
French Quarter Safety and Security

Traffic Study

Prepared for:

City of New Orleans Department of Public Works



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INTRODUCTION TO REPORT

This Executive Summary provides an overview of the report that was developed as part of the City of New Orleans Citywide Public Safety Improvements, 2017. These public safety and infrastructure investments are part of a comprehensive strategy 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. The report, the analyses conducted as part of the project, and the recommendations contained herein were all provided in support of this strategy and specifically, 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.



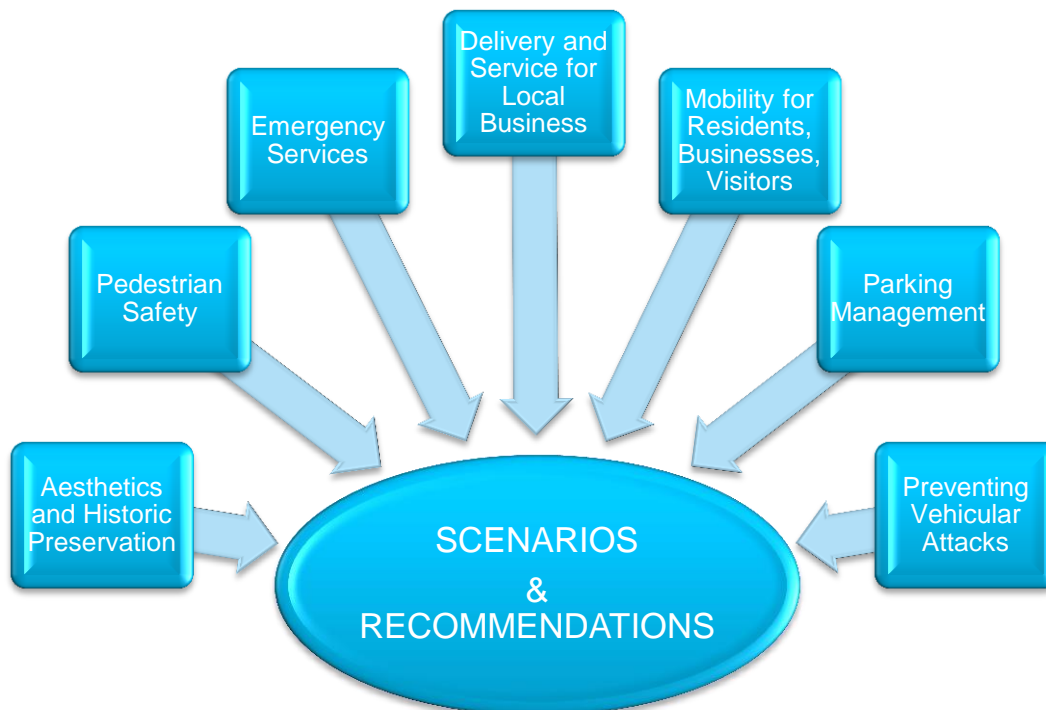
This study builds upon the data collected and analysis already completed as part of the Downtown Traffic Conditions Analysis by the AECOM project team. The Downtown Traffic Conditions Analysis is a comprehensive assessment of traffic patterns and curb space usage in the French Quarter and Central Business 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.

Permanent or even partial closure of a major street in North America is rare. There is no established protocol or engineering standards for such. With guidance from the City's Department of Public Works, the project team developed an analytical approach using the following framework (see Figure 2). The approach was also greatly influenced by the General Services Administration (GSA) Site Security Design Guide.

Figure 2: Approach to a Balanced Outcome



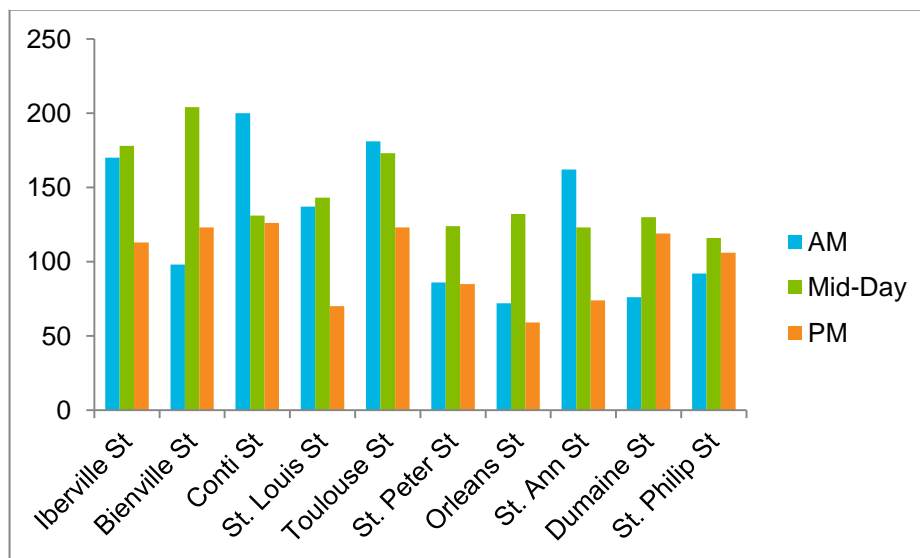
Existing Conditions

The project team 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 also gathered input through an online survey from 128 residents and 33 businesses located throughout the French Quarter. The stakeholder interviews were also key in making sound recommendations and practical operations decisions.

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. 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 3: Bourbon St Peak Period Traffic by Time of Day



Fleet Mix

The type of vehicles traveling along and across Bourbon St within the study area varies by location and time of day. Private vehicles make up around two-thirds of the vehicles traveling in the study area throughout the day. Delivery and maintenance vehicle traffic composes around 16% of the traffic during the AM 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 an increase during the PM peak period.

Table 1: 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%

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, and 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.

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. In practice, the implementation of the Bourbon St closure is different than what is listed in the ordinance. Based on the discretion of law enforcement officials, Bourbon St is closed from around 5 PM to 4 AM each day.

Stakeholder Involvement

In order to understand the needs and desires of local businesses, property owners, and residents, the project team undertook a range of stakeholder involvement strategies: one round of stakeholder interviews, surveys of residents and business owners, meetings with local stakeholder groups, and two public meetings. The Bourbon Street Freight and Delivery interviews were collected in person. The stakeholder surveys were executed using an online polling system.

Bourbon St Business Interviews

In an effort to design a cohesive transportation plan for the Bourbon St corridor, the project team conducted a survey of over 60 businesses on Bourbon St regarding operations, deliveries, freight access, and related issues. Understandably, a large majority of businesses are concerned that a change to the Bourbon St closure policy would make receiving deliveries more

difficult. 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 currently occur at Bourbon St businesses.

- Most deliveries occur during the mid to late morning, but 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 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, continued freight vehicle access to Bourbon St should be ensured during this time.

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.

Polling from French Quarter Residents

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. 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. In terms of parking, most do not have a driveway and use either on-street or structured parking to station their personal automobile.

Most of the respondents either do not commute to work or have a commute that does not involve Bourbon St; small percentages commute using Bourbon St or cross Bourbon St. Of those who do commute, more than half leave before 9AM and almost all 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 options with survey respondents. The vast majority are opposed to closure of the streets crossing Bourbon St.

Polling from French Quarter Businesses

In response to input from French Quarter businesses, the project team conducted a survey of businesses within the study area regarding operations, deliveries, traffic, and related issues. Overall, the responses from French Quarter businesses 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. 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.

One-third of respondents were not interested in any change to the current policy. Similar to the resident 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 are not in favor of closing side streets, citing a potential increase in traffic congestion as the main reason for opposition.

Security and Barrier Design

The project team followed an approach to safety and security derived from the Federal General Services Administration Safety and Security Design Guide. 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.

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.

Within a Proper Standoff Perimeter

A variety of infrastructure can be used to ‘harden’ the area and make it less accessible to those intending harm. The City and its various teams have assessed a range of protective options with bollards emerging as the most 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.

The City has developed affordable options for using operable bollards to control access along Bourbon St (see Figure 4). 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 complemented by a video monitoring system that is an additional provision of the New Orleans Citywide Public Safety Program.

Figure 4: Preliminary Choice for Bollard Installations



Opening of Bollards

Table 2 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 the existing conditions. After a four hour garbage collection period, delivery vehicles would be allowed to occupy curb space.

Table 2: Bollard Opening Timeline

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

Closing of Bollards

Table 3 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 would go 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 3: 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

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, its role as a transportation corridor for transit and personal vehicles has diminished. The commercially oriented portion of Bourbon St between Canal St and Dumaine St 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. Large numbers of pedestrians 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. Bourbon St at Canal St is ranked #4 on their list and Bourbon St at St. Ann St is also listed among the 50 most dangerous intersections in the city.

The project team examined Bourbon St in terms of pedestrian accessibility, connectivity, and Level of Service (LOS). Data on the volume of pedestrians in the area was analyzed 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 the analysis.

This analysis is built upon the recent pedestrian analysis performed for the New Orleans Downtown Traffic Conditions Analysis (NODTCA). A more robust and detailed explanation of the calculations associated with the following analyses is available in the NODTCA document. All of the study area links have acceptable width and flows for pedestrians under normal conditions. The links have LOS A only under normal conditions of peak flows on an average weekday. However, 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.

Table 4: Pedestrian Corridor Data

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

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 pedestrian 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.

Table 5: Pedestrian Level of Service

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

Scenarios and Options

Chapter 5 of the report provides the details and analysis of ten Bourbon St closure SCENARIOS (Table 6) and eight safety and traffic pattern OPTIONS (Table 7). 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.

Table 6: Bourbon St Closure Scenarios

#	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

This set of scenarios and options essentially provides the City and stakeholders with a menu of choices, though further hybridization is also possible. The final decision for Bourbon St will likely be one of the scenarios complemented by one or more options.

The eight safety and traffic pattern options attempt to mitigate traffic related issues through a change in infrastructure or policy. These options are meant to function independently of the range of scenarios.

Table 7 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

Bollard 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.

The access restrictions are broken into four priorities based on threat mitigation strategy and budget constraints (Figure 5).

Priority 1 Installations: This priority is similar to existing conditions. Bourbon St closure is between the northern curb of the Iberville St intersection and the northern approach of the St. Ann St intersection as well Royal St closure between the northern approach of Bienville

Figure 5: Bollard Priority



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

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

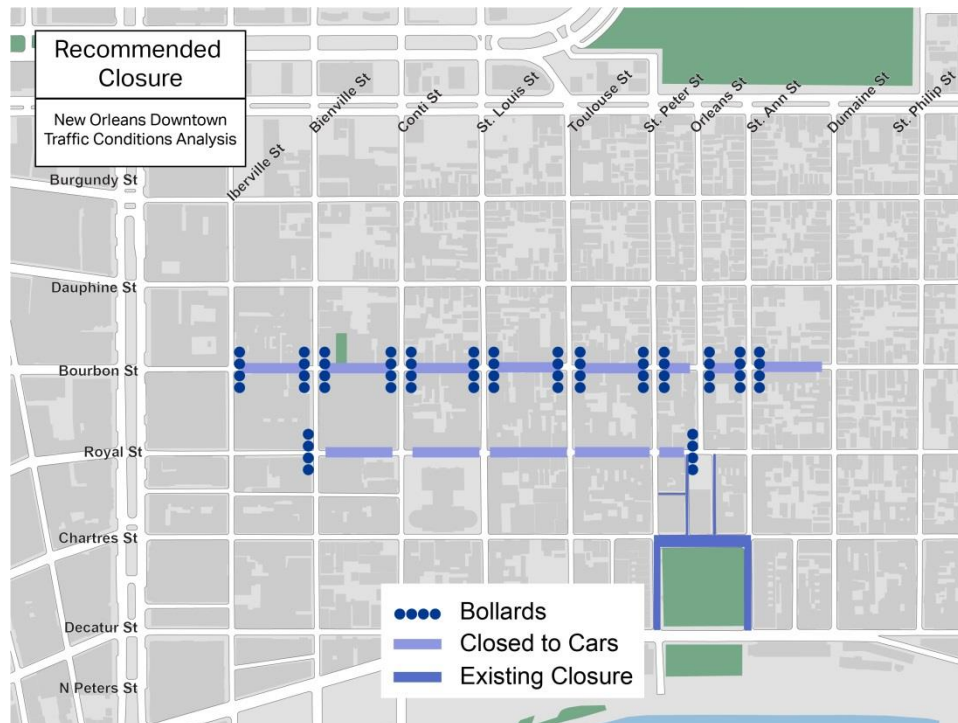
Priority 4 Installations: This priority includes bollards to close off the cross streets running perpendicular to Bourbon St from Iberville St to St. Ann St. These are intended for use only during very large events, such as the current operations on Mardi Gras, and during the recent NBA All-Star Game.

The project team recommends that Priority 1, 2a, and 2b installations should be made now with permanent bollard installations. Priority 3 and 4 can be closed using temporary barricades depending on the nature and size of the event and the relative public safety issues involved.

Closure Recommendation

At this time, the project team recommends immediate implementation of a scenario much like the status quo, but with earlier closure of Bourbon St (see Table 6 and Table 7). On Bourbon St it is recommended that bollards be installed between Iberville St and St. Ann St. The recommended closure time for the Bourbon St Pedestrian mall is from 5PM to 4AM conforming to existing conditions. Similarly, the recommended Royal St closure is much like existing conditions – between Bienville St and Orleans St – from 11AM to 4PM on weekdays and 11AM to 7PM on weekends (see Figure 6).

Figure 6: Recommended Closure Scenario – Normal Conditions



The team also recommends the adoption of certain options, such as parking re-allocation and design treatments at intersections. A final operations plan will be developed by the Department of Public Works, following the final Public Meeting in late June 2017.

Traffic Analysis

The project team completed a traffic study to analyze the impacts of the recommended scenarios and other configurations within the French Quarter. 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 closed and traffic is redirected to utilize other corridors.

The full report includes the documentation of existing volumes, methodology of traffic analysis, and the results of traffic analysis. The study intersections were modeled using Synchro (ver. 9.1) – a traffic analysis software program to evaluate traffic operations. The measures of effectiveness for this analysis were vehicle delay, LOS, and queue lengths.

The scenarios analyzed in the traffic study are referred to as ‘existing conditions’ and ‘redirected’. Existing conditions sets a baseline of how traffic presently operates. 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.

The analysis results show that in the existing condition, at the corridor level, most streets perform acceptably. Certain segments of Rampart St, Burgundy St, and N. Peters St 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. That 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 St and Iberville St, but all of the corridor segments and intersections are expected to continue to operate at an acceptable LOS D or better.

Parking Analysis and Recommendations

The project team has studied parking regulations and policy in the City and especially around Bourbon St. Findings and recommendations were derived from the New Orleans Downtown Traffic Conditions Analysis (NODTCA) (phase one), which included the Central Business and Warehouse Districts; and the phase two assessment recently completed from the immediate study area. The NODTCA (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.

Phase One NODTCA Parking Analysis

The project team, in consultation with the City of New Orleans, chose a representative sample of parking to analyze. 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 – one commercial and one residential.

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.

Characteristics of the Parking Supply

There are many ‘types’ of stalls downtown and in the French Quarter. In fact, the City now has 29 different sign types in use, which should be reduced over time. 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, two 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 overall average length of stay for customers is 2 hours and 8 minutes.
- The French Quarter and the CBD are constrained during their individual peak hours – occupancies are in excess of 85%.
- Despite enforcement efforts, violation rates are high (20%).
- 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 and poorly regulated.
- The average time stays in loading zones range 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.

Phase Two Parking Analysis

In addition to the other analyses related to the Bourbon St closure 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 information about parking conditions in the French Quarter. The project team was fortunate to have initial parking utilization data provided by the City Planning Commission (CPC). CPC staff had been collecting parking 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 French Quarter operates at 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 is devoted to various types of loading zones (passenger, taxi, freight, etc.). 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 environment for local or other customers.

The project team developed a set of suggested changes to the allocation of parking. 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.

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 to 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 metered capacity will become available in the same locations.

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

- Adopt clear and strategic Guiding Principles as formal policies for the operation and management of public parking.
- 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.
- Establish clear and measurable performance standards.
- Establish best-practice protocols and performance metrics for enforcement personnel and support with appropriate enforcement technology.

It is recommended that New Orleans consider the following policy changes:

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

Decatur Street Closure

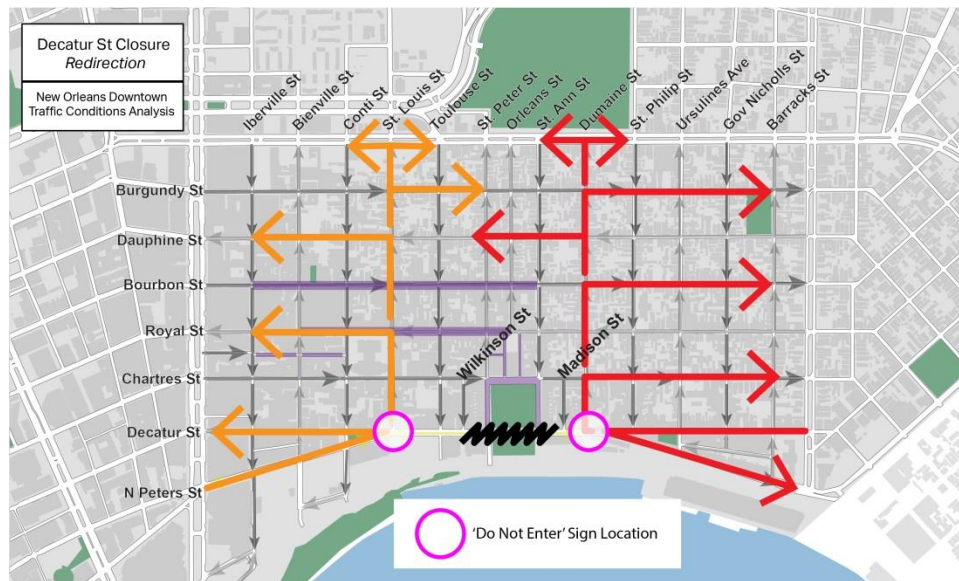
The final chapter of this report is an investigation of the feasibility of closing Decatur St at Jackson Square. Closing the street at this location would connect the pedestrian malls on St.

Ann St and St. Peter St with Washington Artillery Park & Moonwalk and the Mississippi 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. The purpose of this study is to explore closure concepts and examine options to mitigate the effects of the closure. In order to proceed past this study additional work is needed including testing the options and thorough engagement with key stakeholders.

Operational Issues

Mobility and access of motor vehicles and busses would be greatly impacted by a closure at this location. Figure 7 and Figure 9 show how trips would be redirected and redistributed from the closure extents back into the French Quarter street grid. 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 7: Decatur Closure Redirection



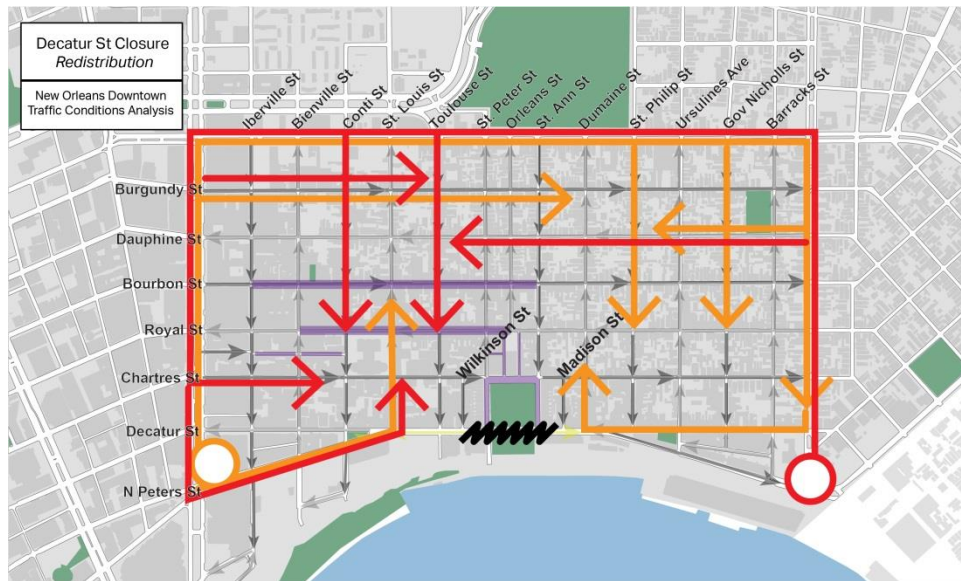
Connectivity Options

Chapter eight explores several connectivity options that maintain mobility and access to varying degrees.

Pedestrian Mall

The overall concept for the roadway space opened up by the street closure is to create a pedestrian mall. Properly designed, this mall could solidify the link between the French Quarter and the Mississippi River.

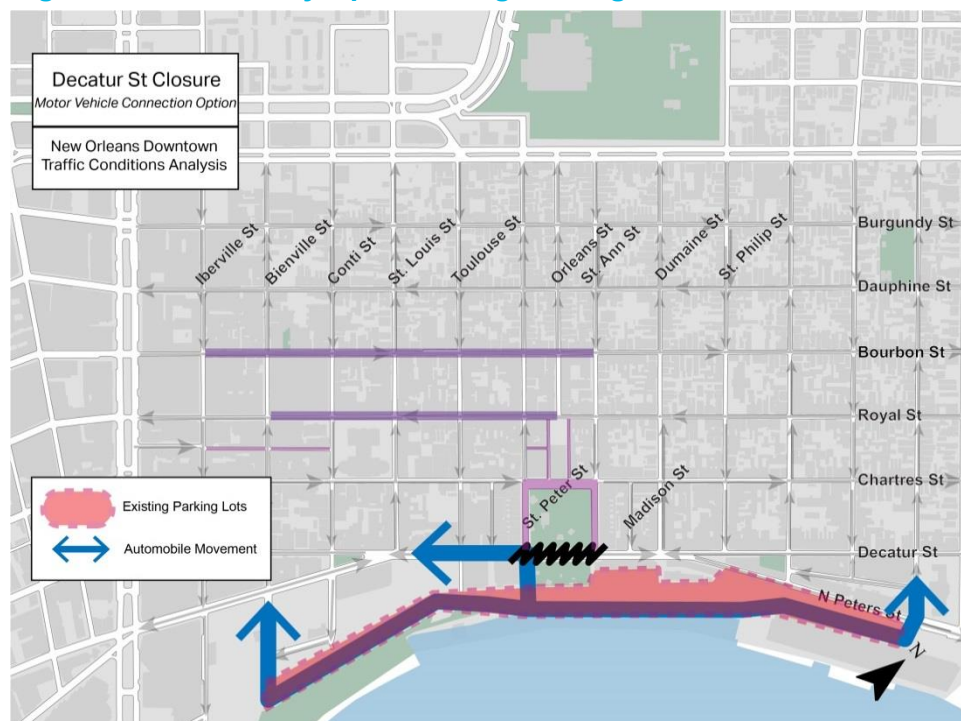
Figure 9: Decatur Closure Redistribution



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 (Figure 8). Clearly, this option would require the removal of parking spaces in these highly utilized, city-owned parking lots.

Figure 8: Connectivity Option Using Parking Lots



Transit Connections

Maintaining transit connections on this 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. Three options are explored in Chapter 8. Each of these options has precedent in both domestic and foreign cities.

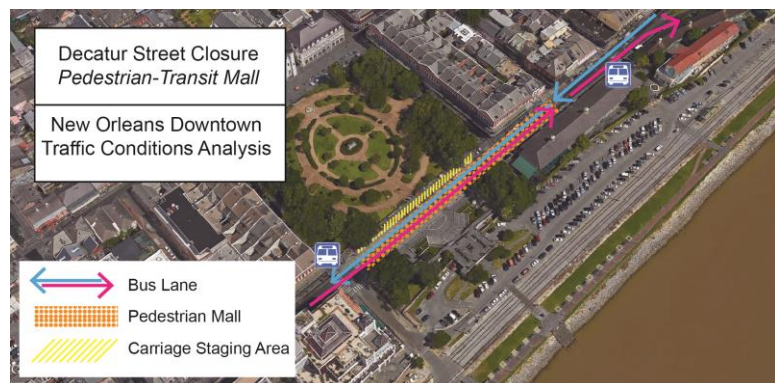
Option 1

Create a shared use pedestrian and transit mall in the road closure area in front of Jackson Square.



Option 2

Allow transit vehicles to use the parking lots between the French Market and the Mississippi River – similar to the motor vehicle connectivity option.



Option 3

Run bus lines in same right of way as the riverfront streetcar tracks by embedding the existing tracks in concrete.



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. 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.

Conclusion

This study was undertaken in support of the City of New Orleans Citywide Public Safety Improvements, specifically Action 5: Upgrade Infrastructure to Reduce Terror Risk.

The study team spent considerable time in the field collecting data on traffic volume, turning movements, parking utilization data, measurements, and stakeholder input. The project team worked with various City departments, and completed traffic, pedestrian, and other studies. Based on the findings, the project team recommends immediate implementation of a scenario with an earlier closure of Bourbon St (see Table 6 and Table 7). This scenario would control vehicular access to Bourbon St using moveable bollard technology during times of peak pedestrian usage and based on public safety considerations. When closed, the bollards will prevent access to Bourbon St by an uncontrolled vehicle, provide refugee areas on Bourbon St for pedestrians from traffic while maintaining access to Bourbon St via the cross streets for emergency responders, and eliminate the need for law enforcement personnel to man barricades, freeing up more resources to prevent crime.

The team also recommends the further consideration of certain options as outlined in this report and the forthcoming Downtown Traffic Conditions Analysis report, such as parking space re-allocation and design treatments at intersections to reduce public safety risks by decreasing vehicle speeds, making pedestrian crossings more visible, improving parking, reducing traffic congestion, and by making it easier for emergency responders to access locations within the French Quarter.

These recommended actions are linked to and support the comprehensive strategy of public safety and infrastructure investments outlined City of New Orleans Citywide Public Safety Improvements, 2017 plan 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.