EXHIBIT A

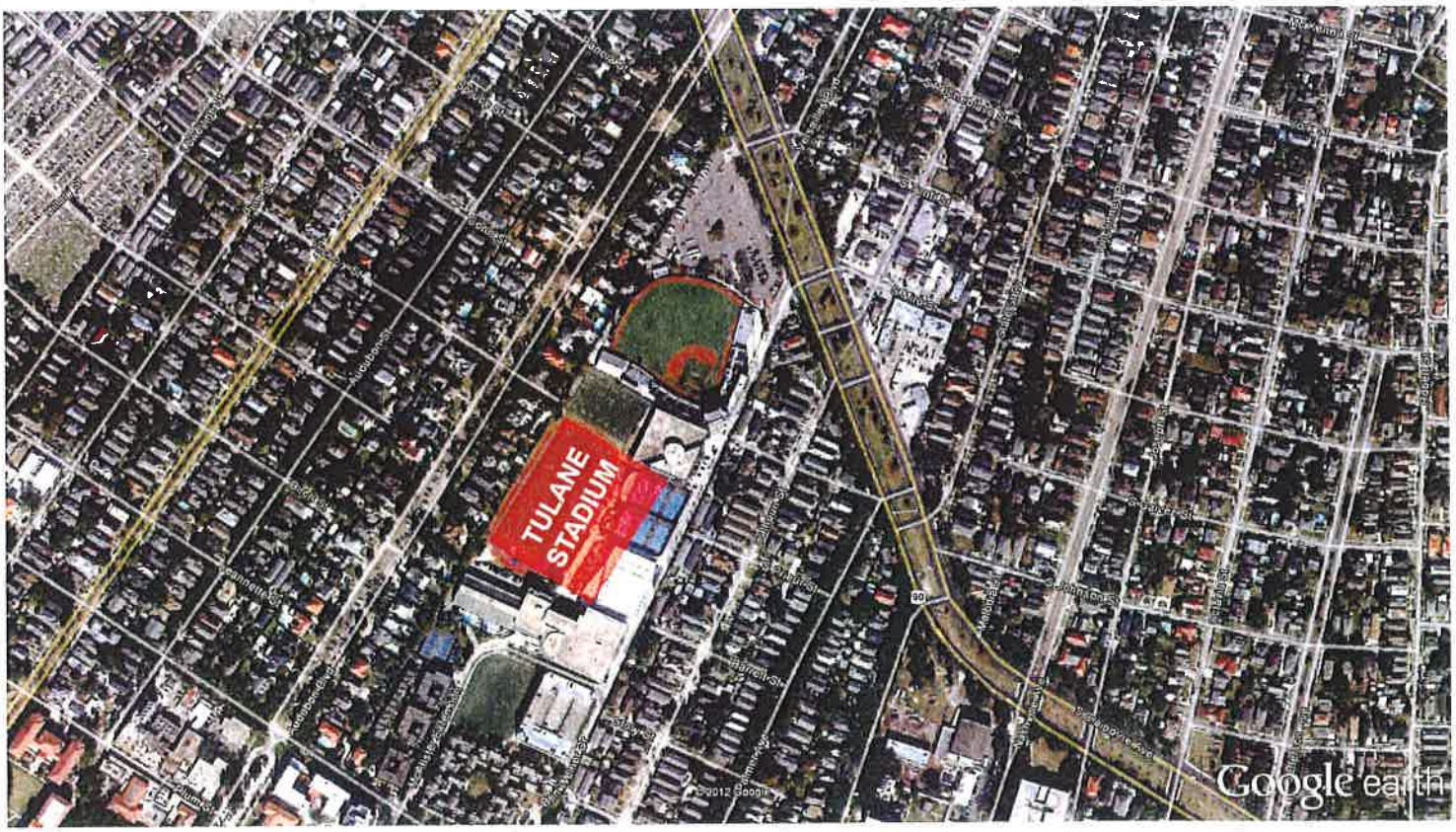
Traffic/Parking Plan

See attached.

Tulane University Stadium

New Orleans, Louisiana

Traffic Impact Analysis



STATE OF LOUISIANA
ALISON M. CATARELLA
License No. 30261
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/16/12

Prepared for
Tulane University
6823 St. Charles Ave
New Orleans, LA 70118

Prepared by:
Urban Systems, Inc.
400 N. Peters St.
New Orleans, LA 70130

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Introduction

This report has been prepared to estimate traffic volume and flow conditions associated with a 30,000 person event to be held at the new Tulane University Stadium to be located on the Uptown Campus of the University. Analyzing the traffic impact of a stadium differs from analyzing the traffic impact of typical developments. Traffic for a stadium does not occur on a regular basis. The impact will be mitigated by implementation of a traffic control plan. This typically includes manual control of traffic by police officers. Therefore the focus of this traffic impact study is to determine the existing capacity of the roadways that will be affected and to identify a plan to control game day traffic. Parking is also addressed.

Traffic will be estimated using the capacity of on-site parking facilities, including spaces located in the Loyola University Freret Street garage, the capacity of lots and parking areas that are not on-campus but are within walking distance to the University, and in offsite parking facilities that will be serviced by shuttles and a bus system. The latter includes Tulane's University Square parking lot.

Stadium traffic flows will be assigned to the streets and roadways that provide access to the Uptown Campus and off-site parking areas. Traffic control points and measures will be identified with the focus on the post game departure scenario. This is the critical time period and existing conditions will be analyzed during these potential times to determine available capacity. In bound traffic flows associated with a sporting event are typically dispersed over a two hour time period before kick-off. Departure or outbound flows tend to occur within a one hour period that begins shortly before the game ends.

Study Design

With input from the City of New Orleans DPW, the study area was defined as bounded by S. Carrollton Avenue, Leake Avenue, Jefferson Avenue and Earhart Boulevard. Intersection turning movement counts were conducted at the following intersections:

- Earhart at S. Carrollton
- S. Claiborne at S. Carrollton
- S. Claiborne at Broadway
- S. Claiborne at Calhoun
- S. Claiborne at Nashville
- S. Claiborne at Jefferson
- Broadway at Fountainbleau
- Broadway at Willow
- Broadway at Freret
- Broadway at St. Charles

- Broadway at Leake
- Willow at Audubon Blvd/Newcomb Place
- Willow at Calhoun
- Willow at State
- Freret at Calhoun
- Freret at State
- St. Charles at Calhoun
- St. Charles at Palmer
- St. Charles at State
- St. Charles at Jefferson

Existing traffic data was collected to determine the base condition. Projected traffic volumes were estimated using parking facility counts in lots and garages on and off campus. Shuttle and bus volumes were estimated based upon an average load factor of 43 per vehicles. Data regarding the location and capacity of on-site and potential off-site parking facilities is documented in the report *Venue Parking , Traffic, Transit and Pedestrian Flow Study* prepared by SP Plus GameDay for Tulane University. Base and future roadway and access characteristics were documented in the *Uptown Campus Transportation and Circulation Study* prepared by the Consultant. Both reports are attached in the Appendix of this report.

The *Venue Parking , Traffic, Transit and Pedestrian Flow Study* report also outlined a game day operations plan that addressed access, intersection traffic control points, neighborhood traffic control measures , way finding signage and traffic management using a robust on-line program to sell ticket and parking packages and provide customized access and routing information. SP Plus GameDay recommendations were assumed as the traffic control for this report.

Existing Traffic Volume and Flow Conditions

Data Collection

Turning movement counts were collected at each of the subject intersections in September and October of 2012. Counts were taken on Saturday, September 29th and Saturday, October 6th from 4:30-6:30 PM, the time expected for afternoon postgame departures, and 9:30-11:30 PM, the time expected for night postgame departures. Based on exiting traffic data, the peak for an afternoon game was identified as 4:45 to 5:45 PM and the peak for a night game from 9:30 to 10:30 PM. The resulting existing conditions peak hourly volumes are presented in Figure 1. The count data is presented in the Appendix.

Capacity Analysis

Capacity analysis was performed to determine operational conditions in the expected departure times for afternoon and night games. This type of analysis is the industry standard for traffic impact studies to determine the relative difference in operational conditions. Intersection geometry, turning movement volumes and traffic control parameters were entered into Highway Capacity Software to determine expected Level of Service and delay conditions.

Levels of Service (LOS) represent a qualitative and quantitative evaluation of the traffic operation of a given intersection using procedures developed by the Transportation Research Board and contained in the Highway Capacity Manual, Special Report 209. The Highway Capacity Manual (HCM) procedures have been adapted to computer based analysis packages, which include signalized and un-signalized intersection modules.

Levels of Service range from LOS A, a condition of little or no delay to LOS F, a condition of capacity breakdown represented by heavy delay and congestion. Level of Service B is characterized as stable flow. Level of Service C is considered to have a stable traffic flow, but is becoming susceptible to congestion with general levels of comfort and convenience declining noticeably. Level of Service D approaches unstable flow as speed and freedom to maneuver are severely restricted and LOS E represents unstable flow at or near capacity levels with poor levels of comfort and convenience. Tables 1 and 2 present the Level of Service criteria for signalized and un-signalized intersections, respectively.

TABLE 1
Level of Service Criteria
Signalized Intersections

Level of Service	Stopped Delay (Sec/Veh)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

TABLE 2
Level of Service Criteria
Unsignalized Intersections

Level of Service	Average Total Delay (Sec/Veh)
A	< 10
B	> 10 and < 15
C	> 15 and < 25
D	> 25 and < 35
E	> 35 and < 50
F	> 50

2012 Existing Conditions Level of Service Analysis

2012 existing volume and intersection control data were input into Highway Capacity Software to generate Level of Service and delay estimates for each intersection. Signal timings were provided by the City of New Orleans. Tables 3 and 4 present the results of the analysis for the existing conditions.

A review of Tables 3 and 4 indicated that the intersection approaches are currently operating at LOS C or better for both of the subject time periods that correspond to expected game day departures. Overall intersection operations are currently LOS B or better. This indicates the intersections are operating well below capacity, that the existing road network can accommodate significantly more traffic demand/game day departing vehicles.

Parking Plan

Parking for employees and game day personnel will be located at the Mercedes-Benz Superdome where they will clock in and out. Personnel will be shuttled to the site and therefore enter prior to and depart after peak spectator entry and exit periods.

The spectator parking need for a 30,000 person event estimated by SP Plus GameDay is 7,840 spaces based on a load factor 2.5 person per vehicle. This takes into consideration spectators that will arrive via transit such as bus service, the streetcar on St. Charles, taxis and walkers.

To accommodate parking demand for events at the Stadium, a parking plan has been developed that uses available on and off-site parking assets that Tulane University owns and / or controls by agreement as well as lots that are owned by others.

The parking supply includes parking spaces on campus, spaces in lots that are located within

Table 3 (1 of 2)

2012 Existing Conditions

Level of Service and Capacity Analysis Results

Intersection	Direction	4:45-5:45pm		9:30-10:30PM	
		LOS	Delay (s/veh)	LOS	Delay (s/veh)
Earhart Blvd at S. Carrollton Ave.	***Overall***	**B**	**19.5**	**B**	**17.3**
	Northbound	B	17.6	B	15.2
	Southbond	B	19.0	B	15.9
	Eastbound	C	21.6	B	19.6
	Westbound	C	21.1	C	20.7
Fountainebleau Dr. at Broadway St.	***Overall***	**B**	**11.1**	**A**	**8.5**
	Northbound	B	11.3	A	8.5
	Southbond	B	11.3	A	8.7
	Eastbound	B	11.9	A	8.7
	Westbound	A	9.7	A	8.2
S. Claiborne at S. Carrollton Ave.	***Overall***	**B**	**19.2**	**B**	**17.7**
	Northbound	C	21.3	B	19.8
	Southbond	C	20.5	B	18.7
	Eastbound	B	16.8	B	15.3
	Westbound	B	18.2	B	15.9
S. Claiborne WB at Broadway St.	***Overall***	**B**	**14.9**	**B**	**13.4**
	Northbound	B	14.6	B	13.5
	Southbond	B	15.3	B	14.1
	Westbound	B	14.9	B	13.1
S. Claiborne WB at Nashville Ave.	***Overall***	**B**	**13.6**	**B**	**11.8**
	Northbound	B	19.3	B	17.8
	Southbond	C	20.3	B	18.2
	Westbound	A	10.0	A	9.1
S. Claiborne WB at Jefferson Ave.	***Overall***	**B**	**12.5**	**B**	**11.4**
	Northbound	C	20.4	B	19.0
	Southbond	B	17.4	B	17.2
	Westbound	B	10.4	A	9.3
S. Claiborne EB at Broadway St.	***Overall***	**B**	**14.7**	**B**	**13.4**
	Northbound	B	14.9	B	13.7
	Southbond	B	15.5	B	14.3
	Eastbound	B	14.4	B	12.9
S. Claiborne EB at Calhoun St.	***Overall***	*	*	*	*
	Southbond	B	12.4	B	11.6
S. Claiborne EB at Nashville Ave.	***Overall***	**B**	**13.2**	**B**	**11.7**
	Northbound	B	19.2	B	17.9
	Southbond	B	19.8	B	18.2
	Eastbound	B	10.1	A	9.3
S. Claiborne EB at Jefferson Ave.	***Overall***	**B**	**13.0**	**B**	**12.7**
	Northbound	C	20.1	B	18.7
	Southbond	B	18.6	B	19.4
	Eastbound	B	10.3	A	9.3
Willow St. at Broadway St.	***Overall***	**A**	**8.7**	**A**	**6.7**
	Northbound	A	4.6	A	3.9
	Southbond	A	4.6	A	3.7
	Westbound	C	27.9	C	22.9
Willow St. at Audubon Blvd / Newcomb Pl	***Overall***	*	*	*	*
	Northbound	B	14.8	A	9.5
	Southbond	C	22.6	A	9.8
	Eastbound	A	7.5	A	7.3
	Westbound	A	7.6	A	7.4

* Overall LOS not available for two-way stop-controlled intersections.

Table 4 (2 of 2)

2012 Existing Conditions

Level of Service and Capacity Analysis Results

Intersection	Direction	4:45-5:45pm		9:30-10:30pm	
		LOS	Delay (s/veh)	LOS	Delay (s/veh)
Willow St. at Calhoun St.	***Overall***	*	*	*	*
	Southbond	A	7.2	A	9.7
	Eastbound	B	10.3	A	9.4
	Westbound	B	10.7	A	7.2
Willow St. at State St.	***Overall***	*	*	*	*
	Northbound	A	7.5	A	9.8
	Southbond	A	7.4	A	9.5
	Eastbound	B	10.3	A	7.3
	Westbound	B	11.2	A	7.3
Freret St. at Broadway St.	***Overall***	**B**	**15.1**	**B**	**13.3**
	Northbound	B	14.9	B	13.2
	Southbond	B	15.9	B	13.9
	Westbound	B	14.3	B	12.5
Freret St. at Calhoun St.	***Overall***	**B**	**12.8**	**B**	**12.0**
	Southbond	B	12.6	B	11.8
	Eastbound	B	13.1	B	12.1
	Westbound	B	12.7	B	12.0
Freret St. at State St.	***Overall***	**B**	**12.5**	**B**	**11.6**
	Northbound	B	12.0	B	11.3
	Southbond	B	12.2	B	11.4
	Eastbound	B	12.8	B	11.8
	Westbound	B	12.7	B	11.8
St. Charles Ave at Broadway St.	***Overall***	**B**	**14.8**	**B**	**13.3**
	Northbound	C	21.5	C	20.4
	Southbond	C	24.2	C	22.3
	Eastbound	B	12.7	B	11.1
	Westbound	B	12.4	B	10.8
St. Charles Ave at Calhoun St.	***Overall***	**B**	**13.0**	**B**	**10.4**
	Southbond	C	22.1	C	20.3
	Eastbound	B	11.8	A	9.1
	Westbound	B	12.0	A	9.1
St. Charles Ave at Palmer Ave.	***Overall***	*	*	*	*
	Eastbound	A	8.9	A	8.5
St. Charles Ave. at State St.	***Overall***	**B**	**15.9**	**B**	**13.6**
	Northbound	B	16.1	B	15.0
	Southbond	B	15.7	B	14.4
	Eastbound	B	16.5	B	12.9
	Westbound	B	15.2	B	13.8
St. Charles Ave. at Jefferson Ave.	***Overall***	**B**	**18.2**	**B**	**14.0**
	Northbound	C	20.6	B	16.6
	Southbond	B	17.3	B	15.2
	Eastbound	B	19.9	B	12.8
	Westbound	B	14.7	B	13.7
Broadway at Leake	***Overall***	**B**	**11.6**	**A**	**7.9**
	Northbound	B	12.8	A	8.0
	Southbond	B	10.3	A	7.8
	Westbound	A	9.5	A	7.9

* Overall LOS not available for two-way stop-controlled intersections.

walking distance of the Campus and Stadium, shuttle lots that are located in close proximity to the Campus, including the University Square parking lot, and parking lots located within a 2 to 3 mile radius of the Campus. Parking spaces restricted by residential permits were not considered viable spaces for spectator parking and therefore were not included in available parking counts.

It is anticipated that shuttle service will begin three to four hours before game time and vary per remote lot based on demand and proximity to campus. On campus permit holders will be relocated to designated space at the Diboll Parking Garage on game days. The estimates below consider the parking requirements for permit holders.

On Campus parking facilities and the game day capacity:

- Diboll Garage – 378 vehicles
- Reily Center / McAlister Extension and Sports Medicine – 99 vehicles
- Rosen Lot – 309 vehicles
- Newcomb Place – 210 vehicles
- McAlister Drive / Drill Road – 106 vehicles
- Gibson Circle / Law Road / Engineering Road – 224 vehicles
- Loyola Freret Street Garage – 450 spaces

On Campus spaces: 1776 vehicles

Figure 2 presents the location of on-campus parking assets identified for game day use.

Parking facilities within walking distance and game day capacity estimates:

In addition to on-campus spaces, three non-university properties that are within walking distance of the Campus were identified.

- Holy Name of Jesus School – 110 vehicles
- Ursuline Academy – 250 vehicles
- McMain Magnet School – 250 vehicles

Off-street spaces within walking distance of Uptown Campus: 610 vehicles

Nearby Shuttle lots and game day capacity estimates:

Shuttle lots located within close proximity to the Stadium were identified and include the University Square Parking lot that is owned by the University and three non-university properties.

- University Square – 390 vehicles
- Ochsner Baptist Hospital Garage – 450 vehicles
- St. Mary's Dominican High School – 280 vehicles

- St. Rita School – 90 vehicles
- Archdiocese of New Orleans – 50 vehicles

Capacity: 1260 vehicles

The total capacity of on-campus (1776) , walking distance (610) and nearby shuttle lots (1260) is approximately 3650 (3646) vehicle parking spaces.

Remote lots and game day capacity estimates:

The balance of the parking need for a 30,000 person event will be accommodated in remote lots with shuttle service to and from the Stadium. Audubon Park parking is not anticipated to be used as they are not available.

- Ochsner Jefferson Highway Campus – 3240 vehicles
- MB Superdome – 2856 vehicles

Capacity: 6,100 vehicles

In summary, the total capacity for parking is approximately 9,750 spaces. This exceeds the parking need of 7,840 calculated by SP Plus Gameday. A new parking garage is therefore not warranted to service game day parking. Dispersing game day parking as planned at nearby and remote parking lots under agreement with the university with shuttling decreases the impact on traffic in the neighborhood and the surrounding road network. A parking garage with limited access points would likely result in significant queuing during arrivals and be substantially less efficient during departures.

Figure 3 presents the location of identified off-site parking locations.

A detailed description of each parking facility can be found in the *Venue Parking , Traffic, Transit and Pedestrian Flow Study* in the appendix. This report also addresses parking needs for 15,000 and 22,000 spectator events.

Turchin Stadium may be used for supporting activities for stadium event spectators, but not for events that would attract additional spectators or require additional parking.

Game Day Traffic

Traffic Assignments

The location and capacity of parking facilities formed the basis for assigning traffic to the Study Area and ultimately identifying traffic control points to allow traffic to enter before game time and exit to after the game. Generally, ingress traffic loads at football games are spread over a two

hour period. It is the intent of the University to encourage a game day tailgate atmosphere on campus with on-campus pregame activities.

Conversely, end of game exit loads are observed to occur over a one hour period, and have a greater potential to impact intersection and street traffic operations in the area.

It is anticipated that passenger cars will utilize S. Claiborne Avenue, Willow Street, Freret Street, and St. Charles Avenue for east/west access. S. Carrollton Avenue, Broadway Street, Palmer Avenue, State Street, Nashville Avenue and Jefferson Avenues are anticipated to provide north/south access. Calhoun Avenue is only expected to provide access to/from parking at Holy Name of Jesus, and Audubon Boulevard is not expected to service game day traffic at all.

The primary bus zone will be located on S. Claiborne Avenue, generally along the curb between the Rosen lot entry / exit and Ben Weiner Drive. Most parking lot shuttles and buses will be routed to the S. Claiborne Avenue drop-off or pick-up and return to their origin / destination. Shuttles from the University Square lot will be routed to Freret Street, for drop-off or pick-up and return to University Square. Off site staging will be used to manage the number of vehicles that access the curb during departure periods.

It is anticipated that taxi pick-up and drop-off zones will be located on S. Claiborne Avenue on the north side of the street, and on Freret Street at Mc Alister. Streetcar service on St. Charles Avenue provides pick-up and drop-off at numerous stop locations which approach a frequency of one per block.

Figures 4 and 5 present estimated traffic volume demand associated with entering and exiting traffic at the key intersections in the Study Area. Traffic volumes presented reflect passenger car traffic that is accessing or exiting parking lots and taxi, shuttle and bus volumes that will drop-off and pick-up passengers.

Traffic Control Plan

It is assumed that manual traffic control will be employed to manage vehicular and pedestrian traffic flow in the study area. Manual control is defined as police control of an intersection by either control of the traffic signal or by directing traffic at unsignalized intersections, driveways or midblock locations of vehicular and / or pedestrian movements. Intersections that are identified for point control will differ slightly with respect to entering and exiting traffic. In addition to intersection traffic control, manual control will also be required at bus, shuttle and taxi drop-off and pick-up zones, located on S. Claiborne Avenue at Ben Weiner and on Freret at McAlister. Table 5 presents a summary of manual traffic control points by time period.

Table 5
Manual Traffic Control Locations

Location	Time Period		Note
	Entering	Exiting	
S. Claiborne at S. Carrollton	X	X	Intersection Traffic Flow
S. Claiborne at Broadway	X	X	Intersection Traffic Flow
S. Claiborne at Versailles	X	X	Bus / Rosen Parking / Taxi Access
S. Claiborne at Miro/Ben Weiner	X	X	Bus / Rosen Parking / Taxi Access
S. Claiborne at Calhoun	X	X	Parking / Pedestrian Access
S. Claiborne at Palmer		X	Intersection Traffic Flow
S. Claiborne at State	X	X	Intersection Traffic Flow
S. Claiborne at Nashville	X	X	Intersection Traffic Flow
Fontainebleau at Broadway	X	X	Intersection Traffic Flow
Broadway at Willow	X	X	Intersection Traffic Flow
Broadway at Freret	X	X	Intersection Traffic Flow
Broadway at St. Charles	X	X	Bus Turns University Square Shuttle
Broadway at University Square	X	X	Bus / University Square Parking Access
Broadway at Leake	X	X	Intersection Traffic Flow
Willow at Newcomb Place	X	X	Intersection Traffic Flow
Willow at McAlister Place	X	X	Pedestrian / Parking Access
Willow at Ben Weiner	X	X	Parking Access
Willow at Calhoun	X	X	Intersection Traffic Flow
Freret at Newcomb Place	X	X	Parking Access
Freret at McAlister	X	X	Pedestrian / Shuttle Access
Freret at Calhoun`	X	X	Intersection Traffic Flow
St. Charles at Palmer	X		Intersection Traffic Flow
St. Charles at Calhoun		X	Intersection Traffic Flow

For the purpose of this report it is assumed that the recommendations in the *Venue Parking, Traffic, Transit and Pedestrian Flow Study* report to install "Local Traffic Only" signage on a barricade will be implemented the first year. Figure 6 presents these sign locations along with the recommended manual control points. The installation of these signs does not prohibit vehicular movements or impact access for emergency vehicles. The purpose is to deter game day traffic and circling the neighborhood seeking a parking space, not to close streets off to vehicular traffic.

The plan includes increased enforcement of unauthorized parking in Residential Permit Zones and violation of other curb use regulations. This could be accompanied with an increased enforcement effort, to include the towing of vehicles that violate corner zone, driveway, no stopping / parking and fire / life safety regulations. Tow trucks will be staged and contact

information for towing included on no parking signage. (See *Venue Parking, Traffic, Transit and Pedestrian Flow Study)*

A threshold of 15,000 spectators is recommended for triggering implementation of the game day traffic control plan. The number of spectators expected could be estimated based on ticket sales and an assessment of Thursday end of business ticket sales in advance of a Saturday game, for example , could be utilized. After the stadium is in operation, subsequent to assessing actual game day attendance compared to advance ticket sales, this method could be refined.

Conclusions and Recommendations

This report has documented current Saturday traffic volume and flow conditions at key intersections that will provide access to the stadium and to on and off-site parking areas that will support stadium parking, bus and shuttle access. A parking need of 7,840 spaces is estimated to support a sellout crowd of 30,000 spectators. Of this total, 3650 spaces will be provided in on and off-campus lots and garages controlled by the University and in private parking lots and garages that are located in the generalized study area. An additional 6,100 spaces will be located in remote lots that will serviced by a shuttle system resulting in total available parking of 9,750. The result is that the available parking spaces exceed the parking required to support a 30,000 spectator event. Spectators are also expected to access the stadium by walking or by shuttle.

Analysis of current intersection traffic operations during peak stadium demand periods indicates excess capacity to support stadium traffic loads. While police control is recommended to assist with both arrival and departure of game day traffic, analysis indicates the existing road network can accommodate a significant increase in traffic demand during the critical time which is game day departure.

<u>Recommendations</u>

1. Manual traffic control measures are warranted to maintain traffic flow, to control potential pedestrian / vehicular conflicts and to facilitate the operation of the off-site parking program that will reduce traffic flows in the immediate study area.

2. Intersections in the study area that are identified for manual traffic control and any additional intersection locations where point control may be required are subject to modification from the Department of Public Works and the New Orleans Police Department.

3. Implementation of the traffic control plan included in the *Venue Parking, Traffic, Transit and Pedestrian Flow Study* is recommended. The proposed signage is passive in nature and are not likely to impact neighborhood traffic circulation. It is understood that the

message intent is to deter drivers from circling the neighborhood seeking a parking space, not to close streets off to vehicular traffic.

In this regard, a positive regulatory message is recommended about unauthorized parking in Residential Permit Zones and violation of other curb use regulations. This should be accompanied with an increased enforcement effort, to include the towing of vehicles that violate corner zone, driveway, no stopping / parking and fire / life safety regulations. Regulatory signs and markings in the area should be inspected and renewed where appropriate.

It may also be appropriate to increase fines for violations on game days. This approach has been used with success in other jurisdictions and will require action by the City Council.

4. The *Venue Parking , Traffic, Transit and Pedestrian Flow Study* also identified a game day way finding sign program to direct out of town visitors to the site and site parking. The placement of signs in the right of way of City streets and State highways are subject to permit.

5. The online component Traffic Management efforts delineated in the report are strongly recommended.

6. This report has analyzed traffic associated with a sell-out event with an attendance of 30,000 spectators. Traffic control points that have been identified are volume driven and under scenarios where a smaller crowd is expected, manpower and resources required will be incrementally lower. Some events may have attendance levels that do not require game day traffic control and traffic management efforts.

   The SP Plus GameDay report recommends that an attendance level of 15,000 spectators trigger game day traffic control and traffic management measures. (See *Venue Parking , Traffic, Transit and Pedestrian Flow Study* in the Appendix)

   It is likely that a full effort will be required in the first year of operation. As the project moves forward, it is recommended that conditions be monitored and that plans be adjusted to reflect traffic demand requirements.

7. The University site is well served by public transit with bus lines of S. Claiborne Avenue and Freret Street and a streetcar line on St. Charles Avenue. The 60 minute Saturday headways on the routes closest to the stadium do not currently allow high transit utilization as an alternative to driving to the game. It is recommended that the University coordinate with RTA to reduce headways on game days for both bus and streetcar lines.