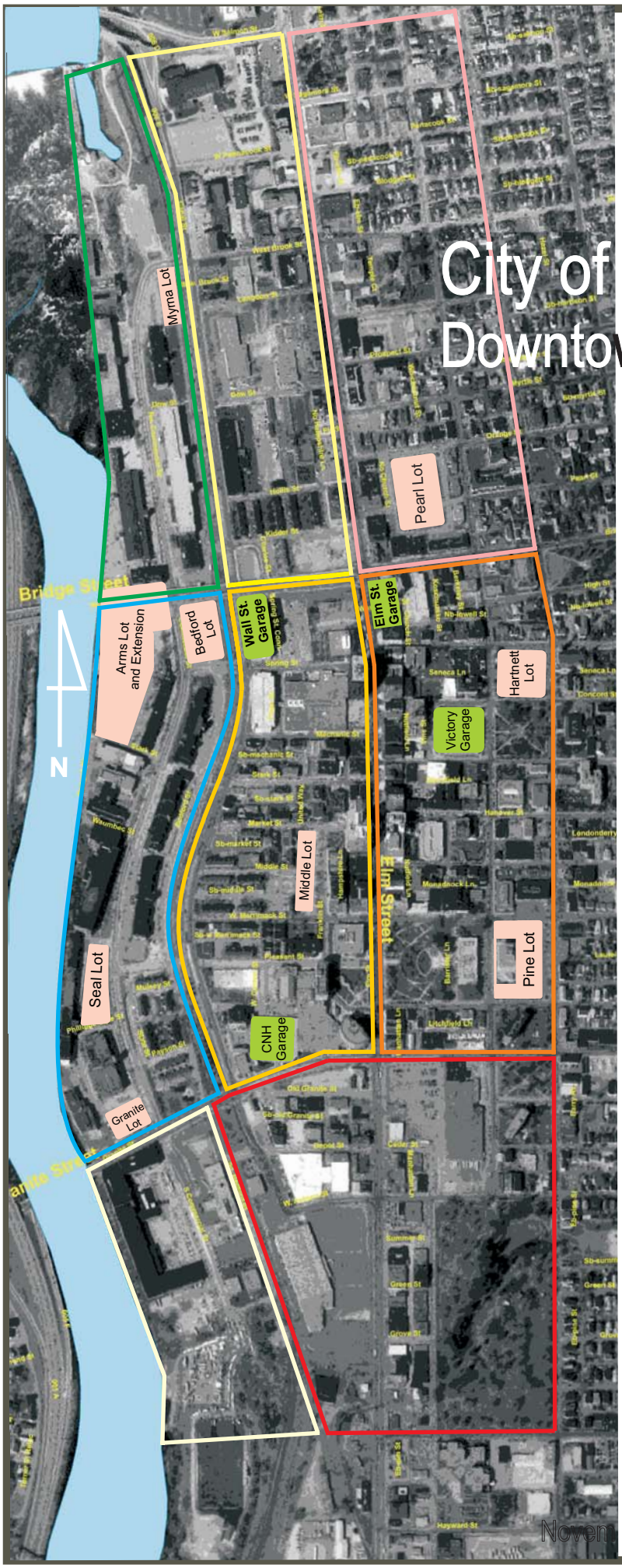

City of Manchester
Downtown Parking Study

FINAL

Prepared for the
City of Manchester

Prepared by
Lansing Melbourne Group, LLC

LMG LANSING MELBOURNE GROUP

CONSULTING ENGINEERS

Consulting Engineers, Inc.

January,06

City of Manchester
Final - Downtown Parking Study

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City of Manchester

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and

Consulting Engineers, Inc.

January, 2005

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1.0 EXECUTIVE SUMMARY

The City of Manchester (the City) retained Lansing Melbourne Group, LLC (LMG) to conduct a downtown parking study. For the purpose of this study and analysis, an area of approximately 88 blocks has been identified as the Parking Study Area. This area is bounded by Salmon Street to the north, Hayward Street to the south, the Merrimack River to the west and Pine Street to the east (refer to Figure 1 for more detail).

1.1 OVERVIEW/BACKGROUND

The usage of the parking system was evaluated during three time periods of a representative typical weekday to determine peak occupancy. The parking system was delineated by owner–type (privately owned versus city–owned) and whether the parking was located off–street or on–street or operated as short–term (such as visitor parking) or long–term (such as employee parking). A Microsoft Excel-based spreadsheet model was developed to model changes to the parking system based on changes in employment. Documentation on the model application is found in the Appendix to this report.

The total public and private parking supply for the study area is 15,806 spaces. Of these, 12,867 spaces are located in off–street public and private parking facilities, with the remaining 2,939 spaces located on-street. The City owns and controls 6,882 off–and on–street spaces in the study area (3,943 spaces off-street plus 2,939 spaces on-street).

Based on the study findings, during a typical weekday (Tuesday through Thursday), the peak period occurs between 11:00 AM and 1:00 PM (midday peak period), the highest parking demand was measured comprised of 10,266 parked vehicles, resulting in an occupancy rate of 65 percent.

In general, the on–street parking located in the North Canal subarea has the highest occupancy rate at 87 percent, followed closely by the on–street parking in the Millyard North and CBD East subareas at 83 and 82 percent occupancy, respectively. The subareas where on–street parking is highest represents 1,112 spaces, or 38 percent of the entire on–street parking supply. However, the downtown on–street system in Manchester is complicated by the on–street permits sold for employee and residential parking.

The City on and off–street parking supply meets the needs of the current parking demand. The City off–street surface parking demand nears capacity in the Millyard North, CBD East, and CBD West at 83, 82, and 82 percent respectively. The target occupancy rate in a downtown the size and nature of Manchester should be between 80 and 85 percent. The City on–street parking supply is also well under capacity with an average occupancy of 66 percent with rates at 87, 83, and 82 percent for the North Canal, Millyard North, and CBD East subareas, respectively.

1.2 RECOMMENDATIONS SUMMARY

There is a lengthy list of recommendations provided in this report. This list should provide the basis for adoption of a Parking Master Plan (PMP).

The preparation of a PMP should be part of the next logical phase, the Implementation Phase. The Implementation Phase will identify and refine:

- goals and objectives for adoption by BMA;
- the budget required for operation of the reorganized parking system;
- a detailed capital improvement plan;
- staffing plan; and
- strategies for rollout of recommendations.

The PMP should be the main deliverable of the next logical phase of study – the Implementation Phase. The Implementation Phase will provide refinements and strategies for actual implementation of recommendations included in this study.

The recommendations listed herein are for approval and adoption by the Board of Mayor and Aldermen. The majority of recommendations direct the "City", a "City department", the "Parking Office" or "Parking Department" to take action. The intent is that the appropriate department with the requisite authority takes action in the short-term (as directed by BMA) and the reorganized parking system (Parking Department or Parking Office), when in force.

Should the BMA decide to move forward with the majority of recommendations, a single department or point of responsibility is necessary to maintain momentum, coordination, and public relations. LMG recommends that this single point of contact be assigned to the City Finance Department and that the Finance Department take immediate action to advertise and hire a Parking Manager.

Recommendation No. 1 – *The BMA should assign responsibility for managing the <u>transition</u> of reorganization to the Finance Department.*

Recommendation No. 2 – *The BMA should authorize the hiring of a Parking Manager by the Finance Department.*

Recommendation No. 3 – *The BMA should authorize the Finance Department to retain a qualified parking consultant to develop the Implementation Plan.*

There are a total of 39 recommendations provided throughout Chapters 4 and 5 as summarized below. In some cases the chapter and section of the report will need to be investigated (by page number) to obtain the full explanation of the recommendation or to view a table.

Recommendation No. 4 – *An increase in the vehicle registration fees should be approved by the Board of Mayor and Aldermen (BMA) as a source of additional revenue to support the parking system reorganization. The need will be documented and if warranted, the amount of the increase will be proposed as part of the Implementation Phase.* 43

Recommendation No. 5 – *Based on the previous discussions, the BMA should adopt the following strategies as part of the PMP:*

1. Offer to negotiate a reduction of parking requirements for development projects that

incorporate parking structures rather than parking lots;

2. Offer density bonuses to projects that incorporate parking structures rather than parking lots;

3. Endorse mixed-use facilities where feasible to reduce the cost of parking and increase the revenue stream used to pay for the structure. Commercial lease rates are greater on a per foot basis than what can be generated from a parking space;

4. During the Implementation Phase, authorize the potential to use TIF funding for financing the cost to construct parking structures (if shown to be needed): and

5. Entertain sale-leaseback agreements to identify the specific parameters and benefits to the City…… 43

Recommendation No. 6 – *The BMA should adopt the parking organization described above in this chapter subject to refinements in the Implementation Phase.* 45

Recommendation No. 7 - *The BMA should recognize and adopt the following policy guidelines as part of the PMP:*

1. Strategy in future lease negotiations or renewals should come from the Implementation Phase.

2. Efforts should be made to ensure that every commitment made by the City moves it one-step closer to achievement of its long-term goals.

3. Tactical matters should fall to the parking department head. Issues specifically negotiated in the leases such as rates, operation, availability and reservation for future use should be managed within the context of the system.

4. Ownership should be the goal, not leasehold. If a public private partnership is considered important to support the development of a specific project or to attract a specific tenant, the City should consider options such as condominium ownership of the spaces and support of the underlying construction debt.

5. Great care should be exercised to keep from committing large blocks of spaces to a single property or business owner. This can cause great difficulty in future efforts to obtain financing.

6. Lease terms should be limited to short periods with opportunities for renewal at market rate terms.

7. Separate rate structures should be developed for intergovernmental relationships...... 47

Recommendation No. 8 – *The BMA should immediately look to assess the need for the parking spaces leased from Wall Street. This effort should be coordinated through the new Parking Manager, or the consultant during the implementation phase, if the Manager is not brought on board within 180 days.* 47

Recommendation No. 9 – *The BMA should adopt a policy that the reorganized parking system will achieve a self-supporting level of financial stability.* 49

Recommendation No. 10 – *AThe BMA should approve a target occupancy rate of 80 percent for short term and 90 pecent for long-term parking spaces as part of the PMP.* 49

Recommendation No. 11 – *Adopt Action Items in following Table 21.* 52

Recommendation No. 12 – *The BMA should relegate recommendations on enforcement needs, including staffing and equipment, to the Implementation Phase.* 54

Recommendation No. 13 – *The BMA should direct the City to standardize the enforcement times for on-street paid parking. On-street paid parking in retail, commercial, dining and entertainment areas should be in effect and enforced from 8am to 10pm Monday through Saturday and 11am to 4pm on Sundays. Off-street paid parking should follow the same hours of operations and enforcement. An overlay district should be developed for the Arena area to ensure that paid parking is provided. New meter technology will provide ability to charge event parking differently from regular parking.* 54

Recommendation No. 14 – *The BMA should authorize a feasibility analysis of contracting with a private operator for short-term operation and management of the on-street parking during the Implementation Phase.* 55

Recommendation No. 15 – *The BMA should approve the adoption of a "forgiveness" ticket policy that reduces but does not dismiss a ticket issued in the downtown area. The specifics will be identified in the financial and operations plan as part of the reorganization presented in the Implementation Phase.* 55

Recommendation No. 16 – *The BMA should direct the appropriate City department(s) to stop issuing new permits and sunset the current practice of issuing permits over a maximum 90-day period (the shorter timeframe, the better). A new written policy should be adopted and implemented during this timeframe.* 58

Recommendation No. 17 – *At such time as feasible, and in concert with the previous recommendation, the issuance of parking permits should be managed through real-time reports by the Parking Office. Purchasers of permits who are not active users of the system will be expunged and relegated to the lowest priority on the waiting list.* 58

Recommendation No. 18 – *The BMA should direct the appropriate City department(s) to sunset the current residential permit parking practice and implement a policy statement on issuance of residential permits including the list provided below. The Policy should be subject to change based on parking conditions over time.* 59

Recommendation No. 19 – *The BMA should authorize the City to revise the residential permit parking ordinance so that the requirement for the applicant to hold a "valid State of New Hampshire" license is revised to "valid driver's license".* 59

Recommendation No. 20 – *The BMA should authorize the creation of one residential parking zone covering the AMX and CBD zoning districts.* 59

Recommendation No. 21 – *The BMA should authorize the adoption of the rates shown in Table 22 as a maximum. It should be at the direction of the Parking Office to implement at*

it's discretion (without additional authorization by the BMA) based on achieving goals in the PMP. The rate tables should be updated every year and should identify the anticipated rates for the next three to five years, by year. 61

Recommendation No. 22 – *Integrate parking planning reviews in the planning and zoning review and approval process in the CBD and AMX districts. The City (Parking Office) should update and revise, as necessary, the current City ordinances related to parking requirements, as well as develop new policy guidelines and requirements and parking study guidelines as part of the Implementation Phase.* 62

Recommendation No. 23 – *The BMA should require the City to enact a moratorium on issuance of new permits in high demand lots and garages. When in the best interest of all parties, parkers should be directed to private lots where capacity exists. The City should facilitate this negotiation between developers and parking facility owners.* 62

Recommendation No. 24 – *The BMA should direct the City (Parking Office) to post "no permit parking allowed" in specific on-street parking locations at the north end of Commercial Street to preserve on-street parking capacity for commercial and retail businesses that depend on on-street parking for their customers. The signs may also require restrictions during certain times, for instance from 9am to 5pm, when the on-street supply is fully usurped by permit parkers.* 62

Recommendation No. 25 – *The BMA should direct the City (Parking Office) to establish and enact a policy for creation of individual valet parking zones for specific businesses. The City should also support, encourage, and facilitate the creation of a larger zone based valet parking service managed by the private sector.* 63

Recommendation No. 26. – *The BMA should approve the replacement of off-street meters in surface lots with pay by space or pay and display machines. The effectiveness of the technology would be evaluated before the program is moved to on-street locations (see recommendation for Elm Street demonstration project).* 64

Recommendation No. 27 – *The BMA should authorize a detailed study in the Implementation Phase to evaluate, cost, develop a finance plan, acquire, and install all new technology system-wide.* 65

Recommendation No. 28 – *The BMA should direct the City to obtain an appraisal for the garage (already in-progress) and negotiate a sale of the CNH garage to the owners of the hotel and convention center.* 66

Recommendation No. 29 – The BMA should approve the issuance of an RFQ to enter into one or more development projects with private sector proposers for the development of mixed-use projects and public parking in the Arena and ballpark subareas. 66

Recommendation No. 30 - *The BMA should direct the City to enter into negotiations to sell the Granite Street Lot to the owner(s) of the adjacent Millyard Building.* 67

Recommendation No. 31 - *The BMA should direct the City to enter into negotiations to sell the Seal Tanning Lot to the owner(s) of the adjacent Millyard Building owner.* 67

Recommendation No. 32 - *The BMA should direct the City to develop a financing and development plan for the planning, design and construction of a three-bay, five level parking structure on the Bedford lot as soon as reasonably possible.* 68

Recommendation No. 33 – *The City in conjunction with the Parking Department should investigate the options and costs related to constructing remote parking along Commercial Street and serving that parking with a shuttle.* 70

Recommendation No. 34 – *All development proposals should provide sufficient parking to meet the parking needs of the project plus replace any loss in parking that may impact the availability of the parking supply to other users in the service area of the parking lot. This finding should be determined through a shared parking study/analysis conducted by the developer per the direction of the City.* 71

Recommendation No. 35 - *The BMA should direct the City to prepare and adopt shared parking study approach for use by the developer in such cases as part of the Implementation Phase.* 71

Recommendation No. 36 - *The BMA should adopt a policy regarding the evaluation of new development proposals as an opportunity to implement the PMP. This opportunity could be varied, from jointly developing and expanding the public parking component, to condominiumization, sale/leaseback, management plans, or other collaborations that benefits the City and the developer, development and/or the economy.* 71

Recommendation No. 37 – *The BMA should direct the City to initiate the planning, design, and implementation of at least two cross-street linear parking lots as discussed in this report.* 77

Recommendation No. 38 – *The BMA should direct the City to initiate the planning, design, and implementation of the Arms Street Lot controlled permit parking plan as discussed in this report.* 79

Recommendation No. 39 – The BMA should direct the Parking Department to immediately begin investigating the applicable technology to replace the mechanical meters. This recommendation should be completed as a priority in the implementation phase. 79

As mentioned previously, supporting materials, information, and data can be found in the report preceding each recommendation. The following provides a detailed analysis of the existing conditions, financial operations of City parking, long-term recommendations, short-term implementation projects, a peer city comparison, and finally a presentation of effective techniques used to promote economic development through parking.

2.0 EXISTING PARKING

A discussion of parking system characteristics is generally divided into two basic parameters, the parking supply, and the parking demand. The parking supply is comprised of City of Manchester (the City) on–and off–street parking supply, various institutional uses such as Public Service of New Hampshire (PSNH), and privately owned off–street parking spaces. The parking demand is defined as the demand for parking generated by employees, students, shoppers, and visitors (parkers) in the downtown. The parking demand and supply is expressed in terms of spaces while parking use, or occupancy, is expressed in terms of the percentage of spaces occupied during a given interval of time. This section also includes an analysis of the on–street parking turnover and duration which is followed by a financial analysis of the City parking infrastructure and then a section on recommendations for improving the parking system.

2.1 STUDY AREA

For the purpose of this study and analysis, an area of approximately 88 blocks has been identified as the Parking Study Area. This area is bound by Salmon Street to the north, Hayward Street to the south, the Merrimack River to the west and Pine Street to the east (refer to Figure 1 for more detail).

Included in the study area are a number of diverse land uses including colleges, retail stores, financial institutions, public and private office buildings, churches, libraries, museums, restaurants, residential uses, the Verizon Wireless Arena and the minor league New Hampshire Fisher Cats Baseball Stadium. The study area also includes the City Hall government office complex. A significant portion of the daytime downtown population can be attributed to private offices along the Merrimack River in the Millyard areas which house over 6,700 employees.

In addition to those employed by the public and private sector, there are several institutions of higher education located within the study area, of which the University of New Hampshire – Manchester (UNH–M) is the largest, with a total campus population of approximately 1,750 students, faculty, and staff who commute to the university. These numbers are significant since several of these post–high school institutions are located in the Millyard area which also houses the highest concentration of employment and parking demand.

Data has been collected and analyzed for each block within the study area and is presented by block number in Appendix Figure 1. However, for ease of discussion and presentation, the study area has been delineated into larger “subareas” or districts as shown in Figure 1. Each district includes those blocks that fall within a defined geographic area and is typically dominated by a particular land use or theme.

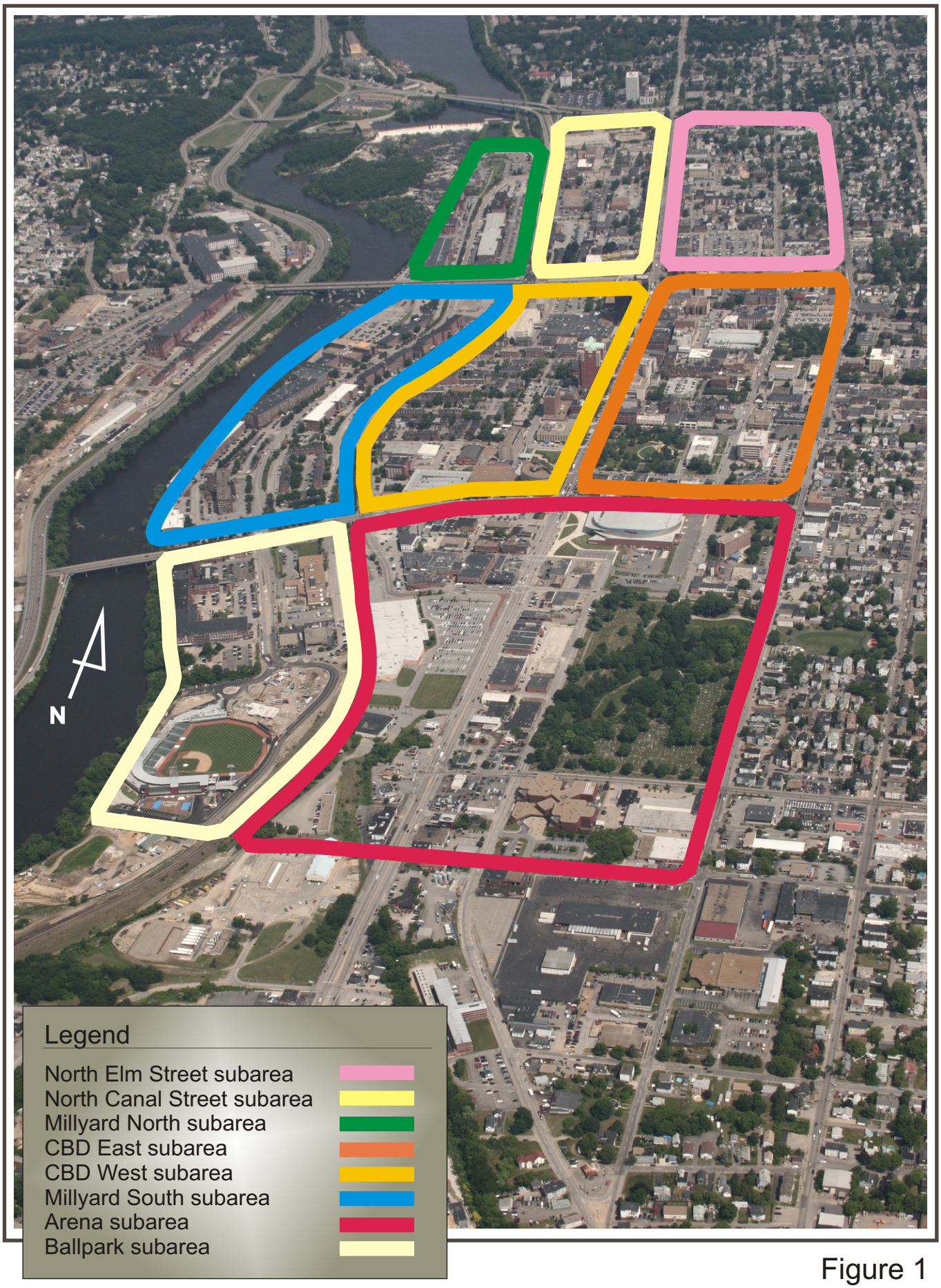
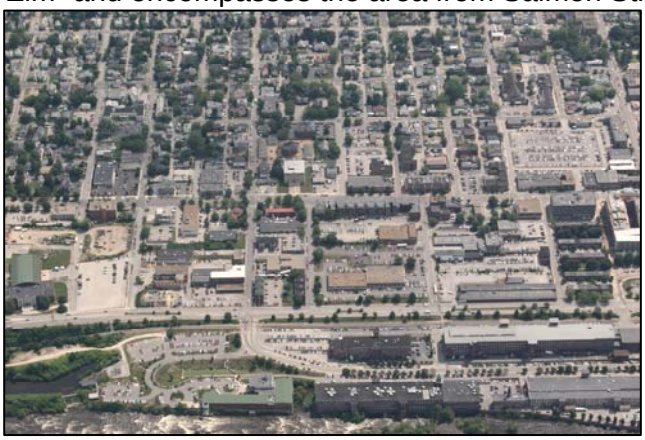


Figure 1
Study Area

The eight subareas for this study are described below.

North Elm Street Subarea

The North Elm Street subarea is also referred to herein and on figures and tables as "North Elm" and encompasses the area from Salmon Street on the north to Bridge Street on the south, Elm Street to the west and Pine Street to the east. The primary land uses located in this study area are residential housing to the north and east and retail, commercial and office development along Elm Street.



North Canal Street Subarea

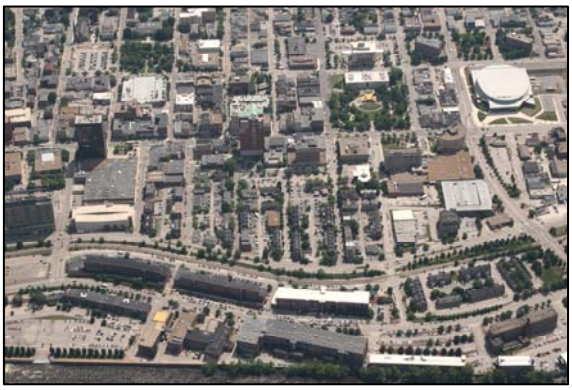
The North Canal Street subarea is also referred to herein and on figures and tables as "North Canal" and encompasses the area from Salmon Street on the north to Bridge Street on the south, Elm Street to the east and Canal Street to the west. The primary land uses located in this study area include the Massachusetts College of Pharmacy and Health Sciences, the State Armory, some residential housing, and retail, commercial and office development along Elm Street.

Millyard North Subarea

The Millyard North subarea also referred to herein and on figures and tables as "Millyard North", encompasses the area between Canal Street on the east and the Merrimack River on the west, and from Salmon Street on the north to Bridge Street on the south. The primary land uses located in this study area are the Public Service of New Hampshire (PSNH) facilities on the north, renovated Millyard buildings with office and commercial uses along the Merrimack River. Other notable institutions include Franklin Pierce College of New Hampshire and Seacoast Career School located along Commercial Street.

Millyard South Subarea

The Millyard South subarea also referred to herein and on figures and tables as "Millyard South", encompasses the land area between Canal Street on the east and the Merrimack River on the west and from Bridge Street to the north to Granite Street on the south. The primary land uses located in this study area are the renovated Millyard buildings with office and commercial uses along the Merrimack River, several educational institutions including the University of New Hampshire, and Springfield College of Human Sciences, the See Science Center, and The Millyard Museum plus several large municipal and private parking lots.



Central Business District West Subarea

The Central Business District East subarea also referred to herein and on figures and tables as "CBD West", encompasses the land area between Elm Street on the east and Canal Street on the west and from Bridge Street to the north to Granite Street on the south. The primary land

uses located in this study area are typical CBD uses such as retail, commercial, and mixed–use properties including residential units.

Central Business District East Subarea

The Central Business District West subarea also referred to herein and on figures and tables as "CBD East", encompasses the land area between Pine Street on the east and Elm Street on the west and from Bridge Street to the north to Granite Street on the south. The primary land uses located in this study area are typical CBD uses such as retail, commercial, and mixed–use properties including residential units and the Federal Courthouse. However, the eastern edge of the subarea begins to transition to more residential areas of the city. At least two institutions of higher education are located in this subarea including the New Hampshire Institute of Arts plus several cultural centers including the Sargent Museum, the Franco Americain Center, and the Palace Theater.

Arena Subarea

The Arena subarea also referred to herein and on figures and tables as "Arena", encompasses the land area between Pine Street on the east and Elm Street on the west and from Granite Street on the north to approximately Hayward Street on the south. The primary land uses located in this study area are the Verizon Wireless Arena and multiple commercial buildings located between Chestnut and Commercial Streets, the Valley Cemetery, and some light industrial uses.

Ballpark Subarea

The Ballpark subarea (also referred to herein and on figures and tables as "Ballpark"), encompasses the land area between the Merrimack River on the west to Canal Street on the east and from Granite Street to the north to just south of the Fisher Cats Baseball stadium. The primary land uses located in this study area are the stadium, a new hotel, and various commercial and office uses along the east edge of the subarea.

The following sections provide information on the parking supply and use within the study area as well as subareas.

2.2 PARKING SUPPLY

The total public and private parking supply for the study area is 15,806 spaces. Of these, 12,867 spaces are located in off–street public and private parking facilities, with the remaining 2,939 spaces located on-street. The City owns and controls 6,882 off–and on–street spaces in the study area (3,943 spaces off-street plus 2,939 spaces on-street).

The majority of on–street spaces are metered with some spaces in the fringe areas designated with two and ten-hour time limits. Of the 12,867 off–street spaces, 3,943 spaces are City owned and 8,924 spaces are owned by private entities. The Central Business Districts, both East and West (CBD East and CBD West) have the largest number of on– and off–street parking spaces available, 2,896 and 3,449 spaces respectively. The Ballpark and Arena Districts have the

fewest number of on–and off–street parking spaces available with 382 and 1,149 spaces respectively.

For purposes of this analysis, the parking supply has been broken down into three categories:

1. Off–Street City Parking
   - *City short–term* – includes City owned parking located in off–street facilities that is available for use by the general public; and
   - *City permit* – includes City owned parking located in off–street facilities where monthly permits are purchased and short–term public parking is not available. This parking has the same characteristics as privately controlled parking that is not available for use by the public.
2. Off–Street Private Parking:
   - *Private short–term* –includes all privately owned parking located in off–street facilities available for use by the general public;
   - *Private monthly* –includes all privately owned parking located in off–street facilities that is leased monthly and not available for use by the public. The owners of this parking can restrict the use, cost, and amount of parking to be provided.
3. On–street City Parking – includes all publicly owned metered, time limited, and unregulated on–street parking spaces.

Each category of the parking supply is discussed in the following sections.

2.2.1 Off–Street Publicly Owned Parking

The City's total parking supply is comprised of parking spaces located in off–street parking structures and surface lots, and in on–street facilities. In total, the City owns and controls 6,882 spaces within the study area comprised of 3,943 spaces in twelve off–street facilities and 2,939 spaces on–street. The City's on–street parking supply will be discussed in a later section of this report.

The off–street parking spaces are available for both general public short–term parking as well as monthly permit parking. The total off–street parking spaces (3,943) are comprised of 2,316 parking structure spaces in four garages and 1,627 spaces in nine surface lots. There are three surface parking lots that have been excluded from this analysis including the three (3) spaces in the City Police Department Lot, 240 spaces in the Armory Lot and 177 spaces in the Arena Lot since they are not generally available for public use except during special events or by permission. This adjustment reduces the surface parking lots spaces to 1,627 for purposes of this study. Of the four structured parking garages, three have hourly (attended) spaces available for short–term use and all allow permit parking. Of the nine surface parking lots (excluding the City Police Department, Armory and Arena Lots), five have metered spaces available for short–term use and all nine allow permit parking.

Figure 2 illustrates the City owned garages and the Wall Street and Elm Street garages where the City leases a significant block of parking (to be discussed in following sections). Table 1 provides a breakdown of the off–street parking spaces by facility type (structures versus surface lot facilities). As shown in Table 1, the **City's Parking Garages** supply 2,316 spaces in four facilities:

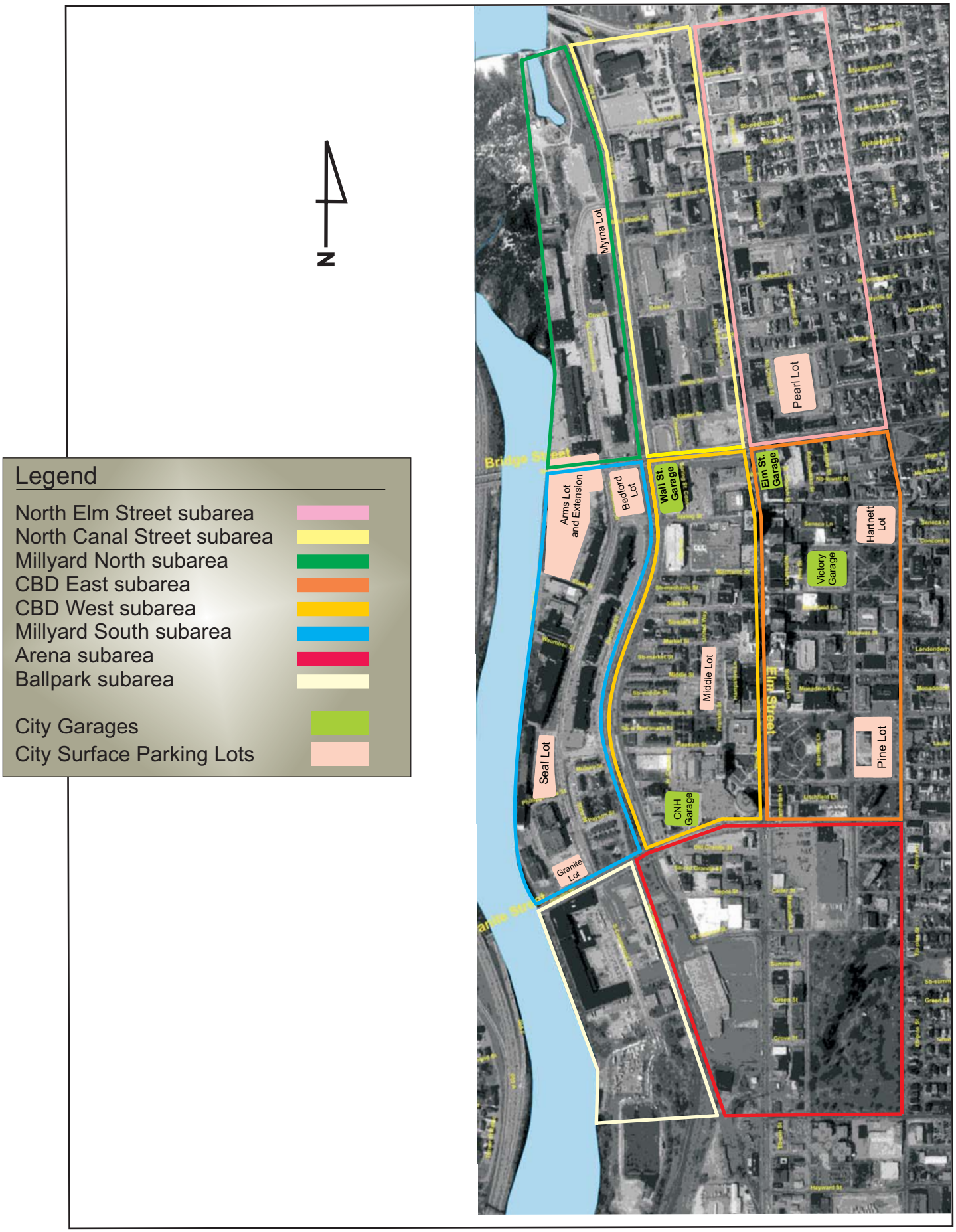


Figure 2
City Off-street Parking Locations

- The Victory Garage, located in the CBD East at the corner of Vine and Amherst Streets (CBD East), contains 846 spaces, of which 560 spaces are sold for permit parkers and 286 spaces are open for short–term visitor parking. This garage was constructed in 1977 and has five levels.
- The Elm Street Garage, at the corner of Bridge and Elm Streets (CBD East), located below a commercial office building and is privately owned. The City leases 66 permit spaces in the ground level of this multi–level garage.
- The Wall Street Garage is located at the corner of Spring and Canal Streets (CBD West). This garage is privately owned and constructed as a multi–level garage below a residential tower. The City leases 400 spaces from the owner and subleases 280 of those spaces to businesses.
- The Center of New Hampshire Garage (CBD West) is also referred to herein as CNH is located at the corner of Granite and Canal Streets. This four level garage has 1,004 spaces and supports an integrated conference center and hotel.

Table 1 also lists the **City's Surface Lot** parking supply of 1,627 spaces provided in nine surface lots. In addition, Table 1 includes a footnote that indicates an adjustment was made to the surface parking lot supply to exclude three lots that were counted in the data collection, including the Police Department Lot, the Arena lot, and the Armory Lot, since these spaces are not available to the public. The largest of these lots, the Arms Lot and Arms Lot Extension (Millyard South) provides 403 spaces designated as permit parking only for students and employees associated with UNH–M, adjacent office buildings and nearby businesses. Access is provided from Commercial Street. The second largest lot is the Pearl Lot which is located in the North Elm District between Bridge and Elm Streets. This lot contains 330 parking spaces with 286 reserved for permit parking and 44 metered spaces serving employees and patrons associated with multiple adjacent businesses. A significant mixed–use development is under consideration for a portion of the Pearl Lot.

Table 1 – Summary of City Off–Street Parking Spaces

Study Area District	Facility Name	No. of Permit Spaces	No. of Short– term Spaces	Total No. of Spaces
Lots				
North Elm	Pearl Lot	286	44	330
Millyard North	Myrna Shoe Lot	115	30	145
CBD West	Middle Lot	37	31	68
CBD East	Hartnett Lot	134	72	206
CBD East	Pine Street Lot	147	12	159
Millyard South	Arms Lot/Extension	403	0	403
Millyard South	Bedford Lot	108	0	108
Millyard South	Seal Tanning Lot	0	142	142
Millyard South	Granite Lot	0	66	66
Total Surface Parking[1]		**1,230**	**397**	**1,627**
Structures				
CBD East	Victory Garage	560	286	846
CBD East	Elm St. Garage	66	0	66
CBD West	Wall St. Garage	280	120	400
CBD West	CNH[2] Garage	800	204	1,004
Total Garage Parking		**1,706**	**610**	**2,316**
Total Parking Supply[1]		**2,936**	**1,007**	**3,943**

[1]Publicly–owned lots, but not owned by the City of Manchester for public parking use including 3 spaces in the City Police Department lot, 240 spaces in the Armory Lot and 177 spaces in the Arena Lot.
[2]Center of New Hampshire garage

Other significant surface lots include the Hartnett Lot (CBD East), which contains 206 spaces of both metered and permit parking, the Seal Tanning Lot (Millyard South) which contains 142 short-term spaces, the Myrna Shoe Lot (Millyard North), containing 145 permit and metered spaces, the Pine Street Lot (CBD East) which contains 147 permit and 12 metered spaces for a total of 159 spaces. In addition, the Bedford Lot (Millyard South) has 108 permit spaces and has been discussed as possible site for a new parking garage to serve the Millyard area. Smaller lots include the Granite Street Lot (66 non-permit spaces) which serves the mill buildings and Jillian's Restaurant almost exclusively, and the Middle Lot, 68 permit and metered spaces located in the CBD West which serves the City Hall area and businesses west of Elm Street. Prior to September 15, 2005, the majority of spaces in the Seal Tanning and Granite Lots were permit spaces. Since that time, permit spaces have been converted to short-term spaces.

The Armory Lot is located north of West Pennacook Street in the North Canal District. This lot contains 240 spaces for parkers associated with National Guard activities. This lot is publicly owned, but is not available for use by the public and is not a "city–owned" facility. The South Commercial Lot is adjacent to the Arena and reserved for Arena events and therefore not part of the City system available for general public use. Finally, the Police Lot is reserved for Police vehicles and will not be carried forward in this study as well.

The City has an **On–Street** parking supply of 2,939 spaces. Approximately 2,492 of the spaces are metered but the City also allows special permit parking in many of the spaces including nearly all the metered parking located along Commercial Street and on several of the streets in the CBD East and CBD West

subareas. There are 1,171 two-hour meters and 1,321 ten-hour meters and 447 time limits spaces. The metered parking rates are $0.50 per hour and take quarters. There is little difference in meter rates between the most desirable parking locations and the more remote parking locations. The meters are electronic meters and were installed approximately five years ago.

2.2.2 Off–Street Private Parking

There are 8,924 privately owned and controlled parking spaces. Of the 8,924 private spaces, two off–street facilities provide short–term public parking. These two facilities are the Hanover Street garage (Citizens Bank) which has 58 metered spaces and the Elm Street garage which has 66 short–term metered spaces.

As discussed in the previous section, nearly all of the 8,924 privately owned off–street parking supply is operated as permit or leased parking. There are three off–street garages providing 859 spaces and over 100 private surface lots providing 8,065 spaces.

2.2.3 Parking Supply Summary

Table 2 presents a summary of the existing parking supply in the study area as discussed in the preceding sections.

Table 2 – Summary of Existing Parking Supply

Parking Category	Parking Supply
Total Off–Street City Parking	3,943
City Short–term	1,007
City Permit	2,936
Total Off–Street Private Parking	8,923
Private Short–term	123
Private Monthly	8,800
On–street City Parking	2,939
Study Area Total	**15,806**
Off-street permit and monthly	**11,736**
Off-street short-term	**1,130**
Study Area Total	**15,806**

In terms of ownership and control, the total study area parking supply is 15,806 spaces comprised of 6,882 City owned parking spaces (3,943 off–street parking spaces and 2,939 on–street spaces) plus 8,924 private parking spaces. The City controls approximately 44 percent of the downtown parking system.

In terms of ownership, the study area parking supply includes 15,806 spaces comprised of 2,939 on-street spaces plus 3,943 off-street City spaces. The off-street spaces include 2,936 permit and 1,007 short-term spaces. There are 8,923 private off-street spaces comprised of 8,800 monthly permit and 123 short–term spaces. In terms of use rather than ownership, there are 11,736 off-street permit spaces and 1,130 short-term off-street spaces.

2.3 PARKING USAGE

Parking demand is defined as the need for parking generated by employees, students, and visitors (parkers) in the downtown as opposed to the amount of parking provided in the study area (collectively, the supply). Discussed in the following sections is the methodology and results of the parking occupancy study and parking survey.

A survey of the study area's parking supply was conducted on Tuesday, Wednesday, and Thursday, the week of the May 9th, 2005. This was the last week of regular classes before finals at the University of New Hampshire. In addition, aerial photography was taken of the study area on Tuesday, June 21st, 2005. Prior to the week of May 9th, parking inventory was gathered for off–street surface lots, garages, and on–street parking spaces. During the week of May 9th, a parking occupancy inventory was conducted during three periods, from 8:30 to 10:00 AM, 11:00 AM to 1:00 PM, and from 3:30 to 5:30 PM. Based on the field counts, aerial photography and multiple field confirmations, the existing parking demand was calculated. A composite summary was prepared based on the available data. The existing parking demand was compared to the parking supply and the percent occupancy was calculated. Table 3 presents a summary of the overall parking occupancy rates for the representative periods.

Table 3 – Summary of Total Parking Occupancy Rates

Day / Time	Parking Availability[1]	Occupied Spaces	% Occupied
Weekday 8:30 –10:00 AM	15,806	6,768	43%
Weekday 11:00 –1:00 PM[1]	15,806	10,266	65%
Weekday 3:30 –5:30 PM	15,806	8,102	51%

[1] Tuesday at 11:00 AM to 1:00 PM was identified as having the highest peak period occupancy for the study area.

Based on the study findings, during a typical weekday (Tuesday through Thursday), the peak period occurs between 11:00 AM and 1:00 PM (midday peak period), the highest parking demand was measured comprised of 10,266 parked vehicles, resulting in an occupancy rate of 65 percent. Table 3 represents a composite of the data collection effort over those three days. Please refer to Appendix A for the detailed data collection spreadsheet and figure for this peak time period. Appendix A includes the parking supply, demand, and resulting occupancy broken down by City off–street, on–street, and private off–street parking facilities, as well as study subareas and the blocks contained within each subarea.

Table 4 details the parking supply, measured demand, and percent occupancy for the peak period. This table stratifies the parking supply and demand into the subareas listed in section 2.1 and depicted in Figure 1 (refer to Appendix A for detail). Please refer to Figure 3 for a graphical representation of peak period parking occupancy for each subarea.

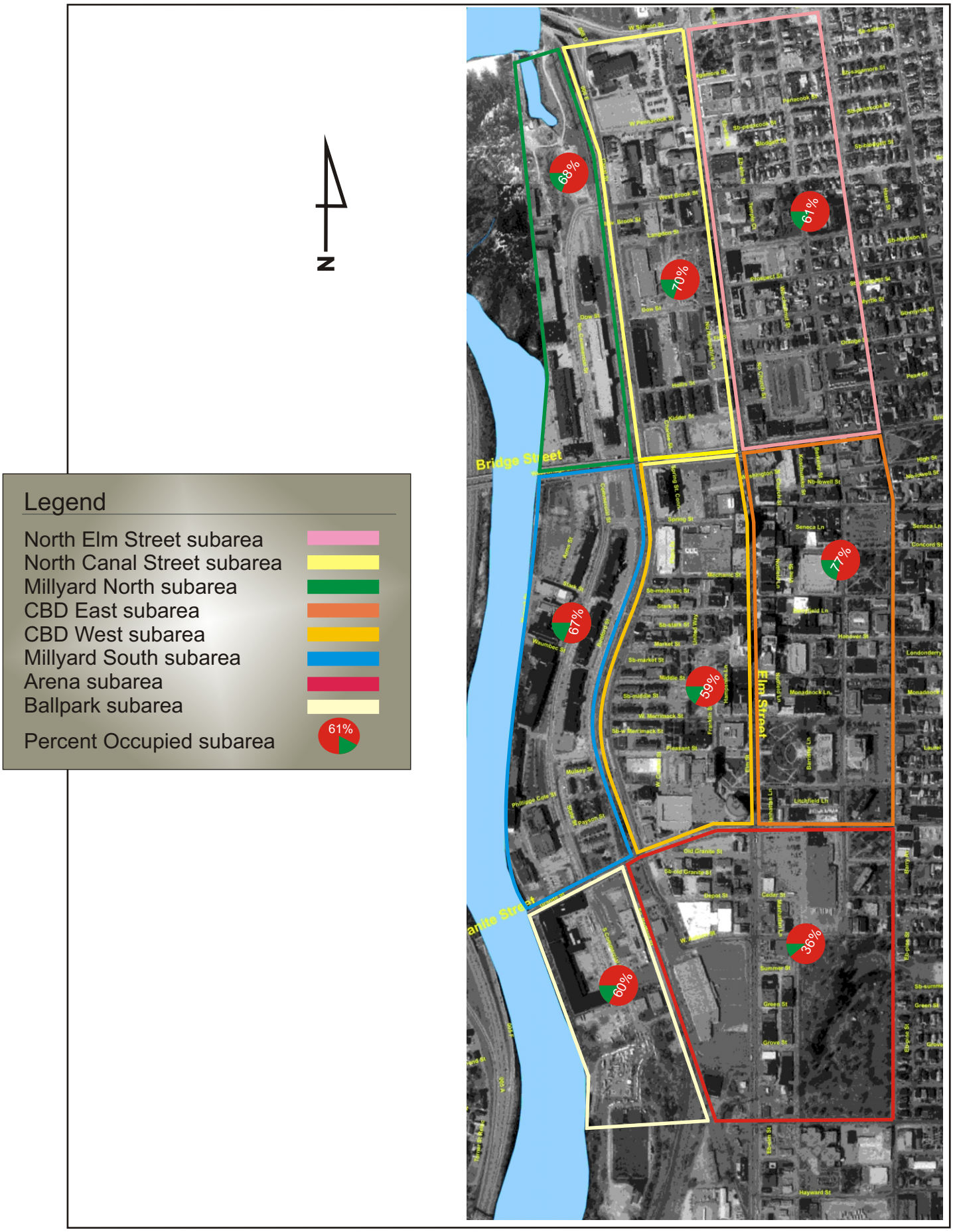


Figure 3
Parking Occupancy by Subareas

Table 4 – Summary of Parking Supply and Demand for the Peak Period

	Off–Street											
	City Garages			City Lots			Private Garages			Private Lots		
Subarea	**Spaces**	**Occ.**	**% Occ.**	**Spaces**	**Occ.**	**% Occ.**	**Spaces**	**Occ.**	**% Occ.**	**Spaces**	**Occ.**	**% Occ.**
North Elm	0	n/a	n/a	330	96	29%	0	n/a	n/a	1,487	1,005	68%
North Canal	0	n/a	n/a	0	0	n/a	12	12	100%	1,616	1,173	73%
Millyard North	0	n/a	n/a	145	121	83%	0	n/a	n/a	926	559	60%
CBD East	912	670	73%	368	297	82%	265	220	83%	749	564	75%
CBD West	1,404	861	61%	68	56	82%	582	363	62%	1,035	553	53%
Millyard So	0	n/a	n/a	719	383	53%	0	n/a	n/a	1,215	876	72%
Arena	0	n/a	n/a	177	0	21%	0	n/a	n/a	703	285	41%
Ballpark	0	n/a	n/a	0	n/a	n/a	0	n/a	n/a	334	217	65%
Total	2,285	1,531	67%	1,627	953	59%	859	595	69%	8,065	5,232	65%

	Total								
	Off–Street			On–street			On–and Off–Street		
Subarea	**Spaces**	**Occ.**	**% Occ.**	**Spaces**	**Occ.**	**% Occ.**	**Spaces**	**Occ.**	**% Occ.**
North Elm	1,817	1,101	61%	553	337	63%	2,350	1,438	61%
North Canal	1,628	1,185	73%	171	149	87%	1,779	1,334	74%
Millyard North	1,071	680	63%	339	280	83%	1,410	960	68%
CBD East	2,291	1,751	76%	602	491	82%	2,893	2,242	77%
CBD West	3,089	1,833	59%	360	210	58%	3,449	2,043	59%
Millyard So	1,934	1,259	65%	440	320	73%	2,374	1,579	67%
Arena	703	285	41%	446	152	34%	1,149	437	38%
Ballpark	334	217	65%	48	12	25%	382	229	60%
Total	12,867	8,311	65%	2,939	1,951	66%	15,806	10,262	65%

The following is a discussion of the parking demand and use for City permit parking and on–street parking facilities.

2.3.1 City Permit Parking

Based on the last representative month of recorded sales data (March, 2005), the City issues approximately 4,906 permits monthly including 2,021 permits for off–street parking structures, 1,850 permits for off–street parking lots and 1,035 on–street parking permits. The City's garage permit parking had a parking occupancy rate of 66 percent, with 1,531 occupied spaces out of a parking supply of 2,316 spaces. Table 5 details the City permit data for off–street garages. There are 2,316 parking spaces available in the four garages of which 1,706 are designated as permit parking. The parking counts indicate that about 1,531 parkers were in the permit spaces during the peak period. Finally, the last two columns indicate that the City sells 2,021 monthly permits at an oversell rate of 1.18 or 18 percent more permits than spaces.

The Victory Garage has 846 total spaces of which 560 spaces are designated as permit only for which the City sells 814 permits to users for an oversell rate of 1.43. The CNH Garage has 1,004 total spaces of which 800 spaces are designated as permit only. The City sells 860 permits to users resulting in an oversell rate of 1.08.

Overselling permit spaces by ten to fifteen percent is a common and recommended practice in most cities. Since users that purchase monthly permits are typically employees and have varied work schedules, vacation schedules, and on any given day, an employee may be absent from work, the probability that all permit holders will show up on the same day at the same time is

remote. Consequently, the opportunity to oversell permits is presented. The methodology in overselling permits is that parking demand characteristics are gathered in a specific facility or multiple facilities and when the occupancy rate drops below 80 to 85 percent, additional permits are sold to ensure the most efficient use of the facility.

It should be noted that through the sale of a permit, the City is guaranteeing a parking space in a specific facility or group of facilities depending on the manner in which they are issued. This process will be discussed in more detail in section 4.3.1.

Table 5 – Peak Period City Permit Parking in Garages

Subarea	Garage	Parking Spaces	Number of Permit Spaces	Occupied Spaces	Permits Sold	Oversell Rate
CBD East	Victory	846	560	626	814	1.43
CBD East	Elm Street	66	66	44	66	1.00
CBD West	Wall Street	400	280	145	281	1.00
CBD West	CNH	1,004	800	716	860	1.08
	Total	**2,316**	**1,706**	**1,531**	**2,021**	**1.18**

The City's permit surface lots had an occupancy rate of 59 percent (953 spaces occupied out of a total supply of 1,706 surface lot spaces) as shown in Table 6. The City manages 1,230 permit spaces in surface lots and issues 1,906 permits at an oversell rate of 1.55.

Table 6 – Peak Period City Permit Parking in Lots

Subarea	Parking Lot	Parking Spaces	Number of Permit Spaces	Occupied Spaces	Permits Sold	Oversell Rate
North Elm	Pearl Lot[1]	330	286	96 (29%)	450	1.57
Millyard North	Myrna Shoe Lot	145	115	121 (83%)	195	1.70
CBD East	Hartnett Lot	206	134	161 (78%)	224	1.67
CBD West	Middle Lot	68	37	56 (82%)	10	Not applicable
CBD West	Pine Street Lot	159	147	136 (86%)	151	1.03
Millyard South	Arms Lot/Extension	403	403	176 (43%)	681	1.69
Millyard South	Bedford Lot	108	108	54 (50%)	195	1.81
Millyard South	Seal Tanning Lot	142	0	119 (83%)	0	Not applicable
Millyard South	Granite Lot	66	0	34 (52%)	0	Not applicable
	Total	**1,627**	**1,230**	**953 (59%)**	**1,906**	**1.55**

[1]Pearl Lot permit sales ranged from 430 to 204 monthly permits between FY July through March.

Currently, the City sells 789 permits for 779 on–street spaces located along Commercial Street in the Millyard North and Millyard South subareas. The City also issues permits for another 135 on-street spaces in the CBD East and CBD West subareas (see Table 7). As illustrated in Table 7, the entire supply of on-street parking spaces on Commercial Street may be occupied by permit holders leaving no parking for arriving visitors to the area. There is a similar impact in the CBD, although less severe. However, the on-street parking supply in the CBD subareas should be aggressively managed so that the spaces are available for short-term parking only.

Table 7 – Peak Period City Permit Parking On–street

On–street Meter Locations	Parking Spaces	Permits Sold	Oversell Rate
North Elm	533	0	Not applicable
North Canal	171	0	Not applicable
CBD East and CBD West	962	135	0.14
Millyard South and Millyard North	779	789	1.01
Arena	446	0	Not applicable
Ballpark	48	0	Not applicable
Total	**2,939**	**924**	**0.31**

Table 8 provides a summary of all City permit parking spaces, by subarea. As shown the oversell rate ranges from 1.03 to 1.71 for the off–street lots and garages with a system–wide off-street oversell rate of 1.34. When the on–street and off-street parking oversell rates are combined the oversell rate drops to 1.24.

Table 8 – Peak Period City Permit Parking by Subarea

Subarea	Number of Spaces	Number of Permit Spaces	Permits Sold	Oversell Rate
North Elm	330	286	450	1.57
North Canal	0	0	0	Not applicable
Millyard North	145	115	195	1.70
CBD East	1,277	760	1,104	1.45
CBD West	1,472	1,264	1,302	1.03
Millyard South	719	511	876	1.71
Arena	0	0	0	Not applicable
Ballpark	0	0	0	Not applicable
Subtotal	**3,943**	**2,936**	**3,927**	**1.34**
On–street Meters				
Millyard North and South	779	779	789	1.01
CBD East and West	962	200	135	0.68
All Other subareas	1,198	0	0	Not applicable
Subtotal	**2,939**	**979**	**924**	**0.94**
Total	**6,882**	**3,915**	**4,851**	**1.24**

2.3.2 Off–Street City Parking Summary

When the City's short–term and permit categories are combined, the occupancy rate is 60 percent (4,427 occupied spaces out of a total parking supply of 6,882 spaces). The off–street garages had higher occupancy rate at 66 percent than surface lots at 53 percent or the on–street parking at 61 percent.

As shown in Table 9, the North Canal, Arena, and Ballpark subareas have no available off-street public parking supply. The Millyard North subarea has the highest overall occupancy rate (83 percent). The highest concentration of parking spaces is in the CBD East (1,267) and the CBD West (1,472) which had occupancies of 76 and 62 percent, respectively.

Table 9 – Summary of City Parking Supply and Demand by Subarea

Subarea	Parking Supply	Occupied Spaces	% Occupancy
North Elm	330	96	29%
North Canal	0	0	Not applicable
Millyard North	145	121	83%
CBD East	1,277	967	76%
CBD West	1,472	917	62%
Millyard South	719	383	53%
Arena	0	0	Not applicable
Ballpark	0	0	Not applicable
Totals	**3,943**	**2,484**	**63%**

2.3.3 Off–Street Private Parking

There are 8,924 privately owned and controlled parking spaces in the study area (see Table 10). Of the 8,924 spaces, with the exception of about 200 spaces for short–term parking, the private parking supply is designated as monthly use parking or specific for visitors or patrons to a specific establishment. The following sections describe the use of the privately owned monthly and short–term parking supply during the peak weekday period.

Table 10 – Summary of Private Parking Supply and Demand by Subarea

Subarea	Parking Spaces	Occupied Spaces	% Occupancy
North Elm	1,487	1,005	68%
North Canal	1,628	1,185	73%
Millyard North	926	559	60%
CBD East	1,014	784	78%
CBD West	1,617	916	57%
Millyard South	1,215	876	72%
Arena	703	285	41%
Ballpark	334	217	65%
Totals	**8,924**	**5,827**	**65%**

2.3.4 On–Street City Parking

The on–street City parking category had an overall parking occupancy rate of 66 percent, with 1,951 occupied spaces out of a total parking supply of 2,939 spaces. These spaces are comprised of spaces regulated by 1,171 two hour and 1,321 ten-hour meters as well as 477 time limit spaces. Table 11 lists the on–street parking supply and demand.

Table 11 – Summary of On–street Parking Availability and Demand

Parking Facility	Parking Spaces	Occupied Spaces	% Occupancy
On–street Meters	2,939	1,951	66%

The subarea that has the highest metered parking occupancy rate (87 percent) is the North Canal subarea, with 149 occupied spaces out of a total parking supply of 171 spaces. The Millyard North and CBD East occupancy rates area at 83 and 82 percent, respectively with 280 out of 339 and 491 out of 602 spaces occupied, respectively. The Arena and Ballpark subareas

have the lowest occupancy rates at 34 percent (152 out of 446 spaces occupied) and 25 percent (12 out of 48 spaces occupied), respectively. The Arena has 446 on–street spaces and the Ballpark has 48 spaces. Table 12 details the occupancy rates for the on–street parking spaces for each of the subareas.

Table 12 – Summary of On–street Parking Supply and Demand by Subarea

Subarea	Parking Spaces	Occupied Spaces	% Occupancy
North Elm	533	337	63%
North Canal	171	149	87%
Millyard North	339	280	83%
CBD East	602	491	82%
CBD West	360	210	58%
Millyard South	440	320	73%
Arena	446	152	34%
Ballpark	48	12	25%
Totals	**2,939**	**1,951**	**66%**

Based on review of the data collected during this study and provided by the City, the on–street parking supply appears to be adequate to meet the parking demand in all of the subareas during the majority of the time. However, the practice of issuing on–street permits should be reconsidered as a solution to meeting employee parking demand. In most cases, the majority of on–street parking should be maintained for short–term parkers. This will be discussed in detail in section 4.2.5.

On–Street Parking Duration and Turnover Evaluation

As part of the existing parking operations analysis, additional parking data was collected in an effort to obtain an estimate of the typical on–street parking duration and turnover. The area chosen was along Elm Street which has one of the highest concentrations (per block) of on–street parking to serve the numerous retail establishments located along that corridor. The study was conducted on Elm Street between Bridge Street and Merrimack Street. The data provides a snapshot of parking space use in the heart of downtown Manchester.

Methodology

The inventory of on–street parking spaces was noted on each block face of Elm Street and each space was assigned a number. There were 86 spaces and were numbered one through 86. A team of two people walked a circuit up the east side of Elm Street and then returning on the west side, recording identifying features of each vehicle in each space they passed. Each circuit was completed in a 15–minute period on Friday, June 3, 2005 from 11:00 AM to 2:15 PM. If the same vehicle was in the same parking space during consecutive circuits, it was noted relative to the time and the duration could be calculated accordingly.

Once the study was completed, the data were analyzed to determine how long vehicles remained in each on–street parking space. When a vehicle both entered and exited a parking space during the time of the study, the length of stay for that vehicle was calculated in 15-minute increments. Two hundred three vehicles were observed arriving and departing during the study period.

An additional 151 vehicles were already parked in spaces when the study period began or after the study period ended. The duration for these vehicles estimated differently because the total length of stay could not be finitely determined. However, a minimum length of time parked was recorded for each of these occurrences.

Results

Table 13 illustrates the activity for the 203 vehicles that both arrived and departed during the analysis period. The first line of the table indicates the vehicles that arrived during the analysis period. The second line indicates the number of vehicles that stayed for a specific length of time expressed as a percentage of all parkers, such as 22 vehicles stayed for about 45 minutes which is 11 percent of the total number of observed parkers. The third line indicates the cumulative duration for all parkers observed during the analysis period expressed as a percentage of all parkers, such as 159 vehicles stayed for 45 minutes or less which is 78 percent of all observed parkers.

Table 13 – Summary of Parking Turnover and Duration

Duration in hours	<0.25	<0.50	<0.75	< 1.0	< 1.25	< 1.50	< 1.75	< 2.0	< 2.25	< 2.50	< 2.75	> 3.0	Total
Vehicles counted	76	61	22	23	5	10	1	3	1	0	1	0	203
By increment	37%	30%	11%	11%	2%	5%	0%	1%	0%	0%	0%	0%	100%
Cumulatively	37%	67%	78%	90%	92%	97%	98%	99%	100%	100%	100%	100%	100%

Table 13 is summarized below:

- 37 percent of all parkers stayed for 15 minutes or less;
- 67 percent of all parkers stayed for 30 minutes or less;
- 78 percent of all parkers stayed for 45 minutes or less;
- 90 percent of all parkers stayed for one hour or less;
- 92 percent of all parkers stayed for one hour and 15 minutes or less;
- 97 percent of all parkers stayed for one hour and 30 minutes or less; and
- 99 percent of all parkers stayed less then two hours.

This data indicates that the on–street metered parking appears to be working extremely well for vehicles that *both* arrived and departed during the analysis period.

There were a significant number of cars parked prior to start of the analysis period or remained parked after the analysis period ended. Table 14 illustrates the activity for the 151 vehicles that were parked in spaces either before or after the study period. This also includes vehicles that were parked during the entire analysis period.

The first line of the table indicates that 84 percent of the vehicles appeared to park two hours or less. Sixteen percent of the parkers stayed for greater then two hours.

Table 14 – Summary of Parking Turnover and Duration

Duration in hours	<0.25	<0.50	<0.75	< 1.0	< 1.25	< 1.50	< 1.75	< 2.0	< 2.25	< 2.50	< 2.75	> 3.0	Total
Vehicles counted	48	30	13	14	8	7	2	5	2	7	4	11	151
By increment	32%	20%	9%	9%	5%	5%	1%	3%	1%	5%	3%	7%	100%
Cumulatively	32%	52%	60%	70%	75%	79%	81%	84%	85%	90%	93%	100%	100%

When the observations in Table 13 (203 parkers) are combined with those in Table 14 (151 parkers), the following conclusions were developed for the 354 parkers that were observed:

- 93 percent of all parkers stayed for two hours or less;
- 81 percent of all parkers stayed for one hour or less;
- 7 percent of all parkers exceeded the two hour time limit for on–street parking;

The average parking duration is calculated by dividing the cumulative time parked by all parkers (273.75 hours) by the number of parkers observed (354 parkers). The average duration is calculated at slightly over 45 minutes (46.5 minutes).

The average turnover is the total number of vehicles (354 parkers) divided by the number of parking spaces (86 spaces). The finding indicates that on average, slightly more than four vehicles parked in each parking space during the three hour 15 minute analysis period.

On-Street Parking Abuse

The findings of the parking duration and turnover study indicate that during the analysis period observed, the on–street parking appears to be working very well with a few exceptions. Since the parkers parking over two hours essentially remove the availability of that parking from the pool of on–street parking, the result is potentially 25 on–street parking spaces (seven percent of 354) out of 86 on–street spaces may not have been available during a significant portion of the analysis period. Furthermore, 25 spaces taken by long–term parkers out of 86 available spaces reduce the available parking supply by up to 30 percent. Depending on where this occurs, the entire parking supply along a given block face may be full, eliminating the ability for visitors and patrons to frequent the establishments along that block. Given the cost of constructing new structured parking, this finding is significant. Recommendations for on-street parking can be found in section 4.2.5.

2.3.5 Parking Use Summary

The total parking supply located within the project study area is 15,806 parking spaces. Of these spaces, during the peak period (11:00 AM to 1:00 PM), 10,262 vehicles were parked, resulting in an occupancy rate of 65 percent. This suggests that there is an abundance (5,851 spaces) of available parking not being utilized. However, when the individual study subareas are examined for occupancy rates, a wide range of occupancy rates is found (ranging from 38 to 77 percent). Table 15 presents the occupancy rates for the total number of parking spaces for each of the subareas.

Table 15 – Summary of Downtown Parking Study Supply and Demand by Subarea

Subarea	Parking Spaces	Occupied Spaces	% Occupancy
North Elm	2,350	1,438	61%
North Canal	1,799	1,334	74%
Millyard North	1,410	960	68%
CBD East	2,893	2,242	77%
CBD West	3,449	2,043	59%
Millyard South	2,374	1,579	67%
Arena	1,149	437	38%
Ballpark	382	229	60%
Totals	**15,806**	**10,262**	**65%**

Conversely, when occupancy rates are then examined for the different parking categories, off–street City metered and permit, off–street private short–term and monthly and on–street parking, a different pattern emerges. Table 16 details the occupancy rates for each parking category.

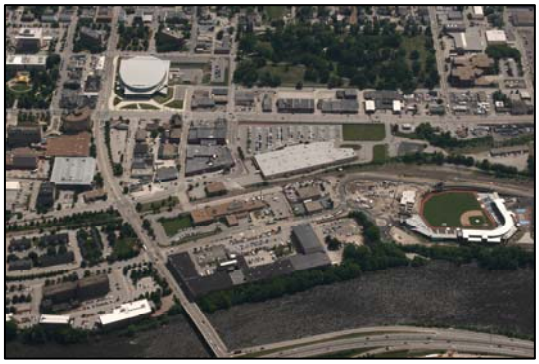
Table 16 – Summary of Downtown Parking Supply and Demand by Category

	Off–Street											
	City Garages			City Lots			Private Garages			Private Lots		
Subarea	**Spaces**	**Occ.**	**% Occ.**	**Spaces**	**Occ.**	**% Occ.**	**Spaces**	**Occ.**	**% Occ.**	**Spaces**	**Occ.**	**% Occ.**
North Elm	0	n/a	n/a	330	96	29%	0	n/a	n/a	1,487	1,005	68%
North Canal	0	n/a	n/a	0	0	n/a	12	12	100%	1,616	1,173	73%
Millyard North	0	n/a	n/a	145	121	83%	0	n/a	n/a	926	559	60%
CBD East	912	670	73%	368	297	82%	265	220	83%	749	564	75%
CBD West	1,404	861	61%	68	56	82%	582	363	62%	1,035	553	53%
Millyard So	0	n/a	n/a	719	383	53%	0	n/a	n/a	1,215	876	72%
Arena	0	n/a	n/a	177	0	21%	0	n/a	n/a	703	285	41%
Ballpark	0	n/a	n/a	0	n/a	n/a	0	n/a	n/a	334	217	65%
Total	2,285	1,531	67%	1,627	953	59%	859	595	69%	8,065	5,232	65%

	Total								
	Off–Street			On–street			On–and Off–Street		
Subarea	**Spaces**	**Occ.**	**% Occ.**	**Spaces**	**Occ.**	**% Occ.**	**Spaces**	**Occ.**	**% Occ.**
North Elm	1,817	1,101	61%	553	337	63%	2,350	1,438	61%
North Canal	1,628	1,185	73%	171	149	87%	1,779	1,334	74%
Millyard North	1,071	680	63%	339	280	83%	1,410	960	68%
CBD East	2,291	1,751	76%	602	491	82%	2,893	2,242	77%
CBD West	3,089	1,833	59%	360	210	58%	3,449	2,043	59%
Millyard So	1,934	1,259	65%	440	320	73%	2,374	1,579	67%
Arena	703	285	41%	446	152	34%	1,149	437	38%
Ballpark	334	217	65%	48	12	25%	382	229	60%
Total	12,867	8,311	65%	2,939	1,951	66%	15,806	10,262	65%

In general, the on–street parking located in the North Canal subarea has the highest occupancy rate at 87 percent, followed closely by the on–street parking in the Millyard North and CBD East subareas at 83 and 82 percent occupancy, respectively. The subareas where on–street parking is highest represents 1,112 spaces, or 38 percent of the entire on–street parking supply. An occupancy rate between 80 and 85 percent is considered “full” for on–street parking. At least

15 to 20 percent of the on–street parking should be available for arriving customers, shoppers and patrons of the downtown which translates to 2 to 4 spaces available for every 20 to 30 spaces passed by a driver. This creates not only the perception, but the reality that there is adequate short–term on–street parking available. However, the downtown on–street system in Manchester is complicated by the on–street permits sold for employee and residential parking. This will be discussed in detail in section 4.3.



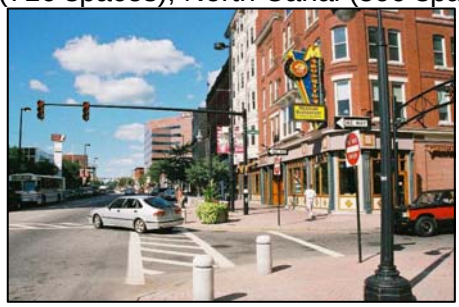
The lowest subarea occupancy rate can be attributed to the Arena and the Ballpark subareas. This area has the fewest total number of spaces available with 1,149 and 382 spaces, respectively. The event–driven parking needs associated with the arena and the stadium is coincident with mostly evening and weekend events when the parking system has its lowest occupancy. In addition, the Ballpark subarea has multiple commercial uses that tend to be oriented towards automobile services and light industrial with relatively low parking demand. Regardless, the low usage rates in this subarea do not affect the study area significantly because of the relative amount of spaces (65 percent occupancy with the Arena and Ballpark subarea and 67 percent without).

The more significant subarea is the CBD West where the occupancy rate is 59 percent. This is primarily due to the low usage of the 1,035 off–street spaces in private surface lots which were only about half full (53 percent). The off–street private surface lots account for 30 percent of the entire parking supply in the CBD West subarea. There are 360 on–street spaces at about 58 percent occupancy. Table 17 lists a summary of the unused parking supply by type of parking facility. This parking may provide an opportunity for the City to lease additional parking spaces. This will be discussed in section 4.2.2.

Table 17 – Summary of Available Parking Supply by Facility Type

Parking Category	Total Open Parking Spaces	Structured	Surface Lots
Off–Street City Parking	1,459	785	674
Off–Street Private Parking	3,097	264	2,833
On–street Parking	988	Not applicable	Not applicable
Total	5,544	1,049	3,618

The largest single category of available spaces is off–street private monthly surface lot–parking spaces, with 2,833. The majority of these available spaces are located in both the North Elm (716 spaces), North Canal (599 spaces) and Millyard South (675 spaces) subareas. The next largest category is the on–street parking spaces, with 988 available spaces. The majority of these available spaces are located in the North Elm (196 spaces), CBD West (150 spaces), the Arena (294 spaces) subareas which contain 640 available on–street spaces.



As shown in Tables 4 and 16, the City on and off–street parking supply meets the needs of the current parking demand. The City off–street surface parking demand

nears capacity in the Millyard North, CBD East, and CBD West at 83, 82, and 82 percent respectively. The target occupancy rate in a downtown the size and nature of Manchester should be between 80 and 85 percent. This occupancy maximum ensures that arriving patrons, visitors, and employees will be assured of finding one to two available parking spaces for every 10 spaces in the system. The City on–street parking supply is also well under capacity with an average occupancy of 66 percent with rates at 87, 83, and 82 percent for the North Canal, Millyard North, and CBD East subareas, respectively.

3.0 EXISTING FINANCIAL OPERATIONS

The following sections describe the organization, management, and operation of the City's Municipal Parking System (the Parking System). The intent of this section of the report is to review the Parking System's current financial characteristics and to recommend significant changes needed to create a financially self–sustaining operation capable of supporting economic development in the downtown.

3.1 ORGANIZATION

A city's "parking system" has a physical component which is comprised of the on–street spaces, off–street surface parking lots and parking structures and a management or operational

component comprised of maintenance and operations, revenue collection, financial management and enforcement. To be responsive to economic development and to control costs, many cities have found it critical to coordinate the management of the parking system under one entity. This entity is usually a city department, a city division, a parking authority and sometimes it is managed by the economic development corporation or business improvement district. In these situations, the parking system is usually operated as a self–supporting enterprise fund. The revenues collected through the parking system charges and parking enforcement support the cost of keeping the parking system in operation.

Although the City of Manchester has the components of a parking system, it does not operate the parking supply as a "system". The City manages the parking system under at least five different city departments:

1. Traffic Department which manages all parking meter operation and issues parking permits, either on–street or off–street;
2. The Public Works Department which is responsible for the design, construction and maintenance and operation of all parking structures;
3. The Police Department which is responsible for parking enforcement:
4. The Finance Department which is responsible for financing of capital costs: and
5. City Courts for adjudication of tickets.

3.2 FINANCIAL CHARACTERISTICS

The following section provides information on the financial characteristics of the Parking System. A 20–year economic pro forma was prepared to evaluate the likely performance of the Parking System based on a continuation of current trends. The pro forma was based on financial information provided by the City for the past two to three fiscal years (2003, 2004, and 2005) as well as information on the capital improvements program. From this data, a three–year trend was developed to project annual revenue and expenses over the 20–year term of the pro forma, from year 2006 to 2026 (included in Appendix E).

The pro forma assumes operational expenses and fees will increase at a rate of inflation at 3.0 percent per year. Detailed proformas will be presented later in the study to determine the fiscal impacts of recommended improvements in terms of the ability of the parking system to remain

financially self–supporting. One major implication could be the need to raise rates or otherwise generate revenue to cover the increase in costs.

3.2.1 Parking System Revenue

The primary source of revenue for the Parking System is generated from the sales of on–street and off–street parking spaces. Table 18 outlines the City's current average rate charged for each parking service offered.

Table 18 – Summary of Average City Parking Rates

Parking Type	FY[2] 2005 Cost
Surface Lots – Permit cost per month	$40 to $45/month
On–street – Permit cost per month	$40/month
Garages – Permit cost per month	$70 to $72.50/month
Garages – Attended cost	$0.50/hour
Daily maximum[1]	$7.00
Average on–street meter cost per hour	$0.50/hour
Average off–street meter cost per hour	$0.50/hour

[1] for short–term parking only
[2] through March 31, 2005.

The single largest revenue generator comes from the sales of parking permits, which accounts for approximately 48 percent of the total revenue generated without fines revenue (parking violations) and 37 percent of revenues when fines revenue is included. The last two years of total parking revenue (without fines) were $3,907,946 (FY 2004), and $4,042,213 (FY 2005).

Table 19 provides additional parking revenue data for the past two years including fines.

Table 19 – Summary of City Revenues

Revenues	FY 2004	FY 2005	FY 2005 Percent of Total Revenue w/o Fines	FY 2005 Percent of Total Revenue w/Fines
Sales On–street				
Meters – Downtown	654,030	625,572	16%	12%
Permits – Millyard	404,163	438,470	11%	8%
subtotal	$1,058,193	$1,064,042	27%	20%
Auto Registration Fees	57,444	169,796	4%	3%
Sales Off–Street				
Meters	80,499	71,893	2%	1%
Permits	1,899,360	1,936,443	48%	37%
Attended – Daily	398,350	371,366	9%	7%
Attended – Hourly	414,101	428,674	11%	8%
subtotal	$ 2,792,309	$ 2,808,376	69%	53%
subtotal before Fines Revenue	$ 3,907,946	$ 4,042,213	100%	76%
Fines	$ 1,044,320	$ 1,181,949		24%
subtotal	$ 1,044,320	$ 1,181,949		24%
Total Revenue with Fines	**$ 4,952,266**	**$ 5,224,162**		**100%**

As mentioned, the sale of monthly permits is the largest single source of revenue (FY 2005) and is comprised of $438,470 for on–street and (Millyard) plus $1,936,443 for off–street permits

accounting for $2,374,913 and 45 percent of the total system revenue (with fines). The second largest single source of revenue is generated from the payment of fines at about 24 percent of the total revenue with $1,181,949 (FY 2005). The third and fourth largest generators of revenue are the attended parking category at $800,040 (combining daily and hourly FY 2005) and the on–street meters at $625,572 (FY 2005) contributing about 15 and 12 percent of total revenue, respectively. The other two sources of parking revenue are off–street surface lot metered parking representing one percent of total revenues ($71,893 FY 2005) and parking fee associated collected through auto registration at $71,893.

The drop in revenue from FY 2004 to FY 2005 for metered off–street surface lots is likely due to a shift of parkers from paying meters to purchasing permits. Consequently, the on– and off–street permit sales have increased from FY 2004 to FY 2005. As shown, there nearly a three-fold increase in parking fees collected in associated with auto registration. This was due to an increase in the fees charged in FY 2005.

The total revenue estimate of $5,224,162 equates to about $759 per space which is in normal to high range for revenue generation.

3.2.2 Parking System Expenses

The Administrative and General expenses listed in Table 20 fund the delivery of a broad range of services by the City over a fiscal year. The Parking System and other City departments share cost incurred. The Finance Department determines the allocation of expenses to each department. Less than half of the total expenses included in Administrative and General expenses are for non–personnel costs such as supplies, contractual services, equipment rental, computer equipment, training, insurance, bonds, and equipment purchases.

Expenses are incurred from operating and maintaining the City's on–and off–street parking supply. The largest expense generators include those associated with $596,000 (FY 2005) in contracts to parking operators who manage the City garages. The next major cost items are $522,204 (FY 2005) in lease fees the City pays for parking spaces in the Wall Street garage (400 spaces) and the Elm Street garage (67 spaces). The second highest cost is the cumulative payment to support the parking costs for Arena events at $487,842 (FY 2005). The next most costly item is $161,140 (FY 2005) in debt service payments related to the financing and repairs of the CNH and Victory garages. The debt related to the CNH garages will be retired in 2006 and the payments for the Victory garage and Parking Improvement Fund drop below $100,000 annually in 2010 and is retired in 2018.

Since the metered parking system is currently managed by the City Traffic Department, and specific administrative and labor costs were not available, estimates were made including $100,000 in hourly labor plus $212,800 for administrative and management costs. In addition, since fines revenue was included in the total parking related revenue, costs for expenses related to ticket–writing personnel and equipment were estimated as well.

As shown in Table 20, a total of $457,800 for administrative, management and personnel cost were estimated for the parking system. When contracts, utilities, miscellaneous costs, leases, and debt payments are added to the mix, the total expenses are estimated at $2,378,968 or about $346 per space. This number is on the low range of average costs when compared to typical averages of $350 to $450 per space. However, the high proportion of on–street and off–street surface parking spaces combined with the low level of debt for structured parking is the major contributors to this low cost. Most parking systems as large as the City of Manchester's have multiple parking garages and significant debt related to financing those garages.

Finally, the single largest expense item is the contracts with a private operator to manage the City's garages. The isolated cost per space for that contract is $596,373 in contract costs or $322 per space based on 1,850 structured parking spaces in the CNH and Victory garages. The highest cost per space is the contract lease parking in the Wall Street and Elm Street garages which is $522,209 in lease costs or about $1,118 per space based on 467 spaces. The balance of the parking system cost about $154 per space based on $772,545 for the remaining 5,016 spaces.

Table 20 – Summary of City Expenses

Expenses	FY 2004	FY 2005	Percent of Total
Ticket Writer and Enforcement Costs[1]			
Salaries	120,000	120,000	5.04%
Miscellaneous	25,000	25,000	1.05%
subtotal	$145,000	$145,000	6.10%
Administration and General[1]			
Salaries	112,800	112,800	4.74%
Miscellaneous	100,000	100,000	4.20%
subtotal	$212,800	$212,800	8.95%
Operations and Maintenance[1]			
Hourly Wages	100,000	100,000	4.20%
subtotal	$100,000	$100,000	4.20%
Estimated Administrative Costs	**$457,800**	**$457,800**	**19.24%**
All Garages			
Arena Payments for CNH	462,432	487,842	20.51%
Contracts	643,658	596,373	25.07%
Utilities	86,700	78,853	3.31%
Miscellaneous	65,306	74,752	3.14%
Leases	534,908	522,209	21.95%
subtotal	$1,793,004	$1,760,029	73.98%
Debt Service			
Center of New Hampshire Garage	65,119	26,761	1.12%
Victory Garage	71,402	67,189	2.82%
Parking Improvement Fund	71,402	67,189	2.82%
subtotal	$207,923	$161,139	6.77%
Garage and Debt Costs	**$2,000,927**	**$1,921,168**	**80.76%**
Total Expenses	**$2,458,727**	**$2,378,968**	**100.00%**

[1] Ticket Writer and Enforcement Costs, Administration and General plus Operations and Maintenance costs estimated.

As mentioned previously, the overall costs for the parking infrastructure is relatively low because of the high percentage of on-street and surface parking versus the higher capital, maintenance and operating costs associated with structured parking. Although evaluating percentage of total cost for expenses is a measure typically used to benchmark performance, a comparison to other systems will not be meaningful because of the lack of costs related to structured parking. However, the operational, administrative and management costs are relatively low reflecting efficient use of resources and obvious control of expenses.

3.2.3 Revenue and Expenses Summary

As stated in the earlier section of this report, the estimated costs to manage the parking infrastructure are currently at a reasonable and manageable level. The revenue generation is consistent and stable due to the high concentration of employment in the Millyard and the strong economic future for the City. The net revenue for the parking system, if it were to be operated as a "system", based on the revenue and expenses shown in Tables 19 and 20 would have been approximately $2,600,000 in FY 2005. See section 4.1.8 for recommendations on organizing the parking infrastructure into a parking system. This demonstrates a strong potential for transitioning towards a financially self-supporting parking system able to support revenue bonds. The ability to issue revenue bonds will open many options and alternatives for the parking system and City to support economic growth.

In addition, detailed pro formas are discussed in Chapter 5.0 so that the fiscal impacts of recommended improvements can be evaluated in terms of the ability of the parking system to achieve financial independence. One major implication could be the need to raise rates or otherwise generate revenue to cover the increase in costs related to improving and expanding the system. Currently, and over the past several years the disjointed approach to managing the parking infrastructure system has resulted in a lack of understanding of the role of parking, the cost of parking, the revenue generation related to parking. There are currently no fiscally based reasons to establish a rate schedule or increase or decrease parking rates. See section 5.3.

4.0 RECOMMENDATIONS

Based on the information contained in this snapshot of downtown City of Manchester parking characteristics, there appears to be great flexibility in the parking system to accommodate additional growth. However, near–term (1–3 years) increases in parking demand and pressure on the existing parking infrastructure will require reorganization and expansion of the parking infrastructure to support the economic growth of the City. The economic growth pressures include:

- on–going commercial and office growth in the Millyards;
- on–going retail, commercial and residential growth along the Elm Street corridor; and
- growth tied to redevelopment in the Arena subarea (Gaslight District) and Ballpark subarea.

Prior to commitment to expansion of the parking supply, the City should ensure that the parking infrastructure already in–place is used at the highest possible efficiency. This is only possible through the coordinated approach to managing the parking infrastructure as a "system". Because "parking" touches many departments and issues before the City, it is critical that an organizational system be created that focuses responsibility for the implementation of an adequate parking system to meet the myriad goals for the viability of downtown into one identifiable entity. The following section addresses the need to organize the City's parking assets into a parking system.

4.1 PARKING ORGANIZATION AND FINANCING MODELS

There are several organizational arrangements that are commonly used to manage parking resources. However, as mentioned previously, it is critical for the system to have management control, operational control, and cost and revenue control of each component of the system including the:

- On–street parking system;
- Off–street surface parking lots;
- Off–street parking structures; and
- Parking violation fine revenue.

The parking system, however organized should be charged with carrying out several main functions outlined in a business or Parking Master Plan (PMP) that identifies[1]:

- Parking program Goals and Objectives;
- Policies and plans;
- Program standards and performance criteria;
- Zoning requirements for parking (Note: The PMP would include recommendations that would be submitted to Planning and Zoning staff for consideration and adoption.);
- Regulation of commercial parking;
- Parking for specific public uses (parks, transit, public–gathering places);
- Management and regulation of on–street parking;

[1] Parking, 1990, ENO Foundation, Weant, Howard and Levinson, Herbert S.

- Input and coordination enforcement of laws, regulations, and codes concerning parking and how offenses are adjudicated; and
- Support of economic growth is critical and should be the driving goal of the parking system; and
- Development of coalitions and partnerships with business community organizations and major stakeholders.

Accomplishment of these goals will require a reorganization of current practices. However, the items listed above are critical roles for the City to play regardless of who actually builds and owns the parking supply. This is to ensure that the parking infrastructure, private and public, supports community goals and economic development. Implementation of this approach may require the City to pass new laws or authorities to institute a particular parking action. The actual implementation of these administrative functions is beyond the scope of this study.

The following are the most common practices used by municipalities and represent best practices in the industry.

4.1.1 Existing City Departments[2]

This is the approach taken by the City of Manchester today. However, the City has split the functions of the parking infrastructure into several components, managed by several departments including Public Works (parking structures), Traffic Department (on– street parking and off–street meters, Police Department (fines) and Finance Department (accounting, budgeting, and capital needs).

Once a city reaches a certain size (usually cities with population over 100,000), parking needs become more complicated. If there is no one department or person in–charge of the system, the parking system may not get the attention it needs. In addition, since the system really is not integrated, departmental technical or management decisions are made that have impacts system–wide that may not be intended or may actual run counter to the stated objectives of the City.

This approach also makes it almost impossible to track costs, proactively plan, and budget for on–going needs such as maintenance, major repairs, replacement, expansion, or improvement of existing or new facilities. Since the system–wide costs are difficult, if not impossible, to obtain, the ability to set parking rates at levels that appropriately cover costs is also impossible. Without the ability to plan and budget future costs relative to setting rates, a reserve fund cannot be adequately budgeted to maintain, improve, or expand the system. The ability to take advantage of extremely low revenue bond or leaseback financing for growth and operation of the system is handicapped by the inability to demonstrate clear and obvious streams of income to repay bondholders, thereby increases the cost of the system to the City and its users.

Finally, political decisions tend to play a more significant role and may unintentionally result in band–aid approaches that may not serve the community best. This approach may have been appropriate for the City in the past; there is clearly a need to move to a more structured arrangement.

4.1.2 Combined Departments

This arrangement would combine all the parking related infrastructure and needs into one existing agency, such as Public Works where it would be organized as a major unit, the Parking

[2] ibid.

Department, which would coexist with other departments like the Traffic Department. This would elevate the visibility and authority of parking to a department level but could prove to be difficult to manage in a growing city like Manchester. It is likely not a big enough change to affect the needed outcome since finance and public works and the authority to make decisions would likely still be filtered through others with varying agendas (see Figure 4 for an example).

An arrangement that provides a direct line of authority and clear responsibilities are needed for the City Manchester Parking System which will be discussed in the following examples.

4.1.3 Separate Department

A separate department raises the level of visibility and authority of a parking department to that of all other departments, essentially a “cabinet level” arrangement. A separate department provides the opportunity to develop clear roles, responsibilities, budgets, goals and objectives. Other benefits include the ability to attract top–level parking experienced personnel to the position. This approach also staffs the department with full–time, experienced, and qualified personnel that can give parking issues the attention and expertise required. Like all departments, a separate parking department will require close interaction with other departments such as Traffic, Highway, and Finance to coordinate efforts and proposals. This arrangement also clearly identifies budgets and responsibilities to decision makers (see Figure 4).

Any of the three arrangements discussed above provide an organization for parking that is directly controlled by local governments. The City of Manchester should reorganize with no less than a separate department so that all of the parking assets, management, and operations are located in one department where clear lines of authority and responsibility can be implemented. The most significant drawbacks of the three arrangements are that there is no ability to generate funds for capital improvements without competing with all other departments within the constraints of the city budget. In addition, the expenses necessary to operate the parking department contribute to the city’s total indebtedness which limits the city’s capability to issue general obligation (GO) bonds. Finally, political pressures from either other departments or elected politicians can shift with elections and can override the objectivity of a parking department.

The following examples provide the ability to operate autonomously for the benefit of the community as well as issue bonds and manage and budget its own capital needs. Any of the following arrangements may be suitable for the City of Manchester and should be evaluated relative to state and local enabling legislation, culture, politics and current City organizational structure. With that in mind, the creation of a Parking Board or Commission is not recommended unless it is an intermediate process before creation of an entity with even greater autonomy.

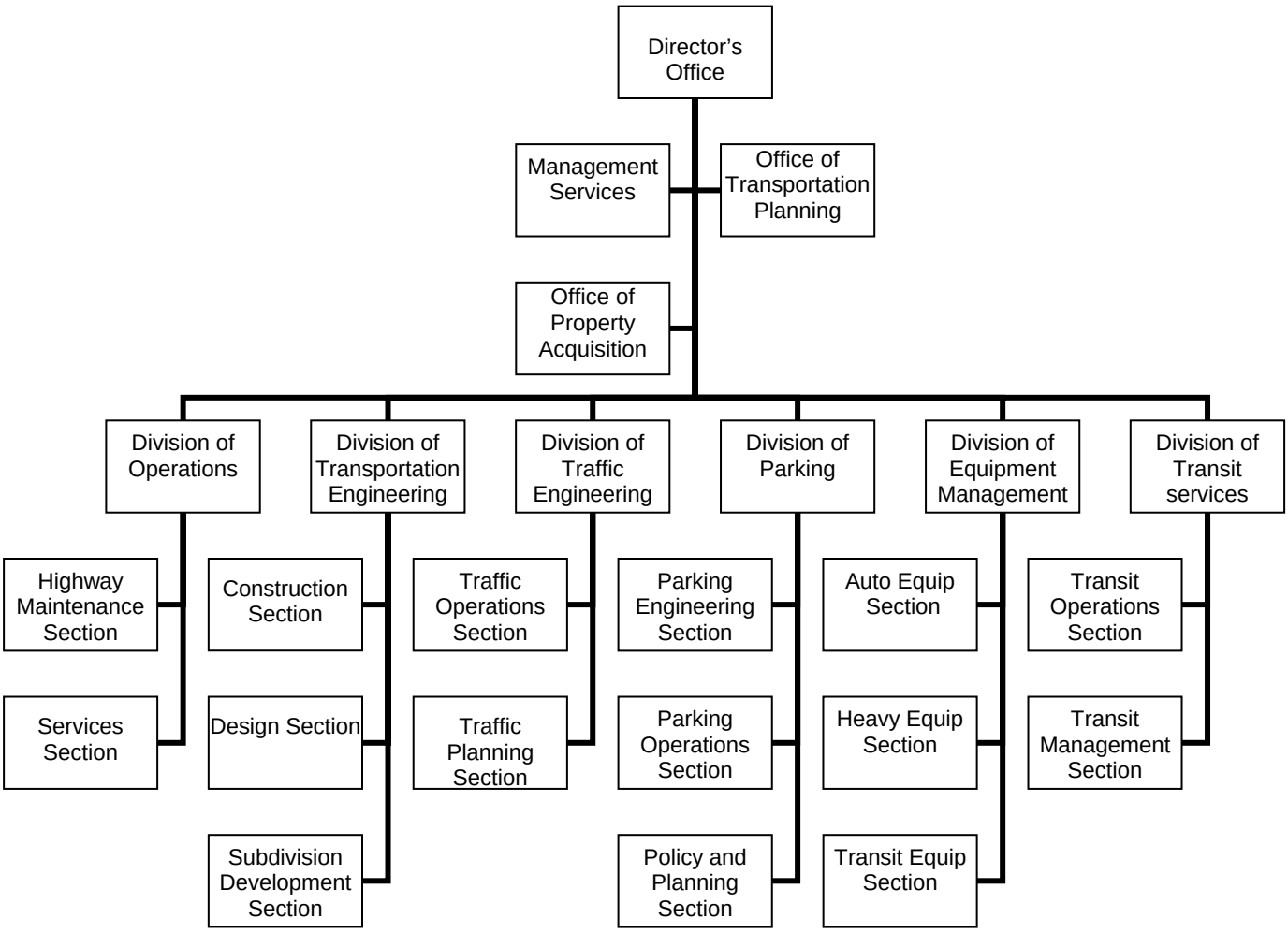


Figure 4 – Parking Department (Montgomery County, MD)

4.1.4 Parking Utility or Enterprise Fund

Some states allow formation of parking utilities or enterprise fund for parking. The entity operates the same way as any other municipal agency, but with a separate corporate structure. This arrangement requires the creation of a legal entity of local government with the power to enter into contracts, and to manage its own operations. As an example, Madison and Green Bay, Wisconsin, and Buffalo, New York have parking utilities and many cities operate parking as an enterprise fund. A parking utility or enterprise fund can be arranged as a department similar to what is shown in Figure 5.

As and example, the City of Madison (population approximately 200,000) has a Parking Utility and although this arrangement appears straightforward, there are numerous ways to implement the actual functions. Paid parking in Madison is a unified system administered by the parking utility. Parking in downtown Madison is provided by city, county, state, and the private sector. The utility has control over the amount of parking provided by the public or the private sector, however, the utility has limited control over the management and operation of non–city public and private facilities. There are eight different city and county agencies and committees share parking management responsibilities. These include the Parking Division of the Madison DOT,

the Parking Utility Committee, the Transportation Commission, the Police Department, the Data Processing Department, the City Treasurer, the City Attorney, and the Dane County Court.

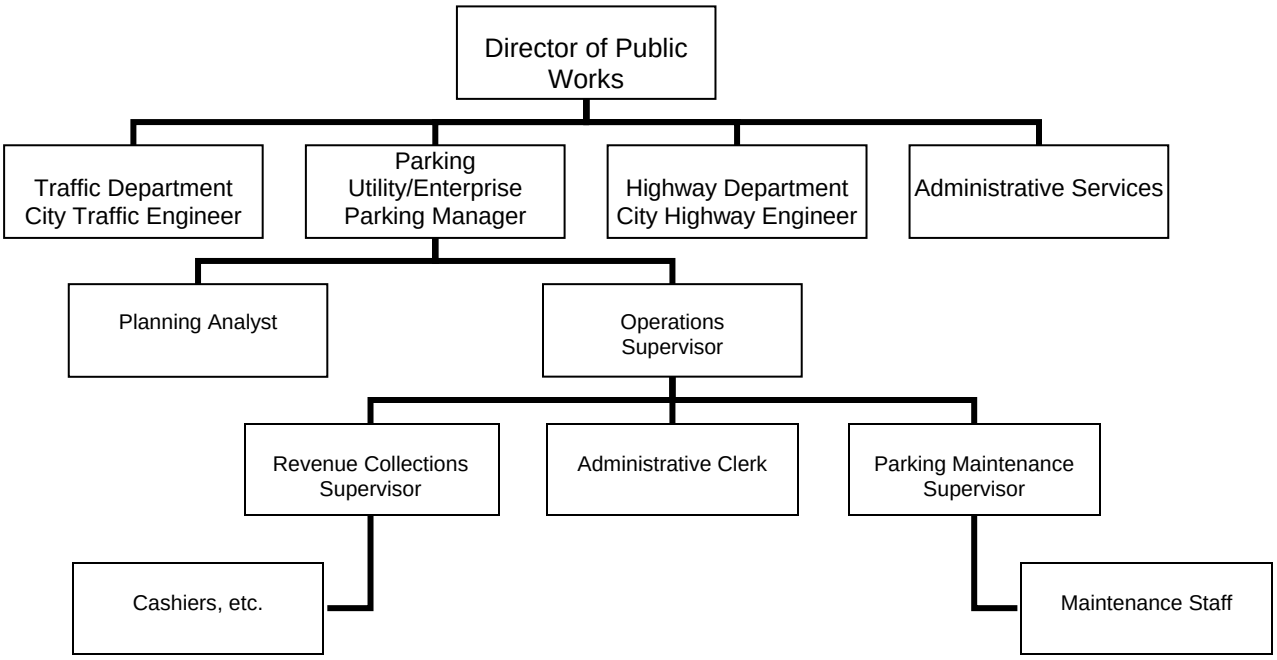


Figure 5 – Parking Utility (Madison, WI)

The Transportation Commission acts as the Parking Utility System according to state law and advises the Common Council on parking policy. The commission has complete jurisdiction over off–street parking time limits and rates although Common Council has veto power. A six–member Committee functions as an advisory body to the Transportation Commission and the Parking Committee Chair is a member of the Transportation Commission. The committee supervises the assets and operation of the parking system.

The Parking Utility is fully financed through system revenues. The utility also makes a payment in–lieu of taxes to the city's general fund each year. It also pays the costs for ticket–writing enforcement personnel. The Police Department is also involved in parking management through a group of civilian ticket–writing force of parking monitors. The Police Department pays the Data Processing Department an annual fee to process tickets. The City Treasurer collects parking ticket payments and counts parking facility revenues. The Dane County courts adjudicates parking tickets. Finally, the City Attorney writes parking ordinances and opinions on the implementation of ordinances and statutes.[3] The same approach can be used for a parking enterprise fund.

[3] Ibid.

4.1.5 Parking Board or Commission

Another type of arrangement is creation of a board or commission. Typically, the Mayor and/or City Council appoint a board of interested business people and community leaders who are well aware and perceptive with regard to parking. In addition, the Council usually reserves a seat or two for council member(s). The board then has the power to contract with outside vendors, operators, and consultants to operate and maintain the parking system. Basic ingredients include[4]:

- escrow financial support of bonds by business community;
- city financing of parking investment;
- strong control of parking operations by board of parking;
- careful operation of facilities by specialists;
- careful planning of expansion opportunities by specialists;
- strong support for improvements; and
- unilateral board decisions with minimal to no political influence.

This approach may be useful as a short–term arrangement to organize parking assets, develop polices, goals, and objectives and to determine the next step of growth for the parking system. While a Parking Board or Commission can develop momentum and public support because of the integrated structure, the arrangement still requires the city to finance improvements and the Board has little or no real authority. There are also complications involved with interaction with city departments, contracting with consultants and operators, perceptions of conflicts of interest and the personalities and possible agendas of the Board members themselves.

This arrangement is most commonly seen integrated within the downtown development authority (DDA) or business improvement district (BID). This is an arrangement favored by the International Downtown Association (IDA).

As an example, in Spokane, Washington and Kalamazoo, Michigan, the parking functions were organized under the DDA so that the major emphasis would be towards economic development. It also relied upon the city's financing ability to issue GO bonds and then on parking revenue to support the debt service. In this case, the board hired an expert to manage the parking system, hired staff to provide expertise, and managed parking violations in concert with the Police Department. The mandate of the system is to maintain a financially self–supporting system through parking revenue. In addition, the DDA may also proactively acquire land, create parking or enter into development deals and fund those improvements from revenues from the tax increment finance (TIF) district or BID when parking revenues do not cover the full costs of development. An economic analysis is conducted with each development project to ensure the new tax increment will cover the development costs.

4.1.6 Parking Authority

A Parking Authority is established as a separate entity corporation with board members under most state statutes. An authority is autonomous (to varying degrees) and is responsible for administering, operating, managing, planning, financing, and development of the on–street and/or off–street parking system. An authority can acquire property with eminent domain, purchase, construct, improve, and operate parking facilities. The authority can also borrow

[4] ibid.

money, issue revenue bonds, regulate use of facilities, set rates independently, and enter into contacts and all necessary actions to conduct business.

Five members are usually appointed to a board by the Mayor to serve in volunteer positions, usually for staggered terms to maintain continuity in decisions. This is critical when working with the financial community and setting bond ratings. The authority hires a director and consequently approves staffing by the director. A typical organizational structure is shown in Figure 6.

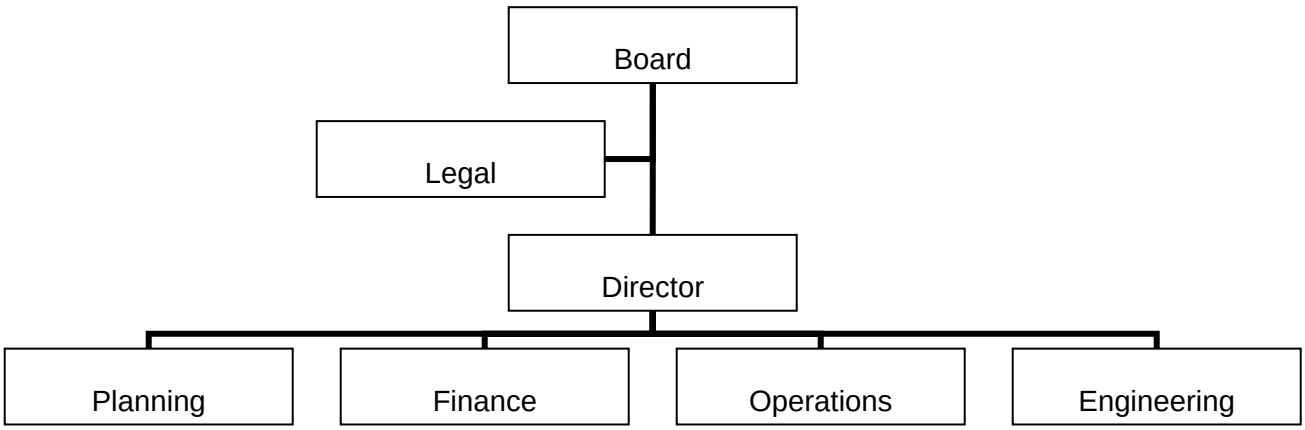


Figure 6 – Parking Authority

The major advantages of an authority is that it can provide an agency, staff capabilities, and legal authority needed to manage a parking system. In addition, there is a central location for all information, responsibility, authority, management, planning and operations; little political pressure; avoids many bureaucratic governmental regulations; enables users to pay the cost of parking and keeps the cost from negatively affecting the city budget. Finally, it can finance and fund its own capital improvements through the issuance of revenue bonds.

On the minus side, in order to support the economic growth of the city, the authority has to have an external perspective rather than an internal focus. This could be a negative aspect of a parking authority. Although the goal would be to have a self–supporting authority, it may have to rely upon the city to share some costs depending on the objectives of the city.

4.1.7 Financing Models

The cost of parking has increased dramatically over the past decade and this increase has had an enormous impact on development projects. There are two methods for financing the cost associated with new parking structures; private financing; and public financing. The following is a brief description of both approaches. This information is provided as a means of identifying available options for the City when exploring the financing new structured parking and to provide a comparison between what approaches to parking are available to the private sector and what is available to the public sector. Different arrangements will have varying financing options available.

It appears the financial community (bonding agencies and lenders) are looking much closer at the 1984 IRS rulings and being very careful when it comes to taxable financing and private use as it relates to the 10 and 25 percent rules. As an example, the revenue bonds being floated at the time of this writing by the City of Columbia, SC will be 50 percent taxable financing. Taxable

financing will be used for the new convention center garage because it serves a convention center hotel almost exclusively even though it is completely open to the public. The taxable aspect increases borrowing costs slightly, and likely represent an abundance of caution by bond counsel and legal advisors as opposed to the reality of the use of the facility. However, these are real factors affecting the ability of cities to borrow and must be considered in any future capital programs. These factors need to be carefully evaluated in future financing approached because taxable bonds provide significantly more freedom to manage a parking system like a private business in terms of entering into agreements with the development community.

Privately–Owned Facilities[5]

There are several approaches the private sector can take in financing parking. The following provide the standard approaches taken.

Bundled Parking –The cost of parking is passed through to tenants as higher lease rates, who in turn, pass the cost through to customers in the form of higher consumer prices.

Parking Fees – Rather than defray the cost of parking completely in a lease pass-through to a tenant and on to the consumer, the owner charges the user. In this case, the consumer pays directly for parking in a facility, usually by the hour. The owner/developer sets rates relative to demand for the services and market conditions.

Lease and/or Sell Space – Developers can integrate commercial uses into the garage, commonly known as a mixed-use facility to offset the costs of constructing and operating a garage. In addition, developers can sell development rights, lease parking spaces, as well as internal space for commercial tenants, lease air-rights, and selling parking spaces to users.

Commonly, a city or city agency will subsidize or provide incentives to developers in the form of parking relief or density increases. The following are the most common.

Reduced Minimum Parking Requirements –Local jurisdictions can reduce parking requirements for projects that require or integrate structured parking to help offset the cost. This is only feasible if the overall surrounding parking supply is adequate to meet the development needs.

Density Bonuses – The local jurisdiction grants a density bonus in the way of increased floor area ratios (FAR) to offset the cost of structured parking by increasing the development profitability. As an example, the Cities of Suffolk, Virginia and San Antonio offers a density bonus as an incentive for converting surface parking to structured parking. For each 100 spaces converted from surface to structured parking on an area not exceeding 20 percent of the site area, an additional 20,000 square feet (SF) of non-residential space may be constructed.

Payment in Lieu of Taxes Agreements – A payment in lieu of taxes (PILOT) agreement is the same as a real estate tax abatement that allows a developer to substitute an annual real estate tax payment with a negotiated payment.

Private Activity Bonds – Private activity bonds are taxable bonds issued by a governmental entity to provide financing for projects. The bond proceeds are used by a private developer or non-governmental agency for project development. Usually the bonds are backed by project

[5] Smart Growth Parking Best Practices, Parking Financing,

related tax revenues. Some private activity bonds such as those used for *enterprise zone facilities* may be tax-exempt.

Publicly-Owned Facilities

There are a number of approaches to financing parking structures. The most commonly used approach for an enterprise, authority or utility would be Revenue Bonds.

Revenue Bonds – Revenue bonds are taxable or tax-exempt bonds that rely upon parking revenues to repay the bonds. In principle, revenue bonds would not need the backing of an entity beyond the parking enterprise fund, authority or utility (assuming revenues are sufficient), however, it is quite common to require the full faith and credit of the city as well. Revenue bonds have higher risk associated with them which is generally reflected in a higher interest rate than general obligation (GO) bonds (unless the city fully backs the bonds). The revenue sources used to pay the bond debt can be comprised of several different income streams such as:

- Parking fees and fines. Although parking fines revenue cannot be used to calculate the debt service coverage, they can be used to offset costs. Otherwise, all parking meter revenue and permit fees can be used to service the debt.
- Leases. Like the private sector, revenue generated from leased commercial space, lease of parking spaces or air rights can be used to service the debt.
- Parking Taxes. A tax can be levied on privately owned facilities to generate an additional source of revenue. In the City of Baltimore, the Parking Authority collects a tax equivalent to 11 percent of the gross transactions and a flat rate of $14 per month per monthly permit. It is quite common for the public facilities to set aside an equivalent amount of revenue so that the private sector is not put an uncompetitive position in the market.

GO Bonds – GO Bonds can be issued by a municipality for parking improvements and repaid with revenue generated by the parking system. This form of financing typically has the lowest interest rate since they are backed by the full faith and credit of the public entity.

Special Assessments Bonds – Special assessment bonds are also backed by the full faith and credit of the local entity, but derived from a special tax on levied on specific taxpayers that benefit directly from the public improvements financed by the special assessment bonds. Some cities create one or more *Parking Assessment Districts* where a tax is levied on those taxpayers within that district (typically non-residential uses) and reinvested into the parking system for improvements that benefit businesses in that specific district.

Tax Increment Finance Bonds – The construction of parking structures is typically an authorized use for tax increment financing (TIF) since the improvement is generally viewed as an economic development generator that will spark or support commercial development which will increase property values and contribute towards generating the tax increment.

Double-Barrel Financing – Double barrel financing refers to some combination of parking revenue bonds, GO bonds and special assessment bonds to finance parking structures. Double-barrel financing uses parking related revenues, as well as tax revenues, to guarantee the debt service on the bonds. This approach is commonly used when the revenue source from the parking system is not certain. It can also be used to increase the bond rating and reduce the interest rate.

Alternative Financing – There is a growing source of institutional and private investors that are looking for opportunities to invest in parking systems and parking assets. These investments usually require the full faith and credit of the local entity as well as a reasonably high credit rating.

- *Lease-Purchase Financing.* In this approach, a private entity finances the cost of an improvement and leases it back to the local entity over some period of time long enough to generate a return on investment. At some period in time, usually 30 to 99 years, the asset can be purchased at market rates from the private owner. In some cases, such as Pasadena, California, the investment required is generated through sales of Certificates of Participation (COP) to multiple investors who buy shares of the anticipated lease revenues rather than purchasing a bond secured by lease payments.
- *Public Private Partnerships.* Somewhat self-explanatory and also difficult to define, but this approach is comprised of a legal relationship created between the local public entity and a private developer to advance a project that neither may be able to accomplish independently. In the cities of Arlington Heights, Illinois, Miami Beach, Florida, and Lansing, Michigan, a request for qualifications (RFQs) was issued by the city requesting land owners and developers to design a public/private partnership that involved a parking component that benefited more than just the "project". Once teams are deemed "qualified", the city entered into negotiations with each of the development teams to identify the commitment of the developer, the level of support and participation needed from the city as well as the benefit returned to the city. In some instances, the city was able to expedite the development process, in others the city contributed land and still others, the city participated by providing a new revenue source or density bonuses or commitments to lease space. In all cases, the partnerships were very successful. One major benefit is that the development community typically understands what to bring to the market better than the public sector, which is one of the reasons for success in this approach.
- *Sale-Leaseback Financing.* In this approach, an investment group provides capital in the form of a sale-leaseback agreement to an entity. The amount of capital available is based on the ability of the parking system to service the repayment. The investment group typically uses the entity's parking assets as collateral and requires the full faith and credit of the entity to guarantee the repayment. As an example, a net revenue stream of $2,000,000 per year will generate $30,000,000 or more in capital to the entity for improvement projects. In reality, the entity sells a 20-50 year revenue stream to an investment group at a discount rate and uses the funds typically for parking improvements. The parking system repays the capital through lease payments over time. The advantage of this approach is that it can be executed far faster than revenue bonds, the proceeds have no restrictions like bond caveats, the net cost of money is very close to the cost of money in tax exempt financing. Washington, DC is one of many public entities negotiating a similar arrangement with private investment entities. The City of Chicago implemented this approach when they entered into a 99-year sale-leaseback of the Chicago Skyway toll facility.

Vehicle registration fees are a consistent and likely source of funds to finance improvements in the parking system such as acquisition and installation of new meter equipment. Once an actual budget is prepared for the new organization, a potential increase in registration fees should be evaluated.

Recommendation No. 4 – *An increase in the vehicle registration fees should be approved by the Board of Mayor and Aldermen (BMA) as a source of additional revenue to support the parking system reorganization. The need will be documented and if warranted, the amount of the increase will be proposed as part of the Implementation Phase.*

Recommendation No. 5 – *Based on the previous discussions, the BMA should adopt the following strategies as part of the PMP:*

1. Offer to negotiate a reduction of parking requirements for development projects that incorporate parking structures rather than parking lots;

2. Offer density bonuses to projects that incorporate parking structures rather than parking lots;

3. Endorse mixed-use facilities where feasible to reduce the cost of parking and increase the revenue stream used to pay for the structure. Commercial lease rates are greater on a per foot basis than what can be generated from a parking space;

4. During the Implementation Phase, authorize the potential to use TIF funding for financing the cost to construct parking structures (if shown to be needed): and

5. Entertain sale-leaseback agreements to identify the specific parameters and benefits to the City.

Providing incentives for developers to incorporate parking structures rather than parking lots with new development projects will usually require a movement towards joint-use development because the small parcel size and fragmented ownership of property in downtown Manchester.

The following concepts should also be evaluated to determine whether or not, over time, they are feasible in Manchester; 1) granting developers of parking structures access to long-term financing through tax exempt such as taxable bond financing similar to the Bridge and Elm Street development; 2) considering a parking tax (not a high priority); and 3) creating one or more special or parking assessment districts to generate tax revenue to be used for parking improvement.

4.1.8 Recommended Parking Organization

The following section describes the system as organized in Columbia, South Carolina, a City with similar revenues and parking characteristics. This section is drawn from a recent bond feasibility study and demonstrates the level of detail and controls that lenders will typically demand to provide capital at reasonable rates.

The City of Columbia has six garages with 3,400 spaces plus four surface lots with about 550 spaces for a total of 3,950 off-street spaces. There are about 4,300 on-street spaces for a total system supply of 8,250 spaces. The City generates approximately $5,600,000 in system revenues (including fines) and has expense of approximately $1,400,000.

The Parking System was a section of the Public Safety Department and has now been moved to the General Services Department, where it is one of two operational divisions. The Parking System is managed by the General Services Director who reports directly to the Assistant City Manager for Public Services. It includes 31 fulltime, 4 part-time and no seasonal employees. Figure 7 at the end of this section provides an organizational chart.

The Parking System is comprised of four functional sections: Administration and Garage Operations, Enforcement, Meter Maintenance and Facilities Maintenance. Major capital improvements are undertaken by outside third parties. Most of the accounting functions are performed within the City finance department. The tasks associated with each section are described below.

Figure 7 – City of Columbia, SC Parking System Organization

Administration and Garage Operations - Administration, management, coordination, and supervision of the Parking System. Provide review, analyses, and reports. Salary and hourly payroll preparation. Permit sales. Permit revenue verification and deposits. Verify and deposit revenue from off-street and on-street meters and attended lots with the City Finance Department and bank. Preparation of invoices and accounts receivable. Process accounts payable. Preparation of monthly reports. Make operational changes as required to be responsive to parking needs. Collection of fines from parking violations and parking fee invoices penalties for payments. Develop annual budget and continuing CIP program. Develop and operate communication program with customer base, business and neighborhood associations, and economic development staff. Employees: Four full-time employees, four part time (30 hour) employees, an administrative aide and the General Services Director and his assistant perform these functions.

Enforcement - Enforcement of parking regulations contained in the City Traffic Code and administration of the vehicle immobilization program. Employees: Thirteen full-time employees perform these functions.
Meter Maintenance –Maintain, service and repair parking meters. Collect revenue from off-street and on-street meters. Maintain and repair surface parking lots which contain various types of parking control equipment including –attended parking, monthly parking, parking meters, coin receivers, and dollar bill changers. Employees: Seven full-time employees and the Parking Services Director perform these functions.

Facilities Maintenance –Maintain, service, and repair parking revenue control equipment in garages and surface lots. Coordinate traffic control signage and painting with Public Works Department. Perform preventative and remedial maintenance in the parking garages. Employees: Four full time employees and the Parking Services Director perform these functions.

The City of Columbia reorganized their parking system several years ago with the result of turning an unwieldy, low revenue generating, and fragmented system into a public asset that has become a visible element of successful downtown development. Realizing that the City of Manchester has a strong Mayor organization rather than a City Manager, a similar organizational structure for the City of Manchester is recommended. The General Services Director (Parking Director) essentially answers to the Mayor's office through the Assistant City Manager. They rely on the City Finance Department for accounting and other services to avoid costly duplication of services. Parking is now integrated into all development proposals, and most public works projects since the Manager is a "cabinet level" appointment and attends the City Manager's regularly schedule management team meetings.

Key components of this organization are:

- The parking system is operated as an enterprise fund and must be financially self-supporting;
- The parking system can issue revenue bonds;
- The parking system is independent but still integrated into City government and therefore creates a stronger presence in terms of economic development directives that come from the Board of Mayor and Aldermen;
- City Finance Department maintains checks and balances on the system;
- The parking system must have a Master Plan including Goals and Objectives. This Master Plan will have the full support of the Mayor's office and Council and will set the course for the next five to 10 years;
- The Parking Manager must be part of the Mayor's management team; and
- An experienced, well-qualified Manager will need to be appointed and provided suitable authority.

Recommendation No. 6 – *The BMA should adopt the parking organization described above in this chapter subject to refinements in the Implementation Phase.*

4.2 PARKING OPERATIONS, PRACTICES AND POLICIES

The following presents a summary and recommendations for the City of Manchester parking infrastructure.

4.2.1 Expanding/Improving the Parking System

The recommendations developed herein assume that the City will adopt and implement a form of organization that will create a parking system. Depending on the level of authority granted to the parking system, new ordinances will need to be adopted, existing ordinances eliminated, affecting numerous department, activities and responsibilities in the City's organizational structure.

4.2.2 City Lease Agreements

LMG was furnished with a number of leases currently in place between the City and property owners or parking operators which provide for various business arrangements within the Study Area. The leases reviewed for this study include:

- **City of Manchester, Lessor and Trustees of John Philopoulos Associates, III, Lessee** (Center of New Hampshire). The lease term is 40 years and expires in 2024, with 40 year renewals. The current operating agreement expires June 30, 2009. Base rent was $8,000 per month in 1981 with adjustments and escalations through the term of the lease. Executed by the mayor. The management/operating agreement for the facility renews every five years.
- **City of Manchester, Lessor and University of New Hampshire, Lessee** (Bedford Lot and Arms Lot). There are 192 spaces in these two lots. Term from January 1, 2000 to December 31, 2049. Rate is $4320 per month ($22.50 per space) or market rate for users with more than 100 spaces leased. Termination only in the case that rent is not paid.
- **City of Manchester, Lessor and Cameron Real Estate**. First priority granted to Cameron for 70 parking spaces in the Victory Garage. Five-year term from January 21, 2005, two five-year extensions. Rate quoted is the prevailing rate at the time the spaces are leased on a monthly basis. Termination only in the event of destruction or sale of the parking facility. Executed by Mayor.
- **Wall Street Tower LP, Lessor, and City of New Hampshire, Lessee**. City leases 400 parking spaces. Twenty-year term starting June 25, 1985 at a rate of $30,000 per month. Twenty-year extension provision. Lessor reserves the right to use the spaces before 8 am and after 5 pm weekdays and 24 hours per day on weekends. Executed by the Mayor. This transaction is the closest to a typical real estate lease which was adapted to cover parking spaces. The agreement results in the City subletting its leased spaces at a loss for twenty years.
- **Ogden Entertainment and City of Manchester** (Civic Center Operations Agreement). Management agreement for 15 years starting March of 2000. Executed by the Finance Director.

These agreements represent a wide variety of business arrangements between the City and real estate owners downtown or operators of facilities. The Center of New Hampshire and Wall Street leases are clear efforts at economic development and investment in the infrastructure of downtown through public private ventures. However, the differences in the various documents and the roles for the City (of property owner or tenant) reveal inconsistent negotiating tactics and unclear goals for the City.
Other agreements, like the Cameron and University of New Hampshire (UNH) agreement, seem to elevate the issue of parking far beyond its relative position in the operation of the City. The UNH agreement ties the City's hands for 50 years, but UNH Maintains flexibility in their terms. While this educational element is a desirable presence in the downtown, it is important to be generally fair to all parties and allow for future changes. The Cameron agreement, while not truly a lease but rather a promise to allow permits to be purchased, is probably the best deal the City has made. However, there should have been some base amount paid to the City for the reservation of capacity.

There is substantial inconsistency across the agreements as to who is in control of the spaces and at what rates. This will significantly affect the City's ability to isolate the parking system and prove its public purpose for future bond issues that might be solely supported by the revenues

from the system. While this may or may not be an issue today, it ultimately affects the system's ability to support the growth of employment in the downtown. The arrangements in place are in general very expensive ways to provide capacity in the system, in some cases representing the equivalent of an 18 percent cost of funds to the City with no residual value at the end of the lease.

On the other hand, the City is to be applauded in its efforts to work with the private sector in creating partnerships to affect a positive outcome overall. The general theme of the recommendations which follow reflects a desire to create a consistent message in negotiations and targeted efforts to support new development where the overall needs of the City are met.

Recommendation No. 7 - *The BMA should recognize and adopt the following policy guidelines as part of the PMP:*

1. Strategy in future lease negotiations or renewals should come from the Implementation Phase.

2. Efforts should be made to ensure that every commitment made by the City moves it one-step closer to achievement of its long-term goals.

3. Tactical matters should fall to the parking department head. Issues specifically negotiated in the leases such as rates, operation, availability and reservation for future use should be managed within the context of the system.

4. Ownership should be the goal, not leasehold. If a public private partnership is considered important to support the development of a specific project or to attract a specific tenant, the City should consider options such as condominium ownership of the spaces and support of the underlying construction debt.

5. Great care should be exercised to keep from committing large blocks of spaces to a single property or business owner. This can cause great difficulty in future efforts to obtain financing.

6. Lease terms should be limited to short periods with opportunities for renewal at market rate terms.

7. Separate rate structures should be developed for intergovernmental relationships.

Recommendation No. 8 – *The BMA should immediately look to assess the need for the parking spaces leased from Wall Street. This effort should be coordinated through the new Parking Manager, or the consultant during the implementation phase, if the Manager is not brought on board within 180 days.*

With less then two years remaining on the lease, it is imperative that the BMA determine if these subsidized spaces are as critical to the success and viability of the area as they were 20 years ago. The cost of the current lease is equivalent to the debt service the City would have paid on these spaces, and there is no reason to believe the lease will become more economical under the renewal, so alternative locations should be sought if it is determined that the supply is critical. As a last resort, the BMA should consider extension of the lease

4.2.3 A Financially Self-Supporting Parking System

The approach discussed herein assumes that City will continue to maintain a paid parking system. However, another approach touched on previously as a funding mechanism is to support the entire cost of the parking system through non-user fees. These sources could include such programs as special assessments, TIF monies, and general tax fund revenues.

A financially self-supporting system is based on the premise that the users of the system (parkers) should pay the cost of providing parking. In addition, the parking system must be able to create reserves for repair and replacement of facilities, expansion, on-going maintenance, upgrades in technology and enhancements to customer relations. Finally, the ability to generate revenue over and above expenses enables the parking system to take an active and contributing role in supporting economic development. A well-run system should strive to meet these goals as part of their mission statement.

A constantly increasing revenue stream is essential to a sustainable parking system. However, increasing rates is not the only way to increase revenue. A strong parking system will support and nourish a vibrant downtown and employment base. As more visitors visit the downtown and employment grows, parking revenues will increase. As the parking system nears capacity, the need for revenue becomes critical so the system can be expanded to support additional economic development, and so the cycle continues over time.

However, there will always be a need to increase revenue and the most obvious way is to increase parking rates and/or reduce capital expenditures, administrative and operating costs. Increasing parking rates is politically unpopular, but will be required to maintain a financially self–supporting parking system.

Another way to increase system revenue is to increase the capacity of the system without expensive construction of new spaces. The most efficient manner in which to expand the system is to provide additional on–street parking in high demand areas of the downtown, near institutions of higher education and other commercial and retail destinations. The on–street parking rates are $0.50 per hour in the CBD and generate the majority of revenue on a per space basis. Chapter 5.5.2 includes an application for this approach.

Assuming the parking system takes on additional debt over the next couple of years, costs will dramatically increase, and therefore, parking rates must be increased to ensure the debt service coverage is maintained.

Parking rates should be changed to reflect a maximum which can be charged, giving flexibility in cases of economic development and day-to-day operational needs which may from time to time call for lower rates. This gives the parking manager, for example, the ability to sell roof spaces in a garage at reduced rates without seeking a change in the ordinance. In addition, increases should occur on a regularly scheduled basis to avoid the need for large increases at any given point in time. This will require a change in City ordinance 70.57 which will need to be replaced regardless when a new organization is implemented. Initial rate schedule adopted should be as shown in Chapter 5.2 in concert with a strong public relations plan as part of the rollout (see Chapter 7).

It is also important to note that adoption of these or other recommendations does not preclude the City from transferring revenues from the parking system to the general fund on a special or annual basis. This is one of the economic development roles a Parking Department should provide.

Recommendation No. 9 – *The BMA should adopt a policy that the reorganized parking system will achieve a self-supporting level of financial stability.*

This recommendation is critical if the parking system is going to effectively serve the City parking needs and as important, transition to a role of aggressively encouraging economic development through parking strategies.

4.2.4 Target Occupancy Rates

The efficiency of the parking system is based on the percentage of vacant (or occupied) parking spaces during the peak time period of a typical weekday. A parking system that is used to full capacity is inefficient because it becomes too difficult for the second wave of parkers to find the few last remaining spaces. Good design requires that the system always have a certain number of unused parking spaces available, particularly for short–term parkers.

Common downtown (typical) target occupancy rates are:

- 90–95 percent for long–term parkers (employees, conference attendees); and
- 80–85 percent for short–term parkers (shoppers, visitors)

However, target occupancies of about 85 percent are preferred if the financial performance of the system is not adversely affected, i.e. revenue generation for a parking system will be less at 85 percent occupancy than at 90 percent occupancy. It is common for specific areas within a downtown to experience intense parking demand pressures that exceed the available supply in that area. Based on the parking characteristics of downtown Manchester parkers, a target occupancy rate of 80 percent is appropriate for short-term and 90 percent for long-term parking spaces. The balance, or ratio, of long–term to short–term parkers may need to be adjusted through reallocation of spaces; rates structure revisions, and/or enforcement to promote off-street short-term parking opportunities. This has implications on parking expansion and capital costs. In other words, it costs more than a target occupancy rate of 85 or 90 percent since the City will be supplying additional “flex” space in the system.

Recommendation No. 10 – *A target occupancy rate of 80 percent is recommended for short-term and 90 percent for long-term parking spaces and should be approved by The BMA as part of the PMP.*

4.2.5 On–street Parking

The on-street parking supply is one of the City’s greatest assets. This is the high-visibility; high turnover parking that storeowners and retail tenants cannot live without. Maximizing the efficiency, operation, and management of this inventory is critical to the success of downtown merchants. The City should maximize the availability of short–term parking wherever possible to promote downtown commerce where safety and necessary roadway capacity is not sacrificed. There are several ways to approach this issue, from creating linear parking lots on the cross streets to expanding the valet concept (see section 5.2.2). The appendix of this report includes numerous public relations programs and technology solutions that help the public perception as well as increase efficiencies of the system (Chapter 7.0). Finally, on-street permits (non-residential and residential) are addressed later in sections (4.3.1 and 4.3.2).

According to the study data, the City’s on–street parking supply appears to be adequate to meet the parking demand in all of the subareas during the majority of the time. There are occasional shortages of on–street parking during events and sometimes during the lunch hours in the CBD subareas, but overall the supply and location of parking is adequate to meet the demand. The exception to this statement is limited abuse of on-street parking, particularly in the first block of

Elm Street north of Granite Street. This is addressed below in the section on *Parking Duration and Turnover*.

Another recommendation that is discussed later (section 5.3) is the introduction of a shuttle system connecting parking areas to the Millyards and to the Elm Street corridor and the Gaslight District so that the huge major employment base in the Millyards can frequent downtown establishments, attend sporting events, shop and dine out without having to move their vehicle from parking space to parking space. The City of Milwaukee, which has similar geography, employment, and parking challenges as Manchester, has "branded" their successful park-n-ride shuttle program "*Park Once*".

The majority of the on–street spaces located along Elm Street are angled head-in parking and the cross streets have both parallel and angled parking depending on the roadway width and traffic volumes. Additional locations for on-street angled parking; either back-in or head-in should be evaluated in high demand areas. Some side streets should be consider for modification or reconstructed to act more like linear, landscaped parking lots than a leg of an intersection. See recommendations in *Mechanic Street Demonstration Project* in Chapter 5.0.

Parking Duration and Turnover

Parking studies and analyses were prepared based on data that was collected during the peak period of the study area. The parking occupancy begins to increase significantly over the lunch hour period and a high percentage of the available on–street parking in the CBD subareas becomes occupied. The City should remain diligent in its enforcement program (and expand) to ensure that the available space remains usable as redevelopment occurs in the downtown and the pressure for on–street parking increases. Currently the low number of violation rates that were observed during the study indicates that parkers are generally in compliance with the type of parking available, that on–street and/or off street parking is generally available and that the types of metered restrictions in–place are reasonable.

Technology

One other significant piece of data was not collected; whether parkers actually paid the meters for the short-term parking. Although turnover and duration were well within desirable standards, the incorporation of pay and display meters and enforcement would ensure that the revenue generation matches the use levels. Technology is addressed in Chapter 5.0.

The parking duration and turnover studies that were conducted as part of this study indicate that use of parking spaces worked as they were intended with the exception of some time limit abuse. However, the parking limit abuse that did occur comprised a high percentage of the parking supply and needs to be eliminated through increased enforcement and through the implementation of electronic meters (Enforcement recommendations listed below).

4.2.6 Parking Enforcement, Ticket Writing and Meters

Parking restrictions are only meaningful if effectively enforced. The enforcement of the on–street spaces should be one of the highest priorities of the Parking Office intensified so that the premium, high revenue generating, on–street parking is available to serve the visitors to the downtown. This poses problems in Manchester because of the allocation priorities for the Police Department. Some local governments have switched to civilian enforcement agents, releasing sworn officers for other assignments. As discussed throughout this report, effective on–street enforcement is critical for several reasons:

1. *Public Protection*. The prohibition of parking is necessary near fire hydrants, in emergency vehicle easements providing access to areas where the streets are not dedicated, at intersections where stopping sight distance is critical and may be blocked by parked vehicles, and at or adjacent to construction.
2. *Traffic Flow.* During peak periods there may be parking restrictions in the curb lane for the flow of traffic. Double parking, bus stop locations and loading zones must also be kept clear of parked vehicles to facilitate the movement of traffic.
3. *Parking Management.* Enforcement is critical to implementing any effective parking management policy. Without the ability to enforce regulations, widespread abuse will result and policy objectives will not be achieved.
4. *Parking Revenues*. As is likely the case in the City of Manchester, a great deal of parking revenue is lost without strict enforcement of on–street metered parking. Better collection of fines from scofflaws and strong adjudication is also part of effective enforcement. If the ticket fines are not paid, the writing of a ticket to overtime parkers loses its ability to modify behavior.

As mentioned previously, the purpose of strict parking enforcement is to free up parking spaces in the downtown for use by visitors and shoppers by reducing abuse of short–term parking and creating greater turnover. Available, on–street, short–term parking is extremely valuable in maintaining an economically viable downtown and, while the City has added numerous on–street parking spaces over the last several years along Elm Street and several cross streets to maximize the availability of short–term parking wherever possible where safety and necessary roadway capacity is not sacrificed.

Parking Enforcement

In June, 2004, the City of Manchester's Office of the City Clerk prepared a white paper on parking operations in response to a request from the Committee on Traffic and Public Safety. The paper, titled "Report on Parking Operations" provides valuable documentation on existing practices by the multitude of departments involved in the provision and administration of parking services. The City Clerk's report provides documents the fragmented approach, staff's frustration with the current system, as well as, presents suggested remedies for resolving deficiencies. There is especially helpful information relative to parking enforcement procedures and administration (included herein as Appendix B). Much of the following information was taken from that report and augmented by "best practices" in the parking industry and/or implemented in other cities.

As of June, 2004, there are three walking and one mobile Parking Control Officers (PCO's) who provide parking control for the entire City, not just within the downtown parking study area. Additional parking control assistance is provided as necessary, by the City's Animal Control Officer or by police officers. Because of their significance, the list of observations included in the Report have been paraphrased, augmented, and reorganized as shown in Table 21. This table also list specific action items that are recommended.

The primary reasons to relocate the City's parking enforcement function to the Parking Office should be policy-driven and not driven by cost or revenue. Those reasons include:

- assisting in the implementation of parking policies, goal and objectives;
- modification of parking behavior as needed to achieve parking goals
- increasing the effective availability of parking for users; and

- minimizing intentional abuse of the parking system.

However, experience in other cities have shown that increases in parking system revenues will more than pay the costs to organize, equip and deploy an efficient and effective parking enforcement program. Furthermore, the following benefits will be realized as well:

- consolidation the administrative and personnel costs for enforcement;
- specialized staff will bring state-of-the-art practices to Manchester as well as peer experience in other cities. This information is gleaned through on-going training and certification programs available through state chapter or national industry associations;
- increase in staff moral; and
- eliminate the responsibility for parking enforcement from Police Department so Officers can focus on Public Safety.

Recommendation No. 11 – *Adopt Action Items in following Table 21.*

Table 21 – Enforcement Observations and Actions

Item	Observation	Impact or Comments	Action	Benefit
1	Police Officers are diverted from the Police Department's core mission - Public Safety.	Police Officers should focus on Public Safety not parking control.	Provide an adequate number of PCOs.	Increased focus on provision of Public Safety by current Officers.
2	Parking control is a secondary task for Police Officers.	Parking control is not consistent and therefore, by design, will not consistently be aligned with management objectives of the Parking Office.	Assign PCOs to the Parking Office.	City gains ability to modify parking behavior consistent with Parking Office objectives.
3	Police Officers do not have adequate technology.	Increased costs for processing, tracking tickets more difficult, no clear reporting systems, and no data output to assist in management practices.	Implement adequate technology including software, hardware, policies, objectives, plus items 1 and 2.	Reduced administrative costs, immediate feedback on parking behavior, increased fines revenue, more "City Ambassadors" on the street and available to community.
4	Four PCOs not adequate to cover Citywide-parking system. Need additional PCOs.	Inconsistent management, abuse of the system, loss of available parking for intended users. Overtime must be paid for parking control for Verizon Wireless Arena and Fisher Cat events. They need more people, not more vehicles. They need to be assigned to territories and driven to their territory in the morning. Their territories should be rotated.	Hire an adequate number of PCOs given the geographic boundaries, parking inventory, and job description. Provide on-going training through industry certification programs. Review and add enforcement vehicles as needed.	Increased efficiencies in the system citywide. Increased moral by PCOs. Ability of City to manage PCOs and assigned routes. Can adequately benchmark PCO activity and make changes when necessary. Increased revenue and increased accessibility of the parking system by intended users.
5	One person responsible for booting of scofflaws. Lack of adequate technology to identify booters, react timely enough to actually boot them, and then track through the payment process. Hit and miss approach to identifying and booting scofflaws.	A backlog of approximately 900 vehicles. Scofflaws will increase since the "threat to boot" will be largely ignored. This can have a huge impact on the number of available short-term parking spaces available, especially downtown. Costs are higher than required because of inefficiencies. The impact of this cost is much higher than for ordinary fines processing since there is ultimately, minimal revenue collected from scofflaws.	Outsource activity through existing towing contracts the City already has. Upload and maintain dynamic scofflaw database list in PCO ticket writing equipment which will allow immediate identification of scofflaws - so booting can be enacted. Enact a revised towing ordinance.	Increase compliance with management practices. Elimination of chronic abuser's can effectively increase the number of spaces available to intended users - especially in the CBD Elm Street corridor. Increased fines revenue.
6	Backlog of violations.	Statute of limitations exceeded, court cases dismissed and valuable internal personnel resources lost that could be directed in more effective activities. Consider requesting changes to state law that attaches unpaid fines to State vehicle registration and/or license renewals.	See item 1, 2 and 3. The fines ordinance should be revised so those summonses are issued. A summons does not expire.	Increased efficiencies within City government increased parking management compliance, abuse of parking system reduced. Revenue increased and costs reduced.
7	No current access to parking violations data, parking use, or problems with on-street parking.	Lack of ability to react to changes in behavior, direct parkers to available parking, enforce parking or resolve issues in real-time.	See item 3.	See items 2, 3, 4, 5 and 6.
8	Current technology including computer equipment, software, ticket writing, and communications are inadequate and/or obsolete.	Lost labor hours, increased costs, lack of control over achieving objectives, increased frustration by staff. Lack of ability to upgrade current equipment.	See item 3.	See items 2, 3, 4, 5 and 6.

Finally, experience in other cities also indicates that the average ratio of PCOs to on-street controlled spaces ranges from a low of 1 PCO per 40 controlled spaces to 1 PCO to 100 controlled spaces.[6] This is a strong indication that the Parking Office will likely require the addition of several PCOs rather than the one suggested in the City Report. A separate analysis of the enforcement needs is recommended to determine the proper approach to identifying sufficient enforcement staffing needs.

Recommendation No. 12 – *The BMA should relegate recommendations on enforcement needs, including staffing and equipment, to the Implementation Phase.*

Longer-term needs will need to be established once the Parking Office is operating. Transition into the next phase of developing the parking system by authorizing the development of an Implementation Phase to establish the Parking Office and implement action items and other recommendations included herein.

Recommendation No. 13 – *The BMA should direct the City to standardize the enforcement times for on-street paid parking. On-street paid parking in retail, commercial, dining and entertainment areas should be in effect and enforced from 8am to 10pm Monday through Saturday and 11am to 4pm on Sundays. Off-street paid parking should follow the same hours of operations and enforcement. An overlay district should be developed for the Arena area to ensure that paid parking is provided. New meter technology will provide ability to charge event parking differently from regular parking.*

Privatization of On–Street Parking Operations

Parking enforcement services in many cities are provided by the City Police Department where the supervisors are sworn officers and the ticket writers are non–sworn personnel referred to as Parking Checkers. As a note, sworn and non-sworn personnel that serve to manage the on-street parking supply may also be referred as “Parking Enforcement Personal”, “Ticket-writers”, or in Manchester, PCOs.

The concept of privatizing parking enforcement has become more common but is not widely discussed. The benefits claimed are a reduction in cost of operations by 25 to 30 percent, an increase in the number of citations written, and a decrease in the number of voided and canceled tickets. In addition, citizen complaints may also be reduced as City policies regarding issuance of tickets are standardized. The reductions in cost are due in part, to use of non-union personnel (lower overhead), a high-level of management expertise by the parking operator, and incorporation of the latest technology and practices. The City of Charlotte has privatized their on-street parking through a five-year renewable contract (currently with Standard Parking) that the Downtown Development Corporation manages. This is an approach that should be given due consideration by the City. On the other hand, since PCOs can play a significant public relations role as “City Ambassadors”, it may be more appropriate to use City staff.

Parking meter maintenance is another area of on street parking that could be privatized. The City maintains a meter shop and personnel to maintain and repair the meters. The City could eliminate the overhead associated with a meter shop or storage areas for meter equipment and spare parts. Experienced private service providers can also be very creative in optimizing efficiency and net revenue.

Although, not included herein as a recommendation, the BMA may want to consider contracting the operation of on-street parking operations to a private operator while the City organizes and implements a Parking Office. The benefits would be that the framework of the reorganization

[6] ibid.

strategies for on-street enforcement, meter installation, collections and operations could be implemented through the operator. Net revenues would be expected to increase during this period which could be used to help fund the transition to the Parking Office. This service may be able to be provided by the current contract operators of the garages at reduced costs compared to a contracting with a new operator.

The negative aspects include the loss of City staff through possible layoffs or reassignment may not be politically acceptable. However, in such cases, the personnel may have opportunities to transition to the operators staff and then back to the Parking Office when established. Another possible negative aspect may be the term of the contract. The operator may require longer term in order to realize a return on their costs or a "buy-out" of the lease that could negate the financial benefits discussed earlier.

Recommendation No. 14 – *The BMA should authorize a feasibility analysis of contracting with a private operator for short-term operation and management of the on-street parking during the Implementation Phase.*

Ticket Writing

Every community would like to increase the number of shoppers, diners, tourists, and others that frequent and invest in the local economy. Receiving an expensive parking ticket can damage an otherwise enjoyable visit and perhaps keep that visitor from returning. One way the City can provide some goodwill that may eliminate that damage is by adopting a quick-pay discount. If a visitor is ticketed for an expired meter at $10 (or $20 in the near future), they are eligible to pay a minimal amount, say $4 or $6 if the ticket is paid within two hours of the infraction. This method provides some relief for visitors while still allowing control over on-street short-term parking. However, it is critical that adequate technology be used to track offenders so that abuse of the system does not occur. The City should consider the establishment of a drive–through window for the payment of parking tickets to facilitate the previous bullet item.

Recommendation No. 15 – *The BMA should approve the adoption of a "forgiveness" ticket policy that reduces but does not dismiss a ticket issued in the downtown area. The specifics will be identified in the financial and operations plan as part of the reorganization presented in the Implementation Phase.*

The City should look for an opportunity to create a drive-through window, a walk-up window for payment of the tickets. This could entail collaboration with other City Hall payment activities, the utility companies, or the private sector that already has this function in-place for other payments. There is also the possibility of incorporating payment through pay and display and multispace stations.

Encouraging Alternative Modes

To the extent that employees can be encouraged to shift from single occupancy vehicles (SOV) to carpools/vanpools and shuttle, additional capacity can be created at minimal cost, particularly in critical locations. Realistically, major shifts in mode will require specific incentives to the employees either directly or indirectly through encouragement by their employers. There are numerous Parking Management Techniques (PMTs) that can be explored that may be successful

in the Millyard and post-secondary education areas. However, this is typically a function of Southern New Hampshire Planning Commission and should be coordinated with their office. However, in order to develop a PMT program that has a noticeable positive impact on reducing employee parking demand, a coordinated regional transportation authority or other similar governing body must be created. A transportation authority would have the ability to implement, operate, and manage a regional park–n–ride system, expanded transit system, HOV facilities linking traffic lanes to HOV parking facilities, and advanced message signing for parking structures. Without a regional transportation approach, the implementation of PMTs will be difficult at best and counterproductive to the growth of downtown. In the absence of a regional transportation plan, the implementation of a parking management program in the City has potential to reduce employee parking demand below current levels and to encourage alternative transportation modes without adverse impacts to the vitality of the CBD. This is the subject of a separate study and not covered in this report.

The City of Portland, Oregon has benefited from a successful local and regional approach to land development, the transportation system, and other supporting infrastructure in the State of Washington. The City has been able to increase land use intensities through the adoption of growth management legislation aimed at promoting growth in the most efficient and effective manner possible. As an example, the City has implemented a "cap", or ceiling, on the number of parking spaces provided in the downtown in conjunction with a free transit zone. The central City focused on higher densities in areas with the greatest level of transit service and pedestrian–friendly amenities were required as part of new construction to help reduce reliance on the automobile. City has continued to grow with increased use of transit, park–n–ride, and HOV facilities. However, within the last few years the City has removed the cap on parking and has moved ahead with the construction of thousands of new parking spaces in response to demands from the downtown business owners.[7]

Because of theses coordinated schemes:

- Since 1972, 30,000 jobs have been added to the downtown without appreciable increases in the number of parking spaces;
- Transit ridership to the downtown has increased by more than 50 percent and now accounts for more than 40 percent of the work trips to the downtown.
- Light rail as more than 24,000 weekday boarders. More than $800 million worth of development has occurred along the light rail alignment, another $400 million is in–progress.
- Violations of carbon monoxide standards have dropped from more than 100 to zero.

The integrated approach to development is what has allowed Portland to grow within the central City. A similar approach in Manchester would likely be unsuccessful without the adoption of similar growth management legislation. This approach has been successful in Portland because development is restricted, by legislation, from sprawling into adjacent suburbs, therefore limiting the geographical locations where growth can occur. Furthermore, this level of implementation is beyond the ability of the City of Manchester to implement.

[7] [1] Portions of this section were derived from the following publication, Parking, published by the ENO Foundation, Robert A. Weant and Herbert S. Levinson.

4.3 PERMIT PARKING AND THE MANCHESTER ZONING ORDINANCE

The downtown parking study area covers two zoning districts, Amoskeag Millyard District (AMX) which entails the study area west of Canal Street and the Central Business District (CBD) which covers the balance of the study area. According to Section 10. Off-Street Parking and Loading Requirements of the Manchester Zoning Ordinance, "Central Business District is exempt from parking requirements (Section 10.02.C.)". Furthermore, Section 10.02.C. states "Whereas public parking shall be provided for the uses within the Central Business District"

The AMX district parking requirements are addressed in Section 10.02.D. "Conditional use permits for alternative arrangements. The Planning Board is authorized to issue conditional use permits to reduce or alter the number of off-street parking spaces otherwise required by this Article". Furthermore, under the following paragraph (Section 10.02.D.1.), the ordinance states ""parking in strict conformance with the Table of Parking Requirements shall not be required within the Amoskeag District." The section goes on to state that the preparation of a parking study is required to determine the amount of additional parking, if any, is required to satisfy the parking needs of the development.

Over the last decade, the City has not kept pace with parking requirements associated with development approvals in the AMX district nor has the City anticipated parking needs to the extent that the CBD district now requires. As economic development continues to gain momentum in Manchester, the occupancy, and intensity of approved development along with new development pressure is putting increased demand on the parking system. The City's lack of policies associated with the issuance of permits has resulted widespread abuse and loss of management control over how permits are used. Currently, two departments handle issuance of permits; Ordinance Violations issues residential permits; and on-street and off-street non-residential permits are issued by the Traffic Department. Information relative to state or municipal public work projects, private construction projects or civic events that affect on- and/or off-street permit holders is inconsistent and less than coordinated. There is no central database depository for permit information so it is unclear at any given point in time what the availability is and how that might change over time.

As an example, the City has issued 5,906 permits including 4,906 non-residential and over 1,000 residential permits. The City's off-street parking supply is 3,943 spaces and the on-street supply is 2,939 spaces for a total of 6,882 spaces. Approximately 86 percent of the entire existing capacity is pre-sold. When a city sells a parking permit to a user, they are guaranteeing reasonable access to an available parking space. The City is currently in a situation where they will not be able to provide this guarantee.

In light of the current and historical mandate of the City relative to parking requirements, the following discussion and recommendations are provided regarding both non-residential and residential permit parking practices. Implementation of certain recommendations could result in required changes to the Zoning Code.

4.3.1 Non–Residential Permit Parking

Currently, the process used to issue permits is the City Traffic Department assigns a specific number of permit spaces in the off-street parking system (this is adjusted and occurs over time). The Traffic Department monitors the occupancy of the permit spaces. If the occupancy of those spaces (or an entire "permit lot") is consistently under 85 percent, the Traffic Department continues to issue permits, as requested, until the 85 percent occupancy level is reached. This process is iterative over time and is a standard practice in the industry. However, the industry norm for oversell is typically 10 to 15 percent. In Manchester, the oversell rate in the Victory and

CNH garages is 43 and eight percent, respectively (Table 5). The surface lot oversell rate runs over 70 percent in the Bedford, Arms Lot, and Myrna Lots with an average oversell rate of 55 percent (Table 6). As a result, the City currently has sold 3,927 permits for 2,936 designated permit spaces for an average total oversell rate of 34 percent.

The typical oversell rate is much higher than the industry norm because the City does not have the ability to monitor the actual use of the permits by the permit holders. There are employers, building owners and managers who currently purchase numerous permits in an effort to reserve capacity in the parking system to accommodate future need. As a fictitious example, a building owner or real estate broker who is attempting to market 5,000 square feet of Class A office space may purchase 20 permits, every month, to reserve for use by the future tenants of that space. Since the respective costs of parking permits is minimal, the broker may hold those permits in reserve for many months, or in some cases, years.

Consequently, parking demand could escalate dramatically in the permit lots if existing development occupancy levels increase. As another example to illustrate the potential demand, the Millyard buildings could add up to 5,000 employees, requiring perhaps as many as 3,000 parking spaces with no approvals from the City required.

In addition, the Traffic Department issues nearly 800 on-street permits on Commercial Street for Millyard employees. This practice is logical until the off-street permit parking capacity can be increased and the majority of those parkers relocated. The advantages will be improved safety, aesthetic improvements, and creation of on-street convenient and proximal parking spaces for visitors. In addition, the practice of issuing on-street non-residential parking permits in the CBD subareas is also discouraged as that space should be reserved for short-term use and/or evening parkers.

Recommendation No. 16 – *The BMA should direct the appropriate City department(s) to stop issuing new permits and sunset the current practice of issuing permits over a maximum 90-day period (the shorter timeframe, the better). A new written policy should be adopted and implemented during this timeframe.*

Public notice should be posted announcing that all permit holders will be required to apply for a new permit based on a new written policy. This policy may be short-term and will likely be modified once the Parking Office is operational, but should address price of permits, and practices based on permit type, location, convenience, and demand. The ability to prioritize permit sales is based on the funding source of the facilities used. As an example, improvements funded with cash reserves have fewer constraints and controls on how permits are issued than improvements funded with tax-free bonds.

Recommendation No. 17 – *At such time as feasible, and in concert with the previous recommendation, the issuance of parking permits should be managed through real-time reports by the Parking Office. Purchasers of permits who are not active users of the system will be expunged and relegated to the lowest priority on the waiting list.*

This recommendation is subject to installation of required access and revenue control equipment. Also, see Chapter 5.0 for specific capacity improvement recommendations and recommended permit demonstration projects.

4.3.2 Residential Permit Parking

Residential growth in downtown Manchester has been targeted as a key area for improvement. The parking demand associated with residential units has its own unique set of characteristics, different from those of a typical commercial parking system, primarily the provision of 24–hour

parking. When accommodating residential parkers, round the clock parking proximate to the residential units becomes a necessity. However, it is essential to prohibit residential parking in on-street spaces which have the highest demand during the day and in some locations, in the evening as well. Therefore, the City should reevaluate its existing programs and policies, to remove parking as a barrier to downtown residential development.

Following are recommendations aimed at spurring and supporting residential development. In order to encourage residential development, the following program additions have been recommended.

Recommendation No. 18 – *The BMA should direct the appropriate City department(s) to sunset the current residential permit parking practice and implement a policy statement on issuance of residential permits including the list provided below. The Policy should be subject to change based on parking conditions over time.*

The City should be in a position to guarantee parking for qualified properties within a designated subarea that generates new residential development. Each permit application would be evaluated against the following criteria to determine their specific solution:

- allow residents to park in off-street garages free or at low cost from 6:00 pm until 8:00 am with actual times based upon true demand;
- when no off-street garage parking exists within a reasonable and secure walking distance, allow residents to park in on-street areas that may have high daytime demand from 6:00 pm until 8:00 am with times based upon actual demand;
- allow residents who are home during the day to park further away in spaces where there is less demand;
- residents who need a 24 hour permit will be able to apply for an unrestricted permit (highest priced permit);
- create 20 to 30 minute on-street residential loading zones where demand warrants. These could be dual purpose loading zones where they are truck loading zones from 7 to 11 am and the rest of the time they are residential loading zones; and
- enforce heavily.

Recommendation No. 19 – *The BMA should authorize the City to revise the residential permit parking ordinance so that the requirement for the applicant to hold a "valid State of New Hampshire" license is revised to "valid driver's license".*

Currently, there are numerous "residential parking zones" in the City and there is no policy limit on the actual number of zones that could be created by the BMA. LMG recommends the creation of one residential zone covering the entire CBD and AMX land use zones. Enforcement policies, permitting practices and illogical constraints that exists today, such as imaginary parking boundaries, would be removed. Residential parking permit spaces would be located, identified and signed and monitored so that the need was met, enforcement simplified, compliance simplified, safety and security, on-street parking management and control improved.

Recommendation No. 20 – *The BMA should authorize the creation of one residential parking zone covering the AMX and CBD zoning districts.*

4.4 ECONOMIC BENEFITS

The City's parking policy should be two–fold. First, the public parking program must promote the economic viability of the downtown by providing a sufficient number of conveniently located parking spaces that are not supplied by the private sector, or not served by alternative modes of transportation. Secondly, the parking system should promote and complement the total transportation system through a sensitive balance of rates and supply, to encourage the most efficient and economic modes of transportation available.

The challenge related to maintaining a financially self–supporting parking system are most apparent in cities suffering slow downtown growth and a declining tax base. Larger cities, like Boston, with transit availability and high employment concentrations in the downtown, may be able to limit the downtown parking supply. Manchester has just recently experienced significant growth in the downtown and without having an organized parking plan to rely on, the parking supply has not kept pace with development or parking demand.

The cost of constructing surface lot parking for office and retail development in smaller cities outside of Manchester (i.e. Nashua, Hanover, Concord) is relatively inexpensive compared to construction of parking ramps downtown. However, as property taxes increase and available land decreases, the cost to provide large expanses of surface parking starts to close the gap.

Downtown Manchester, as well as other similar–sized cities, is no longer anchored by retail department stores. The anchors that strengthen downtown Manchester in 2005 are the presence and draw of the Verizon Arena, the Millyards, The Fisher Cats, Institutes of Higher Education, City and County governmental offices, the arts and cultural venues, and the riverfront. To compete with the edge–cities, the City needs to continue their development of strong public/private partnerships to take advantage of the City's assets and create the Richard Florida "Cool Cities" concept. Loft apartments, entertainment and sports venues, arts colonies, specialty retail, higher educational opportunities, and professional white-collar employment opportunities. One of the challenges the City will face is providing workforce parking for a service economy that is part-time, and low income.

5.0 SHORT–TERM RECOMMENDATIONS AND IMMEDIATE IMPLEMENTATION PROJECTS

This chapter addresses recommendations that should be adopted as quickly as prudently possible. Some actions may take longer than others, but every recommendation listed in this chapter should be adopted and implemented within the next 3-5 years as opportunities arise.

5.1 PARKING SYSTEM REORGANIZATION

Adopt recommendations listed in Chapter 4.

5.2 RATE SCHEDULE

Based on a desire to change behavior so that long-term parkers use off-street parking allowing short-term parkers can use the on-street parking meters. On-street parking should be two to four times more expensive than off-street parking. In addition, off-street parking needs to be structured in a manner to provide "flex-parking" for workforce part-time parking. In other words, part-time, lower-wage service sector employees need affordable parking to support the entertainment venues throughout the study area, but particularly concentrated along the Elm Street Corridor. Technology, addressed later in this chapter, provides a description of available technology for parking and access revenue control (PARC) that discuss the implementation and use of parking permit cards that debit fees for parking based on usage rather than a flat monthly rate. This will allow frequent parkers in the downtown (such as part-time service employees) to purchase and use only the parking they need rather than a full month of 24 hour/7 day (24/7) parking. Furthermore, monthly permit parking should be limited to weekday usage, limiting inbound entry to daytime hours, as an example, between 8 am and 5 pm with unrestricted exit. The more restricted access to parking is, the less expensive the permit. If a customer desirers unrestricted 24/7 access, the permit price will be priced at a premium. The following table provides an example of the relationship between access to parking and how the pricing is initially set (see Table 22).

The rate schedule is set so that the various rates encourage and support desired parking behavior. In other words, it will be cheaper for the employee to buy a permit, it will be cheaper for the shopper to pay hourly rates, and it will be cheaper for part-time employees or frequent visitors to buy prepaid flex-parking passes, and so on. Any changes in a specific rate might require adjustments to other rates so that the pricing relationship remains intact.

Recommendation No. 21 – *The BMA should authorize the adoption of the rates shown in Table 22 as a maximum. It should be at the direction of the Parking Office to implement at it's discretion (without additional authorization by the BMA) based on achieving goals in the PMP. The rate tables should be updated every year and should identify the anticipated rates for the next three to five years, by year.*

Table 22 – Parking Fees and Fines

Type	Hourly	Existing Rate	Maximum Rate
Premium	Average on-street meter cost	$0.50	$0.75
Premium	Average attended cost per ½ hour	$0.25	$0.60
Premium	Average off-street hourly	$0.50	$0.75
Flex-Park	Average on- and off-street hourly	Not applicable	$0.45
Flex-Park	Average per use (one entry/one exit)	Not applicable	$3.50
Daily	Average daily maximum	$7.00	$7.00
Type	**Permits**	**Monthly**	**Monthly**
Unrestricted	Average off-street cost for 24/7 access	$70.00 to $72.50	$100.00
Restricted A	Average off-street costs for 24/7 entry before 5pm	Not applicable	$66.00
Restricted B	Residential off-street permit 6 pm to 8 am	Not applicable	$30.00
Restricted C	Residential on-street permit 6 pm to 8 am	Not applicable	$35.00
	Fines	**Per Ticket**	**Per Ticket**
	Overtime Parking	$10.00	$10.00
	2 hour discount for early pay	Not applicable	$5.00

5.3 RESPONDING TO DEVELOPMENT PROPOSALS

The City should include the Parking Office in review of all significant development proposals so that parking needs can be addressed comprehensively rather than by individual development needs. The economy is stable in Manchester and the City should consider requiring the developer prepare a parking analysis for their respective developments according to guidelines set forth by the Parking Office. The City should consider expanding the Traffic and Safety Committee to Traffic, Parking, and Safety Committee and conducting parking reviews as part of their function. This Committee should enforce parking requirements as they relate to planning approvals.

Recommendation No. 22 – *Integrate parking planning reviews in the planning and zoning review and approval process in the CBD and AMX districts. The City (Parking Office) should update and revise, as necessary, the current City ordinances related to parking requirements, as well as develop new policy guidelines and requirements and parking study guidelines as part of the Implementation Phase.*

5.3.1 On-Street Permit Parking

A moratorium on the sale of on-street permit parking in high demand areas should be implemented (informally) immediately. New permits should only be issued for parking in lots or garages where capacity exists or directed to private lots that currently have capacity available.

Recommendation No. 23 – *The BMA should require the City to enact a moratorium on issuance of new permits in high demand lots and garages. When in the best interest of all parties, parkers should be directed to private lots where capacity exists. The City should facilitate this negotiation between developers and parking facility owners.*

Recommendation No. 24 – *The BMA should direct the City (Parking Office) to post "no permit parking allowed" in specific on-street parking locations at the north end of Commercial Street to preserve on-street parking capacity for commercial and retail businesses that depend on on-*

street parking for their customers. The signs may also require restrictions during certain times, for instance from 9am to 5pm, when the on-street supply is fully usurped by permit parkers.

This need is no less important than issuing parking permits to office employees of the Millyard offices, and in fact, may be more important because of the need to have proximal parking to the destination. This action can be implemented as requested and the need confirmed by City staff.

5.3.2 Valet Parking

Valet parking can expand the effective parking supply at very low cost to the City and the business applicant. The need for establishment of a valet parking loading zone and on- or off-street parking should be demonstrated by the applicant/requestor. This demonstrated need should include the preparation of a parking analysis to determine and evaluate the existing public and private parking supply, use to identify the need as well as list options and/or possible solutions. The parameters of the analysis and the results should be submitted to the Committee on Traffic and Public Safety until such time the Parking Office is operating.

In evaluating a request, the City should consider the impact on general parking conditions, traffic, and pedestrian safety, property uses at the location and proximity of other valet services in the area. Businesses must pay rent equivalent to the cost to the City for processing requests or establishments of the valet parking loading zone, including loss of meter revenue. Fees can be set in a variety of ways. An example is an annual fee of $250 for every 20 feet of curb space, plus $250 for each parking meter that is removed plus administrative fee. The City should also adopt a valet parking ordinance that specifies liability and insurance requirements for valet operators.

Concurrent with this action, the City should consider the establishment of a “valet parking zone” and encourage business owners interested in valet parking to consolidate their interests. An Elm Street valet parking services could be created and managed by one operator serving participating businesses, such as restaurants, clubs, financial institutions, and residents. An operation such as this should likely be managed by the private sector, or an agency such as the Destination Manchester, Intown Manchester or other entity and a plan submitted to the City for review and approval. The City should work with this entity to implement and market this service.

Recommendation No. 25 – *The BMA should direct the City (Parking Office) to establish and enact a policy for creation of individual valet parking zones for specific businesses. The City should also support, encourage, and facilitate the creation of a larger zone based valet parking service managed by the private sector.*

5.4 CAPITAL IMPROVEMENTS

Several immediate capital needs should be addressed and will affect the ability for the Parking Office to provide services to the community. Those improvements include updating the City’s technology related to parking equipment and processing of parking data, siting and construction of new facilities and evaluate the whether the City should retain ownership of the CNH garage or sell the facility.

5.4.1 On-Street Meter Technology

This report has addressed various aspects of how parking data is processed, shared, tracked and regulated. As part of the creation of a Parking Office, there will be immediate needs for new software, hardware, ticket-writing equipment, data communications and parking and access control equipment. This section addresses the replacement of existing on- and off-street meters.

The City's single space mechanical meters should be replaced with new technology such as pay and display and multispace meters. One or two pay and display machines can replace a block face of single space meters. A user parks in an on-street space, leaves the vehicle to buy time in the pay and display machine, receives a receipt, returns to the vehicle, and displays the receipt on the inside the vehicle. The receipt has a time stamp that can be checked by the parking control officers. There are ½ dozen or so vendors of pay and display machines and the features vary by manufacturer. Most machines can take credit cards, several different denominations of bills (minimally $1, $5, $10, and $20), coins and some take tokens or custom script. Most are GIS based and can be report wirelessly to the Parking Office computer when they are full of money and need to be emptied, need receipt paper, ink, or when the battery is low or they just are not working for whatever reason. An attendant can go straight to that machine and take corrective action. Therefore, down time is significantly reduced compared to a mechanical meter. Many are configured for very low energy consumption and some are solar powered.

There are other types of multi space meters where a receipt is issued but is not required to be displayed in the vehicle. In this case, the user parks in numbered space. The user enters a space number, purchases time (again with multiple payment options) and is not issued a receipt. Enforcement can be carried out wirelessly by auditing the machine to identify overdue parking without having to check individual parking spaces. Some allow parkers to buy additional time by calling an 800 number using a cellphone. In either case, the ability to capture new revenue is increased since the system scan be configured to zero out any remaining time when a parker leaves. There is never time left on a meter, so everyone pays.

There are cities that would never do anything differently than use pay and display and there are cities that believe this method is too much of a burden on the user. There are manufacturers who provide a kiosk type machine that can be programmed for pay by space or for pay and display or both, providing ultimate flexibility. They can also be custom designed to accept parking fines which would support a "forgiveness policy" extremely well.

Regardless of the technology chosen, the increased ability to monitor parking usage, increasing the availability and management of on-street parking spaces, decreases in labor and enforcement costs and higher meter revenues typically result in a relatively brief time to realize a 100 percent return on investment.

Multispace meters and pay stations provide a means to charge different rates, event rates, longer minimum blocks of time, in other words, extreme flexibility in managing the parking supply operations. The costs for collections is less because there are fewer machines to service, the revenue should increase by between 10 and 20 percent according to manufacturers because of easier payment options and no one gets "free-time" on the meter. Script and tokens can be programmed into the system so that merchant programs can be developed such as discount coupons, advertising, special script, the options are essentially limitless.

Recommendation No. 26. – *The BMA should approve the replacement of off-street meters in surface lots with pay by space or pay and display machines. The effectiveness of the technology would be evaluated before the program is moved to on-street locations (see recommendation for Elm Street demonstration project).*

Recommendation No. 27 – *The BMA should authorize a detailed study in the Implementation Phase to evaluate, cost, develop a finance plan, acquire, and install all new technology system-wide.*

There are multiple vendors, emerging technologies, a range of cost and features for both hardware and software for this equipment. A special study should be conducted to determine the best fit for Manchester given the overall objectives and approach in creating the Parking Office.

5.4.2 CNH Garage

Certain public parking structures should be considered as sellable assets to the public owners, developers of new office and retail space (both new construction and rehabilitation of existing buildings) upon a demonstrated need and negotiation. The practice of selling specific parking structures used for long–term, employee parking, primarily for use by one employer or business is encouraged. There appears to be little advantage to maintaining ownership of a parking structure that serves an individual user, even if long–term leases are negotiated by the City that identify a revenue sharing plan. The cost to operate and maintain most parking structures is typically far more costly than the revenue generated by employee parking, negatively affecting the system's ability to generate net revenue. One opportunity that may present itself is selling the CNH garage to the owners of the convention hotel. This serves multiple purposes:

- the CNH garage is not close enough to serve Millyard employment needs. The CNH garage is not suitably located to serve the Elm Street corridor retail, dining and commercial needs. Granite Street acts as a barrier separating the CNH garage from potential users south of Granite Street except for special event at the Arena or Ballpark;
- the garage needs significant investment in deferred maintenance and repair;
- it is not a "friendly" garage to visitors and it is a difficult garage to circulate through either driving or as a pedestrian;
- the garage costs significantly more to maintain, operate and manage than it generates in revenue;
- the lease term is extremely cumbersome. Currently the lease term is 40 years expiring in 2024 with 40 year renewals.

If the Hotel owners were able to purchase the garage, they would include renovation of the facility with any potential renovation and/or expansion of the convention center and/or hotel. In a setting like Manchester, most hotel properties need to own their parking supply to obtain long-term financing. This makes the hotel and convention center more viable as a business in the downtown and increases the likelihood that this property will be upgraded to better serve and compete in the rapidly growing Manchester market. The sale would also infuse some much need capital into the city possible to initiate the system reorganization.

Recommendation No. 28 – *The BMA should direct the City to obtain an appraisal for the garage (already in-progress) and negotiate a sale of the CNH garage to the owners of the hotel and convention center.*

5.4.3 Arena and Ballpark Parking Needs (South of Granite Street)

The City controls very little property in either the Ballpark or the Arena subareas. There has been continued interest in development of entertainment and dining-type uses in both districts, although parking seems to be an obstacle in both subareas. Recently, the City has been negotiating an agreement with a developer to allow on-street valet parking on South Bedford Street until more suitable and organized parking solution can be developed. There has also been an expression of interest from land owners in developing the gateway district within the Area subarea. The challenge as posed by the developers and owners, once again, was the lack of parking facilities.

There is currently no significant *existing* need for additional parking within either subarea. However, to support further economic development, additional parking will be required, either provided by the private or sector or in cooperation with the City. Since the City will likely not use eminent domain to assemble parcels large enough to build a parking structure, the assistance of the private sector will be required. There are two approaches to providing parking under the current parameters in the Arena and Ballpark subareas:

1. The private sector provides the necessary parking in multiple surface lots or smaller garages; or
2. The City provides an incentive to the private sector to assemble sufficient property to develop a mixed-use project including a significant public parking component to serve the project as well as adjacent future development.

Many cities have opted for the second approach including the Florida cities of Miami, Miami Beach, Melbourne, Hollywood Beach, as well as Lansing, Michigan, and Columbia, SC and Arlington Heights, IL to name a few that LMG have consulted on.

The process recommended to the City was also discussed previously in chapter 4.1.7 of this report. The City would issue a request for qualifications (RFQs) requesting land owners and developers to assemble a public/private partnership involving a parking component that benefited more than just the “project”. Once one or more teams are deemed “qualified”, the City enters into negotiations with each of the development teams to identify the commitment of the developer, the level of support and participation needed by the proposer, as well as, the benefit to the City. In the cities listed above, some were able to expedite the development process, others were able to contributed land and still others participated by guaranteeing financing, loans or cash. Finally, other development deals involved the city awarding density bonuses or commitments to lease space. In all cases, the partnerships were successful. One major benefit is that the development community typically understands what to bring to the market better than the public sector, which is one of the reasons for success in this approach.

Recommendation No. 29 – The BMA should approve the issuance of an RFQ to enter into one or more development projects with private sector proposers for the development of mixed-use projects and public parking in the Arena and ballpark subareas.

5.4.4 Millyard Parking Needs (North Canal Street to Bridge Street)

There are four significant off-street facilities locate in the Millyard area; 1) the Arms/Extension Lot; 2) the Granite Street Lot; the Seal Tanning Lot and the Bedford Lot. Based on past studies,

field reviews and discussions with property owners, the following discussion, and recommendations were developed.

Granite Street Lot

The Granite Street Lot is a City-owned 66 space surface parking lot that has, historically provided permit parking with some meters. The Granite Street Bridge will be widened over the next two years and a number of spaces will be lost as the roadway right-of-way moves north to provide additional travel lanes. This lot provides parking for Jillians, and the adjacent Millyard buildings, one of which may be redeveloped in the near-term. There is little value for the City to maintain ownership or operation of this small surface lot that really serves just one or two properties. Therefore, the following recommendation is made.

Recommendation No. 30 - *The BMA should direct the City to enter into negotiations to sell the Granite Street Lot to the owner(s) of the adjacent Millyard Building.*

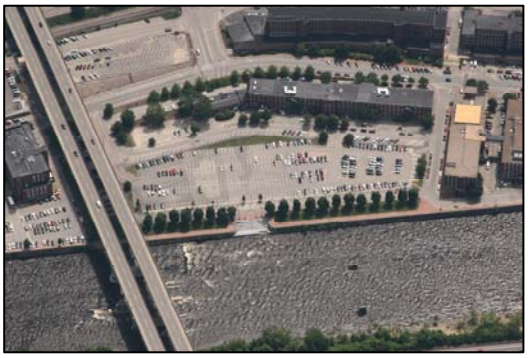
Seal Tanning Lot

The Seal Tanning Lot is a 142 space, City-owned surface parking lot that serves the adjacent Millyard building almost exclusively. Furthermore, the facility is located in the far south area of the Millyard and providing employee parking in this lot, beyond serving adjacent employment parking demand, is impractical. As in the previous recommendation, there is little value for the City to maintain ownership or operation of a parking facility that serves a single property. Therefore, the following recommendation is made.

Recommendation No. 31 - *The BMA should direct the City to enter into negotiations to sell the Seal Tanning Lot to the owner(s) of the adjacent Millyard Building owner*.

Arms/Extension Lot

The Arms Lot is a highly utilized, 403 space surface parking lot that provides permit and short-term parking for employees, students and visitors destined to institutes of higher education, offices, and various commercial destinations including the riverfront. The construction of a parking structure on this site, although centrally located to meet demand, is not recommended. This majority of this site should be controlled by the City, improved and the access to the riverfront maintained.



Bedford Street Lot

The Bedford Lot is centrally located to expand capacity to serve the Millyard North and South subareas. The current lot contains 108 permit parking spaces. A previous study prepared for the City by Hoyle, Tanner & Associates, Inc (HTA)[8]

[8] Millyard Area Parking Study of Existing Facilities for the City of Manchester, New Hampshire, June 2001.

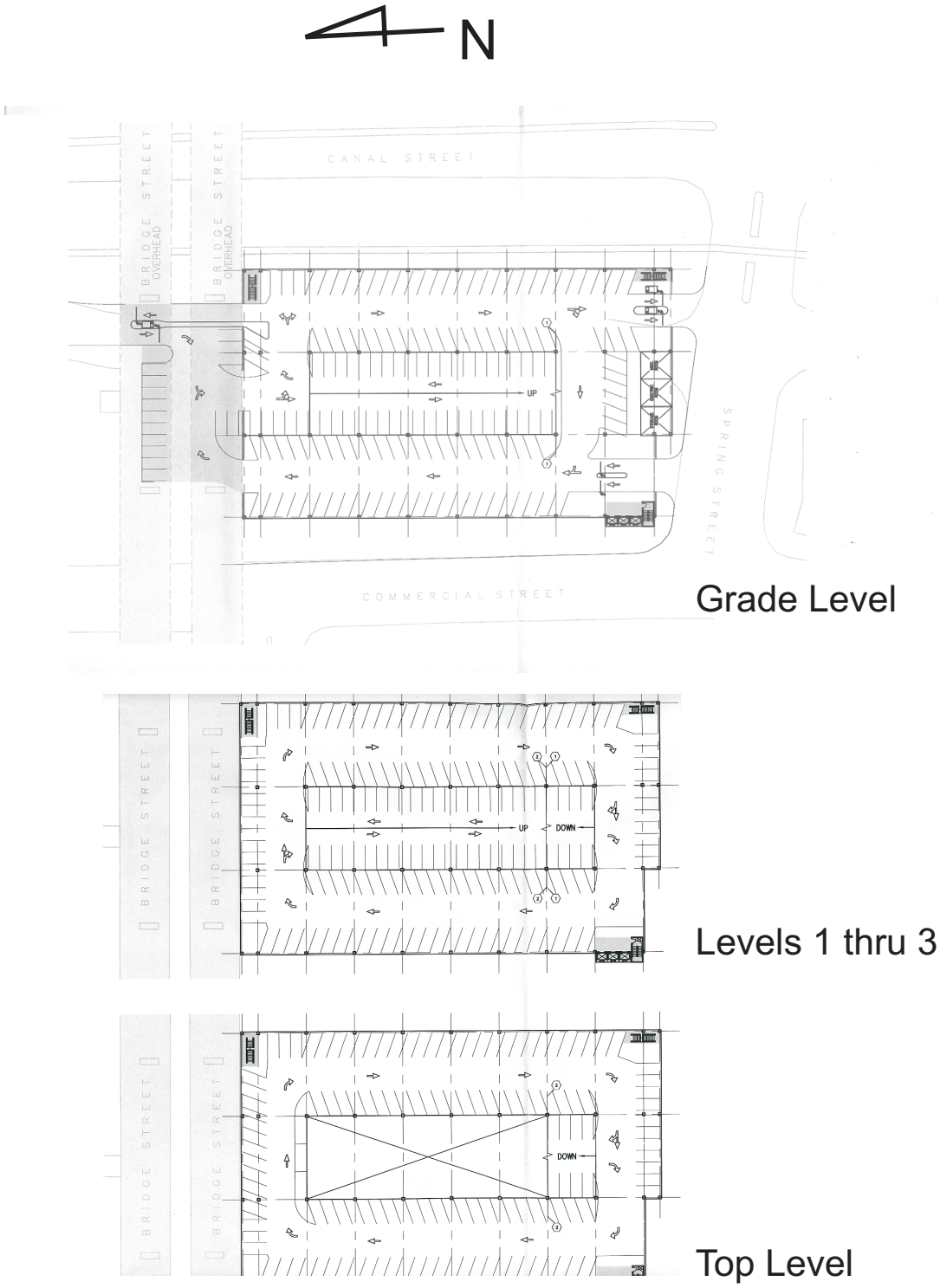
evaluated a 658 space, four-bay, four-level parking structure located on this site (see Figure 8). This option will provide the City multiple options in managing two significant facilities in this area (Arms/Extension Lot and the Bedford Garage) for both employees and visitors, as well as, create the opportunity to remove much of the on-street parking spaces. However, LMG recommends the construction of a five-level garage rather than four levels, which will provide about 850 spaces rather than 658 spaces studied by HTA.

Recommendation No. 32 - *The BMA should direct the City to develop a financing and development plan for the planning, design and construction of a three-bay, five level parking structure on the Bedford lot as soon as reasonably possible.*

An 850-space garage will provide an additional 742 spaces for Millyard area needs. The option of incorporating some other office use, such the Parking Department office into the garage should be evaluated in preliminary design stage. This site is not a likely candidate for a mixed-use facility because of height limitations (aesthetics) massing (small footprint) and the need to provide net new parking spaces rather than creating new demand on-site.

Millyard North

Longer-term expansion for employee growth should be evaluated at the PSNH site or Armory sites located at the north end of the study area. Preliminary discussions have occurred with the PSNH, but no specific proposals have been developed by the City for consideration. Either of these two sites would necessitate the implementation of a shuttle along Commercial Street and looping west to Elm Street. Ultimately, siting of another employee or mixed-use parking structure located in the South Millyard or Ballpark subareas would elevate the feasibility of a shuttle to a critical level. As this is a complicated and longer-term proposal and solution, the City should initiate discussions immediately to develop a framework of the joint agreement.



* Illustration taken from Millyard Area Parking Study of Existing Conditions, June 2001

Figure 8
Bedford Surface Lot Garage

Assuming a five to six level garage on the site, approximately 850-1000 spaces could be provided. There are several major issues related to providing parking in this rather remote site:

1. On the positive side of the ledger – as stated throughout this report, the City will need assistance from the private sector to assemble or to create a site large enough to construct significant parking with or without mixed uses. This site would provide sufficient parking capacity for higher density development of the Millyard buildings. Parking at the PSNH would, in turn, create opportunities for provide short-term parking for patrons, students, visitors and tourists to the Millyard subareas in existing facilities such as the Arms Lot or on Commercial Street.
2. Parking in this location is considered remote parking and would require a shuttle bus incentive for parkers given the climate in Manchester. A shuttle bus would have to be operated by the Parking Department and maintain a consistent, geographic information system based, running at about seven minute headways. Morning routes would be primarily on Commercial Street from Bridge Street to PSNH and may require two high-quality rubber-tired trolley shuttles.
3. There is a potentially huge opportunity to introducing a shuttle system on Commercial Street. During the midday lunch period, the shuttle could run a circular route on Commercial Street and Elm Street. This would provide downtown dining and shopping opportunities for the 5,000 to 6,000 employees working along the Commercial and Canal Street corridors without having to drive and park.

Recommendation No. 33 – *The City in conjunction with the Parking Department should investigate the options and costs related to constructing remote parking along Commercial Street and serving that parking with a shuttle.*

As this is likely, a three to four year process before a site can be secured, a garage designed, constructed and the actual parking supply created, feasibility studies should be evaluated as part of the implementation study. This is an important step, because parking rates, revenues, costs and financing options will need to be determined so that the Parking Department can plan accordingly.

5.4.5 CBD Parking Needs (Bridge to Granite Street)

The CBD area has several deficiencies, mostly in terms of operations, rather than in supply. Changes in on-street parking space management, standardization of meter technology and operating times, more efficient enforcement, changes in the way the City leases spaces and addition of cross-street parking lots will provide the downtown with a significant improvement in the availability of parking.

5.4.5. Surface Lot Development

Along with implementing improvements in the existing parking system in operations and management are impacts related to increases in parking demand combined with a loss of surface parking. An example would be the development of all, or a portion, of the Pearl Street Lot. Such a proposal would remove highly utilized surface parking while increasing the parking demand related to the new development. This is a very good situation for the City to maximize the opportunities so that both the development and the City benefit from the project.

One recent proposal included a mixed-use development with potential dining, retail, and commercial components. While this study recognizes the potential for parking to support and promote economic development, the City's approach needs to be standardized while

recognizing each project opportunity is unique. Following is a policy recommendation that should serve as the basis for the evaluation of Pearl Street Lot development proposal (see **Recommendation No. 31**) as well as similar future proposals affecting any City parking.

Recommendation No. 34 – *All development proposals should provide sufficient parking to meet the parking needs of the project plus replace any loss in parking that may impact the availability of the parking supply to other users in the service area of the parking lot. This finding should be determined through a shared parking study/analysis conducted by the developer per the direction of the City.*

Recommendation No. 35 - *The BMA should direct the City to prepare and adopt shared parking study approach for use by the developer in such cases as part of the Implementation Phase.*

Recommendation No. 36 - *The BMA should adopt a policy regarding the evaluation of new development proposals as an opportunity to implement the PMP. This opportunity could be varied, from jointly developing and expanding the public parking component, to condominiumization, sale/leaseback, management plans, or other collaborations that benefits the City and the developer, development and/or the economy.*

5.4.6 Financial Proforma Scenarios

The financial ability for a Parking Department to fund the cost of the improvements discussed above was evaluated in a series of pro formas. The detailed proformas are attached to this report as appendices and summarized below in tables. There are three scenarios evaluated in the following order and assume that a 800 space garage is constructed every two years. However, along with including the costs to finance and maintain new parking structures in the pro formas, a line item for financing $1,000,000 in debt has been added.

This cost is to reflect anticipated expenses related to creating the Parking Department (including upgraded or new technology associated for new equipment, hardware, software, and personnel). Each of these aspects will be discussed briefly below.

1. A 2005 Existing financial performance (Pro forma) for the ad hoc parking system;
2. A proforma for construction of an 800-space garage two years later in one of the districts in 2007 plus implementation of technology and other costs to establish the Parking Office;
3. A proforma for the construction of a second 800-space garage in one of the districts in 2009; and
4. A proforma for construction of third 800-space garage in one of the districts in 2011.

A summary spreadsheet illustrating the differences in each scenario is presented at the close of this section.

2005 Existing Proforma

The revenue and expenses presented in Chapter 3.0 were input into a spreadsheet and projected over a twenty-year period from 2006 to 2026. The following assumptions were included in the proforma as a means to estimate future financial performance:

- $1,000,000 is invested for improvements to create the Parking Office including hardware, software, equipment, revenue and parking access controls and personnel;
- fines revenue are included in the Parking Office;
- two and ½ percent annual growth in parking demand;
- escalation in expenses of three percent per year;
- no change in existing parking rates; and
- inclusion of the costs associated with the HTA recommended repair program.

Based on this information, the "parking system" is expected to generate a net revenues of $2,597,283 in 2007, increasing to $2,639,218 in 2010, $2,801,386 in 2014, $2,888,006 in 2018, and $2,990,207 in 2022 and $ in FY 2026. The cumulative balance is expected to grow from $2,597,283 in 2007 to nearly $57,000,000 in 2026. This growth in revenue is with no increase in rates or physical changes to the parking facilities beyond what is included in Chapter 3.0. The detailed proforma is attached to this report as Appendix E.

Scenario 1 – Construct Bedford Garage

Appendix F illustrates the financial impact related to constructing an 800-space garage in FY 2007 based on the assumptions listed previously plus the following additional assumptions:

- increases in the rate structure as identified in Table 23 (in years 2007, 2008, 2010, 2014, 2018, 2022, and 2026);
- construction costs of $15,000 per space, escalated by three percent per year;
- no significant increase in parking demand as this garage primarily replaces on-street parking along Commercial Street;
- additional maintenance and operating costs of $400 per space for the new garage escalated by three percent per year; and
- level debt service payment was calculated using an interest rate of six percent and a period of 20 years.

Based on this information, the parking system is expected to generate net revenues of $4,745,954 in 2007, increasing to $4,225,102 in 2010, over $12 million in 2018 continuing to nearly $24.5 million in 2026. The cumulative balance is expected to grow from $7,489,216 in 2007 to over $250,000,000 in 2026. The debt service is not expected to drop below 2.8 after the garage debt comes online. This scenario assumes that private sector competition is at a level that keeps the City's facilities use at high levels.

5.4.6. Scenario 2 – Construct Second Garage

Appendix G illustrates the financial impact related to constructing a second 800-space garage (such as the PSNH garage example) in FY 2009 based on the assumptions listed previously. Based on this information, the parking system is expected to generate the same net annual revenues of $3,348,353 in 2007, increasing to $4,752,490 in 2010, $8,848,541 in 2014, over $13 million in 2018, nearly $20 million in 2022 and over $26 million in 2026. The cumulative balance is expected to grow from $3,348,353 in 2007 to nearly $230,000,000 in 2026. The cash flow and cumulative cash balance has been adjusted to maintain debt service coverage of 1.20. This will require a transfer (similar to a down payment to reduce debt service payment amount) in 2009 of $3,500,000 as shown in Table 23. The debt for this garage can be structured numerous ways to reduce the debt service and consequently, increase the debt service coverage. In summary, it appears that a second garage could be supported by the

parking system given the parameters described herein. This garage serves an increase in parking demand based on forecast employment and population growth.

5.4.6. Scenario 3 – Construct Third Garage

Appendix H illustrates the financial impact related to constructing a third 800-space garage in FY 2011 based on the assumptions listed previously. The parking system baseline remains as described in Scenario 2 until the third garage comes online in FY 2010. However, in FY 2010, another cash transfer is required from reserves to reduce the debt service to maintain debt service coverage of 1.20. This results in a reduction of net annual revenues to $7,459,546 in 2014, increasing to over $12 million in 2018, nearly $18 million in 2022 and over $25 million in 2026. The cumulative balance is expected to grow from $3,348,353 in 2007 to over $200,000,000 in 2026. The cash flow and cumulative cash balance has been adjusted to maintain debt service coverage of 1.20. This required a cash adjustment of $1,650,000 as shown in Table 23. As described in Scenario 3, the debt for this garage can be structured numerous ways to reduce the debt service and consequently, increase the debt service coverage. In summary, it appears that a third garage could be supported by the parking system given the parameters described herein. As in Scenario 2, this garage serves a continued increase in parking demand based on forecast employment and population growth.

Table 23 below provides a summary of the rate changes, the year the rate change is scheduled to occur, the related net revenue related to a “no change” scenario plus three build scenarios. Based on this information, the City should be able to

- fund the needed construction expenditures for improvements identified by HTA;
- invest an additional $1,000,000 in the system to organize and acquire new technology including multispace meters, cashierless equipment for garages and other automated revenue and security equipment as recommended herein;
- build three garages totaling approximately $40,000,000 in construction costs along with the maintenance and operating costs over a four year period starting in 2007 through 2011.

The Parking Office also needs to institute a repair and reserve fund or sinking capital fund to address major repairs over the 50-year life of each garage. This should be funded from a set aside that could come from estimated retained earnings (or cumulative balance).

More detailed analysis will be required to fully examine and evaluate each build option to adjust for actual costs and expected revenues.

See Table 23 – next page

Table 23 – Comparison of Proformas

Proforma	2006	2007	2008	2010	2014	2018	2022	2026
Rates								
On-street hourly	$0.50	$0.75	$0.75	$1.00	$1.25	$1.50	$1.80	$2.15
annual increase		50.0%	n/c	10.0%	5.7%	10.5%	4.6%	4.6%
Off-street hourly	$0.50	$0.75	$0.75	$1.00	$1.25	$1.50	$1.80	$2.15
annual increase		50.0%	n/c	10.0%	5.7%	10.5%	4.6%	4.6%
Permit	$43	$62	$62	$85	$120	$155	$190	$235
annual increase		45.2%	n/c	10.5%	9.0%	6.8%	5.2%	5.4%
Attended	$0.50	$1.20	$1.20	$1.65	$2.00	$2.50	$2.85	$3.30
annual increase		140.0%	n/c	11.2%	5.0%	5.7%	3.3%	3.8%
Violations	$10	$10	$10	$12	$16	$20	$24	$30
annual increase		0.0%	n/c	6.5%	7.5%	5.7%	4.6%	5.7%
2005 Existing								
Net revenue	$2,620,779	$2,597,283	$2,595,090	$2,639,218	$2,801,386	$2,888,006	$2,990,207	$3,050,208
Debt service	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cumulative rev.	n/a	$2,597,283	$5,192,373	$10,453,965	$21,483,540	$32,907,977	$44,764,462	$56,879,415
Scenario 1 – Bedford Lot Garage								
Net revenue	$2,743,262	$4,745,954	$4,072,882	$4,225,102	$7,335,830	$12,006,557	$21,949,119	$23,499,416
Debt service	n/a	13.48	2.80	2.90	5.43	8.95	16.78	17.97
Cumulative rev.	n/a	$7,489,216	$11,562,098	$19,940,730	$48,251,900	$94,681,482	$184,231,184	$253,521,923
Scenario 2 - Second Garage								
Net revenue	$2,743,262	$3,348,353	$3,599,895	$4,752,490	$8,848,541	$13,697,499	$19,891,362	$26,623,127
Debt service	n/a	2.81	2.81	2.29	4.51	7.02	10.38	13.90
Cash Transfer	$0	$0	$3,500,000	$0	$0	$0	$0	$0
Cumulative rev.	n/a	$3,348,353	$3,448,248	$10,723,202	$35,426,674	$77,959,815	$160,998,370	$228,519,362
Scenario 3 - Third Garage								
Net revenue	$2,743,262	$3,348,353	$3,599,895	$4,752,490	$7,459,546	$12,308,504	$17,781,395	$25,234,132
Debt service	n/a	2.81	2.94	2.29	2.46	4.07	5.96	8.45
Cash Transfer	$0	$0	$3,500,000	$1,650,000	$0	$0	$0	$0
Cumulative rev.	n/a	$3,348,353	$3,448,248	$9,073,202	$28,220,694	$65,197,855	$122,789,068	$204,645,441

5.5 SHORT-TERM IMPROVEMENT/DEMONSTRATION PROJECTS

Three demonstration projects have been identified so that the City can implement some of the strategies listed in the recommendations during the time it takes for the City to organize and staff the Parking Department. The three recommended demonstration projects are discussed below and include 1) an example of expanding the CBD on-street parking supply by changing the traffic operation of Mechanic Street from two-way to one-way and adding angled parking; 2) a method to manage permits in the Millyard area; and 3) the installation of on-street pay by space meters along Elm Street (and/or Mechanic Street).

By treating these implementation projects as “demonstration projects”, the City’s procurement process should be simplified and the implementation of the projects expedited. Furthermore, since the projects are demonstration projects, they can be tweaked to increase efficiencies or even reversed based reaction of the community. Ultimately, these projects can be used to refine the technology before system wide installations. This increases the City’s control over the quality of product, ensuring competent vendors and contractors are participating to maximize the City’s return on investment.

5.5.1 Mechanic Street Linear Parking Lot

Figure 9 illustrates a typical treatment for adding proximal parking at very little cost. This parking could be for the short-term visitors to the downtown, visitors to the YMCA, valet parking, or it could serve residents, and if necessary, employees. This type of treatment can also incorporate temporary or permanent operations during the day such as on-street pick-up and drop-off for the daycare center at the YMCA during specific hours of the day. This type of dynamic changes in operation is termed, “on-street shared parking” and has to be specifically signed and field-tested to be effective.

Any parking space added on-street saves the City $15,000 in garage construction costs which will in turn, must be supported by passing the cost to the user resulting in increased parking rates. The layout shown in Figure 9 is not a new concept to Manchester. There are similar locations where on-street parking has been added, Elm Street and Commercial Street are good examples. What might be different in this location is that traffic operations have been modified from two-way to one-way traffic. The modification should extend, at least, to the entrance of the Canal Street garage and could extend all the way to Canal Street.

There has been a push to convert one-way streets to two-way in downtowns across the United States to slow traffic and increase the visibility of downtown as a destination. This application is a bit different in that Mechanic Street is not a major traffic carrier or commuter route and therefore, a change of operations will have little impact on through traffic. The traffic operation is shown westbound to serve visitors to the downtown that did not find a parking space on Elm Street (although, it could also operate as an eastbound street).

The architectural treatment is not depicted in the figure but this section of Mechanic Street should be modified to feel like a drive aisle through a parking lot rather than a street. Pedestrian-friendly features should be included in the design such as incorporation of raised mid-block crosswalks (pedestrian tables), dyed, and stamped concrete, placement of street furniture, addition of bumpouts at the corners, and plantings. This treatment will serve to slow traffic and provide a safe environment for pedestrians as well as create a space that looks and feels more like an upscale parking lot for the downtown than a circulation street. The installation of on-street multispace meters is recommended with two on the angled street side and one on the parallel parking side of the street.

About 43 feet, curb-to-curb, is required to provide a row of angled parking (shown at 60 degrees and 19.5 feet deep) and a row of parallel parking (eight feet in width) plus a 15 foot wide drive aisle. Additional width for the street could be taken from one or both sidewalk areas as long as a minimum sidewalk width is maintained. Approximately 54 feet, curb-to-curb, is needed to create a double-loaded bay of 60 degree, angled parking plus the drive aisle.

This also provides an opportunity to install pay station meter technology as part of the demonstration project. This is discussed again in the following section.

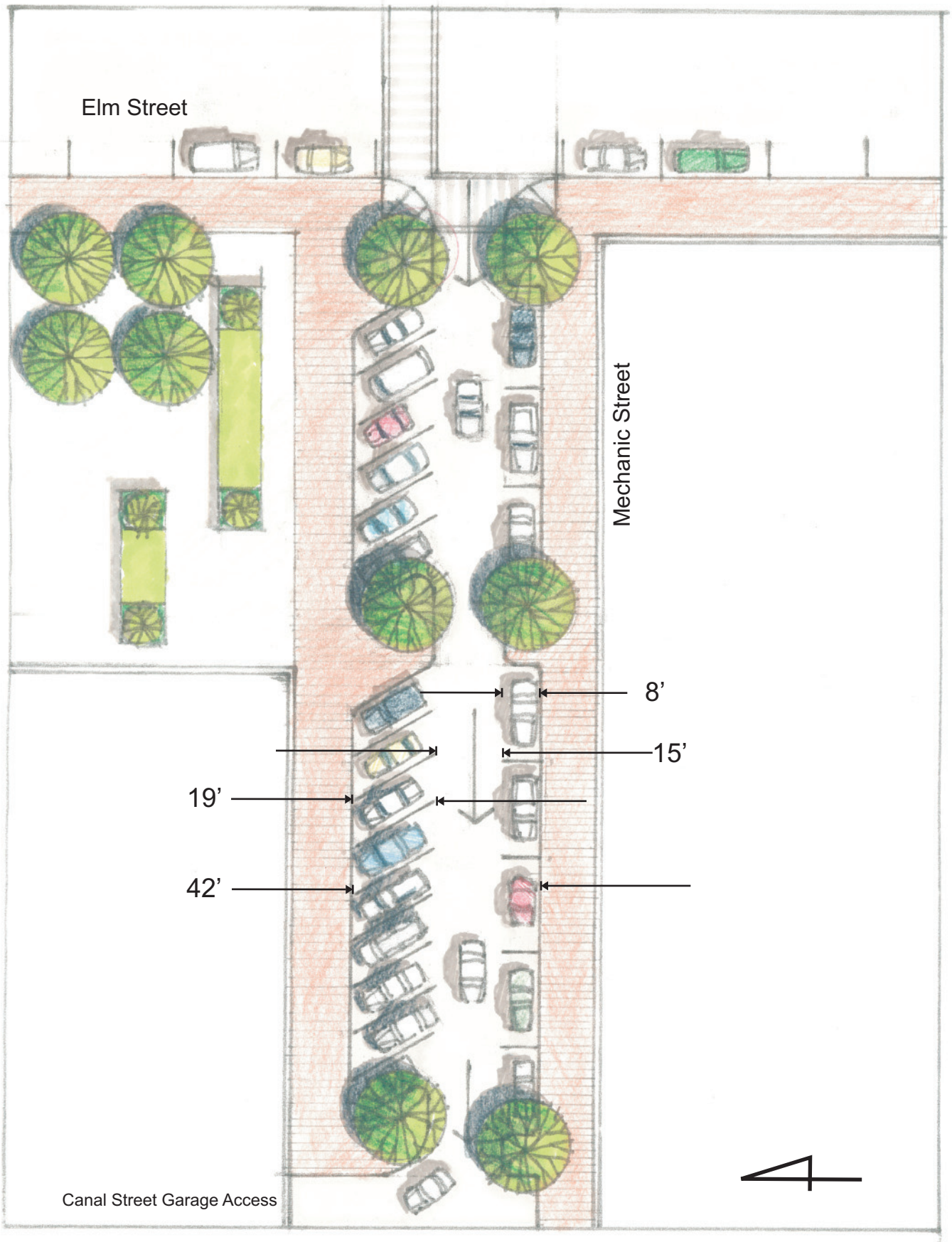


Figure 9
Mechanic Street Demonstration Project

There are other cross-street locations where this application could be applied. It is presented here as a temporary, demonstration project and would likely be more useful if the demonstration project included another street conversion so that the impacts can be evaluated. The application shown in Figure 9 increases the on-street parking by about 20 to 25 spaces. The funding to effect the conversion should come from the parking system and ultimately could save the City over $375,000 in garage construction costs. The cost for the conversion would likely be recaptured over a relatively short period with the addition of new paid parking (metered parking spaces).

Recommendation No. 37 – *The BMA should direct the City to initiate the planning, design, and implementation of at least two cross-street linear parking lots as discussed in this report.*

5.5.2 Arms Lot/Extension

This demonstration provides a first-step in obtaining control over management of the nonresidential permit parking in the Millyard. The Millyard off-street lots have one of the highest oversell rates of all the areas due to the "holdback" of permits by employers. As discussed in Chapter 2.3.1, the holdback of permits is the practice of buying permits in an attempt to maintain parking spaces in case they are needed for future employees.

The approach requires the City to announce a sunset of all legal permits for the Arms Lot as of a date to be determined. The sunset should probably be 45-60 days from the announcement. After that point in time, nonresidential parking permits will be issued on a priority basis. The priorities can be determined after further discussion and evaluation but should probably be close to the following example:

1. employers;
2. employees;
3. students; and
4. others, as available.

The objective is to issue permits to those employees associated with the Millyard buildings, purchased by either employers or employees, next, students attending classes at the various institutes of higher education, and lastly others as available. Prior to issuing any new permits the main lot needs to be configured so that there is control at all access drives into/out of the lots (see Figure 10). New permits would include a proximal card (prox card) or magnetic stripe card used for entry and exit to/from the lots.

The parking and access control (PARC) equipment needs to have specific capabilities when integrated with the proper software. Minimally, the PARC equipment needs to include:

- control gates, located at each exit and entry lane at the lot access drives; and
- a card reader, located at each driveway entry point into the lot. The card reader triggers the gate to rise when a valid permit card is "read" and allow access into the lot. On egress, the card reader is swiped again and the gate opens to allow a valid permit holder to exit.

Figure 10
Arms Lot Demonstration Project

This process will enable the City to monitor usage of the lots, eliminate abuse of the system by ensuring permits are issued and used only by legitimate parkers. The lots can be monitored electronically and physically and the oversell rate can be accurately determined. Additional need, latent demand, and waiting lists can be accurately assessed and developed as well. If after some period, say six months, the system is providing useful data, then the City could determine if, and how, the application should be taken system wide. The control gates, card readers, and software integration can be selected and installed in a limited manner to minimize costs, allow a controlled application, and test the benefits of the technology.

There also needs to be a section of parking for visitors to the Arms Lot (perhaps the Extension) where access should remain open and the parking should remain metered (no permit parking allowed).

Recommendation No. 38 – *The BMA should direct the City to initiate the planning, design, and implementation of the Arms Street Lot controlled permit parking plan as discussed in this report.*

5.5.3 Elm Street Technology Demonstration Project

There have been many references to multispace and pay and display meters, stations, and kiosks in this report. The following demonstration project is intended to direct the City to immediately research, select, negotiate, and price a conversion from the existing mechanical meters to a higher technology such as multispace, or pay and display technology. Some cities elect to “tryout” equipment for a period of time, usually three to six months in length to test the effectiveness, ease of use and public acceptance of installing the stations in the downtown on- and off-street for use by visitors. However, LMG recommends evaluation of the applicable equipment and qualified manufacturers and immediately select and negotiate the permanent installation of the recommended equipment. This process could be incorporated into the implementation phase on a fast-track basis. The sooner this is step completed and the conversion in-place, the sooner the City can realize the revenue benefits as well as the flexibility inherent in the equipment to manage the parking system.

As discussed in previous sections, there are innumerable options for the meter equipment available from five or six different manufacturers. Ease of service, reliability, cold weather operations, costs, and flexibility should be evaluated in the decision. Most of the more common equipment can be configured in more than one-way such as either pay and display or pay by space. Figure 11 illustrates an array of the type and look of the kinds of multispace meters that are available from manufacturers.

Recommendation No. 39 – The BMA should direct the Parking Department to immediately begin investigating the applicable technology to replace the mechanical meters. This recommendation should be completed as a priority in the implementation phase.

6.0 PEER CITY COMPARISON

Parking system information and data was collected from ten "peer" cities and compared to the City of Manchester's parking operations. The peer cities were selected based on similar population and with parking characteristics as compared to Manchester. Data was gathered from information provided on their respective websites and through interviews with key personnel representing that city's parking system. In some of the following tables, there are less than ten cities listed in the comparison. This is because either the data was not relevant, not available or the peer city did not wish to share it with us due to confidentiality or other related issue. Detailed information and data on each peer city is presented at the end of this chapter.

6.1 PEER CITY PARKING PRACTICES

Manchester's parking system is unique in this comparison in that it operates parking differently from every peer city in four key areas as shown in Table 24. As shown, Parking services are scattered in various departments, the City offers student discounts, the meter technology is antiquated, and the oversell rates are extremely high relative to other cities. Although this information is not surprising, it should confirm that changes to the way parking is provided are warranted. Each category is addressed in more detail in the following sections.

Table 24 – Peer City Organizational Structure

City	Parking Organized As Separate Entity	Student Discount	Type Meters[2]	Oversell Percentage
Manchester	Various Departments	Yes	M	40%
Rochester, Mn	Department	No	E,P	1-2%
Lansing, MI	Department in Community Planning Department	No	E,M	5-10%
Richmond, Va	Authority	No	E	5-20%
Columbia, SC	Department	No	E,M[4]	20%
Boise, Id	City/Authority[1]	No	E	25%
Portland, Me	Department	No	E	10% Max
Savannah, Ga	Department	No	E,P,M[4]	None[3]
Hartford, Ct	Authority	No	E	None[3]

[1] Boise has a City Department for on-street parking and an authority for garages
[2] M=Mechanical; E=Electronic; P=Multispace, Multibay or Pay & Display
[3] Hartford's garages average 96% occupancy; Savannah uses a waiting list
[4] Very few mechanical meters remaining

6.1.1 Management

While there many cities in the country that have parking systems that are fragmented similar to Manchester, the nine cities in Table 24 represent the industry norm. The cities listed in the table are evenly split between operating parking as a separate municipal department or as an independent parking authority. Manchester's manner of providing public parking has developed over time and changes, additions, and modifications to management methods have changed as needed. Other cities struggled as well through this typical evolution. As the demand for parking increased and structured parking was unavoidable, the need to more formally organize the system, conserve costs, and maximize revenues became critical issues that were less important with surface parking.

The peer cities listed not only developed parking systems to provide parking spaces, but far more than that, the provision of parking was focused on efficient, effective, customer-friendly systems, that systematically supported economic development.

6.1.2 Student Discounts

Discounting the price of parking for students is an anomaly, not only in the peer city comparison, but also throughout the parking industry. The Director of the Richmond Parking Authority noted that not only is there no discount offered, but that his heaviest enforcement is in the areas surrounding the higher educational institutions located in the city. Richmond enforces on-street meters in some of these areas around the higher educational buildings on a 24 hour, seven day a week basis.

One of the other issues to consider in the future is that the bond rating agencies would be concerned because the practice may be in violation of the caveats listed by the Internal Revenue Service with regard to tax-exempt financing. Typically, special privileges, such as reduced rates for students, cannot be granted to specific users.

6.1.3 Mechanical Meters and More

While the City of Manchester is the only city in the comparison that uses mechanical meters exclusively, many of the other cities either have recently completed or are still converting their meters from mechanical to a newer technology (typically, electronic meters). Interestingly, most of the peer cities considered reliability and maintenance as a low priority when converting to electronic meters.

The prime consideration in converting from mechanical to electronic meters, pay and display or multispace meters was increased revenue and flexibility. The flexibility comments had to do primarily with the long changeover period required to change rates on mechanical meters (which could take up to a year) versus a matter of days with electronic meters.

From an operational standpoint, none of the cities surveyed had any major problems with electronic meters. An employee in the City of Boise's parking operation dubbed the new electronic meters as "outstanding". In addition, many cities are venturing into pay and display systems, as well as more choices in payment from tokens and smartcards to script and credit cards. Table 25 lists the technology currently used by the peer cities.

Table 25 – Peer City Parking Technology

City	Pay & Display Or Multispace	Credit Cards	Tokens	Smartcards
Rochester, Mn	Yes	Yes	No	Yes
Richmond, Va	No	No	No	No
Lansing, MI	No	No	Yes	Yes
Columbia, SC	No	No	Yes	Yes
Boise, Id	No	No	Yes	Yes
Portland, Me	No	No	No	No
Savannah, Ga	Yes	Yes	No	Yes
Hartford, Ct	Yes	Yes	No	No

Examples of Pay and Display and Multispace Meters

Figure 11
Parking Mutlispace Meters - Demonstration Project

6.1.4 Oversell Rates

The City of Manchester's oversell is clearly the highest of any peer city surveyed. One of the shortcomings of this practice is not necessarily the high percentage of oversell, but the loss of the ability to effectively manage the permits based on standard data and practices.

Each of the cities with oversell rates at 20 percent or more (excluding Manchester), like Columbia and Richmond, have a process to determine when they have reached their limit. In both instances, these cities make a determination on an individual facility basis. Each garage or lot has unique characteristics stemming from the demographics of the parking customers at each facility. While the City of Manchester also uses a process, the concern has more to do with users who buy and hoard permits as discussed in the previous chapters. No city surveyed had the ability to cancel permits if they were not used. However, in most cases, the cost of the permit was sufficient to discourage purchasing permits "in case" you need to use them.

6.2 PEER CITY FINANCIAL ORGANIZATION

Due to its structure, the City of Manchester is limited in its ability to borrow funds for the purchase of property or construction of new garages. As shown in Table 26, most of the peer cities have parking organized as an enterprise fund. This is a critical step in broadening the financial options for capitalizing major projects.

Table 26 – Peer City Financials

City	Financial Setup	Share Revenues w/General Fund	Amount Shared	New Construction Financing[1]
Rochester, Mn	Enterprise	Yes	9% of gross	P, T
Richmond, Va	Enterprise	Yes	All Fines	P, G
Lansing, MI	Enterprise	Yes	Surplus	P, G, T
Columbia, SC	Enterprise	Yes	$1 million	P, T
Boise, Id	Enterprise	Yes	Varies	P, G
Portland, Mn	General Fund	N/A	Surplus	P, G
Savannah, Ga	Enterprise	Yes	Varies	P
Hartford, Ct	Enterprise	Yes	Varies	P, G

[1] P=Parking Revenue Bonds; G= General Obligation Bonds; T=TIF Bond

The City of Columbia provides an excellent example of how a city can turn around its financial parking fortunes in just a couple of years. Until 1998, parking was fragmented with garage operations reporting to the City of Columbia's Traffic Engineer. Parking management was moved around to different departments until 2001 when it was elevated to near department status. In October, 2005, the bond rating agency, Moodys, rated the November, 2005 parking revenue bond in the amount of $45 million as an "A", the highest rating the city had ever received for a parking bond issue.

6.3 PEER CITY DATA TABLES

The following table list comparable information gathered for the peer cities. There may be some cities listed that did not make it into the final comparison based on the direction from that particular city.

Table 27 – Peer City Characteristics

City	Population	Approx. Parking Budget	Employees	Operation	Total Spaces	On-Street Spaces	Off-Street Spaces
Manchester, NH	110,000	$3,900,000	28	contract/self	6,882	2,939	3,943
Hartford, CT	124,558	$3,115,000	8	contract/self	4,565	no info	4,565
Savannah, GA	127,691	$4,469,522	58	self	6,594	4,717	1,877
Boise, ID	189,847	$2,551,000	8	contract/self	no info	no info	3,170
Portland, ME	63,882	$4,450,000	29	contract/self	7,700	5,400	2,300
Lansing, MI	118,588	$6,400,000	58	self	8,863	2,357	6,206
Rochester, MN	90,515	$3,600,000	36	contract/self	5,168	1,462	3,706
Camden, NJ	79,685	$3,250,000	42	self	6,500	950	5,550
Trenton, NJ	85,650	$4,206,081	12	contract/self	2,364	0	2,234
Harrisburg, PA	48,540	$12,772,159	53	self	9,367	1,273	8,094
Richmond, VA	197,456	no info	12	contract/self	3,500	no info	3,500

City	No. of Lots	No. of Garages	On-Street Meters	Enforcement	Highest On-Street Rate	Highest Off-Street Rate	Basic Overtime Fine
Manchester, NH	9	3	2,492	police	$0.50	$0.50	$10
Hartford, CT	no info	3	no info	contract/police	$1.25	$1.50	$15
Savannah, GA	4	3	2,217	parking dept	$0.50	$1.00	$10
Boise, ID	2	7	no info	contract	no info	$0.75	no info
Portland, ME	4	4	1,440	parking dept	$0.50	$1.00	$10
Lansing, MI	20	4	2,724	no info	$1.00	$1.00	$12
Rochester, MN	8	5	1,462	police	$0.60	$1.00	$13
Camden, NJ	15	2	950	no info	$0.75	$5.00	$18
Trenton, NJ	2	4	no info	no info	no info	no info	no info
Harrisburg, PA	6	8	1,273	police	$1.50	$2.50	$14
Richmond, VA	2	4	no info	no info	no info	$2.00	no info

7.0 BEST PRACTICES – PARKING SYSTEM IMPROVEMENTS

The following presents a list of the recommended convenience and comfort enhancements for the parking system. The following list has been taken from a detailed discussion of the 18 potential improvements in the following section. The recommendations listed below are shown in order of priority and implementation with No. 1 representing the highest priority. While it may be relatively easy to implement several of the listed improvements, more costly improvements will need to be prioritized against competing projects in the parking system capital improvement program (when it is created) and implemented as opportunities are presented. Hereinafter, the parking system will be referred to as the Parking Department or Parking Office.

1. Unlock the stairwells and elevators – Remove the disincentive to using this garage by keeping the stairwells and elevator that serve the major pedestrian flows open. If for no other reason, the elevator needs to be operational specifically to meet the Americans with Disabilities Act requirements. Solutions to vandalism or loitering should be pursued and current ordinances should be enforced. Every city has this issue in their downtown and the solutions usually involve surveillance and/or inspection by a person, typically a police officer. If the downtown is going to be "user-friendly", both the stairwells and the elevator should be kept in operation and security measures implemented to provide adequate comfort and safety to parkers.
2. Paint the inside of Victory Garage white including walls and ceilings. Consider painting the inside of the Wall Street Garage. As an alternative, consider painting a three or four foot diameter circle around the light fixtures.
3. Valet Parking Program - Assist in the development of a valet parking program. The City could work with the entertainment establishments (restaurants, nightclubs, etc) to provide on–or off–street valet parking locations where the business community could valet park customers. Usually, the valet service is jointly funded by merchants in a specific area proximal to one another. This would increase convenience and safety for the user, as well as provide numerous promotional opportunities. The City would need to develop a specific valet ordinance.
4. Create a Parking Department office –The office needs to be a bright, well-lit facility with a customer interface area where permits can be purchased, tickets paid and all other parking related business conducted. The Parking Office should probably be located in City Hall using existing cashiering staff with personnel costs shared by the Parking Office. The Parking Office may have more people visiting it during a year then any other City department.
5. A parking website –The Parking Office should invest in the development of a parking information website that can be used by patrons for all parking related information, updates, announcements, etc. The website should be a high–level website with state–of–the–art features, graphics, and support. The website design should consider possible dynamic websites similar to the Downtown Denver parking website (www.downtowndenver.com/transportation/access parking.htm) or the Downtown Ft. Lauderdale website (www.citycruiser.org/parking.htm).
6. Parking Structure Signage –new signage should be installed perpendicular to the garage so that approaching motorists can clearly determine if the garage has, spaces available or not. The signage should be electronic dynamic and connected to the entrance/exit loops so that drivers, parkers, shoppers, employees, and other pedestrians are constantly are informed whether parking is available.

7. Shuttle System - Consider the creation of a shuttle system during daytime and evening hours to provide access to parking facilities to/from the primary commercial areas. This could be a free shuttle and rubber-tired utilize trolleys.
8. Relamp and reclad the Victory Garage. This garage is needed for evening short-term and residential parking. It needs to look inviting, safe, and aesthetically integrated into the downtown.
9. Wayfinding signage –The City's way finding program should integrate a parking system component.
10. Bartering Parking – The City could consider bartering parking spaces for services such as printed, radio, or TV media time. Perhaps there are other services that could promote the downtown that the City could barter available and low-use parking to reduce costs. Perhaps this could be translated to a contest of some sort for the best idea, judged by merchants, businesses or downtown employers.

7.1 POTENTIAL PARKING SYSTEM ENHANCEMENTS

The potential parking improvement options discussed below encompass a wide spectrum of issues, ranging from those related to parking promotion, aesthetics, and convenience to parking operations. The options presented herein have been derived from programs currently used in cities throughout the country. The parking improvement options have been divided into four categories: 1) promotional, 2) aesthetic improvements, 3) convenience improvements, and 4) operational improvements. However, the discussion below will focus on the first three categories. A key has been developed to identify the various attributes (categories) that a single option may achieve. The key is as follows: **P** = Promotional, **A** = Aesthetic, **C** = Convenience and **O** = Operations (**P, A, C, O**).

Each improvement option will be introduced and followed by a table that describes the applicability of each option to the City's current parking system and possibilities for future implementation if a City Parking Office is created.

7.1.1 Promotional (P)

The promotional parking options focus on three groups; downtown merchants, downtown property owners, and visitors to the downtown. The objective with these options is to identify and promote the positive attributes of the parking system. An example would be that "the City of Manchester Parking System provides X number of parking spaces within a five minute walk to A, B and C destinations." Possible promotional ideas include:

1. Develop a monthly parking newsletter. The newsletter could be distributed to merchants and/or parking attendants, who in turn, could distribute to visitors and patrons. The newsletter would contain information on monthly prizewinners (determined through monthly drawings based on entries from regular parking system users), past prizewinners, future prizes, parking information, and 'fun or quick facts.' Fun or quick facts could include items related to parking (e.g. the International Parking Institute develops an annual list of parking facts), weather, or city life. The downtown merchants would provide the prizes and perhaps sponsor the newsletter in some way. **(P, C)**

Applicability	Short-term Implementation	Longer-term Implementation
Collaboration between the Parking Office and the Destination Manchester or Intown Manchester	Take advantage of current periodicals or monthly newsletters to incorporate rollout of the parking system and related improvements.	The Parking Office could provide information on a monthly basis for inclusion into the current downtown newsletter. Intown Manchester could benefit from expanding their current mailing list to include the Parking Office parking permit holders. This might be a 4 to 8 hour monthly effort by a Parking Office staff person. There may be specific state laws regulating the award of prizes.

2. Develop a "Parking Ambassador" program where parking personnel (including booth attendants, office workers, and Parking Checkers) act as ambassadors for the parking system. Each participant would be trained and equipped with informational packets describing the parking system. **(P, C)**

Applicability	Short-term Implementation	Longer-term Implementation
Applicable when the City Parking Office service is large and geographically diverse with several major nodes (lots and garages) as it is in Manchester.	The Parking Office should stock all attended parking booths with parking maps and rate information. Further, Intown Manchester could inform the Parking Office of all events happening in the downtown area, so staff may act as pseudo–ambassadors for the downtown activities.	The Parking Office could explore expanding on any current programs to include parking specific information. Initiation of a more formal ambassador program should involve not only the Parking Office but also, all City and public agencies, as all would benefit from such a program. Intown Manchester may be able to provide additional event information to the Parking Office for distribution from parking booths.

3. Development of a parking web site. This would allow users to pay tickets, purchase and check availability of permits, and keep up with changes in the parking system all in an on–line environment. The web site could be actively promoted and included on all printed items (i.e. maps, tickets, permits, newsletters, advertisements in local paper, etc.). **(P, C, O)**

Applicability	Short-term Implementation	Longer-term Implementation
When multiple payment options are available and customer convenience is an issue. In addition, beneficial when major changes are being implemented in a downtown such as new building or road construction or major events that might the ability to travel throughout a downtown and use the parking system.	The City of Manchester currently maintains a City public web site (http://www.manchesternh.gov). Information provided includes, but is not limited to, City event calendars, links to the Manchester Police and City government offices, and employment opportunities. The Parking Office's phone number should be included on this page as well. This, understandably, is not a particularly user–friendly site relative to the parking system.	The Parking Office should develop a website (linked to the City's site as well as Intown Manchester). This site would replace the need to visit the Parking Office in person. Further, the Parking Office could explore sharing the development and associated costs with other users, such as Destination Manchester, Economic Development office, Board of Assessors. Development costs range from about 30–50k for a secure site plus on–going maintenance and hosting fees.

4. Development of a "Fun Facts" board or kiosk with quirky, interesting information located throughout the City. Included on board could be information about the parking system. These could be used individually or in conjunction with informational, electronic kiosks. Computer based, touch screen kiosks are currently being used in major cities across the United States, including Baltimore, Philadelphia, Cincinnati, Columbus, and Boston. The City of Boston is currently constructing about 20 kiosks in high pedestrian trafficked areas. These kiosks are intended to serve the public with numerous features including easily accessible vehicle excise tax and parking ticket payment locations, along with visitor information, including hotel and restaurant reservation services. The figure above and to the right shows one of several kiosks, different from those discussed above, constructed for the New England Telephone Company in Boston.**(P, C, O)**

Applicability	Short-term Implementation	Longer-term Implementation
Oriented to pedestrians and in areas where activities are widely distributed like the City of Manchester entertainment district, the Millyards, the Gaslight District, the Arena and the Baseball stadium.	The Parking Office may want to start with backlit map boards posted outside parking structures. Currently, there are other kiosks (non–computer based) located sporadically throughout the City. The Parking Office could also post parking information on these kiosks.	The Parking Office could help support and provide information for a computerized kiosk. However, the implementation of a kiosk should be driven by downtown entities other than the parking system. Parking information may be one page or web access to a complex citywide information kiosk as other entities would do. The Parking Office should be willing to support the effort should it move forward by others.

5. Develop a daily cleanliness standard; so that each parking facility will be, begin the day at the same level of cleanliness. **(P, A, C, O)**

Applicability	Short-term Implementation	Longer-term Implementation
When user perception is poor.	The City currently has a maintenance standard that should be incorporated as needed, upgraded if required and implemented unfailingly.	The Parking Office could develop a daily cleanliness checklist. This list could be displayed where users of each parking facility could easily view.

6. Consider events on or within the Victory garage. Events could include concerts, movies, and festivals associated with the evening entertainment related businesses. The larger events could be planned and flyers distributed or tickets sold, while others could be spontaneous. For example, once a month during the summer, the Parking Office could host a TGIF party or taste of downtown Manchester party for all the facilities users. **(P, A, O)**

Applicability	Short-term Implementation	Longer-term Implementation
When a city wants to develop higher user knowledge of the parking system.	The City currently has no such program in place. The Parking Office could collaborate with Intown Manchester, the Arts and Culture venues, the entertainment merchants, the restaurateurs, etc.	The Parking Office could explore the possibility of providing a new and different venue (i.e. parking structure or lot) for an annual "branding" event.

7. Take advantage of the act of issuing parking tickets by providing information and other items with tickets, such as parking maps, coupons for use at local merchants or businesses, or issuance of "quick-pay" or courtesy parking tickets. A courtesy ticket is a warning to the user, with no fine or citation issued (not recommended). An example of a courtesy ticket used in Mansfield, Ohio has been provided in the figure below[9]. Mansfield, Ohio is a much smaller community than Manchester; therefore, it may not necessarily apply to Manchester. It is only presented here as an example of how other communities run such programs. **(P, C, O)**

Applicability	Short-term Implementation	Longer-term Implementation
When the downtown merchant's associations are actively marketing ideas to increase downtown customer traffic. The Parking Office should have dedicated Parking Checkers and be willing to collaborate with merchants.	The Parking Office could provide a map on the back of each parking ticket envelope that identifies the location of payment drop boxes as well as the location of the Parking Office.	The Parking Office could implement its own "courtesy" parking ticket program. For example, the Parking Office could issue a "fake" or no–cost ticket to every 20th (or 50th or 100th – to be set by the Parking Office) on–street parking violator. Coupons to local merchants or businesses could be included with parking tickets in the same manner. The Parking Office might want to collaborate with the Intown Manchester on development of such a program. The City Attorneys office would need to be contacted to understand the State of New Hampshire's laws regarding possible preferential treatment of some violators (and not others).

[9] The Parking Handbook for Small Communities, The National Trust for Historic Preservation and The Institute of Transportation Engineers, 1994.

7.1.2 Aesthetics (A)

The options discussed in this category tend to be closely tied to those discussed in the promotional category, because aesthetic improvements, typically, lend themselves toward improving the ability of the City to promote the parking system. Aesthetic improvements to the parking system could include:

8. Create a Parking Department office –This needs to be a bright, well-lit office facility with a customer interface area where permits can be purchased, tickets paid and all other parking related business conducted. **(A, C)**

Applicability	Short-term Implementation	Longer-term Implementation
When rolling out a public service and economic development tool that is under intense scrutiny.	The Parking Office needs to be located in a location like City Hall. This office may have more visits during a year than any other City department.	Once the Parking Office is established than the offices could be relocated from City Hall to office space in one of the new parking garage facilities proposed to be constructed within the next few years.

9. Introduce themes for each parking structure (private and public) and as new facilities come on-line. The themes could be tied to historic nature of the city by zone that infrequent users would recognize and tie to the geography or City landmarks. Accessories could include theme music or sounds, painting of walls and ceilings, new garbage cans (i.e. an animal or a Fisher Cat), and personnel/attendants dressed appropriately. For example, a parking structure in the Disney Land Resort has each of its six floors named after a different Disney character.

   In lieu of creating themes, as described above, each structure could be renamed (to represent its place within the City) and the walls and stairwells could be painted with colorful bright murals, possibly done by local art students or community groups. Finally, along with creating a theme or renaming each structure, the Parking Office could decorate for each of the major Holidays (e.g. Valentines Day, Thanksgiving, and Halloween). **(P, A)**

Applicability	Short-term Implementation	Longer-term Implementation
Particularly beneficial when several large parking structures serve as the primary parking destinations and when they are distributed widely throughout the downtown as they will be in Manchester.	The City currently names its parking structures according to the name of the road where it is located.	The Parking Office could combine two ideas presented above and rename each structure relative to its place within the City and create an “identity” for each. Its own identity could include brightly painted walls or stairwells painted to reflect the structures new name and place within City. The Parking Office could explore collaborating with local businesses or other agencies within the City to help develop structure themes and/or names, such as the River garage, the Millyard garage, or the Gaslight garage. The Parking Office may want to explore partnering on these themes with others such as the PSNH, Fisher Cats, or Verizon to offset costs and share benefits

10. Relamp and reclad the Victory Garage to enhance its urban character. For example, some garages downtown are not compatible with surrounding environment (i.e. cement spandrels or panels surrounded by brick buildings). This garage is needed for evening short-term and residential parking. It needs to look inviting, safe, and aesthetically integrated into the downtown. It can represent the kick-off off the new program. **(P, A)**

Applicability	Short-term Implementation	Longer-term Implementation
When a downtown has older unpainted concrete or steel parking structures, particularly when redevelopment is occurring.	The Parking Office should look for opportunities to implement some "quick-fixes" aesthetically.	The Parking Office could explore the possibility of combining the re–cladding of structures with the creation of themes. However, the high cost associated with making improvements to parking structure facades would limit application. The City will continue to look for opportunities to upgrade the facades of structures as appropriate.

11. Painting the structures. This could include painting the ceilings and stairwells with high reflectivity paint. This would serve to brighten the inside of each structure, increasing the feeling of safety, and possibly reducing the need for additional lighting or relamping. **(P, A, C)**

Applicability	Short-term Implementation	Longer-term Implementation
Great concept when parking structures are older or are precast with low ceilings and poor lighting.	The Parking Office could immediately begin implementation.	On–going program

7.1.3 Convenience (C)

Options to provide parking system users a higher level of convenience include:

12. Increasing the number of available payment options for all customers, including those paying parking tickets. Possible options could include:

    - the ability to pay parking attendant*;*
    - locate parking drop boxes (outside of structures);
    - provision of on–line payment; and
    - evaluate the ability to pay downtown merchants for parking related fees.

    With the provision of parking payment drop boxes the City would have the opportunity to create promotional material, such as advertising on the more visible drop boxes and the fact that there is a payment drop box on every corner, for example. **(P, C, O)**

Applicability	Short-term Implementation	Longer-term Implementation
Applicable when a city has a large and diverse, or growing parking system such as the City of Manchester's.	Implement and expand options.	In conjunction with the development of a parking web site, on–line payment for permits and fines could be provided. The Parking Office could explore the option of providing customers the ability to pay downtown merchants for parking tickets. A merchant may elect to provide a drop box service as a customer convenience and draw into their store. There may be concern with merchants dealing with disgruntled parkers.

13. Implement a fully automated phone system at the Parking Office. An automated system would automatically accommodate customers who call for basic parking information such as parking office hours or mailing address for payment of tickets) providing greater convenience and allowing staff to more effectively serve customers in the office. **(P, C, O)**

Applicability	Short-term Implementation	Longer-term Implementation
When a high volume of phone calls are handled by staff, when customer service complaints are a problem or common or when a high number of customers visit the parking office in–person.	The current customer service seems to be cordial, courteous, prompt, informative, and efficient.	This service is expected and a necessity in a customer–oriented market. The Parking Office should implement an automated phone system ASAP dependent on the City's ability to provide adequate infrastructure and compatibility needs.

14. Development of an integrated parking signage system. The City could develop a parking symbol that would be unique to and used with all signs that convey parking information. This would help to familiarize both regular users and visitors with parking information, as well as promote consistency throughout the system and a "brand". In addition, the City could provide facility "full" signs well in advance of facility entrance. **(P, A, C, O)**

Applicability	Short-term Implementation	Longer-term Implementation
When the parking supply is widely distributed throughout a downtown and when limited approach roadways into the downtown exist.	Parking Office to integrate into any on-going wayfinding programs under consideration.	The Parking Office could explore the possibility of advanced facility "full" signs. Implementation of a citywide signage system would be beneficial. The Parking Office should collaborate with whatever agency may take the lead. Any signing improvements relative to parking system signage should be made after the City decides and implements any additional one–way to two–way street conversions. Parking identity signs and "full" signs should be readable from the roadway before a driver pulls into the entrance lanes.

15. Develop a dynamic parking automation system. This system would link all City parking facilities to a central operating hub and provide parking personnel, relevant parking data to manage the system. Benefits of an automated system include availability of advanced parking information for the user, either through web site or variable message signs located along major routes, and ease of operation for parking personnel. Typically, these systems help to reduce the time spent by users searching for a parking space and the resulting congestion. **(P, C, O)**

Applicability	Short-term Implementation	Longer-term Implementation
When various parking facilities fill during special events or routine daily occurrences.	The Parking Office has no reason to implement.	The Parking Office's structured parking facilities currently only fill to capacity a few times per year. A dynamic parking automation system is not applicable to this parking situation unless roadway operations require dynamic signing. Then the parking system should tie into that system.

16. Consider the creation of a shuttle system during daytime and evening hours to provide access to parking facilities to/from the primary commercial areas. This could be a free shuttle and rubber-tired utilize trolleys. **(P, C, O)**

Applicability	Short-term Implementation	Longer-term Implementation
When downtown is expansive and parking options limited.	The Parking Office could contract this service with a private vendor or with Manchester Transit Authority. However, the Parking Office would maintain control of the system.	Parking Office should monitor expansion and needs as part of the development review process recommended in the report.

17. Assist in the development of a valet parking program. The City could work with the entertainment establishments (restaurants, nightclubs, etc) to provide on–or off–street valet parking locations where the business community could valet park customers. Usually, the valet service is jointly funded by merchants in a specific area proximal to one another. This would increase convenience and safety for the user, as well as provide numerous promotional opportunities. **(P, C, O)**

Applicability	Short-term Implementation	Longer-term Implementation
Applicable when evening activity generates high demand for parking related to dinner clubs, performance theaters, etc.	A point person should be assigned to this task. The City has discussed valet operations with several new establishments. The City may want to consider allowing the private sector to operate the valet service independently but coordinated with the Parking Office. In this case, an ordinance would be recommended that specifies regulations relative to operator's license to conduct business in the public right-of-way. The ordinance would require insurance, permits, etc…	The Parking Office should not implement and run a valet service, but continue to provide downtown businesses (i.e. restaurants and nightclubs) with the opportunity to utilize City parking facilities. This may require dissemination of information at such time the need may warrant.

18. Create a regulation to ensure adequate parking for downtown business visitors and patrons. For example, in Americus, Georgia, local legislation was passed which states that downtown business owners, employees, and residents cannot park on–street during normal business hours in certain areas, since those on–street spaces were reserved for visitors and customers. Any downtown business owner, employee, or resident found in violation of this law is fined $52 per offense. The downtown business owners were supportive of the law because they understand that every time a downtown business owner, or employee, the downtown takes an on–street parking space, they lose potential customers. Enforcement is controlled through direct observations by the police department. In larger urban areas, enforcement can be controlled through hand–held electronic technology, where license tags are electronically matched with vehicle registrations and checked against an owner/employee roster[10]. If the registration matches, the vehicle is ticketed. By all accounts, the program has been very successful in creating more available patron parking in downtown Americus. **(P, C, O)**

Applicability	Short-term Implementation	Longer-term Implementation
Where limited on- and off-street short-term parking exists and where competition for on-street parking between visitors and employees exists.	The Parking Office needs to acquire technology to help enforce and manage on-street parking. The Department also needs to implement rate schedule changes and modifications for permit parking and off-street parking to make on-street parking available to short-term parkers.	The Parking Office could explore the implementation of a variation of the program described above, such as the provision of increased enforcement in the commercial district (e.g. Elm Street corridor). Although observations indicate that violators do not appear excessive or problematic.

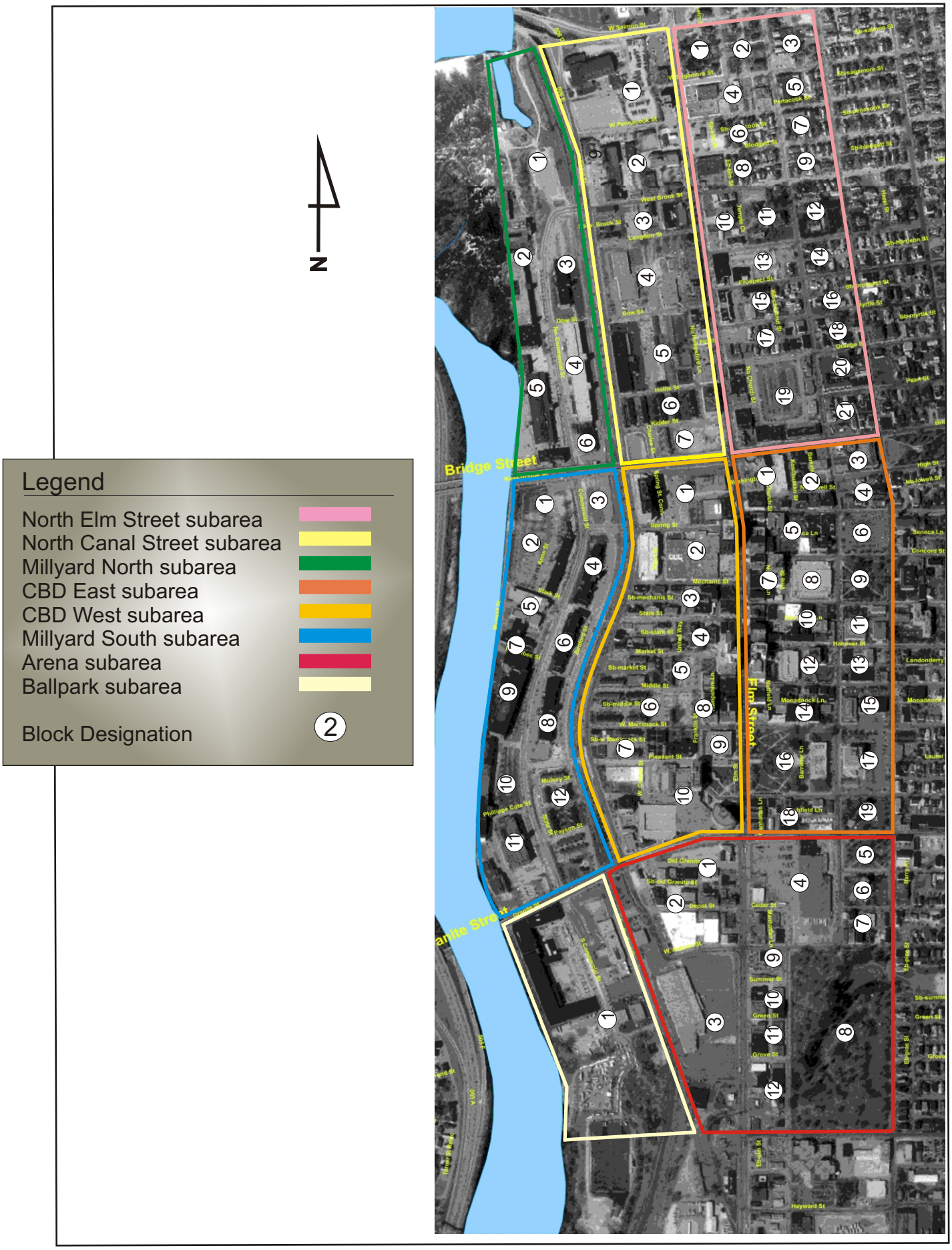
[10] The State of New Hampshire laws that apply to citizen privacy issues would need to be thoroughly discussed with the City Attorneys office before implementation of such a program.

19. Attractive color–coded signs could be implemented that make it clear that certain on–street, as well as, off–street parking is reserved for customers and visitors and that it is strictly enforced. A method discussed previously, involved use of a downtown–parking map. The map could include both public and private parking facilities as well as specific merchant store names. The maps could be glossy, color brochures that were made available in stores and at the Parking Office. **(P, A, C, O)**

Applicability	Short-term Implementation	Longer-term Implementation
When a downtown wants to enforce patron–parking spaces and aesthetics are a concern.	The Parking Office currently utilizes informational parking signs, located just outside each facility, as well as providing glossy, color coded maps, located in brochures (see map below). These brochures and maps can be obtained through parking attendants and at the parking office.	The Parking Office could explore the possibility of expanding the existing parking specific signage. However, this type of signage would be localized on a block–by–block basis.

APPENDICES

Appendix A - Figure 1 - Subarea and Block Designation



Appendix Figure 1
Subarea and Block Designation

Appendix B - Office of City Clerk, Report on Parking Operations

CITY OF MANCHESTER

Office of the City Clerk

Leo R. Bernier
City Clerk

Carol A. Johnson
Deputy City Clerk

Paula L-Kang
Deputy Clerk
Administrative Services

Matthew Normand
Deputy Clerk
Licensing & Facilities

Patricia Piecuch
Deputy Clerk
Financial Administration

June 4, 2004

Board of Mayor and Aldermen
Committee on Traffic
One City Hall Plaza
Manchester, NH 03101

Re: Report on parking operations

Honorable Members:

Earlier this year the Committee requested the City Clerk's office to explore combining all functions relating to parking including:

- *Parking facility operation* (security, contracts, maintenance, etc.)
- *Parking meter operations* (meter installation, collection, maintenance, improvements, etc.)
- *Parking enforcement operations* (collections, issuance, consumer services, etc.)
- *Parking permit administration* (street & lot permits, consumer services, etc.)
- *Other administrative requirements* (budgetary, staffing, software, space, etc.)

In response to that request, Mr. Bernier requested Matthew Normand and myself to conduct a review and report to the Committee. Enclosed for your review and further consideration is our report, which we anticipate presenting to you for discussion on June 7th. Both Matthew and I will be available at this meeting to answer questions. Additionally, the City's Internal Auditor, who has conducted an audit of the City's garage contracts will be available.

Sincerely,

Carol A. Johnson

Carol A. Johnson
Deputy City Clerk

One City Hall Plaza, Manchester, NH 03101 Phone (603) 624-6455 Fax (603) 624-6481
www.ManchesterNH.gov

REPORT ON PARKING OPERATIONS

Prepared for Committee on Traffic and Public Safety
June 4, 2004
By Office of the City Clerk

In providing this report we wish to first acknowledge the assistance of dedicated staff in a number of City departments. To provide a complete picture of the various issues information was initially gathered through meetings with various city departments and staff including:

- Traffic Department
  (Tom Lolicata, Jim Hoben, Denise Boutilier)
- Finance Department
  (Kevin Clougherty, Randy Sherman, Joanne Shaffer, Sharon Wickens, Kevin Buckley)
- Police Department
  (Deputy Chief Leidemer, Captain Lussier, Lieutenant Valenti, Ordinance Violations staff)
- Tax Collector
  (Joan Porter)
- Parks, Recreation, Cemeteries
  (Ron Ludwig, Ron Johnson)
- Highway Department
  (Frank Thomas)
- Human Resources Department
  (Virginia Lamberton)
- Mayor's Office
  (Seth Wall)
- Board of Mayor and Aldermen
  (review of various Board and Committee minutes reflecting questions/comments raised)

We chose this cross section of departmental categories because in reality all are involved in various processes related to parking in the City. The *"contributing factors"* noted in no way reflect the dedication of staff of any department in a negative light, but rather the fragmented approach the City has used to address the parking needs of the City. Our task, as it was understood, was to review this fragmentation and provide recommendations on how to better address the administration in a concentrated format.

Because of the number of issues raised throughout this process, our research also included discussion with other municipalities in New Hampshire including Portsmouth and Concord, and review of systems used in communities and areas outside New Hampshire.

Observation I: Staff Burnout

It is apparent that staff of all of the major departments/divisions that provide daily support are frustrated with the current system.

Contributing factors:

- Traffic Department staff operate on a near daily presumption that the department is under threat of "takeover" resulting in a regressive rather than progressive role, reactive rather than proactive.
- Police and Traffic staff feel they do not have adequate resources to perform the tasks at hand.
- Ordinance Violation staff operate on a race track that never ends and is always uphill, with little connection to the "City" team.
- Workers in most departments are frustrated with the current process, and aldermen as well become frustrated in getting information or enforcement.

Suggested remedy

- The Committee on Traffic, working with the full Board must set policy and provide resources to enhance and revive the system.

Observation II: Parking Enforcement

Enforcement of parking violations is fragmented and inadequate. Four Parking Control Officers (PCO's), three on foot, and one mobile officer perform parking enforcement for the entire city. Additional parking enforcement includes assistance from an Animal Control Officer or by police officers.

Contributing factors

- Police Officers are taken away from vital public safety.
- Police Officers are unable to consistently perform parking enforcement functions.
- Police Officers do not have the parking control equipment creating costs on the collection side from hand writing the tickets to dual entry by the Ordinance Violations Unit. Lacking clear reporting standards, hand-written tickets frequently do not include vital enforcement information. Violation tracking of hand written tickets cannot be accomplished efficiently.
- Four parking control officers cannot adequately provide citywide enforcement of parking regulations; many areas of the city become under-enforced.
- In an effort to cover 12-hour parking enforcement, including enforcement for events at the Verizon Wireless Arena and Fisher Cat baseball at Gill Stadium, PCO's must be paid overtime to attempt adequate coverage.

- Only one person is responsible for all booting of vehicles throughout the city with a current backlog of approximately 900 vehicles. This same person holds the primary responsibility for parking enforcement in all areas outside of the downtown area and the towing of abandoned vehicles.
- To obtain daily, computerized information needed for the booting process requires using computer terminals in two different city locations. The user cannot enter updated and current information.
- Backlogs of violation entries and subsequent legal notices have created statute of limitation issues whereby court cases are dismissed and valuable employee resources and time have been wasted.
- PCO's and police officers have limited or no access to real time or even daily enforcement information.
- Current enforcement equipment is antiquated or obsolete. Equipment is unable to provide for efficient communication with main databases or provide even adequate reporting. Various companies serving current equipment do not support new ideas or needs and in one case is no longer in business.

Suggested remedies

- Add two part time parking control officers. The department is understaffed for a city of this size.
- From the pool of PCO's, authorize a second full-time officer to conduct enforcement with a vehicle. The vehicle could come from the current vehicle pool. Two mobile PCO's would provide more suitable enforcement for areas outside the downtown district, particularly evenings and weekends.
- Updating enforcement equipment would ensure all personnel were working with accurate and current information, reduce wasted travel and research time, and simplify enforcement training. New portable hand-held enforcement devices would provide bar coding for the lock box process; create virtually any necessary report; display urgent, real time information; and quickly upload data that is manually entered today. The City has ten usable vehicle boots for a growing list of 900 delinquent vehicles.
- Cross-train both Animal Control Officers in vehicle boot application to assist PCO's when possible.
- Create "Hot Sheets" for delinquent vehicles according to patrol officer routes so an officer is not required to scan hundreds of license plate numbers for a suspected vehicle. Only the vehicles known to reside; frequently ticketed; or continuously parked along an officer's route would be on list.

Observation III: Parking Revenue Collection

The current parking revenue collection process is antiquated at best and burdensome to the consumer. This process includes collections for parking violations and permitting.

Contributing factors

- Parking revenue is not being deposited as quickly as technology can accommodate.
- Ordinance Violations Bureau spends too much time conducting data entry or inquiries.
- Customers deal with four different departments (Ordinance Violations Unit, Tax Department, Traffic Department, or Police Department) depending on their needs.
- A single city employee is responsible for permit parking issuance and revenue collection. Employee absence results in customers' inability to conduct business with the City on permit parking.
- No database is presently set up for permit parking, nor is any planned at this time.
- Reporting capabilities are nearly impossible.
- Meters are not customer friendly; provide the City with far less than current technology can perform, and require maximum collection efforts.
- Meters presently require quarters only, which are still counted by technicians within Traffic Department. Auditing and liability for injuries are prevalent concerns.
- Time for preventative maintenance is nearly impossible with current collection practice.

Suggested remedies

- Transfer coins from meter collection directly to the bank rather than counting the coins in-house. Coins could simply be bagged and dropped off at our bank. The City currently pays $1.50 per bag for the bank to count the meter deposits. For an additional $1.50 per bag, we can simply drop off the bagged coin (including mixed coin deposits) and avoid the extra handling, sorting, and counting currently done. This would free hours of staff time to repair the substantial inventory of broken meters, allow for preventative maintenance on parking equipment, and additional collection.
- A Retail Lock box should be established so that all mailed parking violations would be deposited directly into the bank and the City would receive a daily data file that is simply uploaded to our system. Residents currently pay their municipal water and sewer bills in this manner. This process virtually eliminates wasted hours of data entry for City staff. Any mismatched payments are sent via courier to Ordinance Violations for reconciliation. By eliminating more than 90% of the data entry on routine parking violations, staff can focus on the enormous backlog of court summons, boot notifications, and ordinance violations under a 90-day statute of limitations.
- A central database of all parking permits would allow multiple users to service customers that want to obtain permits, quickly reveal Citywide availability, allow online access, etc. Information Systems could develop such a database.
- Instituting a lock box process and a centralized permit process, would dramatically improve reporting capabilities.

- Multi-space meters and pay stations should be considered. A couple of meters/stations could service a whole lot, garage or portions of them, reducing maintenance, labor and collection costs. Multi-space pay stations manage entire lots, allow for all forms of on-site payment, from coin and bills to credit and debit cards, provide marketing opportunities to reach multilingual customers, and will reduce labor and maintenance costs. Multi-space meters, simpler versions of the pay stations, control up to four parking spaces and can efficiently reduce the City's 2600 plus meter inventory. Use of the pay stations would not prohibit permit parking.
- Software for current meters should be upgraded to allow for reporting that present meters can accommodate.

Observation IV: Parking Administration

At least one aspect of parking administration is handled by no less ten city departments or divisions, leaving the administration so fractured that it cannot perform beyond the current levels.

Contributing factors

- Several divisions/departments handle parking tickets. Within the Police Department, the First, Second, or Third Relief of the Patrol Division may issue tickets in addition to the Parking Control Officers of the Traffic Unit. The Ordinance Violations Unit handles the paying customer. The Traffic Unit also enforces the legitimacy of contested violations, while the Legal Unit handles court summons for non-payment of fines, which have been issued by the Ordinance Violations Unit. The Traffic Department may then be called in to assist in determining whether a meter is functioning or signage is proper. The Tax Department is involved in enforcing payment of outstanding parking violations, however, because they are unable to collect on those balances, the consumer must go to the Ordinance Violations Unit to pay the outstanding fines, and then return to Tax Department to complete their business with the City. Additionally, the City Clerk's office maintains the regulations which the enforcement, maintenance and collections must follow. Among other tasks, the Clerk's office also prepares, monitors, and updates ordinance changes for the Traffic Department and Committee on Traffic & Public Safety. In addition, the Clerk's office maintains the sign posting for City Hall meetings at the Middle Street lot. Violations issued while the lot is posted are contested through the Clerk's office and then forwarded to the Traffic unit of the Police Department.
- Two departments issue permits for parking. Ordinance Violations issues residential permits and the balance, including on-street and parking lots, are issued by the Traffic Department.
- On-street or in-lot civic events are handled by the Office of the City Clerk, Police, Fire, Health, Parks & Recreation, Building, Traffic, Highway.
- Community outreach to permit holders displaced by municipal projects, civic events, etc. is inconsistent and insufficient. Departments often rely on the hope that another department has taken care of informing the public.

- Cost analysis of parking lots/spaces is non-existent.
- The City is not proactive but responsive to major parking issues.
- Positive marketing of municipal parking resources is non-existent and rarely reviewed for needs assessment.
- Garage security is virtually non-existent.

Suggested remedies

- Centralize scheduling lists for events or share information/applications so that the community can find out what is going on and how to satisfy all of the municipal requirements.
- Create a standard policy for notification to permit holders who may be displaced by events so that those affected will be contacted and assisted with alternatives. Know who is affected in each area (businesses, private employees, and residents) and have a contingency plan to help the community before an event. A centralized parking database will help.
- Thorough cost analysis of lots/spaces (i.e. revenues versus full costs of maintenance) should be instituted, with information updated continuously. Time will allow this to be accomplished if the management suggestions findings are addressed.
- The Internal Auditor could be requested to review cost analysis and report findings to the Committee on Traffic, and the Committee on Accounts, Revenue and Enrollment every two years for consideration of whether fees for parking are reasonable or meeting the policies the Board wishes to embrace. The department responsible for the cost analysis information should be included in this process as well as those responsible for economic development, through combined or separate reporting.
- Marketing efforts for parking should be ongoing, rather than the one time marketing effort prior to Verizon Wireless Arena opening. 11,000 people can fill the Verizon Wireless Arena on a given day, there is parking downtown. Identify solutions/alternatives, publicize effort, and assist businesses and their customers.
- Review of the parking needs of the City as a whole not just "downtown" should be considered. The City should take a proactive role in reviewing potentials for regulating and expanding parking in all areas, particularly where people gather. (e.g. Gill Stadium area should have been reviewed by a parking administrator early in the process long before construction began; schools, parks and other areas should be included, for safety reasons alone if not to make Manchester consumer friendly.)
- Police Department should be requested to conduct a needs assessment of security at parking facilities.

CONCLUSION

One could say the parking system is broken and should be fixed. We would rather say the parking system is in need of revitalization. The City could approach the revitalization of its parking system in a graduated manner, given current financial constraints and for other reasons probably should. As part of this process some immediate actions can and should be taken.

Parking should be delineated as Enforcement and Administration

Enforcement should always remain a Police matter.
It is our belief that parking enforcement should remain under the jurisdiction of the Police Department. Albeit Police Officers should be used as little as possible to enforce parking, enforcement and public safety is the profession of the Police Department.
Collections should not be a Police matter.

Administration, collections and maintenance optimally should be conducted under one "roof".
For optimal performance, all administrative and collection matters relating to parking permits, meters, and violation collections should be combined in one "place". Options would include a separate department or a division within an existing department experienced with revenue collections. Additional or transferred staff would be required. Space requirements would have to be addressed, adjusted or reallocated.

Collections could be conducted separate from administration and maintenance.
The City could opt to conduct collections separate from the administration and maintenance presently done by Traffic and other departments. Collections in that instance should be handled by a city department familiar with large scale collections, related administrative and technological functions, and public relations. Existing funding and positions relating to collections would need to be reviewed and transferred to the department responsible for collections.

Administration and maintenance as a separate entity from collections needs to be more efficient.
While administration and maintenance could be assigned to a department separate from enforcement or collections, the accounting, planning and technology must be updated and communication/information sharing must improve. Utilizing this report, the Traffic Committee in this instance should play a proactive role establishing a strategy and setting deadlines for progressive reporting to meet the goals. A management strategy could be developed through a team effort (i.e. Traffic, Finance, Police, etc.) providing the support needed to bring about staggered change, such as a timeline for short and long term goals.

Funding comments
It should be noted that a retail lockbox, if properly funded, could be implemented in less than three months. Initial costs would require investment of $30,000 in handheld equipment, and well under $21,000 annually to maintain. Two part-time PCO's would require approximately $22,568, while two full time PCO's would require $45,136 plus fringe benefits.

Appendix C - Appendix Table 1 through 3 - Data Collection Spreadsheets

Appendix Table 1
Parking Data Collection

			Off-Street Parking																											On-Street Parking Spaces			Total Parking		
			Publicly Owned									Privately Owned									Total Public and Private														
			Structures			Lots			Total Facilities			Structures			Lots			Total Facilities			Structures			Lots			Total Facilities								
Area	Block Number	North Block Face	Spaces	Occ	% Occ	Spaces	Occ	% Occ	Spaces	Occ	% Occ	Spaces	Occ	% Occ	Spaces	Occ	% Occ	Spaces	Occ	% Occ	Spaces	Occ	% Occ	Spaces	Occ	% Occ	Spaces	Occ	% Occ	Spaces	Occ	% Occ	Spaces	Occ	% Occ
NO. ELM	1	Salmon Street													49	21	43%	49	21	43%	0	0		49	21	43%	49	21	43%	11	9	82%	60	30	50%
NO. ELM	2	Salmon Street													75	56	75%	75	56	75%	0	0		75	56	75%	75	56	75%	25	17	68%	100	73	73%
NO. ELM	3	Salmon Street													105	64	61%	105	64	61%	0	0		105	64	61%	105	64	61%	19	16	84%	124	80	65%
NO. ELM	4	Sagamore Street													136	98	72%	136	98	72%	0	0		136	98	72%	136	98	72%	24	16	67%	160	114	71%
NO. ELM	5	Sagamore Street													22	17	77%	22	17	77%	0	0		22	17	77%	22	17	77%	23	18	78%	45	35	78%
NO. ELM	6	Pennacook Street													83	64	77%	83	64	77%	0	0		83	64	77%	83	64	77%	20	15	75%	103	79	77%
NO. ELM	7	Pennacook Street													13	12	92%	13	12	92%	0	0		13	12	92%	13	12	92%	15	13	87%	28	25	89%
NO. ELM	8	Blodget Street													88	69	78%	88	69	78%	0	0		88	69	78%	88	69	78%	40	27	68%	128	96	75%
NO. ELM	9	Blodget Street													39	28	72%	39	28	72%	0	0		39	28	72%	39	28	72%	26	19	73%	65	47	72%
NO. ELM	10	Brook Street													33	25	76%	33	25	76%	0	0		33	25	76%	33	25	76%	19	15	79%	52	40	77%
NO. ELM	11	Brook Street													83	60	72%	83	60	72%	0	0		83	60	72%	83	60	72%	27	21	78%	110	81	74%
NO. ELM	12	Brook Street													36	22	61%	36	22	61%	0	0		36	22	61%	36	22	61%	18	9	50%	54	31	57%
NO. ELM	13	Harrison Street													180	101	56%	180	101	56%	0	0		180	101	56%	180	101	56%	12	9	75%	192	110	57%
NO. ELM	14	Harrison Street													26	14	54%	26	14	54%	0	0		26	14	54%	26	14	54%	15	8	53%	41	22	54%
NO. ELM	15	Prospect Street													103	70	68%	103	70	68%	0	0		103	70	68%	103	70	68%	31	18	58%	134	88	66%
NO. ELM	16	Prospect Street													36	26	72%	36	26	72%	0	0		36	26	72%	36	26	72%	23	10	43%	59	36	61%
NO. ELM	17	Myrtle Street													112	85	76%	112	85	76%	0	0		112	85	76%	112	85	76%	44	19	43%	156	104	67%
NO. ELM	18	Myrtle Street													33	22	67%	33	22	67%	0	0		33	22	67%	33	22	67%	15	7	47%	48	29	60%
NO. ELM	19	Myrtle Street				330	96	29%	330	96	29%				150	95	63%	150	95	63%	0	0		480	191	40%	480	191	40%	69	40	58%	549	231	42%
NO. ELM	20	Orange Street							0	0					72	50	69%	72	50	69%	0	0		72	50	69%	72	50	69%	34	19	56%	106	69	65%
NO. ELM	21	Orange Street							0	0					13	6	46%	13	6	46%	0	0		13	6	46%	13	6	46%	23	12	52%	36	18	50%
SUBTOTAL			0	0		330	96	29%	330	96	29%	0	0		1,487	1,005	68%	1,487	1,005	68%	0	0		1,817	1,101	61%	1,817	1,101	61%	533	337	63%	2,350	1,438	61%
NO. CANAL	1	Salmon Street[1]							0	0		12	12	100%	112	48	43%	124	60	48%	12	12	100%	112	48	43%	124	60	48%	33	29	88%	157	89	57%
NO. CANAL	2	Pennacook Street							0	0					252	193	77%	252	193	77%	0	0		252	193	77%	252	193	77%	0	0		252	193	77%
NO. CANAL	3	W. Brook Street							0	0					124	94	76%	124	94	76%	0	0		124	94	76%	124	94	76%	55	48	87%	179	142	79%
NO. CANAL	4	Langdon Street							0	0					479	364	76%	479	364	76%	0	0		479	364	76%	479	364	76%	16	12	75%	495	376	76%
NO. CANAL	5	Dow Street							0	0					482	372	77%	482	372	77%	0	0		482	372	77%	482	372	77%	38	32	84%	520	404	78%
NO. CANAL	6	Hollis Street							0	0					47	22	47%	47	22	47%	0	0		47	22	47%	47	22	47%	23	22	96%	70	44	63%
NO. CANAL	7	Kilder Street							0	0					120	80	67%	120	80	67%	0	0		120	80	67%	120	80	67%	6	6	100%	126	86	68%
SUBTOTAL		[1]does not include 240 spaces in Armory Lot	0	0		0	0		0	0		12	12	100%	1,616	1,173	73%	1,628	1,185	73%	12	12	100%	1,616	1,173	73%	1,628	1,185	73%	171	149	87%	1,799	1,334	74%
MILLYARD NO.	1	Salmon Street							0	0					248	167	67%	248	167	67%	0	0		248	167	67%	248	167	67%	9	7	78%	257	174	68%
MILLYARD NO.	2	W. Brook Street							0	0					289	82	28%	289	82	28%	0	0		289	82	28%	289	82	28%	23	21	91%	312	103	33%
MILLYARD NO.	3	N. Commercial Street				145	121	83%	145	121	83%				135	102	76%	135	102	76%	0	0		280	223	80%	280	223	80%	35	34	97%	315	257	82%
MILLYARD NO.	4	Dow Street							0	0					31	29	94%	31	29	94%	0	0		31	29	94%	31	29	94%	251	198	79%	282	227	80%
MILLYARD NO.	5	Dow Street							0	0					130	108	83%	130	108	83%	0	0		130	108	83%	130	108	83%	18	17	94%	148	125	84%
MILLYARD NO.	6	Hollis Street							0	0					93	71	76%	93	71	76%	0	0		93	71	76%	93	71	76%	3	3	100%	96	74	77%
SUBTOTAL			0	0		145	121	83%	145	121	83%	0	0		926	559	60%	926	559	60%	0	0		1,071	680	63%	1,071	680	63%	339	280	83%	1,410	960	68%
CBD EAST	1	Fleet Garage	66	44	67%				66	44	67%				31	24	77%	31	24	77%	66	44	67%	31	24	77%	97	68	70%	6	6	100%	103	74	72%
CBD EAST	2	Bridge Street							0	0					84	67	80%	84	67	80%	0	0		84	67	80%	84	67	80%	27	21	78%	111	88	79%
CBD EAST	3	Bridge Street							0	0					57	53	93%	57	53	93%	0	0		57	53	93%	57	53	93%	7	6	86%	64	59	92%
CBD EAST	4	Stark Street							0	0					44	20	45%	44	20	45%	0	0		44	20	45%	44	20	45%	27	22	81%	71	42	59%
CBD EAST	5	Lowell Street							0	0					120	97	81%	120	97	81%	0	0		120	97	81%	120	97	81%	42	42	100%	162	139	86%
CBD EAST	6	Lowell Street				206	161	78%	206	161	78%				0	0		0	0		0	0		206	161	78%	206	161	78%	34	21	62%	240	182	76%
CBD EAST	7	Concord Street							0	0					0	0		0	0		0	0		0	0		0	0		25	20	80%	25	20	80%
CBD EAST	8	Victory Garage	846	626	74%				846	626	74%				0	0		0	0		846	626	74%	0	0		846	626	74%	14	11	79%	860	637	74%
CBD EAST	9	Concord Street							0	0					0	0		0	0		0	0		0	0		0	0		32	25	78%	32	25	78%
CBD EAST	10	Amherst Street[2]							0	0		0	0		44	27	61%	44	27	61%	0	0		44	27	61%	44	27	61%	45	43	96%	89	70	79%
CBD EAST	11	Amherst Street							0	0					46	36	78%	46	36	78%	0	0		46	36	78%	46	36	78%	20	15	75%	66	51	77%
CBD EAST	12	Hanover Street							0	0		265	220	83%	0	0		265	220	83%	265	220	83%	0	0		265	220	83%	38	33	87%	303	253	83%
CBD EAST	13	Hanover Street							0	0					54	40	74%	54	40	74%	0	0		54	40	74%	54	40	74%	12	10	83%	66	50	76%
CBD EAST	14	Manchester Street							0	0					87	56	64%	87	56	64%	0	0		87	56	64%	87	56	64%	45	34	76%	132	90	68%
CBD EAST	15	Manchester Street							0	0					0	0		0	0		0	0		0	0		0	0		35	29	83%	35	29	83%
CBD EAST	16	Merrimack Street							0	0					31	27	87%	31	27	87%	0	0		31	27	87%	31	27	87%	80	68	85%	111	95	86%
CBD EAST	17	Merrimack Street				159	136	86%	159	136	86%				0	0		0	0		0	0		159	136	86%	159	136	86%	35	26	74%	194	162	84%
CBD EAST	18	Central Street							0	0					100	75	75%	100	75	75%	0	0		100	75	75%	100	75	75%	41	35	85%	141	110	78%
CBD EAST	19	Central Street							0	0					51	42	82%	51	42	82%	0	0		51	42	82%	51	42	82%	37	24	65%	88	66	75%
SUBTOTAL		[2]does not include 3 spaces in police lot	912	670	73%	365	297	81%	1,277	967	76%	265	220	83%	749	564	75%	1,014	784	77%	1,177	890	76%	1,114	861	77%	2,291	1,751	76%	602	491	82%	2,893	2,242	77%
CBD WEST	1	Bridge Street							0	0					206	117	57%	206	117	57%	0	0		206	117	57%	206	117	57%	13	10	77%	219	127	58%
CBD WEST	2	Wall Street Garage	400	145	36%				400	145	36%	582	363	62%	20	15	75%	602	378	63%	982	508	52%	20	15	75%	1,002	523	52%	18	21	117%	1,020	544	53%
CBD WEST	3	Bridge Street							0	0					79	21	27%	79	21	27%	0	0		79	21	27%	79	21	27%	65	34	52%	144	55	38%
CBD WEST	4	Spring Street							0	0					135	84	62%	135	84	62%	0	0		135	84	62%	135	84	62%	50	27	54%	185	111	60%
CBD WEST	5	Mechanic Street							0	0					128	85	66%	128	85	66%	0	0		128	85	66%	128	85	66%	45	27	60%	173	112	65%
CBD WEST	6	Middle Street							0	0					261	121	46%	261	121	46%	0	0		261	121	46%	261	121	46%	54	23	43%	315	144	46%
CBD WEST	7	W. Merrimack Street							0	0					116	46	40%	116	46	40%	0	0		116	46	40%	116	46	40%	41	14	34%	157	60	38%
CBD WEST	8	Market Street				68	56	82%	68	56	82%				21	12	57%	21	12	57%	0	0		89	68	76%	89	68	76%	36	24	67%	125	92	74%
CBD WEST	9	W. Merrimack Street							0	0					0	0		0	0		0	0		0	0		0	0		24	21	88%	24	21	88%
CBD WEST	10	Center of NH	1,004	716	71%				1,004	716	71%				69	52	75%	69	52	75%	1,004	716	71%	69	52	75%	1,073	768	72%	14	9	64%	1,087	777	71%
SUBTOTAL			1,404	861	61%	68	56	82%	1,472	917	62%	582	363	62%	1,035	553	53%	1,617	916	57%	1,986	1,224	62%	1,103	609	55%	3,089	1,833	59%	360	210	58%	3,449	2,043	59%
MILLYARD SO.	1	At Bridge Street				50	29	58%	50	29	58%				0	0		0	0		0	0		50	29	58%	50	29	58%	0	0		50	29	58%
MILLYARD SO.	2	S. of Bridge Street				353	147	42%	353	147	42%				123	77	63%	123	77	63%	0	0		476	224	47%	476	224	47%	104	91	88%	580	315	54%
MILLYARD SO.	3	Bridge Street				108	54	50%	108	54	50%				0	0		0	0		0	0		108	54	50%	108	54	50%	39	9	23%	147	63	43%
MILLYARD SO.	4	Spring Street							0	0					87	79	91%	87	79	91%	0	0		87	79	91%	87	79	91%	38	20	53%	125	99	79%
MILLYARD SO.	5	Stark Street							0	0					156	75	48%	156	75	48%	0	0		156	75	48%	156	75	48%	19	18	95%	175	93	53%
MILLYARD SO.	6	Stark Street							0	0					160	102	64%	160	102	64%	0	0		160	102	64%	160	102	64%	55	49	89%	215	151	70%
MILLYARD SO.	7	Stark Street							0	0					139	152	109%	139	152	109%	0	0		139	152	109%	139	152	109%	12	11	92%	151	163	108%
MILLYARD SO.	8	Middle Street							0	0					166	164	99%	166	164	99%	0	0		166	164	99%	166	164	99%	94	77	82%	260	241	93%
MILLYARD SO.	9	Pleasant Street				142	119	84%	142	119	84%				83	72	87%	83	72	87%	0	0		225	191	85%	225	191	85%	13	12	92%	238	203	85%
MILLYARD SO.	10	w/in Cote Street							0	0					150	80	53%	150	80	53%	0	0		150	80	53%	150	80	53%	0	0		150	80	53%
MILLYARD SO.	11	S. of Cote Street				66	34	52%	66	34	52%				53	43	81%	53	43	81%	0	0		119	77	65%	119	77	65%	12	4	33%	131	81	62%
MILLYARD SO.	12	w/in S. State Street							0	0					98	32	33%	98	32	33%	0	0		98	32	33%	98	32	33%	54	29	54%	152	61	40%
SUBTOTAL			0	0		719	383	53%	719	383	53%	0	0		1,215	876	72%	1,215	876	72%	0	0		1,934	1,259	65%	1,934	1,259	65%	440	320	73%	2,374	1,579	67%
ARENA	1	Granite Street							0	0					56	5	9%	56	5	9%	0	0		56	5	9%	56	5	9%	14	7	50%	70	12	17%
ARENA	2	Old Granite Road							0	0					46	22	48%	46	22	48%	0	0		46	22	48%	46	22	48%	82	41	50%	128	63	49%
ARENA	3	W. Auburn Street							0	0					423	174	41%	423	174	41%	0	0		423	174	41%	423	174	41%	46	4	9%	469	178	38%
ARENA	4	Lake Avenue[3]							0	0					43	10	23%	43	10	23%	0	0		43	10	23%	43	10	23%	47	8	17%	90	18	20%
ARENA	5	Lake Avenue							0	0					0	0		0	0		0	0		0	0		0	0		13	7	54%	13	7	54%
ARENA	6	Spruce Street							0	0					34	23	68%	34	23	68%	0	0		34	23	68%	34	23	68%	24	17	71%	58	40	69%
ARENA	7	Cedar Street							0	0					43	19	44%	43	19	44%	0	0		43	19	44%	43	19	44%	28	21	75%	71	40	56%
ARENA	8	Auburn Street							0	0					0	0		0	0		0	0		0	0		0	0		117	21	18%	117	21	18%
ARENA	9	Auburn Street							0	0					17	10	59%	17	10	59%	0	0		17	10	59%	17	10	59%	8	5	63%	25	15	60%
ARENA	10	Summer Street							0	0					0	0		0	0		0	0		0	0		0	0		12	3	25%	12	3	25%
ARENA	11	Green Street							0	0					0	0		0	0		0	0		0	0		0	0		46	18	39%	46	18	39%
ARENA	12	Grove Street							0	0					41	22	54%	41	22	54%	0	0		41	22	54%	41	22	54%	9	0		50	22	44%
SUBTOTAL		[3]does not include 177 spaces in so. Commercial lot	0	0		0	0		0	0		0	0		703	285	41%	703	285	41%	0	0		703	285	41%	703	285	41%	446	152	34%	1,149	437	38%
BALLPK	1	Granite Street							0	0					334	217	65%	334	217	65%	0	0		334	217	65%	334	217	65%	48	12	25%	382	229	60%
SUBTOTAL			0	0		0	0		0	0		0	0		334	217	65%	334	217	65%	0	0		334	217	65%	334	217	65%	48	12	25%	382	229	60%
TOTAL			2,316	1,531	66%	1,627	953	59%	3,943	2,484	63%	859	595	69%	8,065	5,232	65%	8,924	5,827	65%	3,175	2,126	67%	9,692	6,185	64%	12,867	8,311	65%	2,939	1,951	66%	15,806	10,262	65%

Appendix Table 2

Tble 2 EmployeeGeneration

2005 SCENARIO - EXISTING CONDITIONS: Employee Generation based on Gross Square Footage

Area	Block Number	Retail		Office		Commercial		Restaurant		Industry		Other		Residential		Total				
		Square Ft.	Employees	Square Ft.	Employees	Square Ft.	Employees	Square Ft.	Employees	Square Ft.	Employees	Square Ft.	Employees	Square Ft. /Unit	No. of Units	No. of Residents	Non-Residential Square Feet	Retail Employees	Non-Retail Employees	Total Employees
		600		450		350		250		1200		1250		843	1.94					
NO. ELM	1			15,970	35									3,471	4	8	15,970		35	35
NO. ELM	2			26,042	58												26,042		58	58
NO. ELM	3			7,691	17									18,040	21	42	7,691		17	17
NO. ELM	4	11,212	19	14,388	32	10,118	29										35,718	19	61	80
NO. ELM	5											5,287	4	47,202	56	109	5,287		4	4
NO. ELM	6			10,080	22									31,646	38	73	10,080		22	22
NO. ELM	7													46,823	56	108				
NO. ELM	8			38,908	86									45,345	54	104	38,908		86	86
NO. ELM	9			6,903	15									31,789	38	73	6,903		15	15
NO. ELM	10	1,716	3	5,159	11			2,604	10					50,706	60	117	9,479	3	22	25
NO. ELM	11			19,784	44							3,496	3	7,454	9	17	23,280		47	47
NO. ELM	12											8,587	7	48,310	57	111	8,587		7	7
NO. ELM	13			36,180	80									19,306	23	44	36,180		80	80
NO. ELM	14			6,302	14									13,335	16	31	6,302		14	14
NO. ELM	15			47,438	105									61,491	73	141	47,438		105	105
NO. ELM	16	3,536	6									5,446	4	20,266	24	47	8,982	6	4	10
NO. ELM	17	4,668	8											92,905	110	214	4,668	8		8
NO. ELM	18			2,428	5							3,509	3	21,179	25	49	5,937		8	8
NO. ELM	19	35,586	59	145,717	324									30,505	36	70	181,303	59	324	383
NO. ELM	20											15,872	13	46,996	56	108	15,872		13	13
NO. ELM	21	1,885	3									5,482	4	40,179	48	92	7,367	3	4	8
SUBTOTAL		58,603	98	382,990	851	10,118	29	2,604	10			47,679	38	676,948	803	1,558	501,994	98	929	1,026
NO. CANAL	1			12,648	28												12,648		28	28
NO. CANAL	2	9,452	16	28,952	64												38,404	16	64	80
NO. CANAL	3			27,489	61					17,154	14			31,500	37	72	44,643		75	75
NO. CANAL	4					57,378	164							103,686	123	239	57,378		164	164
NO. CANAL	5	80,236	134	52,092	116	20,314	58	11,140	45					25,104	30	58	163,782	134	218	352
NO. CANAL	6			96,429	214									7,725	9	18	96,429		214	214
NO. CANAL	7			12,580	28												12,580		28	28
SUBTOTAL		89,688	149	230,190	512	77,692	222	11,140	45	17,154	14			168,015	199	387	425,864	149	792	942
MILLYARD NO.	1																			
MILLYARD NO.	2			266,973	593												266,973		593	593
MILLYARD NO.	3			88,168	196												88,168		196	196
MILLYARD NO.	4					423,205	1,209										423,205		1,209	1,209
MILLYARD NO.	5			204,798	455												204,798		455	455
MILLYARD NO.	6	14,434	24														14,434	24		24
SUBTOTAL		14,434	24	559,939	1,244	423,205	1,209										997,572	24	2,453	2,478
CBD EAST	1	10,791	18	14,807	33	5,000	14										30,598	18	47	65
CBD EAST	2	55,914	93	173,057	385	21,200	61							56,162	67	129	250,171	93	445	538
CBD EAST	3	616	1	7,580	17									10,488	12	24	8,196	1	17	18
CBD EAST	4			24,786	55									20,666	25	48	24,786		55	55
CBD EAST	5	51,322	86	120,749	268			25,300	101			37,064	30				234,435	86	399	485
CBD EAST	6																			
CBD EAST	7	37,721	63	83,802	186												121,523	63	186	249
CBD EAST	8																			
CBD EAST	9																			
CBD EAST	10	77,413	129	88,606	197			2,104	8			16,215	13	86,488	103	199	184,338	129	218	347
CBD EAST	11			38,340	85							27,556	22				65,896		107	107
CBD EAST	12	36,860	61	139,565	310												176,425	61	310	372
CBD EAST	13	19,251	32	14,580	32									2,700	3	6	33,831	32	32	64
CBD EAST	14	66,522	111	82,342	183									60,801	72	140	148,864	111	183	294
CBD EAST	15			26,587	59							30,088	24				56,675		83	83
CBD EAST	16					1,176	3					51,408	41				52,584		44	44
CBD EAST	17																			
CBD EAST	18																			
CBD EAST	19	64,551	108	9,767	22	7,690	22	7,044	28					71,337	85	164	89,052	108	72	179
SUBTOTAL		420,961	702	824,568	1,832	35,066	100	34,448	138			162,331	130	308,642	366	710	1,477,374	702	2,200	2,902
CBD WEST	1			130,116	289									189,994	225	437	130,116		289	289
CBD WEST	2			224,230	498												224,230		498	498
CBD WEST	3	27,425	46	59,613	132									76,561	91	176	87,038	46	132	178
CBD WEST	4	33,024	55	98,681	219									20,760	25	48	131,705	55	219	274
CBD WEST	5			77,578	172			9,417	38					3,546	4	8	86,995		210	210
CBD WEST	6			17,136	38									64,549	77	149	17,136		38	38
CBD WEST	7	2,140	4	33,669	75									69,916	83	161	35,809	4	75	78
CBD WEST	8	45,750	76	293,901	653									95,708	113	220	339,651	76	653	729
CBD WEST	9			73,536	163												73,536		163	163
CBD WEST	10			160,985	358	32,405	93					148,880	119				342,270		569	569
SUBTOTAL		108,339	181	1,169,445	2,599	32,405	93	9,417	38			148,880	119	521,034	618	1,199	1,468,486	181	2,848	3,029
MILLYARD SO.	1																			
MILLYARD SO.	2											78,132	63				78,132		63	63
MILLYARD SO.	3																			
MILLYARD SO.	4					50,000	143					90,000	72				140,000		215	215
MILLYARD SO.	5			210,734	468												210,734		468	468
MILLYARD SO.	6									152,046	127						152,046		127	127
MILLYARD SO.	7			346,829	771												346,829		771	771
MILLYARD SO.	8			164,316	365												164,316		365	365
MILLYARD SO.	9			70,365	156												70,365		156	156
MILLYARD SO.	10					148,522	424										148,522		424	424
MILLYARD SO.	11																			
MILLYARD SO.	12													59,535	71	137				
SUBTOTAL				792,244	1,761	198,522	567			152,046	127	168,132	135	59,535	71	137	1,310,944		2,589	2,589
ARENA	1	23,706	40	20,157	45	64,438	184	8,068	32								116,369	40	261	301
ARENA	2	26,000	43			15,592	45	3,360	13	132,982	111						177,934	43	169	212
ARENA	3	17,119	29							106,373	89						123,492	29	89	117
ARENA	4	16,956	28			12,134	35					2,161	2				31,251	28	36	65
ARENA	5																			
ARENA	6													75,440	89	174				
ARENA	7	15,758	26	10,579	24									21,068	25	48	26,337	26	24	50
ARENA	8											636	1				636		1	1
ARENA	9	18,758	31														18,758	31		31
ARENA	10	47,539	79			16,000	46										63,539	79	46	125
ARENA	11	21,342	36			18,114	52										39,456	36	52	87
ARENA	12	1,680	3	3,120	7												4,800	3	7	10
SUBTOTAL		188,858	315	33,856	75	126,278	361	11,428	46	239,355	199	2,797	2	96,508	114	222	602,572	315	683	998
BALLPK	1	16,560	28	460,795	1,024	100,000	286			69,363	58						646,718	28	1,368	1,395
SUBTOTAL		16,560	28	460,795	1,024	100,000	286			69,363	58						646,718	28	1,368	1,395
TOTAL		897,443	1,496	4,454,027	9,898	1,003,286	2,867	69,037	276	477,918	398	529,819	424	1,830,682	2,171	4,212	7,431,530	1,496	13,863	15,358

Appendix Table 3
2005 SCENARIO

OBSERVED PARKING DEMAND AND SUPPLY

	Off-Street						On-Street		
	City			Private			City		
AREA	Spaces	Occ	% Occ	Spaces	Occ	% Occ	Spaces	Occ	% Occ
NO. ELM	330	96	29%	1,487	1,005	68%	533	337	63%
NO. CANAL	0	0	#DIV/0!	1,628	1,185	73%	171	149	87%
MILLYARD NO.	145	121	83%	926	559	60%	339	280	83%
CBD EAST	1,277	967	76%	1,014	784	77%	602	491	82%
CBD WEST	1,472	917	62%	1,617	916	57%	360	210	58%
MILLYARD SO.	719	383	53%	1,215	876	72%	440	320	73%
ARENA	0	0	#DIV/0!	703	285	41%	446	152	34%
BALLPARK	0	0	n/a	334	217	65%	48	12	25%
GRAND TOTAL	3,943	2,484	63%	8,924	5,827	65%	2,939	1,951	66%

MODELED POPULATION

	Modeled Population									
DISTRICT AREA	Retail	Office	Commercial	Restaurant	Industry	Other	Total Non-Retail Employment	Total Retail and No-Retail Employment	Residents	Total Employment & Residents
NO. ELM	98	851	29	10	0	38	929	1,026	1,558	2,584
NO. CANAL	149	512	222	45	14	0	792	942	387	1,328
MILLYARD NO.	24	1,244	1,209	0	0	0	2,453	2,478	0	2,478
CBD EAST	702	1,832	100	138	0	130	2,200	2,902	710	3,612
CBD WEST	181	2,599	93	38	0	119	2,848	3,029	1,199	4,227
MILLYARD SO.	0	1,761	567	0	127	135	2,589	2,589	137	2,726
ARENA	315	75	361	46	199	2	683	998	222	1,220
BALLPARK	28	1,024	286	0	58	0	1,368	1,395	0	1,395
GRAND TOTAL	1,496	9,898	2,867	276	398	424	13,863	15,358	4,212	19,570

MODELED PARKING DEMAND: Ratio of Modeled to Observed

	Modelled Parking Demand					
DISTRICT AREA	Long Term	Short Term	Total	Total Observed Demand	Surplus / Deficit	Modelled to Observed
NO. ELM	1,034	151	1,185	1,438	1,165	82%
NO. CANAL	552	174	726	1,334	1,073	54%
MILLYARD NO.	1,138	66	1,204	960	206	125%
CBD EAST	1,523	756	2,279	2,242	614	102%
CBD WEST	1,872	300	2,172	2,043	1,277	106%
MILLYARD SO.	1,269	104	1,373	1,579	1,001	87%
ARENA	461	294	755	437	394	173%
BALLPARK	664	50	714	229	(332)	312%
GRAND TOTAL	8,513	1,895	10,408	10,262	5,398	101%

MODELED PARKING DEMAND: Surplus / (Deficit) in Parking Supply

	Modelled Parking Demand				
DISTRICT AREA	Long Term	Short Term	Total	Existing Parking Supply	Surplus/ Deficit
NO. ELM	1,034	151	1,185	2,350	1,165
NO. CANAL	552	174	726	1,799	1,073
MILLYARD NO.	1,138	66	1,204	1,410	206
CBD EAST	1,523	756	2,279	2,893	614
CBD WEST	1,872	300	2,172	3,449	1,277
MILLYARD SO.	1,269	104	1,373	2,374	1,001
ARENA	461	294	755	1,149	394
BALLPARK	664	50	714	382	(332)
GRAND TOTAL	8,513	1,895	10,408	15,806	5,398

Appendix D - Appendix Table 4 - 2005 Scenario Parking Model

Appendix Table 4
2005 SCENARIO - EXISTING CONDITIONS: Parking Demand Based on Number of Employees

Area	Block Number	Retail Employees	Office Employees	Commerical Employees	Restaurant Employees	Industry Employees	Other Employees	Residential Residents	Total Users	Estimated Peak Hour Parking Demand Long Term	Short Term	Total	Existing Supply	Existing Demand	Surplus (Shortage)	Ratio Estimated to Count
NO. ELM	1	0	35	0	0	0	0	8	43	21	1	22	60	30	38	0.73
NO. ELM	2	0	58	0	0	0	0	0	58	29	1	30	100	73	70	0.41
NO. ELM	3	0	17	0	0	0	0	42	59	23	1	24	124	80	100	0.30
NO. ELM	4	19	32	29	0	0	0	0	80	34	16	50	160	114	110	0.44
NO. ELM	5	0	0	0	0	0	4	109	113	40	4	44	45	35	1	1.26
NO. ELM	6	0	22	0	0	0	0	73	95	37	2	39	103	79	64	0.49
NO. ELM	7	0	0	0	0	0	0	108	108	38	2	40	28	25	(12)	1.60
NO. ELM	8	0	86	0	0	0	0	104	191	80	4	84	128	96	44	0.88
NO. ELM	9	0	15	0	0	0	0	73	88	33	2	35	65	47	30	0.74
NO. ELM	10	3	11	0	10	0	0	117	141	51	13	64	52	40	(12)	1.60
NO. ELM	11	0	44	0	0	0	3	17	64	29	2	31	110	81	79	0.38
NO. ELM	12	0	0	0	0	0	7	111	118	42	5	47	54	31	7	1.52
NO. ELM	13	0	80	0	0	0	0	44	125	56	3	59	192	110	133	0.54
NO. ELM	14	0	14	0	0	0	0	31	45	18	1	19	41	22	22	0.86
NO. ELM	15	0	105	0	0	0	0	141	247	102	6	108	134	88	26	1.23
NO. ELM	16	6	0	0	0	0	4	47	57	20	7	27	59	36	32	0.75
NO. ELM	17	8	0	0	0	0	0	214	222	77	11	88	156	104	68	0.85
NO. ELM	18	0	5	0	0	0	3	49	57	21	2	23	48	29	25	0.79
NO. ELM	19	59	324	0	0	0	0	70	453	205	55	260	549	231	289	1.13
NO. ELM	20	0	0	0	0	0	13	108	121	43	7	50	106	69	56	0.72
NO. ELM	21	3	0	0	0	0	4	92	100	35	6	41	36	18	(5)	2.28
SUBTOTAL		98	851	29	10	0	38	1,558	2,584	1034	151	1185	2350	1438	1165	82%
NO. CANAL	1	0	28	0	0	0	0	0	28	14	1	15	157	89	142	0.17
NO. CANAL	2	16	64	0	0	0	0	0	80	37	14	51	252	193	201	0.26
NO. CANAL	3	0	61	0	0	14	0	72	148	62	3	65	179	142	114	0.46
NO. CANAL	4	0	0	164	0	0	0	239	402	152	8	160	495	376	335	0.43
NO. CANAL	5	134	116	58	45	0	0	58	410	160	142	302	520	404	218	0.75
CBD EAST	6	0	214	0	0	0	0	18	232	113	5	118	70	44	(48)	2.68
CBD WEST	7	0	28	0	0	0	0	0	28	14	1	15	126	86	111	0.17
SUBTOTAL		149	512	222	45	14	0	387	1,328	552	174	726	1799	1334	1073	54%
MILLYARD NO.	1	0	0	0	0	0	0	0	0	0	0	0	257	174	257	0.00
MILLYARD NO.	2	0	593	0	0	0	0	0	593	297	13	310	312	103	2	3.01
MILLYARD NO.	3	0	196	0	0	0	0	0	196	98	4	102	315	257	213	0.40
MILLYARD NO.	4	0	0	1,209	0	0	0	0	1,209	508	20	528	282	227	(246)	2.33
MILLYARD NO.	5	0	455	0	0	0	0	0	455	228	10	238	148	125	(90)	1.90
MILLYARD NO.	6	24	0	0	0	0	0	0	24	7	19	26	96	74	70	0.35
SUBTOTAL		24	1,244	1,209	0	0	0	0	2,478	1138	66	1204	1410	960	206	125%
CBD EAST	1	18	33	14	0	0	0	0	65	28	15	43	103	74	60	0.58
CBD EAST	2	93	385	61	0	0	0	129	668	292	84	376	111	88	(265)	4.27
CBD EAST	3	1	17	0	0	0	0	24	42	17	2	19	64	59	45	0.32
CBD EAST	4	0	55	0	0	0	0	48	103	44	2	46	71	42	25	1.10
CBD EAST	5	86	268	0	101	0	30	0	485	208	161	369	162	139	(207)	2.65
CBD EAST	6	0	0	0	0	0	0	0	0	0	0	0	240	182	240	0.00
CBD EAST	7	63	186	0	0	0	0	0	249	113	53	166	25	20	(141)	8.30
CBD EAST	8	0	0	0	0	0	0	0	0	0	0	0	860	637	860	0.00
CBD EAST	9	0	0	0	0	0	0	0	0	0	0	0	32	25	32	0.00
CBD EAST	10	129	197	0	8	0	13	199	546	216	120	336	89	70	(247)	4.80
CBD EAST	11	0	85	0	0	0	22	0	107	51	10	61	66	51	5	1.20
CBD EAST	12	61	310	0	0	0	0	0	372	174	54	228	303	253	75	0.90
CBD EAST	13	32	32	0	0	0	0	6	71	28	26	54	66	50	12	1.08
CBD EAST	14	111	183	0	0	0	0	140	434	175	93	268	132	90	(136)	2.98
CBD EAST	15	0	59	0	0	0	24	0	83	39	11	50	35	29	(15)	1.72
CBD EAST	16	0	0	3	0	0	41	0	44	17	16	33	111	95	78	0.35
CBD EAST	17	0	0	0	0	0	0	0	0	0	0	0	194	162	194	0.00
CBD EAST	18	0	0	0	0	0	0	0	0	0	0	0	141	110	141	0.00
CBD EAST	19	108	22	22	28	0	0	164	344	121	109	230	88	66	(142)	3.48
SUBTOTAL		702	1,832	100	138	0	130	710	3,612	1523	756	2279	2893	2242	614	102%
CBD WEST	1	0	289	0	0	0	0	437	726	298	17	315	219	127	(96)	2.48
CBD WEST	2	0	498	0	0	0	0	0	498	249	11	260	1,020	544	760	0.48
CBD WEST	3	46	132	0	0	0	0	176	354	142	42	184	144	55	(40)	3.35
CBD WEST	4	55	219	0	0	0	0	48	322	143	48	191	185	111	(6)	1.72
CBD WEST	5	0	172	0	38	0	0	8	218	102	33	135	173	112	38	1.21
CBD WEST	6	0	38	0	0	0	0	149	187	71	4	75	315	144	240	0.52
CBD WEST	7	4	75	0	0	0	0	161	239	95	8	103	157	60	54	1.72
CBD WEST	8	76	653	0	0	0	0	220	950	427	78	505	125	92	(380)	5.49
CBD WEST	9	0	163	0	0	0	0	0	163	82	4	86	24	21	(62)	4.10
CBD WEST	10	0	358	93	0	0	119	0	569	263	55	318	1,087	777	769	0.41
SUBTOTAL		181	2,599	93	38	0	119	1,199	4,227	1872	300	2172	3449	2043	1277	106%
MILLYARD SO.	1	0	0	0	0	0	0	0	0	0	0	0	50	29	50	0.00
MILLYARD SO.	2	0	0	0	0	0	63	0	63	24	24	48	580	315	532	0.15
MILLYARD SO.	3	0	0	0	0	0	0	0	0	0	0	0	147	63	147	0.00
MILLYARD SO.	4	0	0	143	0	0	72	0	215	88	30	118	125	99	7	1.19
MILLYARD SO.	5	0	468	0	0	0	0	0	468	234	10	244	175	93	(69)	2.62
MILLYARD SO.	6	0	0	0	0	127	0	0	127	51	2	53	215	151	162	0.35
MILLYARD SO.	7	0	771	0	0	0	0	0	771	385	17	402	151	163	(251)	2.47
MILLYARD SO.	8	0	365	0	0	0	0	0	365	183	8	191	260	241	69	0.79
MILLYARD SO.	9	0	156	0	0	0	0	0	156	78	3	81	238	203	157	0.40
MILLYARD SO.	10	0	0	424	0	0	0	0	424	178	7	185	150	80	(35)	2.31
MILLYARD SO.	11	0	0	0	0	0	0	0	0	0	0	0	131	81	131	0.00
MILLYARD SO.	12	0	0	0	0	0	0	137	137	48	3	51	152	61	101	0.84
SUBTOTAL		0	1,761	567	0	127	135	137	2,726	1269	104	1373	2374	1579	1001	87%
ARENA	1	40	45	184	32	0	0	0	301	123	59	182	70	12	(112)	15.17
ARENA	2	43	0	45	13	111	0	0	212	81	46	127	128	63	1	2.02
ARENA	3	29	0	0	0	89	0	0	117	44	24	68	469	178	401	0.38
ARENA	4	28	0	35	0	0	2	0	65	24	23	47	90	18	43	2.61
ARENA	5	0	0	0	0	0	0	0	0	0	0	0	13	7	13	0.00
ARENA	6	0	0	0	0	0	0	174	174	61	4	65	58	40	(7)	1.63
ARENA	7	26	24	0	0	0	0	48	98	37	22	59	71	40	12	1.48
ARENA	8	0	0	0	0	0	1	0	1	0	0	0	117	21	117	0.00
ARENA	9	31	0	0	0	0	0	0	31	10	24	34	25	15	(9)	2.27
ARENA	10	79	0	46	0	0	0	0	125	44	62	106	12	3	(94)	35.33
ARENA	11	36	0	52	0	0	0	0	87	33	28	61	46	18	(15)	3.39
ARENA	12	3	7	0	0	0	0	0	10	4	2	6	50	22	44	0.27
SUBTOTAL		315	75	361	46	199	2	222	1,220	461	294	755	1149	437	394	173%
BALLPK	1	28	1,024	286	0	58	0	0	1,395	664	50	714	382	229	(332)	3.12
SUBTOTAL		28	1,024	286	0	58	0	0	1,395	664	50	714	382	229	(332)	312%
TOTAL		1,496	9,898	2,867	276	398	424	4,212	19,570	8,513	1,895	10,408	15,806	10,262	5,398	101%

	Retail	Office	Commercial	Restaurant	Industry	Other	Residential	Weighted Avg.
Long Term	0.310	0.500	0.420	0.351	0.400	0.383	0.350	0.518
Short term	0.771	0.022	0.016	0.771	0.017	0.383	0.023	0.116
Total	1.081	0.522	0.436	1.122	0.417	0.765	0.373	0.634

Retail Employees

29	total employees	total employees
48%	peak period employees	peak period employees
14		
85%	absentee	absentee
12		
1.2%	mode split	mode split
12		
1.3	auto-ocupancy	auto-ocupancy
9	LT spaces	LT spaces
22	ST spaces	ST spaces
31	Total spaces	Total spaces
31	LT per 100 employees	LT per 100 employees
77.11	ST per 100 employees	ST per 100 employees

Commercial Office Employees

184	45	total employees
75%	75%	peak period employees
138	34	
85%	85%	absentee
117	29	
1.2%	1.2%	mode split
116	28	
1.2	1.2	auto-ocupancy
97	24	LT spaces
3	1	ST spaces
100	25	Total spaces
52	52	LT per 100 employees
1.63	2.23	ST per 100 employees

Residential

174	total residents	total employees
35%	peak period at home	peak period at home
61		
n/a	absentee	absentee
61		
n/a	mode split	mode split
61		
n/a	auto-ocupancy	auto-ocupancy
61	LT spaces	LT spaces
4	ST spaces	ST spaces
65	Total spaces	Total spaces
35	LT per 100 employees	LT per 100 employees
2.30	ST per 100 employees	ST per 100 employees

Industry

89
75%
66
85%
57
1%
56
1.1
51
1.5
52
57
1.69

Restaurant

32		total employees
50%	50%	peak period employees
16	16	
85%	85%	absentee
14	14	
1%	1%	mode split
14	14	
1.2	1.1	auto-ocupancy
11	11	LT spaces
25	25	ST spaces
36	36	Total spaces
35	35	LT per 100 employees
77.11	77.11	ST per 100 employees

Other

2		total employees
50%	50%	peak period employees
1	1	
85%	85%	absentee
1	1	
1%	1%	mode split
1	1	
1.1	1.1	auto-ocupancy
1	1	LT spaces
1	1	ST spaces
1	1	Total spaces
38	38	LT per 100 employees
38.25	38.25	ST per 100 employees

Appendix E - Appendix Table 5 - 2005 Financial Pro Forma

Appendix Table 5
2005 Financial Proforma

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
POPULATION		MODEL INPUTS																						
Long Term Parking Demand	n/a	8,513	8,513	8,683	8,857	9,034	9,215	9,399	9,587	9,779	9,974	10,174	10,377	10,585	10,797	11,012	11,233	11,457	11,687	11,920	12,159	12,402	12,650	12,903
Short Term Parking Demand	n/a	1,895	1,895	1,933	1,972	2,011	2,051	2,092	2,134	2,177	2,220	2,265	2,310	2,356	2,403	2,451	2,500	2,550	2,601	2,653	2,707	2,761	2,816	2,872
Total	n/a	10,408	10,408	10,616	10,828	11,045	11,266	11,491	11,721	11,956	12,195	12,439	12,687	12,941	13,200	13,464	13,733	14,008	14,288	14,574	14,865	15,162	15,466	15,775
Growth in parking demand		1.5%	1.5%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Escalation due to inflation	n/a	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Required average rate increase																								
On-street meters	n/a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Off-street meters	n/a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Permit	n/a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Attended	n/a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other 1	n/a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Violations	n/a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other 2	n/a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
average on-street meter cost / hour	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50
average off-street meter cost / hour	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50
average permit cost / month	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43	$ 43
average attended cost / hour	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.50
Other	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
average violation cost	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40
Average parking duration (hours)		1.0																						
average on-street meter events / year	1,308,060	1,308,060	1,251,144	1,276,167	1,301,690	1,327,724	1,354,279	1,381,364	1,408,991	1,437,171	1,465,915	1,495,233	1,525,138	1,555,640	1,586,753	1,618,488	1,650,858	1,683,875	1,717,553	1,751,904	1,786,942	1,822,681	1,859,134	1,896,317
average off-street hourly meter events / year	160,998	160,997	143,786	146,662	149,595	152,587	155,639	158,752	161,927	165,165	168,469	171,838	175,275	178,780	182,356	186,003	189,723	193,518	197,388	201,336	205,363	209,470	213,659	217,932
average permits sold / year	44,171	44,401	45,267	46,173	47,096	48,038	48,999	49,979	50,979	51,998	53,038	54,099	55,181	56,284	57,410	58,558	59,729	60,924	62,143	63,385	64,653	65,946	67,265	68,610
average daily parkers/ year	796,700	796,699	742,732	757,586	772,738	788,193	803,957	820,036	836,437	853,165	870,229	887,633	905,386	923,494	941,963	960,803	980,019	999,619	1,019,612	1,040,004	1,060,804	1,082,020	1,103,660	1,125,733
average # of violations / year	77,944	77,944	80,000	81,600	83,232	84,897	86,595	88,326	90,093	91,895	93,733	95,607	97,520	99,470	101,459	103,489	105,558	107,669	109,823	112,019	114,260	116,545	118,876	121,253
REVENUES																								
Sales On-Street																								
Meters - Downtown	$ 654,030	$ 654,030	$ 625,572	$ 638,083	$ 650,845	$ 663,862	$ 677,139	$ 690,682	$ 704,496	$ 718,586	$ 732,957	$ 747,616	$ 762,569	$ 777,820	$ 793,377	$ 809,244	$ 825,429	$ 841,938	$ 858,776	$ 875,952	$ 893,471	$ 911,340	$ 929,567	$ 948,158
Permits - Millyard	$ 404,163	$ 404,163	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470	$ 438,470
Other Revenue 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 1,058,193	$ 1,058,193	$ 1,064,042	$ 1,076,553	$ 1,089,315	$ 1,102,332	$ 1,115,609	$ 1,129,152	$ 1,142,965	$ 1,157,055	$ 1,171,427	$ 1,186,086	$ 1,201,038	$ 1,216,290	$ 1,231,846	$ 1,247,714	$ 1,263,898	$ 1,280,407	$ 1,297,246	$ 1,314,421	$ 1,331,940	$ 1,349,810	$ 1,368,037	$ 1,386,628
Sales Off-Street																								
Meters	$ 80,499	$ 80,499	$ 71,893	$ 73,331	$ 74,798	$ 76,294	$ 77,820	$ 79,376	$ 80,963	$ 82,583	$ 84,234	$ 85,919	$ 87,637	$ 89,390	$ 91,178	$ 93,002	$ 94,862	$ 96,759	$ 98,694	$ 100,668	$ 102,681	$ 104,735	$ 106,830	$ 108,966
Permits	$ 1,899,360	$ 1,899,360	$ 1,936,443	$ 1,975,172	$ 2,014,675	$ 2,054,969	$ 2,096,068	$ 2,137,989	$ 2,180,749	$ 2,224,364	$ 2,268,851	$ 2,314,228	$ 2,360,513	$ 2,407,723	$ 2,455,878	$ 2,504,995	$ 2,555,095	$ 2,606,197	$ 2,658,321	$ 2,711,487	$ 2,765,717	$ 2,821,031	$ 2,877,452	$ 2,935,001
Attended - Daily	$ 398,350	$ 398,350	$ 371,366	$ 378,793	$ 386,369	$ 394,096	$ 401,978	$ 410,018	$ 418,218	$ 426,583	$ 435,114	$ 443,817	$ 452,693	$ 461,747	$ 470,982	$ 480,401	$ 490,009	$ 499,810	$ 509,806	$ 520,002	$ 530,402	$ 541,010	$ 551,830	$ 562,867
Attended - Hourly	$ 414,101	$ 414,101	$ 428,674	$ 437,248	$ 445,993	$ 454,912	$ 464,011	$ 473,291	$ 482,757	$ 492,412	$ 502,260	$ 512,305	$ 522,551	$ 533,002	$ 543,662	$ 554,536	$ 565,626	$ 576,939	$ 588,478	$ 600,247	$ 612,252	$ 624,497	$ 636,987	$ 649,727
Other Revenue 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 2,792,310	$ 2,792,309	$ 2,808,376	$ 2,864,544	$ 2,921,834	$ 2,980,271	$ 3,039,876	$ 3,100,674	$ 3,162,687	$ 3,225,941	$ 3,290,460	$ 3,356,269	$ 3,423,395	$ 3,491,863	$ 3,561,700	$ 3,632,934	$ 3,705,592	$ 3,779,704	$ 3,855,298	$ 3,932,404	$ 4,011,052	$ 4,091,274	$ 4,173,099	$ 4,256,561
subtotal before Fines Revenue		$ 3,850,502	$ 3,872,417	$ 3,941,096	$ 4,011,149	$ 4,082,603	$ 4,155,485	$ 4,229,826	$ 4,305,653	$ 4,382,996	$ 4,461,887	$ 4,542,355	$ 4,624,433	$ 4,708,152	$ 4,793,546	$ 4,880,647	$ 4,969,491	$ 5,060,111	$ 5,152,544	$ 5,246,826	$ 5,342,993	$ 5,441,083	$ 5,541,136	$ 5,643,189
Other Revenue																								
Leases	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Fines	$ 1,044,320	$ 1,044,320	$ 1,181,944	$ 1,093,304	$ 1,115,170	$ 1,137,473	$ 1,160,223	$ 1,183,427	$ 1,207,096	$ 1,231,238	$ 1,255,863	$ 1,280,980	$ 1,306,599	$ 1,332,731	$ 1,359,386	$ 1,386,574	$ 1,414,305	$ 1,442,591	$ 1,471,443	$ 1,500,872	$ 1,530,889	$ 1,561,507	$ 1,592,737	$ 1,624,592
Miscellaneous	$ -	$ 57,444	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796	$ 169,796
subtotal	$ 1,044,320	$ 1,101,764	$ 1,351,740	$ 1,263,100	$ 1,284,966	$ 1,307,269	$ 1,330,019	$ 1,353,223	$ 1,376,892	$ 1,401,034	$ 1,425,659	$ 1,450,776	$ 1,476,395	$ 1,502,527	$ 1,529,182	$ 1,556,370	$ 1,584,101	$ 1,612,387	$ 1,641,239	$ 1,670,668	$ 1,700,685	$ 1,731,303	$ 1,762,533	$ 1,794,388
TOTAL REVENUE	$ 4,894,823	$ 4,952,266	$ 5,224,157	$ 5,204,196	$ 5,296,115	$ 5,389,872	$ 5,485,504	$ 5,583,049	$ 5,682,545	$ 5,784,030	$ 5,887,545	$ 5,993,131	$ 6,100,828	$ 6,210,680	$ 6,322,728	$ 6,437,017	$ 6,553,592	$ 6,672,499	$ 6,793,783	$ 6,917,494	$ 7,043,678	$ 7,172,387	$ 7,303,669	$ 7,437,577
EXPENSES		ESTIMATES																						
Ticket Writer and Enforcement Costs																								
Salaries	$ 120,000	$ 120,000	$ 120,000	$ 123,600	$ 127,308	$ 131,127	$ 135,061	$ 139,113	$ 143,286	$ 147,585	$ 152,012	$ 156,573	$ 161,270	$ 166,108	$ 171,091	$ 176,224	$ 181,511	$ 186,956	$ 192,565	$ 198,342	$ 204,292	$ 210,421	$ 216,733	$ 223,235
Admin. Charges	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ 25,000	$ 25,000	$ 25,000	$ 25,750	$ 26,523	$ 27,318	$ 28,138	$ 28,982	$ 29,851	$ 30,747	$ 31,669	$ 32,619	$ 33,598	$ 34,606	$ 35,644	$ 36,713	$ 37,815	$ 38,949	$ 40,118	$ 41,321	$ 42,561	$ 43,838	$ 45,153	$ 46,507
subtotal	$ 145,000	$ 145,000	$ 145,000	$ 149,350	$ 153,831	$ 158,445	$ 163,199	$ 168,095	$ 173,138	$ 178,332	$ 183,682	$ 189,192	$ 194,868	$ 200,714	$ 206,735	$ 212,937	$ 219,326	$ 225,905	$ 232,682	$ 239,663	$ 246,853	$ 254,258	$ 261,886	$ 269,743
Administration & General																								
Salaries	$ 112,800	$ 112,800	$ 112,800	$ 116,184	$ 119,670	$ 123,260	$ 126,957	$ 130,766	$ 134,689	$ 138,730	$ 142,892	$ 147,178	$ 151,594	$ 156,142	$ 160,826	$ 165,651	$ 170,620	$ 175,739	$ 181,011	$ 186,441	$ 192,034	$ 197,795	$ 203,729	$ 209,841
Admin. Charges	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ 100,000	$ 100,000	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477	$ 134,392	$ 138,423	$ 142,576	$ 146,853	$ 151,259	$ 155,797	$ 160,471	$ 165,285	$ 170,243	$ 175,351	$ 180,611	$ 186,029
subtotal	$ 212,800	$ 212,800	$ 212,800	$ 219,184	$ 225,760	$ 232,532	$ 239,508	$ 246,694	$ 254,094	$ 261,717	$ 269,569	$ 277,656	$ 285,985	$ 294,565	$ 303,402	$ 312,504	$ 321,879	$ 331,535	$ 341,482	$ 351,726	$ 362,278	$ 373,146	$ 384,340	$ 395,871
Operations and Maintenance																								
Hourly Wages	$ 100,000	$ 100,000	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477	$ 134,392	$ 138,423	$ 142,576	$ 146,853	$ 151,259	$ 155,797	$ 160,471	$ 165,285	$ 170,243	$ 175,351	$ 180,611	$ 186,029
Fringe Benefits	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 100,000	$ 100,000	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477	$ 134,392	$ 138,423	$ 142,576	$ 146,853	$ 151,259	$ 155,797	$ 160,471	$ 165,285	$ 170,243	$ 175,351	$ 180,611	$ 186,029
Total Estimated Costs	$ 457,800	$ 457,800	$ 457,800	$ 471,534	$ 485,680	$ 500,250	$ 515,258	$ 530,716	$ 546,637	$ 563,036	$ 579,927	$ 597,325	$ 615,245	$ 633,702	$ 652,713	$ 672,295	$ 692,464	$ 713,237	$ 734,635	$ 756,674	$ 779,374	$ 802,755	$ 826,838	$ 851,643
Center of New Hampshire Garage																								
Contracts	$ 355,335	$ 373,836	$ 367,836	$ 378,871	$ 390,237	$ 401,944	$ 414,003	$ 426,423	$ 439,215	$ 452,392	$ 465,964	$ 479,943	$ 494,341	$ 509,171	$ 524,446	$ 540,180	$ 556,385	$ 573,077	$ 590,269	$ 607,977	$ 626,216	$ 645,003	$ 664,353	$ 684,283
Arena Payments	$ 394,399	$ 463,432	$ 487,842	$ 502,477	$ 517,552	$ 533,078	$ 549,070	$ 565,543	$ 582,509	$ 599,984	$ 617,984	$ 636,523	$ 655,619	$ 675,287	$ 695,546	$ 716,412	$ 737,905	$ 760,042	$ 782,843	$ 806,328	$ 830,518	$ 855,434	$ 881,097	$ 907,530
Utilities	$ 50,477	$ 53,870	$ 52,641	$ 54,220	$ 55,847	$ 57,522	$ 59,248	$ 61,025	$ 62,856	$ 64,742	$ 66,684	$ 68,685	$ 70,745	$ 72,867	$ 75,053	$ 77,305	$ 79,624	$ 82,013	$ 84,473	$ 87,008	$ 89,618	$ 92,306	$ 95,076	$ 97,928
Miscellaneous	$ 37,833	$ 57,858	$ 50,675	$ 52,195	$ 53,761	$ 55,374	$ 57,035	$ 58,746	$ 60,509	$ 62,324	$ 64,194	$ 66,119	$ 68,103	$ 70,146	$ 72,250	$ 74,418	$ 76,650	$ 78,950	$ 81,318	$ 83,758	$ 86,271	$ 88,859	$ 91,525	$ 94,270
subtotal	$ 838,044	$ 948,996	$ 958,994	$ 987,764	$ 1,017,397	$ 1,047,919	$ 1,079,356	$ 1,111,737	$ 1,145,089	$ 1,179,442	$ 1,214,825	$ 1,251,270	$ 1,288,808	$ 1,327,472	$ 1,367,296	$ 1,408,315	$ 1,450,564	$ 1,494,081	$ 1,538,904	$ 1,585,071	$ 1,632,623	$ 1,681,602	$ 1,732,050	$ 1,784,011
Victory Street Garage																								
Contracts	$ 192,200	$ 207,221	$ 228,537	$ 235,393	$ 242,455	$ 249,729	$ 257,220	$ 264,937	$ 272,885	$ 281,072	$ 289,504	$ 298,189	$ 307,135	$ 316,349	$ 325,839	$ 335,614	$ 345,683	$ 356,053	$ 366,735	$ 377,737	$ 389,069	$ 400,741	$ 412,763	$ 425,146
Utilities	$ 21,425	$ 26,174	$ 26,212	$ 26,998	$ 27,808	$ 28,643	$ 29,502	$ 30,387	$ 31,298	$ 32,237	$ 33,205	$ 34,201	$ 35,227	$ 36,284	$ 37,372	$ 38,493	$ 39,648	$ 40,837	$ 42,063	$ 43,324	$ 44,624	$ 45,963	$ 47,342	$ 48,762
Miscellaneous	$ 30,052	$ 2,740	$ 24,077	$ 24,799	$ 25,543	$ 26,310	$ 27,099	$ 27,912	$ 28,749	$ 29,612	$ 30,500	$ 31,415	$ 32,357	$ 33,328	$ 34,328	$ 35,358	$ 36,419	$ 37,511	$ 38,637	$ 39,796	$ 40,989	$ 42,219	$ 43,486	$ 44,790
subtotal	$ 243,677	$ 236,135	$ 278,826	$ 287,191	$ 295,807	$ 304,681	$ 313,821	$ 323,236	$ 332,933	$ 342,921	$ 353,208	$ 363,805	$ 374,719	$ 385,960	$ 397,539	$ 409,465	$ 421,749	$ 434,402	$ 447,434	$ 460,857	$ 474,683	$ 488,923	$ 503,591	$ 518,698
Canal Street Garage																								
Contracts	$ 187,866	$ 62,601	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Utilities	$ 22,810	$ 6,656	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ 27,476	$ 4,708	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 238,152	$ 73,965	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wall Street Garage																								
Leases	$ 504,032	$ 503,717	$ 481,659	$ 496,109	$ 510,992	$ 526,322	$ 542,111	$ 558,375	$ 575,126	$ 592,380	$ 610,151	$ 628,456	$ 647,309	$ 666,729	$ 686,731	$ 707,332	$ 728,552	$ 750,409	$ 772,921	$ 796,109	$ 819,992	$ 844,592	$ 869,930	$ 896,028
subtotal	$ 504,032	$ 503,717	$ 481,659	$ 496,109	$ 510,992	$ 526,322	$ 542,111	$ 558,375	$ 575,126	$ 592,380	$ 610,151	$ 628,456	$ 647,309	$ 666,729	$ 686,731	$ 707,332	$ 728,552	$ 750,409	$ 772,921	$ 796,109	$ 819,992	$ 844,592	$ 869,930	$ 896,028
Fleet Parking Garage																								
Leases	$ 30,717	$ 31,191	$ 40,550	$ 41,767	$ 43,019	$ 44,310	$ 45,639	$ 47,009	$ 48,419	$ 49,871	$ 51,368	$ 52,909	$ 54,496	$ 56,131	$ 57,815	$ 59,549	$ 61,336	$ 63,176	$ 65,071	$ 67,023	$ 69,034	$ 71,105	$ 73,238	$ 75,435
subtotal	$ 30,717	$ 31,191	$ 40,550	$ 41,767	$ 43,019	$ 44,310	$ 45,639	$ 47,009	$ 48,419	$ 49,871	$ 51,368	$ 52,909	$ 54,496	$ 56,131	$ 57,815	$ 59,549	$ 61,336	$ 63,176	$ 65,071	$ 67,023	$ 69,034	$ 71,105	$ 73,238	$ 75,435
All Garages																								
Contracts	$ 735,401	$ 643,658	$ 596,373	$ 614,264	$ 632,692	$ 651,673	$ 671,223	$ 691,360	$ 712,101	$ 733,464	$ 755,467	$ 778,131	$ 801,475	$ 825,520	$ 850,285	$ 875,794	$ 902,068	$ 929,130	$ 957,004	$ 985,714	$ 1,015,285	$ 1,045,744	$ 1,077,116	$ 1,109,429
Arena Payments	$ 394,399	$ 463,432	$ 487,842	$ 502,477	$ 517,552	$ 533,078	$ 549,070	$ 565,543	$ 582,509	$ 599,984	$ 617,984	$ 636,523	$ 655,619	$ 675,287	$ 695,546	$ 716,412	$ 737,905	$ 760,042	$ 782,843	$ 806,328	$ 830,518	$ 855,434	$ 881,097	$ 907,530
Utilities	$ 94,712	$ 86,700	$ 78,853	$ 81,219	$ 83,655	$ 86,165	$ 88,750	$ 91,412	$ 94,155	$ 96,979	$ 99,889	$ 102,885	$ 105,972	$ 109,151	$ 112,426	$ 115,798	$ 119,272	$ 122,850	$ 126,536	$ 130,332	$ 134,242	$ 138,269	$ 142,417	$ 146,690
Miscellaneous	$ 95,361	$ 65,306	$ 74,752	$ 76,995	$ 79,304	$ 81,684	$ 84,134	$ 86,658	$ 89,258	$ 91,936	$ 94,694	$ 97,534	$ 100,460	$ 103,474	$ 106,578	$ 109,776	$ 113,069	$ 116,461	$ 119,955	$ 123,554	$ 127,260	$ 131,078	$ 135,010	$ 139,061
Leases	$ 534,749	$ 534,908	$ 522,209	$ 537,875	$ 554,012	$ 570,632	$ 587,751	$ 605,383	$ 623,545	$ 642,251	$ 661,519	$ 681,364	$ 701,805	$ 722,859	$ 744,545	$ 766,882	$ 789,888	$ 813,585	$ 837,992	$ 863,132	$ 889,026	$ 915,697	$ 943,168	$ 971,463
subtotal	$ 1,854,622	$ 1,794,004	$ 1,760,029	$ 1,812,830	$ 1,867,215	$ 1,923,231	$ 1,980,928	$ 2,040,356	$ 2,101,567	$ 2,164,614	$ 2,229,552	$ 2,296,439	$ 2,365,332	$ 2,436,292	$ 2,509,381	$ 2,584,662	$ 2,662,202	$ 2,742,068	$ 2,824,330	$ 2,909,060	$ 2,996,332	$ 3,086,222	$ 3,178,808	$ 3,274,172
Debt Service																								
Center of New Hampshire Garage	$ 73,719	$ 65,119	$ 26,761	$ 6,266	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Victory Garage	$ -	$ 71,402	$ 67,189	$ 59,209	$ 42,192	$ 54,874	$ 52,695	$ 55,603	$ 39,315	$ 19,683	$ 18,970	$ 18,214	$ 17,457	$ 16,772	$ 16,011	$ 15,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Parking Improvement Fund	$ -	$ 71,402	$ 67,189	$ 59,209	$ 42,192	$ 54,874	$ 52,695	$ 55,603	$ 39,315	$ 19,683	$ 18,970	$ 18,214	$ 17,457	$ 16,772	$ 16,011	$ 15,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 73,719	$ 207,923	$ 161,140	$ 124,685	$ 84,383	$ 109,747	$ 105,390	$ 111,206	$ 78,630	$ 39,366	$ 37,940	$ 36,428	$ 34,914	$ 33,543	$ 32,022	$ 30,501	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other																								
Miscellaneous 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL EXPENSES	$ 2,386,141	$ 2,459,727	$ 2,378,969	$ 2,409,049	$ 2,437,278	$ 2,533,229	$ 2,601,576	$ 2,682,278	$ 2,726,834	$ 2,767,016	$ 2,847,420	$ 2,930,192	$ 3,015,491	$ 3,103,537	$ 3,194,116	$ 3,287,457	$ 3,354,665	$ 3,455,305	$ 3,558,964	$ 3,665,733	$ 3,775,705	$ 3,888,977	$ 4,005,646	$ 4,125,815
SURPLUS / (SHORTAGE)	$ 2,508,682	$ 2,492,539	$ 2,845,189	$ 2,795,148	$ 2,858,837	$ 2,856,643	$ 2,883,929	$ 2,900,771	$ 2,955,711	$ 3,017,014	$ 3,040,126	$ 3,062,939	$ 3,085,338	$ 3,107,142	$ 3,128,612	$ 3,149,560	$ 3,198,927	$ 3,217,193	$ 3,234,819	$ 3,251,760	$ 3,267,973	$ 3,283,410	$ 3,298,023	$ 3,311,762

Appendix F - Appendix Table 6: Scenario 1 – Construct Bedford Garage

Appendix Table 6
Scenario 1 - Construct Bedford Garage

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
POPULATION		MODEL INPUTS																						
Long Term Parking Demand	n/a	8,513	8,513	8,683	8,857	9,034	9,215	9,399	9,587	9,779	9,974	10,174	10,377	10,585	10,797	11,012	11,233	11,457	11,687	11,920	12,159	12,402	12,650	12,903
Short Term Parking Demand	n/a	1,895	1,895	1,933	1,972	2,011	2,051	2,092	2,134	2,177	2,220	2,265	2,310	2,356	2,403	2,451	2,500	2,550	2,601	2,653	2,707	2,761	2,816	2,872
Total	n/a	10,408	10,408	10,616	10,828	11,045	11,266	11,491	11,721	11,956	12,195	12,439	12,687	12,941	13,200	13,464	13,733	14,008	14,288	14,574	14,865	15,162	15,466	15,775
Growth in parking demand		1.5%	1.5%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Escalation due to inflation	n/a	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Required average rate increase																								
On-street meters	n/a	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	33.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%
Off-street meters	n/a	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	33.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%
Permit	n/a	0.0%	0.0%	0.0%	46.0%	0.0%	0.0%	0.0%	35.5%	0.0%	0.0%	0.0%	42.0%	0.0%	0.0%	0.0%	29.0%	0.0%	0.0%	0.0%	22.5%	0.0%	0.0%	0.0%
Attended	n/a	0.0%	0.0%	0.0%	140.0%	0.0%	0.0%	0.0%	37.5%	0.0%	0.0%	0.0%	21.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	14.0%	0.0%	0.0%	0.0%
Other 1	n/a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Violations	n/a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	25.1%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%
Other 2	n/a	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
average on-street meter cost / hour	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.75	$ 0.75	$ 0.75	$ 0.75	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.50	$ 1.50	$ 1.50	$ 1.50	$ 1.80	$ 1.80	$ 1.80	$ 1.80
average off-street meter cost / hour	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.75	$ 0.75	$ 0.75	$ 0.75	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.50	$ 1.50	$ 1.50	$ 1.50	$ 1.80	$ 1.80	$ 1.80	$ 1.80
average permit cost / month	$ 43	$ 43	$ 43	$ 43	$ 62	$ 62	$ 62	$ 62	$ 85	$ 85	$ 85	$ 85	$ 120	$ 120	$ 120	$ 120	$ 155	$ 155	$ 155	$ 155	$ 190	$ 190	$ 190	$ 190
average attended cost / hour	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 1.20	$ 1.20	$ 1.20	$ 1.20	$ 1.65	$ 1.65	$ 1.65	$ 1.65	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.85	$ 2.85	$ 2.85	$ 2.85
Other	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
average violation cost	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 16.08	$ 16.08	$ 16.08	$ 16.08	$ 21.43	$ 21.43	$ 21.43	$ 21.43	$ 26.80	$ 26.80	$ 26.80	$ 26.80	$ 32.16	$ 32.16	$ 32.16	$ 32.16
Overtime Parking				$ 10.00	$ 10.00	$ 10.00	$ 10.00	$ 10.00	$ 12.00	$ 12.00	$ 12.00	$ 12.00	$ 16.00	$ 16.00	$ 16.00	$ 16.00	$ 20.00	$ 20.00	$ 20.00	$ 20.00	$ 24.00	$ 24.00	$ 24.00	$ 24.00
Average parking duration (hours)		1.0																						
average on-street meter events / year	1,308,060	1,308,060	1,251,144	1,276,167	1,301,690	1,327,724	1,354,279	1,381,364	1,408,991	1,437,171	1,465,915	1,495,233	1,525,138	1,555,640	1,586,753	1,618,488	1,650,858	1,683,875	1,717,553	1,751,904	1,786,942	1,822,681	1,859,134	1,896,317
verage off-street hourly meter events / year	160,998	160,997	143,786	146,662	149,595	152,587	155,639	158,752	161,927	165,165	168,469	171,838	175,275	178,780	182,356	186,003	189,723	193,518	197,388	201,336	205,363	209,470	213,659	217,932
average permits sold / year	44,171	44,401	45,267	46,173	47,096	48,038	48,999	49,979	50,979	51,998	53,038	54,099	55,181	56,284	57,410	58,558	59,729	60,924	62,143	63,385	64,653	65,946	67,265	68,610
average daily parkers/ year	796,700	796,699	742,732	757,586	772,738	788,193	803,957	820,036	836,437	853,165	870,229	887,633	905,386	923,494	941,963	960,803	980,019	999,619	1,019,612	1,040,004	1,060,804	1,082,020	1,103,660	1,125,733
average # of violations / year	77,944	77,944	88,216	89,980	105,547	107,658	109,811	112,007	114,247	116,532	118,863	121,240	123,665	126,138	128,661	131,234	133,859	136,536	139,267	142,052	144,893	147,791	150,747	153,761
REVENUES																								
Sales On-Street																								
Meters - Downtown	$ 654,030	$ 654,030	$ 625,572	$ 638,083	$ 976,268	$ 995,793	$ 1,015,709	$ 1,036,023	$ 1,405,469	$ 1,433,578	$ 1,462,250	$ 1,491,495	$ 1,901,656	$ 1,939,689	$ 1,978,483	$ 2,018,052	$ 2,470,096	$ 2,519,498	$ 2,569,888	$ 2,621,286	$ 3,208,454	$ 3,272,623	$ 3,338,075	$ 3,404,837
Permits - Millyard	$ 404,163	$ 404,163	$ 438,470	$ 438,470	$ 438,470	$ 640,165	$ 640,165	$ 640,165	$ 640,165	$ 867,424	$ 867,424	$ 867,424	$ 867,424	$ 1,231,742	$ 1,231,742	$ 1,231,742	$ 1,231,742	$ 1,588,948	$ 1,588,948	$ 1,588,948	$ 1,588,948	$ 1,946,461	$ 1,946,461	$ 1,946,461
Other Revenue 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 1,058,193	$ 1,058,193	$ 1,064,042	$ 1,076,553	$ 1,414,737	$ 1,635,958	$ 1,655,874	$ 1,676,189	$ 2,045,634	$ 2,301,002	$ 2,329,674	$ 2,358,919	$ 2,769,080	$ 3,171,431	$ 3,210,225	$ 3,249,795	$ 3,701,839	$ 4,108,446	$ 4,158,836	$ 4,210,234	$ 4,797,402	$ 5,219,084	$ 5,284,536	$ 5,351,298
Sales Off-Street																								
Meters	$ 80,499	$ 80,499	$ 71,893	$ 73,331	$ 112,197	$ 114,441	$ 116,729	$ 119,064	$ 161,522	$ 164,753	$ 168,048	$ 171,409	$ 218,546	$ 222,917	$ 227,375	$ 231,923	$ 283,873	$ 289,551	$ 295,342	$ 301,249	$ 368,728	$ 376,103	$ 383,625	$ 391,297
Permits	$ 1,899,360	$ 1,899,360	$ 1,936,443	$ 1,975,172	$ 2,941,426	$ 3,000,254	$ 3,060,259	$ 3,121,464	$ 4,314,176	$ 4,400,459	$ 4,488,469	$ 4,578,238	$ 6,631,120	$ 6,763,742	$ 6,899,017	$ 7,036,997	$ 9,259,281	$ 9,444,467	$ 9,633,356	$ 9,826,023	$ 12,277,616	$ 12,523,168	$ 12,773,632	$ 13,029,104
Attended - Daily	$ 398,350	$ 398,350	$ 371,366	$ 378,793	$ 927,286	$ 945,831	$ 964,748	$ 984,043	$ 1,380,120	$ 1,407,723	$ 1,435,877	$ 1,464,595	$ 1,807,603	$ 1,843,755	$ 1,880,630	$ 1,918,243	$ 2,445,759	$ 2,494,674	$ 2,544,568	$ 2,595,459	$ 3,018,000	$ 3,078,360	$ 3,139,927	$ 3,202,726
Attended - Hourly	$ 414,101	$ 414,101	$ 428,674	$ 437,248	$ 445,993	$ 454,912	$ 464,011	$ 473,291	$ 482,757	$ 492,412	$ 502,260	$ 512,305	$ 522,551	$ 533,002	$ 543,662	$ 554,536	$ 565,626	$ 576,939	$ 588,478	$ 600,247	$ 612,252	$ 624,497	$ 636,987	$ 649,727
Other Revenue 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 2,792,310	$ 2,792,309	$ 2,808,376	$ 2,864,544	$ 4,426,900	$ 4,515,438	$ 4,605,747	$ 4,697,862	$ 6,338,575	$ 6,465,346	$ 6,594,653	$ 6,726,546	$ 9,179,820	$ 9,363,416	$ 9,550,685	$ 9,741,698	$ 12,554,540	$ 12,805,631	$ 13,061,744	$ 13,322,979	$ 16,276,597	$ 16,602,129	$ 16,934,171	$ 17,272,855
subtotal before Fines Revenue		$ 3,850,502	$ 3,872,417	$ 3,941,096	$ 5,841,638	$ 6,151,397	$ 6,261,622	$ 6,374,051	$ 8,384,209	$ 8,766,349	$ 8,924,327	$ 9,085,466	$ 11,948,900	$ 12,534,848	$ 12,760,910	$ 12,991,493	$ 16,256,379	$ 16,914,077	$ 17,220,579	$ 17,533,212	$ 21,073,998	$ 21,821,213	$ 22,218,708	$ 22,624,152
Other Revenue																								
Leases	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Fines	$ 1,044,320	$ 1,044,320	$ 1,181,944	$ 1,205,583	$ 1,414,149	$ 1,442,432	$ 1,471,280	$ 1,500,706	$ 1,836,864	$ 1,873,601	$ 1,911,073	$ 1,949,295	$ 2,650,378	$ 2,703,386	$ 2,757,453	$ 2,812,603	$ 3,587,503	$ 3,659,253	$ 3,732,438	$ 3,807,087	$ 4,659,874	$ 4,753,071	$ 4,848,133	$ 4,945,096
Miscellaneous	$ -	$ 57,444	$ 169,796	$ 180,000	$ 189,000	$ 198,450	$ 208,373	$ 218,791	$ 229,731	$ 241,217	$ 253,278	$ 265,942	$ 279,239	$ 293,201	$ 307,861	$ 323,254	$ 339,417	$ 356,388	$ 374,207	$ 392,917	$ 412,563	$ 433,191	$ 454,851	$ 477,594
subtotal	$ 1,044,320	$ 1,101,764	$ 1,351,740	$ 1,385,583	$ 1,603,149	$ 1,640,882	$ 1,679,653	$ 1,719,497	$ 2,066,595	$ 2,114,819	$ 2,164,351	$ 2,215,237	$ 2,929,617	$ 2,996,587	$ 3,065,315	$ 3,135,857	$ 3,926,920	$ 4,015,640	$ 4,106,645	$ 4,200,004	$ 5,072,437	$ 5,186,263	$ 5,302,984	$ 5,422,688
TOTAL REVENUE	$ 4,894,823	$ 4,952,266	$ 5,224,157	$ 5,326,679	$ 7,444,786	$ 8,233,879	$ 8,382,874	$ 8,535,148	$ 11,043,892	$ 11,474,256	$ 11,681,767	$ 11,893,790	$ 15,672,950	$ 16,325,867	$ 16,620,657	$ 16,921,783	$ 21,176,516	$ 21,922,935	$ 22,320,442	$ 22,726,433	$ 27,352,593	$ 28,213,633	$ 28,727,849	$ 29,252,999
EXPENSES		ESTIMATES																						
Ticket Writer and Enforcement Costs																								
Salaries	$ 120,000	$ 120,000	$ 120,000	$ 123,600	$ 127,308	$ 131,127	$ 135,061	$ 139,113	$ 143,286	$ 147,585	$ 152,012	$ 156,573	$ 161,270	$ 166,108	$ 171,091	$ 176,224	$ 181,511	$ 186,956	$ 192,565	$ 198,342	$ 204,292	$ 210,421	$ 216,733	$ 223,235
Admin. Charges	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ 25,000	$ 25,000	$ 25,000	$ 25,750	$ 26,523	$ 27,318	$ 28,138	$ 28,982	$ 29,851	$ 30,747	$ 31,669	$ 32,619	$ 33,598	$ 34,606	$ 35,644	$ 36,713	$ 37,815	$ 38,949	$ 40,118	$ 41,321	$ 42,561	$ 43,838	$ 45,153	$ 46,507
subtotal	$ 145,000	$ 145,000	$ 145,000	$ 149,350	$ 153,831	$ 158,445	$ 163,199	$ 168,095	$ 173,138	$ 178,332	$ 183,682	$ 189,192	$ 194,868	$ 200,714	$ 206,735	$ 212,937	$ 219,326	$ 225,905	$ 232,682	$ 239,663	$ 246,853	$ 254,258	$ 261,886	$ 269,743
Administration & General																								
Salaries	$ 112,800	$ 112,800	$ 112,800	$ 116,184	$ 119,670	$ 123,260	$ 126,957	$ 130,766	$ 134,689	$ 138,730	$ 142,892	$ 147,178	$ 151,594	$ 156,142	$ 160,826	$ 165,651	$ 170,620	$ 175,739	$ 181,011	$ 186,441	$ 192,034	$ 197,795	$ 203,729	$ 209,841
Admin. Charges	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ 100,000	$ 100,000	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477	$ 134,392	$ 138,423	$ 142,576	$ 146,853	$ 151,259	$ 155,797	$ 160,471	$ 165,285	$ 170,243	$ 175,351	$ 180,611	$ 186,029
subtotal	$ 212,800	$ 212,800	$ 212,800	$ 219,184	$ 225,760	$ 232,532	$ 239,508	$ 246,694	$ 254,094	$ 261,717	$ 269,569	$ 277,656	$ 285,985	$ 294,565	$ 303,402	$ 312,504	$ 321,879	$ 331,535	$ 341,482	$ 351,726	$ 362,278	$ 373,146	$ 384,340	$ 395,871
Operations and Maintenance																								
Hourly Wages	$ 100,000	$ 100,000	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477	$ 134,392	$ 138,423	$ 142,576	$ 146,853	$ 151,259	$ 155,797	$ 160,471	$ 165,285	$ 170,243	$ 175,351	$ 180,611	$ 186,029
Fringe Benefits	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 100,000	$ 100,000	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477	$ 134,392	$ 138,423	$ 142,576	$ 146,853	$ 151,259	$ 155,797	$ 160,471	$ 165,285	$ 170,243	$ 175,351	$ 180,611	$ 186,029
Total Estimated Costs	$ 457,800	$ 457,800	$ 457,800	$ 471,534	$ 485,680	$ 500,250	$ 515,258	$ 530,716	$ 546,637	$ 563,036	$ 579,927	$ 597,325	$ 615,245	$ 633,702	$ 652,713	$ 672,295	$ 692,464	$ 713,237	$ 734,635	$ 756,674	$ 779,374	$ 802,755	$ 826,838	$ 851,643
Center of New Hampshire Garage																								
Contracts	$ 355,335	$ 373,836	$ 367,836	$ 378,871	$ 390,237	$ 401,944	$ 414,003	$ 426,423	$ 439,215	$ 452,392	$ 465,964	$ 479,943	$ 494,341	$ 509,171	$ 524,446	$ 540,180	$ 556,385	$ 573,077	$ 590,269	$ 607,977	$ 626,216	$ 645,003	$ 664,353	$ 684,283
Arena Payments	$ 394,399	$ 463,432	$ 487,842	$ 502,477	$ 517,552	$ 533,078	$ 549,070	$ 565,543	$ 582,509	$ 599,984	$ 617,984	$ 636,523	$ 655,619	$ 675,287	$ 695,546	$ 716,412	$ 737,905	$ 760,042	$ 782,843	$ 806,328	$ 830,518	$ 855,434	$ 881,097	$ 907,530
Utilities	$ 50,477	$ 53,870	$ 52,641	$ 54,220	$ 55,847	$ 57,522	$ 59,248	$ 61,025	$ 62,856	$ 64,742	$ 66,684	$ 68,685	$ 70,745	$ 72,867	$ 75,053	$ 77,305	$ 79,624	$ 82,013	$ 84,473	$ 87,008	$ 89,618	$ 92,306	$ 95,076	$ 97,928
Miscellaneous	$ 37,833	$ 57,858	$ 50,675	$ 52,195	$ 53,761	$ 55,374	$ 57,035	$ 58,746	$ 60,509	$ 62,324	$ 64,194	$ 66,119	$ 68,103	$ 70,146	$ 72,250	$ 74,418	$ 76,650	$ 78,950	$ 81,318	$ 83,758	$ 86,271	$ 88,859	$ 91,525	$ 94,270
subtotal	$ 838,044	$ 948,996	$ 958,994	$ 987,764	$ 1,017,397	$ 1,047,919	$ 1,079,356	$ 1,111,737	$ 1,145,089	$ 1,179,442	$ 1,214,825	$ 1,251,270	$ 1,288,808	$ 1,327,472	$ 1,367,296	$ 1,408,315	$ 1,450,564	$ 1,494,081	$ 1,538,904	$ 1,585,071	$ 1,632,623	$ 1,681,602	$ 1,732,050	$ 1,784,011
Victory Street Garage																								
Contracts	$ 192,200	$ 207,221	$ 228,537	$ 235,393	$ 242,455	$ 249,729	$ 257,220	$ 264,937	$ 272,885	$ 281,072	$ 289,504	$ 298,189	$ 307,135	$ 316,349	$ 325,839	$ 335,614	$ 345,683	$ 356,053	$ 366,735	$ 377,737	$ 389,069	$ 400,741	$ 412,763	$ 425,146
Utilities	$ 21,425	$ 26,174	$ 26,212	$ 26,998	$ 27,808	$ 28,643	$ 29,502	$ 30,387	$ 31,298	$ 32,237	$ 33,205	$ 34,201	$ 35,227	$ 36,284	$ 37,372	$ 38,493	$ 39,648	$ 40,837	$ 42,063	$ 43,324	$ 44,624	$ 45,963	$ 47,342	$ 48,762
Miscellaneous	$ 30,052	$ 2,740	$ 24,077	$ 24,799	$ 25,543	$ 26,310	$ 27,099	$ 27,912	$ 28,749	$ 29,612	$ 30,500	$ 31,415	$ 32,357	$ 33,328	$ 34,328	$ 35,358	$ 36,419	$ 37,511	$ 38,637	$ 39,796	$ 40,989	$ 42,219	$ 43,486	$ 44,790
subtotal	$ 243,677	$ 236,135	$ 278,826	$ 287,191	$ 295,807	$ 304,681	$ 313,821	$ 323,236	$ 332,933	$ 342,921	$ 353,208	$ 363,805	$ 374,719	$ 385,960	$ 397,539	$ 409,465	$ 421,749	$ 434,402	$ 447,434	$ 460,857	$ 474,683	$ 488,923	$ 503,591	$ 518,698
Canal Street Garage																								
Contracts	$ 187,866	$ 62,601	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Utilities	$ 22,810	$ 6,656	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ 27,476	$ 4,708	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 238,152	$ 73,965	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wall Street Garage																								
Leases	$ 504,032	$ 503,717	$ 481,659	$ 496,109	$ 510,992	$ 526,322	$ 542,111	$ 558,375	$ 575,126	$ 592,380	$ 610,151	$ 628,456	$ 647,309	$ 666,729	$ 686,731	$ 707,332	$ 728,552	$ 750,409	$ 772,921	$ 796,109	$ 819,992	$ 844,592	$ 869,930	$ 896,028
subtotal	$ 504,032	$ 503,717	$ 481,659	$ 496,109	$ 510,992	$ 526,322	$ 542,111	$ 558,375	$ 575,126	$ 592,380	$ 610,151	$ 628,456	$ 647,309	$ 666,729	$ 686,731	$ 707,332	$ 728,552	$ 750,409	$ 772,921	$ 796,109	$ 819,992	$ 844,592	$ 869,930	$ 896,028
Fleet Parking Garage																								
Leases	$ 30,717	$ 31,191	$ 40,550	$ 41,767	$ 43,019	$ 44,310	$ 45,639	$ 47,009	$ 48,419	$ 49,871	$ 51,368	$ 52,909	$ 54,496	$ 56,131	$ 57,815	$ 59,549	$ 61,336	$ 63,176	$ 65,071	$ 67,023	$ 69,034	$ 71,105	$ 73,238	$ 75,435
subtotal	$ 30,717	$ 31,191	$ 40,550	$ 41,767	$ 43,019	$ 44,310	$ 45,639	$ 47,009	$ 48,419	$ 49,871	$ 51,368	$ 52,909	$ 54,496	$ 56,131	$ 57,815	$ 59,549	$ 61,336	$ 63,176	$ 65,071	$ 67,023	$ 69,034	$ 71,105	$ 73,238	$ 75,435
All Garages																								
Contracts	$ 735,401	$ 643,658	$ 596,373	$ 614,264	$ 632,692	$ 651,673	$ 671,223	$ 691,360	$ 712,101	$ 733,464	$ 755,467	$ 778,131	$ 801,475	$ 825,520	$ 850,285	$ 875,794	$ 902,068	$ 929,130	$ 957,004	$ 985,714	$ 1,015,285	$ 1,045,744	$ 1,077,116	$ 1,109,429
Arena Payments	$ 394,399	$ 463,432	$ 487,842	$ 502,477	$ 517,552	$ 533,078	$ 549,070	$ 565,543	$ 582,509	$ 599,984	$ 617,984	$ 636,523	$ 655,619	$ 675,287	$ 695,546	$ 716,412	$ 737,905	$ 760,042	$ 782,843	$ 806,328	$ 830,518	$ 855,434	$ 881,097	$ 907,530
Utilities	$ 94,712	$ 86,700	$ 78,853	$ 81,219	$ 83,655	$ 86,165	$ 88,750	$ 91,412	$ 94,155	$ 96,979	$ 99,889	$ 102,885	$ 105,972	$ 109,151	$ 112,426	$ 115,798	$ 119,272	$ 122,850	$ 126,536	$ 130,332	$ 134,242	$ 138,269	$ 142,417	$ 146,690
Miscellaneous	$ 95,361	$ 65,306	$ 74,752	$ 76,995	$ 79,304	$ 81,684	$ 84,134	$ 86,658	$ 89,258	$ 91,936	$ 94,694	$ 97,534	$ 100,460	$ 103,474	$ 106,578	$ 109,776	$ 113,069	$ 116,461	$ 119,955	$ 123,554	$ 127,260	$ 131,078	$ 135,010	$ 139,061
Leases	$ 534,749	$ 534,908	$ 522,209	$ 537,875	$ 554,012	$ 570,632	$ 587,751	$ 605,383	$ 623,545	$ 642,251	$ 661,519	$ 681,364	$ 701,805	$ 722,859	$ 744,545	$ 766,882	$ 789,888	$ 813,585	$ 837,992	$ 863,132	$ 889,026	$ 915,697	$ 943,168	$ 971,463
subtotal	$ 1,854,622	$ 1,794,004	$ 1,760,029	$ 1,812,830	$ 1,867,215	$ 1,923,231	$ 1,980,928	$ 2,040,356	$ 2,101,567	$ 2,164,614	$ 2,229,552	$ 2,296,439	$ 2,365,332	$ 2,436,292	$ 2,509,381	$ 2,584,662	$ 2,662,202	$ 2,742,068	$ 2,824,330	$ 2,909,060	$ 2,996,332	$ 3,086,222	$ 3,178,808	$ 3,274,172
Debt Service																								
Center of New Hampshire Garage	$ 73,719	$ 65,119	$ 26,761	$ 6,266	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Victory Garage	$ -	$ 71,402	$ 67,189	$ 59,209	$ 42,192	$ 54,874	$ 52,695	$ 55,603	$ 39,315	$ 19,683	$ 18,970	$ 18,214	$ 17,457	$ 16,772	$ 16,011	$ 15,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Parking Improvement Fund	$ -	$ 71,402	$ 67,189	$ 59,209	$ 42,192	$ 54,874	$ 52,695	$ 55,603	$ 39,315	$ 19,683	$ 18,970	$ 18,214	$ 17,457	$ 16,772	$ 16,011	$ 15,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 73,719	$ 207,923	$ 161,140	$ 124,685	$ 84,383	$ 109,747	$ 105,390	$ 111,206	$ 78,630	$ 39,366	$ 37,940	$ 36,428	$ 34,914	$ 33,543	$ 32,022	$ 30,501	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other																								
Miscellaneous 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL EXPENSES	$ 2,386,141	$ 2,459,727	$ 2,378,969	$ 2,409,049	$ 2,437,278	$ 2,533,229	$ 2,601,576	$ 2,682,278	$ 2,726,834	$ 2,767,016	$ 2,847,420	$ 2,930,192	$ 3,015,491	$ 3,103,537	$ 3,194,116	$ 3,287,457	$ 3,354,665	$ 3,455,305	$ 3,558,964	$ 3,665,733	$ 3,775,705	$ 3,888,977	$ 4,005,646	$ 4,125,815
SURPLUS / (SHORTAGE)	$ 2,508,682	$ 2,492,539	$

Appendix G - Appendix Table 7: Scenario 2 – Construct Second Garage

Appendix Table 7
Scenario 2 - Construct Second Garage

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
POPULATION		MODEL INPUTS																						
Long Term Parking Demand	n/a	8,513	8,513	8,683	8,857	9,034	9,215	9,399	9,587	9,779	9,974	10,174	10,377	10,585	10,797	11,012	11,233	11,457	11,687	11,920	12,159	12,402	12,650	12,903
Short Term Parking Demand	n/a	1,895	1,895	1,933	1,972	2,011	2,051	2,092	2,134	2,177	2,220	2,265	2,310	2,356	2,403	2,451	2,500	2,550	2,601	2,653	2,707	2,761	2,816	2,872
Total	n/a	10,408	10,408	10,616	10,828	11,045	11,266	11,491	11,721	11,956	12,195	12,439	12,687	12,941	13,200	13,464	13,733	14,008	14,288	14,574	14,865	15,162	15,466	15,775
Growth in parking demand		1.5%	1.5%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Escalation due to inflation	n/a	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Required average rate increase																								
On-street meters	n/a	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	33.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	20.0%
Off-street meters	n/a	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	33.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	20.0%
Permit	n/a	0.0%	0.0%	0.0%	46.0%	0.0%	0.0%	35.5%	0.0%	0.0%	0.0%	42.0%	0.0%	0.0%	0.0%	29.0%	0.0%	0.0%	0.0%	22.5%	0.0%	0.0%	0.0%	24.0%
Attended	n/a	0.0%	0.0%	0.0%	140.0%	0.0%	0.0%	37.5%	0.0%	0.0%	0.0%	21.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	14.0%	0.0%	0.0%	0.0%	16.0%
Other 1	n/a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Violations	n/a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	25.1%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	24.4%
Other 2	n/a	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%
average on-street meter cost / hour	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.75	$ 0.75	$ 0.75	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.50	$ 1.50	$ 1.50	$ 1.50	$ 1.80	$ 1.80	$ 1.80	$ 1.80	$ 2.15
average off-street meter cost / hour	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.75	$ 0.75	$ 0.75	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.50	$ 1.50	$ 1.50	$ 1.50	$ 1.80	$ 1.80	$ 1.80	$ 1.80	$ 2.15
average permit cost / month	$ 43	$ 43	$ 43	$ 43	$ 62	$ 62	$ 62	$ 85	$ 85	$ 85	$ 85	$ 120	$ 120	$ 120	$ 120	$ 155	$ 155	$ 155	$ 155	$ 190	$ 190	$ 190	$ 190	$ 235
average attended cost / hour	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 1.20	$ 1.20	$ 1.20	$ 1.65	$ 1.65	$ 1.65	$ 1.65	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.85	$ 2.85	$ 2.85	$ 2.85	$ 3.30
Other	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
average violation cost	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 16.08	$ 16.08	$ 16.08	$ 16.08	$ 21.43	$ 21.43	$ 21.43	$ 21.43	$ 26.80	$ 26.80	$ 26.80	$ 26.80	$ 32.16	$ 32.16	$ 32.16	$ 32.16	$ 40.00
Overtime Parking				$ 10.00	$ 10.00	$ 10.00	$ 10.00	$ 12.00	$ 12.00	$ 12.00	$ 12.00	$ 16.00	$ 16.00	$ 16.00	$ 16.00	$ 20.00	$ 20.00	$ 20.00	$ 20.00	$ 24.00	$ 24.00	$ 24.00	$ 24.00	$ 29.86
Average parking duration (hours)		1.0																						
average on-street meter events / year	1,308,060	1,308,060	1,251,144	1,276,167	1,301,690	1,327,724	1,354,279	1,381,364	1,408,991	1,437,171	1,465,915	1,495,233	1,525,138	1,555,640	1,586,753	1,618,488	1,650,858	1,683,875	1,717,553	1,751,904	1,786,942	1,822,681	1,859,134	1,896,317
verage off-street hourly meter events / year	160,998	160,997	143,786	146,662	149,595	152,587	155,639	158,752	161,927	165,165	168,469	171,838	175,275	178,780	182,356	186,003	189,723	193,518	197,388	201,336	205,363	209,470	213,659	217,932
average permits sold / year	44,171	44,401	45,267	46,173	47,096	48,038	48,999	49,979	50,979	51,998	53,038	54,099	55,181	56,284	57,410	58,558	59,729	60,924	62,143	63,385	64,653	65,946	67,265	68,610
average daily parkers/ year	796,700	796,699	742,732	757,586	772,738	788,193	803,957	820,036	836,437	853,165	870,229	887,633	905,386	923,494	941,963	960,803	980,019	999,619	1,019,612	1,040,004	1,060,804	1,082,020	1,103,660	1,125,733
average # of violations / year	77,944	77,944	88,216	89,980	105,547	107,658	109,811	112,007	114,247	116,532	118,863	121,240	123,665	126,138	128,661	131,234	133,859	136,536	139,267	142,052	144,893	147,791	150,747	153,761
REVENUES																								
Sales On-Street																								
Meters - Downtown	$ 654,030	$ 654,030	$ 625,572	$ 638,083	$ 976,268	$ 995,793	$ 1,015,709	$ 1,377,911	$ 1,405,469	$ 1,433,578	$ 1,462,250	$ 1,864,369	$ 1,901,656	$ 1,939,689	$ 1,978,483	$ 2,421,663	$ 2,470,096	$ 2,519,498	$ 2,569,888	$ 3,145,543	$ 3,208,454	$ 3,272,623	$ 3,338,075	$ 4,085,804
Permits - Millyard	$ 404,163	$ 404,163	$ 438,470	$ 438,470	$ 438,470	$ 640,165	$ 640,165	$ 640,165	$ 867,424	$ 867,424	$ 867,424	$ 867,424	$ 1,231,742	$ 1,231,742	$ 1,231,742	$ 1,231,742	$ 1,588,948	$ 1,588,948	$ 1,588,948	$ 1,588,948	$ 1,946,461	$ 1,946,461	$ 1,946,461	$ 1,946,461
Other Revenue 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 1,058,193	$ 1,058,193	$ 1,064,042	$ 1,076,553	$ 1,414,737	$ 1,635,958	$ 1,655,874	$ 2,018,076	$ 2,272,893	$ 2,301,002	$ 2,329,674	$ 2,731,793	$ 3,133,398	$ 3,171,431	$ 3,210,225	$ 3,653,405	$ 4,059,044	$ 4,108,446	$ 4,158,836	$ 4,734,491	$ 5,154,915	$ 5,219,084	$ 5,284,536	$ 6,032,265
Sales Off-Street																								
Meters	$ 80,499	$ 80,499	$ 71,893	$ 73,331	$ 112,197	$ 114,441	$ 116,729	$ 158,355	$ 161,522	$ 164,753	$ 168,048	$ 214,261	$ 218,546	$ 222,917	$ 227,375	$ 278,307	$ 283,873	$ 289,551	$ 295,342	$ 361,498	$ 368,728	$ 376,103	$ 383,625	$ 469,557
Permits	$ 1,899,360	$ 1,899,360	$ 1,936,443	$ 1,975,172	$ 2,941,426	$ 3,000,254	$ 3,060,259	$ 4,229,584	$ 4,314,176	$ 4,400,459	$ 4,488,469	$ 6,501,098	$ 6,631,120	$ 6,763,742	$ 6,899,017	$ 9,077,727	$ 9,259,281	$ 9,444,467	$ 9,633,356	$ 12,036,878	$ 12,277,616	$ 12,523,168	$ 12,773,632	$ 16,156,089
Attended - Daily	$ 398,350	$ 398,350	$ 371,366	$ 378,793	$ 927,286	$ 945,831	$ 964,748	$ 1,353,059	$ 1,380,120	$ 1,407,723	$ 1,435,877	$ 1,772,160	$ 1,807,603	$ 1,843,755	$ 1,880,630	$ 2,397,803	$ 2,445,759	$ 2,494,674	$ 2,544,568	$ 2,958,824	$ 3,018,000	$ 3,078,360	$ 3,139,927	$ 3,715,162
Attended - Hourly	$ 414,101	$ 414,101	$ 428,674	$ 437,248	$ 445,993	$ 454,912	$ 464,011	$ 473,291	$ 482,757	$ 492,412	$ 502,260	$ 512,305	$ 522,551	$ 533,002	$ 543,662	$ 554,536	$ 565,626	$ 576,939	$ 588,478	$ 600,247	$ 612,252	$ 624,497	$ 636,987	$ 649,727
Other Revenue 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 2,792,310	$ 2,792,309	$ 2,808,376	$ 2,864,544	$ 4,426,900	$ 4,515,438	$ 4,605,747	$ 6,214,289	$ 6,338,575	$ 6,465,346	$ 6,594,653	$ 8,999,823	$ 9,179,820	$ 9,363,416	$ 9,550,685	$ 12,308,373	$ 12,554,540	$ 12,805,631	$ 13,061,744	$ 15,957,448	$ 16,276,597	$ 16,602,129	$ 16,934,171	$ 20,990,535
subtotal before Fines Revenue	-	$ 3,850,502	$ 3,872,417	$ 3,941,096	$ 5,841,638	$ 6,151,397	$ 6,261,622	$ 8,232,365	$ 8,611,468	$ 8,766,349	$ 8,924,327	$ 11,731,616	$ 12,313,218	$ 12,534,848	$ 12,760,910	$ 15,961,778	$ 16,613,584	$ 16,914,077	$ 17,220,579	$ 20,691,938	$ 21,431,512	$ 21,821,213	$ 22,218,708	$ 27,022,801
Other Revenue																								
Leases	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Fines	$ 1,044,320	$ 1,044,320	$ 1,181,944	$ 1,205,583	$ 1,414,149	$ 1,442,432	$ 1,471,280	$ 1,800,847	$ 1,836,864	$ 1,873,601	$ 1,911,073	$ 2,598,410	$ 2,650,378	$ 2,703,386	$ 2,757,453	$ 3,517,160	$ 3,587,503	$ 3,659,253	$ 3,732,438	$ 4,568,504	$ 4,659,874	$ 4,753,071	$ 4,848,133	$ 6,150,460
Miscellaneous	$ -	$ 57,444	$ 169,796	$ 180,000	$ 189,000	$ 198,450	$ 208,373	$ 218,791	$ 229,731	$ 241,217	$ 253,278	$ 265,942	$ 279,239	$ 293,201	$ 307,861	$ 323,254	$ 339,417	$ 356,388	$ 374,207	$ 392,917	$ 392,917	$ 392,917	$ 392,917	$ 392,917
subtotal	$ 1,044,320	$ 1,101,764	$ 1,351,740	$ 1,385,583	$ 1,603,149	$ 1,640,882	$ 1,679,653	$ 2,019,638	$ 2,066,595	$ 2,114,819	$ 2,164,351	$ 2,864,352	$ 2,929,617	$ 2,996,587	$ 3,065,315	$ 3,840,414	$ 3,926,920	$ 4,015,640	$ 4,106,645	$ 4,961,421	$ 5,052,791	$ 5,145,989	$ 5,241,050	$ 6,543,377
TOTAL REVENUE	$ 4,894,823	$ 4,952,266	$ 5,224,157	$ 5,326,679	$ 7,444,786	$ 7,792,279	$ 7,941,274	$ 10,252,004	$ 10,678,063	$ 10,881,168	$ 11,088,679	$ 14,595,968	$ 15,242,835	$ 15,531,435	$ 15,826,224	$ 19,802,192	$ 20,540,504	$ 20,929,717	$ 21,327,224	$ 25,653,360	$ 26,484,303	$ 26,967,201	$ 27,459,758	$ 33,566,178
EXPENSES		ESTIMATES																						
Ticket Writer and Enforcement Costs																								
Salaries	$ 120,000	$ 120,000	$ 120,000	$ 123,600	$ 127,308	$ 131,127	$ 135,061	$ 139,113	$ 143,286	$ 147,585	$ 152,012	$ 156,573	$ 161,270	$ 166,108	$ 171,091	$ 176,224	$ 181,511	$ 186,956	$ 192,565	$ 198,342	$ 204,292	$ 210,421	$ 216,733	$ 223,235
Admin. Charges	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ 25,000	$ 25,000	$ 25,000	$ 25,750	$ 26,523	$ 27,318	$ 28,138	$ 28,982	$ 29,851	$ 30,747	$ 31,669	$ 32,619	$ 33,598	$ 34,606	$ 35,644	$ 36,713	$ 37,815	$ 38,949	$ 40,118	$ 41,321	$ 42,561	$ 43,838	$ 45,153	$ 46,507
subtotal	$ 145,000	$ 145,000	$ 145,000	$ 149,350	$ 153,831	$ 158,445	$ 163,199	$ 168,095	$ 173,138	$ 178,332	$ 183,682	$ 189,192	$ 194,868	$ 200,714	$ 206,735	$ 212,937	$ 219,326	$ 225,905	$ 232,682	$ 239,663	$ 246,853	$ 254,258	$ 261,886	$ 269,743
Administration & General																								
Salaries	$ 112,800	$ 112,800	$ 112,800	$ 116,184	$ 119,670	$ 123,260	$ 126,957	$ 130,766	$ 134,689	$ 138,730	$ 142,892	$ 147,178	$ 151,594	$ 156,142	$ 160,826	$ 165,651	$ 170,620	$ 175,739	$ 181,011	$ 186,441	$ 192,034	$ 197,795	$ 203,729	$ 209,841
Admin. Charges	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ 100,000	$ 100,000	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477	$ 134,392	$ 138,423	$ 142,576	$ 146,853	$ 151,259	$ 155,797	$ 160,471	$ 165,285	$ 170,243	$ 175,351	$ 180,611	$ 186,029
subtotal	$ 212,800	$ 212,800	$ 212,800	$ 219,184	$ 225,760	$ 232,532	$ 239,508	$ 246,694	$ 254,094	$ 261,717	$ 269,569	$ 277,656	$ 285,985	$ 294,565	$ 303,402	$ 312,504	$ 321,879	$ 331,535	$ 341,482	$ 351,726	$ 362,278	$ 373,146	$ 384,340	$ 395,871
Operations and Maintenance																								
Hourly Wages	$ 100,000	$ 100,000	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477	$ 134,392	$ 138,423	$ 142,576	$ 146,853	$ 151,259	$ 155,797	$ 160,471	$ 165,285	$ 170,243	$ 175,351	$ 180,611	$ 186,029
Fringe Benefits	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 100,000	$ 100,000	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477	$ 134,392	$ 138,423	$ 142,576	$ 146,853	$ 151,259	$ 155,797	$ 160,471	$ 165,285	$ 170,243	$ 175,351	$ 180,611	$ 186,029
Total Estimated Costs	$ 457,800	$ 457,800	$ 457,800	$ 471,534	$ 485,680	$ 500,250	$ 515,258	$ 530,716	$ 546,637	$ 563,036	$ 579,927	$ 597,325	$ 615,245	$ 633,702	$ 652,713	$ 672,295	$ 692,464	$ 713,237	$ 734,635	$ 756,674	$ 779,374	$ 802,755	$ 826,838	$ 851,643
Center of New Hampshire Garage																								
Contracts	$ 355,335	$ 373,836	$ 367,836	$ 378,871	$ 390,237	$ 401,944	$ 414,003	$ 426,423	$ 439,215	$ 452,392	$ 465,964	$ 479,943	$ 494,341	$ 509,171	$ 524,446	$ 540,180	$ 556,385	$ 573,077	$ 590,269	$ 607,977	$ 626,216	$ 645,003	$ 664,353	$ 684,283
Arena Payments	$ 394,399	$ 463,432	$ 487,842	$ 502,477	$ 517,552	$ 533,078	$ 549,070	$ 565,543	$ 582,509	$ 599,984	$ 617,984	$ 636,523	$ 655,619	$ 675,287	$ 695,546	$ 716,412	$ 737,905	$ 760,042	$ 782,843	$ 806,328	$ 830,518	$ 855,434	$ 881,097	$ 907,530
Utilities	$ 50,477	$ 53,870	$ 52,641	$ 54,220	$ 55,847	$ 57,522	$ 59,248	$ 61,025	$ 62,856	$ 64,742	$ 66,684	$ 68,685	$ 70,745	$ 72,867	$ 75,053	$ 77,305	$ 79,624	$ 82,013	$ 84,473	$ 87,008	$ 89,618	$ 92,306	$ 95,076	$ 97,928
Miscellaneous	$ 37,833	$ 57,858	$ 50,675	$ 52,195	$ 53,761	$ 55,374	$ 57,035	$ 58,746	$ 60,509	$ 62,324	$ 64,194	$ 66,119	$ 68,103	$ 70,146	$ 72,250	$ 74,418	$ 76,650	$ 78,950	$ 81,318	$ 83,758	$ 86,271	$ 88,859	$ 91,525	$ 94,270
subtotal	$ 838,044	$ 948,996	$ 958,994	$ 987,764	$ 1,017,397	$ 1,047,919	$ 1,079,356	$ 1,111,737	$ 1,145,089	$ 1,179,442	$ 1,214,825	$ 1,251,270	$ 1,288,808	$ 1,327,472	$ 1,367,296	$ 1,408,315	$ 1,450,564	$ 1,494,081	$ 1,538,904	$ 1,585,071	$ 1,632,623	$ 1,681,602	$ 1,732,050	$ 1,784,011
Victory Street Garage																								
Contracts	$ 192,200	$ 207,221	$ 228,537	$ 235,393	$ 242,455	$ 249,729	$ 257,220	$ 264,937	$ 272,885	$ 281,072	$ 289,504	$ 298,189	$ 307,135	$ 316,349	$ 325,839	$ 335,614	$ 345,683	$ 356,053	$ 366,735	$ 377,737	$ 389,069	$ 400,741	$ 412,763	$ 425,146
Utilities	$ 21,425	$ 26,174	$ 26,212	$ 26,998	$ 27,808	$ 28,643	$ 29,502	$ 30,387	$ 31,298	$ 32,237	$ 33,205	$ 34,201	$ 35,227	$ 36,284	$ 37,372	$ 38,493	$ 39,648	$ 40,837	$ 42,063	$ 43,324	$ 44,624	$ 45,963	$ 47,342	$ 48,762
Miscellaneous	$ 30,052	$ 2,740	$ 24,077	$ 24,799	$ 25,543	$ 26,310	$ 27,099	$ 27,912	$ 28,749	$ 29,612	$ 30,500	$ 31,415	$ 32,357	$ 33,328	$ 34,328	$ 35,358	$ 36,419	$ 37,511	$ 38,637	$ 39,796	$ 40,989	$ 42,219	$ 43,486	$ 44,790
subtotal	$ 243,677	$ 236,135	$ 278,826	$ 287,191	$ 295,807	$ 304,681	$ 313,821	$ 323,236	$ 332,933	$ 342,921	$ 353,208	$ 363,805	$ 374,719	$ 385,960	$ 397,539	$ 409,465	$ 421,749	$ 434,402	$ 447,434	$ 460,857	$ 474,683	$ 488,923	$ 503,591	$ 518,698
Canal Street Garage																								
Contracts	$ 187,866	$ 62,601	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Utilities	$ 22,810	$ 6,656	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ 27,476	$ 4,708	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 238,152	$ 73,965	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wall Street Garage																								
Leases	$ 504,032	$ 503,717	$ 481,659	$ 496,109	$ 510,992	$ 526,322	$ 542,111	$ 558,375	$ 575,126	$ 592,380	$ 610,151	$ 628,456	$ 647,309	$ 666,729	$ 686,731	$ 707,332	$ 728,552	$ 750,409	$ 772,921	$ 796,109	$ 819,992	$ 844,592	$ 869,930	$ 896,028
subtotal	$ 504,032	$ 503,717	$ 481,659	$ 496,109	$ 510,992	$ 526,322	$ 542,111	$ 558,375	$ 575,126	$ 592,380	$ 610,151	$ 628,456	$ 647,309	$ 666,729	$ 686,731	$ 707,332	$ 728,552	$ 750,409	$ 772,921	$ 796,109	$ 819,992	$ 844,592	$ 869,930	$ 896,028
Fleet Parking Garage																								
Leases	$ 30,717	$ 31,191	$ 40,550	$ 41,767	$ 43,019	$ 44,310	$ 45,639	$ 47,009	$ 48,419	$ 49,871	$ 51,368	$ 52,909	$ 54,496	$ 56,131	$ 57,815	$ 59,549	$ 61,336	$ 63,176	$ 65,071	$ 67,023	$ 69,034	$ 71,105	$ 73,238	$ 75,435
subtotal	$ 30,717	$ 31,191	$ 40,550	$ 41,767	$ 43,019	$ 44,310	$ 45,639	$ 47,009	$ 48,419	$ 49,871	$ 51,368	$ 52,909	$ 54,496	$ 56,131	$ 57,815	$ 59,549	$ 61,336	$ 63,176	$ 65,071	$ 67,023	$ 69,034	$ 71,105	$ 73,238	$ 75,435
All Garages																								
Contracts	$ 735,401	$ 643,658	$ 596,373	$ 614,264	$ 632,692	$ 651,673	$ 671,223	$ 691,360	$ 712,101	$ 733,464	$ 755,467	$ 778,131	$ 801,475	$ 825,520	$ 850,285	$ 875,794	$ 902,068	$ 929,130	$ 957,004	$ 985,714	$ 1,015,285	$ 1,045,744	$ 1,077,116	$ 1,109,429
Arena Payments	$ 394,399	$ 463,432	$ 487,842	$ 502,477	$ 517,552	$ 533,078	$ 549,070	$ 565,543	$ 582,509	$ 599,984	$ 617,984	$ 636,523	$ 655,619	$ 675,287	$ 695,546	$ 716,412	$ 737,905	$ 760,042	$ 782,843	$ 806,328	$ 830,518	$ 855,434	$ 881,097	$ 907,530
Utilities	$ 94,712	$ 86,700	$ 78,853	$ 81,219	$ 83,655	$ 86,165	$ 88,750	$ 91,412	$ 94,155	$ 96,979	$ 99,889	$ 102,885	$ 105,972	$ 109,151	$ 112,426	$ 115,798	$ 119,272	$ 122,850	$ 126,536	$ 130,332	$ 134,242	$ 138,269	$ 142,417	$ 146,690
Miscellaneous	$ 95,361	$ 65,306	$ 74,752	$ 76,995	$ 79,304	$ 81,684	$ 84,134	$ 86,658	$ 89,258	$ 91,936	$ 94,694	$ 97,534	$ 100,460	$ 103,474	$ 106,578	$ 109,776	$ 113,069	$ 116,461	$ 119,955	$ 123,554	$ 127,260	$ 131,078	$ 135,010	$ 139,061
Leases	$ 534,749	$ 534,908	$ 522,209	$ 537,875	$ 554,012	$ 570,632	$ 587,751	$ 605,383	$ 623,545	$ 642,251	$ 661,519	$ 681,364	$ 701,805	$ 722,859	$ 744,545	$ 766,882	$ 789,888	$ 813,585	$ 837,992	$ 863,132	$ 889,026	$ 915,697	$ 943,168	$ 971,463
subtotal	$ 1,854,622	$ 1,794,004	$ 1,760,029	$ 1,812,830	$ 1,867,215	$ 1,923,231	$ 1,980,928	$ 2,040,356	$ 2,101,567	$ 2,164,614	$ 2,229,552	$ 2,296,439	$ 2,365,332	$ 2,436,292	$ 2,509,381	$ 2,584,662	$ 2,662,202	$ 2,742,068	$ 2,824,330	$ 2,909,060	$ 2,996,332	$ 3,086,222	$ 3,178,808	$ 3,274,172
Debt Service																								
Center of New Hampshire Garage	$ 73,719	$ 65,119	$ 26,761	$ 6,266	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Victory Garage	$ -	$ 71,402	$ 67,189	$ 59,209	$ 42,192	$ 54,874	$ 52,695	$ 55,603	$ 39,315	$ 19,683	$ 18,970	$ 18,214	$ 17,457	$ 16,772	$ 16,011	$ 15,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Parking Improvement Fund	$ -	$ 71,402	$ 67,189	$ 59,209	$ 42,192	$ 54,874	$ 52,695	$ 55,603	$ 39,315	$ 19,683	$ 18,970	$ 18,214	$ 17,457	$ 16,772	$ 16,011	$ 15,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 73,719	$ 207,923	$ 161,140	$ 124,685	$ 84,383	$ 109,747	$ 105,390	$ 111,206	$ 78,630	$ 39,366	$ 37,940	$ 36,428	$ 34,914	$ 33,543	$ 32,022	$ 30,501	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other																								
Miscellaneous 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL EXPENSES	$ 2,386,141	$ 2,459,727	$ 2,378,969	$ 2,409,049	$ 2,437,278	$ 2,533,229	$ 2,601,576	$ 2,682,278	$ 2,726,834	$ 2,767,016	$ 2,847,420	$ 2,930,192	$ 3,015,491	$ 3,103,537	$ 3,194,116	$ 3,287,457	$ 3,354,665	$ 3,455,305	$ 3,558,964	$ 3,665,733	$ 3,775,705	$ 3,888,977	$ 4,005,646	$ 4,125,815
SURPLUS / (SHORTAGE)	$ 2,508,682	$ 2,492,539

Appendix H - Appendix Table 8: Scenario 3 – Construct Third Garage

Appendix Table 8
Scenario 3 - Construct Third Garage

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
POPULATION		MODEL INPUTS																						
Long Term Parking Demand	n/a	8,513	8,513	8,683	8,857	9,034	9,215	9,399	9,587	9,779	9,974	10,174	10,377	10,585	10,797	11,012	11,233	11,457	11,687	11,920	12,159	12,402	12,650	12,903
Short Term Parking Demand	n/a	1,895	1,895	1,933	1,972	2,011	2,051	2,092	2,134	2,177	2,220	2,265	2,310	2,356	2,403	2,451	2,500	2,550	2,601	2,653	2,707	2,761	2,816	2,872
Total	n/a	10,408	10,408	10,616	10,828	11,045	11,266	11,491	11,721	11,956	12,195	12,439	12,687	12,941	13,200	13,464	13,733	14,008	14,288	14,574	14,865	15,162	15,466	15,775
Growth in parking demand		1.5%	1.5%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Escalation due to inflation	n/a	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Required average rate increase																								
On-street meters	n/a	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	33.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	20.0%
Off-street meters	n/a	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	33.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	20.0%
Permit	n/a	0.0%	0.0%	0.0%	46.0%	0.0%	0.0%	35.5%	0.0%	0.0%	0.0%	42.0%	0.0%	0.0%	0.0%	29.0%	0.0%	0.0%	0.0%	22.5%	0.0%	0.0%	0.0%	24.0%
Attended	n/a	0.0%	0.0%	0.0%	140.0%	0.0%	0.0%	37.5%	0.0%	0.0%	0.0%	21.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	14.0%	0.0%	0.0%	0.0%	16.0%
Other 1	n/a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Violations	n/a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	25.1%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	24.4%
Other 2	n/a	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%
average on-street meter cost / hour	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.75	$ 0.75	$ 0.75	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.50	$ 1.50	$ 1.50	$ 1.50	$ 1.80	$ 1.80	$ 1.80	$ 1.80	$ 2.15
average off-street meter cost / hour	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 0.75	$ 0.75	$ 0.75	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.50	$ 1.50	$ 1.50	$ 1.50	$ 1.80	$ 1.80	$ 1.80	$ 1.80	$ 2.15
average permit cost / month	$ 43	$ 43	$ 43	$ 43	$ 62	$ 62	$ 62	$ 85	$ 85	$ 85	$ 85	$ 120	$ 120	$ 120	$ 120	$ 155	$ 155	$ 155	$ 155	$ 190	$ 190	$ 190	$ 190	$ 235
average attended cost / hour	$ 0.50	$ 0.50	$ 0.50	$ 0.50	$ 1.20	$ 1.20	$ 1.20	$ 1.65	$ 1.65	$ 1.65	$ 1.65	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.50	$ 2.50	$ 2.50	$ 2.50	$ 2.85	$ 2.85	$ 2.85	$ 2.85	$ 3.30
Other	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
average violation cost	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 13.40	$ 16.08	$ 16.08	$ 16.08	$ 16.08	$ 21.43	$ 21.43	$ 21.43	$ 21.43	$ 26.80	$ 26.80	$ 26.80	$ 26.80	$ 32.16	$ 32.16	$ 32.16	$ 32.16	$ 40.00
Overtime Parking				$ 10.00	$ 10.00	$ 10.00	$ 10.00	$ 12.00	$ 12.00	$ 12.00	$ 12.00	$ 16.00	$ 16.00	$ 16.00	$ 16.00	$ 20.00	$ 20.00	$ 20.00	$ 20.00	$ 24.00	$ 24.00	$ 24.00	$ 24.00	$ 29.86
Average parking duration (hours)		1.0																						
average on-street meter events / year	1,308,060	1,308,060	1,251,144	1,276,167	1,301,690	1,327,724	1,354,279	1,381,364	1,408,991	1,437,171	1,465,915	1,495,233	1,525,138	1,555,640	1,586,753	1,618,488	1,650,858	1,683,875	1,717,553	1,751,904	1,786,942	1,822,681	1,859,134	1,896,317
verage off-street hourly meter events / year	160,998	160,997	143,786	146,662	149,595	152,587	155,639	158,752	161,927	165,165	168,469	171,838	175,275	178,780	182,356	186,003	189,723	193,518	197,388	201,336	205,363	209,470	213,659	217,932
average permits sold / year	44,171	44,401	45,267	46,173	47,096	48,038	48,999	49,979	50,979	51,998	53,038	54,099	55,181	56,284	57,410	58,558	59,729	60,924	62,143	63,385	64,653	65,946	67,265	68,610
average daily parkers/ year	796,700	796,699	742,732	757,586	772,738	788,193	803,957	820,036	836,437	853,165	870,229	887,633	905,386	923,494	941,963	960,803	980,019	999,619	1,019,612	1,040,004	1,060,804	1,082,020	1,103,660	1,125,733
average # of violations / year	77,944	77,944	88,216	89,980	105,547	107,658	109,811	112,007	114,247	116,532	118,863	121,240	123,665	126,138	128,661	131,234	133,859	136,536	139,267	142,052	144,893	147,791	150,747	153,761
REVENUES																								
Sales On-Street																								
Meters - Downtown	$ 654,030	$ 654,030	$ 625,572	$ 638,083	$ 976,268	$ 995,793	$ 1,015,709	$ 1,377,911	$ 1,405,469	$ 1,433,578	$ 1,462,250	$ 1,864,369	$ 1,901,656	$ 1,939,689	$ 1,978,483	$ 2,421,663	$ 2,470,096	$ 2,519,498	$ 2,569,888	$ 3,145,543	$ 3,208,454	$ 3,272,623	$ 3,338,075	$ 4,085,804
Permits - Millyard	$ 404,163	$ 404,163	$ 438,470	$ 438,470	$ 438,470	$ 640,165	$ 640,165	$ 640,165	$ 867,424	$ 867,424	$ 867,424	$ 867,424	$ 1,231,742	$ 1,231,742	$ 1,231,742	$ 1,231,742	$ 1,588,948	$ 1,588,948	$ 1,588,948	$ 1,588,948	$ 1,946,461	$ 1,946,461	$ 1,946,461	$ 1,946,461
Other Revenue 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 1,058,193	$ 1,058,193	$ 1,064,042	$ 1,076,553	$ 1,414,737	$ 1,635,958	$ 1,655,874	$ 2,018,076	$ 2,272,893	$ 2,301,002	$ 2,329,674	$ 2,731,793	$ 3,133,398	$ 3,171,431	$ 3,210,225	$ 3,653,405	$ 4,059,044	$ 4,108,446	$ 4,158,836	$ 4,734,491	$ 5,154,915	$ 5,219,084	$ 5,284,536	$ 6,032,265
Sales Off-Street																								
Meters	$ 80,499	$ 80,499	$ 71,893	$ 73,331	$ 112,197	$ 114,441	$ 116,729	$ 158,355	$ 161,522	$ 164,753	$ 168,048	$ 214,261	$ 218,546	$ 222,917	$ 227,375	$ 278,307	$ 283,873	$ 289,551	$ 295,342	$ 361,498	$ 368,728	$ 376,103	$ 383,625	$ 469,557
Permits	$ 1,899,360	$ 1,899,360	$ 1,936,443	$ 1,975,172	$ 2,941,426	$ 3,000,254	$ 3,060,259	$ 4,229,584	$ 4,314,176	$ 4,400,459	$ 4,488,469	$ 6,501,098	$ 6,631,120	$ 6,763,742	$ 6,899,017	$ 9,077,727	$ 9,259,281	$ 9,444,467	$ 9,633,356	$ 12,036,878	$ 12,277,616	$ 12,523,168	$ 12,773,632	$ 16,156,089
Attended - Daily	$ 398,350	$ 398,350	$ 371,366	$ 378,793	$ 927,286	$ 945,831	$ 964,748	$ 1,353,059	$ 1,380,120	$ 1,407,723	$ 1,435,877	$ 1,772,160	$ 1,807,603	$ 1,843,755	$ 1,880,630	$ 2,397,803	$ 2,445,759	$ 2,494,674	$ 2,544,568	$ 2,958,824	$ 3,018,000	$ 3,078,360	$ 3,139,927	$ 3,715,162
Attended - Hourly	$ 414,101	$ 414,101	$ 428,674	$ 437,248	$ 445,993	$ 454,912	$ 464,011	$ 473,291	$ 482,757	$ 492,412	$ 502,260	$ 512,305	$ 522,551	$ 533,002	$ 543,662	$ 554,536	$ 565,626	$ 576,939	$ 588,478	$ 600,247	$ 612,252	$ 624,497	$ 636,987	$ 649,727
Other Revenue 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 2,792,310	$ 2,792,309	$ 2,808,376	$ 2,864,544	$ 4,426,900	$ 4,515,438	$ 4,605,747	$ 6,214,289	$ 6,338,575	$ 6,465,346	$ 6,594,653	$ 8,999,823	$ 9,179,820	$ 9,363,416	$ 9,550,685	$ 12,308,373	$ 12,554,540	$ 12,805,631	$ 13,061,744	$ 15,957,448	$ 16,276,597	$ 16,602,129	$ 16,934,171	$ 20,990,535
subtotal before Fines Revenue		$ 3,850,502	$ 3,872,417	$ 3,941,096	$ 5,841,638	$ 6,151,397	$ 6,261,622	$ 8,232,365	$ 8,611,468	$ 8,766,349	$ 8,924,327	$ 11,731,616	$ 12,313,218	$ 12,534,848	$ 12,760,910	$ 15,961,778	$ 16,613,584	$ 16,914,077	$ 17,220,579	$ 20,691,938	$ 21,431,512	$ 21,821,213	$ 22,218,708	$ 27,022,801
Other Revenue																								
Leases	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Fines	$ 1,044,320	$ 1,044,320	$ 1,181,944	$ 1,205,583	$ 1,414,149	$ 1,442,432	$ 1,471,280	$ 1,800,847	$ 1,836,864	$ 1,873,601	$ 1,911,073	$ 2,598,410	$ 2,650,378	$ 2,703,386	$ 2,757,453	$ 3,517,160	$ 3,587,503	$ 3,659,253	$ 3,732,438	$ 4,568,504	$ 4,659,874	$ 4,753,071	$ 4,848,133	$ 6,150,460
Miscellaneous	$ -	$ 57,444	$ 169,796	$ 180,000	$ 189,000	$ 198,450	$ 208,373	$ 218,791	$ 229,731	$ 241,217	$ 253,278	$ 265,942	$ 279,239	$ 293,201	$ 307,861	$ 323,254	$ 339,417	$ 356,388	$ 374,207	$ 392,917	$ 392,917	$ 392,917	$ 392,917	$ 392,917
subtotal	$ 1,044,320	$ 1,101,764	$ 1,351,740	$ 1,385,583	$ 1,603,149	$ 1,640,882	$ 1,679,653	$ 2,019,638	$ 2,066,595	$ 2,114,819	$ 2,164,351	$ 2,864,352	$ 2,929,617	$ 2,996,587	$ 3,065,315	$ 3,840,414	$ 3,926,920	$ 4,015,640	$ 4,106,645	$ 4,961,421	$ 5,052,791	$ 5,145,989	$ 5,241,050	$ 6,543,377
TOTAL REVENUE	$ 4,894,823	$ 4,952,266	$ 5,224,157	$ 5,326,679	$ 7,444,786	$ 7,792,279	$ 7,941,274	$ 10,252,004	$ 10,678,063	$ 10,881,168	$ 11,088,679	$ 14,595,968	$ 15,242,835	$ 15,531,435	$ 15,826,224	$ 19,802,192	$ 20,540,504	$ 20,929,717	$ 21,327,224	$ 25,653,360	$ 26,484,303	$ 26,967,201	$ 27,459,758	$ 33,566,178
EXPENSES		ESTIMATES																						
Ticket Writer and Enforcement Costs																								
Salaries	$ 120,000	$ 120,000	$ 120,000	$ 123,600	$ 127,308	$ 131,127	$ 135,061	$ 139,113	$ 143,286	$ 147,585	$ 152,012	$ 156,573	$ 161,270	$ 166,108	$ 171,091	$ 176,224	$ 181,511	$ 186,956	$ 192,565	$ 198,342	$ 204,292	$ 210,421	$ 216,733	$ 223,235
Admin. Charges	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ 25,000	$ 25,000	$ 25,000	$ 25,750	$ 26,523	$ 27,318	$ 28,138	$ 28,982	$ 29,851	$ 30,747	$ 31,669	$ 32,619	$ 33,598	$ 34,606	$ 35,644	$ 36,713	$ 37,815	$ 38,949	$ 40,118	$ 41,321	$ 42,561	$ 43,838	$ 45,153	$ 46,507
subtotal	$ 145,000	$ 145,000	$ 145,000	$ 149,350	$ 153,831	$ 158,445	$ 163,199	$ 168,095	$ 173,138	$ 178,332	$ 183,682	$ 189,192	$ 194,868	$ 200,714	$ 206,735	$ 212,937	$ 219,326	$ 225,905	$ 232,682	$ 239,663	$ 246,853	$ 254,258	$ 261,886	$ 269,743
Administration & General																								
Salaries	$ 112,800	$ 112,800	$ 112,800	$ 116,184	$ 119,670	$ 123,260	$ 126,957	$ 130,766	$ 134,689	$ 138,730	$ 142,892	$ 147,178	$ 151,594	$ 156,142	$ 160,826	$ 165,651	$ 170,620	$ 175,739	$ 181,011	$ 186,441	$ 192,034	$ 197,795	$ 203,729	$ 209,841
Admin. Charges	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ 100,000	$ 100,000	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477	$ 134,392	$ 138,423	$ 142,576	$ 146,853	$ 151,259	$ 155,797	$ 160,471	$ 165,285	$ 170,243	$ 175,351	$ 180,611	$ 186,029
subtotal	$ 212,800	$ 212,800	$ 212,800	$ 219,184	$ 225,760	$ 232,532	$ 239,508	$ 246,694	$ 254,094	$ 261,717	$ 269,569	$ 277,656	$ 285,985	$ 294,565	$ 303,402	$ 312,504	$ 321,879	$ 331,535	$ 341,482	$ 351,726	$ 362,278	$ 373,146	$ 384,340	$ 395,871
Operations and Maintenance																								
Hourly Wages	$ 100,000	$ 100,000	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477	$ 134,392	$ 138,423	$ 142,576	$ 146,853	$ 151,259	$ 155,797	$ 160,471	$ 165,285	$ 170,243	$ 175,351	$ 180,611	$ 186,029
Fringe Benefits	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 100,000	$ 100,000	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477	$ 134,392	$ 138,423	$ 142,576	$ 146,853	$ 151,259	$ 155,797	$ 160,471	$ 165,285	$ 170,243	$ 175,351	$ 180,611	$ 186,029
Total Estimated Costs	$ 457,800	$ 457,800	$ 457,800	$ 471,534	$ 485,680	$ 500,250	$ 515,258	$ 530,716	$ 546,637	$ 563,036	$ 579,927	$ 597,325	$ 615,245	$ 633,702	$ 652,713	$ 672,295	$ 692,464	$ 713,237	$ 734,635	$ 756,674	$ 779,374	$ 802,755	$ 826,838	$ 851,643
Center of New Hampshire Garage																								
Contracts	$ 355,335	$ 373,836	$ 367,836	$ 378,871	$ 390,237	$ 401,944	$ 414,003	$ 426,423	$ 439,215	$ 452,392	$ 465,964	$ 479,943	$ 494,341	$ 509,171	$ 524,446	$ 540,180	$ 556,385	$ 573,077	$ 590,269	$ 607,977	$ 626,216	$ 645,003	$ 664,353	$ 684,283
Arena Payments	$ 394,399	$ 463,432	$ 487,842	$ 502,477	$ 517,552	$ 533,078	$ 549,070	$ 565,543	$ 582,509	$ 599,984	$ 617,984	$ 636,523	$ 655,619	$ 675,287	$ 695,546	$ 716,412	$ 737,905	$ 760,042	$ 782,843	$ 806,328	$ 830,518	$ 855,434	$ 881,097	$ 907,530
Utilities	$ 50,477	$ 53,870	$ 52,641	$ 54,220	$ 55,847	$ 57,522	$ 59,248	$ 61,025	$ 62,856	$ 64,742	$ 66,684	$ 68,685	$ 70,745	$ 72,867	$ 75,053	$ 77,305	$ 79,624	$ 82,013	$ 84,473	$ 87,008	$ 89,618	$ 92,306	$ 95,076	$ 97,928
Miscellaneous	$ 37,833	$ 57,858	$ 50,675	$ 52,195	$ 53,761	$ 55,374	$ 57,035	$ 58,746	$ 60,509	$ 62,324	$ 64,194	$ 66,119	$ 68,103	$ 70,146	$ 72,250	$ 74,418	$ 76,650	$ 78,950	$ 81,318	$ 83,758	$ 86,271	$ 88,859	$ 91,525	$ 94,270
subtotal	$ 838,044	$ 948,996	$ 958,994	$ 987,764	$ 1,017,397	$ 1,047,919	$ 1,079,356	$ 1,111,737	$ 1,145,089	$ 1,179,442	$ 1,214,825	$ 1,251,270	$ 1,288,808	$ 1,327,472	$ 1,367,296	$ 1,408,315	$ 1,450,564	$ 1,494,081	$ 1,538,904	$ 1,585,071	$ 1,632,623	$ 1,681,602	$ 1,732,050	$ 1,784,011
Victory Street Garage																								
Contracts	$ 192,200	$ 207,221	$ 228,537	$ 235,393	$ 242,455	$ 249,729	$ 257,220	$ 264,937	$ 272,885	$ 281,072	$ 289,504	$ 298,189	$ 307,135	$ 316,349	$ 325,839	$ 335,614	$ 345,683	$ 356,053	$ 366,735	$ 377,737	$ 389,069	$ 400,741	$ 412,763	$ 425,146
Utilities	$ 21,425	$ 26,174	$ 26,212	$ 26,998	$ 27,808	$ 28,643	$ 29,502	$ 30,387	$ 31,298	$ 32,237	$ 33,205	$ 34,201	$ 35,227	$ 36,284	$ 37,372	$ 38,493	$ 39,648	$ 40,837	$ 42,063	$ 43,324	$ 44,624	$ 45,963	$ 47,342	$ 48,762
Miscellaneous	$ 30,052	$ 2,740	$ 24,077	$ 24,799	$ 25,543	$ 26,310	$ 27,099	$ 27,912	$ 28,749	$ 29,612	$ 30,500	$ 31,415	$ 32,357	$ 33,328	$ 34,328	$ 35,358	$ 36,419	$ 37,511	$ 38,637	$ 39,796	$ 40,989	$ 42,219	$ 43,486	$ 44,790
subtotal	$ 243,677	$ 236,135	$ 278,826	$ 287,191	$ 295,807	$ 304,681	$ 313,821	$ 323,236	$ 332,933	$ 342,921	$ 353,208	$ 363,805	$ 374,719	$ 385,960	$ 397,539	$ 409,465	$ 421,749	$ 434,402	$ 447,434	$ 460,857	$ 474,683	$ 488,923	$ 503,591	$ 518,698
Canal Street Garage																								
Contracts	$ 187,866	$ 62,601	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Utilities	$ 22,810	$ 6,656	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous	$ 27,476	$ 4,708	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 238,152	$ 73,965	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wall Street Garage																								
Leases	$ 504,032	$ 503,717	$ 481,659	$ 496,109	$ 510,992	$ 526,322	$ 542,111	$ 558,375	$ 575,126	$ 592,380	$ 610,151	$ 628,456	$ 647,309	$ 666,729	$ 686,731	$ 707,332	$ 728,552	$ 750,409	$ 772,921	$ 796,109	$ 819,992	$ 844,592	$ 869,930	$ 896,028
subtotal	$ 504,032	$ 503,717	$ 481,659	$ 496,109	$ 510,992	$ 526,322	$ 542,111	$ 558,375	$ 575,126	$ 592,380	$ 610,151	$ 628,456	$ 647,309	$ 666,729	$ 686,731	$ 707,332	$ 728,552	$ 750,409	$ 772,921	$ 796,109	$ 819,992	$ 844,592	$ 869,930	$ 896,028
Fleet Parking Garage																								
Leases	$ 30,717	$ 31,191	$ 40,550	$ 41,767	$ 43,019	$ 44,310	$ 45,639	$ 47,009	$ 48,419	$ 49,871	$ 51,368	$ 52,909	$ 54,496	$ 56,131	$ 57,815	$ 59,549	$ 61,336	$ 63,176	$ 65,071	$ 67,023	$ 69,034	$ 71,105	$ 73,238	$ 75,435
subtotal	$ 30,717	$ 31,191	$ 40,550	$ 41,767	$ 43,019	$ 44,310	$ 45,639	$ 47,009	$ 48,419	$ 49,871	$ 51,368	$ 52,909	$ 54,496	$ 56,131	$ 57,815	$ 59,549	$ 61,336	$ 63,176	$ 65,071	$ 67,023	$ 69,034	$ 71,105	$ 73,238	$ 75,435
All Garages																								
Contracts	$ 735,401	$ 643,658	$ 596,373	$ 614,264	$ 632,692	$ 651,673	$ 671,223	$ 691,360	$ 712,101	$ 733,464	$ 755,467	$ 778,131	$ 801,475	$ 825,520	$ 850,285	$ 875,794	$ 902,068	$ 929,130	$ 957,004	$ 985,714	$ 1,015,285	$ 1,045,744	$ 1,077,116	$ 1,109,429
Arena Payments	$ 394,399	$ 463,432	$ 487,842	$ 502,477	$ 517,552	$ 533,078	$ 549,070	$ 565,543	$ 582,509	$ 599,984	$ 617,984	$ 636,523	$ 655,619	$ 675,287	$ 695,546	$ 716,412	$ 737,905	$ 760,042	$ 782,843	$ 806,328	$ 830,518	$ 855,434	$ 881,097	$ 907,530
Utilities	$ 94,712	$ 86,700	$ 78,853	$ 81,219	$ 83,655	$ 86,165	$ 88,750	$ 91,412	$ 94,155	$ 96,979	$ 99,889	$ 102,885	$ 105,972	$ 109,151	$ 112,426	$ 115,798	$ 119,272	$ 122,850	$ 126,536	$ 130,332	$ 134,242	$ 138,269	$ 142,417	$ 146,690
Miscellaneous	$ 95,361	$ 65,306	$ 74,752	$ 76,995	$ 79,304	$ 81,684	$ 84,134	$ 86,658	$ 89,258	$ 91,936	$ 94,694	$ 97,534	$ 100,460	$ 103,474	$ 106,578	$ 109,776	$ 113,069	$ 116,461	$ 119,955	$ 123,554	$ 127,260	$ 131,078	$ 135,010	$ 139,061
Leases	$ 534,749	$ 534,908	$ 522,209	$ 537,875	$ 554,012	$ 570,632	$ 587,751	$ 605,383	$ 623,545	$ 642,251	$ 661,519	$ 681,364	$ 701,805	$ 722,859	$ 744,545	$ 766,882	$ 789,888	$ 813,585	$ 837,992	$ 863,132	$ 889,026	$ 915,697	$ 943,168	$ 971,463
subtotal	$ 1,854,622	$ 1,794,004	$ 1,760,029	$ 1,812,830	$ 1,867,215	$ 1,923,231	$ 1,980,928	$ 2,040,356	$ 2,101,567	$ 2,164,614	$ 2,229,552	$ 2,296,439	$ 2,365,332	$ 2,436,292	$ 2,509,381	$ 2,584,662	$ 2,662,202	$ 2,742,068	$ 2,824,330	$ 2,909,060	$ 2,996,332	$ 3,086,222	$ 3,178,808	$ 3,274,172
Debt Service																								
Center of New Hampshire Garage	$ 73,719	$ 65,119	$ 26,761	$ 6,266	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Victory Garage	$ -	$ 71,402	$ 67,189	$ 59,209	$ 42,192	$ 54,874	$ 52,695	$ 55,603	$ 39,315	$ 19,683	$ 18,970	$ 18,214	$ 17,457	$ 16,772	$ 16,011	$ 15,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Parking Improvement Fund	$ -	$ 71,402	$ 67,189	$ 59,209	$ 42,192	$ 54,874	$ 52,695	$ 55,603	$ 39,315	$ 19,683	$ 18,970	$ 18,214	$ 17,457	$ 16,772	$ 16,011	$ 15,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ 73,719	$ 207,923	$ 161,140	$ 124,685	$ 84,383	$ 109,747	$ 105,390	$ 111,206	$ 78,630	$ 39,366	$ 37,940	$ 36,428	$ 34,914	$ 33,543	$ 32,022	$ 30,501	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other																								
Miscellaneous 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Miscellaneous 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL EXPENSES	$ 2,386,141	$ 2,459,727	$ 2,378,969	$ 2,409,049	$ 2,437,278	$ 2,533,229	$ 2,601,576	$ 2,682,278	$ 2,726,834	$ 2,767,016	$ 2,847,420	$ 2,930,192	$ 3,015,491	$ 3,103,537	$ 3,194,116	$ 3,287,457	$ 3,354,665	$ 3,455,305	$ 3,558,964	$ 3,665,733	$ 3,775,705	$ 3,888,977	$ 4,005,646	$ 4,125,815
SURPLUS / (SHORTAGE)	$ 2,508,682	$ 2,492,539

Appendix I - Parking Model

PARKING MODEL DEVELOPMENT AND METHODOLOGY

A Microsoft Excel spreadsheet was developed to manage the inventory data and to model the parking characteristics within study area. The model includes parking data comprised of over 100 City blocks aggregated into eight study areas. A detailed discussion of the existing parking system is included in the existing conditions section of this report. The approach with the model is to first "calibrate or replicate existing parking conditions based on data collected in the field and from various City or other public sources. Once the existing conditions model is calibrated, the model can be used to forecast future parking demand based on current parking characteristics. Consequently, land use data can be entered into the model along with anticipated changes in the parking supply and the model will generate the net increase in parking demand based on that land use scenario. This is an accepted and highly regarded approach to documenting and supporting approvals inn bond issues from the rating agencies.

If parking needs were estimated for each single building or use in a downtown based on typical zoning code requirements, the cumulative parking need for an entire downtown would far exceed the actual need. This is for a couple of reasons; 1) zoning codes are not necessarily based on factual data; 2) trips are linked in a downtown – it's essentially a giant shared parking exercise; and 3) parking characteristics in downtowns are specific to that downtown. Local desires, expectations, availability of transit and other modes of travel, cultural, historical expectations and other factors negate the use of "standards and guidelines" if the desire is to truly understand the parking characteristics. The development and use of a model provides a more accurate approach in understanding the localized parking dynamics and characteristics.

EMPLOYMENT AND RESIDENTS AND PARKING DEMAND

The base employment and resident estimates used for the study were taken from several sources provided by the City. The employees and residents were calibrated against information on land use by block so that a mathematical relationship could be developed. Approximately 1,500 retail and 13,900 non-retail employees and 4,200 residents were assumed in the study area. The employment and resident populations were assigned to each block in the study area based on the size (square feet or residential units) and type of land use (retail, office, commercial, restaurant, industry and other), on each block. Finally, the block-level information was sorted and grouped by the eight subareas, Millyard North, Millyard South, North Elm, North Canal, CBD East, CBD West, Ballpark and Arena. The report provides a more detailed explanation of the base data.

MODEL CALIBRATION

The Excel spreadsheet was first used to "calibrate", or replicate existing parking conditions in the study area. Incorporated into the spreadsheet (which includes an inventory of residents, employment and parking data on a block-by-block basis), is the estimated parking demand for employees, residents and visitors during the peak hour in the study area. Parking demand (occupancy) data is collected for several time periods throughout a typical weekday to determine the "peak" demand period. This peak period is the parking demand that will be mathematically modeled using employment, resident and land use data.

The employment and resident population is then modeled based on a combination of factors in similar downtowns, experience of the consultant and the Institute of Transportation Engineers Parking Generation Manual, 3rd edition. The goal is to develop a math equation or ratio that relates population to parking demand. Another way of saying this is, based on a given size of building and land use, such as 100,000 square feet (sf) of retail use, the parking demand is x number of spaces during the peak period.

The following parking generation ratios were developed for downtown Manchester:

	Retail	Office	Commercial	Restaurant	Industry	Other	Residential	Weighted Avg.
Long Term	0.310	0.500	0.420	*0.351*	*0.400*	0.383	*0.350*	0.518
Short term	0.771	0.022	0.016	*0.771*	*0.017*	0.383	*0.023*	0.116
Total	1.081	0.522	0.436	1.122	0.417	0.765	0.373	0.634

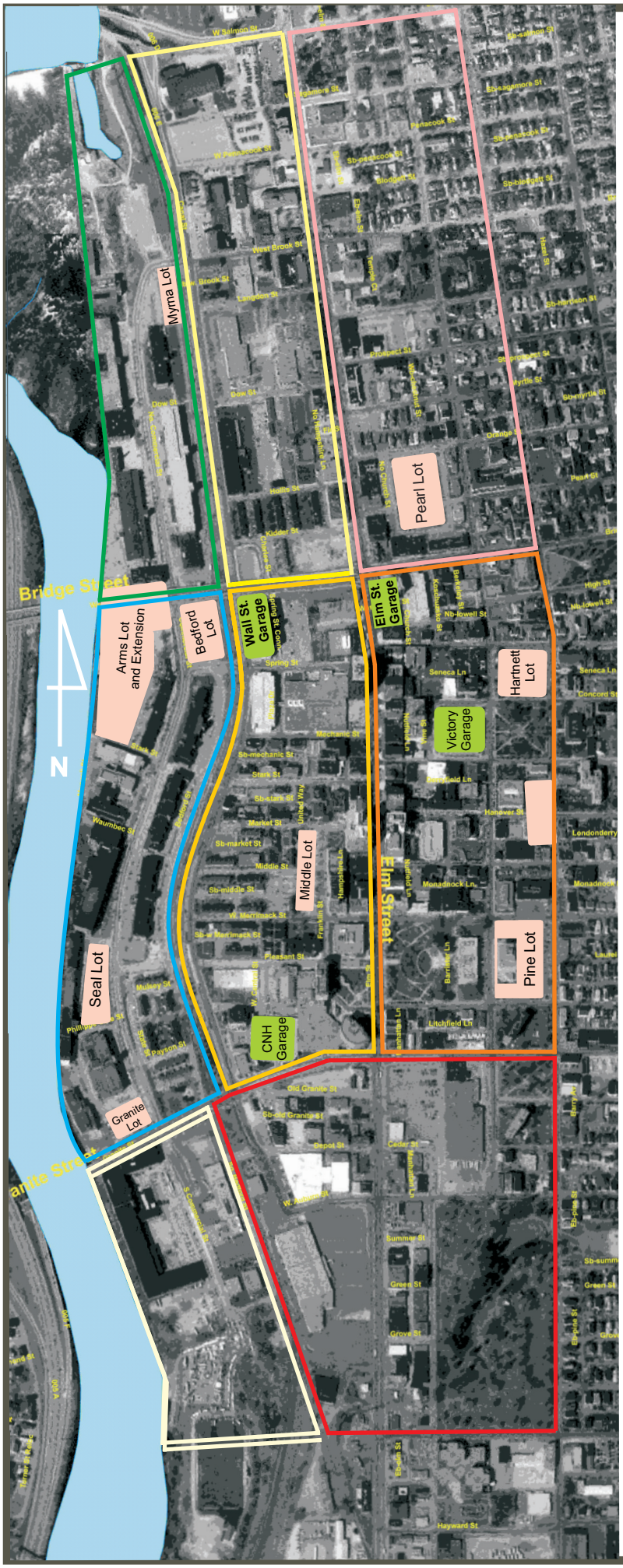
During the "parking" peak demand period of the day, every 100 employees generate the need for:

- Retail – 108 spaces comprised of 31.0 employee and 77.1 short-term spaces;
- Office – 52.2 spaces comprised 50.0 employee and 2.2 visitor spaces;
- Commercial – 43.6 spaces comprised 42.0 employee and 1.6 visitor spaces;
- Restaurant – 112.2 spaces comprised 35.1 employee and 77.1 visitor spaces;
- Industrial – 41.7 spaces comprised 40 employee and 1.7 visitor spaces;
- Other – 76.5 spaces comprised 38.3 employee and 38.3 visitor spaces; and
- Residential – 37.3 spaces comprised 35.0 resident and 2.3 visitor spaces.

A density relationship was also determined that correlates the number of employees by land use and by block to sf or building. The following ratios were developed for Manchester:

- Retail – 1 employee per 600 sf;
- Office – 1 employee per 450 sf;
- Commercial – 1 employee per 350 sf;
- Restaurant – 1 employee per 250 sf;
- Industrial – 1 employee per 1,200 sf;
- Other – 1 employee per 1,250 sf; and
- Residential – 1 resident per 843 sf.

Although the parking generation factor for "other" is high (76.5 spaces per 100 employees) relative to the other land use parking generation factors, the employee density is very low (1 employee per 1,250 sf) resulting in low parking demand overall in the study area. Conversely, the retail parking generation rate is relatively high at 112.2 spaces per 100 employees and the density is relatively high as well at 1 per 250 sf resulting in a high parking demand dur9ignth peak hour – which happens to be over the mid-Day time period.



Prepared for the City of Manchester

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