

# 31<sup>st</sup> Street Harbor

## TRAFFIC IMPACT ANALYSIS

Prepared for:



**Public Building  
Commission** of Chicago

October 13, 2009

**EXECUTIVE SUMMARY**

A proposed 31<sup>st</sup> Street Harbor is being designed by the Chicago Public Building Commission for the Chicago Park District. The new harbor will provide the City with yet another highlight to its impressive lakefront.

A traffic assessment of the existing transportation network within the vicinity of the site suggests that there is adequate capacity within the existing system to accommodate the additional traffic that will be generated by the proposed improvements.

The Highway Capacity Manual defines “Level of Service” as an overall rating to evaluate traffic performance. Level of Service is graded on a scale of A to F, with F being a failure of the system. A grade of D is generally accepted as the minimum “passing” grade, similar to school report cards.

A comparison of Level of Service determined by this traffic study between existing conditions in 2009 versus the full build out and opening of the 31<sup>st</sup> Street Harbor project in 2012 is shown in the table below.

Intersection	Existing (2009)			Projected (2012)		
	AM	PM	Saturday	AM	PM	Saturday
31st St with NB LSD Ramps	C	B	B	C	C	C
Ft. Dearborn with NB LSD Ramps	A	A	A	A	A	A
31st St with SB LSD Ramps	C	C	C	C	B	C
31st St with Moe Drive	A	A	A	A	A	A

**FIGURES**

- Figure 1. Existing (2009) Traffic Conditions
- Figure 2. Projected (2012) Opening Day Traffic Conditions
- Figure 3. Comparison of Level of Service (2009 existing vs. 2012 projected)
- Figure 4. Comparison of Intersection Control Delay (2009 existing vs. 2012 projected)
- Figure 5. Site Generated Traffic Projections

**EXHIBITS**

- Exhibit A: Existing Location Map: Burnham Park at 31<sup>st</sup> Street
- Exhibit B: Proposed Concept Plan for 31<sup>st</sup> Street Harbor
- Exhibit EX1 – EX6: Existing (2009) Traffic Volumes for Peak Hours by Intersection
- Exhibit ES1 – ES6: Existing Traffic Volumes Escalated to the Year 2012
- Exhibit SG1 – SG6: Site Generated Traffic (2012)
- Exhibit PR1 – PR5: Projected Design Traffic (2012)

## **EXISTING CONDITIONS: 31<sup>st</sup> Street Beach and Burnham Park**

At 31<sup>st</sup> Street, Burnham Park offers several attractions to serve the public. The 31<sup>st</sup> Street Beach is a popular destination with a modern beach house built in 1997. Terraced shoreline revetments were constructed between 26<sup>th</sup> Street and 56<sup>th</sup> Street allowing for a long stretch of public gathering space with expansive lake views. Other features include a playground and the Burnham Skate Park for skateboarders and in-line skaters. Acres of green space are available here for general use.

The existing features of Burnham Park at 31<sup>st</sup> Street are shown in **Exhibit A**.

### **Existing Vehicular Access and Parking Options**

Burnham Park surrounds the 31<sup>st</sup> Street diamond interchange off Lake Shore Drive, with most park features to the east. Moe Drive runs parallel to Lake Shore Drive to the west, providing access to the extensive 31<sup>st</sup> Street parking lot and the McCormick Place convention center to the north. Fort Dearborn provides a similar parallel access to McCormick Place on the east side of Lake Shore Drive. Moe Drive and Fort Dearborn both lead directly into McCormick Place, and both generally carry only traffic directly related to McCormick Place events.

A surface parking lot exists in Burnham Park south of 31<sup>st</sup> Street and east of Lake Shore Drive, offering about 188 spaces for park users. This lot is accessed from either 31<sup>st</sup> Street or a slip ramp off the northbound Lake Shore Drive exit to 31<sup>st</sup> Street.

A large proportion of the existing park users utilize the Chicago Lakefront Bike Path to access the park either on bicycle or foot. The Chicago Transit Authority does not currently provide service to the park.

### **Evaluation of Existing Traffic Conditions**

Existing turning movement traffic counts were taken between 6AM and 6PM on a weekday and a Saturday at 15 minute intervals. Reviewing the distribution of traffic volumes throughout the day, the following peak hour periods were determined:

- Weekday AM = 7:30 AM to 8:30 AM
- Weekday PM = 5:00 PM to 6:00 PM
- Weekend Peak = 3:45 PM to 4:45 PM

Existing peak hour traffic volumes are shown in **Exhibits EX1** through **EX6**.

Field observations also noted the utilization of the existing Burnham Park parking lot at the beginning and end of each count session:

- Weekday AM = 1 cars in the parking lot at the beginning of the day
- Weekday PM = 85 cars in the parking lot at the end of the day
- Weekend AM = 5 cars in the parking lot at the beginning of the day
- Weekend PM = 116 cars in the parking lot at the end of the day

Traffic volumes were input into a Synchro 7 model with existing signal timings supplied by the City of Chicago Office of Emergency Management and Communications (OEMC) to evaluate the performance of the existing signal network.

Four signalized intersections within the vicinity of 31<sup>st</sup> Street and Lake Shore Drive (LSD) as shown in **Exhibit A** were analyzed:

- 31<sup>st</sup> Street with the northbound ramp from LSD and the current entrance to the Burnham Park parking lot

- Fort Dearborn with the northbound ramp from LSD, which provides access to LSD from the McCormick Place convention center to the north
- 31<sup>st</sup> Street with the southbound ramp from LSD
- 31<sup>st</sup> Street with Moe Drive

The analysis performed calculated control delay in seconds per vehicle for each intersection, which could then be related to Level of Service as defined by Chapter 16 of the Highway Capacity Manual.

The results of the existing traffic analysis are summarized in **Figure 1**.

### **PROPOSED IMPROVEMENTS: 31<sup>st</sup> Street Harbor**

The 31st Street Harbor project is one of two new harbors being designed for the Chicago Park District along Chicago's lakeshore. Located in the Bronzeville neighborhood on Chicago's south side, the 31st Street Harbor will incorporate extensive new community amenities and a new 950 slip marina. These include over two new acres of green space located on a peninsula of land formed by a 1,200 foot long breakwater sheltering the new harbor, providing exceptional views of the Chicago skyline to the north. The breakwater will also create new underwater habitat and provide opportunities for fishing.

The existing surface parking will be removed and relocated within a new parking structure covered by an accessible green roof that allows park users improved views of the lake while reducing impervious surface. Landscape plantings will include native plants selected to provide food and cover for the twice yearly bird migrations through the City, while also reducing maintenance and irrigation demands. A new fully accessible play area that connects the green roof area to the beach will replace an older existing playground, while improvements to pedestrian and vehicular circulation will improve connections to the neighborhoods in Bronzeville to the west. Located atop the green roof will be a new LEED Certified community center and restaurant, providing sorely needed facilities currently missing along the south lakeshore.

The marina itself will include approximately 950 new slips ranging from 35' to 80' in length, on site covered storage in the parking structure, fuel dock, marina store, dedicated shower facilities, and a public access boat ramp. Additionally, youth sailing programs and storage for small craft including kayaks will be provided, allowing this facility to make boating economically accessible to a very large portion of the community.

As part of these improvements, additional parking accommodations in addition to the new parking structure are being planned. Approximately 200 new parking spaces will be incorporated along the Fort Dearborn access road north of 31<sup>st</sup> Street, serving 31<sup>st</sup> Street beach. A new surface lot west of Lake Shore Drive and immediately south of 31<sup>st</sup> Street will be constructed with a capacity of over 150 spaces.

The existing attractions of Burnham Park near 31<sup>st</sup> Street will remain, including 31<sup>st</sup> Street Beach, the beach house, and the Burnham Skate Park.

Proposed features of the 31<sup>st</sup> Street Harbor project are shown in **Exhibit B**.

### **Proposed Vehicular Access and Parking Options**

Vehicular access to the new 31<sup>st</sup> Street Harbor will be provided by reconfiguring the existing access drive to the Burnham Park surface lot off 31<sup>st</sup> Street. This access road will be aligned as the east approach to the intersection which will improve previous line-of-sight concerns created by the previous alignment off the south approach.

Parking options for Burnham Park and 31<sup>st</sup> Street Harbor users will be expanded, including

- 31<sup>st</sup> Street Harbor Parking Garage (310 covered spaces)
- Surface Lot on Fort Dearborn north of 31<sup>st</sup> Street (202 spaces)
- Surface Lot off Moe Drive south of 31<sup>st</sup> Street (161 spaces)

### **Development of Projected Design Traffic Volumes**

Projected Traffic Volumes for the design year of 2012 were developed with the use of existing traffic volumes and Trip Generation procedures defined by the Institute of Transportation Engineers Trip Generation Handbook. The year 2012 represents the planned opening of the new 31<sup>st</sup> Street Harbor facilities.

#### Escalation of Existing Traffic Volumes to the 2012 Design Hours

With the existing features of Burnham Park at 31<sup>st</sup> Street such as the beach and the skate park to remain, the traffic demand generated by these features should remain similar to that seen in the existing condition.

Existing traffic volumes were escalated by an assumed growth factor of 0.5% increase per year. These volumes are shown in **Exhibits ES1** through **ES6**.

#### Development of Site Generated Traffic

Site Generated Traffic is the amount of additional traffic demand that is anticipated to be drawn by the 31<sup>st</sup> Street Harbor project.

These volumes are shown in **Exhibits SG1** through **SG6**.

#### *Proposed Traffic Generators*

In order to estimate the total amount of new traffic generated, each of the new features must be evaluated separately for its contribution to drawing traffic.

##### 1. 31<sup>st</sup> Street Harbor

The new marina facilities will attract regular boat users who will need a place to park their vehicles while using their boats. Amenities such as a small marina store and shower/locker room facilities will be provided to boat users. Kayaks and other small craft will also be stored on site for recreational use by more of the general public.

Projected traffic demand for the marina was initially estimated using ITE Trip Generation Section 420: Marina based on the total proposed number of boat slips. Assuming trip generation rates and directional distributions from the manual, total projected vehicles remained at or below 100 vehicles per hour during weekday peaks and under 130 vehicles per hour during Saturday peaks. This estimate felt low, so projected traffic demand was recalculated based on estimates provided by Westrec Marinas, who manage and operate the Chicago Park District's nine existing lakefront harbors.

Westrec Marinas cited a slip utilization rate of 10% during typical weekdays and with 30% during high use weekends. Arrival times for boat users vary and are distributed throughout daylight hours. To provide an extra conservative estimate of proposed vehicle traffic using the harbor, a rate of 2 vehicles per boat was assumed to develop projected volumes. Directional distribution from ITE Trip Generation Section 420 was applied to the number of vehicles to determine in and out rates for the facility. The resulting projected volumes were below 200 vehicles per hour during weekday peaks but rose to 570 vehicles per hour during the Saturday peak. These projected volumes were used in place of ITE Trip Generation Section 420 rates as they provided a more

conservative estimate based on real-world observations from Westrec. Overall trip generation volumes were rounded up to the nearest 10 vehicles per hour.

## 2. Community Building

The new community facility operated by the Chicago Park District will offer various programs and see a wide range of uses for its multipurpose rooms.

Projected traffic demand for the community building was estimated using ITE Trip Generation Section 495: Recreational Community Center based on gross floor area in square feet. Given the types of usage for this facility and the lack of available public transportation options a mode choice of 100% automobile was assumed. Although bicycling and walking were considered to be possible mode options, assuming a high percentage of automobile utilization allows for a more conservative approach to evaluating the surrounding transportation network. Overall trip generation volumes were rounded up to the nearest 10 vehicles per hour.

## 3. Restaurant

Space for a proposed casual sit-down restaurant is included in the plan. Traffic demand generated by the restaurant will depend specifically on the tenant that chooses to operate in the space but estimates can be made based on the size of the facility.

Projected traffic demand for the restaurant was estimated using ITE Trip Generation Section 931: Quality Restaurant based on gross floor area in square feet. Mode choice for trips destined to and from the restaurant was assumed to be 100% automobile given the availability of parking and lack of other suitable transportation options. Overall trip generation volumes were rounded up to the nearest 10 vehicles per hour.

## 4. Activated Parkland

Although existing Burnham Park already offers a significant amount of green space including parkland, 31<sup>st</sup> Street beach, a playground, and a skate park, the proposed improvements are anticipated to activate increased usage of the area.

The new peninsula of land created by the proposed breakwater will add over 2 acres of green space that will be highly attractive to park users for its views and proximity to the water. The playground will be expanded, and the covered green roof of the new parking garage will increase the amount of actively used park space in the area.

The amount of additional traffic anticipated by the activation of new parkland was estimated using ITE Trip Generation Section 412: County Park based on total acreage of the new parkland. While the ITE reference includes trip generation rates for a "City Park", the sample size used for the basis of these rates was determined to be too small for consideration. Overall trip generation volumes were rounded up to the nearest 10 vehicles per hour.

## 5. Deactivated Parkland

The Chicago Park District plans to expand native planting areas in coordination with the 31<sup>st</sup> Street Harbor project. These planting areas will convert the grassy lawns of parkland areas into more a more natural habitat. As a result, active usage of the park

could be reduced as less land will be available for use by people with more land dedicated to nature.

Still, the Burnham Park area near 31<sup>st</sup> Street is generally considered to be underutilized green space, so a return of significant tracts of park area to a more native planting environment may not result in much of a drop off in overall traffic. In order to provide a conservative assessment of future traffic conditions near the new 31<sup>st</sup> Street Harbor, no adjustment was made to reduce traffic volumes resulting from the deactivation of parkland to a natural environment.

## 6. Availability of Additional Parking

With existing field observations showing significant utilization of the existing Burnham Park parking lot, an additional factor was applied to account for an amount of traffic volume that will be generated solely by the addition of more parking options. This factor represents the scenario where someone may choose to visit this park over other area options due to the availability of convenient parking. A nominal amount of projected traffic volume was assumed to account for this factor.

Overall site generated traffic volumes are detailed in **Figure 5**. With the proposed traffic generators defined, the sum of their contributing volumes represents the total amount of projected site generated traffic volume for the project.

### *Origin-Destination*

With the total amount of projected site generated traffic calculated, the proportions of where these volumes would be coming from needed to be determined. There are 5 possible ways for vehicular traffic to access the project area:

1. Northbound Lake Shore Drive
2. Southbound Lake Shore Drive
3. Moe Drive
4. Fort Dearborn
5. 31<sup>st</sup> Street

Lake Shore Drive and 31<sup>st</sup> Street were the obvious origin points. With Moe Drive and Fort Dearborn directly servicing McCormick Place only, there is not a clear reason for the new Harbor traffic to originate from either of these access points. Thus, the proportion of traffic to these new destinations originating from McCormick Place was assumed to be negligible.

There are three potential destinations for site generated traffic:

1. 31<sup>st</sup> Street Harbor Parking Garage

The 31<sup>st</sup> Street Harbor Parking Garage should attract virtually all of the traffic destined for the harbor, community building, and other new features proposed by this project. 40% of site generated traffic was assumed to originate from the north via Lake Shore Drive, with 30% approaching from the south on Lake Shore Drive and the west on 31<sup>st</sup> Street.

2. Surface Lot on Fort Dearborn north of 31<sup>st</sup> Street

The Fort Dearborn surface lot is designed to be very similar in function to the previous Burnham Park surface lot, which serves park and beach users. This lot should essentially replace the previous lot, though it will become more attractive to beach users and less attractive to skate park users. To account for this, 80% of the existing

Burnham Park parking lot volumes were shifted over to the new Fort Dearborn lot, with the remaining 20% assumed to use the new 31<sup>st</sup> Street Harbor garage. Traffic origins for the new lot were assumed to match those of the old.

### 3. Surface Lot off Moe Drive south of 31<sup>st</sup> Street

The surface lot off Moe Drive is intended as a spill-over lot to accommodate additional parking overflow from the other two lots. With this location significantly less desirable than either of the other two, an amount of traffic destined for this lot was assumed. Traffic origins were assumed to heavily favor 31<sup>st</sup> and southbound Lake Shore Drive due to the more obscure location of the lot.

These origin factors were applied to the total amount of site generated traffic volumes projected to enter and leave the project area. The same factor for entering was applied for volumes leaving, as it would make sense that someone heading to the site would return the same way they originally came.

#### Projected Traffic Volumes for 2012

The projected traffic volumes for 2012 used for design and evaluation are simply the sum of escalated existing volumes and site generated volumes. These projections combine to account for the new traffic generated by the new harbor improvements as well as existing regional growth independent of the project.

Projected traffic volumes are shown in **Exhibits PR1** through **PR5**.

#### **Evaluation of Projected Traffic Conditions**

Traffic volumes were input into a Synchro 7 model with new phasing developed for the intersection of 31<sup>st</sup> Street with the northbound ramp from LSD and the new entrance to the 31<sup>st</sup> Street Harbor.

Four signalized intersections within the vicinity of 31<sup>st</sup> Street and Lake Shore Drive (LSD) were analyzed:

- 31<sup>st</sup> Street with the northbound ramp from LSD and the new entrance to the 31<sup>st</sup> Street Harbor
- Fort Dearborn with the northbound ramp from LSD
- 31<sup>st</sup> Street with the southbound ramp from LSD
- 31<sup>st</sup> Street with Moe Drive and the new surface lot off the south approach

Existing signal timings were applied for all intersections in the projected models except for the intersection of 31<sup>st</sup> Street with the northbound ramp from LSD and the new entrance to the 31<sup>st</sup> Street Harbor. Timing at this intersection needed to be slightly adjusted, giving the new westbound leg additional green time, to allow the intersection to perform at an acceptable level.

The analysis performed calculated control delay in seconds per vehicle for each intersection, which could then be related to Level of Service as defined by Chapter 16 of the Highway Capacity Manual.

The results of the proposed traffic analysis are summarized in **Figure 2**. As shown in these tables, the difference in performance between modeled existing 2009 traffic and projected 2012 traffic is relatively small. Level of Service grades remain at "C" under projected 2012 traffic. The projected models suggest that the roadway network in this area can adequately handle the increase in traffic generated by the new 31<sup>st</sup> Street Harbor by a reasonably large margin.



**Figure 1. Existing (2009) Traffic Conditions**

Intersection	Level of Service			Control Delay (sec/veh)		
	AM	PM	Saturday	AM	PM	Saturday
31st St with NB LSD Ramps	C	B	B	24.6	19.3	17.7
Ft. Dearborn with NB LSD Ramps	A	A	A	5.9	8.9	4.2
31st St with SB LSD Ramps	C	C	C	23.1	20.8	23.0
31st St with Moe Drive	A	A	A	3.3	5.4	2.9

**Figure 2. Projected (2012) Opening Day Traffic Conditions**

Intersection	Level of Service			Control Delay (sec/veh)		
	AM	PM	Saturday	AM	PM	Saturday
31st St with NB LSD Ramps	C	C	C	30.7	26.7	32.1
Ft. Dearborn with NB LSD Ramps	A	A	A	6.3	5.8	3.4
31st St with SB LSD Ramps	C	B	C	24.4	20.0	20.6
31st St with Moe Drive	A	A	A	3.5	5.2	5.2

*Existing timings applied to all projected intersections except 31st St with NB LSD Ramps*

**Figure 3. Comparison of Level of Service (2009 existing vs. 2012 projected)**

Intersection	Existing (2009)			Projected (2012)		
	AM	PM	Saturday	AM	PM	Saturday
31st St with NB LSD Ramps	C	B	B	C	C	C
Ft. Dearborn with NB LSD Ramps	A	A	A	A	A	A
31st St with SB LSD Ramps	C	C	C	C	B	C
31st St with Moe Drive	A	A	A	A	A	A

*Existing timings applied to all projected intersections except 31st St with NB LSD Ramps*

**Figure 4. Comparison of Intersection Control Delay (2009 existing vs. 2012 projected)**

Intersection	Existing (2009)			Projected (2012)		
	AM	PM	Saturday	AM	PM	Saturday
31st St with NB LSD Ramps	24.6	19.3	17.7	30.7	26.7	32.1
Ft. Dearborn with NB LSD Ramps	5.9	8.9	4.2	6.3	5.8	3.4
31st St with SB LSD Ramps	23.1	20.8	23.0	24.4	20.0	20.6
31st St with Moe Drive	3.3	5.4	2.9	3.5	5.2	5.2

*Existing timings applied to all projected intersections except 31st St with NB LSD Ramps*

**Figure 5. Calculation of Site Generated Traffic Projections**

Traffic Generators	ITE <sup>1</sup> CODE	SIZE	UNITS	Projected Traffic Volume <sup>2</sup>						
				Weekday		PM		Weekend Peak		
				AM Enter	Exit	Enter	Exit	Enter	Exit	
Marina Facility										
Seasonal Slips	420	950		60	30	60	50	60	80	
Transient Slips		0								
Weekday Usage	N/A	10%		130	70	100	100			
Weekend Peak Usage	N/A	30%						260	320	
Community Building										
Community Rooms		1630	SF							
Management Offices		340	SF							
Flex Room		720	SF							
Total Floor Space	495	2690	SF	10	10	10	10	10	10	
Restaurant										
Lounge and Dining Space		2380	SF							
Kitchen Space		1390	SF							
Total Floor Area	931	3770	SF	10	10	20	10	20	10	
New Activated Parkland										
Peninsula Park	412	2.5	acre	10	10	10	10	10	10	
Picnic/Play Lawn/Playground	412	6.5	acre	10	10	10	10	20	20	
Attraction of Additional Available Parking										
Existing Spaces (Burnham Park)		188	spaces							
Proposed Spaces - Harbor Garage		310	spaces							
Proposed Spaces - Fort Dearborn Lot		202	spaces							
Proposed Spaces - West Lot (Moe Dr)		161	spaces							
Total Net Parking Spaces	N/A	485	spaces	10	10	10	10	50	50	
<b>TOTAL PROJECTED TRAFFIC VOLUME</b>				<b>180</b>	<b>120</b>	<b>160</b>	<b>150</b>	<b>370</b>	<b>420</b>	



Shoreline Revetment

31st Street Beach

Playground

31st Street Beach House

Parking Lot (approx. 188 spaces)

Skate Park

Traffic Signal: 31st Street with  
Fort Dearborn, NB LSD Ramp,  
Burnham Park parking

Traffic Signal: Fort Dearborn  
with NB LSD Ramp

Traffic Signal: 31st Street  
with SB LSD Ramp

Traffic Signal: 31st Street  
with Moe Drive

Fort Dearborn

Lake Shore Drive (Northbound Lanes)

Lake Shore Drive (Southbound Lanes)

31st Street

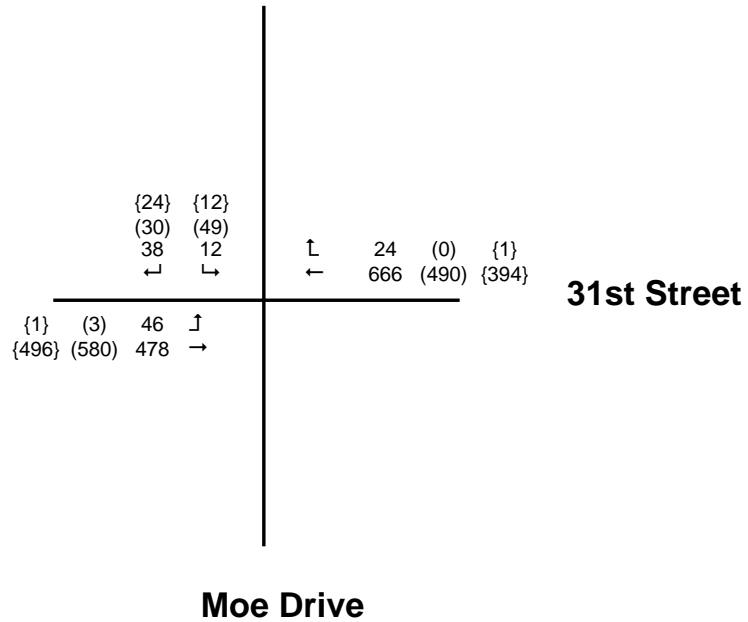
Moe Drive

- Breakwater with Fishing Access
- Community Sailing Program
- Marina Facility
- 31st Street Axis Marker
- 2.1 Acre Peninsula Park  
Flexible Play Lawn
- Lake Michigan Overlook
- Skyline Terrace Steps
- Green Roof Parking
- Community Building / Marina Facility
- Expanded Play Environment
- Community Plaza
- New Drop-off
- Existing 31st Street Beach House
- Reconfigured Entry with  
Lakefront Trail Underpass
- Bus Drop-off
- New Parking
- Pedestrian Connection to McCormick  
Parking Under 31st Street Bridge
- Fort Dearborn Parking



Fort Dearborn  
 Lake Shore Drive (Northbound Lanes)  
 Lake Shore Drive (Southbound Lanes)  
 Moe Drive

31st Street



Notes

Traffic counts completed on September 10, 2009 (Thursday)

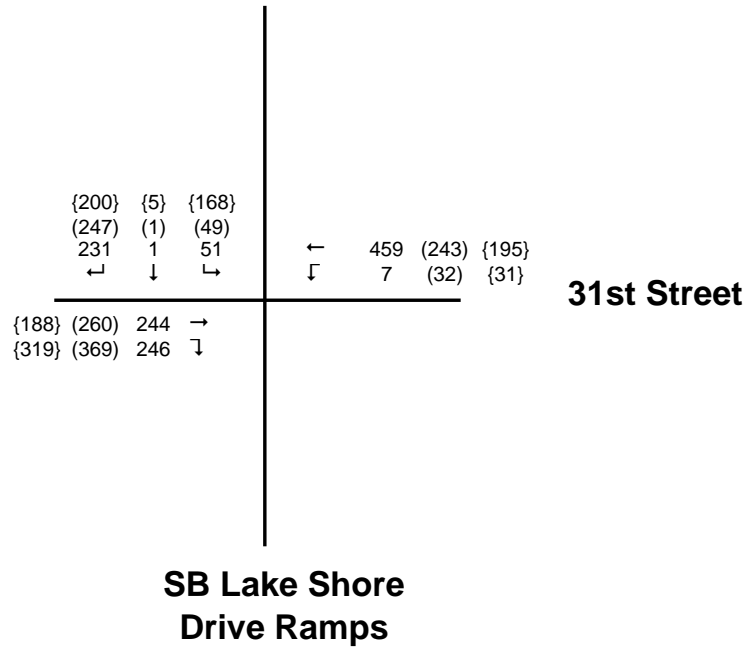
Legend

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

	<b>Exhibit EX1</b> <b>Existing (2009) Traffic Volumes</b>
	Gateway & 31st Street Harbors 31st Street & Moe Drive Chicago, IL
Project No. 60102694	October 2009
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300	



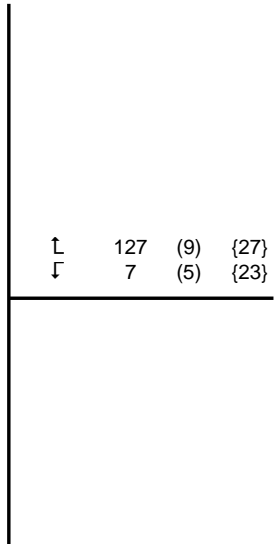
Notes

Weekday Traffic counts completed on September 10, 2009 (Thursday)  
 Weekend Traffic counts completed on August 29, 2009 (Saturday)

Legend

- ## AM Weekday Peak Hour Volume (7:30 - 8:30)
- (##) PM Weekday Peak Hour Volume (5:00 - 6:00)
- {##} Weekend Peak Hour Volume (3:45 - 4:45)

	<b>Exhibit EX2</b> <b>Existing (2009) Traffic Volumes</b>
	Gateway & 31st Street Harbors 31st St & SB Lake Shore Drive Ramps Chicago, IL
Project No. 60102694	October 2009
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300	



**SB Lake Shore  
Drive Ramp**

**Moe Drive**

Notes

Traffic counts completed on September 10, 2009 (Thursday)

Legend

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

**AECOM**

Project No. 60102694

October 2009

303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300

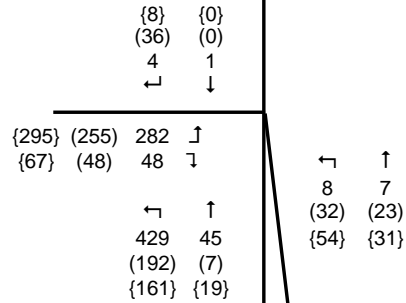
**Exhibit EX3**

**Existing (2009) Traffic Volumes**

Gateway & 31st Street Harbors  
Moe Drive & SB Lake Shore Drive Ramp  
Chicago, IL



**31st Street**



**NB Lake Shore  
Drive Ramps**

**Parking Drive**

Notes

Weekday Traffic counts completed on September 10, 2009 (Thursday)  
Weekend Traffic counts completed on August 29, 2009 (Saturday)

Legend

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

**AECOM**

Project No. 60102694

October 2009

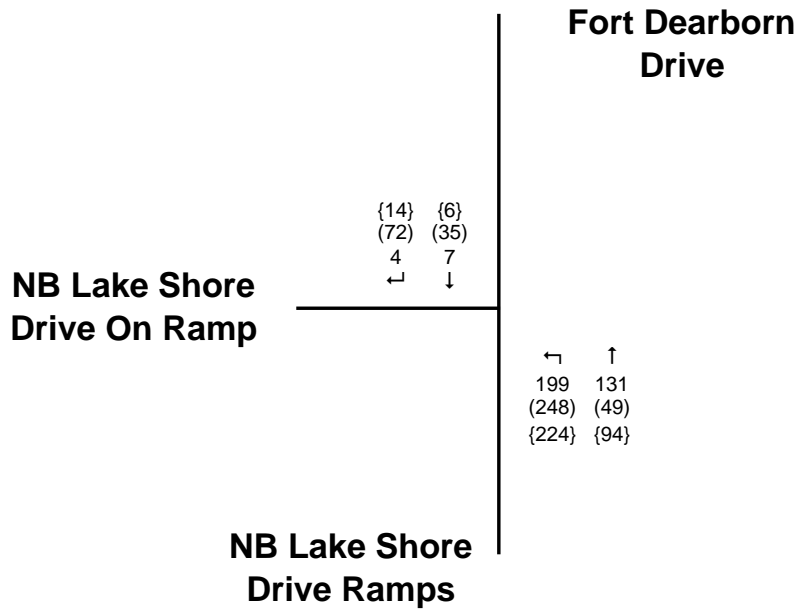
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300

**Exhibit EX4**

**Existing (2009) Traffic Volumes**

Gateway & 31st Street Harbors  
31st St & NB Lake Shore Drive Ramps  
Chicago, IL





Notes

Weekday Traffic counts completed on September 10, 2009 (Thursday)  
Weekend Traffic counts completed on August 29, 2009 (Saturday)

Legend

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

**AECOM**

Project No. 60102694

October 2009

303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300

**Exhibit EX5**

**Existing (2009) Traffic Volumes**

Gateway & 31st Street Harbors  
Fort Dearborn Dr & SB Lake Shore Dr Ramp  
Chicago, IL



**NB Lake Shore  
Drive Off Ramp**

{19} (17) 11 ↴

**Parking Drive**

Notes

Weekday Traffic counts completed on September 10, 2009 (Thursday)  
Weekend Traffic counts completed on August 29, 2009 (Saturday)

Legend

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

**AECOM**

Project No. 60102694

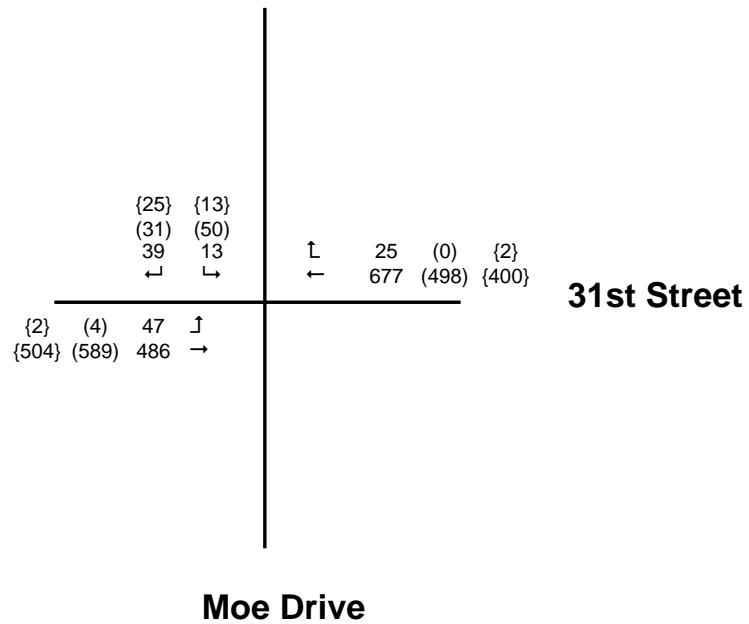
October 2009

303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300

**Exhibit EX6**

**Existing (2009) Traffic Volumes**

Gateway & 31st Street Harbors  
Parking Dr & NB Lake Shore Dr Ramp  
Chicago, IL



**Notes**

0.5% annual growth factor applied over 3 years

**Legend**

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

**AECOM**

Project No. 60102694

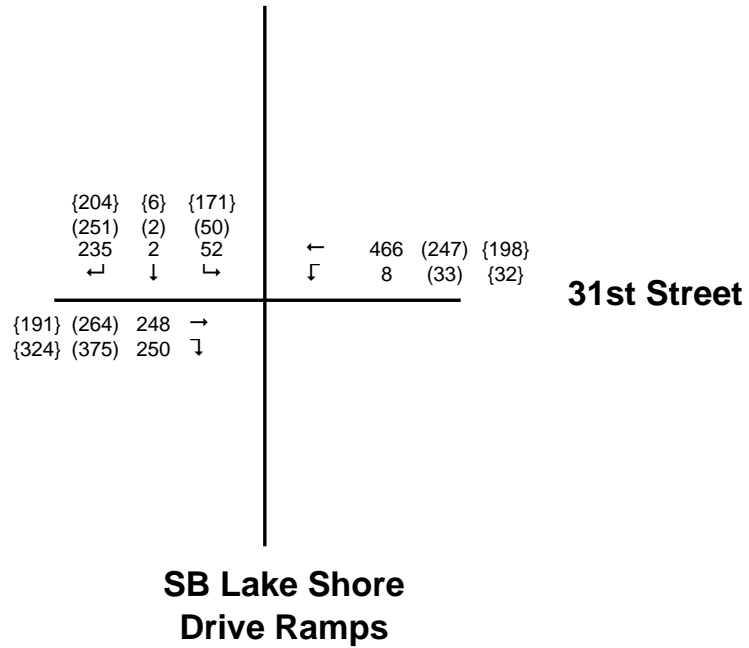
October 2009

303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300

**Exhibit ES1**

**Traffic Volumes Escalated to 2012**

Gateway & 31st Street Harbors  
31st Street & Moe Drive  
Chicago, IL



Notes

0.5% annual growth factor applied over 3 years

Legend

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

**AECOM**

Project No. 60102694

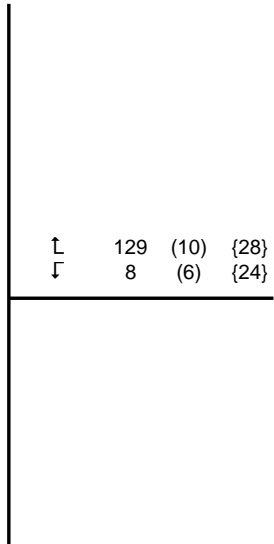
October 2009

303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300

**Exhibit ES2**

**Traffic Volumes Escalated to 2012**

Gateway & 31st Street Harbors  
31st St & SB Lake Shore Drive Ramps  
Chicago, IL



**SB Lake Shore  
Drive Ramp**

**Moe Drive**

Notes

0.5% annual growth factor applied over 3 years

Legend

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

**AECOM**

Project No. 60102694

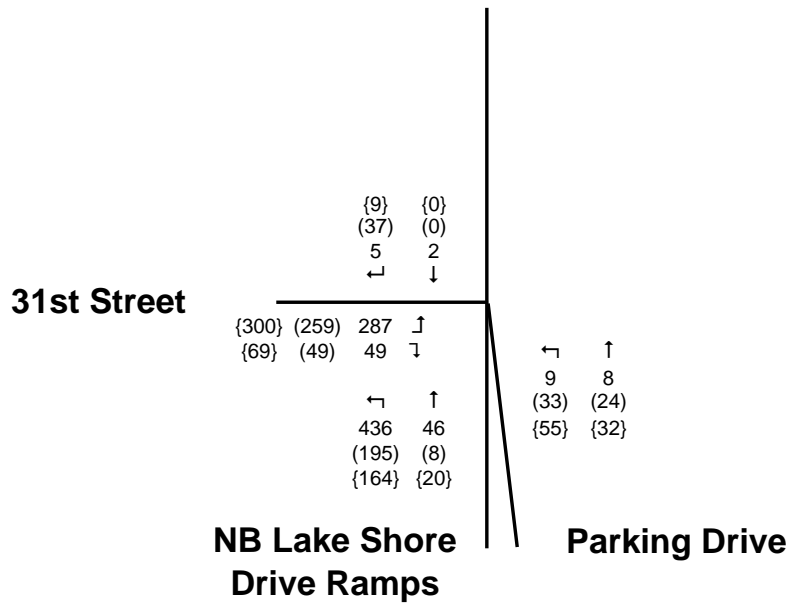
October 2009

303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300

**Exhibit ES3**

**Traffic Volumes Escalated to 2012**

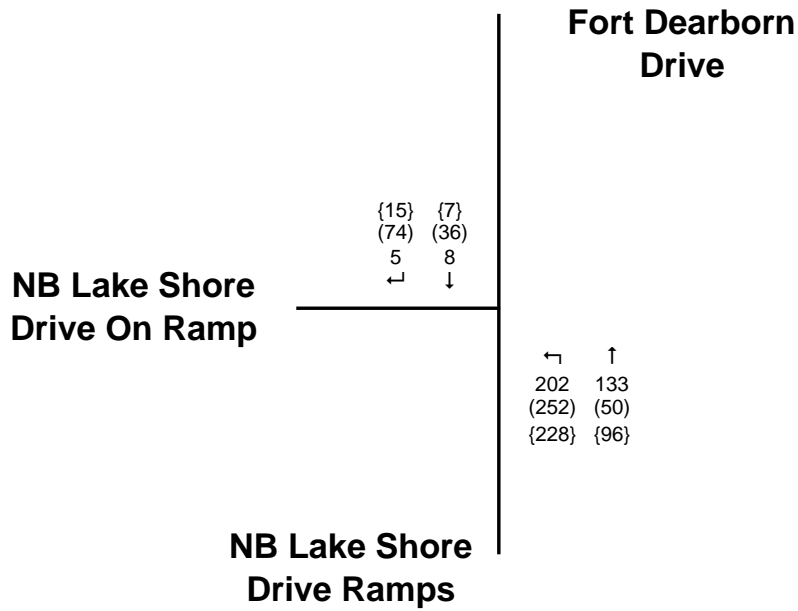
Gateway & 31st Street Harbors  
Moe Drive & SB Lake Shore Drive Ramp  
Chicago, IL



Notes  
 0.5% annual growth factor applied over 3 years

Legend  
 ## AM Weekday Peak Hour Volume (7:30 - 8:30)  
 (##) PM Weekday Peak Hour Volume (5:00 - 6:00)  
 {##} Weekend Peak Hour Volume (3:45 - 4:45)

	<b>Exhibit ES4</b> <b>Traffic Volumes Escalated to 2012</b>
	Gateway & 31st Street Harbors 31st St & NB Lake Shore Drive Ramps Chicago, IL
Project No. 60102694	October 2009
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300	



Notes

0.5% annual growth factor applied over 3 years

Legend

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

**AECOM**

Project No. 60102694

October 2009

303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300

**Exhibit ES5**

**Traffic Volumes Escalated to 2012**

Gateway & 31st Street Harbors  
Fort Dearborn Dr & SB Lake Shore Dr Ramp  
Chicago, IL



**NB Lake Shore  
Drive Off Ramp**

{20} (18) 12 ↴

**Parking Drive**

Notes

0.5% annual growth factor applied over 3 years

Legend

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

**AECOM**

Project No. 60102694

October 2009

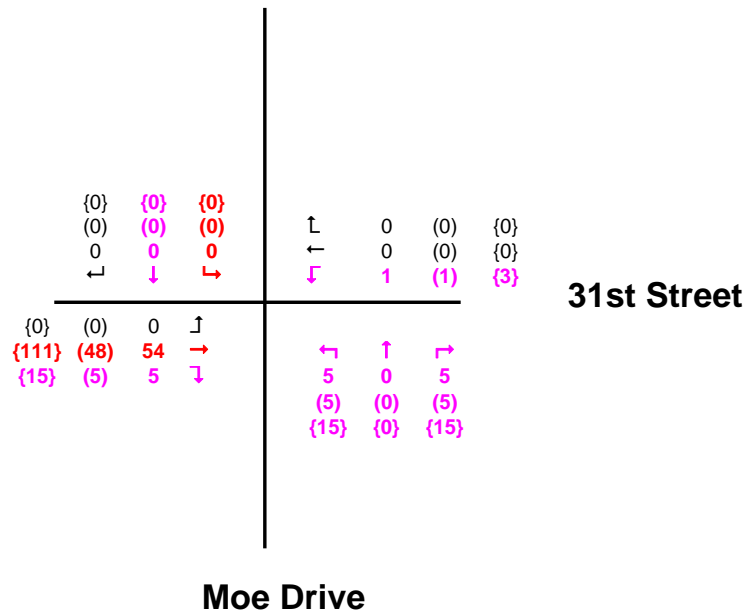
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300

**Exhibit ES6**

**Traffic Volumes Escalated to 2012**

Gateway & 31st Street Harbors  
Parking Dr & NB Lake Shore Dr Ramp  
Chicago, IL





PROJECTED HARBOR DRIVE  
 PROJECTED FORT DEARBORN PARKING  
 PROJECTED WEST LOT

Projected Traffic Demand						Proportion of Origin/Destination				
AM		PM		Weekend		LSD NB	LSD SB	Moe Dr.	Fort D.B.	31st St.
IN	OUT	IN	OUT	IN	OUT					
180	120	160	150	370	420	30%	40%	0%	0%	30%
63	17	67	57	89	87	80% of existing lot traffic				
10	10	10	10	30	30	10%	40%	0%	0%	50%

*volumes in vehicles per hour*

Notes \_\_\_\_\_

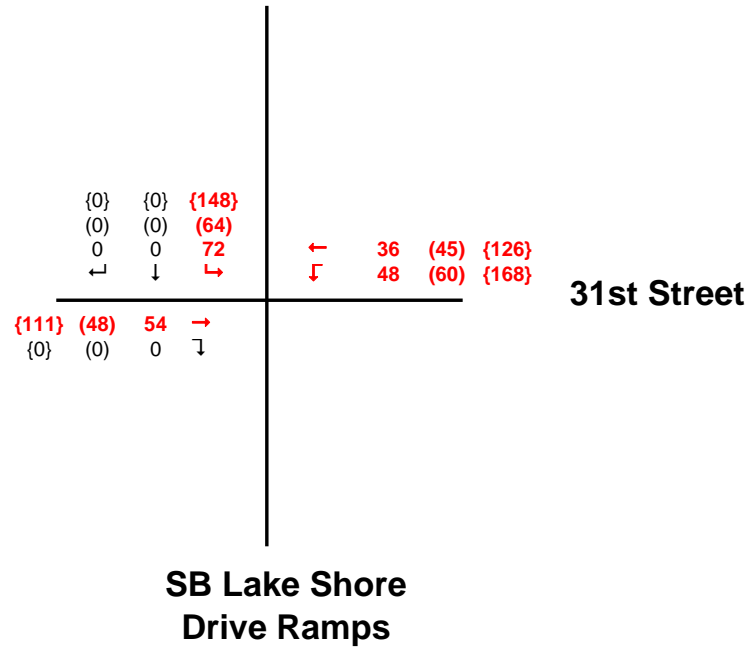
Legend \_\_\_\_\_

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

<b>AECOM</b>	<b>Exhibit SG1</b>
Project No. 60102694      October 2009	<b>Site Generated Traffic (2012)</b>
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300	Gateway & 31st Street Harbors 31st Street & Moe Drive Chicago, IL



PROJECTED HARBOR DRIVE  
 PROJECTED FORT DEARBORN PARKING  
 PROJECTED WEST LOT

Projected Traffic Demand						Proportion of Origin/Destination				
AM		PM		Weekend		LSD NB	LSD SB	Moe. Dr.	Fort D.B.	31st St.
IN	OUT	IN	OUT	IN	OUT					
180	120	160	150	370	420	30%	40%	0%	0%	30%
63	17	67	57	89	87	80% of existing lot traffic				
10	10	10	10	30	30	10%	40%	0%	0%	50%

volumes in vehicles per hour

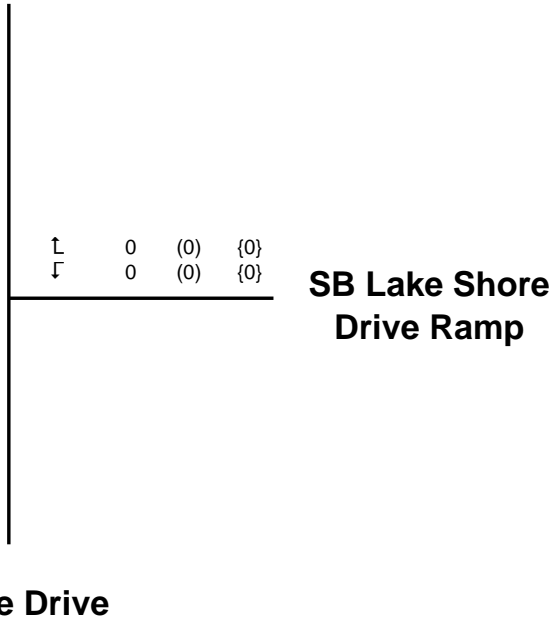
Notes

0.5% annual growth factor applied over 3 years

Legend

- ## AM Weekday Peak Hour Volume (7:30 - 8:30)
- (##) PM Weekday Peak Hour Volume (5:00 - 6:00)
- {##} Weekend Peak Hour Volume (3:45 - 4:45)

<b>AECOM</b>	<b>Exhibit SG2</b>
Project No. 60102694      October 2009	<b>Site Generated Traffic (2012)</b>
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300	Gateway & 31st Street Harbors 31st St & SB Lake Shore Drive Ramps Chicago, IL



**Moe Drive**

PROJECTED HARBOR DRIVE  
 PROJECTED FORT DEARBORN PARKING  
 PROJECTED WEST LOT

						Proportion of Origin/Destination				
AM		PM		Weekend		LSD NB	LSD SB	Moe Dr.	Fort D.B.	31st St.
IN	OUT	IN	OUT	IN	OUT					
180	120	160	150	370	420	30%	40%	0%	0%	30%
63	17	67	57	89	87	80% of existing lot traffic				
10	10	10	10	30	30	10%	40%	0%	0%	50%

*volumes in vehicles per hour*

Notes

0.5% annual growth factor applied over 3 years

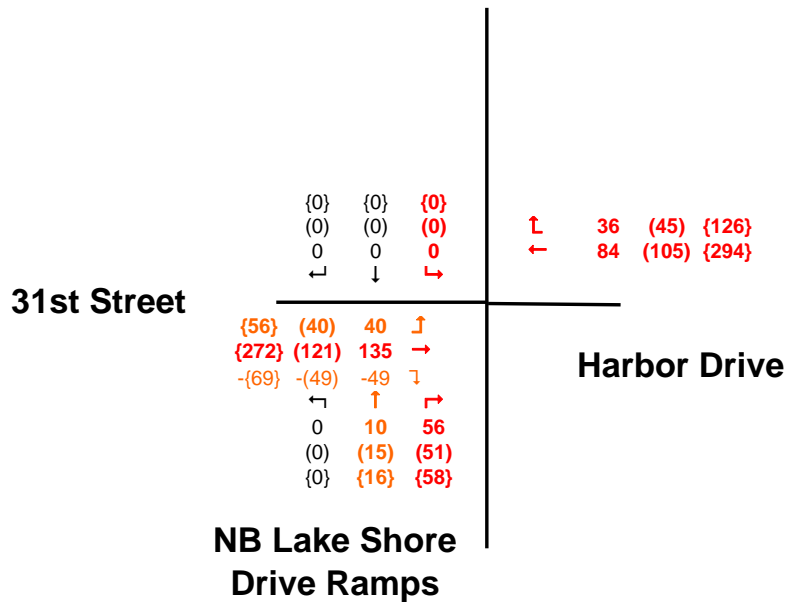
Legend

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

	<b>Exhibit SG3</b> <b>Site Generated Traffic (2012)</b>
	Gateway & 31st Street Harbors Moe Drive & SB Lake Shore Drive Ramp Chicago, IL
Project No. 60102694	October 2009
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300	



PROJECTED HARBOR DRIVE  
 PROJECTED FORT DEARBORN PARKING  
 PROJECTED WEST LOT

AM		PM		Weekend		Proportion of Origin/Destination				
IN	OUT	IN	OUT	IN	OUT	LSD NB	LSD SB	Moe Dr.	Fort. D.B.	31st St.
180	120	160	150	370	420	30%	40%	0%	0%	30%
63	17	67	57	89	87	80% of existing lot traffic				
10	10	10	10	30	30	10%	40%	0%	0%	50%

volumes in vehicles per hour

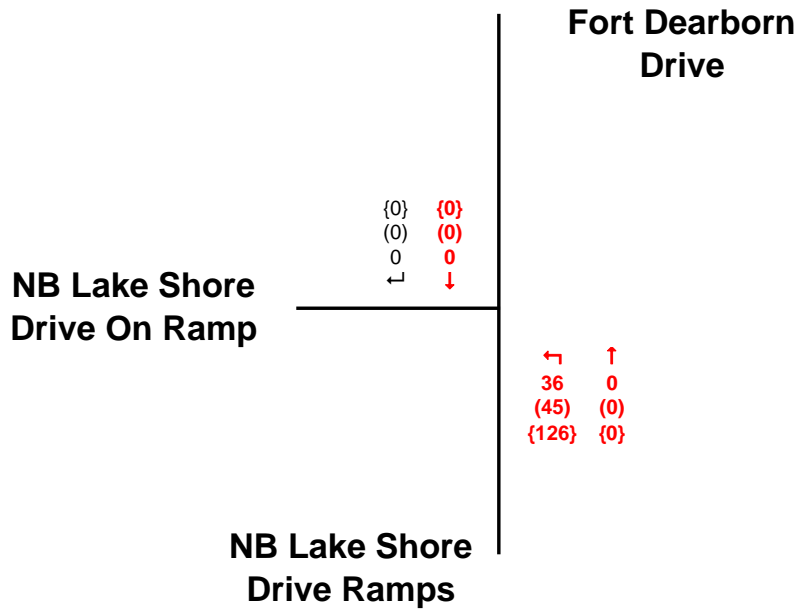
Notes

0.5% annual growth factor applied over 3 years

Legend

- ## AM Weekday Peak Hour Volume (7:30 - 8:30)
- (##) PM Weekday Peak Hour Volume (5:00 - 6:00)
- {##} Weekend Peak Hour Volume (3:45 - 4:45)

	<b>Exhibit SG4</b> <b>Site Generated Traffic (2012)</b>
	Gateway & 31st Street Harbors 31st St & NB Lake Shore Drive Ramps Chicago, IL
Project No. 60102694	October 2009
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300	



PROJECTED HARBOR DRIVE  
 PROJECTED FORT DEARBORN PARKING  
 PROJECTED WEST LOT

						Proportion of Origin/Destination				
AM		PM		Weekend		LSD NB	LSD SB	Moae Dr.	Fort D.B.	31st St.
IN	OUT	IN	OUT	IN	OUT					
180	120	160	150	370	420	30%	40%	0%	0%	30%
63	17	67	57	89	87	80% of existing lot traffic				
10	10	10	10	30	30	10%	40%	0%	0%	50%

volumes in vehicles per hour

Notes

0.5% annual growth factor applied over 3 years

Legend

- ## AM Weekday Peak Hour Volume (7:30 - 8:30)
- (##) PM Weekday Peak Hour Volume (5:00 - 6:00)
- {##} Weekend Peak Hour Volume (3:45 - 4:45)

	<b>Exhibit SG5</b> <b>Site Generated Traffic (2012)</b>
	Gateway & 31st Street Harbors Fort Dearborn Dr & SB Lake Shore Dr Ramp Chicago, IL
Project No. 60102694	October 2009
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300	



**NB Lake Shore  
Drive Off Ramp**

-(20) -(18) -12 ↴

**Parking Drive**

PROJECTED HARBOR DRIVE

PROJECTED FORT DEARBORN PARKING

PROJECTED WEST LOT

						Proportion of Origin/Destination				
AM		PM		Weekend		LSD NB	LSD SB	Moore Dr.	Fort. D.B.	31st St.
IN	OUT	IN	OUT	IN	OUT					
180	120	160	150	370	420	30%	40%	0%	0%	30%
63	17	67	57	89	87	80% of existing lot traffic				
10	10	10	10	30	30	10%	40%	0%	0%	50%

volumes in vehicles per hour

Notes

0.5% annual growth factor applied over 3 years

Legend

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

**AECOM**

Project No. 60102694

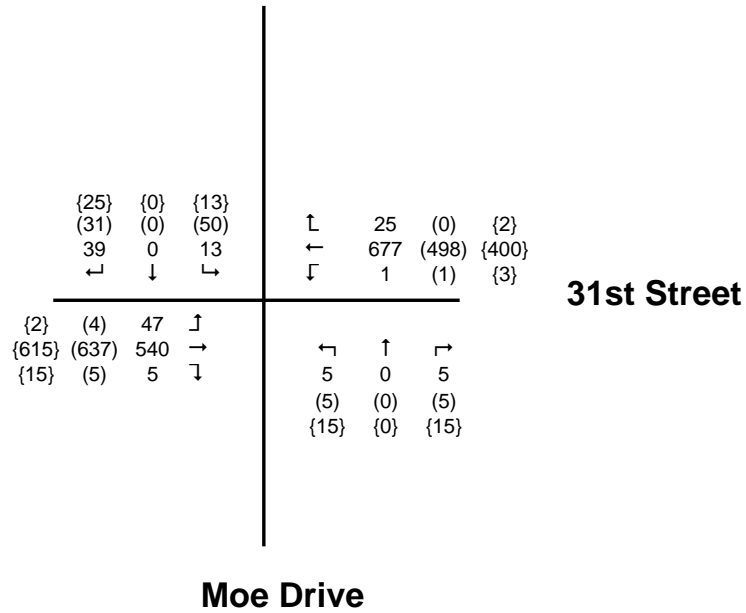
October 2009

303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300

**Exhibit SG6**

**Site Generated Traffic (2012)**

Gateway & 31st Street Harbors  
Parking Dr & NB Lake Shore Dr Ramp  
Chicago, IL



PROJECTED HARBOR DRIVE  
 PROJECTED FORT DEARBORN PARKING  
 PROJECTED WEST LOT

Projected Traffic Demand						Proportion of Origin/Destination				
AM		PM		Weekend		LSD NB	LSD SB	Moe Dr.	Fort D.B.	31st St.
IN	OUT	IN	OUT	IN	OUT					
180	120	160	150	370	420	30%	40%	0%	0%	30%
63	17	67	57	89	87	80% of existing lot traffic				
10	10	10	10	30	30	10%	40%	0%	0%	50%

*volumes in vehicles per hour*

**Notes**

0.5% annual growth factor applied over 3 years

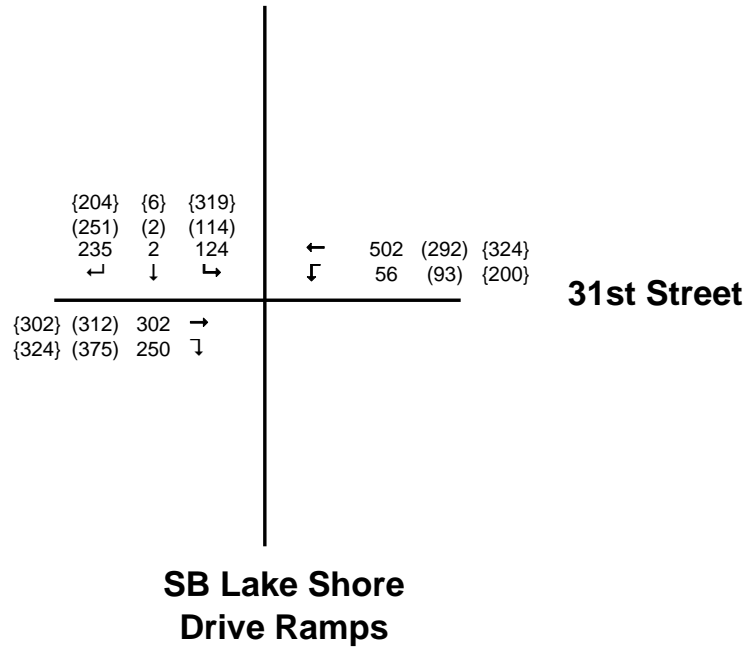
**Legend**

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

<b>AECOM</b>	<b>Exhibit PR1</b>
Project No. 60102694      October 2009	<b>Projected Design Traffic (2012)</b>
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300	Gateway & 31st Street Harbors 31st Street & Moe Drive Chicago, IL



PROJECTED HARBOR DRIVE  
 PROJECTED FORT DEARBORN PARKING  
 PROJECTED WEST LOT

Projected Traffic Demand						Proportion of Origin/Destination				
AM		PM		Weekend		LSD NB	LSD SB	Moe. Dr.	Fort D.B.	31st St.
IN	OUT	IN	OUT	IN	OUT					
180	120	160	150	370	420	30%	40%	0%	0%	30%
63	17	67	57	89	87	80% of existing lot traffic				
10	10	10	10	30	30	10%	40%	0%	0%	50%

*volumes in vehicles per hour*

Notes

0.5% annual growth factor applied over 3 years

Legend

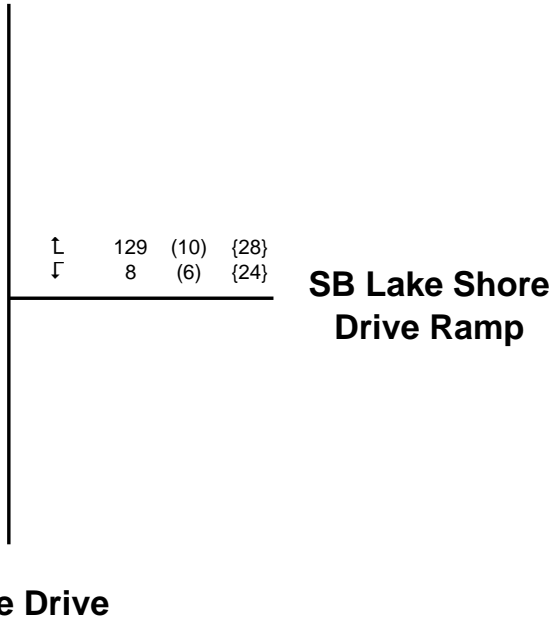
## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

<b>AECOM</b>	<b>Exhibit PR2</b>
Project No. 60102694      October 2009	<b>Projected Design Traffic (2012)</b>
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300	Gateway & 31st Street Harbors 31st St & SB Lake Shore Drive Ramps Chicago, IL





PROJECTED HARBOR DRIVE  
 PROJECTED FORT DEARBORN PARKING  
 PROJECTED WEST LOT

						Proportion of Origin/Destination				
AM		PM		Weekend		LSD NB	LSD SB	Moe Dr.	Fort D.B.	31st St.
IN	OUT	IN	OUT	IN	OUT					
180	120	160	150	370	420	30%	40%	0%	0%	30%
63	17	67	57	89	87	80% of existing lot traffic				
10	10	10	10	30	30	10%	40%	0%	0%	50%

volumes in vehicles per hour

Notes

0.5% annual growth factor applied over 3 years

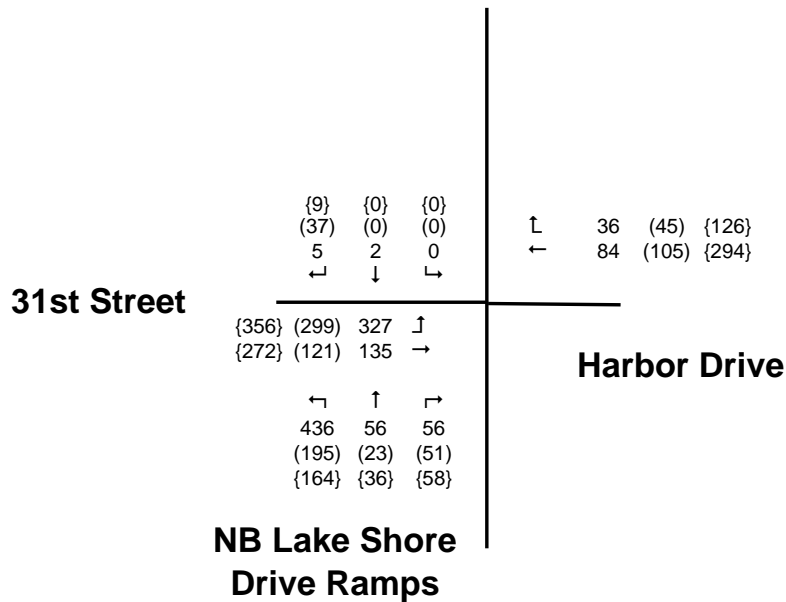
Legend

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

	<b>Exhibit PR3</b> <b>Projected Design Traffic (2012)</b>
	Gateway & 31st Street Harbors Moe Drive & SB Lake Shore Drive Ramp Chicago, IL
Project No. 60102694	October 2009
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300	



PROJECTED HARBOR DRIVE

PROJECTED FORT DEARBORN PARKING

PROJECTED WEST LOT

AM		PM		Weekend		Proportion of Origin/Destination				
IN	OUT	IN	OUT	IN	OUT	LSD NB	LSD SB	Moe Dr.	Fort. D.B.	31st St.
180	120	160	150	370	420	30%	40%	0%	0%	30%
63	17	67	57	89	87	80% of existing lot traffic				
10	10	10	10	30	30	10%	40%	0%	0%	50%

volumes in vehicles per hour

Notes

0.5% annual growth factor applied over 3 years

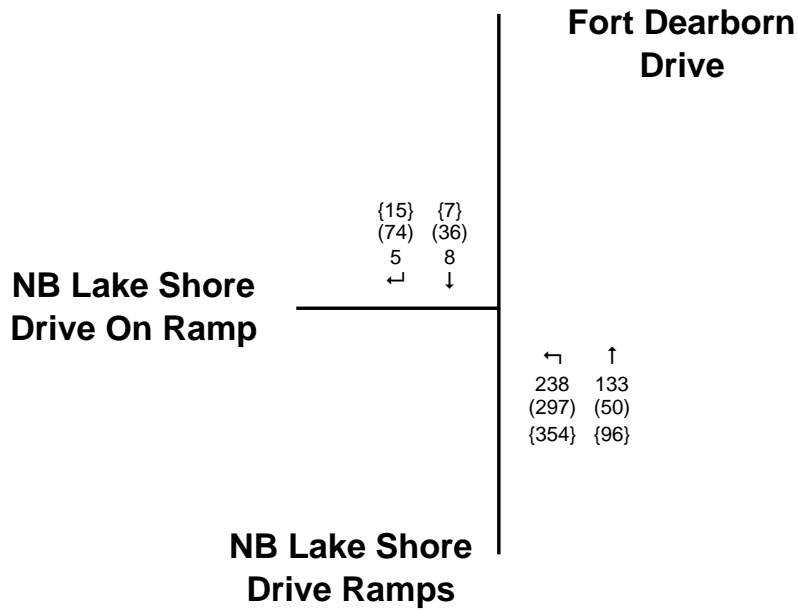
Legend

## AM Weekday Peak Hour Volume (7:30 - 8:30)

(##) PM Weekday Peak Hour Volume (5:00 - 6:00)

{##} Weekend Peak Hour Volume (3:45 - 4:45)

	<b>Exhibit PR4</b> <b>Projected Design Traffic (2012)</b>
	Gateway & 31st Street Harbors 31st St & NB Lake Shore Drive Ramps Chicago, IL
Project No. 60102694	October 2009
303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300	



PROJECTED HARBOR DRIVE  
 PROJECTED FORT DEARBORN PARKING  
 PROJECTED WEST LOT

						Proportion of Origin/Destination				
AM		PM		Weekend		LSD NB	LSD SB	Moae Dr.	Fort D.B.	31st St.
IN	OUT	IN	OUT	IN	OUT					
180	120	160	150	370	420	30%	40%	0%	0%	30%
63	17	67	57	89	87	80% of existing lot traffic				
10	10	10	10	30	30	10%	40%	0%	0%	50%

volumes in vehicles per hour

Notes

0.5% annual growth factor applied over 3 years

Legend

- ## AM Weekday Peak Hour Volume (7:30 - 8:30)
- (##) PM Weekday Peak Hour Volume (5:00 - 6:00)
- {##} Weekend Peak Hour Volume (3:45 - 4:45)

	<b>Exhibit PR5</b> <b>Projected Design Traffic (2012)</b>
	Gateway & 31st Street Harbors Fort Dearborn Dr & SB Lake Shore Dr Ramp Chicago, IL

Project No. 60102694      October 2009

303 E. Wacker Drive Suite 600 Chicago IL 60601 (312) 938-0300