Appendix B Parking Analysis

While the campus has seen an increase in the number of students, faculty, and staff using public transit, there will continue to be a need to provide adequate parking in the future. The analysis of the parking system commenced with a review of the current supply and demand on each side of campus while addressing urban and campus design when locating new or expanded parking. Walkable districts were identified around each of the existing parking structures (garages). One goal of the Master Plan is to remove major isolating components (large surface parking lots on the edge of campus) from being the first impression of UIC and to have a greener boundary adjacent to the neighboring communities. Consolidating the existing surface parking to expanded and new parking structures is the primary strategy to achieve this goal. Each existing parking structure can be added to vertically and/or horizontally which will allow for a more easily maintainable system. Locating the larger parking structures at the perimeter of campus and on or adjacent to arterial streets will provide easy connections to the campus shuttle system, bike stations, and pedestrian paths so drivers can quickly integrate into the ever increasing multi-modal pedestrian-oriented campus.



From the parking usage data provided by UIC, an analysis of the existing parking system and projection of future needs has been used to develop the best target number of spaces to be provided. This report is specifically based on information and data provided by the UIC Campus Parking Department for current parking lot/garage usage, number of passes issued for these areas, and peak capacity. Additionally, on-street spaces were documented by use of visual tabulation and use of satellite imagery. Two different methodologies, described below, were used to analyze the projections.



PARKING DEMAND ANALYSIS

ANALYSIS 1: The Campus Population Demand Methodology is based on campus population figures and driving data from the Office of Sustainability and the "Sustainable Transportation & Grounds in UIC" report (April 2009). This report provides data about the percentages of campus population that drive alone and in carpools for all the different population types. These percentages were then reduced by 30% on the East Side, based on the Office of Sustainability – "Transportation Goals, 30% Reduction & Growth Projections". This calculation has projected a need for 11,100 total spaces (4,970 East Side and 6,130 West Side) by year 2040.

ANALYSIS 1: POPULATION DEMAND METHODOLOGY

	2008 Populations					2040 Populations				2040 Parking Requirements								
	East	West	East		West		East Side (A)			East		West Side (B)		West				
Population Groups *			Count	% Increase	Count	% Increase	%	Carpool %	Spaces	Spaces	TOTAL	%	Carpool %	Spaces	Spaces	TOTAL		
	00.070	0.040	05 000	4040/	0 700	1010/	17.000/	4.000/	1075	000	4000	17.000/	1.000/	000	01	700		
Student FIE (4)	20,976	3,048	25,320	121%	3,700	121%	17.28%	4.90%	4375	620	4996	17.28%	4.90%	639	91	730		
Faculty FTE (3, 4)	1,075	1,221	1,100	102%	1,250	102%	29.15%	10.40%	321	57	378	29.15%	10.40%	364	65	429		
Admin. Professional FTE	1,076	2,019	1,200	112%	2,220	110%	36.90%	11.50%	443	69	512	36.90%	11.50%	819	128	947		
Support Staff FTE (1)	1,891	1,735	1,980	105%	1,810	104%	36.90%	11.50%	731	114	844	36.90%	11.50%	668	104	772		
SUBTOTAL	25,018	8,023	29,600	118%	8,980	112%												
Medical Center Staff FTE (2)		4,040			4,240	105%						36.90%	11.50%	1565	488	2052		
Daily Visitor Estimate		1,710			3,600	211%						31.00%	2.33%	1116	84	1200		
Average Daily Hospital Census		342			400	117%												
Annual Patient Days		127,200			169,000	133%												
Annual Clinic Visits		482,940			650,000	135%												
Daily Clinic Visits		1,932			2,600													
	SUBTO							L			6730					6130		

w/30% reduction of Drive Alone 4970

NOTES

1. Support Staff FTE = civil service, graduate assistants, and small number of house staff

2 Medical Center FTE = employees and house staff

3. 2040 Faculty FTE shows an increase of 54, not 50 due to rounding

4. East and West Side Student/Faculty FTE are associated with location of home colleges

5. FTE not associated with colleges are allocated 50% east and 50% west

6. Population based on no growth in Faculty, AP or Support Staff FTE in administrative units

- The staffing of non-academic units (other than the Hospital & Clinics) is assumed to be static.
- A. Based on mode split surveys from UIC Office of Sustainability that includes 309

reduction in "Drive Alone" population

B. Based on mode split surveys from UIC Office of Sustainability

PARKING DEMAND ANALYSIS

ANALYSIS 2: The Square Footage Methodology is based on current supply/demand rates relative to building gross square footage and is a recognized analysis methodology used on many campuses. First, this analysis has identified parking "districts" on each side of campus based on existing parking structure locations. Beginning with the current rates, a projection of future 2040 demand based on the number of spaces required per 1000 s.f. (Parking Demand Ratio) was made. On the East Side, future demand ratios are reduced by 25% for the drive alone population and a 5% conversion to carpooling. Square footage calculations include the requested Space Needs as well as accommodates the complete built plan. This calculation has projected a need for 12,148 total spaces (5,120 East Side and 7,028 West Side) in the year 2040.

						200)8					2040	
Parking District	Lot Name	Address	Existing Buildings Area (NASF)	Parking Demand (Peak)	Parking Supply On- Street	Parking Supply Off- Street	Total Parking Supply	Surplus/ (Shortage)	Parking Utilization Factor ***	Parking Demand Ratio (spaces / 1000 sf)	Projected Buildings Area (NASF)****	Parking Demand Ratio (spaces /1000 sf)	Parking Demand (Peak)
Harrison/Racine District										Exist. + New			
HR	1A	1109 W. Harrison		215		456		241	47%				
HR	1B	1139 W. Harrison		139		414		275	34%				
HR	9/9A	501 S. Morgan		278		353		75	79%				
HR	11	1055 W. Congress		52		139		87	37%				
HR	18A (meters	1215 W. Congress		24		36		12	67%				
HR	HRPS	1100 W. Harrison		474		1,237		763	38%				
Sub	total HR Di	strict	650,300	1,182	0	2,635	2,635	1,453	45%	1.82	885,600	1.52	1,346
Halsted/	Taylor Dist	rict											
HT	4	761 W. Polk		84		93		9	90%				
HT	5	1135 S. Morgan		437		881		444	50%				
HT	6	1135 S. Halsted		68		364		296	19%				
HT	8	401 S. Peoria		8		18		10	44%				
HT	10	900 W. Taylor		29		67		38	43%				
HT	12	808 S. Clinton		6		22		16	27%				
HT	20	1101 W. Taylor		5		10		5	50%				
HT	HTPS	760 W. Taylor		1192		1,513		321	79%				
Sub	total HT Di	strict	1,498,000	1,829	27	2,968	2,995	1,139	62%	1.22	1,890,500	1.52	2,874
Maxwell	St District												
MS	14	729 W. Rochford		5		153		148	3%				
MS	MSPS	701 W. Maxwell		290		647		357	45%				
Sub	total MS Di	strict	479,050	295	149	800	949	505	37%	0.62	592,200	1.52	900
		TOTALS East Side	2,627,350	3,306	176	6,403	6,579	3,097	48%	1.26	3,368,300		5,120
				Parking Stru	cture Spaces	3,397						1.52 Rate is current between HR & HT	avg. rate Districts

3,397

2,125

Parking Structure Spaces

Surface Lots

ANALYSIS 2: Square Footage Methodology

EAST SIDE

APPENDIX

B3

WEST SIDE

						2008					 	2040	
										Parking	Projected	Parking	
			Existing	Parking	Parking	Parking	Total		Parking	Ratio	Buildings	Demand Ratio	Parking
Parking			Buildings Area	Demand	Supply On-	Supply Off-	Parking	Surplus/	Utilization	(spaces /	Area	(spaces /1000	Demand
District	Lot Name	Address	(NASF)	(Peak)	Street	Street	Supply	(Shortage)	Factor ***	1000 sf)	(NASF)****	sf)**	(Peak)
WS: Wood Street District													
WS	A3	1934 W. Taylor		59		60		1	98%				
WS	A4	1937 W. Taylor		48		75		27	64%				
WS	B2	900 S. Wolcott		39		54		15	72%				
WS	B4	1836 W. Grenshaw		52		65		13	80%				
WS	C1	805 S. Wolcott		15		29		14	52%				
WS	C4	1119 S. Wolcott		94		118		24	80%				
WS	L	1818 W. Taylor		6		6		0	100%				
WS	WSPS	1100 S. Wood		2037		2,310		273	88%				
WS	Wood St. Lot	1019 S. Wood		54		58		4	93%				
Sub	total WS Di	strict	1,474,800	2,404	61	2,775	2836	432	87%	1.63	2,392,000	1.43	3,421
PS :Pau	lina Street	District											
PS	AOB	860 S. Paulina		9		75		66	12%				
PS	E	820 S. Paulina		213		314		101	68%				
PS	E4	1121 S. Hermitage		11		29		18	38%				
PS	F	901 S. Paulina		54		94		40	57%				
PS	F4	1135 S. Paulina		58		66		8	88%				
PS	G	921 S. Marshfield		162		191		29	85%				
PS	G4	1138 S. Ashland		24		31		7	77%				
PS	н	1101 S. Paulina		72		95		23	76%				
PS	J	1637 W. Taylor		81		120		39	68%				
PS	ĸ	1617 W. Taylor		61		80		19	76%				
PS	N1	713 S. Wood		20		25		5	80%				
PS	PSPS	915 S. Paulina		962		1,124		162	86%				
Sub	total PS Dis	strict	1,399,000	1,718	101	2,169	2270	552	79%	1.23	1,968,000	1.43	2,814
SR: Sou	ith of Roos	evelt Parking Areas											
SR	M	1728 W. Washburne		158		241		83	66%				
SR	0	1210 S. Wood		84		116		32	72%				
SR		New Parking Structure											
Subt	otal South	of Roosevelt Parking	118,934	242	NA	357	357	115	68%	2.03	555,000	1.43	794
		TOTALS West Side	2 992 734	4 122	162	4 944	5 106	984	83%	1.38	4 915 000		7 028
		10THEO WEST DIDE	2,002,704	7,166	102	7,077	0,100		0070	1 1.00	4,010,000		1,010
				Parking Stru	ucture Spaces	3,434						1.43 Rate is an	average

Surface Lots

3,434 1,510 1.43 Rate is an average between WS & PS Districts

All calculations of demand, utilization and ratios do not use on-street parking counts since these spaces may be removed in future.
** Parking Demand Ratio Projections in 2030 use current ratios or a minimum of 1.15 (IMD ratios are 1.50)

** Parking Demand Ratio Projections...
*** Parking Utilization = Demand/Supply
*** Parking Utilization Area to vary through the second sec

**** Projected Buildings Area to vary through design process depending on selected Master Plan scheme. This will be updated into Phase 3.

2040 PARKING PROJECTIONS

After review of the different methods of analysis, the Steering Committee determined that the parking demand be based on a number between the high and low projections. The parking used for the master planning efforts includes 5,940 spaces - East Side and 7,125 spaces -West Side.





EXISTING PARKING STRUCTURES EVALUATION



Maxwell Street Parking Structure



Halsted Street Parking Structure



Harrison Street Parking Structure

In preliminary consultation with Desman Associates Parking Consultants, a preliminary evaluation of the expansion capacity of the existing campus parking structures has been completed. The information listed below comes from Desman's experience with the design of many of these campus structures and through on-going involvement with UIC.

EAST SIDE

Maxwell Street Parking Structure:

- Year Built: 2005
- Levels: 4
 - Existing Spaces: 647 New garage that was designed to be expanded on the north and/or south
- Preliminary estimate of additional spaces: 320

Halsted Street Parking Structure:

- Year Built: 1980
- Levels: 4 (3 up and 1 down) Existing Spaces: 1,513
- Could be expanded vertically up to 2 additional levels
- Preliminary estimate of additional spaces: 750

Harrison Street Parking Structure:

- Year Built: 1970 •
- Levels: 4
 - Existing Spaces: 1,237 Not designed to be expanded vertically or horizontally or for special events use
- Could add onto east end. Need area for special events truck parking (6 semis min.)
- Requires lots of maintenance/restoration and probably has 10-15 years of life before maintenance costs outweigh new structure.
- Preliminary estimate of additional spaces: 520

APPENDIX

EXISTING PARKING STRUCTURES EVALUATION

On the East Side, the existing parking supply outweighs the demand. This presents an opportunity to remove a majority of the surface parking lots and provide for connective green spaces to decrease the urban heat island effect and reduce stormwater management. The parking analysis of the East Side in 2040 projects that over 5,900 spaces will be available with the strategies indicated above. Although there is a demand for Special Events, most of that demand is non-simultaneous with the daytime demand, and therefore does not increase total demand. Additionally, consistent with the Climate Action Plan, UIC will develop incentive programs to reduce the future parking demand associated with the population that drives alone by 30%. A new parking structure on the first several floors would be integrated into the Classroom-Office-Learning Building at Morgan and Taylor Streets.

WEST SIDE

For the West Side, the existing demand is close to the industry standard of "full or maximum" capacity. Although the West Side is part of the larger Illinois Medical District (IMD), parking has been evaluated without sharing parking with other institutions, which also do not have spare capacity. Due to lower pricing at UIC facilities, we are aware that patrons from other neighboring institutions use the UIC parking facilities. Though no data regarding this type of use is available, a programmatic and operational revision by UIC may create some capacity within the existing parking structures. With the removal of the majority of the larger surface parking lots, the initial parking analysis of the West Side in 2040 projects that 5,380 spaces will be available with the strategy indicated above. Even with expansion of existing parking structures, this results in a 750-space deficit that would be accommodated by a new parking facility as part of the intermodal station at Roosevelt Road and Paulina Street. Additional parking can be located south of Roosevelt Road at a new 13th Street Parking Facility.



Paulina Street Parking Structure

Paulina Street Parking Structure:

- Year Built: 1976
- Levels: 6

- Existing Spaces: 1,124
- Was designed to be expanded vertically but excess structural capacity has been used in renovations when 1 1/2" topping slab was added on all levels in the early 1990's.
- Could add flat bay(s) to north or east
- Preliminary estimate of additional spaces: 520



Wood Street Parking Structure

Wood Street Parking Structure:

- Year Built: 1991
- Levels: 5, 7, & 9 (Garage steps in height) Existing Spaces: 2,310
- Was designed to be expanded vertically on two lower sections and to the west
- Preliminary estimate of additional spaces: 1,225

Within the Sustainability and Immediate Impact Projects sections of the Master Plan, ideas are provided on how to transform large areas of existing asphalt areas that contribute to the heat island effect of campus incrementally as parking is concentrated to new structures. Planting trees in bioswales that shade dark colored asphalt will decrease the heat gain and make for a more pleasant pedestrian environment while removing the "parking lot" gateway condition at the edge of campus. The addition of structured parking should come at every major expansion of facilities and needs to be carefully studied relative to the impact on the street network and as part of a comprehensive transportation demand management strategy.