se-out	90

CITY OF NEW ORLEANS
DEPARTMENT OF PUBLIC WORKS
DIVISION OF TRAFFIC ADMINISTRATION

TRAFFIC SIGNAL TIMING PARAMETERS

0020 Canal Street at Magazine/Decatur Streets

	Canal		Mag/Decatur		Pedestrian						
pat #	1	2	3	4	5	6	7	8	offset	pat	cycle
1	10	4	10	6	14	6	0	0	31	off	50
2	16	4	14	6	14	6	0	0	35	off	60
3	24	4	16	6	14	6	0	0	39	off	70
4	30	4	20	6	14	6	0	0	43	off	80
5	28	4	22	6	14	6	0	0	4	in	80
6	28	4	22	6	14	6	0	0	3	out	80
7	34	4	26	6	14	6	0	0	4	in	90
8	34	4	26	6	14	6	0	0	3	out	90
9	40	4	30	6	14	6	0	0	4	in	100
10	40	4	30	6	14	6	0	0	3	out	100
11	34	4	26	6	14	6	0	0	36	se-in	90
12	34	4	26	6	14	6	0	0	30	se-out	90

0030 Canal Street at Camp/Chartres Streets

	Canal		Camp/Chartres		Pedestrian						
pat #	1	2	3	4	5	6	7	8	offset	pat	cycle
1	12	4	8	6	14	6	0	0	30	off	50
2	18	4	12	6	14	6	0	0	34	off	60
3	24	4	16	6	14	6	0	0	39	off	70
4	30	4	20	6	14	6	0	0	43	off	80
5	30	4	20	6	14	6	0	0	78	in	80
6	28	4	22	6	14	6	0	0	9	out	80
7	36	4	24	6	14	6	0	0	88	in	90
8	34	4	26	6	14	6	0	0	9	out	90
9	42	4	28	6	14	6	0	0	98	in	100
10	40	4	30	6	14	6	0	0	9	out	100
11	34	4	26	6	14	6	0	0	42	se-in	90
12	36	4	24	6	14	6	0	0	29	se-out	90

CITY OF NEW ORLEANS
DEPARTMENT OF PUBLIC WORKS
DIVISION OF TRAFFIC ADMINISTRATION

TRAFFIC SIGNAL TIMING PARAMETERS

0040 Canal Street at St. Charles Avenue/Royal Street

	Canal		St. Chas/Royal		Pedestrian						
pat #	1	2	3	4	5	6	7	8	offset	pat	cycle
1	10	4	10	6	14	6	0	0	31	off	50
2	16	4	14	6	14	6	0	0	35	off	60
3	24	4	16	6	14	6	0	0	39	off	70
4	30	4	20	6	14	6	0	0	43	off	80
5	30	4	20	6	14	6	0	0	76	in	80
6	30	4	20	6	14	6	0	0	11	out	80
7	36	4	24	6	14	6	0	0	86	in	90
8	36	4	24	6	14	6	0	0	11	out	90
9	42	4	28	6	14	6	0	0	96	in	100
10	42	4	28	6	14	6	0	0	11	out	100
11	36	4	24	6	14	6	0	0	44	se-in	90
12	36	4	24	6	14	6	0	0	29	se-out	90

0050 Canal Street at Carondelet/Bourbon Streets

	Canal		Caron/Bourbon		Pedestrian						
pat #	1	2	3	4	5	6	7	8	offset	pat	cycle
1	12	4	8	6	14	6	0	0	30	off	50
2	18	4	12	6	14	6	0	0	34	off	60
3	24	4	16	6	14	6	0	0	39	off	70
4	30	4	20	6	14	6	0	0	43	off	80
5	30	4	20	6	14	6	0	0	70	in	80
6	28	4	22	6	14	6	0	0	17	out	80
7	36	4	24	6	14	6	0	0	80	in	90
8	34	4	26	6	14	6	0	0	17	out	90
9	42	4	28	6	14	6	0	0	90	in	100
10	40	4	30	6	14	6	0	0	17	out	100
11	34	4	26	6	14	6	0	0	50	se-in	90
12	36	4	24	6	14	6	0	0	29	se-out	90

CITY OF NEW ORLEANS
DEPARTMENT OF PUBLIC WORKS
DIVISION OF TRAFFIC ADMINISTRATION

TRAFFIC SIGNAL TIMING PARAMETERS

0060 Canal Street at Dauphine/Baronne Streets

	Canal		Baronne/Dauph		Pedestrian						
pat #	1	2	3	4	5	6	7	8	offset	pat	cycle
1	10	4	10	6	14	6	0	0	31	off	50
2	16	4	14	6	14	6	0	0	35	off	60
3	24	4	16	6	14	6	0	0	39	off	70
4	30	4	20	6	14	6	0	0	43	off	80
5	30	4	20	6	14	6	0	0	68	in	80
6	30	4	20	6	14	6	0	0	19	out	80
7	36	4	24	6	14	6	0	0	78	in	90
8	36	4	24	6	14	6	0	0	19	out	90
9	42	4	28	6	14	6	0	0	88	in	100
10	42	4	28	6	14	6	0	0	19	out	100
11	36	4	24	6	14	6	0	0	52	se-in	90
12	36	4	24	6	14	6	0	0	29	se-out	90

0070 Canal Street at Burgundy Street/University Place

	Canal		Univ/Burgundy		Pedestrian						
pat #	1	2	3	4	5	6	7	8	offset	pat	cycle
1	12	4	8	6	14	6	0	0	30	off	50
2	18	4	12	6	14	6	0	0	34	off	60
3	24	4	16	6	14	6	0	0	39	off	70
4	30	4	20	6	14	6	0	0	43	off	80
5	30	4	20	6	14	6	0	0	62	in	80
6	28	4	22	6	14	6	0	0	25	out	80
7	36	4	24	6	14	6	0	0	72	in	90
8	34	4	26	6	14	6	0	0	25	out	90
9	42	4	28	6	14	6	0	0	82	in	100
10	40	4	30	6	14	6	0	0	25	out	100
11	34	4	26	6	14	6	0	0	58	se-in	90
12	34	4	26	6	14	6	0	0	30	se-out	90

CITY OF NEW ORLEANS
DEPARTMENT OF PUBLIC WORKS
DIVISION OF TRAFFIC ADMINISTRATION

TRAFFIC SIGNAL TIMING PARAMETERS

0080 Canal Street at South Rampart/North Rampart Streets

	Canal thru		Canal rt turn		Ramp thru		Ramp rt turn				
pat #	1	2	3	4	5	6	7	8	offset	pat	cycle
1	8	4	7	4	10	5	6	6	26	off	50
2	12	5	8	4	12	6	7	6	31	off	60
3	15	5	10	4	15	6	9	6	36	off	70
4	15	5	15	4	15	6	14	6	41	off	80
5	15	6	15	4	15	6	13	6	62	in	80
6	15	6	15	4	15	6	13	6	27	out	80
7	15	6	20	4	15	6	18	6	72	in	90
8	15	6	20	4	15	6	18	6	27	out	90
9	15	6	25	4	15	6	23	6	82	in	100
10	15	6	25	4	15	6	23	6	27	out	100
11	15	6	17	4	15	6	21	6	60	se-in	90
12	15	6	17	4	15	6	21	6	28	se-out	90

0090 Canal Street at Elks Place/Basin Street

	Canal thru		Canal rt turn		E/B thru		E/B rt turn				
pat #	1	2	3	4	5	6	7	8	offset	pat	cycle
1	10	5	5	4	10	5	5	6	26	off	50
2	12	6	7	4	12	6	7	6	31	off	60
3	15	6	9	4	15	6	9	6	36	off	70
4	15	6	14	4	15	6	14	6	41	off	80
5	15	6	15	4	15	6	13	6	62	in	80
6	15	6	15	4	15	6	13	6	27	out	80
7	15	6	20	4	15	6	18	6	72	in	90
8	15	6	20	4	15	6	18	6	27	out	90
9	15	6	25	4	15	6	23	6	82	in	100
10	15	6	25	4	15	6	23	6	27	out	100
11	15	6	17	4	15	6	21	6	60	se-in	90
12	15	6	17	4	15	6	21	6	28	se-out	90

APPENDIX D Traffic Simulation Outputs

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	5	602	0	0	421	8	0	0	0	10	58	10
Future Volume (vph)	5	602	0	0	421	8	0	0	0	10	58	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.997						0.983	
Flt Protected											0.994	
Satd. Flow (prot)	0	3539	0	0	1857	0	0	0	0	0	1820	0
Flt Permitted		0.953									0.994	
Satd. Flow (perm)	0	3373	0	0	1857	0	0	0	0	0	1820	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					2							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			392			235			360	
Travel Time (s)		8.5			8.9			5.3			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	654	0	0	458	9	0	0	0	11	63	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	659	0	0	467	0	0	0	0	0	85	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA					Perm	NA	
Protected Phases		2			6						8	
Permitted Phases	2									8		
Minimum Split (s)	22.5	22.5			22.5					22.5	22.5	
Total Split (s)	63.0	63.0			63.0					27.0	27.0	
Total Split (%)	70.0%	70.0%			70.0%					30.0%	30.0%	
Maximum Green (s)	58.5	58.5			58.5					22.5	22.5	
Yellow Time (s)	3.5	3.5			3.5					3.5	3.5	
All-Red Time (s)	1.0	1.0			1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0			7.0					7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0					11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0					0	0	
Act Effct Green (s)		58.5			58.5						22.5	
Actuated g/C Ratio		0.65			0.65						0.25	
v/c Ratio		0.30			0.39						0.19	
Control Delay		19.4			8.5						27.9	
Queue Delay		0.0			0.0						0.0	
Total Delay		19.4			8.5						27.9	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
LOS		B			A						C	
Approach Delay		19.4			8.5						27.9	
Approach LOS		B			A						C	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay: 15.8	Intersection LOS: B
Intersection Capacity Utilization 34.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 14: N Peters & Bienville

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	267	16	0	495	0	45	39	197	0	0	0
Future Volume (vph)	0	267	16	0	495	0	45	39	197	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.905				
Flt Protected								0.992				
Satd. Flow (prot)	0	1863	1583	0	1863	0	0	1672	0	0	0	0
Flt Permitted								0.992				
Satd. Flow (perm)	0	1863	1583	0	1863	0	0	1672	0	0	0	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			18									
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			178			434			121	
Travel Time (s)		8.5			4.0			9.9			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	290	17	0	538	0	49	42	214	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	290	17	0	538	0	0	305	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm		NA		Perm	NA				
Protected Phases		4			8			6				
Permitted Phases			4				6					
Minimum Split (s)		22.5	22.5		22.5		22.5	22.5				
Total Split (s)		53.0	53.0		53.0		37.0	37.0				
Total Split (%)		58.9%	58.9%		58.9%		41.1%	41.1%				
Maximum Green (s)		48.5	48.5		48.5		32.5	32.5				
Yellow Time (s)		3.5	3.5		3.5		3.5	3.5				
All-Red Time (s)		1.0	1.0		1.0		1.0	1.0				
Lost Time Adjust (s)		0.0	0.0		0.0			0.0				
Total Lost Time (s)		4.5	4.5		4.5			4.5				
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)		48.5	48.5		48.5			32.5				
Actuated g/C Ratio		0.54	0.54		0.54			0.36				
v/c Ratio		0.29	0.02		0.54			0.51				
Control Delay		10.6	2.3		9.3			26.1				
Queue Delay		0.0	0.0		0.2			0.0				
Total Delay		10.6	2.3		9.5			26.1				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
LOS		B	A		A			C				
Approach Delay		10.1			9.5			26.1				
Approach LOS		B			A			C				

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 50

Control Type: Pretimed

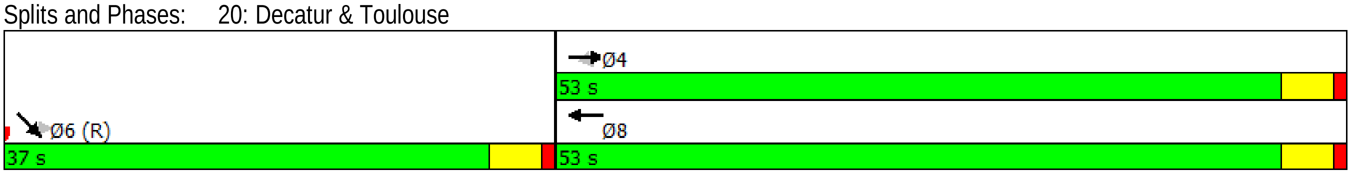
Maximum v/c Ratio: 0.54

Intersection Signal Delay: 14.1 Intersection LOS: B

Intersection Capacity Utilization 50.2% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 20: Decatur & Toulouse



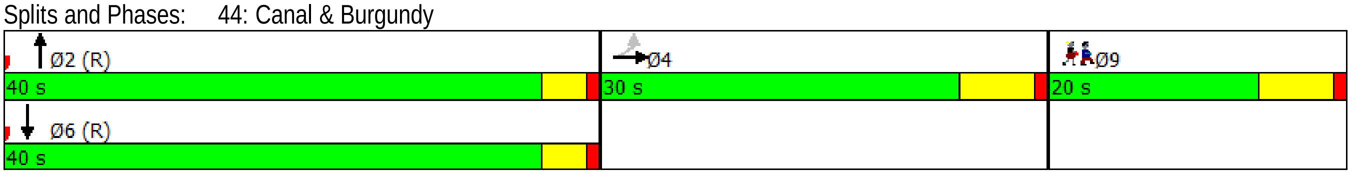
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	209	43	0	0	0	0	412	71	0	1019	0
Future Volume (vph)	4	209	43	0	0	0	0	412	71	0	1019	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.977						0.978				
Flt Protected		0.999										
Satd. Flow (prot)	0	1818	0	0	0	0	0	4973	0	0	5085	0
Flt Permitted		0.999										
Satd. Flow (perm)	0	1818	0	0	0	0	0	4973	0	0	5085	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		659			421			367			401	
Travel Time (s)		15.0			9.6			8.3			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	227	47	0	0	0	0	448	77	0	1108	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	278	0	0	0	0	0	525	0	0	1108	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Minimum Split (s)	24.0	24.0						22.5			22.5	
Total Split (s)	30.0	30.0						40.0			40.0	
Total Split (%)	33.3%	33.3%						44.4%			44.4%	
Maximum Green (s)	24.0	24.0						36.0			36.0	
Yellow Time (s)	5.0	5.0						3.0			3.0	
All-Red Time (s)	1.0	1.0						1.0			1.0	
Lost Time Adjust (s)		0.0						0.0			0.0	
Total Lost Time (s)		6.0						4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	11.0	11.0						11.0			11.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)		24.0						36.0			36.0	
Actuated g/C Ratio		0.27						0.40			0.40	
v/c Ratio		0.57						0.26			0.54	
Control Delay		34.1						9.1			22.0	
Queue Delay		0.0						0.0			0.5	
Total Delay		34.1						9.1			22.4	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	22%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		C						A			C	
Approach Delay		34.1						9.1			22.4	
Approach LOS		C						A			C	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 72 (80%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 20.5	Intersection LOS: C
Intersection Capacity Utilization 41.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 44: Canal & Burgundy



Lane Group	Ø9
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

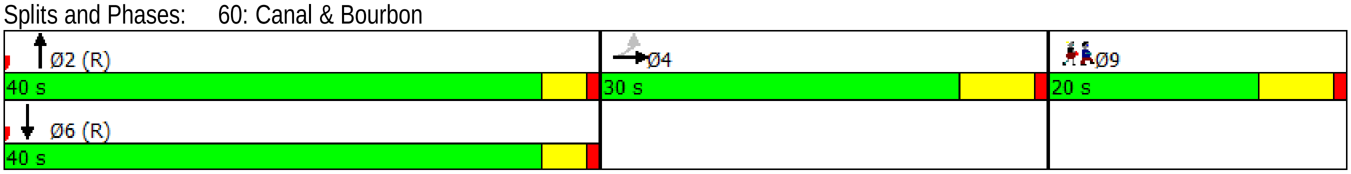
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	69	29	0	0	0	0	412	71	0	719	0
Future Volume (vph)	4	69	29	0	0	0	0	412	71	0	719	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.955						0.978				
Flt Protected	0.950											
Satd. Flow (prot)	1770	1779	0	0	0	0	0	4973	0	0	5085	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1779	0	0	0	0	0	4973	0	0	5085	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		480			429			355			365	
Travel Time (s)		10.9			9.8			8.1			8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	75	32	0	0	0	0	448	77	0	782	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	107	0	0	0	0	0	525	0	0	782	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Minimum Split (s)	24.0	24.0						22.5			22.5	
Total Split (s)	30.0	30.0						40.0			40.0	
Total Split (%)	33.3%	33.3%						44.4%			44.4%	
Maximum Green (s)	24.0	24.0						36.0			36.0	
Yellow Time (s)	5.0	5.0						3.0			3.0	
All-Red Time (s)	1.0	1.0						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	6.0	6.0						4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	11.0	11.0						11.0			11.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)	24.0	24.0						36.0			36.0	
Actuated g/C Ratio	0.27	0.27						0.40			0.40	
v/c Ratio	0.01	0.23						0.26			0.38	
Control Delay	24.5	27.3						19.3			3.9	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay	24.5	27.3						19.3			3.9	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	22%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C						B			A	
Approach Delay		27.2						19.3			3.9	
Approach LOS		C						B			A	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 80 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.38	
Intersection Signal Delay: 11.4	Intersection LOS: B
Intersection Capacity Utilization 34.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 60: Canal & Bourbon



Lane Group	Ø9
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

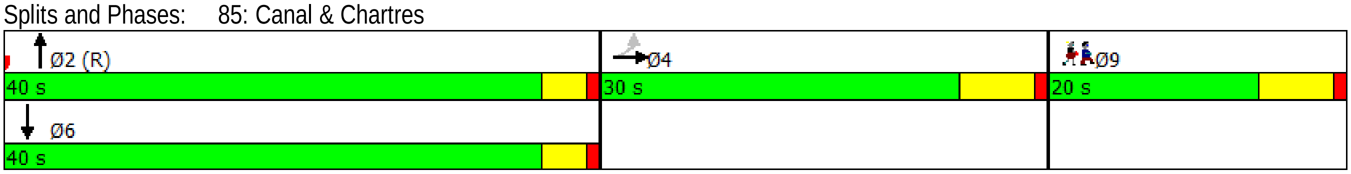
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	100	204	0	0	0	0	516	54	0	178	0
Future Volume (vph)	2	100	204	0	0	0	0	516	54	0	178	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.899						0.986				
Flt Protected	0.950											
Satd. Flow (prot)	1770	1675	0	0	0	0	0	5014	0	0	5085	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1675	0	0	0	0	0	5014	0	0	5085	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			434			427			356	
Travel Time (s)		8.5			9.9			9.7			8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	109	222	0	0	0	0	561	59	0	193	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	331	0	0	0	0	0	620	0	0	193	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Minimum Split (s)	24.0	24.0						22.5			22.5	
Total Split (s)	30.0	30.0						40.0			40.0	
Total Split (%)	33.3%	33.3%						44.4%			44.4%	
Maximum Green (s)	24.0	24.0						36.0			36.0	
Yellow Time (s)	5.0	5.0						3.0			3.0	
All-Red Time (s)	1.0	1.0						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	6.0	6.0						4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	11.0	11.0						11.0			11.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)	24.0	24.0						36.0			36.0	
Actuated g/C Ratio	0.27	0.27						0.40			0.40	
v/c Ratio	0.00	0.74						0.31			0.09	
Control Delay	24.5	41.9						19.0			17.0	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay	24.5	41.9						19.0			17.0	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	22%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	D						B			B	
Approach Delay		41.8						19.0			17.0	
Approach LOS		D						B			B	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 88 (98%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 25.3	Intersection LOS: C
Intersection Capacity Utilization 37.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 85: Canal & Chartres



Lane Group	Ø9
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	633	158	0	286	71	0	171	174	0	277	105
Future Volume (vph)	0	633	158	0	286	71	0	171	174	0	277	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		100	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.970			0.970			0.924			0.959	
Flt Protected												
Satd. Flow (prot)	0	3433	0	0	3433	0	0	4699	0	0	4877	0
Flt Permitted												
Satd. Flow (perm)	0	3433	0	0	3433	0	0	4699	0	0	4877	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		228			457			408			462	
Travel Time (s)		5.2			10.4			9.3			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	688	172	0	311	77	0	186	189	0	301	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	860	0	0	388	0	0	375	0	0	415	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases												
Minimum Split (s)		24.0			24.0			22.5			22.5	
Total Split (s)		34.0			34.0			36.0			36.0	
Total Split (%)		37.8%			37.8%			40.0%			40.0%	
Maximum Green (s)		28.0			28.0			32.0			32.0	
Yellow Time (s)		5.0			5.0			3.0			3.0	
All-Red Time (s)		1.0			1.0			1.0			1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)		28.0			28.0			32.0			32.0	
Actuated g/C Ratio		0.31			0.31			0.36			0.36	
v/c Ratio		0.81			0.36			0.22			0.24	

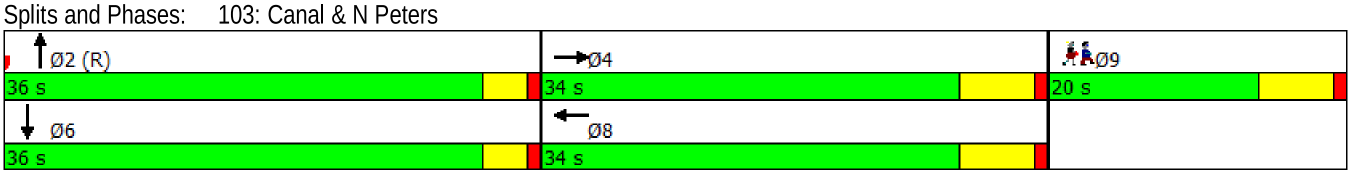
Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	22%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		35.5			20.2			20.8			20.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		35.5			20.2			20.8			20.9	
LOS		D			C			C			C	
Approach Delay		35.5			20.2			20.8			20.9	
Approach LOS		D			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 6 (7%), Referenced to phase 2:NBT, Start of Green
Natural Cycle: 60
Control Type: Pretimed
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 26.9 Intersection LOS: C
Intersection Capacity Utilization 38.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 103: Canal & N Peters



Lane Group	Ø9
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Intersection	
Int Delay, s/veh	9

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	39	0
Future Vol, veh/h	0	0	0	0	39	0
Conflicting Peds, #/hr	0	0	0	0	100	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	42	0

Major/Minor	Major2		Minor1	
Conflicting Flow All	-	-	101	-
Stage 1	-	-	0	-
Stage 2	-	-	101	-
Critical Hdwy	-	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.42	-
Follow-up Hdwy	-	-	3.518	-
Pot Cap-1 Maneuver	0	-	898	0
Stage 1	0	-	-	0
Stage 2	0	-	923	0
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	898	-
Mov Cap-2 Maneuver	-	-	898	-
Stage 1	-	-	-	-
Stage 2	-	-	923	-

Approach	NW	NE
HCM Control Delay, s	0	9.2
HCM LOS		A

Minor Lane/Major Mvmt	NELn1	NWT
Capacity (veh/h)	898	-
HCM Lane V/C Ratio	0.047	-
HCM Control Delay (s)	9.2	-
HCM Lane LOS	A	-
HCM 95th %tile Q(veh)	0.1	-

Intersection	
Intersection Delay, s/veh	17.4
Intersection LOS	C

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	104	400	0	0	0	0	0	0	0	248	48
Future Vol, veh/h	0	104	400	0	0	0	0	0	0	0	248	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	113	435	0	0	0	0	0	0	0	270	52
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	SE	NE
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		SE
Conflicting Lanes Left	0	1
Conflicting Approach Right	NE	
Conflicting Lanes Right	1	0
HCM Control Delay	20.1	12.8
HCM LOS	C	B

Lane	NELn1	SELn1
Vol Left, %	0%	21%
Vol Thru, %	84%	79%
Vol Right, %	16%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	296	504
LT Vol	0	104
Through Vol	248	400
RT Vol	48	0
Lane Flow Rate	322	548
Geometry Grp	1	1
Degree of Util (X)	0.464	0.733
Departure Headway (Hd)	5.194	4.817
Convergence, Y/N	Yes	Yes
Cap	689	745
Service Time	3.277	2.888
HCM Lane V/C Ratio	0.467	0.736
HCM Control Delay	12.8	20.1
HCM Lane LOS	B	C
HCM 95th-tile Q	2.5	6.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	0	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	13.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	44	356	0	0	0	0	0	236	44	0	0	0
Future Vol, veh/h	44	356	0	0	0	0	0	236	44	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	387	0	0	0	0	0	257	48	0	0	0

Major/Minor	Minor2			Major1		
Conflicting Flow All	380	404	-	-	0	0
Stage 1	0	0	-	-	-	-
Stage 2	380	404	-	-	-	-
Critical Hdwy	6.42	6.52	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-	-	-
Pot Cap-1 Maneuver	622	536	0	0	-	-
Stage 1	-	-	0	0	-	-
Stage 2	691	599	0	0	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	622	0	-	-	-	-
Mov Cap-2 Maneuver	622	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	691	0	-	-	-	-

Approach	SE	NE
HCM Control Delay, s	23.1	0
HCM LOS	C	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	622
HCM Lane V/C Ratio	-	-	0.699
HCM Control Delay (s)	-	-	23.1
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	5.6

Intersection	
Intersection Delay, s/veh	17.6
Intersection LOS	C

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	60	504	0	0	0	0	0	0	0	134	26
Future Vol, veh/h	0	60	504	0	0	0	0	0	0	0	134	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	65	548	0	0	0	0	0	0	0	146	28
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	SE	NE
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		SE
Conflicting Lanes Left	0	1
Conflicting Approach Right	NE	
Conflicting Lanes Right	1	0
HCM Control Delay	19.7	10.1
HCM LOS	C	B

Lane	NELn1	SELn1
Vol Left, %	0%	11%
Vol Thru, %	84%	89%
Vol Right, %	16%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	160	564
LT Vol	0	60
Through Vol	134	504
RT Vol	26	0
Lane Flow Rate	174	613
Geometry Grp	1	1
Degree of Util (X)	0.254	0.753
Departure Headway (Hd)	5.261	4.421
Convergence, Y/N	Yes	Yes
Cap	680	815
Service Time	3.316	2.455
HCM Lane V/C Ratio	0.256	0.752
HCM Control Delay	10.1	19.7
HCM Lane LOS	B	C
HCM 95th-tile Q	1	7.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	0	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	4.8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	56	124	0	0	0	0	0	394	74	0	0	0
Future Vol, veh/h	56	124	0	0	0	0	0	394	74	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	135	0	0	0	0	0	428	80	0	0	0

Major/Minor	Minor2						Major1					
Conflicting Flow All	568	609	-				-	0	0			
Stage 1	0	0	-				-	-	-			
Stage 2	568	609	-				-	-	-			
Critical Hdwy	6.42	6.52	-				-	-	-			
Critical Hdwy Stg 1	-	-	-				-	-	-			
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-			
Follow-up Hdwy	3.518	4.018	-				-	-	-			
Pot Cap-1 Maneuver	484	410	0				0	-	-			
Stage 1	-	-	0				0	-	-			
Stage 2	567	485	0				0	-	-			
Platoon blocked, %								-	-			
Mov Cap-1 Maneuver	484	0	-				-	-	-			
Mov Cap-2 Maneuver	484	0	-				-	-	-			
Stage 1	-	0	-				-	-	-			
Stage 2	567	0	-				-	-	-			

Approach	SE	NE
HCM Control Delay, s	17.4	0
HCM LOS	C	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	484
HCM Lane V/C Ratio	-	-	0.404
HCM Control Delay (s)	-	-	17.4
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	1.9

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	22	178	0	0	0	0	0	0	0	58	82
Future Vol, veh/h	0	22	178	0	0	0	0	0	0	0	58	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	24	193	0	0	0	0	0	0	0	63	89
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	SE	NE
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		SE
Conflicting Lanes Left	0	1
Conflicting Approach Right	NE	
Conflicting Lanes Right	1	0
HCM Control Delay	8.8	7.9
HCM LOS	A	A

Lane	NELn1	SELn1
Vol Left, %	0%	11%
Vol Thru, %	41%	89%
Vol Right, %	59%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	140	200
LT Vol	0	22
Through Vol	58	178
RT Vol	82	0
Lane Flow Rate	152	217
Geometry Grp	1	1
Degree of Util (X)	0.173	0.255
Departure Headway (Hd)	4.082	4.221
Convergence, Y/N	Yes	Yes
Cap	884	841
Service Time	2.082	2.296
HCM Lane V/C Ratio	0.172	0.258
HCM Control Delay	7.9	8.8
HCM Lane LOS	A	A
HCM 95th-tile Q	0.6	1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	0	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	6.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	60	56	10	70	0	0	0	0
Future Vol, veh/h	0	0	0	0	60	56	10	70	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	65	61	11	76	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	198	176	100	0	-
Stage 1	-	98	-	-	-	-
Stage 2	-	100	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	698	867	1493	-	0
Stage 1	0	814	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	867	1493	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	9.9	0.9
HCM LOS	A	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	1493	-	867
HCM Lane V/C Ratio	0.007	-	0.145
HCM Control Delay (s)	7.4	0	9.9
HCM Lane LOS	A	A	A
HCM 95th %tile Q(veh)	0	-	0.5

Intersection	
Int Delay, s/veh	7.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	52	200	0	0	0	0	0	108	40	0	0	0
Future Vol, veh/h	52	200	0	0	0	0	0	108	40	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	217	0	0	0	0	0	117	43	0	0	0

Major/Minor	Minor2			Major1		
Conflicting Flow All	239	261	-	-	0	0
Stage 1	0	0	-	-	-	-
Stage 2	239	261	-	-	-	-
Critical Hdwy	6.42	6.52	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-	-	-
Pot Cap-1 Maneuver	749	644	0	0	-	-
Stage 1	-	-	0	0	-	-
Stage 2	801	692	0	0	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	749	0	-	-	-	-
Mov Cap-2 Maneuver	749	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	801	0	-	-	-	-

Approach	SE	NE
HCM Control Delay, s	12.6	0
HCM LOS	B	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	749
HCM Lane V/C Ratio	-	-	0.366
HCM Control Delay (s)	-	-	12.6
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	1.7

Intersection	
Int Delay, s/veh	6.8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	96	18	98	62	0	0	0	0
Future Vol, veh/h	0	0	0	0	96	18	98	62	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	104	20	107	67	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	380	167	100	0	-
Stage 1	-	280	-	-	-	-
Stage 2	-	100	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	552	877	1493	-	0
Stage 1	0	679	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	877	1493	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	9.8	4.7
HCM LOS	A	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	1493	-	877
HCM Lane V/C Ratio	0.071	-	0.141
HCM Control Delay (s)	7.6	0	9.8
HCM Lane LOS	A	A	A
HCM 95th %tile Q(veh)	0.2	-	0.5

Intersection	
Int Delay, s/veh	9.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	30	252	0	0	0	0	0	70	10	0	0	0
Future Vol, veh/h	30	252	0	0	0	0	0	70	10	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	274	0	0	0	0	0	76	11	0	0	0

Major/Minor	Minor2						Major1					
Conflicting Flow All	182	187	-				-	0	0			
Stage 1	0	0	-				-	-	-			
Stage 2	182	187	-				-	-	-			
Critical Hdwy	6.42	6.52	-				-	-	-			
Critical Hdwy Stg 1	-	-	-				-	-	-			
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-			
Follow-up Hdwy	3.518	4.018	-				-	-	-			
Pot Cap-1 Maneuver	807	708	0				0	-	-			
Stage 1	-	-	0				0	-	-			
Stage 2	849	745	0				0	-	-			
Platoon blocked, %								-	-			
Mov Cap-1 Maneuver	807	0	-				-	-	-			
Mov Cap-2 Maneuver	807	0	-				-	-	-			
Stage 1	-	0	-				-	-	-			
Stage 2	849	0	-				-	-	-			

Approach	SE	NE
HCM Control Delay, s	12.2	0
HCM LOS	B	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	807
HCM Lane V/C Ratio	-	-	0.38
HCM Control Delay (s)	-	-	12.2
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	1.8

Intersection	
Int Delay, s/veh	3.8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	18	42	10	102	0	0	0	0
Future Vol, veh/h	0	0	0	0	18	42	10	102	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	20	46	11	111	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	233	211	100	0	-
Stage 1	-	133	-	-	-	-
Stage 2	-	100	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	667	829	1493	-	0
Stage 1	0	786	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	829	1493	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	9.7	0.7
HCM LOS	A	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	1493	-	829
HCM Lane V/C Ratio	0.007	-	0.079
HCM Control Delay (s)	7.4	0	9.7
HCM Lane LOS	A	A	A
HCM 95th %tile Q(veh)	0	-	0.3

Intersection	
Int Delay, s/veh	2.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	28	62	0	0	0	0	0	46	188	0	0	0
Future Vol, veh/h	28	62	0	0	0	0	0	46	188	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	67	0	0	0	0	0	50	204	0	0	0

Major/Minor	Minor2			Major1		
Conflicting Flow All	252	354	-	-	0	0
Stage 1	0	0	-	-	-	-
Stage 2	252	354	-	-	-	-
Critical Hdwy	6.42	6.52	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-	-	-
Pot Cap-1 Maneuver	737	571	0	0	-	-
Stage 1	-	-	0	0	-	-
Stage 2	790	630	0	0	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	737	0	-	-	-	-
Mov Cap-2 Maneuver	737	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	790	0	-	-	-	-

Approach	SE	NE
HCM Control Delay, s	10.6	0
HCM LOS	B	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	737
HCM Lane V/C Ratio	-	-	0.133
HCM Control Delay (s)	-	-	10.6
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.5

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	46	32	0	25	49	0
Future Vol, veh/h	0	0	0	0	0	0	46	32	0	25	49	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	50	35	0	27	53	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	NW	NE
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	NE	
Conflicting Lanes Left	1	0
Conflicting Approach Right		NW
Conflicting Lanes Right	0	1
HCM Control Delay	7.3	7.6
HCM LOS	A	A

Lane	NELn1	NWLn1
Vol Left, %	34%	0%
Vol Thru, %	66%	59%
Vol Right, %	0%	41%
Sign Control	Stop	Stop
Traffic Vol by Lane	74	78
LT Vol	25	0
Through Vol	49	46
RT Vol	0	32
Lane Flow Rate	80	85
Geometry Grp	1	1
Degree of Util (X)	0.093	0.09
Departure Headway (Hd)	4.149	3.827
Convergence, Y/N	Yes	Yes
Cap	862	932
Service Time	2.179	1.87
HCM Lane V/C Ratio	0.093	0.091
HCM Control Delay	7.6	7.3
HCM Lane LOS	A	A
HCM 95th-tile Q	0.3	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	0	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	6.8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	60	56	28	52	0	0	0	0
Future Vol, veh/h	0	0	0	0	60	56	28	52	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	65	61	30	57	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	217	157	100	0	-
Stage 1	-	117	-	-	-	-
Stage 2	-	100	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	681	889	1493	-	0
Stage 1	0	799	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	889	1493	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	9.7	2.6
HCM LOS	A	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	1493	-	889
HCM Lane V/C Ratio	0.02	-	0.142
HCM Control Delay (s)	7.5	0	9.7
HCM Lane LOS	A	A	A
HCM 95th %tile Q(veh)	0.1	-	0.5

Intersection	
Int Delay, s/veh	6.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	96	18	55	105	0	0	0	0
Future Vol, veh/h	0	0	0	0	96	18	55	105	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	104	20	60	114	0	0	0	0

Major/Minor	Major2			Minor1		
Conflicting Flow All	-	-	0	214	224	-
Stage 1	-	-	-	0	0	-
Stage 2	-	-	-	214	224	-
Critical Hdwy	-	-	-	6.42	6.52	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	3.518	4.018	-
Pot Cap-1 Maneuver	0	-	-	774	675	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	822	718	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	774	0	-
Mov Cap-2 Maneuver	-	-	-	774	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	822	0	-

Approach	NW	NE
HCM Control Delay, s	0	11
HCM LOS		B

Minor Lane/Major Mvmt	NELn1	NWT	NWR
Capacity (veh/h)	774	-	-
HCM Lane V/C Ratio	0.225	-	-
HCM Control Delay (s)	11	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.9	-	-

Intersection	
Int Delay, s/veh	6.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	46	32	25	49	0	0	0	0
Future Vol, veh/h	0	0	0	0	46	32	25	49	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	50	35	27	53	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	208	153	100	0	-
Stage 1	-	108	-	-	-	-
Stage 2	-	100	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	689	893	1493	-	0
Stage 1	0	806	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	893	1493	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	9.5	2.5
HCM LOS	A	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	1493	-	893
HCM Lane V/C Ratio	0.018	-	0.095
HCM Control Delay (s)	7.5	0	9.5
HCM Lane LOS	A	A	A
HCM 95th %tile Q(veh)	0.1	-	0.3

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	5	622	0	0	421	8	0	0	0	10	58	10
Future Volume (vph)	5	622	0	0	421	8	0	0	0	10	58	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.997						0.983	
Flt Protected											0.994	
Satd. Flow (prot)	0	3539	0	0	1857	0	0	0	0	0	1820	0
Flt Permitted		0.953									0.994	
Satd. Flow (perm)	0	3373	0	0	1857	0	0	0	0	0	1820	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					2							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			392			235			360	
Travel Time (s)		8.5			8.9			5.3			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	676	0	0	458	9	0	0	0	11	63	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	681	0	0	467	0	0	0	0	0	85	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA					Perm	NA	
Protected Phases		2			6						8	
Permitted Phases	2									8		
Minimum Split (s)	22.5	22.5			22.5					22.5	22.5	
Total Split (s)	63.0	63.0			63.0					27.0	27.0	
Total Split (%)	70.0%	70.0%			70.0%					30.0%	30.0%	
Maximum Green (s)	58.5	58.5			58.5					22.5	22.5	
Yellow Time (s)	3.5	3.5			3.5					3.5	3.5	
All-Red Time (s)	1.0	1.0			1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0			7.0					7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0					11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0					0	0	
Act Effct Green (s)		58.5			58.5						22.5	
Actuated g/C Ratio		0.65			0.65						0.25	
v/c Ratio		0.31			0.39						0.19	
Control Delay		19.3			8.5						27.9	
Queue Delay		0.0			0.0						0.0	
Total Delay		19.3			8.5						27.9	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
LOS		B			A						C	
Approach Delay		19.3			8.5						27.9	
Approach LOS		B			A						C	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay: 15.8	Intersection LOS: B
Intersection Capacity Utilization 34.4%	ICU Level of Service A
Analysis Period (min) 15	

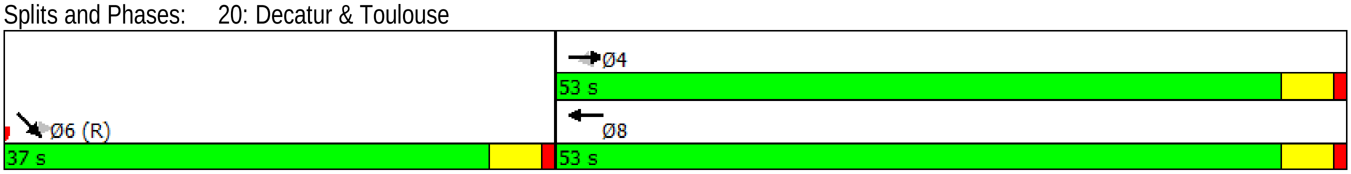
Splits and Phases: 14: N Peters & Bienville

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	287	16	0	495	0	45	39	197	0	0	0
Future Volume (vph)	0	287	16	0	495	0	45	39	197	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.905				
Flt Protected								0.992				
Satd. Flow (prot)	0	1863	1583	0	1863	0	0	1672	0	0	0	0
Flt Permitted								0.992				
Satd. Flow (perm)	0	1863	1583	0	1863	0	0	1672	0	0	0	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			18									
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			178			434			121	
Travel Time (s)		8.5			4.0			9.9			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	312	17	0	538	0	49	42	214	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	312	17	0	538	0	0	305	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm		NA		Perm	NA				
Protected Phases		4			8			6				
Permitted Phases			4				6					
Minimum Split (s)		22.5	22.5		22.5		22.5	22.5				
Total Split (s)		53.0	53.0		53.0		37.0	37.0				
Total Split (%)		58.9%	58.9%		58.9%		41.1%	41.1%				
Maximum Green (s)		48.5	48.5		48.5		32.5	32.5				
Yellow Time (s)		3.5	3.5		3.5		3.5	3.5				
All-Red Time (s)		1.0	1.0		1.0		1.0	1.0				
Lost Time Adjust (s)		0.0	0.0		0.0			0.0				
Total Lost Time (s)		4.5	4.5		4.5			4.5				
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)		48.5	48.5		48.5			32.5				
Actuated g/C Ratio		0.54	0.54		0.54			0.36				
v/c Ratio		0.31	0.02		0.54			0.51				
Control Delay		6.5	1.2		9.3			26.1				
Queue Delay		0.0	0.0		0.2			0.0				
Total Delay		6.5	1.2		9.5			26.1				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
LOS		A	A		A			C				
Approach Delay		6.2			9.5			26.1				
Approach LOS		A			A			C				

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2: and 6:SETL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 12.9	Intersection LOS: B
Intersection Capacity Utilization 50.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: Decatur & Toulouse



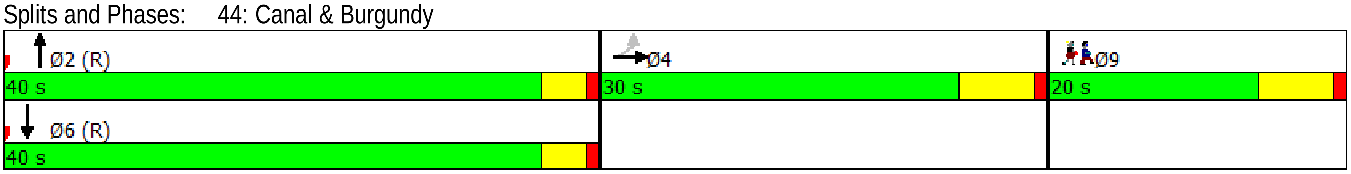
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	209	43	0	0	0	0	412	141	0	1019	0
Future Volume (vph)	4	209	43	0	0	0	0	412	141	0	1019	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.977						0.962				
Flt Protected		0.999										
Satd. Flow (prot)	0	1818	0	0	0	0	0	4892	0	0	5085	0
Flt Permitted		0.999										
Satd. Flow (perm)	0	1818	0	0	0	0	0	4892	0	0	5085	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		659			421			367			401	
Travel Time (s)		15.0			9.6			8.3			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	227	47	0	0	0	0	448	153	0	1108	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	278	0	0	0	0	0	601	0	0	1108	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Minimum Split (s)	24.0	24.0						22.5			22.5	
Total Split (s)	30.0	30.0						40.0			40.0	
Total Split (%)	33.3%	33.3%						44.4%			44.4%	
Maximum Green (s)	24.0	24.0						36.0			36.0	
Yellow Time (s)	5.0	5.0						3.0			3.0	
All-Red Time (s)	1.0	1.0						1.0			1.0	
Lost Time Adjust (s)		0.0						0.0			0.0	
Total Lost Time (s)		6.0						4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	11.0	11.0						11.0			11.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)		24.0						36.0			36.0	
Actuated g/C Ratio		0.27						0.40			0.40	
v/c Ratio		0.57						0.31			0.54	
Control Delay		34.1						9.1			22.0	
Queue Delay		0.0						0.0			0.5	
Total Delay		34.1						9.1			22.4	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	22%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		C						A			C	
Approach Delay		34.1						9.1			22.4	
Approach LOS		C						A			C	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 72 (80%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 20.1	Intersection LOS: C
Intersection Capacity Utilization 41.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 44: Canal & Burgundy



Lane Group	Ø9
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

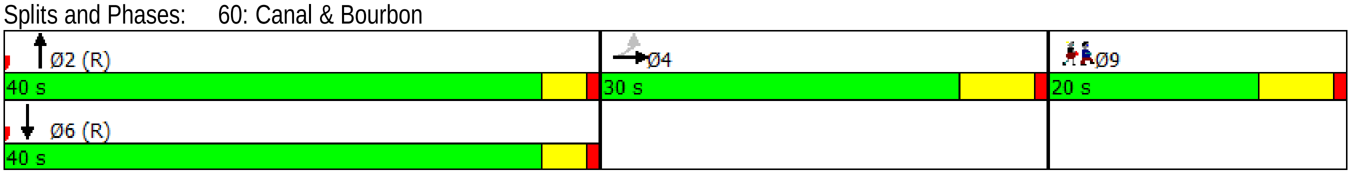
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱						↑↑↱			↑↑↑	
Traffic Volume (vph)	4	0	29	0	0	0	0	482	0	0	719	0
Future Volume (vph)	4	0	29	0	0	0	0	482	0	0	719	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.850										
Flt Protected	0.950											
Satd. Flow (prot)	1770	1583	0	0	0	0	0	5085	0	0	5085	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1583	0	0	0	0	0	5085	0	0	5085	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		480			429			355			365	
Travel Time (s)		10.9			9.8			8.1			8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	0	32	0	0	0	0	524	0	0	782	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	32	0	0	0	0	0	524	0	0	782	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Minimum Split (s)	24.0	24.0						22.5			22.5	
Total Split (s)	30.0	30.0						40.0			40.0	
Total Split (%)	33.3%	33.3%						44.4%			44.4%	
Maximum Green (s)	24.0	24.0						36.0			36.0	
Yellow Time (s)	5.0	5.0						3.0			3.0	
All-Red Time (s)	1.0	1.0						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	6.0	6.0						4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	11.0	11.0						11.0			11.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)	24.0	24.0						36.0			36.0	
Actuated g/C Ratio	0.27	0.27						0.40			0.40	
v/c Ratio	0.01	0.08						0.26			0.38	
Control Delay	24.5	25.4						19.2			3.9	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay	24.5	25.4						19.2			3.9	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	22%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C						B			A	
Approach Delay		25.3						19.2			3.9	
Approach LOS		C						B			A	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 80 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.38	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 34.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 60: Canal & Bourbon



Lane Group	Ø9
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

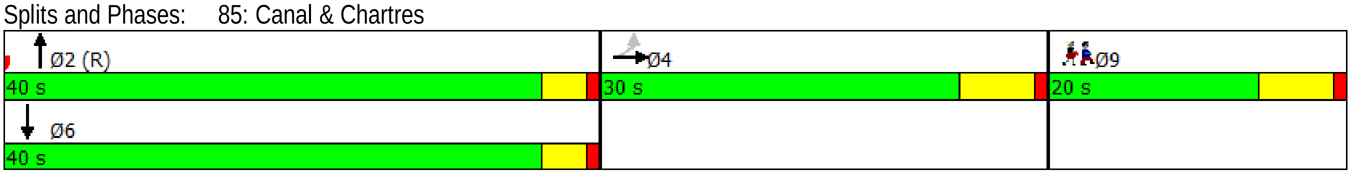
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	100	204	0	0	0	0	481	104	0	213	0
Future Volume (vph)	2	100	204	0	0	0	0	481	104	0	213	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.899						0.973				
Flt Protected	0.950											
Satd. Flow (prot)	1770	1675	0	0	0	0	0	4948	0	0	5085	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1675	0	0	0	0	0	4948	0	0	5085	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			434			427			356	
Travel Time (s)		8.5			9.9			9.7			8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	109	222	0	0	0	0	523	113	0	232	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	331	0	0	0	0	0	636	0	0	232	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Minimum Split (s)	24.0	24.0						22.5			22.5	
Total Split (s)	30.0	30.0						40.0			40.0	
Total Split (%)	33.3%	33.3%						44.4%			44.4%	
Maximum Green (s)	24.0	24.0						36.0			36.0	
Yellow Time (s)	5.0	5.0						3.0			3.0	
All-Red Time (s)	1.0	1.0						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	6.0	6.0						4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	11.0	11.0						11.0			11.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)	24.0	24.0						36.0			36.0	
Actuated g/C Ratio	0.27	0.27						0.40			0.40	
v/c Ratio	0.00	0.74						0.32			0.11	
Control Delay	24.5	41.9						19.2			17.2	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay	24.5	41.9						19.2			17.2	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	22%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	D						B			B	
Approach Delay		41.8						19.2			17.2	
Approach LOS		D						B			B	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 88 (98%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 25.1	Intersection LOS: C
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 85: Canal & Chartres



Lane Group	Ø9
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

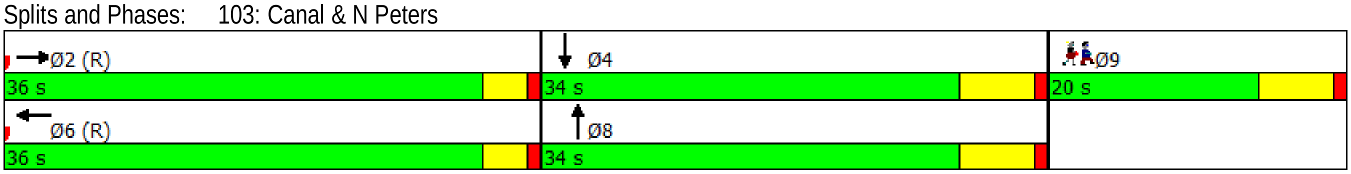
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱			↑↱			↑↑↱			↑↑↱	
Traffic Volume (vph)	0	633	158	0	286	71	0	161	194	0	287	105
Future Volume (vph)	0	633	158	0	286	71	0	161	194	0	287	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		100	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.970			0.970			0.918			0.960	
Flt Protected												
Satd. Flow (prot)	0	3433	0	0	3433	0	0	4668	0	0	4882	0
Flt Permitted												
Satd. Flow (perm)	0	3433	0	0	3433	0	0	4668	0	0	4882	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		228			457			408			462	
Travel Time (s)		5.2			10.4			9.3			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	688	172	0	311	77	0	175	211	0	312	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	860	0	0	388	0	0	386	0	0	426	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA			NA			NA	
Protected Phases		2			6			8			4	
Permitted Phases												
Minimum Split (s)		22.5			22.5			24.0			24.0	
Total Split (s)		36.0			36.0			34.0			34.0	
Total Split (%)		40.0%			40.0%			37.8%			37.8%	
Maximum Green (s)		32.0			32.0			28.0			28.0	
Yellow Time (s)		3.0			3.0			5.0			5.0	
All-Red Time (s)		1.0			1.0			1.0			1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)		32.0			32.0			28.0			28.0	
Actuated g/C Ratio		0.36			0.36			0.31			0.31	
v/c Ratio		0.70			0.32			0.27			0.28	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	22%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		28.8			19.3			23.9			24.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		28.8			19.3			23.9			24.0	
LOS		C			B			C			C	
Approach Delay		28.8			19.3			23.9			24.0	
Approach LOS		C			B			C			C	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 6 (7%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 25.1	Intersection LOS: C
Intersection Capacity Utilization 38.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 103: Canal & N Peters



Lane Group	Ø9
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Intersection	
Int Delay, s/veh	9.1

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations				↑	↰	
Traffic Vol, veh/h	0	0	0	0	56	0
Future Vol, veh/h	0	0	0	0	56	0
Conflicting Peds, #/hr	0	0	0	0	100	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	61	0

Major/Minor	Major2		Minor1	
Conflicting Flow All	-	-	101	-
Stage 1	-	-	0	-
Stage 2	-	-	101	-
Critical Hdwy	-	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.42	-
Follow-up Hdwy	-	-	3.518	-
Pot Cap-1 Maneuver	0	-	898	0
Stage 1	0	-	-	0
Stage 2	0	-	923	0
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	898	-
Mov Cap-2 Maneuver	-	-	898	-
Stage 1	-	-	-	-
Stage 2	-	-	923	-

Approach	NW	NE
HCM Control Delay, s	0	9.3
HCM LOS		A

Minor Lane/Major Mvmt	NELn1	NWT
Capacity (veh/h)	898	-
HCM Lane V/C Ratio	0.068	-
HCM Control Delay (s)	9.3	-
HCM Lane LOS	A	-
HCM 95th %tile Q(veh)	0.2	-

Intersection	
Intersection Delay, s/veh	19
Intersection LOS	C

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	104	400	0	0	0	0	0	0	0	283	66
Future Vol, veh/h	0	104	400	0	0	0	0	0	0	0	283	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	113	435	0	0	0	0	0	0	0	308	72
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	SE	NE
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		SE
Conflicting Lanes Left	0	1
Conflicting Approach Right	NE	
Conflicting Lanes Right	1	0
HCM Control Delay	22	14.6
HCM LOS	C	B

Lane	NELn1	SELn1
Vol Left, %	0%	21%
Vol Thru, %	81%	79%
Vol Right, %	19%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	349	504
LT Vol	0	104
Through Vol	283	400
RT Vol	66	0
Lane Flow Rate	379	548
Geometry Grp	1	1
Degree of Util (X)	0.549	0.756
Departure Headway (Hd)	5.207	4.965
Convergence, Y/N	Yes	Yes
Cap	683	718
Service Time	3.305	3.055
HCM Lane V/C Ratio	0.555	0.763
HCM Control Delay	14.6	22
HCM Lane LOS	B	C
HCM 95th-tile Q	3.4	7

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	0	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	15.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	44	356	0	0	0	0	0	289	62	0	0	0
Future Vol, veh/h	44	356	0	0	0	0	0	289	62	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	387	0	0	0	0	0	314	67	0	0	0

Major/Minor	Minor2						Major1					
Conflicting Flow All	448	482	-				-	0	0			
Stage 1	0	0	-				-	-	-			
Stage 2	448	482	-				-	-	-			
Critical Hdwy	6.42	6.52	-				-	-	-			
Critical Hdwy Stg 1	-	-	-				-	-	-			
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-			
Follow-up Hdwy	3.518	4.018	-				-	-	-			
Pot Cap-1 Maneuver	568	484	0				0	-	-			
Stage 1	-	-	0				0	-	-			
Stage 2	644	553	0				0	-	-			
Platoon blocked, %								-	-			
Mov Cap-1 Maneuver	568	0	-				-	-	-			
Mov Cap-2 Maneuver	568	0	-				-	-	-			
Stage 1	-	0	-				-	-	-			
Stage 2	644	0	-				-	-	-			

Approach	SE	NE
HCM Control Delay, s	29.1	0
HCM LOS	D	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	568
HCM Lane V/C Ratio	-	-	0.765
HCM Control Delay (s)	-	-	29.1
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	6.9

Intersection	
Intersection Delay, s/veh	18.4
Intersection LOS	C

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	60	504	0	0	0	0	0	0	0	152	44
Future Vol, veh/h	0	60	504	0	0	0	0	0	0	0	152	44
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	65	548	0	0	0	0	0	0	0	165	48
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	SE	NE
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		SE
Conflicting Lanes Left	0	1
Conflicting Approach Right	NE	
Conflicting Lanes Right	1	0
HCM Control Delay	21.1	10.7
HCM LOS	C	B

Lane	NELn1	SELn1
Vol Left, %	0%	11%
Vol Thru, %	78%	89%
Vol Right, %	22%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	196	564
LT Vol	0	60
Through Vol	152	504
RT Vol	44	0
Lane Flow Rate	213	613
Geometry Grp	1	1
Degree of Util (X)	0.311	0.77
Departure Headway (Hd)	5.247	4.522
Convergence, Y/N	Yes	Yes
Cap	682	797
Service Time	3.311	2.567
HCM Lane V/C Ratio	0.312	0.769
HCM Control Delay	10.7	21.1
HCM Lane LOS	B	C
HCM 95th-tile Q	1.3	7.5

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	0	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	4.8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	56	124	0	0	0	0	0	394	92	0	0	0
Future Vol, veh/h	56	124	0	0	0	0	0	394	92	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	135	0	0	0	0	0	428	100	0	0	0

Major/Minor	Minor2						Major1		
Conflicting Flow All	578	628	-				-	0	0
Stage 1	0	0	-				-	-	-
Stage 2	578	628	-				-	-	-
Critical Hdwy	6.42	6.52	-				-	-	-
Critical Hdwy Stg 1	-	-	-				-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-
Follow-up Hdwy	3.518	4.018	-				-	-	-
Pot Cap-1 Maneuver	478	400	0				0	-	-
Stage 1	-	-	0				0	-	-
Stage 2	561	476	0				0	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	478	0	-				-	-	-
Mov Cap-2 Maneuver	478	0	-				-	-	-
Stage 1	-	0	-				-	-	-
Stage 2	561	0	-				-	-	-

Approach	SE	NE
HCM Control Delay, s	17.7	0
HCM LOS	C	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	478
HCM Lane V/C Ratio	-	-	0.409
HCM Control Delay (s)	-	-	17.7
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	2

Intersection	
Int Delay, s/veh	6.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	60	56	45	86	0	0	0	0
Future Vol, veh/h	0	0	0	0	60	56	45	86	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	65	61	49	93	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	291	193	100	0	-
Stage 1	-	191	-	-	-	-
Stage 2	-	100	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	619	849	1493	-	0
Stage 1	0	742	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	849	1493	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	10	2.6
HCM LOS	B	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	1493	-	849
HCM Lane V/C Ratio	0.033	-	0.149
HCM Control Delay (s)	7.5	0	10
HCM Lane LOS	A	A	B
HCM 95th %tile Q(veh)	0.1	-	0.5

Intersection	
Int Delay, s/veh	7.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	96	18	72	122	0	0	0	0
Future Vol, veh/h	0	0	0	0	96	18	72	122	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	104	20	78	133	0	0	0	0

Major/Minor	Major2			Minor1		
Conflicting Flow All	-	-	0	214	224	-
Stage 1	-	-	-	0	0	-
Stage 2	-	-	-	214	224	-
Critical Hdwy	-	-	-	6.42	6.52	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	3.518	4.018	-
Pot Cap-1 Maneuver	0	-	-	774	675	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	822	718	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	774	0	-
Mov Cap-2 Maneuver	-	-	-	774	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	822	0	-

Approach	NW	NE
HCM Control Delay, s	0	11.4
HCM LOS		B

Minor Lane/Major Mvmt	NELn1	NWT	NWR
Capacity (veh/h)	774	-	-
HCM Lane V/C Ratio	0.272	-	-
HCM Control Delay (s)	11.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	1.1	-	-

Intersection	
Int Delay, s/veh	5.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	66	32	25	49	0	0	0	0
Future Vol, veh/h	0	0	0	0	66	32	25	49	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	72	35	27	53	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	108	53	0	0	-
Stage 1	-	108	-	-	-	-
Stage 2	-	0	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	782	1014	-	-	0
Stage 1	0	806	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	1014	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	9	
HCM LOS	A	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	-	-	1014
HCM Lane V/C Ratio	-	-	0.105
HCM Control Delay (s)	-	-	9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.4

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	112	597	0	0	315	1	0	0	0	10	35	10
Future Volume (vph)	112	597	0	0	315	1	0	0	0	10	35	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt											0.975	
Flt Protected		0.992									0.991	
Satd. Flow (prot)	0	3511	0	0	1863	0	0	0	0	0	1800	0
Flt Permitted		0.821									0.991	
Satd. Flow (perm)	0	2906	0	0	1863	0	0	0	0	0	1800	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			392			235			360	
Travel Time (s)		8.5			8.9			5.3			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	122	649	0	0	342	1	0	0	0	11	38	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	771	0	0	343	0	0	0	0	0	60	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA					Perm	NA	
Protected Phases		2			6						8	
Permitted Phases	2									8		
Minimum Split (s)	22.5	22.5			22.5					22.5	22.5	
Total Split (s)	63.0	63.0			63.0					27.0	27.0	
Total Split (%)	70.0%	70.0%			70.0%					30.0%	30.0%	
Maximum Green (s)	58.5	58.5			58.5					22.5	22.5	
Yellow Time (s)	3.5	3.5			3.5					3.5	3.5	
All-Red Time (s)	1.0	1.0			1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0			7.0					7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0					11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0					0	0	
Act Effct Green (s)		58.5			58.5						22.5	
Actuated g/C Ratio		0.65			0.65						0.25	
v/c Ratio		0.41			0.28						0.13	
Control Delay		8.3			7.5						27.2	
Queue Delay		0.0			0.0						0.0	
Total Delay		8.3			7.5						27.2	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
LOS		A			A						C	
Approach Delay		8.3			7.5						27.2	
Approach LOS		A			A						C	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 45	
Control Type: Pretimed	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay: 9.0	Intersection LOS: A
Intersection Capacity Utilization 51.8%	ICU Level of Service A
Analysis Period (min) 15	

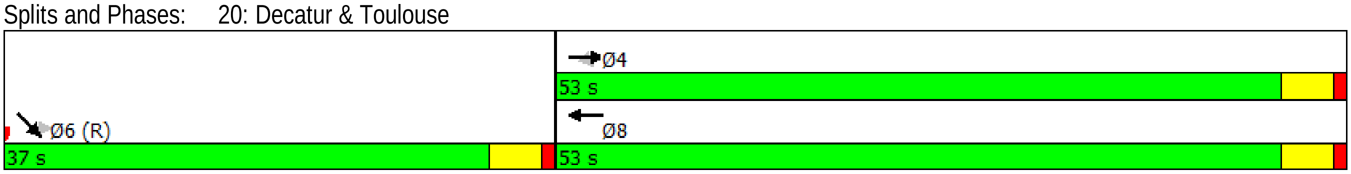
Splits and Phases: 14: N Peters & Bienville

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	529	6	0	392	0	46	4	111	0	0	0
Future Volume (vph)	0	529	6	0	392	0	46	4	111	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.907				
Flt Protected								0.986				
Satd. Flow (prot)	0	1863	1583	0	1863	0	0	1666	0	0	0	0
Flt Permitted								0.986				
Satd. Flow (perm)	0	1863	1583	0	1863	0	0	1666	0	0	0	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			18									
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			178			434			121	
Travel Time (s)		8.5			4.0			9.9			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	575	7	0	426	0	50	4	121	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	575	7	0	426	0	0	175	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm		NA		Perm	NA				
Protected Phases		4			8			6				
Permitted Phases			4				6					
Minimum Split (s)		22.5	22.5		22.5		22.5	22.5				
Total Split (s)		53.0	53.0		53.0		37.0	37.0				
Total Split (%)		58.9%	58.9%		58.9%		41.1%	41.1%				
Maximum Green (s)		48.5	48.5		48.5		32.5	32.5				
Yellow Time (s)		3.5	3.5		3.5		3.5	3.5				
All-Red Time (s)		1.0	1.0		1.0		1.0	1.0				
Lost Time Adjust (s)		0.0	0.0		0.0			0.0				
Total Lost Time (s)		4.5	4.5		4.5			4.5				
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)		48.5	48.5		48.5			32.5				
Actuated g/C Ratio		0.54	0.54		0.54			0.36				
v/c Ratio		0.57	0.01		0.42			0.29				
Control Delay		11.5	1.2		8.0			22.2				
Queue Delay		0.0	0.0		0.3			0.0				
Total Delay		11.5	1.2		8.4			22.2				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
LOS		B	A		A			C				
Approach Delay		11.3			8.4			22.2				
Approach LOS		B			A			C				

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2: and 6:SETL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 11.9	Intersection LOS: B
Intersection Capacity Utilization 44.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: Decatur & Toulouse



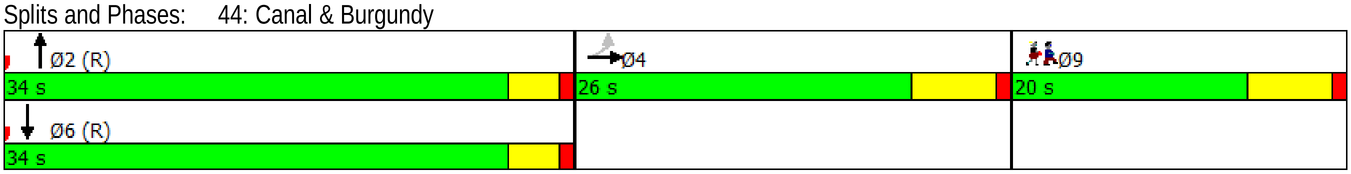
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	152	22	0	0	0	0	708	124	0	614	0
Future Volume (vph)	139	152	22	0	0	0	0	708	124	0	614	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.990						0.978				
Flt Protected		0.978										
Satd. Flow (prot)	0	1804	0	0	0	0	0	4973	0	0	5085	0
Flt Permitted		0.978										
Satd. Flow (perm)	0	1804	0	0	0	0	0	4973	0	0	5085	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		659			421			367			401	
Travel Time (s)		15.0			9.6			8.3			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	165	24	0	0	0	0	770	135	0	667	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	340	0	0	0	0	0	905	0	0	667	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Minimum Split (s)	24.0	24.0						22.5			22.5	
Total Split (s)	26.0	26.0						34.0			34.0	
Total Split (%)	32.5%	32.5%						42.5%			42.5%	
Maximum Green (s)	20.0	20.0						30.0			30.0	
Yellow Time (s)	5.0	5.0						3.0			3.0	
All-Red Time (s)	1.0	1.0						1.0			1.0	
Lost Time Adjust (s)		0.0						0.0			0.0	
Total Lost Time (s)		6.0						4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	11.0	11.0						11.0			11.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)		20.0						30.0			30.0	
Actuated g/C Ratio		0.25						0.38			0.38	
v/c Ratio		0.75						0.49			0.35	
Control Delay		40.2						5.4			18.6	
Queue Delay		0.0						0.0			0.0	
Total Delay		40.2						5.4			18.6	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	25%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		D						A			B	
Approach Delay		40.2						5.4			18.6	
Approach LOS		D						A			B	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 43 (54%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 16.2	Intersection LOS: B
Intersection Capacity Utilization 41.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 44: Canal & Burgundy



Lane Group	Ø9
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

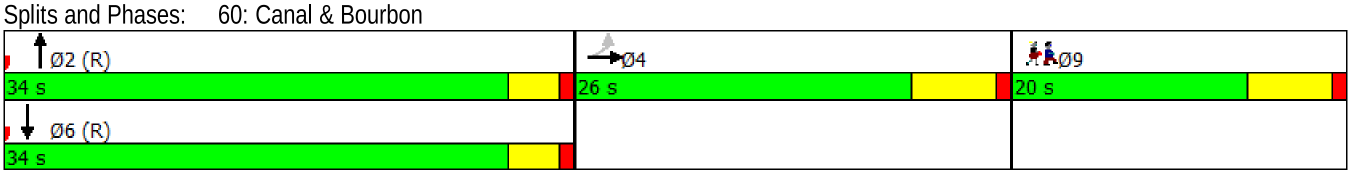
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	14	28	0	0	0	0	708	124	0	514	0
Future Volume (vph)	139	14	28	0	0	0	0	708	124	0	514	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.900						0.978				
Flt Protected	0.950											
Satd. Flow (prot)	1770	1676	0	0	0	0	0	4973	0	0	5085	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1676	0	0	0	0	0	4973	0	0	5085	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		480			429			355			365	
Travel Time (s)		10.9			9.8			8.1			8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	15	30	0	0	0	0	770	135	0	559	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	151	45	0	0	0	0	0	905	0	0	559	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Minimum Split (s)	24.0	24.0						22.5			22.5	
Total Split (s)	26.0	26.0						34.0			34.0	
Total Split (%)	32.5%	32.5%						42.5%			42.5%	
Maximum Green (s)	20.0	20.0						30.0			30.0	
Yellow Time (s)	5.0	5.0						3.0			3.0	
All-Red Time (s)	1.0	1.0						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	6.0	6.0						4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	11.0	11.0						11.0			11.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)	20.0	20.0						30.0			30.0	
Actuated g/C Ratio	0.25	0.25						0.38			0.38	
v/c Ratio	0.34	0.11						0.49			0.29	
Control Delay	27.2	24.0						25.7			5.1	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay	27.2	24.0						25.7			5.1	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	25%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C						C			A	
Approach Delay		26.5						25.7			5.1	
Approach LOS		C						C			A	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 43 (54%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 18.9	Intersection LOS: B
Intersection Capacity Utilization 32.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 60: Canal & Bourbon



Lane Group	Ø9
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

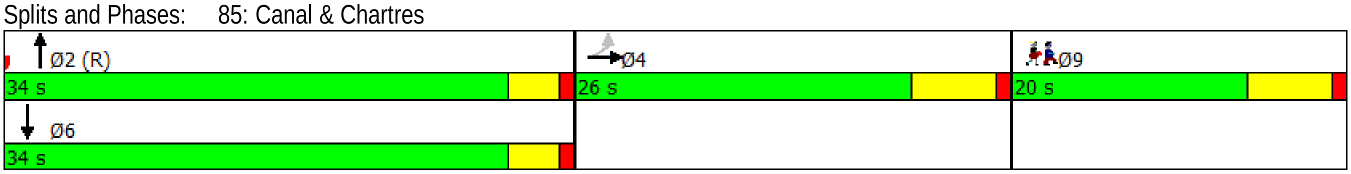
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	100	264	0	0	0	0	368	61	0	342	0
Future Volume (vph)	164	100	264	0	0	0	0	368	61	0	342	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.891						0.979				
Flt Protected	0.950											
Satd. Flow (prot)	1770	1660	0	0	0	0	0	4979	0	0	5085	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1660	0	0	0	0	0	4979	0	0	5085	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			434			427			356	
Travel Time (s)		8.5			9.9			9.7			8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	178	109	287	0	0	0	0	400	66	0	372	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	178	396	0	0	0	0	0	466	0	0	372	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Minimum Split (s)	24.0	24.0						22.5			22.5	
Total Split (s)	26.0	26.0						34.0			34.0	
Total Split (%)	32.5%	32.5%						42.5%			42.5%	
Maximum Green (s)	20.0	20.0						30.0			30.0	
Yellow Time (s)	5.0	5.0						3.0			3.0	
All-Red Time (s)	1.0	1.0						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	6.0	6.0						4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	11.0	11.0						11.0			11.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)	20.0	20.0						30.0			30.0	
Actuated g/C Ratio	0.25	0.25						0.38			0.38	
v/c Ratio	0.40	0.95						0.25			0.20	
Control Delay	28.3	66.3						17.7			17.2	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay	28.3	66.3						17.7			17.2	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	25%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	E						B			B	
Approach Delay		54.5						17.7			17.2	
Approach LOS		D						B			B	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 43 (54%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 32.5	Intersection LOS: C
Intersection Capacity Utilization 38.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 85: Canal & Chartres



Lane Group	Ø9
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	619	155	0	193	48	0	250	167	0	434	172
Future Volume (vph)	0	619	155	0	193	48	0	250	167	0	434	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		100	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.970			0.970			0.940			0.957	
Flt Protected												
Satd. Flow (prot)	0	3433	0	0	3433	0	0	4780	0	0	4867	0
Flt Permitted												
Satd. Flow (perm)	0	3433	0	0	3433	0	0	4780	0	0	4867	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		228			457			408			462	
Travel Time (s)		5.2			10.4			9.3			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	673	168	0	210	52	0	272	182	0	472	187
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	841	0	0	262	0	0	454	0	0	659	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases												
Minimum Split (s)		24.0			24.0			22.5			22.5	
Total Split (s)		30.0			30.0			30.0			30.0	
Total Split (%)		37.5%			37.5%			37.5%			37.5%	
Maximum Green (s)		24.0			24.0			26.0			26.0	
Yellow Time (s)		5.0			5.0			3.0			3.0	
All-Red Time (s)		1.0			1.0			1.0			1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)		24.0			24.0			26.0			26.0	
Actuated g/C Ratio		0.30			0.30			0.32			0.32	
v/c Ratio		0.82			0.25			0.29			0.42	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	25%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		33.9			22.1			20.8			22.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		33.9			22.1			20.8			22.1	
LOS		C			C			C			C	
Approach Delay		33.9			22.1			20.8			22.1	
Approach LOS		C			C			C			C	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 44 (55%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 26.3	Intersection LOS: C
Intersection Capacity Utilization 42.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 103: Canal & N Peters

Lane Group	Ø9
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Intersection	
Int Delay, s/veh	9

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	42	0
Future Vol, veh/h	0	0	0	0	42	0
Conflicting Peds, #/hr	0	0	0	0	100	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	46	0

Major/Minor	Major2		Minor1	
Conflicting Flow All	-	-	101	-
Stage 1	-	-	0	-
Stage 2	-	-	101	-
Critical Hdwy	-	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.42	-
Follow-up Hdwy	-	-	3.518	-
Pot Cap-1 Maneuver	0	-	898	0
Stage 1	0	-	-	0
Stage 2	0	-	923	0
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	898	-
Mov Cap-2 Maneuver	-	-	898	-
Stage 1	-	-	-	-
Stage 2	-	-	923	-

Approach	NW	NE
HCM Control Delay, s	0	9.2
HCM LOS		A

Minor Lane/Major Mvmt	NELn1	NWT
Capacity (veh/h)	898	-
HCM Lane V/C Ratio	0.051	-
HCM Control Delay (s)	9.2	-
HCM Lane LOS	A	-
HCM 95th %tile Q(veh)	0.2	-

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	48	196	0	0	0	0	0	0	0	210	70
Future Vol, veh/h	0	48	196	0	0	0	0	0	0	0	210	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	52	213	0	0	0	0	0	0	0	228	76
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	SE	NE
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		SE
Conflicting Lanes Left	0	1
Conflicting Approach Right	NE	
Conflicting Lanes Right	1	0
HCM Control Delay	10.2	10.1
HCM LOS	B	B

Lane	NELn1	SELn1
Vol Left, %	0%	20%
Vol Thru, %	75%	80%
Vol Right, %	25%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	280	244
LT Vol	0	48
Through Vol	210	196
RT Vol	70	0
Lane Flow Rate	304	265
Geometry Grp	1	1
Degree of Util (X)	0.375	0.345
Departure Headway (Hd)	4.436	4.679
Convergence, Y/N	Yes	Yes
Cap	813	769
Service Time	2.461	2.711
HCM Lane V/C Ratio	0.374	0.345
HCM Control Delay	10.1	10.2
HCM Lane LOS	B	B
HCM 95th-tile Q	1.8	1.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	0	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	15.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	120	316	0	0	0	0	0	206	70	0	0	0
Future Vol, veh/h	120	316	0	0	0	0	0	206	70	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	130	343	0	0	0	0	0	224	76	0	0	0

Major/Minor	Minor2			Major1		
Conflicting Flow All	362	400	-	-	0	0
Stage 1	0	0	-	-	-	-
Stage 2	362	400	-	-	-	-
Critical Hdwy	6.42	6.52	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-	-	-
Pot Cap-1 Maneuver	637	538	0	0	-	-
Stage 1	-	-	0	0	-	-
Stage 2	704	602	0	0	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	637	0	-	-	-	-
Mov Cap-2 Maneuver	637	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	704	0	-	-	-	-

Approach	SE	NE
HCM Control Delay, s	25.2	0
HCM LOS	D	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	637
HCM Lane V/C Ratio	-	-	0.744
HCM Control Delay (s)	-	-	25.2
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	6.6

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	104	332	0	0	0	0	0	0	0	192	64
Future Vol, veh/h	0	104	332	0	0	0	0	0	0	0	192	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	113	361	0	0	0	0	0	0	0	209	70
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	SE	NE
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		SE
Conflicting Lanes Left	0	1
Conflicting Approach Right	NE	
Conflicting Lanes Right	1	0
HCM Control Delay	15	11
HCM LOS	B	B

Lane	NELn1	SELn1
Vol Left, %	0%	24%
Vol Thru, %	75%	76%
Vol Right, %	25%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	256	436
LT Vol	0	104
Through Vol	192	332
RT Vol	64	0
Lane Flow Rate	278	474
Geometry Grp	1	1
Degree of Util (X)	0.382	0.616
Departure Headway (Hd)	4.939	4.682
Convergence, Y/N	Yes	Yes
Cap	726	768
Service Time	2.994	2.733
HCM Lane V/C Ratio	0.383	0.617
HCM Control Delay	11	15
HCM Lane LOS	B	B
HCM 95th-tile Q	1.8	4.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	0	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	64	148	0	0	0	0	0	210	70	0	0	0
Future Vol, veh/h	64	148	0	0	0	0	0	210	70	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	161	0	0	0	0	0	228	76	0	0	0

Major/Minor	Minor2			Major1		
Conflicting Flow All	366	404	-	-	0	0
Stage 1	0	0	-	-	-	-
Stage 2	366	404	-	-	-	-
Critical Hdwy	6.42	6.52	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-	-	-
Pot Cap-1 Maneuver	634	536	0	0	-	-
Stage 1	-	-	0	0	-	-
Stage 2	702	599	0	0	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	634	0	-	-	-	-
Mov Cap-2 Maneuver	634	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	702	0	-	-	-	-

Approach	SE	NE
HCM Control Delay, s	13.9	0
HCM LOS	B	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	634
HCM Lane V/C Ratio	-	-	0.363
HCM Control Delay (s)	-	-	13.9
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	1.7

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	60	158	0	0	0	0	0	0	0	128	10
Future Vol, veh/h	0	60	158	0	0	0	0	0	0	0	128	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	65	172	0	0	0	0	0	0	0	139	11
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	SE	NE
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		SE
Conflicting Lanes Left	0	1
Conflicting Approach Right	NE	
Conflicting Lanes Right	1	0
HCM Control Delay	9.1	8.5
HCM LOS	A	A

Lane	NELn1	SELn1
Vol Left, %	0%	28%
Vol Thru, %	93%	72%
Vol Right, %	7%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	138	218
LT Vol	0	60
Through Vol	128	158
RT Vol	10	0
Lane Flow Rate	150	237
Geometry Grp	1	1
Degree of Util (X)	0.185	0.287
Departure Headway (Hd)	4.441	4.353
Convergence, Y/N	Yes	Yes
Cap	810	832
Service Time	2.455	2.353
HCM Lane V/C Ratio	0.185	0.285
HCM Control Delay	8.5	9.1
HCM Lane LOS	A	A
HCM 95th-tile Q	0.7	1.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	0	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	7.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	130	48	138	92	0	0	0	0
Future Vol, veh/h	0	0	0	0	130	48	138	92	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	141	52	150	100	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	500	200	100	0	-
Stage 1	-	400	-	-	-	-
Stage 2	-	100	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	473	841	1493	-	0
Stage 1	0	602	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	841	1493	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	10.6	4.6
HCM LOS	B	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	1493	-	841
HCM Lane V/C Ratio	0.1	-	0.23
HCM Control Delay (s)	7.7	0	10.6
HCM Lane LOS	A	A	B
HCM 95th %tile Q(veh)	0.3	-	0.9

Intersection	
Int Delay, s/veh	5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	24	98	0	0	0	0	0	110	30	0	0	0
Future Vol, veh/h	24	98	0	0	0	0	0	110	30	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	107	0	0	0	0	0	120	33	0	0	0

Major/Minor	Minor2						Major1		
Conflicting Flow All	236	252	-				-	0	0
Stage 1	0	0	-				-	-	-
Stage 2	236	252	-				-	-	-
Critical Hdwy	6.42	6.52	-				-	-	-
Critical Hdwy Stg 1	-	-	-				-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-
Follow-up Hdwy	3.518	4.018	-				-	-	-
Pot Cap-1 Maneuver	752	651	0				0	-	-
Stage 1	-	-	0				0	-	-
Stage 2	803	698	0				0	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	752	0	-				-	-	-
Mov Cap-2 Maneuver	752	0	-				-	-	-
Stage 1	-	0	-				-	-	-
Stage 2	803	0	-				-	-	-

Approach	SE	NE
HCM Control Delay, s	10.8	0
HCM LOS	B	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	752
HCM Lane V/C Ratio	-	-	0.176
HCM Control Delay (s)	-	-	10.8
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.6

Intersection	
Int Delay, s/veh	6.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	118	34	40	94	0	0	0	0
Future Vol, veh/h	0	0	0	0	118	34	40	94	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	128	37	43	102	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	289	202	100	0	-
Stage 1	-	189	-	-	-	-
Stage 2	-	100	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	621	839	1493	-	0
Stage 1	0	744	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	839	1493	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	10.3	2.2
HCM LOS	B	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	1493	-	839
HCM Lane V/C Ratio	0.029	-	0.197
HCM Control Delay (s)	7.5	0	10.3
HCM Lane LOS	A	A	B
HCM 95th %tile Q(veh)	0.1	-	0.7

Intersection	
Int Delay, s/veh	7.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	52	166	0	0	0	0	0	94	34	0	0	0
Future Vol, veh/h	52	166	0	0	0	0	0	94	34	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	180	0	0	0	0	0	102	37	0	0	0

Major/Minor	Minor2			Major1		
Conflicting Flow All	221	239	-	-	0	0
Stage 1	0	0	-	-	-	-
Stage 2	221	239	-	-	-	-
Critical Hdwy	6.42	6.52	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-	-	-
Pot Cap-1 Maneuver	767	662	0	0	-	-
Stage 1	-	-	0	0	-	-
Stage 2	816	708	0	0	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	767	0	-	-	-	-
Mov Cap-2 Maneuver	767	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	816	0	-	-	-	-

Approach	SE	NE
HCM Control Delay, s	11.8	0
HCM LOS	B	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	767
HCM Lane V/C Ratio	-	-	0.309
HCM Control Delay (s)	-	-	11.8
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	1.3

Intersection	
Int Delay, s/veh	5.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	70	32	38	108	0	0	0	0
Future Vol, veh/h	0	0	0	0	70	32	38	108	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	76	35	41	117	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	300	217	100	0	-
Stage 1	-	200	-	-	-	-
Stage 2	-	100	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	612	823	1493	-	0
Stage 1	0	736	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	823	1493	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	10.1	1.9
HCM LOS	B	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	1493	-	823
HCM Lane V/C Ratio	0.028	-	0.135
HCM Control Delay (s)	7.5	0	10.1
HCM Lane LOS	A	A	B
HCM 95th %tile Q(veh)	0.1	-	0.5

Intersection												
Int Delay, s/veh	4.7											

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↰						↱				
Traffic Vol, veh/h	32	74	0	0	0	0	0	130	10	0	0	0
Future Vol, veh/h	32	74	0	0	0	0	0	130	10	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	80	0	0	0	0	0	141	11	0	0	0

Major/Minor	Minor2			Major1		
Conflicting Flow All	247	252	-	-	0	0
Stage 1	0	0	-	-	-	-
Stage 2	247	252	-	-	-	-
Critical Hdwy	6.42	6.52	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-	-	-
Pot Cap-1 Maneuver	741	651	0	0	-	-
Stage 1	-	-	0	0	-	-
Stage 2	794	698	0	0	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	741	0	-	-	-	-
Mov Cap-2 Maneuver	741	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	794	0	-	-	-	-

Approach	SE	NE
HCM Control Delay, s	10.8	0
HCM LOS	B	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	741
HCM Lane V/C Ratio	-	-	0.155
HCM Control Delay (s)	-	-	10.8
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.5

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	58	40	0	46	116	0
Future Vol, veh/h	0	0	0	0	0	0	58	40	0	46	116	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	63	43	0	50	126	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	NW	NE
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left	NE	
Conflicting Lanes Left	1	0
Conflicting Approach Right		NW
Conflicting Lanes Right	0	1
HCM Control Delay	7.6	8.3
HCM LOS	A	A

Lane	NELn1	NWLn1
Vol Left, %	28%	0%
Vol Thru, %	72%	59%
Vol Right, %	0%	41%
Sign Control	Stop	Stop
Traffic Vol by Lane	162	98
LT Vol	46	0
Through Vol	116	58
RT Vol	0	40
Lane Flow Rate	176	107
Geometry Grp	1	1
Degree of Util (X)	0.204	0.118
Departure Headway (Hd)	4.178	3.997
Convergence, Y/N	Yes	Yes
Cap	856	882
Service Time	2.223	2.089
HCM Lane V/C Ratio	0.206	0.121
HCM Control Delay	8.3	7.6
HCM Lane LOS	A	A
HCM 95th-tile Q	0.8	0.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	0	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	6.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	130	48	66	164	0	0	0	0
Future Vol, veh/h	0	0	0	0	130	48	66	164	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	141	52	72	178	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	422	278	100	0	-
Stage 1	-	322	-	-	-	-
Stage 2	-	100	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	523	761	1493	-	0
Stage 1	0	651	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	761	1493	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	11.3	2.2
HCM LOS	B	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	1493	-	761
HCM Lane V/C Ratio	0.048	-	0.254
HCM Control Delay (s)	7.5	0	11.3
HCM Lane LOS	A	A	B
HCM 95th %tile Q(veh)	0.2	-	1

Intersection	
Int Delay, s/veh	5.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	118	34	38	96	0	0	0	0
Future Vol, veh/h	0	0	0	0	118	34	38	96	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	128	37	41	104	0	0	0	0

Major/Minor	Major2			Minor1		
Conflicting Flow All	-	-	0	247	265	-
Stage 1	-	-	-	0	0	-
Stage 2	-	-	-	247	265	-
Critical Hdwy	-	-	-	6.42	6.52	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	3.518	4.018	-
Pot Cap-1 Maneuver	0	-	-	741	640	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	794	689	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	741	0	-
Mov Cap-2 Maneuver	-	-	-	741	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	794	0	-

Approach	NW	NE
HCM Control Delay, s	0	11
HCM LOS		B

Minor Lane/Major Mvmt	NELn1	NWT	NWR
Capacity (veh/h)	741	-	-
HCM Lane V/C Ratio	0.197	-	-
HCM Control Delay (s)	11	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.7	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	58	40	46	116	0	0	0	0
Future Vol, veh/h	0	0	0	0	58	40	46	116	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	63	43	50	126	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	226	126	0	0	-
Stage 1	-	226	-	-	-	-
Stage 2	-	0	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	673	924	-	-	0
Stage 1	0	717	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	924	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	9.4	
HCM LOS	A	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	-	-	924
HCM Lane V/C Ratio	-	-	0.115
HCM Control Delay (s)	-	-	9.4
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.4

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	112	616	0	0	315	1	0	0	0	10	35	10
Future Volume (vph)	112	616	0	0	315	1	0	0	0	10	35	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt											0.975	
Flt Protected		0.992									0.991	
Satd. Flow (prot)	0	3511	0	0	1863	0	0	0	0	0	1800	0
Flt Permitted		0.823									0.991	
Satd. Flow (perm)	0	2913	0	0	1863	0	0	0	0	0	1800	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			392			235			360	
Travel Time (s)		8.5			8.9			5.3			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	122	670	0	0	342	1	0	0	0	11	38	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	792	0	0	343	0	0	0	0	0	60	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA					Perm	NA	
Protected Phases		2			6						8	
Permitted Phases	2									8		
Minimum Split (s)	22.5	22.5			22.5					22.5	22.5	
Total Split (s)	63.0	63.0			63.0					27.0	27.0	
Total Split (%)	70.0%	70.0%			70.0%					30.0%	30.0%	
Maximum Green (s)	58.5	58.5			58.5					22.5	22.5	
Yellow Time (s)	3.5	3.5			3.5					3.5	3.5	
All-Red Time (s)	1.0	1.0			1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		4.5			4.5						4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0			7.0					7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0					11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0					0	0	
Act Effct Green (s)		58.5			58.5						22.5	
Actuated g/C Ratio		0.65			0.65						0.25	
v/c Ratio		0.42			0.28						0.13	
Control Delay		8.4			7.5						27.2	
Queue Delay		0.0			0.0						0.0	
Total Delay		8.4			7.5						27.2	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
LOS		A			A						C	
Approach Delay		8.4			7.5						27.2	
Approach LOS		A			A						C	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 45
Control Type: Pretimed
Maximum v/c Ratio: 0.42
Intersection Signal Delay: 9.1 Intersection LOS: A
Intersection Capacity Utilization 52.3% ICU Level of Service A
Analysis Period (min) 15

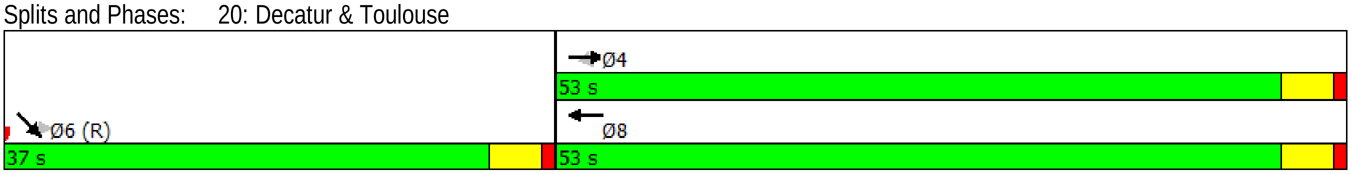
Splits and Phases: 14: N Peters & Bienville

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	548	6	0	392	0	46	4	111	0	0	0
Future Volume (vph)	0	548	6	0	392	0	46	4	111	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.907				
Flt Protected								0.986				
Satd. Flow (prot)	0	1863	1583	0	1863	0	0	1666	0	0	0	0
Flt Permitted								0.986				
Satd. Flow (perm)	0	1863	1583	0	1863	0	0	1666	0	0	0	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			18									
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			178			434			121	
Travel Time (s)		8.5			4.0			9.9			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	596	7	0	426	0	50	4	121	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	596	7	0	426	0	0	175	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm		NA		Perm	NA				
Protected Phases		4			8			6				
Permitted Phases			4				6					
Minimum Split (s)		22.5	22.5		22.5		22.5	22.5				
Total Split (s)		53.0	53.0		53.0		37.0	37.0				
Total Split (%)		58.9%	58.9%		58.9%		41.1%	41.1%				
Maximum Green (s)		48.5	48.5		48.5		32.5	32.5				
Yellow Time (s)		3.5	3.5		3.5		3.5	3.5				
All-Red Time (s)		1.0	1.0		1.0		1.0	1.0				
Lost Time Adjust (s)		0.0	0.0		0.0			0.0				
Total Lost Time (s)		4.5	4.5		4.5			4.5				
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)		48.5	48.5		48.5			32.5				
Actuated g/C Ratio		0.54	0.54		0.54			0.36				
v/c Ratio		0.59	0.01		0.42			0.29				
Control Delay		11.8	1.2		8.0			22.2				
Queue Delay		0.2	0.0		0.3			0.0				
Total Delay		12.1	1.2		8.4			22.2				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
LOS		B	A		A			C				
Approach Delay		11.9			8.4			22.2				
Approach LOS		B			A			C				

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2: and 6:SETL, Start of Green	
Natural Cycle: 50	
Control Type: Pretimed	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 12.2	Intersection LOS: B
Intersection Capacity Utilization 45.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: Decatur & Toulouse



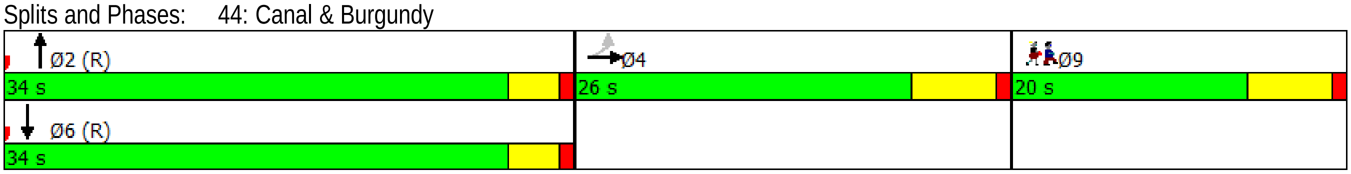
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	152	22	0	0	0	0	708	193	0	614	0
Future Volume (vph)	139	152	22	0	0	0	0	708	193	0	614	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.990						0.968				
Flt Protected		0.978										
Satd. Flow (prot)	0	1804	0	0	0	0	0	4923	0	0	5085	0
Flt Permitted		0.978										
Satd. Flow (perm)	0	1804	0	0	0	0	0	4923	0	0	5085	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		659			421			367			401	
Travel Time (s)		15.0			9.6			8.3			9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	165	24	0	0	0	0	770	210	0	667	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	340	0	0	0	0	0	980	0	0	667	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Minimum Split (s)	24.0	24.0						22.5			22.5	
Total Split (s)	26.0	26.0						34.0			34.0	
Total Split (%)	32.5%	32.5%						42.5%			42.5%	
Maximum Green (s)	20.0	20.0						30.0			30.0	
Yellow Time (s)	5.0	5.0						3.0			3.0	
All-Red Time (s)	1.0	1.0						1.0			1.0	
Lost Time Adjust (s)		0.0						0.0			0.0	
Total Lost Time (s)		6.0						4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	11.0	11.0						11.0			11.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)		20.0						30.0			30.0	
Actuated g/C Ratio		0.25						0.38			0.38	
v/c Ratio		0.75						0.53			0.35	
Control Delay		40.2						4.7			18.6	
Queue Delay		0.0						0.0			0.0	
Total Delay		40.2						4.7			18.6	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	25%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		D						A			B	
Approach Delay		40.2						4.7			18.6	
Approach LOS		D						A			B	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 43 (54%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 15.4	Intersection LOS: B
Intersection Capacity Utilization 43.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 44: Canal & Burgundy



Lane Group	Ø9
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

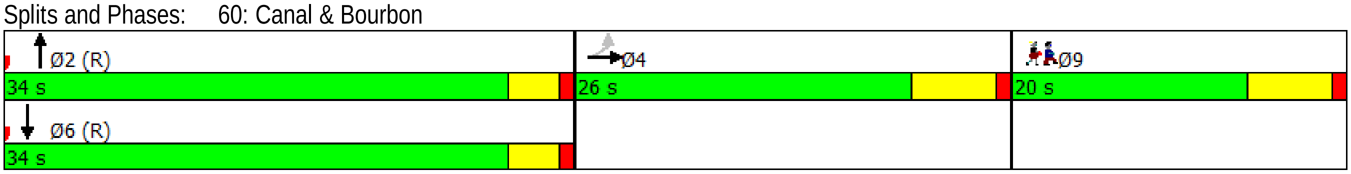
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	0	28	0	0	0	0	777	0	0	514	0
Future Volume (vph)	139	0	28	0	0	0	0	777	0	0	514	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.850										
Flt Protected	0.950											
Satd. Flow (prot)	1770	1583	0	0	0	0	0	5085	0	0	5085	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1583	0	0	0	0	0	5085	0	0	5085	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		480			429			355			365	
Travel Time (s)		10.9			9.8			8.1			8.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	0	30	0	0	0	0	845	0	0	559	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	151	30	0	0	0	0	0	845	0	0	559	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Minimum Split (s)	24.0	24.0						22.5			22.5	
Total Split (s)	26.0	26.0						34.0			34.0	
Total Split (%)	32.5%	32.5%						42.5%			42.5%	
Maximum Green (s)	20.0	20.0						30.0			30.0	
Yellow Time (s)	5.0	5.0						3.0			3.0	
All-Red Time (s)	1.0	1.0						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	6.0	6.0						4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	11.0	11.0						11.0			11.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)	20.0	20.0						30.0			30.0	
Actuated g/C Ratio	0.25	0.25						0.38			0.38	
v/c Ratio	0.34	0.08						0.44			0.29	
Control Delay	27.2	23.7						25.5			5.1	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay	27.2	23.7						25.5			5.1	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	25%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C						C			A	
Approach Delay		26.7						25.5			5.1	
Approach LOS		C						C			A	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 43 (54%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 31.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 60: Canal & Bourbon



Lane Group	Ø9
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

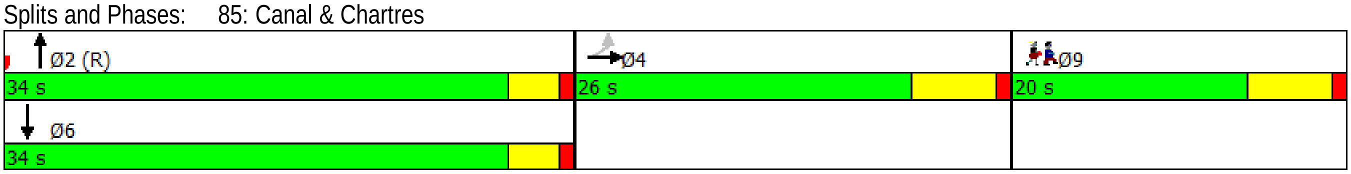
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	100	264	0	0	0	0	333	111	0	377	0
Future Volume (vph)	164	100	264	0	0	0	0	333	111	0	377	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt		0.891						0.962				
Flt Protected	0.950											
Satd. Flow (prot)	1770	1660	0	0	0	0	0	4892	0	0	5085	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1660	0	0	0	0	0	4892	0	0	5085	0
Right Turn on Red			No			Yes			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		376			434			427			356	
Travel Time (s)		8.5			9.9			9.7			8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	178	109	287	0	0	0	0	362	121	0	410	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	178	396	0	0	0	0	0	483	0	0	410	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Minimum Split (s)	24.0	24.0						22.5			22.5	
Total Split (s)	26.0	26.0						34.0			34.0	
Total Split (%)	32.5%	32.5%						42.5%			42.5%	
Maximum Green (s)	20.0	20.0						30.0			30.0	
Yellow Time (s)	5.0	5.0						3.0			3.0	
All-Red Time (s)	1.0	1.0						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	6.0	6.0						4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	11.0	11.0						11.0			11.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)	20.0	20.0						30.0			30.0	
Actuated g/C Ratio	0.25	0.25						0.38			0.38	
v/c Ratio	0.40	0.95						0.26			0.22	
Control Delay	28.3	66.3						17.8			17.4	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay	28.3	66.3						17.8			17.4	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	25%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	E						B			B	
Approach Delay		54.5						17.8			17.4	
Approach LOS		D						B			B	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 43 (54%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 32.0	Intersection LOS: C
Intersection Capacity Utilization 38.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 85: Canal & Chartres



Lane Group	Ø9
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	619	155	0	193	48	0	240	186	0	444	172
Future Volume (vph)	0	619	155	0	193	48	0	240	186	0	444	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		100	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.970			0.970			0.935			0.958	
Flt Protected												
Satd. Flow (prot)	0	3433	0	0	3433	0	0	4755	0	0	4872	0
Flt Permitted												
Satd. Flow (perm)	0	3433	0	0	3433	0	0	4755	0	0	4872	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		228			457			408			462	
Travel Time (s)		5.2			10.4			9.3			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	673	168	0	210	52	0	261	202	0	483	187
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	841	0	0	262	0	0	463	0	0	670	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			45			45	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA			NA			NA			NA	
Protected Phases		4			8			2			6	
Permitted Phases												
Minimum Split (s)		24.0			24.0			22.5			22.5	
Total Split (s)		30.0			30.0			30.0			30.0	
Total Split (%)		37.5%			37.5%			37.5%			37.5%	
Maximum Green (s)		24.0			24.0			26.0			26.0	
Yellow Time (s)		5.0			5.0			3.0			3.0	
All-Red Time (s)		1.0			1.0			1.0			1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)		24.0			24.0			26.0			26.0	
Actuated g/C Ratio		0.30			0.30			0.32			0.32	
v/c Ratio		0.82			0.25			0.30			0.42	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Minimum Split (s)	11.0
Total Split (s)	20.0
Total Split (%)	25%
Maximum Green (s)	14.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		33.9			22.1			20.9			22.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		33.9			22.1			20.9			22.1	
LOS		C			C			C			C	
Approach Delay		33.9			22.1			20.9			22.1	
Approach LOS		C			C			C			C	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 44 (55%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 26.3	Intersection LOS: C
Intersection Capacity Utilization 42.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 103: Canal & N Peters

Lane Group	Ø9
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Intersection	
Int Delay, s/veh	9.1

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	59	0
Future Vol, veh/h	0	0	0	0	59	0
Conflicting Peds, #/hr	0	0	0	0	100	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	64	0

Major/Minor	Major2		Minor1	
Conflicting Flow All	-	-	101	-
Stage 1	-	-	0	-
Stage 2	-	-	101	-
Critical Hdwy	-	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.42	-
Follow-up Hdwy	-	-	3.518	-
Pot Cap-1 Maneuver	0	-	898	0
Stage 1	0	-	-	0
Stage 2	0	-	923	0
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	898	-
Mov Cap-2 Maneuver	-	-	898	-
Stage 1	-	-	-	-
Stage 2	-	-	923	-

Approach	NW	NE
HCM Control Delay, s	0	9.3
HCM LOS		A

Minor Lane/Major Mvmt	NELn1	NWT
Capacity (veh/h)	898	-
HCM Lane V/C Ratio	0.071	-
HCM Control Delay (s)	9.3	-
HCM Lane LOS	A	-
HCM 95th %tile Q(veh)	0.2	-

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	48	196	0	0	0	0	0	0	0	245	87
Future Vol, veh/h	0	48	196	0	0	0	0	0	0	0	245	87
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	52	213	0	0	0	0	0	0	0	266	95
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	SE	NE
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		SE
Conflicting Lanes Left	0	1
Conflicting Approach Right	NE	
Conflicting Lanes Right	1	0
HCM Control Delay	10.5	11
HCM LOS	B	B

Lane	NELn1	SELn1
Vol Left, %	0%	20%
Vol Thru, %	74%	80%
Vol Right, %	26%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	332	244
LT Vol	0	48
Through Vol	245	196
RT Vol	87	0
Lane Flow Rate	361	265
Geometry Grp	1	1
Degree of Util (X)	0.445	0.354
Departure Headway (Hd)	4.442	4.809
Convergence, Y/N	Yes	Yes
Cap	812	745
Service Time	2.472	2.849
HCM Lane V/C Ratio	0.445	0.356
HCM Control Delay	11	10.5
HCM Lane LOS	B	B
HCM 95th-tile Q	2.3	1.6

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	0	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	18.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	120	316	0	0	0	0	0	258	87	0	0	0
Future Vol, veh/h	120	316	0	0	0	0	0	258	87	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	130	343	0	0	0	0	0	280	95	0	0	0

Major/Minor	Minor2			Major1		
Conflicting Flow All	428	475	-	-	0	0
Stage 1	0	0	-	-	-	-
Stage 2	428	475	-	-	-	-
Critical Hdwy	6.42	6.52	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-	-	-
Pot Cap-1 Maneuver	584	488	0	0	-	-
Stage 1	-	-	0	0	-	-
Stage 2	657	557	0	0	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	584	0	-	-	-	-
Mov Cap-2 Maneuver	584	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	657	0	-	-	-	-

Approach	SE	NE
HCM Control Delay, s	32.4	0
HCM LOS	D	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	584
HCM Lane V/C Ratio	-	-	0.811
HCM Control Delay (s)	-	-	32.4
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	8.1

Intersection	
Intersection Delay, s/veh	14
Intersection LOS	B

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	104	332	0	0	0	0	0	0	0	209	81
Future Vol, veh/h	0	104	332	0	0	0	0	0	0	0	209	81
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	113	361	0	0	0	0	0	0	0	227	88
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	SE	NE
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		SE
Conflicting Lanes Left	0	1
Conflicting Approach Right	NE	
Conflicting Lanes Right	1	0
HCM Control Delay	15.6	11.7
HCM LOS	C	B

Lane	NELn1	SELn1
Vol Left, %	0%	24%
Vol Thru, %	72%	76%
Vol Right, %	28%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	290	436
LT Vol	0	104
Through Vol	209	332
RT Vol	81	0
Lane Flow Rate	315	474
Geometry Grp	1	1
Degree of Util (X)	0.432	0.628
Departure Headway (Hd)	4.938	4.772
Convergence, Y/N	Yes	Yes
Cap	725	754
Service Time	2.999	2.831
HCM Lane V/C Ratio	0.434	0.629
HCM Control Delay	11.7	15.6
HCM Lane LOS	B	C
HCM 95th-tile Q	2.2	4.5

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	0	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	5.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	64	148	0	0	0	0	0	210	87	0	0	0
Future Vol, veh/h	64	148	0	0	0	0	0	210	87	0	0	0
Conflicting Peds, #/hr	100	0	0	0	0	0	0	0	100	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	161	0	0	0	0	0	228	95	0	0	0

Major/Minor	Minor2			Major1		
Conflicting Flow All	376	423	-	-	0	0
Stage 1	0	0	-	-	-	-
Stage 2	376	423	-	-	-	-
Critical Hdwy	6.42	6.52	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-
Follow-up Hdwy	3.518	4.018	-	-	-	-
Pot Cap-1 Maneuver	625	522	0	0	-	-
Stage 1	-	-	0	0	-	-
Stage 2	694	588	0	0	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	625	0	-	-	-	-
Mov Cap-2 Maneuver	625	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	694	0	-	-	-	-

Approach	SE	NE
HCM Control Delay, s	14.1	0
HCM LOS	B	

Minor Lane/Major Mvmt	NET	NER	SELn1
Capacity (veh/h)	-	-	625
HCM Lane V/C Ratio	-	-	0.369
HCM Control Delay (s)	-	-	14.1
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	1.7

Intersection	
Int Delay, s/veh	5.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	130	48	83	197	0	0	0	0
Future Vol, veh/h	0	0	0	0	130	48	83	197	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	141	52	90	214	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	495	314	100	0	-
Stage 1	-	395	-	-	-	-
Stage 2	-	100	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	476	726	1493	-	0
Stage 1	0	605	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	726	1493	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	11.8	2.2
HCM LOS	B	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	1493	-	726
HCM Lane V/C Ratio	0.06	-	0.266
HCM Control Delay (s)	7.6	0	11.8
HCM Lane LOS	A	A	B
HCM 95th %tile Q(veh)	0.2	-	1.1

Intersection	
Int Delay, s/veh	6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	118	34	55	113	0	0	0	0
Future Vol, veh/h	0	0	0	0	118	34	55	113	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	100	100	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	128	37	60	123	0	0	0	0

Major/Minor	Major2			Minor1		
Conflicting Flow All	-	-	0	247	265	-
Stage 1	-	-	-	0	0	-
Stage 2	-	-	-	247	265	-
Critical Hdwy	-	-	-	6.42	6.52	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	3.518	4.018	-
Pot Cap-1 Maneuver	0	-	-	741	640	0
Stage 1	0	-	-	-	-	0
Stage 2	0	-	-	794	689	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	741	0	-
Mov Cap-2 Maneuver	-	-	-	741	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	794	0	-

Approach	NW	NE
HCM Control Delay, s	0	11.4
HCM LOS		B

Minor Lane/Major Mvmt	NELn1	NWT	NWR
Capacity (veh/h)	741	-	-
HCM Lane V/C Ratio	0.246	-	-
HCM Control Delay (s)	11.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	1	-	-

Intersection	
Int Delay, s/veh	4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	77	40	46	116	0	0	0	0
Future Vol, veh/h	0	0	0	0	77	40	46	116	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	84	43	50	126	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	226	126	0	0	-
Stage 1	-	226	-	-	-	-
Stage 2	-	0	-	-	-	-
Critical Hdwy	-	6.52	6.22	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	673	924	-	-	0
Stage 1	0	717	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %					-	
Mov Cap-1 Maneuver	-	0	924	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	9.5	
HCM LOS	A	

Minor Lane/Major Mvmt	NEL	NET	NWLn1
Capacity (veh/h)	-	-	924
HCM Lane V/C Ratio	-	-	0.138
HCM Control Delay (s)	-	-	9.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.5