

CHAPTER 7: PARKING

The Uptown Transportation Study examined current and future regional parking adequacy and management, and is focused on seven major institutional partners:

- Cincinnati Children's Hospital Medical Center
- University of Cincinnati
- University Hospital
- Christ Hospital
- Alliance Business Center
- Good Samaritan Hospital
- Cincinnati Zoo and Botanical Garden.

This chapter addresses current and future parking supply and demand, and management, operations and financing of major parking assets in Uptown. It also identifies current and future parking needs, and recommends actions to the Implementation Partners that would position the Uptown area for future growth and development.

7.1. Existing Conditions

7.1.1 Management and Operation

Cincinnati Children's Hospital Medical Center (CCHMC)

Employee Parking

Cincinnati Children's Hospital Medical Center provides parking for employees. Two parking garages are located on the main campus. The South Employee Garage is located at the corner of Burnet Avenue and Albert Sabin Way, while the North Employee Parking Garage is on Erkenbrecher Avenue. Employees also park off-campus at the lot on Jefferson and Ruther, or at the Winslow Garage on Winslow and Oak. Shuttles transport employees from both remote parking areas to the main campus and the Professional Services Building at Vernon Place. Parking is billed to employees at \$10 per pay period (\$260 per year) through payroll deduction.

Patient, Visitor and Volunteer Parking

Free parking is available for CCHMC patients and their families and visitors in the underground Visitor Garage.

Free valet parking is available on the plaza level for oversized vans and for individuals who have children with special needs or who require assistance. A parking pass from the department that they



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are visiting is mailed to patients prior to their visit.

Volunteers, patient families and patient visitors may park for free, but to ensure adequate parking is available for these parking user groups, Cincinnati Children's recently installed a ticket dispenser and gate at the entrance of the visitor parking garage. Parking without a validated ticket costs \$5.00 per hour, up to a maximum of \$25.00 per day.

Patient families and visitors may get their parking tickets validated from 6:00 a.m. to midnight, Monday through Friday, at Welcome Centers, registration desks in all Outpatient Clinics, Radiology, and Same Day Surgery. Volunteers can get their parking tickets validated at Volunteer Services.

Patients admitted to Cincinnati Children's are given two parking passes that can be renewed weekly to make it easier for family members who may be in and out of the garage several times a day. With this pass, parkers do not need to get their parking tickets validated.

This process was implemented to make sure patients and visitors have a convenient place to park. The intent of this policy is to discourage employees and parkers who are not associated with Cincinnati Children's from parking in the Visitor Garage.

University of Cincinnati (UC)

UC Parking Services regulates and maintains parking spaces spread out over the 115 acres that comprise the Clifton Campus, the Medical Center Campus and College of Applied Science Campus. The UC Parking Services mission statement is "to develop and maintain a safe and economical parking infrastructure that continuously adapts to the ever-changing needs of the University community. UC takes pride in providing quality services to our various publics, while operating within the parameters of the Parking Services Rules and Regulations."

The UC parking operation is self-sustaining. UC maintains the facilities in-house and attempts to provide the most economical parking rates within their operational guidelines. UC strives to be one of the premiere university parking services in the country through the appropriate use of parking technology.

A vehicle must display a Parking Services' issued decal to park on campus, or the parker must use a cash parking facility. All students, faculty/staff and employees are eligible to purchase a parking decal. Student decals are issued on a quarterly or academic year basis. Faculty/staff and employee decals are sold on a monthly basis.

Transient parkers are required to pay when exiting a parking facility. Automatic exit cashier units collect parking after-hours when attendants are not on duty. Some short-term metered parking is available at parking meters on both East and West Campus. These parking meters are enforced 24 hours a-day, seven days a week. Resident Student Guest passes are available from the Parking Office. Daily Passes are available for vendors, large trucks, and motor homes. Metro bus passes for Metro Zones A and B are sold in the West Campus Parking Office on the first three and last three

days of the month.

Parking is sold in advance for all home football and basketball games. Parking passes are sold for both single events and an entire season.

The University Hospital (TUH)

Employee Parking

TUH does not charge employees for parking.

Patient, Visitor and Volunteer Parking

The University Hospital offers free or low-cost parking for all patients and visitors. To discourage outside parkers, the public maximum daily rate is \$10.00. This process is intended to make sure patients and visitors have a convenient place to park. The intent of this policy is to discourage employees and people who are not associated with TUH from parking in the Goodman garage. However, patient/visitor parking tickets are discounted. The Goodman Garage charges a maximum of \$2.00 for parking if the ticket is validated or stamped. Tickets may be validated between 6:30 a.m. to 10:30 p.m. Monday through Friday, at the caregiver's office, at the main lobby information desk, and at the Emergency Department front desk.

Visitors and patients are not charged to exit the Goodman Garage during the "closed hours" from 10:30 p.m. to 5:30 a.m., Monday through Thursday, and 10:30 pm to midnight, Friday, parkers if they have a "token note" (visitors and patients, only). A stamped ticket cannot be used to exit the garage during these hours because there is no attendant on duty. Token notes are available at the main lobby information desk and the emergency department front desk. Without a token note during closed hours, the parker will have to pay \$10.00 to the automatic cashier unit to exit the garage. The automatic cashier unit accepts \$1, \$5, \$10 and \$20 bills.

Parking is free on weekends from midnight Friday until 5:30 a.m. Monday, and on holidays recognized by the hospital. A patron does not have to pay or use token notes when exiting the Goodman Garage during "weekend hours" and on hospital-recognized holidays. The exit gate is automatically activated during these hours.

Free parking is available for admitting and discharging at the circular driveway on the far west side of the building. Parkers must obtain a pass from the admitting and discharging area, and display it in the front windshield to avoid enforcement.

The Christ Hospital (Health Alliance)

Employee Parking

TCH does not charge employees for parking.

Patient and Visitor Parking

Free parking is available in the Visitor Garage adjacent to the hospital. Parkers are directed to enter the garage from the Patient Tower entrance on Auburn Avenue. Parkers may park on any level except Level A, which is reserved for physician parking. Patients and visitors can enter the hospital at the Patient Tower entrance to reach patient floors. Patients and visitors can reach the medical



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office building from any level of the garage at entrances located near the Patient tower entrance. Patients are directed to enter the hospital at the courtyard Atrium entrance to reach admitting, testing or surgery.

The Christ Hospital offers valet service to guests, patients and visitors. The hospital engages Parking Solutions to offer valet parking services at \$3.00 per transaction. This service is available from 6:30 a.m. to 6:30 p.m. Cars are not parked after 4 p.m. so all vehicles can be returned by 6:30 p.m. There is no charge for self-service parking.

Alliance Business Center (Health Alliance)

Employee Parking

Physicians and their staff who rent or own office space in either professional building are authorized for garage parking. Access is available to all associates and consultants working at the ABC after 1:30 p.m. or third shift. All visitors, and associates from other Alliance business units conducting business at the ABC, are directed to park in the garage.

The ABC does not charge employees for parking.

Visitor Parking

Free parking is granted to individuals presenting a stamped (validated) parking ticket upon exiting the garage. ABC managers may validate parking tickets for free parking. Numbered stamps, authorizing free parking, are issued to department directors, and senior members of management having offices at the ABC. The Security Department issues the validation stamps. Clergy, volunteers, Senior Care Preferred members, and gift shop patrons may receive free parking.

Anyone parking in the garage without a validated parking ticket is charged for parking based upon length of stay.

Good Samaritan Hospital (TriHealth)

At the time of this writing, the 10-story Dixmyth Tower patient care expansion is under construction, and is expected to be complete in early 2007. This new patient care tower expansion as part of a \$122 million plan to expand or renovate a total of 250,000 square feet of patient care space. It includes both new construction and extensive renovation of 75,000 SF of existing area. This tower will house a new critical care unit, medical-surgical unit, high-tech diagnostic equipment and new treatment areas. Thus, normal parking assignments are disrupted by construction at Good Samaritan Hospital. Emergency Department, Maternity and Breast Center patients continue to park in the Clifton Top Deck parking lot, and outpatients continue to park in the Upper Dixmyth Garage, as before the current project.

Most Visitors and inpatients now park in the Lower Dixmyth Garage. Also, patient drop-off has been moved to Level 1 in the Lower Dixmyth Garage.

The remainder of parking in both parking structures and on the nearby surface lots is intended for employees, but as parking assignments are almost impossible to enforce, cross-parking occurs frequently.



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At the present time, all parking for patients, visitors and employees is free.

It is not known if paid parking will return following the completion of the ongoing construction projects.

Cincinnati Zoo and Botanical Gardens

Parking remains at \$6.50 per private vehicle. School buses are parked for free. Premium or Gold membership may include free parking. Because the park remains open during inclement weather, the Zoo offers no refunds or rain checks.

The Zoo does not charge employees for parking.

Parking peaks are noted to occur at the following times:

- Spring peak is generated by school trips that may require the parking of 50 to 100 school buses in one day plus parents vehicles.
- Summer peak occurs from Memorial Day to mid-August, typically on Thursdays through Sundays.
- Winter peak occurs during the Festival of Lights, which is held from Thanksgiving thru January 1st. This is a highly publicized and highly attended event, with approximately 22,000 visitors at peak.

The University of Cincinnati (UC) is perceived by the Zoo as a natural parking partner in the summer. The Zoo tried a local shuttle pilot program with UC. Road congestion impeded the shuttle schedule in the trial run.

7.1.2 Parking Supply

An inventory of on-street and off-street parking supply in Uptown is described as follows.

On-Street Metered Parking

Metered parking is available in Uptown with 30-minute, one-hour, two-hour, and four-hour. The predominant fee is \$0.25 per hour with a \$2.00 maximum. The following table presents the location of parking meters in Uptown. There are approximately 700 metered spaces in Uptown.



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**Table 7-1
Parking Meter Locations¹
Area – Clifton Heights to UC Campus**

Street	From/To	# of Meters
Calhoun	Vine to Scioto	11
Scioto	South of Calhoun	5
Ohio	South of Calhoun	7
Calhoun	Ohio to Hartshorn	10
Hartshorn	South of Calhoun	8
Calhoun	Hartshorn to West Clifton	14
West Clifton	Calhoun to McMillan	9
Calhoun	West Clifton to Clifton	12
Clifton	McMillan to Straight	11
Straight	Clifton to University Court	25
University Court	Straight to McMillan	5
Clifton	Straight to M.L. King	53
M.L. King	Clifton to Campus	46
Marshall	South of Riddle	2
Total		218

Area – Clifton, Good Samaritan Hospital, Ludlow Retail Area

Street	From/To	# of Meters
Clifton	M.L. King to Dixmyth	71
Terrace	West of Clifton	5
Howell	West of Clifton	9
Clifton	Howell to Ludlow	10
Whitfield	East of Ludlow	5
Ludlow	Whitfield to Middleton	8
Middleton	North of Ludlow	3
Ludlow	Middleton to Ormond	6
Ormond	Ludlow to Howell	9
Ludlow	Ormond to Telford	13
Telford	North of Ludlow	12
Ludlow	Telford to Clifton	10
Hosea	East of Clifton	8
Total		169

¹ Source: City of Cincinnati Parking Facilities Department.



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Table 7-1 (Continued)

Area – Ludlow to Jefferson to Corryville

Street	From/To	# of Meters
Ludlow	Clifton to West Nixon	43
West Nixon	West of Ludlow	5
Jefferson	ML King to Corry	28
Corry	Jefferson to Euclid	20
Vine	Corry to West Charlton	39
Vine	West Charlton to Daniels	33
Vine	Daniels to University	5
Vine	North of University	3
University	East of Vine	3
University	Vine to Jefferson	6
Daniels	Jefferson to Vine	8
Daniels	East of Vine	5
East Charlton	East of Vine	5
West Charlton	Vine to Jefferson	10
Total		213

Area – Burnet and MLK

Street	From/To	# of Meters
Reading	Union to Bowman Terrace	3
Bowman Terrace	East of Reading	2
Burnet	M.L. King to University	2
University	West of Highland	3
Highland	University to M.L. King	12
Highland	M.L. King to Piedmont	3
Piedmont	Highland to Burnet	9
Goodman	Highland to Burnet	6
Burnet	Goodman to Albert Sabin	7
Total		47

Area – Children's Hospital

Street	From/To	# of Meters
Albert Sabin	Burnet to Eden	10
Burnet	Albert Sabin to Erkenbrecker	3
Erkenbrecker	East of Burnet	2
Burnet	Erkenbrecker to Rockdale	25
Rockdale	East of Burnet	2
Burnet	Rockdale to Forest	5
Vine	Forest to Ehrman	6
Total		53

Off-Street Parking – Partner Institutions

The following tables present the current parking space inventory for each partner institution in Uptown, which totals over 28,000 parking spaces. This information has been provided by the institutions. These tables also present the effective parking supply, which is calculated as the number of available parking spaces, less a cushion that is judged as necessary to reduce the time spent by parking patrons looking for the last available spaces and to allow for the dynamics of vehicles moving in and out of spaces (parking friction). It is also needed to provide for factors such as improperly parked vehicles, minor construction, and temporary storage. An average effective supply factor of 97 percent is applied. This represents an oversold or overcrowded parking condition.

Table 7-2: Parking Inventory and Effective Supply – Children’s Hospital Main Campus

Facility	Number of Spaces	Effective Supply ²
Visitor Garage (Below Grade)	820	795
Central Employee Garage	413	400
Central Physicians Garage	283	274
South Employee Garage	822	797
North Employee Garage	1,163	1,128
North Employee Garage ER	47	45
Eden Garage (UC Garage)	200	194
Large Physician Lot	30	29
Small Physician Lot	12	11
Total Main Campus	3,790	3,673

Shuttle Lots

Facility	Number of Spaces	Effective Supply ²
Jefferson Shuttle Lot (Leased from Zoo)	191	185
Dury Lot (Leased from Zoo)	226	219
Total Shuttle Lots	417	417

² Effective Supply = Number of Spaces x 97 percent.



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Table 7-2 (Continued)

On-Street

Facility	Number of Spaces	Effective Supply ²
Erkenbrecher North	41	39
Erkenbrecher South	46	44
Catherine Street North	24	23
Catherine Street South	24	23
Erkenbrecher North	24	23
Erkenbrecher South	24	23
Burnet East	0	0
Burnet West	8	7
Burnet East	18	17
Burnet West	21	20
Burnet East	9	8
Burnet West	0	0
Total On-Street	239	227
Total, Main Campus	4,446	4,304

Children's Oak Campus

Facility	Number of Spaces	Effective Supply ²
Winslow Garage ³	701	679
Winslow Lot	113	109
May & Oak Lot	34	32
Kindercare Lot	21	20
2900 Vernon Place Child Care Lot	29	28
Reading Surface Lot (Leased from Tri-Health)	129	125
Vernon Place Main Lot (University & Reading)	24	23
Vernon Place Main Lot/Nested	138	133
Total Structured, Children's Oak Campus	1,189	1,149

Shuttle Lots

Facility	Number of Spaces	Effective Supply ²
660 Lincoln Avenue (Across I-71 from Oak)	358	347
Total Shuttle Lot	358	347

³ Total number of spaces is 901, with 200 leased and excluded from figures shown.



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Table 7-2 (Continued)

On-Street

Facility	Number of Spaces	Effective Supply ²
Winslow	51	49
Linton	25	23
Vernon Place	22	20
Total On-Street	98	92
Total, Children's Oak Campus	1,645	1,588
Total, CCHMC	6,091	5,892

Table 7-3

Parking Inventory and Effective Supply – University of Cincinnati^{4, 5}

UC West

Facility	Number of Spaces	Effective Supply ²
Corry Garage	592	574
Calhoun Garage (New)	470	455
CCM Garage	403	390
Scioto/Jefferson (University) Garage	1,154	1,119
CBA/Lindner (Campus Green) Garage	1,622	1,573
Langsam Library (Woodside) Garage	826	801
Brodie (Clifton Court) Garage (including DAAP)	482	467
Total, UC West	5,549	5,379

UC East

Facility	Number of Spaces	Effective Supply ²
Eden Avenue Garage, levels 1-7 (including Eden S 1-7)	2,128	2,064
Eden Avenue Garage, level 8	334	323
Kingsgate-University Hall Garage	549	532
Goodman Garage (of 892)	125	121
Total, UC East	3,136	3,040

⁴ The UC web site states that UC Parking Services manages approximately 12,000 parking spaces located throughout ten garages and 17 lots. Some of these spaces, while managed by UC, are included in the inventory counts of other institutions in Uptown.

⁵ On-street parking is not considered to be a significant portion of institution's parking supply.



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**Table 7-3 (Continued)
Surface and Other Parking**

Facility	Number of Spaces	Effective Supply ²
Campus Drive	39	37
Central Receiving	27	26
College Court	35	33
Corbet Drive	1	1
Corry North (across from Edwards)	89	86
Lot 13	233	226
Lot 16	259	251
Lot 22 (Piedmont Lot)	177	171
Faculty Club (across from CBA)	51	49
OCAS A	12	11
OCAS B	38	36
OCAS C	193	187
Power Plant (Central Utility Plant)	16	15
Reading Lot (CSB)	58	56
Sanders Lot & Ramp	87	84
Stadium Drive	35	33
Winslow (CSB)	56	54
Other – HC, meter and University vehicle spaces (estimated)	100	97
Total, Surface and Other Parking	1,506	1,453

Facility	Number of Spaces	Effective Supply ²
Burnett Woods (80% UC)	218	218
On Street (80% UC)	426	426
Total, UC	10,836	10,517

**Table 7-4
Parking Inventory and Effective Supply – The University Hospital^{5,6}**

Facility	Number of Spaces	Effective Supply ²
Holmes Patient/Visitor Lot #15	111	107
Goodman Garage (Staff and Patient/Visitor)	767	743
North Garage (Staff Only)	1,300	1,261
Eden Avenue Garage	228	221
On-Street	47	45
Total	2,406	2,377

⁶ Source: University Hospital Parking Services



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Table 7-5

Parking Inventory and Effective Supply – The Christ Hospital^{5,7}

Facility	Number of Spaces	Effective Supply ²
Valet and Surface	46	44
Visitor’s Garage	1,210	1,173
Employee Garage	1,800	1,746
Total	3,056	2,963

Table 7-6

ABC Parking Inventory and Effective Supply^{5,8}

Facility	Number of Spaces	Effective Supply ²
ABC Parking Garage	724	702
Lot #1 (Employee)	531	515
Lot #3 (Lab One lot)	127	123
Lot #4 (Employee lot)	123	119
Lot #5 (Employee Lot)	187	181
North Lot (Director & above)	125	121
Short Term (Executive lot)	16	15
Total	1,833	1,776

Table 7-7

Parking Inventory and Effective Supply – Good Samaritan Hospital^{5,9}

Good Samaritan Hospital

Facility	Number of Spaces	Effective Supply ²
Upper Dixmyth Garage (non-MOB)	600	582
MOB - Upper Dixmyth Garage	200	194
Lower Dixmyth (Employee) Garage	918	890
Clifton Top Deck Lot (ER/Maternity)	150	145
Clifton Structure (Below Grade)	242	234
Whitfield Apt. Lot	55	53
Hebrew Union College	193	187
Lots 1 & 2 + On-Street	160	155
Total Main Campus	2,518	2,440

⁷ Source: Parking Services.

⁸ Source: ABC Security Department.

⁹ Source: Good Samaritan Parking

Table 7-7 (Continued)
TriHealth's Bethesda Oak Campus

Facility	Number of Spaces	Effective Supply
Winslow Garage		
June Street Garage (81 Physician nest)		
East Visitor/HC Parking		
Total Bethesda Oak Campus	598	579
Total, Good Samaritan Hospital	3,116	3,019

Table 7-8
Zoo Parking Inventory and Effective Supply^{5,10}

Facility	Weekday Total Spaces	Weekday Effective Supply ²	Weekend Total Spaces	Weekend Effective Supply ²
Main Lot	797	757	797	757
Dury Lot	0	0	226	214
Uptown Crossing/Vine Street Lot (Leased to VA)	0	0	300	285
Uptown Crossing/Vine Street Lot (Paved)	39	37	39	37
Uptown Crossing/Vine Street Lot (Unpaved)	0	0	0	0
3332 Vine Street at Louis Street (Leased to VA)	0	0	62	58
Jefferson Lot (Leased to CCHMC)	0	0	191	181
Total	836	794	1,615	1,532

7.1.3 Parking Demand

Methodology

The methodology of the parking supply/demand portion of this study consists of the following:

- Reviewing and assembling background information and data provided by each institution
- Obtaining parking space supply data, parking occupancy counts and other parking data
- Analyzing the current parking occupancy
- Developing a model of the existing parking system
- Utilizing the model, user group trend assumptions and forecasts, and development plans to develop estimates of future parking supply and demand

¹⁰ Source: Cincinnati Zoo and Walker Parking Consultants.



The primary objective of the parking supply and demand task is to quantify the parking surplus or deficit that exists now and can reasonably be projected over the future. When the parking supply exceeds the parking demand, a surplus of parking is said to be present. However, a deficit of parking exists when the parking demand exceeds the parking supply.

The conditions upon which a parking system should be designed must be defined. Some organizations intend to provide adequate parking for every potential parking facility user every day of the year. Consequently, a substantial number of parking spaces lie vacant throughout much of the year. The benefit of such a parking system is that parkers, whether employees, students, or visitors, are never turned away because of lack of adequate parking.

As is more commonly the case, most organizations would rather have fewer of their assets utilized as parking. These organizations plan for a parking system that meets the needs of its parking patrons most days of the year, but less than every day of the year. The disadvantage of this type of parking system is that from time to time, the parking demand may exceed the effective parking supply.

For this study, parking occupancy data were collected for each subject institution's controlled parking facilities on March 2005.

Parking demand is estimated by summarizing the survey data collected as parking demand ratios. Parking demand ratios reflect the number of parking spaces required per user group (e.g. resident student, commuter student, faculty and staff), estimated as follows:

- Parking demand is approximated by separating the total observed parked vehicles into user group for each parking facility
- A parking demand ratio is determined for each user group population from the observed parking demand and parking user group statistics.

An estimate of future demand is, therefore, based on the forecasts for various user groups multiplied by derived parking demand ratios.

Peak Parking Demand

In March 2005, parking occupancy data for each parking facility associated with each of the seven institutions in this study were collected. These counts were supplemented with field observations of parking on campus and along neighborhood streets collected on March 8, 2005 deemed to be a reasonable representative of a typically busy survey period. A summary of the estimated peak parking demand for each institution's parking system is shown in Table 7-9.

Table 7-9 indicates that with the exception of the Alliance Business Center, the institutions as a whole would have to consider constructing additional parking facilities in order to accommodate additional parking demand due to future growth. The following section presents the anticipated parking supply and demand for year 2015.



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**Table 7-9
Summary of 2005 Parking Supply and Demand**

Institution	Total Supply	Effective Supply	Parking Demand	Surplus (Deficit)	Utilization
Children's Hospital	6,091	5,892	5,560	332	94%
Patient/Visitor	1,111	1,075	1,060	15	99%
Physician	325	314	314	0	100%
Employee	3,543	3,433	3,397	36	99%
Shuttle	775	751	470	281	63%
On-Street	337	319	319	0	100%
University of Cincinnati	10,836	10,517	9,588	929	91%
UC West Structured	5,549	5,379	4,788	592	89%
UC East Structured	3,136	3,040	2,827	213	93%
Surface and Shuttle	1,506	1,453	1,328	125	91%
On-Street	645	645	645	0	100%
The Christ Hospital	3,056	2,963	2,812	151	95%
Valet and Surface	46	44	45	(1)	102%
Visitors	1,210	1,173	1,089	84	93%
Employees	1,800	1,746	1,678	68	96%
Alliance Business Center	1,833	1,776	1,231	545	69%
ABC Garage	724	702	408	294	58%
Lot #1 (Employee)	531	515	254	261	49%
Lot #3 (Lab One)	127	123	127	(4)	103%
Lot #4 (Employee)	123	119	118	1	99%
Lot #5 (Employee)	187	181	187	(6)	103%
North Lot	125	121	121	0	100%
Short-Term	16	15	16	(1)	107%
Good Samaritan	3,116	3,019	2,818	201	93%
Hospital	2,518	2,440	2,234	206	92%
Bethesda Oak Campus	598	579	584	(5)	101%
Zoo – Weekday	836	794	795	(1)	100%
Zoo – Weekend	1,615	1,532	1,534	(2)	100%
Weekday Total, All Institutions	28,174	27,338	25,114	2,224	92%

7.2 Issues and Needs

7.2.1 Uptown Neighborhood Parking

A significant number of UC students and employees park on surrounding neighborhood streets. Based on observations and some sample counts, a peak of up to 80 percent of these spaces are judged to be occupied during daytime workweek hours by UC-related parkers.

7.2.2 Future Parking Demand

Children's Hospital

Children's Hospital is increasing its research space by about 70 percent with the construction of a 12-story, \$125 million building that will add 415,000 square feet of research space. This building, identified as the New Research Foundation Project – Phase-S (240 Sabin Way) is scheduled for completion in 2007. This new tower is being constructed on the site of the first building opened in 1926 on the main campus. It will house laboratories, other special research facilities, clinical faculty offices and the Center for Computational Medicine, which was funded last fall with a grant of \$25.2 million from the state of Ohio's Third Frontier Project. When the building is completed, Cincinnati Children's will have approximately one million square feet of research space on its main campus. Table 7-10 presents the 2015 parking supply and demand associated with this development and general growth of the facility.

Table 7-10
2015 Peak Parking Demand and Supply – Children's Hospital

Demand – Population Growth	7,310
Demand – New Development	934
Total 2015 Demand	8,244
Existing Parking Supply	6,091
Effective Supply Factor	0.95
Effective Parking Supply	5,786
2015 Surplus (Deficit)	(2,458)

Additional parking demand due to increase in hospital population and the new development (faculty, staff, physicians, patients and visitors) is forecasted by applying a compounded rate of increase. This number is then multiplied by the parking demand ratio developed for each user group. Thus total parking demand is anticipated to increase to 8,244 by year 2015.

To determine the adequacy of parking facilities in 2015, the forecasted total 2015 parking demand is compared to the effective parking supply. In estimating the future effective parking supply, an average effective supply factor of 95 percent is applied instead of 97 percent to reflect the desire to reduce existing oversold or overcrowded parking conditions to a more desirable level.

In summary, Children's Hospital would need to consider developing 2,500 additional parking spaces to meet 2015 peak parking demand.

University of Cincinnati

UC 2000 Master Plan

According to UC's 2000 Master Plan, as the campus migrates to a green pedestrian environment, it is proposed that interior roads and surface parking will be largely eliminated. Automobile traffic will enter the campuses only to access parking structures. Several small-scale lots within campus will provide additional accessible parking and visitor parking. The operations and management of visitor parking and access may change as a result, as guards will no longer be needed at campus entrances, and interior roads will lead only to parking structures and visitor lots, which will be patrolled for safety and parking access. Service and emergency vehicle access will be via interior lanes that appear to be pedestrian ways.

The Scioto-Jefferson parking structure is proposed within the master plan to be reconstructed to accommodate lower-rise housing on its roof. No date is recommended for this improvement. Structured parking is proposed as part of both the Calhoun mixed-use complex, and Law School Housing on the southern edge of campus. Additional structured parking is proposed off-campus along Clifton Avenue.

Medical Sciences Building – East Campus

New construction to expand the MSB began in spring 2004 with the completed demolition of the Medical Sciences Building garage. The expansion includes a six floor, 239,000 square-foot lab building to house the Center for Academic Research Excellence (CARE) where the garage once stood to the west of the main building. The MSB renovation and expansion includes learning and research space, classrooms, teaching labs, administrative areas and student support facilities as well as an open-space plaza, Eden Quadrangle, at Eden Avenue and Sabin Way. The CARE building is set for completion by the end of 2007.

Richard E. Lindner Varsity Village

The Marge Schott baseball stadium was completed in May 2004. Other sports facilities and fields are set for completion in December 2005. The \$109 million Richard E. Lindner Varsity Village project, which broke ground in the spring of 2003, consists of a complex of athletic fields and sports facilities that includes a new 3,000-seat baseball stadium at the corner of Corry Blvd. and Scioto Street. The centerpiece for Varsity Village is the 236,000 square-foot Richard E. Lindner Athletic Center of eight levels (three below ground and five above) located between Shoemaker Center to the east and Nippert Stadium to the west. The new center provides centralized administrative and coaching offices for all intercollegiate sports, reception and meeting spaces for visitors, ticket office, locker facilities for all sports, a training/sports medicine/rehabilitation suite, new strength and conditioning facilities, and a new practice gymnasium for men's and women's basketball and

volleyball. The athletic center also houses a new faculty dining facility, the relocated student health center, a 330-seat auditorium, an Academic Services Center, and a university and sports museum.

In addition to the baseball stadium and athletic center, Varsity Village will include a new 150-space, underground parking garage, a six-court tennis center atop the garage, renovations to the existing Shoemaker Center and renovations to the existing Armory Fieldhouse.

Calhoun Street Garage, Retail and Housing

The garage was completed in spring 2005. Housing and retail atop the garage is set for completion in fall 2005. The \$40 million Calhoun Street garage, located between Calhoun Hall and Dennis Street, will provide over 1,000 parking spaces. While the garage itself is a university project, housing and retail atop the garage will be developed by the Clifton Heights Community Urban Redevelopment Corporation (CHCURC) in partnership with Higgins Development Partners of Chicago. Located atop the garage are 37,500 square-feet of retail space and the 323-unit University Park Apartments student housing (744 beds). Due to construction, traffic along Calhoun Street, in the construction zone, is limited to the two left-most lanes (on the street's south side). In that zone, in the area around Dennis Street, there is no street parking available on the south side of Calhoun. CHCURC and its partners are also developing a project of retail, housing and a park on the south side of Calhoun Street. Stratford Heights, the second of UC's two new affiliated housing locations, will house 710 residents in suite-style housing across from McMicken Hall on Clifton Avenue. Each individual house and the 152-bed building are fully furnished, plus a fitness center, convenience store, and on-site food service.

Student Recreation Center

The 335,000 square-foot Student Recreational Center will include housing totaling 227 beds and is set for completion in fall 2005. Remaining aspects of project are set for completion in spring 2006. Most of the building construction associated with UC's developing "MainStreet"—the University Pavilion, Tangeman University Center and Joseph A. Steger Student Life Center along with new residence halls—is complete. MainStreet also includes green-space additions and improvements that serve as links between and among the campus' buildings.

UC Events

In addition to day-to-day user-group parking demand, there are special events that occur on the campus that impact parking demand. Although these events tend to occur regularly, they are not daily occurrences, and include meetings, symposiums, theater productions, sporting events, and others.

Event parking demand depends on the time of the event and the size of event that the parking system is designed to accommodate. This Study assumes an attended event of 330 persons at the Varsity Village Auditorium as the typical design event for which adequate visitor parking must be supplied. Based on research conducted for this Study on event parking, the parking demand generated by 330 event attendees is estimated at 1.8 persons per vehicle per event. This calculation indicates the need for approximately 183 additional visitor parking spaces. For larger events, special parking management strategies would be employed.



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Based on these new developments and general growth of UC, Table 7-11 presents the anticipated 2015 parking demand.

Table 7-11
2015 Peak Parking Demand – University of Cincinnati

Demand Generator	Parking Demand
Faculty/Staff	4,273
Resident Students	2,454
Commuter Students	4,256
Visitor	748
Subtotal	11,730
New Development	807
New Events	183
Subtotal	990
Total 2015 Parking Demand	12,720

Table 7-12 presents the associated change in parking supply for UC. The result of these changes is a net increase of 1,047 parking spaces. The resultant parking needs for 2015 are presented in Table 7-13, equivalent to approximately 1,431 new parking spaces.

Table 7-12
Inventory Changes - University of Cincinnati¹¹

Facility	Existing	Future	Difference
Calhoun Garage (New)	470	1,018	548
Campus Drive	39	0	(39)
Corry North (across from Edwards)	89	0	(89)
Faculty Club (across from CBA)	51	0	(51)
Sanders Lot & Ramp	87	50	(37)
Stadium Drive	35	0	(35)
Stratford Heights Garage & Lots	0	600	600
Varsity Village Garage	0	150	150
Total	771	1,818	1,047

¹¹ Source: UC Parking Services.

Table 7-13

2015 Peak Parking Adequacy – University of Cincinnati

2005 Parking Space Inventory	10,836
Net Parking Space Gain (Loss)	1,047
Total 2015 Inventory	11,883
Effective Supply Factor	0.95
2015 Parking Effective Supply	11,289
Estimated 2015 Parking Demand	12,720
2015 Parking Surplus (Deficit)	(1,431)

The University Hospital

Increase in TUH’s parking demand in 2015 is attributable to growth in the number of patients, visitors, faculty and staff, as presented in Table 7-14.

Table 7-14

2015 Peak Parking Supply/Demand – The University Hospital

Demand Generator	Parking Demand
Physicians and Medical Staff	313
Employees	1,459
Inpatients/Visitors	134
Outpatients	781
ED Patients	90
Total 2015 Parking Demand	2,777
2005 Parking Space Inventory	2,406
Effective Supply Factor	0.95
2015 Parking Effective Supply	2,286
2015 Parking Surplus (Deficit)	(491)

The Christ Hospital

Increase in The Christ Hospital’s parking demand in 2015 is attributable to growth in the number of patients, visitors, faculty and staff, as presented in Table 7-15.



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Table 7-15

2015 Peak Demand Forecast – The Christ Hospital

User Group	Parking Demand
Physicians and Medical Staff	512
Employees	2,134
Inpatient/Visitors	115
Outpatients	434
ED Patients	39
Total 2015 Parking Demand	3,233
2005 Parking Space Inventory	3,056
Effective Supply Factor	0.95
2015 Parking Effective Supply	2,903
2015 Parking Surplus (Deficit)	(330)

Alliance Business Center

Year 2015 parking demand is forecasted by multiplying the previously developed occupancy ratio times the stabilized occupancy (95 percent) for the buildings. The impact of these calculations is shown in the following table.

Table 7-16

2015 Peak Supply/Demand Forecast – Alliance Business Center

	Alliance Business Center	Medical Office Buildings	Total
Gross SF Building Area	1,000,000	75,000	1,021,250
Gross SF x 95% Occupancy	950,000	71,250	
Building Population per 1,000 Occupied SF	1.55	4.18	1,021,250
Potential Building Population x Parking Demand Ratio	1,473	298	1,770 0.74
Parking Demand (Spaces)			1,312
+ Design Event (300 @ 1.5 passengers per vehicle)	200	0	200
Peak Parking Demand (Spaces)			1,512
2005 Parking Space Inventory			1,833
Effective Supply Factor			0.95
2015 Parking Effective Supply			1,741
Estimated 2015 Parking Demand			1,512
2015 Parking Surplus (Deficit)			(229)

Thus, assuming that the project will continue to be occupied in the same general manner as it is now, the total parking demand is anticipated to increase to 1,512 by year 2015.

Good Samaritan Hospital

Good Samaritan broke ground in 2003 on the new patient care tower expansion as part of a \$122 million plan to expand or renovate a total of 250,000 square feet of patient care space. The new 10-story Dixmyth Tower patient care expansion, which is expected to be complete in early 2007, will

house a new critical care unit, medical-surgical unit, high-tech diagnostic equipment and new treatment areas. The major changes at Good Samaritan Hospital will include both new construction and extensive renovation.

The tower will add 175,000 square feet of clinical space to the campus. The project also includes renovation of 75,000 square feet of existing space, including Cardiology, Pulmonology, Vascular, OB and several other departments, a new Clifton lobby, and an expansion of the Emergency Department.

Since the fall of 2001, inpatient admissions at Good Samaritan Hospital have grown at a rate faster than that of the local market as a whole. This project adds 15 percent more medical and surgical beds, which will enable Good Samaritan Hospital to serve 2,800 more patients per year. Nearly 20 percent more operating rooms means that 4,000 more procedures a year can be performed without making patients wait for an operating room to open up. Nearly 60 percent more cardiac intervention suites will be available to meet the needs of the aging Baby Boomers, for whom cardiac problems are the number one cause of death. There will also be new critical care space, renovated cardiac services, expanded dialysis unit, larger emergency department for the 40,000 patients who squeeze into the “crowded” department.

The resulting parking demand from these new developments is presented as follows:

Table 7-17
2015 Peak Demand Forecast – Good Samaritan Hospital

User Group	Parking Demand
Physicians	139
Employees	1,864
Inpatient/Visitors	114
Outpatients	235
ED Patients	48
MOB Staff	127
MOB Patients	438
Construction/Service Vehicles	10
Subtotal	2,975
New Dixmyth Tower (250,000 GSF x 70%)	473
New Design Event	56
Total 2015 Parking Demand	3,503

Thus, including the Dixmyth Tower and a design event of 100 attendees, total parking demand is anticipated to increase to 3,503 by year 2015.

Changes in the parking supply are summarized in the following table. The result of these changes is a net increase of 374 parking spaces. Table 7-19 presents a summary of the 2015 parking needs for GSH.



**Table 7-18
Parking Inventory Changes – Good Samaritan Hospital**

Facility	Existing	Future	Difference
Clifton Structure	242	450	208
Hebrew Union College	193	359	166
Total	435	809	374

**Table 7-19
2015 Peak Parking Adequacy – Good Samaritan Hospital**

2005 Parking Space Inventory	3,116
Net Parking Space Gain (Loss)	374
Total Inventory	3,490
Effective Supply Factor	0.95
<i>2015 Parking Effective Supply</i>	<i>3,316</i>
<i>Estimated 2015 Parking Demand</i>	<i>3,503</i>
2015 Parking Surplus (Deficit)	(187)

Cincinnati Zoo and Botanical Gardens

The Zoo’s New Education Center, opened Fall 2006, and eliminated approximately 150 parking spaces.

Construction of the planned African Plains Exhibit will displace approximately 350 parking spaces.

The Zoo has a full-time program for high school juniors and seniors on site. As part of this program, the planned development of a community area could displace the remainder of on-site parking in the back lot

The Zoo is shifting the Main Entrance to what was the original entrance at the corner of Vine Street and Erkenbrecher Avenue. Future plans include improving the Uptown Crossing/Vine Street redevelopment area for approximately 1,100 parking spaces. So far, the Zoo has paved a portion of the Uptown Crossing redevelopment area for 300 spaces that are currently leased to the VA Hospital for employee parking, and a small 39-space parking area was completed at the base of the pedestrian bridgeway site to the Zoo. The remainder of the area is being improved by the Zoo for surface parking.

To connect new parking to the new entrance and reduce pedestrian/vehicle conflict, a new pedestrian bridge over Vine Street is planned to be constructed. The change to the new entrance will include the construction of a new entry complex with a new gift shop, visitor services, food, restrooms, first aid station, stroller rental and entry exhibits.

Future plans to handle members on site and visitors at Vine Street: Approximately 50,000 families are members and will be directed to use the Dury Avenue lot. Visitors will be accommodated at the Vine Street Entrance.

The following table is a projection of the 2015 parking inventory.

Table 7-20
2015 Parking Inventory and Effective Supply – Cincinnati Zoo

Facility	Weekday Supply		Weekend Supply	
	Total	Effective	Total	Effective
Safari Camp Lot (NWC of Zoo site)	350	332	350	332
Art & Education Center	75	71	75	71
Dury Lot	0	0	226	214
Uptown Crossing/Vine Lot (VA)	0	0	300	285
Uptown Crossing/Vine Lot (Remainder)	800	760	800	760
New Lot at Vine & Erkenbrecher	75	71	75	71
3332 Vine at Louis (Leased to VA)	0	0	62	58
Jefferson Lot (leased to CCHMC)	0	0	0	0
Total Zoo Parking Inventory	1,300	1,234	1,888	1,791

Table 7-21
2015 Weekday Parking Adequacy – Cincinnati Zoo

	Weekday	Weekend
2005 Spaces	836	1,615
2005 Attendance		1,071,000
Ratio of Spaces/Attendance		0.0015079
x Target 2015 Attendance		1,300,000
Target Supply	1,446	1,960
2015 Effective Supply	1,234	1,791
2015 Parking Adequacy	(212)	(169)
Displacement of Safari Camp Lot	(350)	(350)
Future Projected Demand	(300)	(300)
Forecasted 2015 Deficit	(862)	(819)

Summary of 2015 Parking Needs

Table 7-22 as follows presents a summary of 2015 parking needs in the Uptown area.

**Table 7-22
Summary of 2015 Parking Supply and Demand**

Institution	Total Supply	Effective Supply	Parking Demand	Surplus (Deficit)	Utilization
Children’s Hospital	6,091	5,786	8,244	(2,458)	142%
University of Cincinnati	11,883	11,289	12,720	(1,431)	113%
The University Hospital	2,406	2,286	2,777	(491)	121%
The Christ Hospital	3,056	2,903	3,233	(330)	111%
Alliance Business Center	1,833	1,741	1,512	229	87%
Good Samaritan	3,490	3,316	3,503	(187)	106%
Zoo – Weekday	1,300	1,234	1,446	(862)	
Zoo – Weekend	1,888	1,791	1,960	(819)	

The preceding table indicates a need for approximately 5,800 new parking spaces in year 2015. Recommendations for accommodating this additional parking demand are presented later in this report.

7.3 Potential Solutions

7.3.1 Neighborhood Parking Permit Programs

Currently, most parking operations are maintained by each Uptown institution, with the aim of benefiting that individual institution. Many institutions separate transportation and parking functions from other infrastructure maintenance, planning, or property management departments by creating an entity devoted solely to parking issues. The primary advantage is to emphasize the importance of parking issues to employees and patrons, and to efficiently allocate resources. This results in fewer conflicts of interest and focus on issues, with fewer layers between the parking management and executive management (chief executive officer and/or the chief operating officer). A frequent and defining goal of parking management is that it should generate sufficient revenue to cover its operating expenses, debt service, reserve funds and sinking funds for maintenance and replacement.

As part of this Study, neighborhood permit programs from U.S. cities were examined to determine their applicability to Uptown. The following is the list of cities with neighborhood permit programs that were considered in this Study:

- Boston, MA
- Chicago, IL
- Denver, CO
- Los Angeles, CA
- Miami Beach, FL
- Philadelphia, PA
- Portland, OR
- San Diego, CA
- San Francisco, CA
- San Jose, CA
- Seattle, WA
- Washington, D.C.

Residential parking programs have been established in these cities to make more parking spaces available to residents and to discourage long-term parking by people who do not live in the respective neighborhoods. Residential parking programs are needed to restrict access by non-

residents to street parking. The presence of non-resident vehicles parked in neighborhoods may increase noise and air pollution and create unsafe traffic conditions. Residential parking zones seem to be most commonly found in university communities, tourist and resort communities such as beach and ski towns, locations near major transit hubs such as ferries or other mass transit stops, and residential areas near major employers, including businesses or major institutions.

7.3.2 Parking Benefit Districts

The newest innovation in neighborhood parking programs is to typify them as "parking benefit districts." This is similar to residential permit district, but the revenue from the parking fees flow directly back to the neighborhood in the form of streetscape enhancements, lighting enhancements, street and sidewalk repair. This serves to reinforce the concept that permit revenue should be returned to the neighborhood in tangible and highly visible ways. The following is a list of U.S. cities with parking benefit districts.

- Aspen, CO
- Boulder, CO
- Santa Cruz, CA
- Tucson, AZ

7.3.3 Parking Management Alternatives

Currently, most parking operations are maintained by each Uptown institution, with the aim of benefiting that individual institution. Many institutions separate transportation and parking functions from other infrastructure maintenance, planning, or property management departments by creating an entity devoted solely to parking issues. The primary advantage is to emphasize the importance of parking issues to employees and patrons, and to efficiently allocate resources. This results in fewer conflicts of interest and focus on issues, with fewer layers between the parking management and executive management (chief executive officer, chief operating officer). A frequent and defining goal of parking management is that it should generate sufficient revenue to cover its operating expenses, debt service, reserve funds and sinking funds for maintenance and replacement. If the Uptown IP or Consortium members proceed with the consolidation of parking operations, the following organizational options are examined as the most likely models.

The Uptown Transportation Study examined the applicability of the following organizational options for parking facility owners and operators:

- City Parking Department
- Business Improvement District
- Non-Profit Organization
- Parking Authority
- Joint Venture or Partnership.

City Parking Department

Extending the role of the City of Cincinnati to contract manage parking operations is an alternative. Municipalities typically manage parking operations through an auxiliary enterprise fund. An



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auxiliary enterprise fund is separate from the municipality's general fund. An auxiliary enterprise fund preserves parking revenues, establishes a parking operating budget, and segregates parking expenses. These operating budgets include a stream of revenues collected from a variety of sources, including the following:

- Monthly leases or permit fees
- Transient revenues
- Parking meter revenues
- Parking violation revenues
- Reserved parking spaces
- Transferred funds

An enterprise fund provides a financial structure that consolidates those costs and benefits that it controls, which in turn, defines responsibility and accountability. By definition, an auxiliary enterprise fund should be self-sustaining. This means that the auxiliary enterprise fund must generate a revenue stream that is sufficient to cover ongoing operating expenses and outstanding debt service obligations to ensure the solvency of the auxiliary enterprise. Deficits must be guaranteed by transfers. Excess revenues may be used to fund parking project capital improvements.

Budgeted expenses include the operating costs associated with ongoing parking operations (labor costs for maintenance, security, enforcement, revenue collection, management and administration) and utilities, supplies and equipment.

An auxiliary enterprise fund may be administered through the existing municipal governmental structure. As such, an enterprise fund imposes some discipline over the overall activity. However, the auxiliary enterprise fund also may be managed through the creation of a new parking department or parking authority. The role of such a city parking department or parking authority varies from that of parking asset manager who delegates or contracts management of actual day to day parking operations, to that of actually operating the parking system in addition to the role of asset manager.

Examples

There are many parking system auxiliary enterprise funds in operation throughout the U.S.:

- Cedar Rapids, Iowa
- Lincoln, Nebraska
- Detroit, Michigan
- Tampa, Florida
- Miami, Florida
- Denver, Colorado



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Advantages

- Control is provided by an experienced City parking administration. Minimal increase in administrative complexity. Does not create new political entities.
- Possible to quickly acquire expertise by transferring employees from other City departments.
- Enterprise fund separates parking revenues from general fund activities.
- City bonding capacity can be used to issue development bonds.

Disadvantages

- Parking can become bureaucratic and not receive the needed attention.
- Civil service rules and city budgeting process can be cumbersome and time-consuming.
- Financing for parking facilities must compete with other municipal projects if general obligation bonds are requested.

Business Improvement District

Some municipalities and county governments use business improvement districts (BIDs) and parking tax districts as a means to generate income to fund parking facility capital improvements and operating expenses. Both business improvement districts and parking tax districts can be used to finance the acquisition of land; construction, operation, and maintenance of surface parking lots and parking structures. They are most often formed at the request of their member businesses, typically address a wide variety of issues, not all related to parking, such as marketing, transit, beautification, signage, lighting, parking, street and public space maintenance, security, and to provide information and assistance. The collection of assessments tend to be applied uniformly on a square foot, gross receipts, or assessed value basis because benefits are universally recognized by all property owners.

A parking tax district typically addresses a narrow selection of issues directly related to parking. In cases where the municipality is the sole provider of parking, the collection of parking taxes tends to be applied in a uniform manner on an assessed value basis or as a fee per space based on zoning parking standards or requirements, and typically with a partial exemption for parking spaces provided above a threshold percentage. Typically, no commercial property is 100 percent exempt unless its owner provides 100 percent of the parking requirements mandated through the zoning ordinance within the district. Single-family residential property is usually exempt, but multi-family apartments usually are not exempt.

Examples

- Montgomery County, Maryland
- Tualatin, Oregon
- Norfolk, Nebraska
- Covina, California
- Alhambra, California
- San Bernardino, California
- Fullerton, California
- Long Beach, California
- Pomona, California

An NPO may have a broader perspective on issues other than parking as compared to contracting with a municipal division. It may have a more balanced approach because it may manage more elements, but at the same time, is more focused on a particular area. An example is the Uptown Consortium. In either case, if parking is directed by an NPO, expenses must be guaranteed by the parking asset owners. In this model, transfers and increases in future parking revenue could also fund future parking improvements. NPO's manage parking in Cleveland, OH (University Circle); Kansas City, MO; South Bend, IN; and Wichita, KS.

Advantages

- Parking functions may be delegated to an entity with a broader perspective than just to deliver parking.
- Can make decisions and implement programs quickly.
- Can maintain some political independence while also working closely with the asset owners and City.
- Easy to create new positions, set salary scales independently, and initiate rewards based on merit.

Disadvantages

- Parking system must be self-supporting as transfers to cover deficits are problematic.
- Parking functions may be subjugated by other issues such as economic development.
- The ability to issue bonds, while possible, may be more difficult and complex.
- All or part of parking management is delegated to an economic development non-profit entity in such cities as Kansas City, Missouri; South Bend, Indiana; and Wichita, Kansas.

Parking Authority

Parking authorities offer similar advantages to those gained through the creation of an auxiliary enterprise funds. One similarity is that parking authorities should be self-supporting. Parking authorities have many of the same responsibilities similar to a municipal parking and transportation department. Following are some of the functions and responsibilities of a parking authority:

- To hire and compensate staff and manage parking facilities.
- To set parking rates and collect revenues from authority-owned facilities.
- To establish and manage a budget.
- To acquire property through negotiations and if necessary, through eminent domain.
- To acquire existing parking facilities.
- To contract with third parties for services and the sale of real property.
- To fund parking facility capital improvements.

- To design, construct, and renovate parking facilities.
- To demolish and rebuild parking facilities.
- To develop and implement master plans for municipal parking.
- To define and implement parking management strategies aimed at improving traffic flow and parking conditions.
- To issue and retire debt.

To create a parking authority, enabling legislation must first be in place legalizing the formation. Many states have enacted enabling legislation to allow for the creation of a parking authority. Some states have legalized the formation of a parking authority in any city, regardless of size. Other states permit the establishment of a parking authority only in specific classes of cities.

Once the parking authority is created, most laws provide for the municipality's mayor to appoint board members. The Board of Directors then governs a parking authority.

Parking authorities have several characteristics that distinguish them from municipal parking departments or NPOs, where parking authorities are empowered to issue their own debt, that debt may or may not count toward the debt capacity of the municipality. Parking authorities can take action independently and without approval of local government.

Following are some of the most significant advantages and disadvantages of a parking authority:

Advantages

- Provides a structure with a sole focus on parking-related issues.
- Significantly reduces administrative pressures compared to city parking department.
- Not subject to annual budget considerations of city government or politics.
- Can issue own debt.
- Can accomplish unpopular goals by isolating some decisions.

Disadvantages

- Parking system should be self-supporting as transfers to cover deficits are problematic.
- Creates a new governmental agency with an independent Board of Directors.
- Redundant costs of management and administration.
- May face higher borrowing interest rates and costs than a city issuing general obligation bonds.
- Authority may have some powers that are beyond the immediate control of the citizens.



- May still encumber the full faith and credit of the City in the calculations of some underwriters.

Joint Venture or Partnership

Overview

The simplest cooperative operating entity is a joint venture company or partnership, where each institution benefits proportionately and where expenses are equitably shared. A joint venture or strategic alliance is a form of partnership where businesses come together to share knowledge, markets, and economic benefits. Even if each institution retains control over its own fees and policies, parking operations can be consolidated and centrally managed.

As revenue would be passed through to the partners, all partners would bear responsibility for costs and debts incurred. The partnership agreement would deal with issues of formation, profit and expense sharing arrangements, salaries, employee taxes, unemployment insurance, workman's compensation insurance, banking arrangements, changes of partners, liquidation, and responsibilities of partners. Items such as business name, licenses, trademarks, copyrights, patents and designs would be registered by the joint venture or partnership.

Budgeted expenses include the operating costs associated with ongoing parking operations. This may include the labor costs associated with maintenance, security, parking enforcement, revenue collection, management, and administration. Other operating costs may include utilities, supplies, and equipment.

A joint venture company or partnership would provide a financial structure that consolidates costs and benefits under its control. Its main purpose is to establish a parking operating budget, to collect parking revenues, and to pool parking expenses. The operating budget is typically funded by a stream of transfers collected from the partners.

A joint venture company or partnership can be used to manage joint operations and/or the development of new parking project capital improvements as joint ventures. Although revenues generated by a new structured parking facility may not be sufficient to fund both the operating expenses and debt service of that particular improvement, revenues from other facilities and partnership contributions may be pooled together. This pool must be sufficient to guarantee the solvency of the joint venture or partnership.

The lifespan of a parking structure can often range from 30 to 50 years, or more. However, because the development costs for such a structure are capitalized over a 20 to 30-year period, there is significant useful life remaining after all debt is retired. This remaining life means that revenues may still be generated by this debt-free facility and that these revenues may be available to offset any new debt service payments that are required to fund new parking projects. These resources may then be used to fund parking project capital improvements.

Comparison of Alternatives

Historically, no one person or agency is "in charge of parking" for Uptown. As Uptown institutions increasingly compete for land and resources, the current management of parking is inconsistent from

institution to institution, resulting in issues of inconvenience, lack of fairness, and confusion for many parkers. Parking space surpluses at some facilities go unused as others face deficits. There appears to be significant duplication of parking oversight, which indicates that there are opportunities to increase overall cost efficiency. If parking operations are consolidated, cost savings can fund increased positions for increased transportation demand management and security. Consolidated parking management also provides a strategic platform to cooperatively partner the development of new parking facilities.

The following elements of comparison are considered:

- Is enabling legislation needed? Some alternatives are relatively easy to establish, while others require the approval of other legislative bodies. A special improvement district, business improvement district, or neighborhood improvement district would require the approval of the city and local taxing authorities, while a parking authority may need special legislative legislation to enact, resulting in negative scores. Those alternatives not requiring such action are positively ranked.
- How much direct oversight is required? Direct oversight and direct partner involvement is required for a joint venture or partnership, which is negatively ranked. Much less direct involvement is needed for the remaining alternatives.
- Is the City administratively involved? City administrative involvement in parking management can be viewed as either positive or negative. On one hand, it is the responsibility and mission of the City to represent and consider the greater public good. On the other hand, this concern for the greater public good could limit the flexibility to manage parking to enhance specific development or utilization goals. Therefore, this criteria is rated neutral for all alternatives.
- Self-supporting? The ability of parking management to generate sufficient revenue to cover its immediate operating expenses, debt service, reserve funds and sinking funds for maintenance and replacement is one determining factor for the appropriateness of a particular model. The higher degree of financial autonomy or independence required of the special improvement district, non-profit organization, or a parking authority result in lower rankings for these alternatives.
- Can it receive tax revenue directly? The ability to tax is a strong reason for the selection of a city parking department, a Special Improvement district, or a parking authority. It is noted that this is a limited factor because the largest property owners are tax exempt, and would have to accept to pay fees in lieu of taxes. The joint venture partnership and the non-profit organization are negatively ranked.
- Complications of debt. To the extent that parking does not generate sufficient revenue to be self-sustaining, a subsidy from the partners or a general fund may be required. A non-profit organization may not have sufficient borrowing capacity to finance the system needs. Transfer of funds from the City general fund to a Special Improvement District or

an Independent Parking Authority to subsidize debt service shortfalls would be problematic, and are negatively ranked. Joint venture partners would be required to guarantee debt service as a shared burden.

- Is borrowing capacity isolated? In most cases, borrowing by a special taxing district does not consume the municipal borrowing capacity. However, due to changes in underwriting standards, the debt of some parking authorities cannot always be separated from the bonding capacity of the city. The remainder is negatively ranked.

A summary of the matrix analysis follows and is intended to meet the objectives of this study to consider a parking management system that operates in a business-like manner that is also consistent with the core values and needs of each partner. No matter which operational method is chosen, the parking system should be consolidated and financially self-supporting to the extent possible.

What Works Best for Uptown

The following presents a summary of the evaluation of each alternative for managing Uptown parking.

- The “As Is” or no-change solution remains a rational choice, but it is expensive and inefficient. The Parking Facilities municipal model is focused on the CBD, and the city has limited resources to apply to Uptown. Therefore, the city parking department is not recommended.
- The special improvements district is not appropriate because of the nature of the local tax base and the predominance of tax exempt ownership. Therefore, the special improvements district model is not recommended.
- A true Parking Authority duplicates municipal authority by creating an independent board. A parking authority has the same tax concerns as the special improvement district. Therefore, the parking authority model is not recommended.
- The creation of a joint venture/partnership may be difficult because of the competitive nature of some the IP or consortium members. But, the maximum benefits accrue from a joint venture/partnership for the following reasons:
 - The partners maintain the most control over policies and fees, leaving each the ability to set prices and allocations, while sharing a common labor pool and costs of operation.
 - The partners can adopt uniform standards regarding operating procedures, the condition of facilities, standardizing of parking access and revenue control system (PARCS), and common software.
 - The partners can brand the operation in name, through signage, and by common web access.

Based on this analysis, it is recommended that a joint venture or partnership, organized as a limited partnership or tax-exempt corporation, created and delegated the authority to manage parking operations of the partners.



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Table 7-23: Matrix Analysis of Parking Management Alternatives

Alternative	Joint Venture Management (Individual Investment)		Joint Venture Development		City Department		BID, NID or Special Improvement District		Non-Profit Organization		Parking Authority	
	No	+	No	+	No	+	Yes	(-)	No	+	Yes	(-)
Requires enabling legislation	No	+	No	+	No	+	Yes	(-)	No	+	Yes	(-)
Requires direct IP oversight	Yes	(-)	Yes	(-)	No	+	No	+	No	+	No	+
Entails city administrative involvement	No	0	No	0	Yes	0	Yes	0	No	0	No	0
Entails ability to support itself (Degree of financial autonomy or financial independence)	No	+	No	+	No	+	Yes	(-)	Yes	(-)	Yes	(--)
Ability to receive tax revenue	No	(-)	No	(-)	Yes	+	Yes	+	No	(-)	Yes	+
Complications of deficit	Shared	0	Shared	0	Impacts bonding capacity	(-)	High	(--)	Shared	0	High	(--)
Entails isolated borrowing capacity	No	(-)	No	(-)	Not for City	(-)	Yes	+	No	(-)	Not Always	0
Overall Value of Implementation		+		+		(--)		(--)		0		(--)



7.4 Recommended Solutions

Based on the preceding analyses, this Study recommends the following actions to improve parking in Uptown:

- Establish the Uptown Transportation Management Association (TMA)
- Implement the Travel Demand Management arm of the Uptown TMA
- Consider an Uptown neighborhood parking permit program
- Build new parking facilities
- Pursue alternative funding and financing mechanisms to support parking operations and facility expansion.

7.4.1 Uptown Transportation Management Association

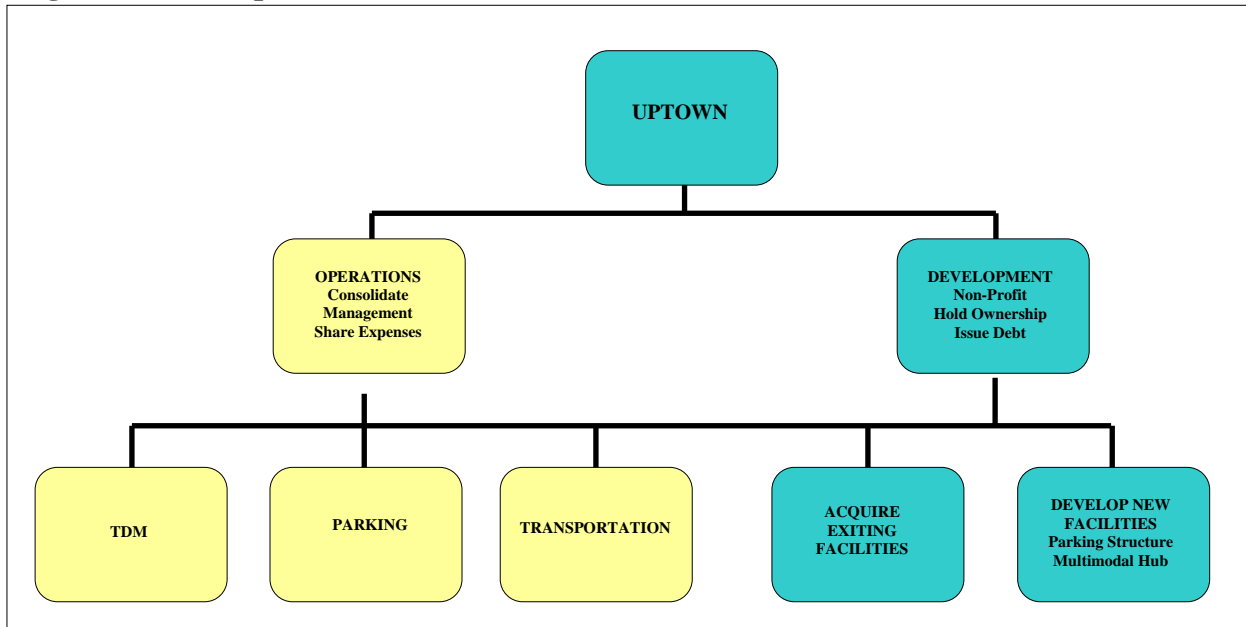
The overall scope of the organization is envisioned to possibly include Travel Demand Management (TDM), a pilot shuttle operation, parking operations, and the possible future ownership and development of parking structures. Thus, the recommended alliance is conceived as a Transportation Management Association (TMA).

According to the US Department of Transportation, a Transportation Management Association (TMA) is a “voluntary association of public and private agencies and firms joined to cooperatively develop transportation-enhancing programs in a given area. TMAs are appropriate organizations to better manage transportation demand in congested suburban communities.”

Organization

On the basis of this analysis, the establishment of an Uptown TMA to operate those selected assets of the joint venture partners as a consolidated parking system is judged to be the highest ranking alternative. The implementation of this recommendation is envisioned in the following organization chart.

**Figure 7-1
Organization of Uptown TMA**



This recommended management model addresses two main functions:

1. Management of parking, enforcement, transportation demand management and transportation (whether by contract or by self-operation)
2. Future acquisition of existing facilities or the development of new parking facilities.

Preliminary organization tasks are recommended for early action. Parking supply options are considered long-term actions. This Study’s first recommendation is to lay the groundwork for the creation of the Uptown TMA.

The Uptown TMA would be comprised of area employers and public agencies who collaborate on improving parking, accessibility, mobility, and alleviate problems of congestion and air quality.

Members could include the following:

- University of Cincinnati
- Children’s Hospital
- VA Hospital
- University Hospital
- Good Samaritan Hospital
- The Christ Hospital
- Cincinnati Zoo
- City of Cincinnati
- SORTA
- Health Alliance
- Residents/Neighborhood Representatives
- Any other influential organizations greatly impacted by the transportation issues in the area.



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The Uptown TMA is currently envisioned as a separate legal entity, but could be associated with the Uptown Consortium.

The creation process of the organizational entity should contain the following important steps:

- Determine if a management partnership is adequate, or if a 501(c) 3 non-profit corporation is necessary. This should be determined with legal counsel.
- Agree on operating structure and method of funding for operations.
- Establish principles, bylaws, mission statement, goals, budget, etc.
- Select the Board of Directors.
- Determine whether parking will be managed by contract vs. self-operation.
- Negotiate operating and funding agreements with the partners.

The establishment of this model will reduce parking management costs and increase the potential for the sharing of parking resources, while allowing each institution to reallocate some existing parking personnel to manage TMA functions. This structure also offers the potential for the joint development of future parking facilities.

Mission Statement

In support of the Uptown TMA plan, the following “Mission Statement” is recommended.

“Our mission is to contribute to the success of Uptown by efficiently managing, marketing and providing affordable transportation and parking services to the residents, workers and visitors of Uptown.”

The objectives of the Uptown TMA are:

- To maximize the use of the partners’ parking and transit assets as part of an interconnected parking and transit system.
- To simplify and coordinate public communications and public relations regarding the availability and pricing of parking, public transit and other alternatives.
- To maintain safe, adequate and affordable parking facilities while planning for the development of new parking facilities in a cost-effective manner.
- To successfully market transportation services in the Uptown area by developing a number of marketing plan elements including:
 - An identity program.
 - A communications plan, including improved signage, a city parking web site, brochures, and maps.



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- A transportation demand management plan.
- The implementation of the “Ambassador” information and enforcement program.
- The implementation of promotional programs.

Branding Parking

This Study also recommends that Uptown create a single public identity brand for the parking operational entity. Examples include the “Five Seasons” Transportation and Parking Department Cedar Rapids, Iowa, and the “Central City Parking” program of Downtown Kalamazoo, Michigan.

Verbal elements include the name, style and taglines. Visual elements include fonts, colors, shapes, and graphic elements (including logo). Consistency requires using the elements and standards of the program in a consistent manner. Ubiquity is achieved by using a full range of appropriate media. Frequency is necessary to enhance the effectiveness of marketing, advertising and promotions. Partnering creates opportunities for synergy. Parking system branding should be coordinated with the Uptown branding project effort that is currently ongoing.

Public Relations, Communication, and Information Management

The goals of these functions are to:

- Reinforce the central place of Uptown
- Establish greater recognition and increased branding of Uptown and the Uptown TMA
- Consolidate parking and transportation information under the Uptown banner
- Establish better links to/from other partner information sources, such as:
 - Newspapers
 - Each Uptown IP or Consortium member and the City
- Provide consolidated transit and parking information
- Maintain a ride-share matching service and database
- Provide other commercial information potentially including healthcare, education, retail entertainment and restaurants in the area.

The parking relations and communications plan would provide information on key events impacting Uptown parking, transit and access issues, and should be responsible for increasing public awareness of TDM issues through events, activities, publications, press releases, maps and other literature.

The Parking Relations and Communications program should:

- Include a comprehensive “Uptown Parking” web site.
- Respond to questions and requests from the general public for locations of parking facilities, pricing and availability.



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- Maintain the integrity of downtown parking promotional materials, and provide parking maps, business development packets, and fact sheets.
- Provide day-to-day media relations, and generate press releases as needed.
- Provide public relations assistance to other Uptown events as needed.

Uptown TMA information should be disseminated by means of

- A comprehensive “Uptown TMA” city web site.
- A quarterly Uptown TMA newsletter for the community with news of economic developments in transit and parking, development and construction projects, upcoming Uptown events, and profiles of Uptown newsmakers.
- Uptown TMA newspaper articles and media releases.
- Brochures and maps, both distributed and posted.
- Direct mailings when needed.
- Uptown meetings and presentations by the Uptown TMA/parking manager about Uptown parking and transportation to city business and civic groups upon request.

7.4.2 Uptown Travel Demand Management

Travel Demand Management (TDM) is a general term for strategies that result in more efficient use of transportation (parking and transit) resources or simply reducing the use of single occupancy automobiles.

Commuter incentives refer to specific approaches designed to reduce parking demand by encouraging commuting by alternative modes or by discouraging single occupant vehicle (SOV) commuting. Within the parking and transportation industries, such programs are known as Travel Demand Management (TDM) programs. TDM programs reduce parking demand.

Parking is an expensive amenity. However, in the Uptown market, most institutional parking is provided for free or at very subsidized rates. Subsidized parking increases the demand for parking. While popular with parkers, low parking fees provide the greatest incentive to SOV commuting, and provide a disincentive to use the alternatives to SOV commuting and parking. This is because subsidized parking subsidizes SOV commuting, and increases parking demand by making high value parking spaces more affordable to a larger customer base. This conflicts with the management objective of reducing parking demand.

The “True Cost” of Parking

TDM methods work best when parking fees to the parker reflect the “True Cost” of parking. In a low parking fee environment, the institution subsidizes the entire parking system, because the fees charged do not reflect the true cost of parking.

Without including the cost of land in the cost of the parking facility, an unattended structure with a \$10,000 per space project cost (at 5 percent, 20-year amortization schedule) and \$200/space per year in operating expenses will require revenue of \$80/space per month (\$960 per year) to break even.



This is typical of the fee that must be charged for employee parking in an unattended facility at an institution. However, if the structure is attended and the annual cost to operate is \$600, the annual cost to own and operate is closer to \$120/space/month (\$1,440 per year). The comparable project cost of \$3,000 per space and \$150 per space per year to own and operate an unattended surface parking lot results in a break-even point of \$30 per space per month (\$360 per year). If a parking lot is attended, operating costs could increase to \$400 per space per year, increasing the breakeven point to \$50 per space per month (\$600 per year).

Those institutions charging parkers \$10 per month or less for surface parking are not even charging enough to recover costs of owning and operating surface parking, resulting in significant "sticker shock" when trying to figure out how to pay for structured, attended parking that can cost about \$130 per month, or more, just to break even.

Structured parking is expensive. It typically requires \$100 to \$150 per space in revenue per month to recover the capital and operating costs of building an above-grade structure on land already owned.

Very few situations allow that cost to be charged to visitors, much less employees and students; therefore parking development usually is subsidized by other funding sources. The typical route taken by most universities is to increase student facilities fees to further subsidize parking.

The key elements to reducing parking demand are rational pricing and choice. To successfully promote a TDM program, parking must be priced at market value, and introduce a combination of incentives that restore those economic factors that promote the rational choice of commuting alternatives to SOV driving/parking. These methods include carpooling, vanpools, telecommuting, mass transit/bus incentives, and cash out programs.

To derive the most benefit from implementing TDM strategies, it is recommended that the major employers in the Uptown area institute the following:

- Reduce the promotion of free parking as an employment incentive.
- In an effort to reintroduce some economic decision process on the part of employees, some meaningful percentage of parking cost should be included in employee flex plans.
- It is not necessary to change everyone's behavior. The change in choices of only a few parkers makes a significant difference in the number of new parking space that will be needed in the future.

Demand elasticity for parking is very situational, reflecting the cost of alternative modes, commuting distances, and pricing of competitive modes. Thus, the following methods are highly recommended to support the TDM effort.

Ridesharing

The cost to carpool participants can be reduced in a number of ways. For example, a carpool permit can be offered at the same price as a regular permit, while allowing carpool members to share the cost, thus reducing their individual obligation toward parking expenses. A carpool permit might also be offered at low or no cost, with the stipulation that participants cannot purchase any other type of

permit. Finally, a few programs at institutions with excessive parking cost, high parking demand, and little parking availability offer discounts, credits, and/or rebates based on the number of people in a carpool, the number of days per week a carpool arrives intact, or the length of time an individual has been carpooling. Almost universally, students living on campus are not eligible to participate in carpool programs. Allowing people who live within a defined area nearby or surrounding a destination may encourage people to drive as a carpool rather than to use another feasible alternative such as transit, bicycling, or walking.

Occasional Use Permit

This allow members of a carpool program to park as a SOV for a certain number of days per year, most commonly 1 per month or 12 per year. Some programs give participants 12 occasional use permits up front and then allow them to purchase up to a certain number more through the course of a year.

Guaranteed or Emergency Ride Home

Emergency ride programs are useful in persuading new participants to join a rideshare program by reducing a potential objection that by ridesharing they will no longer be able to get home if ill, if a child is sick, if unexpected overtime is necessary at work, etc. While preferential parking, occasional use permits, ride matching, and guaranteed or emergency ride home programs are the most common incentives offered as part of carpool programs today, some universities offer additional incentives to promote ridesharing:

- Opportunity to enter into prize drawings on each day the carpool arrives intact is offered at Brock University.
- Commuter rewards of \$1 every day a commuter carpools and a \$25 recruitment bonus for recruiting new participants are offered at Cal State Fullerton.
- Up to \$160 per person of “Carpool Cash” can be applied toward the permit cost at Stanford University.

Flex Plan with Cash-Out Option

Due to changes in tax law, parking allowances to cover parking or alternative commuting costs may be included within or structured as a “flex plan” (similar to insurance “cafeteria” flex plans), and may include financial payment to employees. Employees can use pre-tax money to pay for a parking space or for another travel mode.

Flex plans allow an employer to price parking at a universal price, yet shape the cafeteria allowance to subsidize some parking rates to different user groups at different rates. However, parking permit prices should be uniform in presentation, and the cost of subsidy would be absorbed by the unit through the flex plan allowance.

Under current tax law, Parking Cash Out is a viable option. Parking Cash Out means that commuters who are offered subsidized parking are also offered the cash equivalent if they use alternative travel modes. Cash benefits are taxable, but transit benefits are not.



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Parking Cash Out is a simple, effective, and powerful method of reducing parking demand by increasing commuter choice and increasing utilization of the commuting alternatives. It is best offered through an overall program of managed employee parking benefits. Parking Cash Out is now more attractive as a benefit option because changes in the Federal tax code since 1999 have expanded its applicability. It is popular with both employees and employers because it serves as an employee benefit and it has the potential to reduce parking demand.

In essence, Parking Cash Out is an employee transportation benefit that offers employees the option of giving up their parking rights in exchange for its equivalent monetary value. For example, if the cost of a parking permit is \$66 per month, under a cash-out program the employer could also offer the choice of a cash payment to employees who choose to not park. Because offering such a choice adds a strong monetary incentive not to drive, parking cash out can result in substantial reductions in parking demand. It also improves equity among workers by offering equal benefits to parkers and non-parkers.

Parking Cash Out offers employees the option of receiving taxable cash (up to \$175 in value) in lieu of any parking subsidy offered. In some cases, employers offer their employees the cash value of a rented parking space in lieu of the space itself. Employees may refuse the cash and keep the tax-free parking subsidy or accept tax-free transit or vanpooling benefits (up to \$65 worth) in its place--with any balance in taxable cash. If an employee accepts the cash option, the cash is subject to income taxes for that employee. However, both parties ultimately benefit from implementing parking cash-out – employees' income rises, while employers' business expenses decrease from not having to subsidize or build as much parking.

Program qualifications are as follows:

- To qualify, employees must elect to have their parking permit or bus pass placed on payroll deduction.
- Eligible permit expense includes all annual garage and surface lot permits, motorcycle permits, monthly parking permits and alternative transportation permits.
- Employees who purchase two types of permits for themselves may include both permits as pre-tax subject to the IRS limitation of \$175 per month.
- Employees must elect to have their parking permit on payroll deduction to obtain the pre-tax benefit and cannot utilize payroll deduction nor receive the pre-tax benefit for other family member's permits or bus passes.
- Employees who purchase both a permit and a bus pass may include both items as pre-tax subject to the IRS limitation of \$175/month for the permit and \$65/month for the bus pass.
- If the employee must replace a lost or stolen permit or bus pass, the replacement fee is considered a cost of parking or transit expense and will be eligible for the pre-tax benefit if the replacement fee is processed through payroll deduction and does not exceed the monthly maximum.



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- Eligible transit expenses include all semester, academic, and annual bus passes sold through the Department.
- Visitor, football, basketball, and other special event permits do not qualify.
- Refunds on parking permits or bus passes are considered taxable to the employee if the permit was originally purchased on a pre-tax basis.
- Citations are not eligible for pre-tax treatment.

Provide for Staggered Work Shifts

The traffic operational problems in the Uptown area are exacerbated by the large number of hospital employees that arrive and depart during a short period of time at shift changes. This problem is particularly evident around 3:00 in the afternoon and results in almost gridlock conditions in some areas.

Staggering work shifts could be done on a departmental basis. Providing a shift stagger over an hour would tend to spread out the peak traffic on the streets and reduce peak congestion. With an hour stager, some departments would change shifts at 2:30, some at 2:45, and some at 3:00, 3:15, and 3:30 pm.

Parking Fees

Parking should be priced appropriately. Parking fees vary by institution to meet specific needs and are expected to do so in the future, but free parking does not serve to balance demand with a scarce and expensive resource. Observations regarding parking fees charged in the Cincinnati CBD can be summarized as follows:

- While monthly parking fees in the northeast quadrant of the CBD vary from \$142 to \$95 per month, monthly parking fees are lower, \$85 to \$40 per month, at larger facilities located in the northern portion of this market area.
- The same general trends are found in the northern CBD parking market area that lies to the west of Vine.
- Monthly parking fees in the northwest quadrant of the CBD are lower, with \$85 to \$25 per month charged at larger facilities located in this market area. The 700-space Alms & Doepke Parkhaus (Central Parkway and Sycamore) parking facility charges \$8.00 per day with no vacancies, which is judged to be representative of the market daily transient fee. After considering this data, the UC parking fees are judged to be reasonably representative of market rates.

The Uptown healthcare partners should agree to reduce the promotion of free parking as an employment incentive. The negative effect of imposing at least a minimal parking fee on employees can be minimized by explaining the need for the change in pricing policy and by positively presenting the overall increased transit options to the individual, the institution, and Uptown. The recent changes enacted by Children's Hospital Medical Center demonstrate the viability of this option.



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Where parking for visitors is now free, this Study further recommends that each institution consider implementing a market pricing plan for transient visitor parking. Instituting a visitor parking fee is necessary to discourage employees from not posing as visitors. Validations reduce the financial impact on patients and visitors.

Charging a fee for parking allows parkers to appropriately value parking in comparison to alternative forms of commuting. This is because a parking fee requires the user to consider the economic choice of whether or not to park. This change will require the participating institutions to agree to not use parking as a competitive bargaining issue.

Other TDM Initiatives

SORTA and/or OKI already provide the following TDM services on a regional basis.

- Host carpool matching
- Fund van pooling
- Coordinate the Guaranteed Ride Home programs
- Provide transit trip planning services
- Provide transit schedules
- Provide guides on “how-to-ride” public transportation.

The Uptown TMA can support the regional TDM effort with additional travel demand programs and strategies that would be implemented at regional and institutional levels.

Regional initiatives include:

- Promote TDM initiatives through an initial kick-off event and annual transportation fairs.
- Establish and maintain a web site with Uptown transportation information.
- Create and distribute an Uptown Directory that includes transit and parking information, a tear-out area map and a variety of information regarding activities/events in the area.

Institutional initiatives include:

- Designate a visible area as a travel information center. This area would serve a variety of travel information needs by providing bus schedules, rideshare matching information, parking information, and transportation benefits information. The office of the travel coordinator should be near the travel center so there would be a resource for people who have questions.
- Identify and designate preferred carpool parking areas.
- Provide secure bicycle parking and identify shower facilities that employees can use.
- Offer employees discounted bus passes.
- Provide on-site sale of bus passes to employees.



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- Provide “occasional use” parking permits.
- Provide transit-related tax benefit information and choices to employees and management.

TDM Organization

As shown in the previous organization diagram, this Study recommends that the Uptown TMA manage and integrate a coordinated TDM Plan through Organization Transportation Coordinators (Coordinators). The Uptown TMA would appoint a TDM director who would be responsible to create and manage the TDM plan. The responsibilities of the TDM Director would include:

- Coordination with member organizations.
- Coordination with regional service providers (OKI, SORTA).
- Promotion and distribution of bus passes, bus schedules and other promotional literature.
- Monitor usage of TMA resources and revise TDM Plan elements as necessary.
- Represent the Uptown area in various transportation forums.
- Develop, organize and conduct promotional events.
- Maintain an Uptown web site focused on transportation and transportation demand management.

Each member organization would appoint a transportation coordinator who would be responsible for TDM programs and strategies to be administered, implemented and monitored within their business. Each coordinator is responsible for the following:

- Manage traffic reduction programs for their specified organization;
- Coordinate communications about transportation programs to employees by:
 - Maintaining on-site information kiosks
 - Distributing new employee orientation information
 - Providing information on transportation alternatives to employees
 - Informing employees and administrators of associated tax benefits
 - Overseeing the posting of information on organization’s intranet
 - Being available on-site to answer questions and assist employees with transportation needs.
- Collaborate with transportation agencies/providers to maximize services;
- Plan and implement special activities to promote transportation alternatives;
- Represent the organization as part of the TMA.



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Marketing

Creation and management of a parking marketing plan is the responsibility of the Uptown TMA director. The goal of the marketing plan is to generate support for the efforts of the system as a whole and the operator in particular. The following recommended practices are intended to provide good customer service and to achieve the goals of the marketing plan:

- All management of parking assets should be vested with the Uptown TMA.
- The Uptown TMA should be the primary customer contact for system-related issues.
- All communications by the public to City agencies or Uptown regarding parking or transit should be referred to the Uptown TMA.
- All signs should reference the Uptown TMA, and include direct contact information (phone number, address).

Potential TMD Effectiveness

What is reasonable to expect from implementing TDM strategies in Uptown? First, how does the US compare to other countries? Second, how do Midwestern cities compare?

**Table 7-24
International Modal Split¹²**

Country	Car	Transit	Cycling	Walking	Other
Austria	39%	13%	9%	31%	8%
Canada	74%	14%	1%	10%	1%
Denmark	42%	14%	20%	21%	3%
France	54%	12%	4%	30%	0%
Germany	52%	11%	10%	27%	0%
Netherland	44%	8%	27%	19%	1%
Sweden	36%	11%	10%	39%	4%
Switzerland	38%	20%	10%	29%	3%
UK	62%	14%	8%	12%	4%
USA	84%	3%	1%	9%	2%

¹² Source: *Mode Split in Urban Areas*, Pucher and LeFerve, 1996.



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Table 7-25
Means of Transportation to Work – 2000

MSA	Total	Drove Alone	Carpool	Bus/ Streetcar	Other
Cincinnati	951,709	81.4	10.0	2.8	5.8
Columbus	777,922	82.0	9.6	2.2	6.2
Indianapolis	795,755	82.8	10.5	1.2	5.5
Detroit	2,482,457	84.2	9.3	1.7	4.8
St. Louis	1,238,964	82.6	9.9	2.1	5.4
Kansas City	881,258	82.8	10.4	1.2	5.6
Average		82.6	10.0	1.9	5.6

MSA	Total	Drove Alone	Carpool	Bus/ Streetcar	Other
Houston	2,081,607	77.0	14.2	3.1	5.7
Miami	1,642,866	76.6	13.4	3.2	6.8
Seattle	1,776,224	71.6	12.8	6.2	9.4
Phoenix	1,466,434	74.6	15.3	1.9	8.2
San Antonio	698,685	76.2	14.7	2.8	6.3
San Diego	1,299,503	73.9	13.0	3.1	10.0
Las Vegas	702,535	74.5	15.0	3.9	6.6
Tampa	1,063,957	79.7	12.4	1.2	6.7
Portland	1,105,133	73.1	12.1	5.1	9.7
Sacramento	799,989	75.3	13.5	2.4	8.8
Norfolk	760,401	78.9	12.1	1.7	7.3
Salt Lake City	642,688	77.2	13.1	2.7	7.0
Austin	649,645	76.5	13.7	2.5	7.3
Raleigh	617,475	78.5	12.9	1.5	7.1
Average		75.9	13.5	3.0	7.6

What can Uptown expect to gain from implementing a comprehensive TDM strategy? As shown in Table 7-26, if the Cincinnati transportation modal split can be improved to approximate the rates seen in the comparable Midwestern cities, the percent driving alone would decrease, while the percent using mass transit, and the percent using other modes of commuting would increase, which would decrease overall parking demand. The shift to increased carpooling would increase the parking demand for this category. The overall impact of the increased promotion of TDM is summed above at approximately six percent.

**Table 7-26
Potential Gain from TDM**

Percent/Mode	Cincinnati	Target Cities	Difference	Private Vehicle	Reduction
% Drove Alone	81.4	75.9	5.5	1	5.5
% Car-pool	10.0	13.5	3.5	2.3	-1.5
% Bus/ Streetcar	2.8	3.0	0.2	1	0.2
% Other	5.8	7.7	1.9	1	1.9
Parking Demand Reduction					6.1

A weighted average is calculated as follows:

Category	Percent	x	Reduction	=	Weighted
Drove Alone	81.4%		0.055		0.0448
Car Pool	10.0%		-0.015		-0.0015
Bus/Streetcar	2.8%		0.002		0.0001
Other	5.8%		0.019		0.0011
	100.0%				0.0445

Thus, an unweighted reduction of 6 percent is indicated, while a weighted average of these reductions indicates a reduction of approximately 4.5 percent.

Thus, a 4.5 percent to 6 percent reduction in parking demand appears to be a reasonable expectation from a successful TDM program. The current percent who drive alone in Uptown is approximately 78 percent. Assuming that similar savings could be realized, a reduction of 5 percent would mean reducing the number of solo drivers from 87 percent to 74 percent. A 5 percent reduction in total Uptown parking demand is the equivalent of approximately 1,500 parking spaces.

There are a number of additional tools and recommendations directed specifically at UC students that would further reduce parking demand including the following:

1. Negotiate Unlimited Transit Access for students to SORTA.
2. Class schedule leveling. Classes should be analyzed and scheduled so as to reduce the mid-day parking demand peak.
3. Promote more bicycling by improving bike paths, and by providing bicycle lockers for better security and showers at some locations.
4. Restrict the purchase of parking permits by students living within four blocks of the campus core.
5. Enact a freshman parking restriction. Freshman parking restrictions are becoming more common. As of 2005, freshman residents are not allowed to purchase on-campus parking at:



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- Ohio State University
- Ohio University
- Michigan State University
- Purdue University
- Ball State University
- Notre Dame
- Penn State University
- Stanford University
- Vanderbilt University
- James Madison University Seton Hall
- University of Vermont
- University of Connecticut (Storrs Campus)
- University of Virginia

“Ambassador” Approach to Customer Contact and Parking Enforcement

In addition to the measures listed above, the employers in the Uptown area or a consolidated Uptown TMA should adopt the “Ambassador Program” as a model of positive customer and visitor contact.

The mission of an Uptown Ambassador Program would be to provide hospitality, aid tourism and provide public safety services to local citizens, businesses and visitors, in addition to enforcing parking regulations. The Ambassadors would be required to complete a multi-faceted training in hospitality and customer service, emergency response and first aid, public transportation and local services.

The primary goals of the Ambassador program are to:

- Promote Uptown
- Resolve concerns
- Deter criminal activity
- Help make Uptown a better, safer and friendlier place to live, visit, shop and conduct business.

Ambassadors would initiate personal contact with the parking public and interact with visitors and citizens in a more positive manner. The vision of the program is to help promote a progressive and dynamic Uptown experience. The Ambassadors may accomplish these goals while providing parking management by monitoring public safety, extending a helping hand in emergency situations, and calling on area merchants on a regular basis. Examples of appropriate behaviors of Ambassadors are:

- To greet visitors and offer customer service.
- To provide information and explain local traffic and parking regulations to seek voluntary compliance.
- To give a positive face to many people’s first contact with Uptown.
- To give accurate directions to visitors and direct visitors to Uptown destinations and attractions.
- To distribute brochures and maps.



- To offer an emergency response and first aid.
- To deter criminal activity by their presence.

Ambassadors would be assigned to quadrants as defined within the area on a rotating basis. The Ambassador Program is envisioned to operate with full-time Ambassadors working five days per week (8:00 am to 5:00 pm, Monday through Friday) and as needed on weekends and for special events.

In some areas, Parking Ambassadors also have ticketing and enforcement authority. This authority currently rests with the Cincinnati Police Department. If the role of the Parking Ambassadors were to include ticketing and enforcement on public property, the authority to perform this function would need to be legally established.

7.4.3 Neighborhood Parking Permit Programs

For many residential neighborhoods, a residential parking permit (RPP) program is among the more common strategies for controlling the problem of institutional parking spillover into residential neighborhoods. Where the spillover is almost entirely employee or student parking, the on-street spaces may be restricted to one- or two-hour parking or a residential permit holder. The restrictions may only apply during certain hours of likely conflict, such as 8:00 am to 6:00 pm. Area residents pay a modest fee for a residential permit that allows a vehicle to be parked on the street. The time limit allows short visits by service vehicles and guests of the residents. Longer stays require the parker to obtain a RPP visitor pass card from the resident and return to place it in the vehicle. In other cases, the time limit does not work well.

For university spillover, students parking for a single class, or tourists to a destination lacking adequate parking, all users may be required to display a permit. The environment of the residential neighborhood is not only enhanced by the reduction of nonresident parking, but also by the reduction of vehicular traffic resulting from hunting for a parking space. City enabling legislation has been approved in Cincinnati, but has yet to be used.

It is recognized that the City has an existing policy on residential parking permits and that the initiation of neighborhood permit parking is community directed. While Uptown residents have not requested neighborhood permit parking, increasing parking demand in the Uptown area may necessitate more intense management of on-street parking and make neighborhood permit parking more desirable to residents.

7.4.4 New Parking Facilities

Based on an analysis of existing and future parking supply and demand, the Uptown Study also recommends construction of new parking facilities, described as follows:

Recommended Design Capacity

The current capacity of the parking system is approximately 28,200 spaces. Based on the previous calculations, the parking deficit within the ten-year planning horizon is anticipated to grow to approximately 5,530 spaces. Excess parking capacity of approximately 645 parking

spaces is expected to be generated by the proposed Avalon parking structure (345 spaces) and the proposed McMillan parking structure (300). These structures reduce the unmet parking demand as follows:

Future Parking Deficit	(5,530) spaces
Proposed New Parking Structures (Net)	645 spaces
Preliminary Target	(4,885) spaces

Demand management techniques have the capacity to reduce this unmet parking demand by 4 percent to 8 percent, or approximately 195 to 390 spaces. Therefore, the planning target for parking space development is approximately 4,600 parking spaces.

$$\text{Design Capacity} = \text{S/D Deficit/Effective Supply Ratio} + \text{Displacement}$$

$$\text{Design Capacity} = 4,600 / 0.95 + \text{Displacement}$$

$$\text{Design Capacity} = 4,842 \text{ spaces} + \text{Displacement}$$

The size of the structure must be increased to replace any parking spaces displaced by its footprint. Because of walking distance (five-minute walking circle) and transit trip length, this study recommends that the design target be divided between two new facilities within the study area. Each structure should be sized to accommodate about one-half of the total 4,842 space design capacity plus displacement, or approximately 2,500 parking spaces. This study further recommends that an original investment be made in just one parking structure at a time.

Development areas that are the most promising include:

1. The Louis Street area. The UC Lots and general area is close to new demand and new destinations (Zoo, Children’s Research Foundation, and MSB).
2. Reading/MLK area. A new parking structure in this area could intercept drivers as they exit from a new I-71/ML King interchange. The structure could house a multi-modal transfer facility allowing people to park and transfer to a local shuttle or Metro bus.

Development of a major parking facility in either of these locations will require significant additional planning and design. The specific site will need to be selected in consideration of numerous factors including land availability, potential access locations, adjacent land uses, zoning, intermodal connections, and traffic. Design studies will need to address traffic operational impacts and the potential need for changes to the street system or traffic control. The specific conditions of the selected sites will influence the number of spaces that can be built along with the cost of the parking facility.

Parking Structure Project Phasing

Based on the forecast of parking supply and demand, a severe parking problem will become evident prior to the end of the 10-year projection period, and is already perceived to be a present problem, regardless of whether or not a neighborhood parking permit program is initiated.



Based on the needs projection, planning for the construction of the first 2,500-space parking structure is recommended, with completion anticipated prior to 2010 to ensure that an adequate parking supply is maintained. A construction period of 12 to 18 months is anticipated. Applications for grants or options requiring legislative or political approval can add significant additional startup time to the project.

Upon completion and absorption of this first parking structure, this study recommends recalibrating the parking model to recalculate the space requirements for a second parking structure.

In the interim, parking fees should be increased at greater than the rate of inflation in order to build a surplus of funds for this future expansion, and to avoid “sticker shock.”

Conceptual Cost Estimate

With parking structure design efficiencies in the range of 300 to 350 square feet per space, the cost per structured space can vary from less than \$9,000 per space in an extremely economical facility, to over \$16,000 per space in a parking structure with a very high level of service, amenities, enhanced façade, and other architectural treatments.

The average 2005 building cost for an average size parking structure of 1,000 to 2,500 spaces is approximately \$10,000 per space. This conceptual cost estimate includes simple concrete façade complementary with nearby buildings, as well as average amenities. These elements include long-span construction, elevators, lobbies and stairs, utilities, and a small parking office. According to Office of the Associate Vice President and University Architect, project costs for university parking structures have exceeded \$15,000 per space.

This conceptual construction cost does not include land cost, contingency funds, parking equipment, financing costs, or other soft costs. The total project cost at completion for parking structures typically run 15 percent to 25 percent over the direct hard costs due to indirect costs.

Financing can have a significant impact the capital cost of parking. Financing costs include the cost of obtaining the financing. The cost of financing is typically added into the amount borrowed. For early project planning, a reasonable assumption is that a total project cost, including a 15 percent factor for all soft costs, and an additional 10 percent for land cost, will be financed over 25 years for a parking structure.

Operating Costs

The following categories are typically included in operating expenses:

- Labor costs (wages and benefits)
- Management fees/costs
- Security costs
- Utilities
- Insurance
- Supplies
- Routine maintenance
- Structural maintenance
- Elevator/parking equipment maintenance
- Other expenses



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Taxes – whether sales, property, parking, or some other type – are not included. A summary of operating cost data from parking structures throughout the United States is shown in the following table.

Table 7-27: Median Operating Expenses for a Typical Parking Structure¹³

Item	Median Annual Cost Per Space - Attended -	Median Annual Cost Per Space - Unattended -
Wages and Benefits	\$ 145.00	\$ 0.00
Management	60.00	70.00
Security	90.00	100.00
Utilities	50.00	45.00
Insurance	15.00	10.00
Supplies	5.00	5.00
Routine Maintenance	35.00	35.00
Structural Maintenance	40.00	75.00
Snow Removal	5.00	5.00
Elevator/Equipment Maintenance	10.00	10.00
Other Expenses	75.00	35.00
Total Expenses	\$ 530.00	\$ 390.00

A survey of numerous parking structures around the country indicates that the annual median operating expense for an attended parking structure is approximately \$530 per space. The greatest portion of operating costs is associated with revenue collection and security. The "Basic Operating Expense" for a non-attended facility, including security cost, is approximately \$390 per space per year. The basic cost to operate an unattended surface lot is estimated at \$100 per space per year, or less.

The size and age of a structure, hours of operation and type of use have the greatest impact on the bottom line. A facility with the primary purpose of providing parking for retail/dining/entertainment uses requires more cashiers than a general parking facility serving daytime commerce in a downtown. Security costs and utility costs, due to location and type of lighting, as well as type of structure, also make a significant impact.

Total Cost to Own and Operate

The following table relates project cost per space and annual operating cost per space to show the monthly revenue required per space to break even. When the cost of land is not considered in the cost of the parking facility, an unattended structure with a \$10,000 per space project cost (at 6 percent, 20-year amortization schedule) and \$200 per space per year in operating expenses will cost the owner \$80 per space per month. It is also the cost per month that must be charged for employee parking in an unattended facility at an institution. However, if the structure is attended and the annual cost to operate is \$600, the annual cost to own and operate is closer to \$120 per

¹³ Walker Parking.



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space per month. The comparable project cost of \$3,000 per space and \$150 per space per year to own and operate an unattended surface parking lot results in a break-even point of \$30 per space per month. If the lot is attended, operating costs could increase to as much as \$400 per space per year, increasing the breakeven point to \$50 per space per month.

The many universities and institutions charging parkers \$10 per month or less for surface parking are not even charging enough to recover costs of owning and operating surface parking, resulting in significant "sticker shock" when trying to figure out how to pay for structured, attended parking that will cost about \$120 per month, or more, just to break even.

Conceptual Cost Conclusion

In addition to capital costs, the costs of operation are estimated at \$400 per space per year for the purpose of this exercise.

To assign a range of the conceptual cost of development and the potential annual debt burden from the proposed undertaking, the following assumptions are presented:

Table 7-28: Conceptual Parking Development Cost (2005\$)

Design Capacity	2,500 spaces	2,500 spaces
Hard Cost per Unit	\$ 10,000 per space	\$ 15,000 per space
Hard Cost	\$ 25 million	\$ 37.5 million
Soft Cost @ 15 percent	\$ 3.75 million	\$ 5.62 million
Land Cost @ 10 percent	\$ 2.5 million	\$ 3.75 million
Conceptual Project Cost	\$ 3.25 million	\$ 46.88 million
Annual Cost of Financing		
Payment (6 percent, 25 years)	\$ 2.45 million	\$ 3.68 million
Operating Cost @ \$400 per month	\$ 1 million	\$ 1 million
Total Operating Cost	\$ 3.45 million	\$ 4.68 million
Annual Cost per Space	\$ 1,380	\$ 1,872
@ 0.40 Presence Factor – per Student	\$ 550	\$ 750
@ 0.75 Presence Factor – per Faculty/Staff	\$ 1,035	\$ 1,400

Transit is an additional cost.

Funding and Financing

The following maximum transient parking fees are currently charged by the Consortium members within the district.



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Table 7-29: Transient Parking Fees

Cincinnati Zoo and Botanical Gardens	\$6.50
The University of Cincinnati	\$1 .50 first hour \$8.25 max
The University Hospital	\$10.00 \$2.00 validated
The Christ Hospital	\$0 (Free)
The Alliance Business Center	\$7.00 \$3.50 validated
Bethesda Oak	\$0 (Free)
Good Samaritan	\$0 (Free)
Children’s Hospital	\$5.00 first hr. \$25.00 \$0 validated
University Village (Corryville)	\$3.00 \$2.00 validated

Wide variations from \$0 (Free) to \$25 per day are noted throughout the district.

The following long-term parking fees are currently charged by the study subject institutions.

Table 7-30: Long-Term Parking Fees

Cincinnati Zoo and Botanical Gardens	\$0 (Free)
The University Hospital	\$0 (Free)
The Christ Hospital	\$0 (Free)
The Alliance Business Center	\$0 (Free)
Bethesda Oak	\$0 (Free) or \$10 per pay period
Good Samaritan	\$0 (Free)
Children’s Hospital	\$0 (Free)
University Village (Corryville)	\$0 (Free)

The University of Cincinnati	Employee (per month)	Student (per quarter)
	\$ 88	\$ 264
	76	228
	66	198
	44	132
	36	108
	26	78
	18	54

Wide variations from \$0 (free) to \$88 per month are noted throughout the district. The monthly UC employee permit fees are consistently priced at one-third of the quarterly student permit fees.

Operationally, the Uptown TMA can charge whatever is mandated by each partner within their



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own facilities and pass collected revenues back to the partner. However, the partners must underwrite and guarantee the operating budget and financing costs of the Uptown TMA. To the extent that is possible, the following principles advance the goal of a rational and effective Uptown parking strategy.

Pricing Recommendations

1. The Uptown TMA can collect fees as directed.
2. To the extent possible, parking should not be used as a competitive factor in hiring.
3. Variation in fees should be reduced. Uniformity levels the “playing field.”
4. Pricing should more closely reflect the “true cost” of parking.
5. Employee Flex Plans, with Cash Out, should be promoted.

Break Even

The difference between cost break even and the fee actually charged must be absorbed by the institution and will be passed back to the customer in the form of higher bed rates and higher student tuition or fees. Based on the previous annual project costs at (at hard costs of either \$10,000 per space or \$15,000 per space), the following breakeven monthly parking fees must be charged or absorbed by the partners.

Hard costs of:	\$10,000/space	\$15,000/space
Result in an annual cost of:	\$1,380	\$1,872
Breakeven for an employee or faculty/staff (at 1 .33 oversell):	\$86 per month	\$117 per month
Breakeven for commuter students (at 2.5 oversell):	\$46 per month	\$62 per month

At this time, most Uptown institutions charge nothing for employee parking. Children’s charges employees \$10.00 each two-week pay period (approximately \$21.67 per month). The median monthly parking permit fee at Cincinnati University is about \$48 per month. Thus, only UC is charging a parking fee that approaches market rent.

It is acknowledged that parking is a competitive factor in customer relations and employee hiring. In both cases, Uptown institutions compete with suburban institutions that do not charge for parking. However, the cost of parking is actually quite similar in urban and suburban institutions, and is reflected in their total fee structure.

Financing Alternatives

The following methods are commonly used to finance parking facilities.

- Traditional financing options:
 - Conventional loans
 - General obligation loans
 - Revenue bonds
 - Legislative appropriations
 - Cash contributions or foundation support.

Tax-Exempt Financing

The use of tax-exempt bond financing would subject the project to a 10 percent private use limitation (5 percent in some circumstances), i.e. no more than the nominal percentage of spaces within a tax-exempt bond financed parking structure may be designated for private use by signs or otherwise for a particular user group. The use of tax exempt bond financing is intended to be applied to projects that serve the public at-large on an equal and open basis. If private use exceeds the allowance, a combination of conventional bonds and tax-exempt bonds could be issued on a pro rata percentage basis.

Alternative Financing Strategies

- Federal Grants – The U.S. Department of Transportation, CMAQ, and/or Department of Education grants funds for transportation projects, typically in conjunction with the development of inter-modal transportation concepts. The process is political, requires sponsorship by politicians, requires extensive lead time, and the projects must meet specific requirements or the program). The Uptown Crossing Community Redevelopment Corporation is “earmarked” to receive a \$2.5 million FTA grant in the 2005 Transportation Bill. Hurricane relief may impact these earmarks.
- Build/Lease Agreements shift the expense of construction to third parties who would operate for profit. Might be more expensive than direct financing.
- Tax-Increment Financing – This approach is problematic, as the largest Uptown property owners are tax-exempt. It may also require legislative authority.
- Parking Tax Districts (Business Improvement District, Neighborhood Improvement District) may collect property tax levies to support parking improvements. They typically require a referendum to enact. Again, this approach is problematic, as the largest Uptown property owners are tax-exempt.
- Payments in Lieu of Taxes – As the largest Uptown parking generators are generally tax-exempt, this method would obligate the partners to pay a fee in lieu of property taxes.
- Similar parking projects have been financed by the use of single options and various combinations. Most projects are financed by tax exempt bonds supported primarily by the total parking department revenue, and/or may be subsidized in part or in full by the ownership institutions, fees, state appropriations, allocation of reserves, and gifts.
- At this point, it is not known what contributions, foundation support or legislation appropriations may be available. Given the inability of the project to generate positive cash flow at current parking fees when considered as a stand-alone project, the private development option may not be viable. Thus, the most likely method of finance appears to be Federal Transportation Administration grants, coupled with the use of general obligation tax-exempt bonds guaranteed by the partners.

Debt Service Coverage Ratios

Solvency ratios, such as the Debt-Service Coverage Ratio (DCR), typically limit the amount that may be financed for a capital improvement project. Such ratios are typically used to determine the project's degree of debt financing and are partial indicators of the parking structure or system's ability to meet its debt obligations. These ratios reserve an amount that is available to absorb any operating losses.

Pro forma analysis usually includes a calculation of the annual debt coverage ratio for each year of operation. Although most underwriters require project specific debt coverage ratios that differ depending, in part, on the perceived risk, it is common for a minimum coverage of 1.20 to 1.25 to be required of most universities. However, this may vary by the credit worthiness of the institution. The required DCR varies in practice from a low of 1.10 to as high as 1.45.

Higher solvency ratios indicate that an operation has a greater ability to weather changes in the market or any other unforeseeable financial obstacles. DCRs below market expectations tend to indicate a greater degree of risk to the market. This typically results in higher interest rates for the bond issue, or may reduce the bond's marketability.

New parking improvements may be financed through increases in parking permit fees, general student fees, debt, gifts, or other means. The housing bond authority has already pledged existing parking permit and fee income to bonds. Citation and fines are not pledged. A percentage increase in parking fees or other revenue to be pledged to the project must be crafted to achieve the target solvency ratio. Insufficient new parking revenue will limit borrowing capacity, requiring financing of less than 100 percent of the project, assuming financial feasibility can be demonstrated.

7.4.5 Summary of Parking Recommendations

The following actions are recommended to improve parking in the Uptown area:

- Establish the Uptown Transportation Management Association (TMA) to help manage and market transportation and parking services in Uptown.
- Implement a Travel Demand Management (TDM) program to reduce parking demand by encouraging commuting by alternative modes or by discouraging single occupant vehicle (SOV) commuting.
- Consider an Uptown neighborhood parking permit program. Increasing parking demand in the Uptown area may necessitate more intense management of on-street parking and make neighborhood permit parking more desirable to residents.



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- Build new parking facilities. The parking deficit in the Uptown area is expected to reach approximately 5,000 spaces by 2015. Recently, Children's Hospital and the Health Alliance have announced plans to develop a parking structure for 2,000 cars near the intersection of Kasota and Burnet Avenue. Children's is also developing a site on Burnet Avenue to accommodate 1,500 cars. The total of 3,500 spaces would therefore reduce the projected deficit to 1,500. After these facilities are open, the demand for parking should be reevaluated prior to the construction of additional parking facilities.
- Pursue alternative funding and financing mechanisms to support parking operations and facility construction.