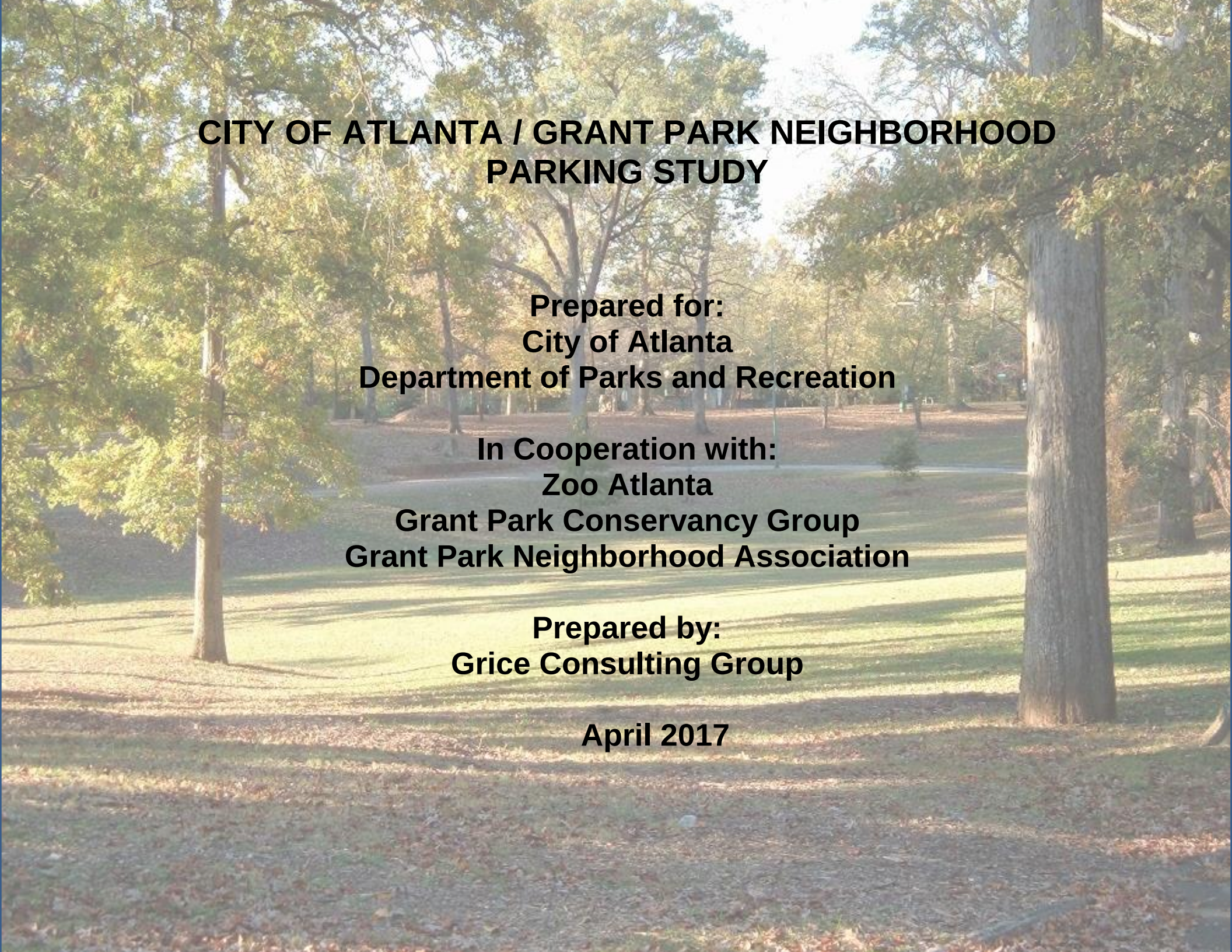

CITY OF ATLANTA / GRANT PARK NEIGHBORHOOD PARKING STUDY

Prepared for:
City of Atlanta
Department of Parks and Recreation

In Cooperation with:
Zoo Atlanta
Grant Park Conservancy Group
Grant Park Neighborhood Association

Prepared by:
Grice Consulting Group

April 2017

City of Atlanta / Grant Park Neighborhood Parking Study Report

The City of Atlanta

Atlanta, Georgia | March 2017

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1. INTRODUCTION

The City of Atlanta, with the assistance of Grice Consulting Group (GRICE), has developed a Comprehensive Parking Study intended to address existing and future parking issues occurring at or near the Grant Park and Zoo areas. This study will review the items below with a focus on the Grant Park and Zoo areas:

- Public perception of parking discussed during interview sessions
- Existing parking trends determined during a thorough field review
- Parking demand projections determined through the use of an innovative parking model designed specifically for the City
- Operational strategies and organizational structure
- Financial projections determined through a review of provided financial data
- Review of monetization of a parking system

Finally, this report will present recommendations intended to improve these issues and help the City to prepare for projected growth and expansion.

Study Area

The Grant Park study area covers the areas within the neighborhood setting. It is unique and draws different types of users based on its residential and business aspect. As a whole, the Grant Park study area is vibrant with varying activities, including Zoo Atlanta and Grant Park attendees. This official study area is shown in Figure 1 and represents the core of Grant Park, containing a multitude of land uses including residential, commercial, office, restaurant, retail, entertainment, and cultural. The overall study area is bounded by Sydney Street to the North, Boulevard Avenue to the East, Atlanta Avenue to the South and Cherokee Avenue to the West.

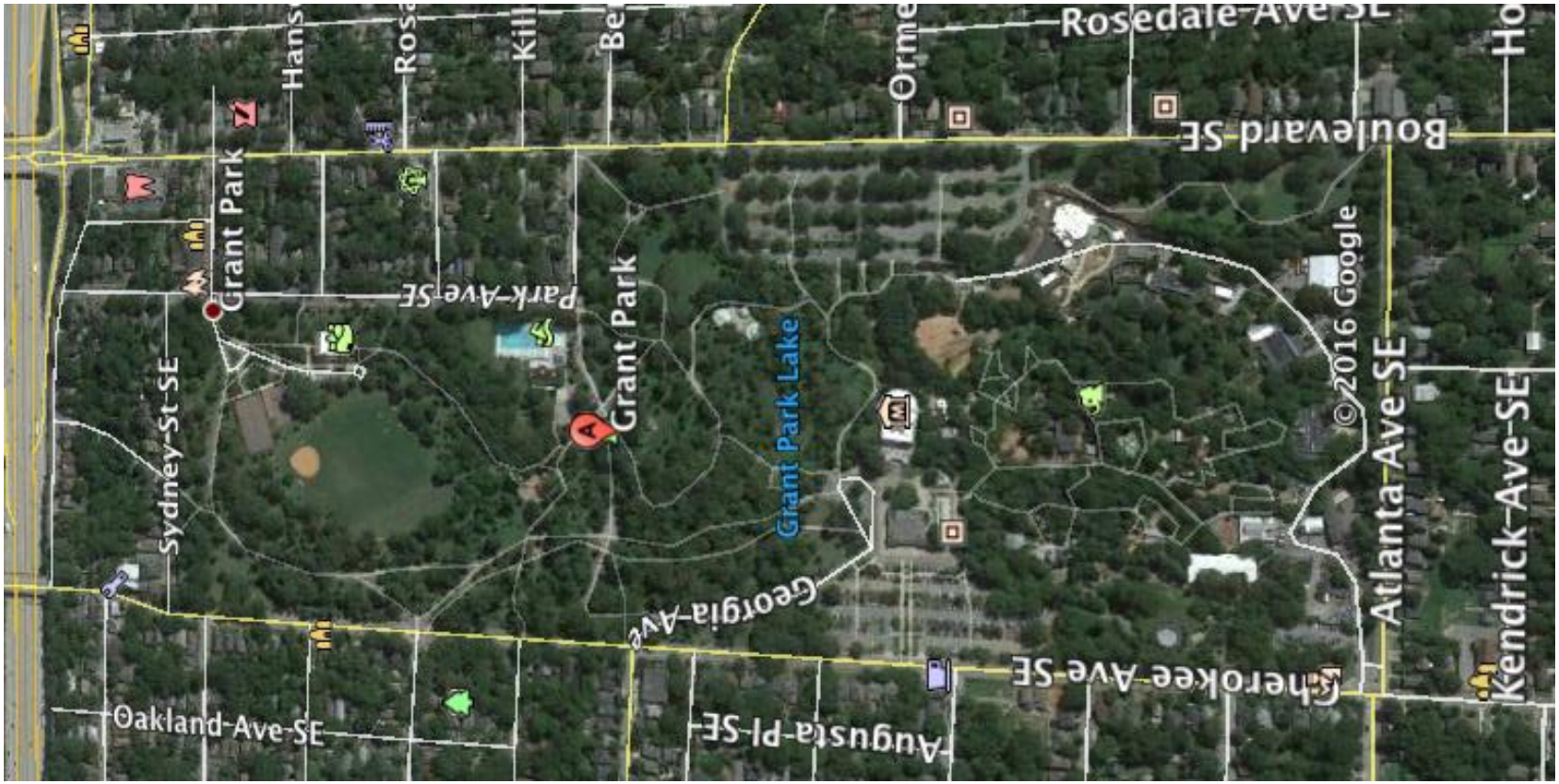

Figure 1. Study Area of Grant Park

2. EXISTING CONDITIONS

Regional Setting

Grant Park is located in the center of the City of Atlanta. It includes a 131-acre green space and recreational area and is the fourth-largest park in the city. Zoo Atlanta, established in 1889 and originally known as the Grant Park Zoo, is located in the park and attracts more than 1 million visitors annually.

Grant Park is within 15 minutes of driving distance from city limits. Figure 2 shows a 30-minute drive distance area from Grant Park. It is considered as a regional park, which draws a significant portion of visitors from outside the Atlanta city limits and nearby counties.

The City of Atlanta is the most populous city in the state of Georgia, with an estimated 2015 population of 463, 878. It is forecasted that the city population will increase to 860,000 by 2030, which is a 79% increase. Atlanta is the cultural and economic center of the Atlanta Metropolitan Area, home to 5,591,600 people, and the ninth largest metropolitan area in the United States. Atlanta Regional Commission forecasts a total population of 7,067,700 of the Atlanta Metropolitan Area by 2030, which is a 27% increase. The growth number of residents would add more visits to Grant Park.

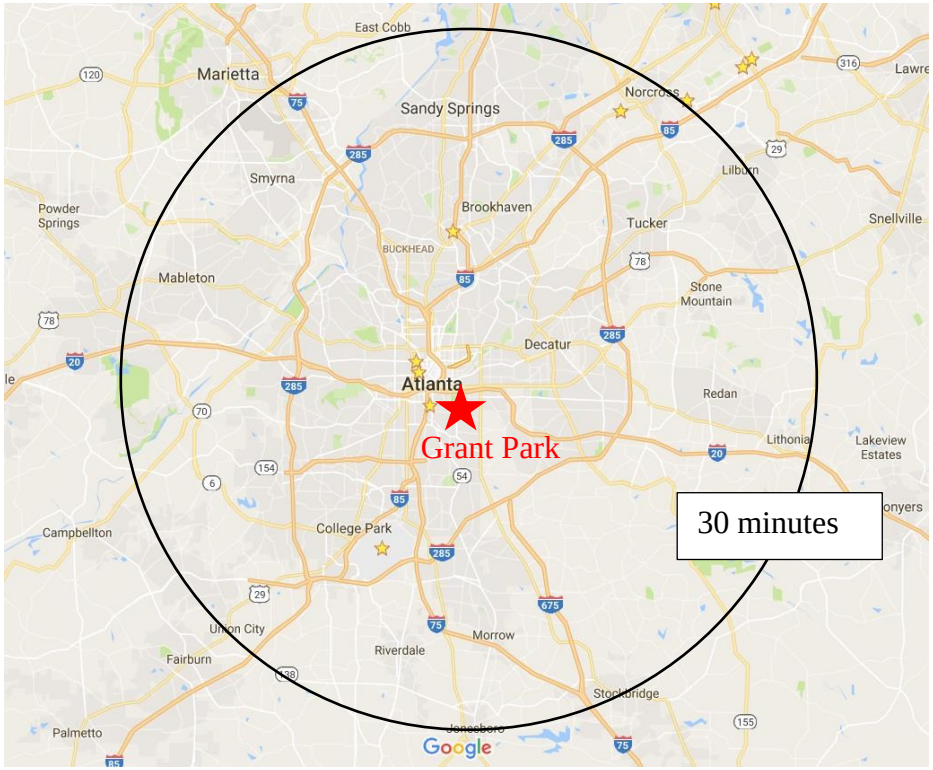

Figure 2. 30-minute Drive Distance from Grant Park

Data Collection

Prior to determining the overall parking demand in a study area, it is important to understand the existing parking supply and how it operates. A thorough inventory of the existing parking supply was conducted in March 2016 and July 2016. Parking data was collected on typical weekdays (Tuesday, March 22, 2016, and Thursday, July 14, 2016) and on weekend days (Saturday, April 2, 2016, and Saturday, July 16, 2016), to identify occupancy, duration, and turnover. Figure 2 shows the existing parking facilities within the study area (on- and off-street). In addition, the following sections document the parking inventory and existing conditions of parking within the Grant Park study area.

Parking Inventory

A detailed inventory of surface parking lots and on-street spaces was conducted within the study area. The current inventory of parking in the Grant Park area consists of off-street lots and non-metered on-street spaces. Figure 3 shows the existing parking of the Grant Park neighborhood. Table 1 presents the current on- and off-street parking inventory by block by restriction respectively.

Cherokee Avenue off-street parking lot

This parking lot is privately owned and is restricted to specific Zoo Atlanta users. It is located on Cherokee Avenue and is near the Zoo entrance. It consists of 344 spaces. There are three entrance/exit driveways on Cherokee Avenue for this parking lot.

Boulevard Avenue off-street parking lot

This parking lot is publicly owned and offers option to park parking adjacent to Grant Park. It is located on Boulevard Avenue and accommodates 480 spaces. There are two entrance/exit driveways on Boulevard Avenue to this parking lot.

On-Street Parking

The on-street parking inventory includes non-metered paved spaces, handicapped spaces, and loading zones. Of the 602 on-street spaces, 100% are paved-unmetered.

Table 1. Grant Park Existing Parking Inventory

Parking Type	# of Spaces	% of Inventory
On-street	602	42%
Public off-street (Surface)	480	34%
Public off-street (Structure)	0	0%
Private off-street (Surface)	344	24%
Private off-street (Structured)	0	0%
Total	**1,426**	**100%**

Figure 3. Existing Parking (On-Street and Parking Lots)

The inventory of parking spaces in the Grant Park area is unique from a number of perspectives.

- First, there are no municipally owned or operated off-street facilities. Even in smaller communities, one can find a centrally located property that is owned or leased by the municipality for the purpose of providing public parking. Public parking, as opposed to private/restricted parking, is available to anyone regardless of trip purpose.
- Second, there are privately owned on-street parking that appears to be used for public parking purposes. Typically, private/restricted parking is reserved for the use of specific tenants (commercial and residential) and their customers/visitors. Examples include the one property adjacent to the Zoo Atlanta, who have voiced concern at their inability to preserve parking for their employees and patrons during peak visitation.
- Third, much of the on-street supply is unrestricted. In many locations, it appears that the adjacent business or property owners began parking in undesignated areas that lie between the paved roadway and their property. Based on a review of the city's tax/parcel maps, these areas are part of the public right-of-way and should not be restricted for private use. There are more significant examples of this on Sydney Street and Cherokee Avenue where the public right-of-way has become designated parking areas for patrons visiting Grant Park and/or Zoo Atlanta. While it may be argued that the informal nature of both on-street and off-street parking in Grant Park has been successful in the past, continued economic and cultural success and vitality will require a more formal delineation between on-street and off-street spaces and public and private spaces.

Parking Facility Usage

When analyzing existing parking conditions, it is important to understand the nature of the actual parking demands within the study area. Parking occupancy data can help determine peak usage periods that are utilized more than others. Parking duration and turnover data can help determine the actual effectiveness and usage of the parking supply, as well as the effectiveness of time restrictions. The

following section describes the data collection efforts for this study and specifically focus on the following:

- Occupancy: The number or percentage of vehicles occupying parking spaces in particular facilities (off-street) at a particular point in time.

Occupancy was evaluated for typical weekdays and weekends to provide an understanding of the occupancy rates and their relationship within the study area. The occupancy data presented in this section is expressed in a range of percent occupied. The typical weekday data was collected hourly between 9:00 AM and 4:00 PM on Thursday, March 17, 2016 and Thursday, July 14, 2016. The typical weekend data was collected hourly between 9:00 AM and 5:00 PM on Saturday, April 2, 2016, and Saturday, July 16, 2016. Occupancy data was collected for all off-street spaces within the study area.

A comprehensive database was created with the data collected as a means to map and analyze the utilization assessment. The following sections describe and illustrate existing conditions inclusive of occupancy.

Boulevard Avenue Parking Lot Utilization

The following, Figure 4 to Figure 8, show the utilization of Boulevard Avenue Parking Lot at March weekday, March Weekend, July Weekday, and July Weekend. As shown in the figures, the weekday parking utilization is about 30-40% at peak hour in both March and July, while the weekend parking occupancy is 100% for more than 4 hours in March and around 80% occupancy during peak hours in July.

Figure 4. Boulevard Avenue Parking Lot

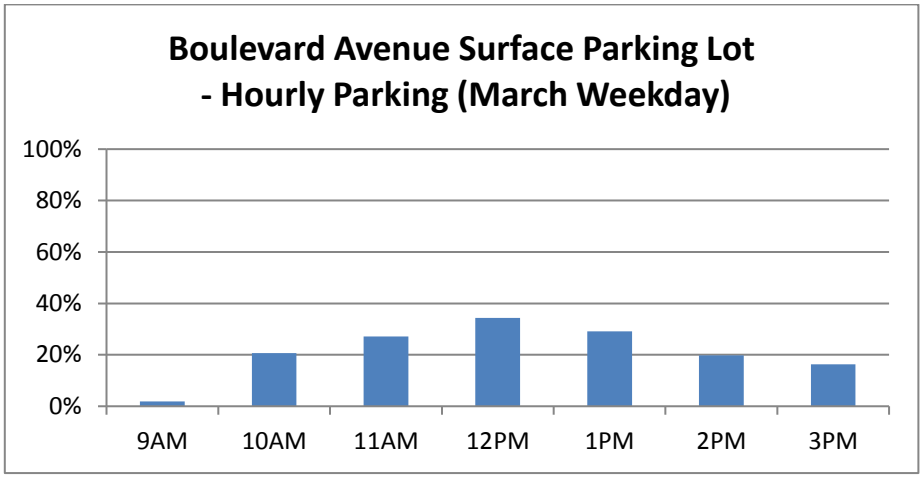

Figure 5. Boulevard Avenue Parking Lot Utilization (March Weekday)

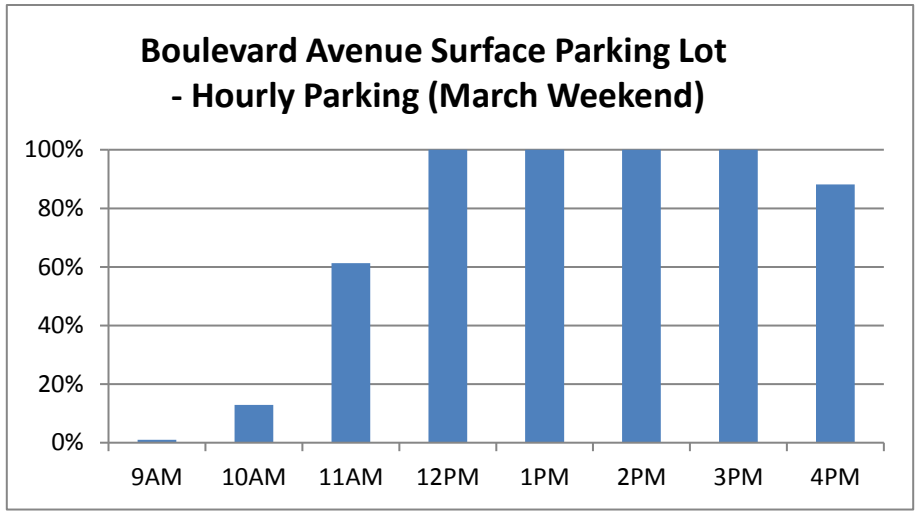

Figure 6. Boulevard Avenue Parking Lot Utilization (March Weekend)

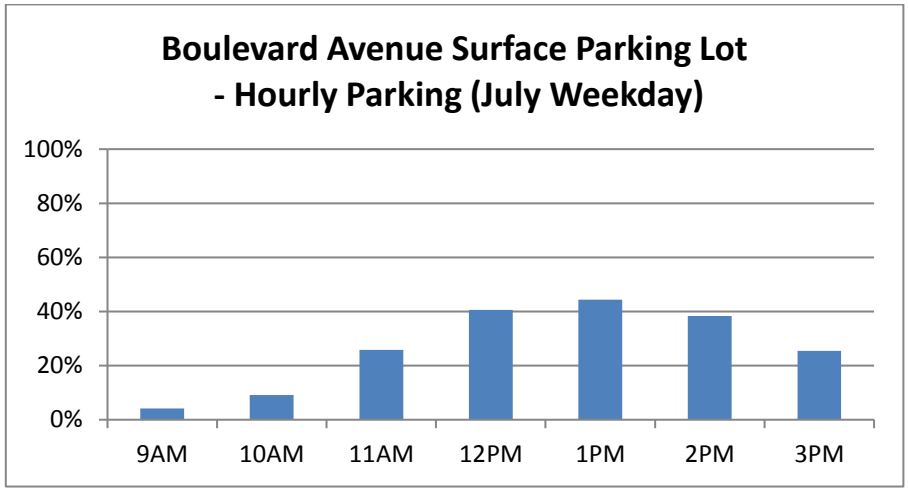

Figure 7. Boulevard Avenue Parking Lot Utilization (July Weekday)

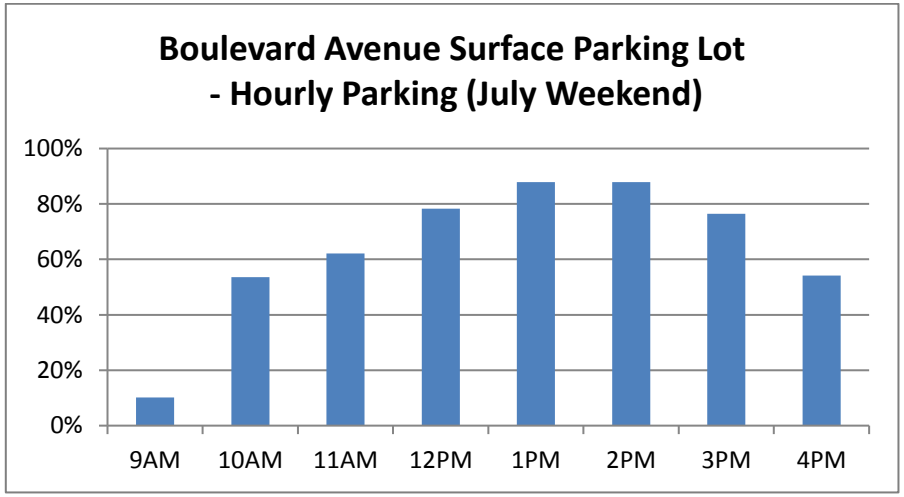

Figure 8. Boulevard Avenue Parking Lot Utilization (July Weekend)

Cherokee Avenue Parking Lot Utilization

The following, Figure 9 to Figure 13, show the utilization of Cherokee Avenue Surface Parking Lot at March weekday, March Weekend, July Weekday, and July Weekend. As shown in the figures, the Cherokee Avenue Parking Lot occupancy is 100% for at least four hours during weekday and 100% occupancy for at least 6 hours on weekend of March; 100% occupancy lasts about 2 hours on weekday of July and 80% occupancy for at least five hours on weekend of July.

Figure 9. Cherokee Avenue Parking lot

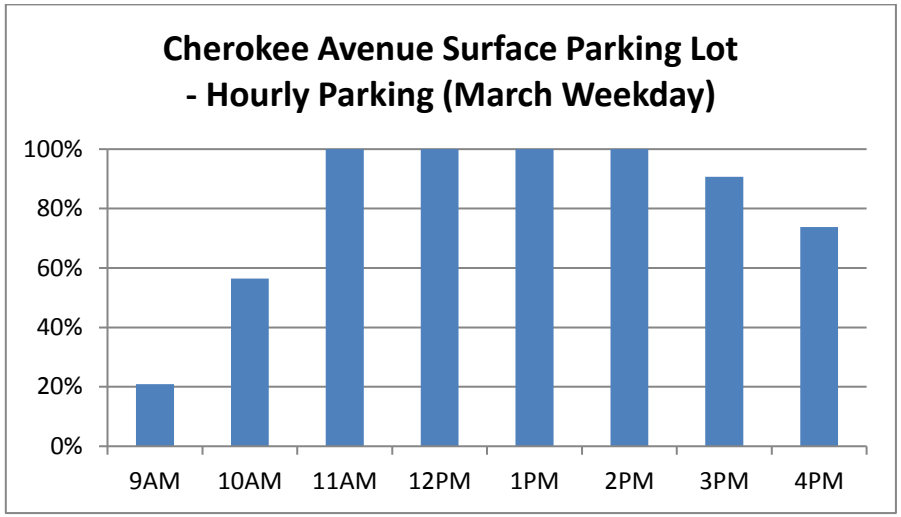

Figure 10. Cherokee Avenue Parking lot Utilization (March Weekday)

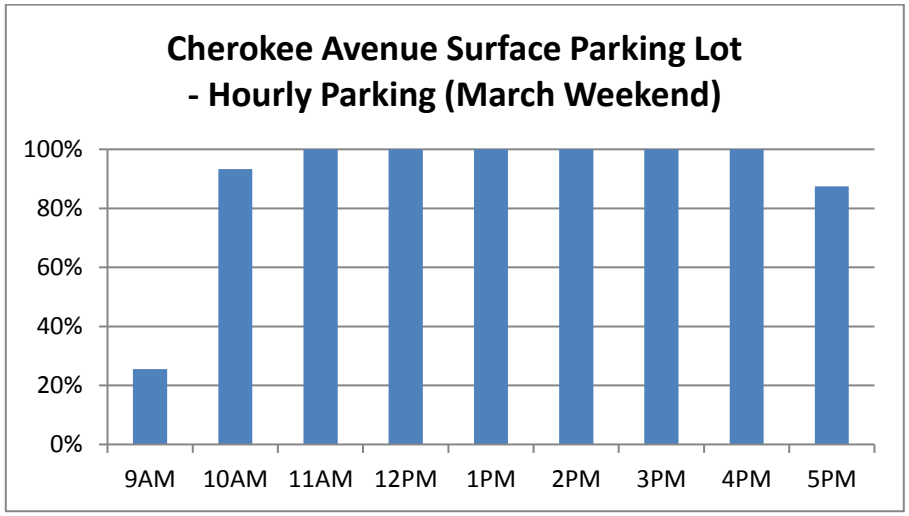

Figure 11. Cherokee Avenue Parking Lot Utilization (March Weekend)

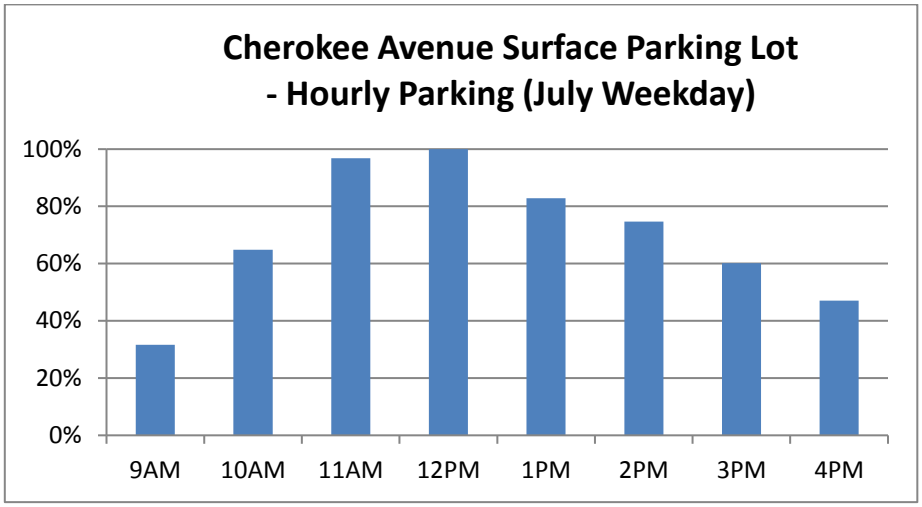

Figure 12. Cherokee Avenue Parking Lot Utilization (July Weekday)

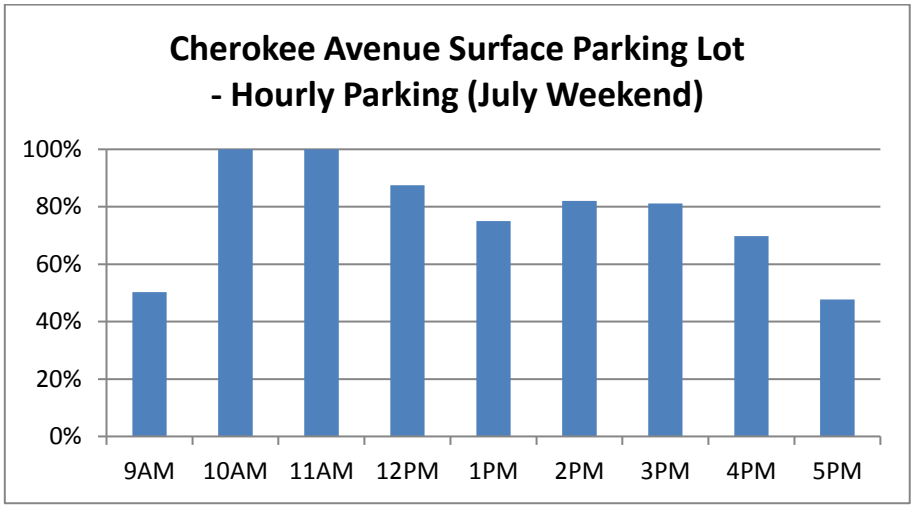

Figure 13. Cherokee Avenue Parking Lot Utilization (July Weekend)

- Duration: the average length of time that a vehicle is parked.

Duration data was collected for both off-street facilities on a Tuesday, between the hours of 10:00 AM and 4:00 PM to capture a typical weekday condition. These areas were selected, as they are within the core of the study area.

As outlined in Table 2, there were 93 duration observations for the 75 off-street spaces. The overwhelming majority of vehicles (75%) were parked for three to four hours, and the next highest amount was 10% of vehicles parked for 3-4 hours. The data suggests that a majority of visitors stayed for three to four hours.

Table 2. Grant Park – Parking Duration

Facilities	0-1 Hour	1-2 Hours	2-3 Hours	3-4 Hours	4-5 Hours	5-6 Hours	Total
Off-street (Cherokee Avenue/Zoo Surface Lot)	8	4	9	70	0	2	93
Total Observations	**8**	**4**	**9**	**70**	**0**	**2**	**93**
Percent	**9%**	**5%**	**10%**	**75%**	**0%**	**1%**	**100%**

Typically, a parking system is considered at capacity when occupancy approaches 85 - 90% of capacity. The 10 – 15% excess supply keeps the time required to find a parking space within reason and promotes a perception of adequate parking. When parking occupancy exceeds those levels, there may be delays and frustration in finding a space and patrons may be forced to use a space that is too far from their destination or does not offer a comfortable walking environment. This margin also allows for: 1) the activity of vehicles moving in and out of parking stalls during busy periods, 2) surges in short-term parking activity, and 3) the temporary loss of spaces due to improperly parked vehicles, weather conditions, construction activity, etc.

The above analysis shows the study area occupancy and duration for weekdays and weekends (9:00AM – 4:00 PM). This time period

represents the peak occupancy for the Grant Park study area. Although this time period does not necessarily correspond to the peak occupancy for each individual facility, it does provide an illustration of the relationship between all of the facilities during a typical day.

The occupancy figures above yield the following general observations for the study area:

- Typically, the highest occupancy levels were identified in the off-street facilities within the core of the Grant Park study area.
- On-street parking in the Grant Park study area experiences consistent use throughout the day with the highest utilization during time periods where the off-street facilities become full.
- The majority of the public and private off-street parking supply operates below capacity during non-event periods.

Stakeholder Interview Summary

On May 25, 2016, a neighborhood meeting was conducted with individuals representing the Grant Park Neighborhood Association. Members represent the various neighborhoods, along with the concerns and issues of residents living within or adjacent to the Grant Park. The meeting discussed the following for the necessity of improving Grant Park parking facilities:

- Regarding options to expand the existing parking facilities
- Residents' concerns regarding the Boulevard Avenue parking garage facility size.
- Residents' complaints of occupancy of on-street parking

Transit Access

The Grant Park and Zoo Atlanta study area are served by two MARTA routes – Route 32 and Route 21. Route 32 provide direct access to both Grant Park and Zoo Atlanta along the Boulevard Avenue corridor, and route 21 travel on Memorial Drive and is about

a 10-minute walk to the northern edge of Grant Park. Figure 14 and Figure 15 show the maps of Route 32 and Route 21, respectively.

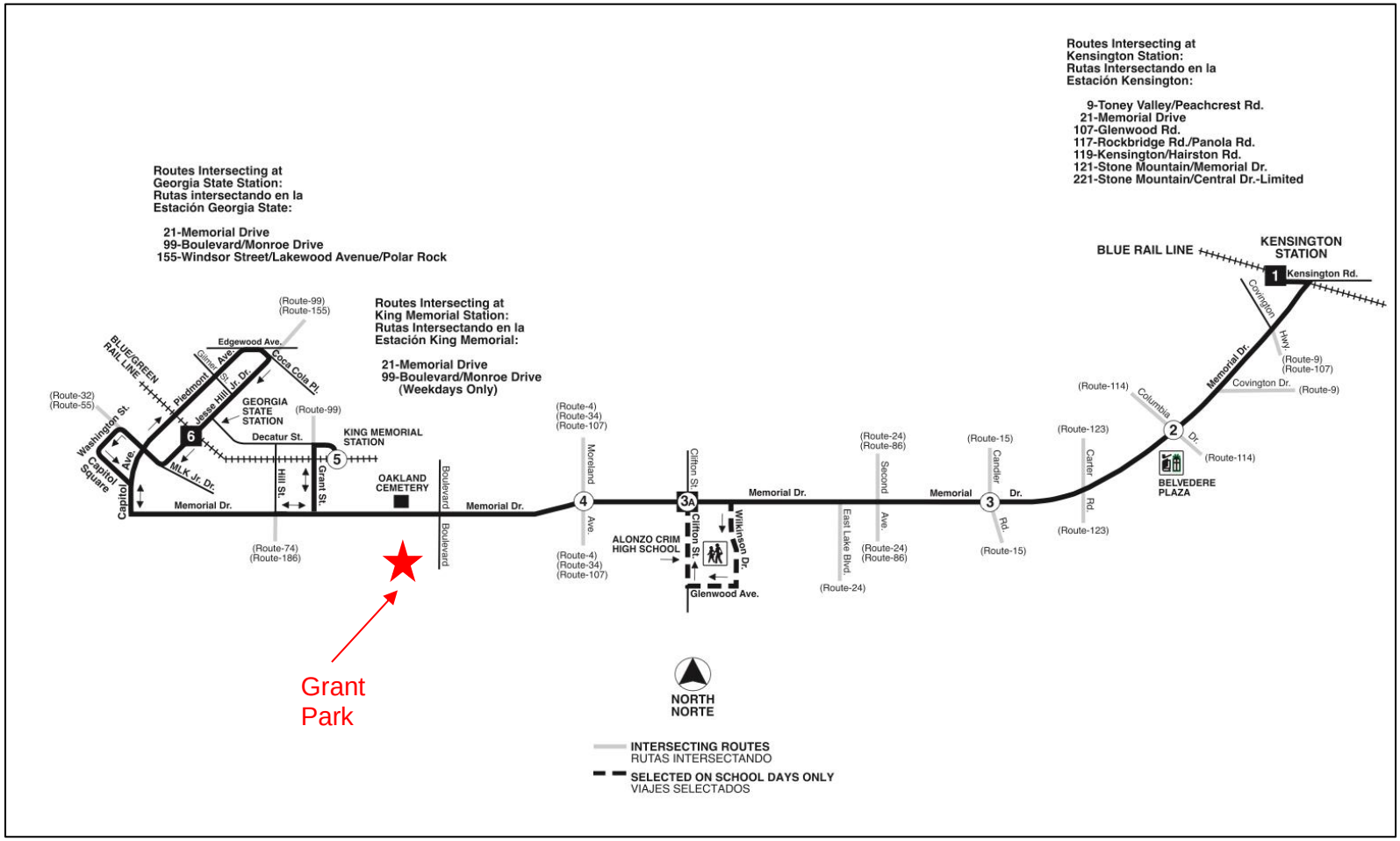

Figure 14. MARTA Bus Route 32

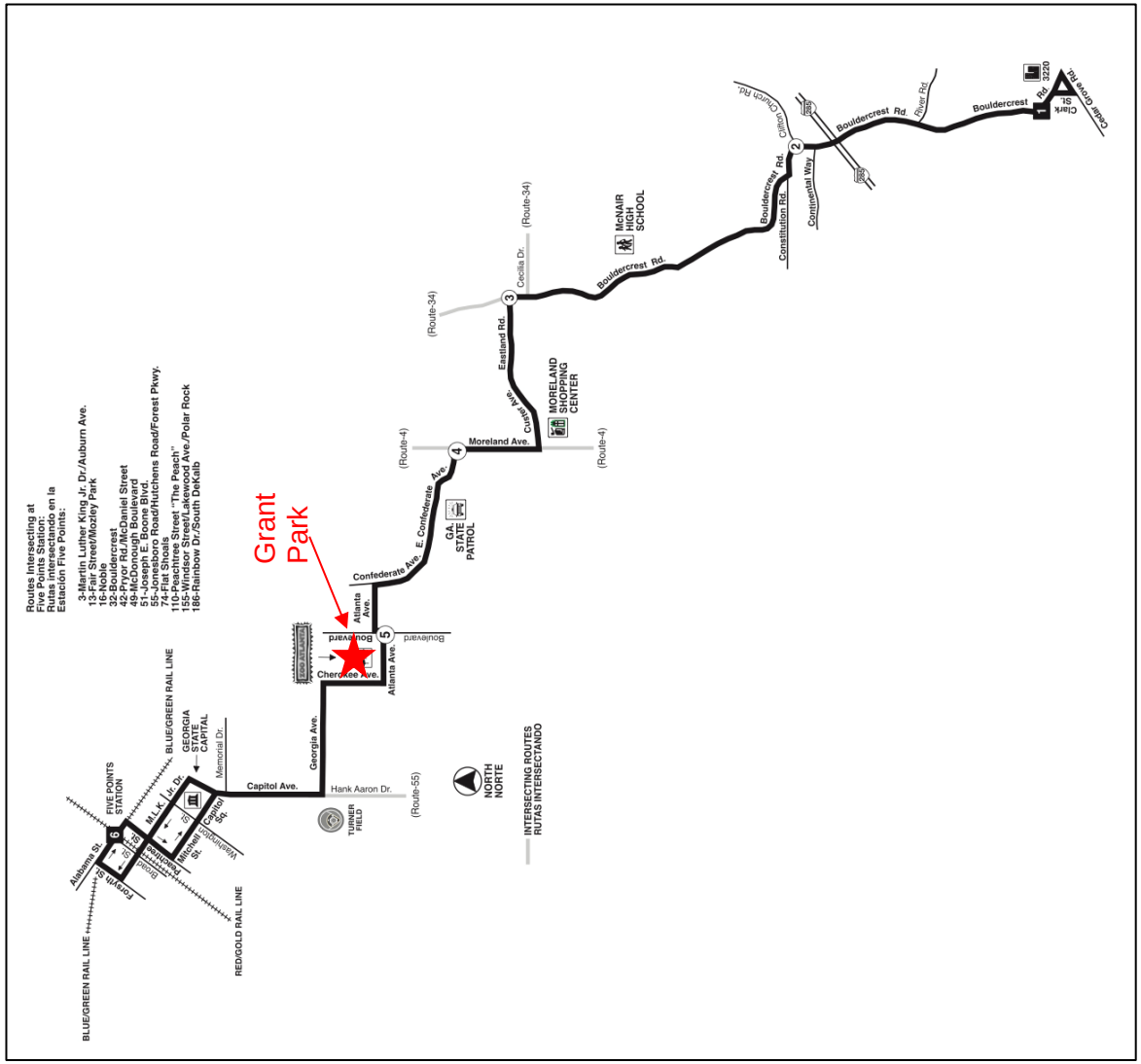

Figure 15. MARTA Bus Route 21

Current Parking Deficiencies

The field survey shows that there are some parking deficiencies:

1. The 2 surface parking lots are full during the weekend, and the Cherokee Avenue Parking lot is completely full, even at weekday for at least several hours. A lot of vehicles dwell in the parking lots searching for available spaces, which causes the other vehicles to have difficulty leaving the parking lot.
2. On-street parking spaces were occupied by the visitors of Grant Park, especially during the weekend. This causes the residents of the neighborhood and their visitors almost impossible to find a parking space.
3. The frequent on-street parking also brings safety concerns to the vehicles, pedestrians, and bicycles.
4. Inappropriate on-street parking from Grant Park patrons block residential driveways, and even more importantly, they sometimes block the emergency service driveways.
5. The usage of Grant Park is increasing with the growth of the regional area, which will deteriorate this situation in the near future.

To improve the parking feasibilities, the following strategies should be taken:

1. Provide a staged area or structure to accommodate current and future parking demands.
2. Reduce traffic congestion by eliminating traffic circulating that are looking for parking, and provide proper signage directing patrons to parking.
3. Improve safety by reducing the number of bikes, pedestrian, buses, and car conflicting points. Provide designated pedestrian walkways in the parking facilities.
4. Eliminate parking on residential streets.

3. BEST PRACTICE REVIEW

The purpose of the best practice review is to summarize the state of the practice of zoo/park parking strategies. The review focused on applications involving parking lots, rates, and public transit. This study reviews the similar zoo/park parking facilities of the US. Three cities were compared to Grant Park. The successful parking strategies of other cities are:

1. Convenient public transit connects the zoo/park to other parts of the city, which reduced the demand of parking.
2. Large on-site parking lot or structure that accommodates enough parking spaces.

Example of Parking Strategies

This section briefly summarizes the three zoo/park parking strategies.

Smithsonian National Zoological Park (Washington, DC)

The 163-acre national zoological park is located in northwest Washington, D.C. The zoo attracts 2 million visitors per year. The zoo has 5 parking lots, providing about 857 parking spaces around the zoo. Parking is available at the Zoo for a flat fee of $22 or free with some Friends of the National Zoo (FONZ) membership levels. The Zoo is accessible via Metro Bus and Metro Rail. Both the Woodley Park and Cleveland Park Metro stops are within walking distance of the Zoo. Figure 16 shows the aerial view of the park and the five parking lots nearby.

Figure 16. Aerial View of Smithsonian National Zoological Park

San Diego Zoo (San Diego, CA)

The 100-acre San Diego Zoo is located in Balboa Park in San Diego, California. It is one of the largest zoological membership associations in the world and has 3.2 million annual visitors. There is a big parking lot east of the zoo, providing more than 3,000 free parking spaces. It's easy to get here on public transit. Rapid 215 and Route 7 stop at the Zoo and are an easy connection in downtown from Amtrak and COASTER trains at the Santa Fe Depot, downtown hotels, the Cruise Ship Terminal, Blue, Orange, and Green Line Trolleys and other MTS bus routes. Figure 17 shows the aerial view of the parking lot of the zoo.

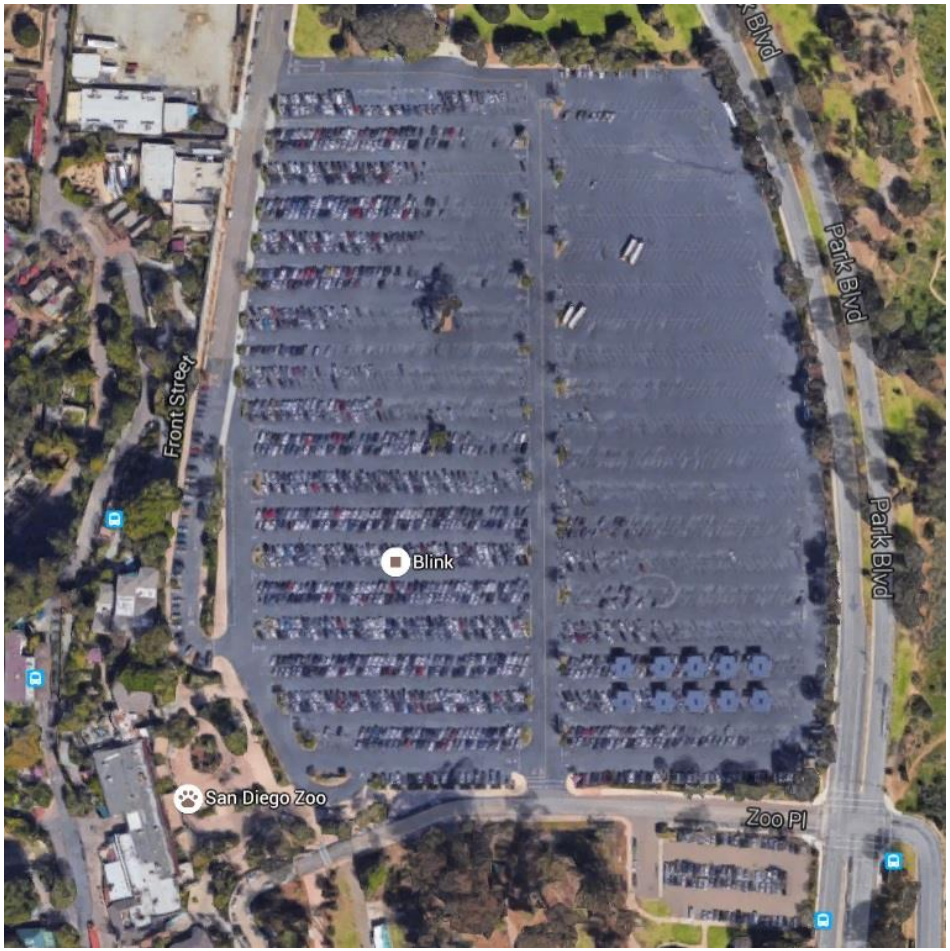

Figure 17. Aerial View San Diego Zoo

Denver Zoo (Denver, CO)

The Denver Zoo is an 80-acre facility with 1.6 million annual visitors located in City Park of Denver, Colorado. Denver Zoo is a part of City Park and parking is shared by zoo guests, park users, and Denver Museum of Nature and Science (DMNS) guests. The zoo's four-level parking garage provides 764 parking spaces, and other parking lots provide an approximate of 479 spaces. Also, the parking lot of Denver Museum of Nature and Science can accommodate 550 parking spaces. All of the parking is free. There are 4 bus routes that connect the zoo and other parts of the area, and the zoo offers a discount to guests that take the bus.

However, the parking does not always meet the needs of the growing popularity of the Zoo and sometimes overflows into the adjacent neighborhoods. The Zoo's Master Plan proposes 500 underground parking spaces within the Zoo's management boundary to help address parking needs. Figure 18 shows the aerial view of the zoo and the parking lots nearby.

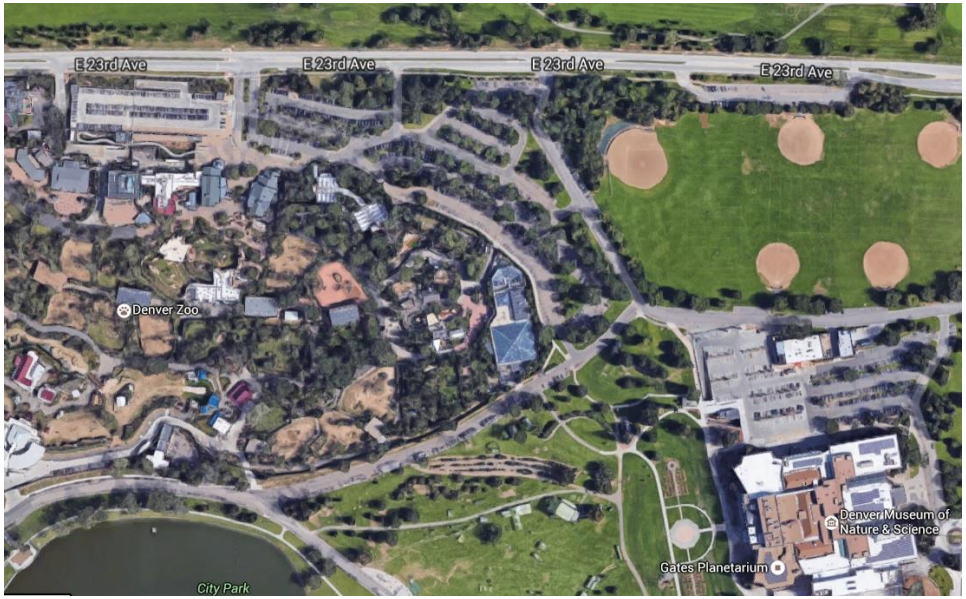

Figure 18. Aerial View of Denver Zoo

4. PARKING STANDARDS

As noted by the neighborhood meeting and field observation, Grant Park patrons frequently park on residential streets that offer convenient parking proximity, no time limits, and no charge. Also, surveys confirm that many neighborhood blocks are likely impacted on weekends. The key to addressing these issues is to build off-street parking facility for Grant Park. New off-street parking facility will be unlikely to sufficiently lure park patrons away from these neighborhood streets because the off-street parking would not be free. To solve this problem, residential parking permits should be introduced to the neighborhood.

City of Atlanta Residential Parking Permit

Residential permit parking is the best strategy for dealing with the types of parking issues impacting the surrounding and nearby streets of Grant Park/Zoo Atlanta. Eliminating on-street parking could return the on-street parking space to the residents. Instructions to apply for a residential parking permit are as follows:

1. Application may be made by mail or in person at: Atlanta City Hall Department of Public Works, 55 Trinity Avenue, SW Suite 4700.
2. All residential parking permits issued for a discrete residential permit parking area shall have a common expiration date. Full-term permits shall be valid for one year and must be renewed on an annual basis. (Ordinance 08-0-0872, Section 150-151. Permits terms; fees
3. The permit fee is $20.00 per year (Effective 7/22/08)
4. This application must be accompanied by:

   (a) Copy of Driver's License for the driver of the permitted vehicle.

   (b) Additional proof of residency (utility bill, lease contract, etc.)

(c) Copy of Current vehicle registration

5. The address provided on the application must be an address within a Residential Parking Permit area.
6. The Residential Parking Permit shall be permanently attached to the inside lower corner of the rear window, driver's side.
7. A Residential Parking Permit shall be displayed only on the vehicle described on the permit application.
8. A Residential Parking Permit does not authorize parking or standing a vehicle in an area where parking is prohibited.
9. The number of permits issued is limited to one permit if a dwelling has off street parking or a driveway; otherwise two permits may be issued.
10. Furnishing false information to obtain a Residential Parking Permit or using such permit in a fraudulent or unlawful manner is punishable by a $1,000 fine or 60 days in jail.

5. FINANCIAL ANALYSIS

To generate appropriate parking rates and annual revenue for a Grant Park parking facility, several nearby similar parking structures were examined for their rates, capacities, and others.

Georgia Aquarium

The Georgia Aquarium parking deck contains 1,600 spaces attached to the Georgia Aquarium. The parking fee is a flat rate of $10. Figure 19 shows the parking structure of the Georgia Aquarium.

Figure 19. Georgia Aquarium parking structure

Piedmont Parking Deck

The parking facility provides 765 spaces for visitors of Atlanta Botanical Garden and Piedmont Park. Table 3 shows the parking rates and Figure 20 shows the parking deck.

Table 3. Piedmont Parking Deck parking rates

Time Period	Rates
Drop-off period (0 - 30 minutes):	no charge
Each additional 30 minutes	$1.00
Maximum daily rate	$15.00

Figure 20. Piedmont Park parking deck

Lindberg MARTA Station

Garson Parking Deck and City Center Parking deck are located on Lindbergh Drive near the MARTA Station. The two parking decks provide a total of 2,363 spaces for MARTA riders and other visitors. It has 24-hour free parking for MARTA Riders. Table 4 shows the regular parking rates, and Figures 21 and 22 show the two parking structures.

Table 4. Lindberg MARTA Station parking rates

Time Period	Rates
0-20 mins	$1.00
Each additional 20 min	$1.00
Daily 24 Hour max	$14.00

Figure 21. Lindberg MARTA Station- Garson Parking Deck

Figure 22. Lindberg MARTA Station- City Center Parking Deck

Cost Estimate

Land costs can vary from thousands of dollars per acre in rural areas to millions of dollars per acre in central business districts. Because parking must be located near destinations, it often requires relatively high-value land. In this study, a parking structure is considered at the current location of Boulevard Avenue surface parking lot. Therefore, the land costs are not considered for cost estimate.

Parking facility construction costs are affected by size per space, size and shape of the site, number of levels, topography, design, and geographic location. A surface parking space typically costs $5,000-10,000 per space to construct. A basic parking structure typically costs $15,000 to $25,000 per space to build, and more for the special site or design requirements.

Another part of the cost is operation and maintenance. These costs include cleaning, lighting, maintenance, repairs, security, access control, fee collection, labor, administration, and others. The annual cost of Operation and maintenance varies from $100 to $800 per space per year. It is assumed to have an annual operation and maintenance cost of $250 per space for basic maintenance.

Grant Park Parking Facilities Revenue Forecast

Boulevard Avenue Parking Deck Revenue: Based on the nearby parking deck rates and the parking demand analysis of this study, the recommended parking rates for Boulevard Avenue Parking Deck is shown in Table 5.

Table 5. Proposed Parking Rates of Parking Deck

Time Period	Rates
0-1 hour	$2
1-2 hours	$4
2-3 hours	$6
3-4 hours	$8
>4 hours	$10

Based on the information above, and the parking characteristics of Grant Park, annual revenue forecasts are shown in Table 6.

Table 6. Boulevard Avenue Parking Deck Revenue Forecast (Regular Parking)

Boulevard Parking Deck Maximum Space 1,000			
	Utilization Rate		
	60%	70%	80%
Annual Revenue Forecast ($)	1,550,520	1,808,940	2,067,360

Boulevard Avenue Parking Deck also provides parking for special events that take place on Grant Park. Based on the characteristics of facilities on Grant Park and also the event history of recent years, an average of 30 special events will fill the Boulevard Avenue Parking Deck. The special event revenue forecast is shown in Table 7.

Table 7. Boulevard Avenue Parking Deck Revenue Forecast (Special Events Parking)

Total Spaces: 1000	
Flat Rate	$10.00
30 Events Total Per Year	$300,000.00

Cherokee Avenue Parking Lot Revenue: The Cherokee Avenue parking lot is also recommended to convert to a priced parking facility with the same rate of Boulevard Avenue Parking Deck as shown in Table 5. The revenue generated is shown in Table 8.

Table 8. Cherokee Avenue Parking Lot Revenue Forecast

Cherokee Lot Total Spaces: 344			
	Utilization Rate		
	60%	70%	80%
Annual Revenue Forecast ($)	533,379	622,275	711,172

Total Revenue Forecast: Based on the calculations above, the total revenue forecast is shown in Table 9. This forecast includes the Boulevard Avenue Parking Deck (both regular parking and special event parking), and the Cherokee Avenue Parking Lot. A 6% annual growth rate is applied to the utilization rate. The calculation can be found in Appendix A.

Table 9. Grant Park Parking Facilities Revenue Forecast

	Boulevard Lot: Maximum Space 1,000			**Cherokee Lot: Maximum Space 344**		
	Utilization Rate					
	60%	70%	80%	60%	70%	80%
Year 1 Annual Revenue Forecast ($)	1,850,520	2,108,940	2,367,360	533,379	622,275	711,172
Year 2 Annual Revenue Forecast ($)	1,961,551	2,235,476	2,509,402	565,382	659,612	753,842
Year 3 Annual Revenue Forecast ($)	2,079,244	2,369,605	2,659,966	599,305	699,189	799,073
Year 4 Annual Revenue Forecast ($)	2,203,999	2,511,781	2,819,564	635,263	741,140	847,017
Year 5 Annual Revenue Forecast ($)	2,336,239	2,662,488	2,988,737	673,379	785,608	897,838
5 years Gross Revenue ($)	10,431,553	11,888,291	13,345,028	3,006,706	3,507,824	4,008,942
5 years Net Revenue ($)	9,181,553	10,638,291	12,095,028	2,576,706	3,077,824	3,633,942
Estimated Annual Operating Expenses	$250,000			$86,000		
Projected Gross Revenue at 70% Utilization	$2,743,223					
Projected Net Revenue at 70% Utilization	$2,407,223					

6. RECOMMENDATIONS

Grant Park visitors experience the difficulty of finding a parking space during both weekdays and weekends. The development of the neighborhood and nearby metropolitan areas deteriorate this situation. Adding new supply and manage the demand can help to improve the parking mobility and benefit the Grant Park neighborhood. The following series of recommendations focus on managing current parking resources and the examination of supply expansion needs and opportunities.

Forecasted Growth and Demand

As a part of the analysis, it is important to understand the current parking demand within the study area. Several data pieces were

utilized to study the existing parking usage. The City of Atlanta Parks and Recreation Department provided data sets of historical events that occurred in the past. This historical events data provided the study team with data that were utilized to develop a forecast and projections for future parking demands.

Peak parking demand based ratios for each of the various user groups were developed using the data provided by the City of Atlanta Parks and Recreation Department, relationship between parking occupancy, population data, and travel characteristics in the immediate study area. By using the demand based ratios, future growth projections and development activity, an estimate of future parking demand at Grant Park could be forecasted. A model of existing parking demand, vehicle use, and arrival patterns was conducted to assist in forecasting parking demands under an unconstrained parking system scenario. The population-based estimates were then compared to the surveys of actual space utilization with the results suggesting a relatively accurate solution.

Given the apparent accuracy of this model and presuming its accuracy with respect to individual user groups (residents, businesses, staff, park visitors, etc.), the population to peak parking demand factors could be utilized when assessing the parking demand in the Grant Park study area as residential and park users' levels increase over time. The following Table 10 illustrates the factors that were developed specifically for Grant Park.

Table 10. Population to Peak Parking Demand Ratios

Category	Demand Ratio
Residential	0.42
Businesses	0.50
Staff	0.73
Park Visitors	0.80
Zoo Patrons	0.65

Given the development of accurate population-based parking ratios for Grant Park users, projections for future staffing and visitors

could be used to estimate anticipated peak weekday parking demand for the immediate Grant Park study area. The City has provided existing data and Grice Consulting Group projected growth numbers for the next three years, which can be used to forecast parking needs. The forecasted growth is as follows:

Table 11. Projected Growth

Category	Growth Projection
Residential	150
Businesses	50
Staff	20
Park Visitors	1,200
Zoo Patrons	800

Utilizing the above growth factors and population based parking ratios for these user categories will result in a forecast for added unconstrained parking demand expected at Grant Park. The following table illustrated these forecasts.

Table 12. Projected Parking Demand Increases

Category	Growth Projection	Demand Ratio	Parking Space Demand
Residential	150	0.42	63
Businesses	50	0.50	25
Staff	20	0.73	15
Park Visitors	1,200	0.80	960
Zoo Patrons	800	0.65	520
TOTAL PARKING DEMAND			**1,583**

Based on the industry accepted practice of Practical Parking Capacity, the Parking Model analysis of the Grant Park study area three-year projection produces a shortage of parking of at least 1,583 spaces, even in the worst case scenario.

The following assumptions are made with regards to the parking demand:

- If Residential Permit Parking is introduced, on-street parking availability will be reduced to 0, thus reserving on-street surface parking for residential use only.
- 75% of the 1,583 spaces will have a parking duration of 3-4 hours
- The peak period of parking will occur during the 10AM – 3PM weekday time frame
- The peak period of parking will occur during the 11AM – 4PM weekend time frame and during special events.
- If a public off-street parking facility (structure) is erected on the public-owned available land, it would reduce the amount of publicly owned off-street parking availability of approximately 60% to construct a parking structure.

On-Street Management

- Explore options for developing residential permit parking to address spillover parking on residential streets.
- Shift to customer-friendly enforcement by not punishing the first-time offender, and instead focus on repeat offenders that abuse the system.

Off-Street Management

- Make parking options clear to visitors through improved signage, mapping, wayfinding, and branding.
- Develop pricing strategies as demand warrants, which suggest that off-street pricing may be appropriate at some point in the future to manage demand at some point during different times of the day and week.
- Improve walking by creating a more pedestrian-friendly environment, focusing on access to and from the park.
- Explore valet strategies for peak periods (weekend evenings and events) to manage high parking demand.

Local Parking Solutions

As discussed in the previous chapters, local parking solutions include on-street and off-street parking facility improvement. First, it is recommended to introduce residential parking permits to eliminate the Grant Park/Zoo Atlanta visitors parking on-street. The key

to solving this problem is to provide enough off-street parking spaces. The two surface parking lots at Grant Park need to be modified to meet the increasing parking demand and the parking needs shifting from on-street parking to off-street parking.

Boulevard Avenue Parking Deck

Parking deck is recommended to accommodate current and future parking demand, reduce traffic congestion, and improve safety.

Green Roof is a roof of a building that is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. Green roofs provide numerous benefits, such as reducing stormwater overflow, mitigating the problem of heat islands and save energy, improving air quality, reduce noise, creating an attractive space in neighboring buildings. Some examples of green roof buildings are shown in Figure 23.

Figure 23. Examples of Green Roof Parking Structure

Green Roof parking structure is proposed to replace the current Boulevard Avenue surface parking lot. The current Boulevard Avenue surface parking lot is about 8 acres. With the green roof parking structure, at least half of the current surface parking lot could be rebuilt into the green land, and also the green roof even expand more green space. The high-quality design could maintain the neighborhood character, enhance the economic vitality of the community, improve egress and ingress of the area, and reduce travel time to and through Grant Park.

Intelligent parking system is also recommended for Boulevard Avenue parking deck; it is suitable for indoor parking spaces or multi-level parking building. With clear LED lamps and information guidance display boards, and ultrasonic detectors to gather vacancy information of a parking facility for guiding drivers to find a vacant parking space efficiently. Figure 24 shows some examples of Intelligent parking system.

Figure 24. Examples of Intelligent Parking System

Cherokee Avenue parking lot reconfiguration

From the field review of the parking facility, there are several existing deficiencies observed at Cherokee Avenue parking lot:

- The parking lot currently has three entrance/exit driveways on Cherokee Avenue, which causes traffic congestion while other vehicles are trying to enter/exit the zoo.
- The parking lot does not have an area for bus parking.
- Pedestrian mobility concerns were observed at the Zoo Atlanta parking lot. Some areas have steep grades, which may pose a challenge for some pedestrians, particularly those with disabilities or mobility problems.

The proposed zoo parking lot would address the existing deficiencies, which includes the following design. The layout of the parking lot is shown in Figure 25.

- Designated bus parking area
- Valet parking
- Premier Diamond Parking
- Sidewalk improvement to remove conflict between pedestrian and vehicles

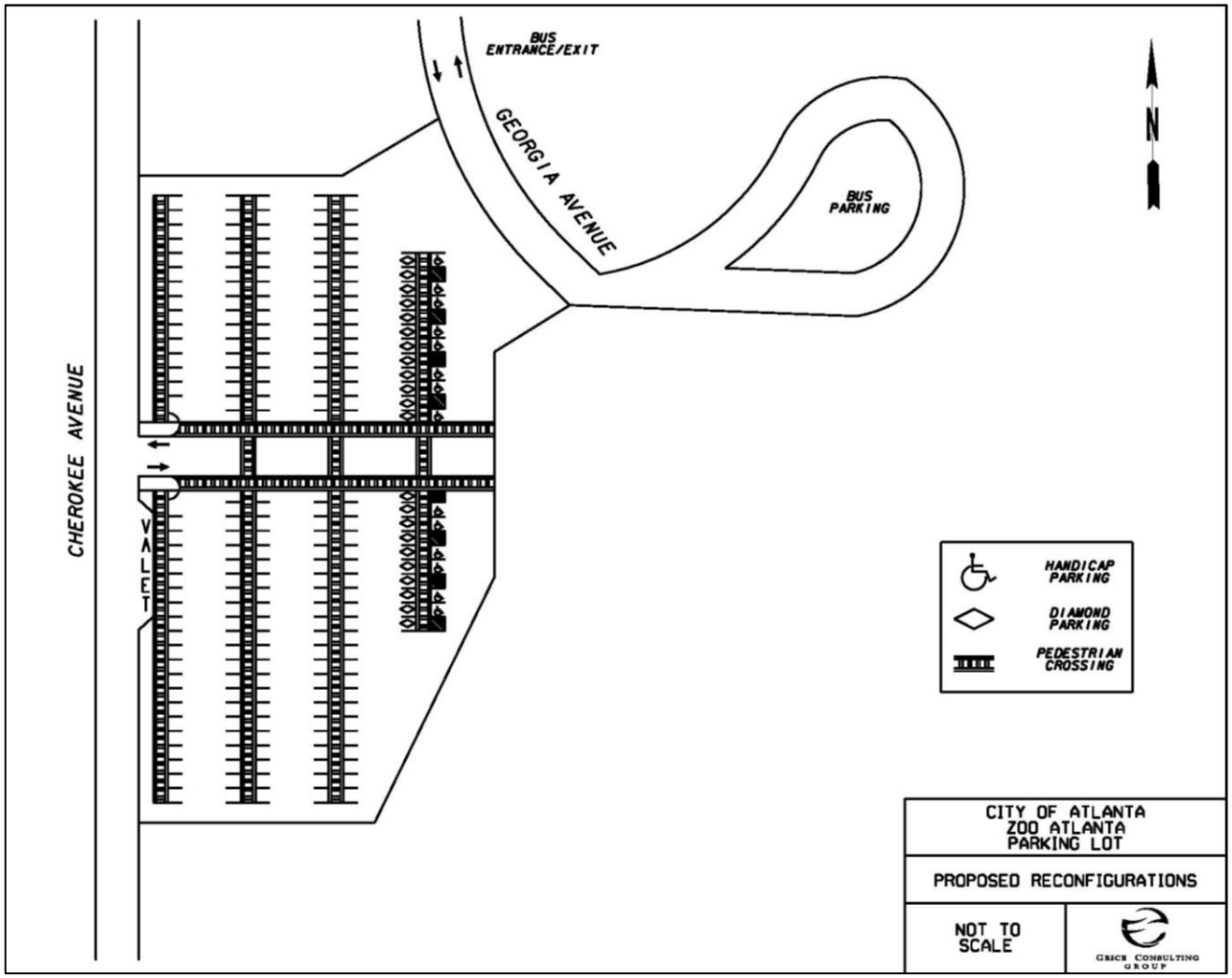

Figure 25. Cherokee Avenue Parking lot reconfiguration

Multimodal Solutions

Multimodal access should be a core component of parking demand management, by encouraging people to visit Grant Park by other modes than a car. The demand for parking would be reduced by using non-driving options for getting to/from Grant Park. There are a few other modes of transportation that customers may use to get to Grant Park/Zoo Atlanta besides using their personal vehicles. Some of the key multimodal assets offering the potential capacity to reduce parking demand are discussed below.

MARTA Bus Transit

Primarily, MARTA (bus transit) is the current alternative mode of transportation for people traveling to Grant Park/Zoo Atlanta. Currently, MARTA Bus Routes 21 (Memorial Drive) and 32 (Bouldercrest) are the only bus routes that serve people access to Grant Park/Atlanta Zoo. Bus Route 21 departs from the Georgia State and King Memorial stations and travels down Memorial Drive at the northern edge of the neighborhood. Bus Route 32 departs from the Five Points MARTA station and travels to the neighborhood and around the zoo.

MARTA also provides rail transit services for people traveling to Grant Park/Atlanta Zoo. The King Memorial Station on MARTA's east-west rail line is currently the only rail transit access to Grant Park/Atlanta Zoo. However, it's about a 17-minute walk for people to travel from the station to Grant Park itself.

MARTA is undertaking the I-20 East Transit Initiative to study new public transportation service east into DeKalb County. The project is intended to improve east-west mobility and improve accessibility to residential areas and employment centers along the I-20 corridor, east of the City of Atlanta, providing convenient and efficient transit service to accommodate the increasing transit demands within the corridor. Bill Kennedy Way/Atlanta Beltline transit station is about a 20-minute walking distance to Grant Park. Figure 26 shows the route of the I-20 East Transit Route.

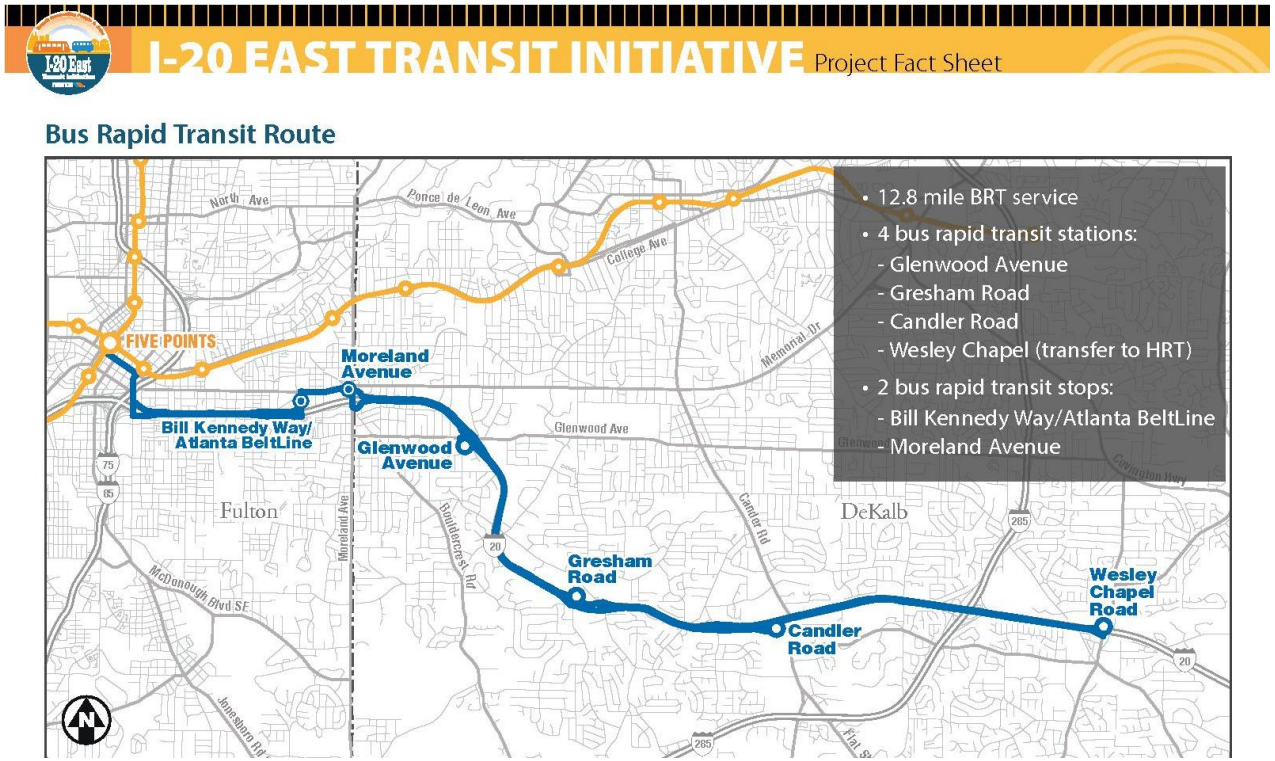

Figure 26. MARTA I-20 East Transit Initiative

Streetcar

The Atlanta Streetcar would be another mode of transportation for people to travel to Grant Park/Zoo Atlanta in the future. In the years to come, the City of Atlanta, Atlanta Beltline Inc., and Invest Atlanta plan to expand this initial project incrementally into a 63-mile network of streetcar/light rail transit lines. More than one-third of this network, or 22 miles, will occur within the Atlanta Beltline corridor. Phase 2 of the Atlanta Beltline/Atlanta Streetcar System Plan adds an additional 7.9 miles of streetcar

corridors and includes Downtown/Grant Park. Figure 27 shows the proposed streetcar route connecting Grant Park and MARTA Garnett Station.

Beltline

The Atlanta Beltline is a 22-mile redevelopment program for streetcar/ light rail transit, trails, parks, housing, and economic development that will be built along a historic railroad corridor encircling the central business district.

Walkability and Bikability Assessment One of the most important aspects of the Beltline Project is to strive for a multimodal transportation network that provides balanced capacity and safety for all travel modes, including pedestrians, bicycles, motor vehicles, buses and rail transit. Walking not only continues to be the most fundamental travel mode but also serves to connect all other travel modes in a modern transportation network.

The Beltline Greenway Trail Improvements proposed to establish Chosewood/ Grant Park Connector Trail (3.36 miles), which would provide a seamless connection between the Beltline, Grant Park, nearby neighborhoods, Cherokee Avenue, and Boulevard Avenue transit stops. Figure 28 shows the proposed beltline greenway trail improvements.

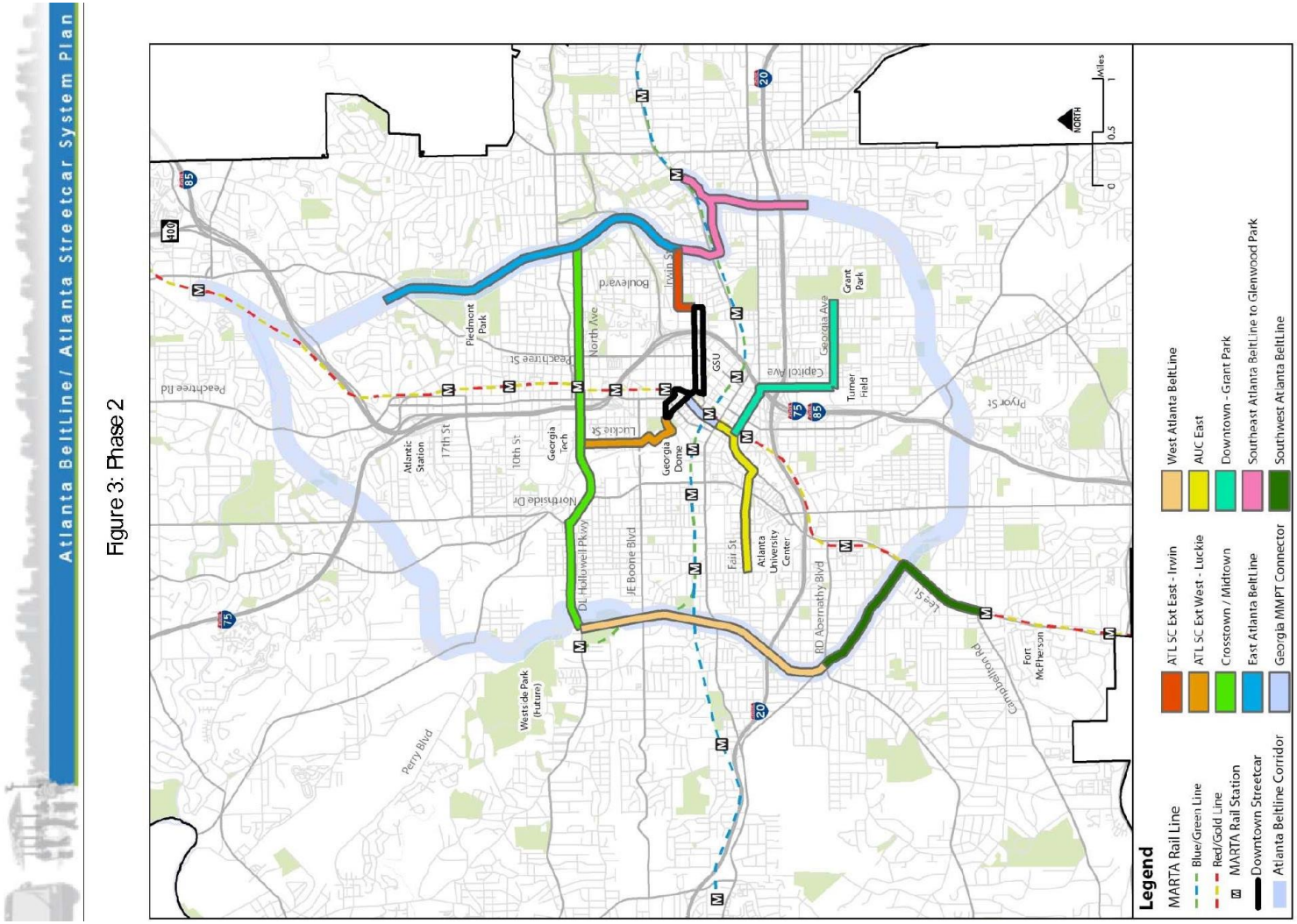

Figure 27. Streetcar System Plan

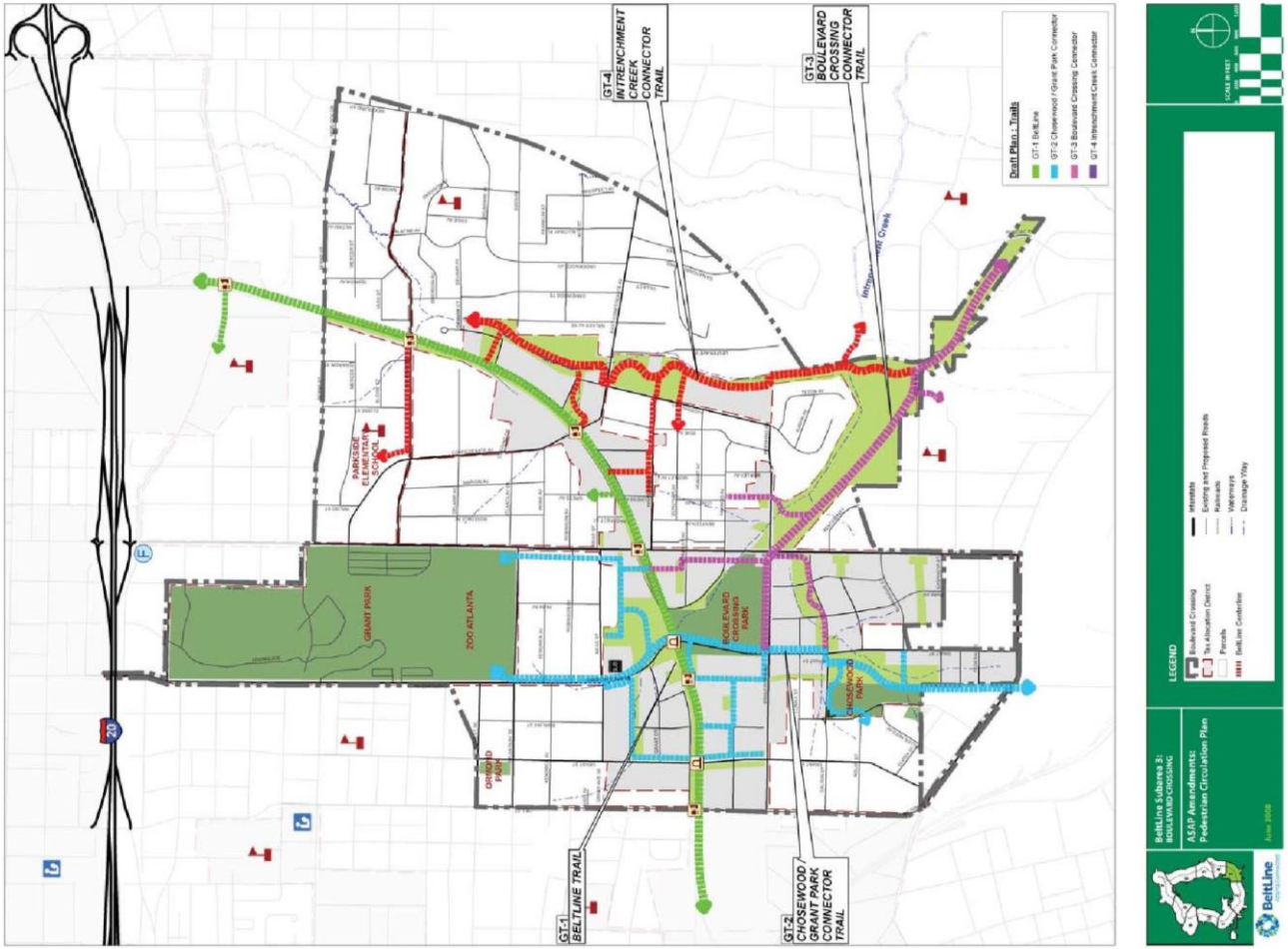

Figure IV.C.1 - Greenway Trail Plan

Figure 28. Proposed Beltline Greenway Trail Improvements

Parking Improvement Opportunities

Based on the data collection, field observation, and analysis of existing conditions, there are alternatives that may help mitigate the parking issues and improve traffic operations of Grant Park. Concepts to address identified deficiencies were developed to minimize costs and impacts beyond the existing conditions while trying to achieve the greatest benefit.

Alternative 1: No Build

Advantages include:

- No cost
- No disruption to existing conditions

Disadvantages include:

- No improvements would be implemented at this time.

Alternative 2: Green Roof parking deck near Boulevard Entrance

Advantages include:

- Address the parking deficiencies of the 2 current off-street parking lots and on-street parking
- Increase area of green land of Grant Park

Disadvantages include:

- Costs of building a parking structure and annual operation & maintenance fee
- Some disruption to existing conditions at the construction period

Alternative 3: New surface parking lot near Boulevard Entrance

Advantages include:

- Address the parking deficiencies of the 2 current parking lots and on street parking.

Disadvantages include:

- Occupy more acres of green land besides the current Boulevard surface parking lot
- Negatively affect the character and walkability of a regional park
- Costs of building a surface parking lot and annual operation & maintenance fee
- Some disruption to existing conditions at the construction period

Alternative 4: Build off-site permanent parking lot

Advantages include:

- No disruption to existing conditions

Disadvantages include:

- Costs of purchasing vacant land
- Costs of building a surface parking lot and annual operation & maintenance fee
- Costs of providing shuttle buses from/to Grant Park

7. TEMPORARY PARKING LOTS

During the period of constructing the Boulevard Parking Deck and reconfiguring Cherokee Avenue Parking lot, the two parking lots would be closed for use. In purpose of not deteriorating the on-street parking around Grant Park, satellite parking lots and shuttle buses to/from these satellite parking lots need to be provided. There are some potential parking lots that could possibly be turned into temporary parking lots.

Parkside Elementary School

The school is just two blocks east of Grant Park, with five minutes walking distance to the current Boulevard Avenue parking lot. It can provide approximately 100 parking spaces during school break.

Figure 29. Parkside Elementary School Parking Lot

Church of Atlanta Lighthouse

The church is located 1 mile south of Grant Park on Boulevard Avenue. It can provide about 164 parking spaces. Shuttle buses need to be provided to connect visitors to/from Grant Park.

Figure 30. Church of Atlanta Lighthouse Parking Lot

Martin Luther King Jr. Middle School

This middle school is located on Hill Street, about 1 mile northwest of Grant Park. It can provide 147 parking spaces during school break. Shuttle buses need to be provided to connect visitors to/from Grant Park.

Figure 31. Martin Luther King Jr. Middle School Parking Lot

Georgia Transportation Management Center (TMC)

Georgia TMC is located on Confederate Avenue south-east of Grant Park. It can provide about 300 parking spaces. It is about three minutes of drive time. Shuttle buses need to be provided to connect visitors to/from Grant Park.

Figure 32. TMC Parking Lot

Turner Field

Turner Field is located 1 mile west of Grant Park. There are 12 parking lots surrounding Turner Field, which provides 8,500 official spaces. Also, there are two other private parking lots on Hank Aaron Drive east of Turner Field, which can provide another 750 parking spaces. Because Turner Field is 6 minutes of drive west of Grant Park, shuttle buses need to be provided to connect visitors from/to Grant Park.

Figure 33. Turner Field parking lot

Appendix A: Grant Park Parking Deck Revenue Forecast

BOULEVARD PARKING GARAGE SOLUTION			
Maximum Space	1,000		
Utilization Rate	60%	70%	80%
Annual Revenue Forecast ($)	1,550,520	1,808,940	2,067,360

CHEROKEE PARKING LOT -- CONVERTED TO PAID			
Maximum Space	344		
Utilization Rate	60%	70%	80%
Annual Revenue Forecast ($)	533,379	622,275	711,172

Proposed Daily Parking Fees:	
0-1 hr	$2.00
1-2 hr	$4.00
2-3 hr	$6.00
3-4 hr	$8.00
>4 hr	$10.00

Parking Duration is referenced from the tech memo:	
0-1 hr	9%
1-2 hr	5%
2-3 hr	10%
3-4 hr	75%
>4 hr	1%

	Boulevard: Maximum Space 1,000			Cherokee Lot: Maximum Space 344		
	60%	70%	80%	60%	70%	80%
Year 1 Annual Revenue Forecast ($)	1,850,520	2,108,940	2,367,360	533,379	622,275	711,172
Year 2 Annual Revenue Forecast ($)	1,961,551	2,235,476	2,509,402	565,382	659,612	753,842
Year 3 Annual Revenue Forecast ($)	2,079,244	2,369,605	2,659,966	599,305	699,189	799,073
Year 4 Annual Revenue Forecast ($)	2,203,999	2,511,781	2,819,564	635,263	741,140	847,017
Year 5 Annual Revenue Forecast ($)	2,336,239	2,662,488	2,988,737	673,379	785,608	897,838
5 years Gross Revenue ($)	**10,431,553**	**11,888,291**	**13,345,028**	**3,006,706**	**3,507,824**	**4,008,942**
5 years Net Revenue ($)	**9,181,553**	**10,638,291**	**12,095,028**	**2,576,706**	**3,077,824**	**3,633,942**

NOTE: A 6% annual growth rate is applied to the utilization rate

References:

1. Piedmont Park Parking Deck: 0-30 min drop off period, each 30 mins $1; Maximum daily rate $15
2. Georgia Aquarium Parking Deck parking ticket: $10
3. Lindbergh Marta Parking Deck daily parking: $14 a day

PLUS Special Event Parking		Avg 3-4 hours	Total Per Event
Total Spaces	1000	$10.00	$10,000.00
Total Events per Year	30	$ 10,000.00	$300,000.00

TOTAL PARKING REVENU	Year 1	2,731,215
	Year 2	2,895,088
	Year 3	3,068,794
	Year 4	3,252,921
	Year 5	3,448,096

Estimated Annual Operating Expenses		
Boulevard	$250,000	
Cherokee	$86,000	
Projected Gross Revenue at 70% Utilization		$2,743,223
Projected Net Revenue at 70% Utilization		$2,407,223