DMC Transportation Infrastructure Program

Parking and TMA Study

Prepared for:

DMC Transportation & Infrastructure Program
City of Rochester, MN

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DMC Project No. J8618-J8622 Parking/TMA Study

This document is a working draft currently under review by staff for consistency of terms, grammatical and graphical errors, etc. and will be updated as reviews are completed; however, substantive changes in the study findings are not anticipated. As these reviews are completed, updated documents will be posted. Following receipt of comments by Rochester and DMC elected and appointed officials as well as other stakeholders and the public, these documents may again be revised in terms of recommendations and conclusions and will be republished as "Final" documents.

Table of Contents

APPENDICES

1. Appendix 1: J8618-8622_RPT_DMC Parking -TMA Current Program Assessment - Report Draft 12-20-2016 ("20 Characteristics Assessment")
2. Appendix 2: J8618-8622_RPT_DMC_Parking Management and Design Best Practices-Tool Box 12-20-2016
3. Appendix 3: J8618-8622_RPT_DMC Parking - Peer City and Best Practices Research 12-20-2016
4. Appendix 4: J8618-8622_RPT_Parking and Economic Development Policy 12-20-2016
    a. J8618-8622_RPT_Appendix_A_Village Green Parking Agreement FINAL 1007
    b. J8618-8622_RPT_Appendix_B_Sample Business Scorecard – DMC
    c. J8618-8622_RPT_Appendix_C_TPA-CA~1
    d. Appendix 4-d. - Ashley Mews Development Agreement
    e. Appendix 4-e. - Ashley Mews Parking Agreement 0600
    f. Appendix 4-f. - Ashley Mews PUD 1099
5. Appendix 5: J8618-8622_RPT_COR Parking Design Guidelines_2016 Final Draft_12-20-2016
6. Appendix 6: J8618-8622_RPT_COR Parking Development Scenarios 12-20-2016
7. Appendix 7: J8618-8622_RPT_COR Employee Parking & Commute Option Programs and Strategies to Maximizing Existing Parking Resources
8. Appendix 8: J8618-8622_RPT_DMC Parking -TMA "Assessing an Uncertain Transportation Future - DMC 2017"
9. Appendix 9: J8618-8622_RPT_Parking System - Financial Plan Template 12-20-2016
10. Appendix 10: Boulder AMPS Project Summary
11. Appendix 11a.: J8618-8622_RPT_Shared Use Mobility Overview 12-20-2016

    Appendix 11b.: J8618-8622_RPT_Shared Use Mobility Overview 12-20-2016
12. Appendix 12: J8618-8622_RPT_DMC Parking -TMA Parking Sites - Initial Site Assessments 05-04-2017

LIST OF FIGURES

Parking and TMA Study –
Introduction and Report Overview

DMC Transportation Infrastructure Program Parking and TMA Study

Introduction and Report Overview

The project team for the Parking and Transportation Management Association (TMA) Study included the following firms: Kimley-Horn and Associates (Lead firm – Parking focus), UrbanTrans (Transportation Demand Management/TMA Development focus) and Nelson Nygaard (Zoning and Access Requirements focus). SRF Consulting Group, Inc. served as the study coordinator handling the overall DMC Transportation Infrastructure program management function, helping facilitate the Parking and TMA Study.

Report Context

Rochester has been growing steadily for the last 20-years and that growth is projected to continue for the next 20 years, supported by private and public investment anticipated as part of the Destination Medical Center (DMC) initiative. Mayo Clinic is the largest employer in Minnesota and has 35,000 employees in Rochester. The State of Minnesota has committed $396M to support growth in Rochester. Planning over the last eight (8) years has identified that a different pattern of development needs to occur in downtown Rochester to support its evolution into a widely recognized world-class destination for healthcare.

The Challenge/Why This Matters

If private development and public infrastructure continue in the same pattern as the last 20-years downtown Rochester will be dominated by parking ramps and gateway streets into downtown will need to be widened to accommodate the traffic, undermining the goal of making Rochester a world class city and Destination Medical Center. The following key points support this challenge:

- Downtown Rochester transportation and parking systems are dominated by commuters.
- There is a large unmet demand for commuter parking in downtown.
- The roadway system serving downtown is reaching capacity in the a.m. and p.m. peak periods due to limited roadway portal capacity to meet growing commuter traffic demands.
- There is adequate roadway and parking capacity for customers, visitors and patients, who are typically accessing downtown in off-peak hours. If there is no change in the way parking and transportation infrastructure is provided in the future, the excess customer, visitor and patient parking could be overrun by commuters with the DMC initiative expected to add 26,000 – 30,000 new employees downtown.
- The City and Mayo Clinic have a very good existing parking and transit / shuttle system that addresses much of the current unmet commuter parking demand.

The Recommended Approach/What is Proposed

Develop a transportation and parking infrastructure to address the projected peak roadway portal capacity issues – Commuter access to downtown by single passenger vehicle will be naturally limited by the conscious decision **NOT** to widen the roadway system to accommodate the projected increase in commuter traffic, necessitating alternative parking, transit, and access options be considered.

Parking and Transportation Demand Management (TDM) Plan – A parking and TDM plan is included in this report to address the unmet demand for downtown access in ways that are convenient, cost effective, and provide choices for users. Another key goal is to reduce the percentage of commuters driving single occupant vehicles and increase the utilization of alternative transportation options. Some specific tactics recommended for Rochester include:

- Zoning and development regulation changes that support multi-modal transportation
- Parking rate adjustments
- Location and distribution of new parking infrastructure
- Expansion of existing transit services and the introduction of alternative transit modes
- A Transportation Management Association (TMA) to foster proactive engagement with businesses and commuters to find/customize the best commute solutions
- "Mobility hubs" as a strategy to make remote parking more attractive to commuters
- Maintaining vehicular access and parking for customers, visitors and patients. These groups are the lifeblood of downtown and need to be accommodated primarily in traditional/expected ways.

Mitigating parking demand and increasing alternative transportation use, while ensuring a thriving downtown is addressed in the report that follows through a combination of parking management strategies, demand-based parking pricing, development of new parking infrastructure for commuters (outside the roadway portal capacity constraints), and the development of a set of transportation alternatives combined with ongoing community education re: transportation options. The result will be programs that support travel behavior change as well as a more sustainable transportation mode split. Additionally, providing high quality parking options and services for downtown visitors, patients, and event attendees will remain a high priority.

In addition, an extensive amount of parking and TDM "best practices" research was conducted as part of the study. A library of successful strategies and peer-city case studies is provided in the report appendices.

Transportation Principles

The DMC plan outlined 10 "transportation principles" that have been adopted and expanded on by the Parking and TMA study team. These 10 principles include:

1. Make it easy, affordable, and convenient for people from southeast Minnesota and around the World to get to downtown Rochester
2. Bring 30% of the workforce to downtown Rochester on transit by 2035
3. Create a park-once downtown environment connected by a frequent downtown circulator
4. Build shared-parking prioritized for economic development
5. Create world-class streets, designed for People
6. Create an exceptional place for healthy, human-powered transportation
7. Form a downtown Rochester Access Authority
8. Invest in sustainable transportation infrastructure and programs that reduce the ecological footprint of the City
9. Use DMC funding to leverage public and private transportation infrastructure funding
10. Establish and maintain a transportation network that is accessible and inclusive to people of all ages, abilities, and states of wellness

An Integrated Approach to Parking and Mobility Management

The Parking and TMA study recommends an integrated parking/mobility strategy to support economic development and enhanced vitality in downtown Rochester to:

- Ensure that those who drive the economy of downtown Rochester – Patients and their companions, retail/restaurant/business customers - have easy access to convenient parking.
- Ensure that parking and transit adequately serves all ages and abilities including those who are physically or medically challenged.
- Provide high quality facilities for those who choose to bike, walk, or use transit to get to work reducing the need for parking in downtown.
- Provide employee parking in high quality multi-modal hubs that provide convenient access to work destinations.

- Encourage a "park once" philosophy for downtown encouraging patients, visitors and employees to walk, bike and use transit to access multiple destinations in downtown.

- Support 16-hour/7-day parking and mobility services that encourage retail, service, restaurant, and entertainment activities beyond the "8 to 5" workday.

How Might This Get Implemented?

It is understood that an integrated implementation plan will be developed independent of each Integrated Transit Study; however, the following provides input for consideration as part of this effort from a parking and TMA perspective.

Short Term – *Next* 5 Years

- Implement most of the recommended parking management strategies (see pages 124 - 136).
- Support increased downtown residential development (applies to all timeframes).
- Establish a TMA and formalize appropriate development regulations to support the TMA and alternative parking/transit strategies.
- Monitor visitor, patient, and customer parking demand through tracking of development and assessment of the utilization of existing public parking.
    - It is the City's intent is to move toward a model of integrating parking with development rather than free standing ramps in the future.
    - Future public and private parking facility design should be implemented consistent with the Downtown Design Guidelines to facilitate transformation of street and structures to a more pedestrian friendly design.
- Track new parking development and demand utilization on an on-going basis and update Park+ model (or other data management tools) on periodic basis to reflect changes observed to assist in new downtown development planning.
- Monitor progress on achieving modal split targets and parking demand reduction strategies/ goals. Adjust strategies based on the performance of specific demand reduction initiatives.
- Continue Federal Transit Authority/transit circulator implementation process.

Medium Term – 5-10 Years

- Track new parking development and demand utilization on an on-going basis and update Park+ model (or other data management tools) on periodic basis to reflect changes observed to assist in new downtown development planning.
- Begin to plan for and initiate phased development of mobility hubs at remote park and rides, peripheral commuter parking sites, and/or at key downtown transit stops/stations to better meet the needs of commuters, served by high quality transit service.
- Begin development of peripheral parking supply.

- Develop alternative "curb lane management strategies" to reallocate on-street parking for shared mobility service pickup/drop-off locations, carsharing, bikesharing, parklets, etc.
- Evaluate effectiveness of TMA as an organization. Adjust organizational framework and/or membership rates as needed.
- Continue monitoring effectiveness of TDM strategies related to achieving modal split targets adjusting mode split targets for next 5 years based on experience during years 1-5.

Long Term – Beyond 10 Years

- Continue to monitor changes in the transportation industry based on technological and social impacts.
- Continued parking development for a) visitors/customers/patients in the district as development demand continues, and b) peripheral parking expansion continued in conjunction with transit circulator services.

Note: Many of the items highlighted above should be considered on-going strategies that will require reassessment on a periodic basis as development, technological change and new development occur.

What about the future?

Continue assessing and monitoring the evolution of the emergence of autonomous vehicles, the sharing economy and the rapid rise of new shared mobility options and their impact on parking demand and commute patterns.

- Incorporate "adaptive reuse" strategies into future parking ramps as a hedge against future parking demand reduction projections due to increased adoption of autonomous vehicles.
- Remote parking structure or mobility hub development may require a new approach to parking infrastructure funding.

Report Organization and Overview

Over the course of this study, a variety of task reports have been developed and submitted to the project advisory team for review and discussion. This report summarizes all the work done to date on the Parking and TMA Study and references the various task reports, appendices and other relevant tools, models and reference materials provided.

The following outline summarizes the content and organization of the Parking and TMA study report:

Parking and TMA Study – Executive Summary

Parking and TMA Study - Executive Summary

The importance of well-defined parking and transportation demand management strategy

The concept of a parking and transportation demand management (TDM) strategy to support the larger Destination Medical Center (DMC) vision has been part of transportation planning in Rochester since 2010. The Rochester Downtown Master Plan, the DMC Development Plan, and the Rochester Comprehensive Plan all stress the importance of accommodating the anticipated downtown growth with an associated transportation mode shift to avoid significant street widening and many new parking ramps that would be required if single occupancy vehicles continue to dominate the downtown transportation system.

Integration with other transportation infrastructure program studies

The Parking and TMA Study component of the DMC Transportation Infrastructure Program was completed in coordination with the Transit, Street Use, and City Loop studies. Some key ideas and issues that emerged from the coordination between the studies are:

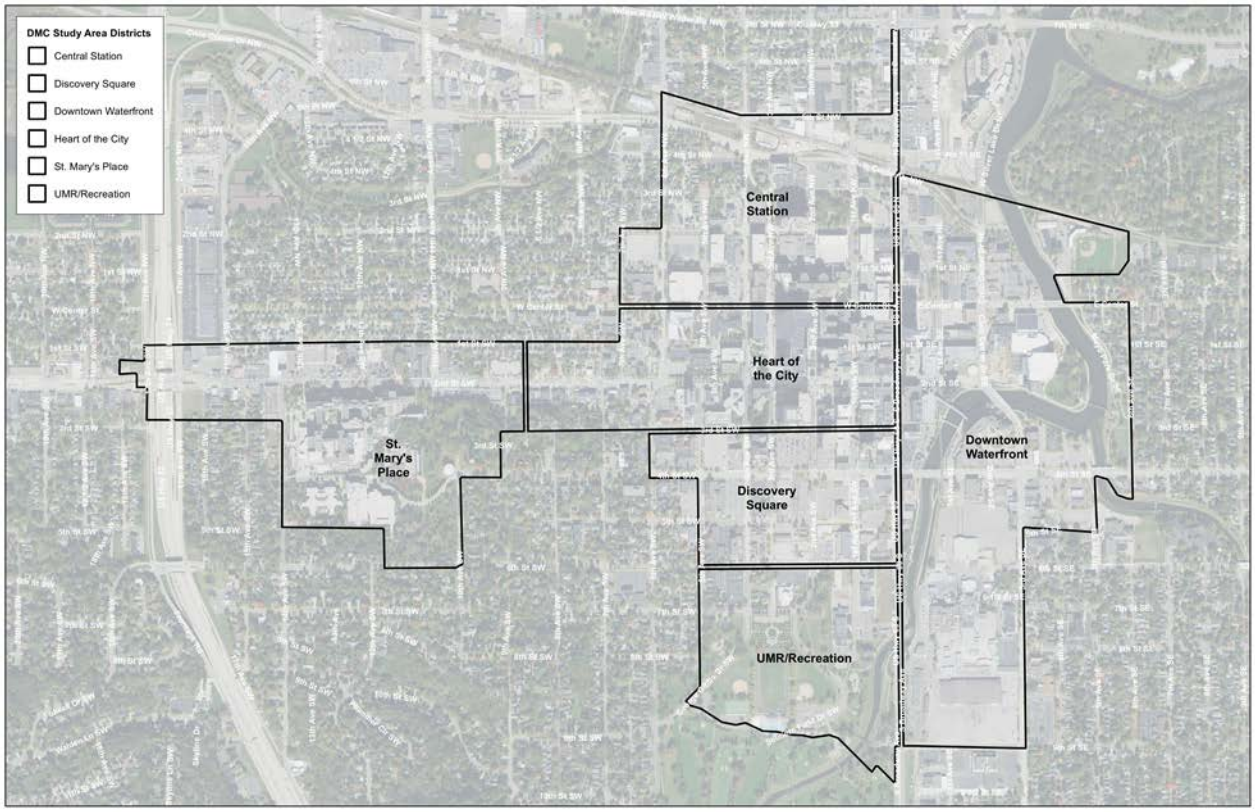
- Available portal capacity limits number of additional commuter vehicles that can enter the downtown core in the a.m. and p.m. peak periods. To accommodate growth in private commuter travel, parking facilities for commuters need to be located at or outside a downtown cordon defined by TH 52 on the west, the Canadian Pacific rail corridor on the north, the Zumbro River on the east and 6th Street on the south.
- The commuter parking facilities outside the downtown cordon need to be served by transit to effectively use the capacity of the existing public rights of way into downtown. Transit routes and transit ridership forecasts depend heavily on parking locations and magnitude.
- Patients, visitors, and residents are the main user types that need to be accommodated via automobile in downtown. These user types typically access the downtown outside the a.m. and p.m. peak periods, and are therefore not affected as much by the peak period portal capacity constraints.
- A meaningful amount of existing employee parking will need to shift over time to parking areas outside the downtown cordon so that additional patients, visitors, and residents can find convenient parking near/in downtown.

Parking Supply/Demand Assessment

Introduction to Rochester DMC Park+ Parking Supply/Demand Modeling

Park+ is an interactive parking scenario planning tool that can evaluate existing parking supply and demand, identify and test changes in parking demand caused by new development and parking facilities, and test the application of parking management strategies. The results of the demand model represent how much parking is needed, where parking is desired, and where existing parking supply can either meet the demand for existing and additional demand in future scenarios, or where available parking may be insufficient. The Park+ model built for the Rochester DMC captures the existing municipal and medical campus that serve as the backbone for downtown Rochester, and considers the impacts on parking from the anticipated heavy growth downtown. The Study Area for the Parking Supply/Demand Assessment is the DMC Core boundary, subdivided into districts as shown in the graphic below.

Study Area



The Parking Supply refers to the total number of parking spaces available on-street, in surface parking lots, and in structured parking ramps. Parking supply may have user restrictions, such as monthly contract (employee-only) parking, hourly public parking, or privately parked relationships with a specific parking facility associated only with the tenants and/or visitors of a specific building or complex. Parking demand is based on each specific building or complex, and is characterized by rates or ratios of parking spaces desired by employees, residents, or visitors, etc.

Existing Rochester DMC Parking Supply/Demand

Existing Parking Supply

The study area currently holds approximately 28,650 parking spaces in the five sub-districts shown within the Study Area, plus some additional peripheral/ remote parking that serves the downtown area. There are approximately 1,200 on-street parking spaces, with the remaining supply located off-street in lots and ramps. Parking user restrictions are varied throughout the downtown core and include common themes such as employee-only monthly contracts and general public hourly parking. The breakdown of parking space supply by district and user restriction is summarized below. A similar table summarizes the parking supply by facility ownership.

Existing Parking Supply by District and Facility Type

Existing Parking Supply	*Employee Contract Parking*	*Private/ Reserved Off-Street*	*General Public Off-Street*	*Mayo Patient Parking*	*On-Street Parking*	*Total Supply*
Central Station	4,399	1,244		1,090	346	**7,079**
Discovery Square	2,085	639	394	48	349	**3,515**
Downtown Waterfront	1,456	2,631	2,066		266	**6,419**
Heart of the City	1,585	792	330	941	187	**3,835**
St. Mary's Place	2,303	1,093	136	710	27	**4,269**
UMR/ Recreation		826			54	**880**
Peripheral/ Remote	2,646					**2,646**
Total Supply	**14,474**	**7,225**	**2,926**	**2,789**	**1,229**	**28,643**

** Parking supply data was provided by Olmsted County, the City of Rochester, the Mayo Clinic, and field review of existing parking facilities.*

Existing Parking Supply by District and Facility Ownership

Existing Parking Supply	*City Owned or Leased**	*Privately Owned*	*Mayo Owned or Leased**	*Total Supply*
Central Station	416	986	5,677	**7,079**
Discovery Square	1,395	744	1,376	**3,515**
Downtown Waterfront	3,027	2,483	909	**6,419**
Heart of the City	580	1,080	2,175	**3,835**
St. Mary's Place	27	1,229	3,013	**4,269**
UMR/ Recreation	54	826		**880**
Peripheral/ Remote	1,568		1,078	**2,646**
Total Supply	**7,067**	**7,348**	**14,228**	**28,643**

***** *City or Mayo leased parking includes supply that may be owned by a private entity but that is reserved for City public parking, or Mayo parking.*

Existing Land Use Data

Land use characteristics are essential to provide a baseline for parking demand rates. Existing Land Use information was provided by Olmsted County. The land use information included block-level development information for existing land use types and intensities, such as office square footage, hospital square footage, and dwelling units, among all other land uses throughout the DMC area.

Existing Parking Demand/ Model Calibration

The existing conditions supply/demand assessment included a comprehensive review of existing parking utilization, reviewing how many parking spaces were occupied during three separate time periods on an average weekday: morning, noon, and late afternoon.

The parking utilization data collected and land use intensity information underwent an iterative model calibration process that utilized proximity-based parking algorithms to result in a base parking model that mimics existing, observed parking occupancies tied to associated parking rates by individual land uses and their locations. The parking occupancy/ utilization data identified that the study area peak parking demand on an average weekday occurs around 1 p.m., so while the base model considered all time periods, future scenario planning model runs consider the 1 p.m. peak.

When calibration of the model is fully realized, the localized parking demand rates prepared for the model are unique to the Rochester DMC study area, and are not based on general rates provided by industry standards. The table below identifies parking demand based on existing land use intensities, and calibrated parking demand rates based on the parking utilization/ occupancy rates collected as part of this study.

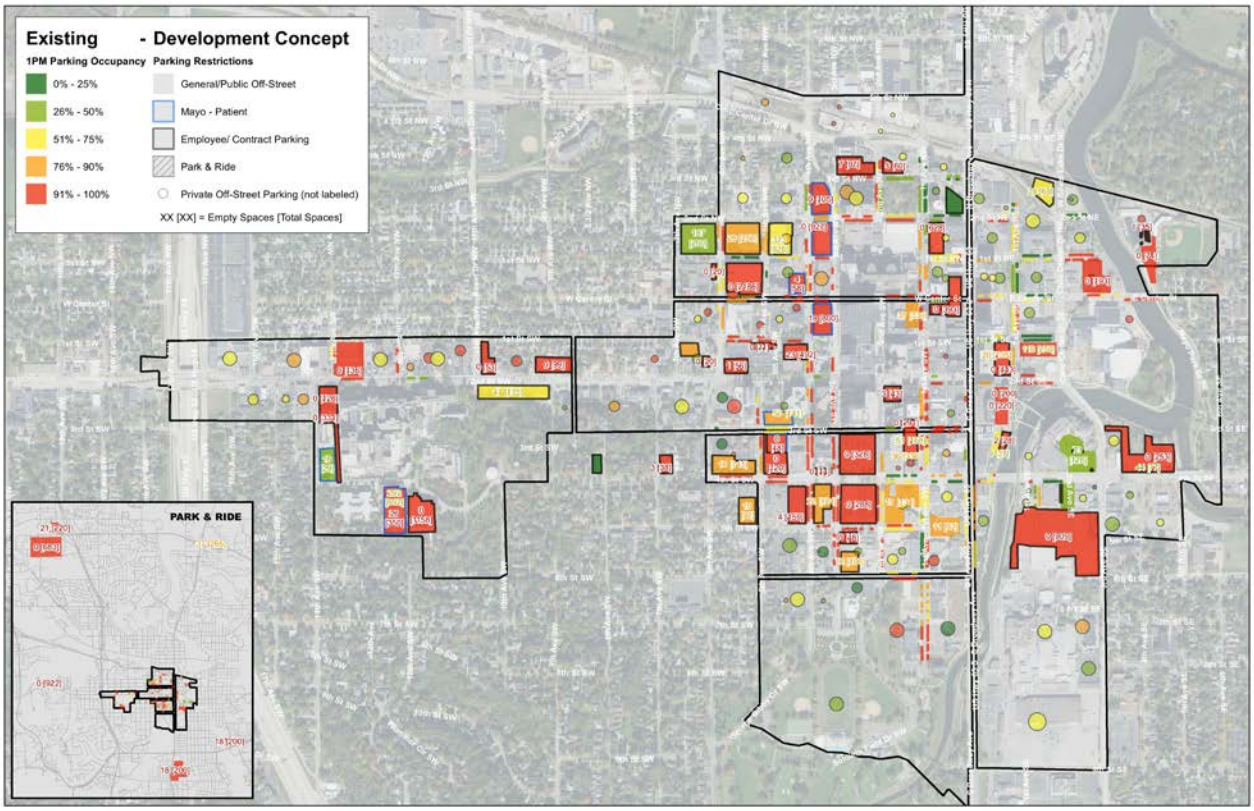
Existing Parking Demand by District

User Type by Land Use	*Central Station*	*Discovery Square*	*Downtown Waterfront*	*Heart of the City*	*St. Mary's Place*	*UMR/ Recreation*	*Total Demand*
Employee	133	344	1,950	45		21	**2,494**
Mayo - Employee	1,966	322	12	5,394	4,173		**11,866**
Mayo - Patient	843	13	-	1,149	668		**2,674**
Resident	256	279	505	571	123	121	**1,855**
Student				34			**34**
Visitor	544	333	2,085	613	828	477	**4,881**
Total Demand	**3,743**	**1,291**	**4,553**	**7,807**	**5,791**	**619**	**23,804**

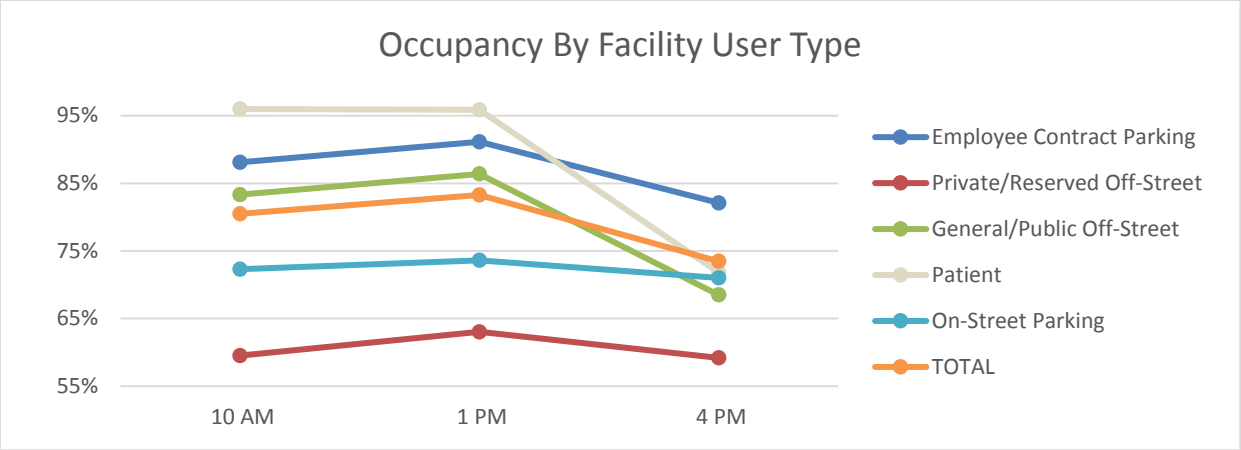
The total existing peak parking demand for an average weekday is approximately 23,800 parking spaces. Compared with the existing parking supply, the study area overall parking occupancy is approximately 83%. Industry standards today have identified optimal parking utilization at approximately 85% occupancy. At 85%, most the parking spaces are full, yet open or empty spaces are still frequent and do not require excessive circling to find an open space.

Of course, the study area is large, and some concentrations of land use do not perfectly correspond to adjacent parking facilities. Also, user restrictions may leave some parking facilities empty while adjacent parking facilities without restrictions are over capacity. A more detailed look at existing parking demand is shown below in the map of existing (model calibrated) parking utilization, and the chart of time-of-day occupancies by facility user type.

Existing (Calibrated Model) Study Area Occupancy



Existing Occupancy by Parking Facility User Type



Notable in the chart and map above, it is not surprising that private/ reserved parking facilities are generally underutilized during the periods evaluated since these private/ reserved facilities are unlikely to share between land uses throughout the day. Nor is it a surprise that Mayo patient parking is heavily utilized during the morning and afternoon, but dropping significantly in the late afternoon as clinic appointments come to a close for the business day.

Future Rochester DMC Parking Supply/Demand

Future estimates for parking supply and land use changes in the study area were provided by Olmsted County at the block level. The Park+ supply/demand model was modified and updated to incorporate these anticipated changes to the downtown study area system.

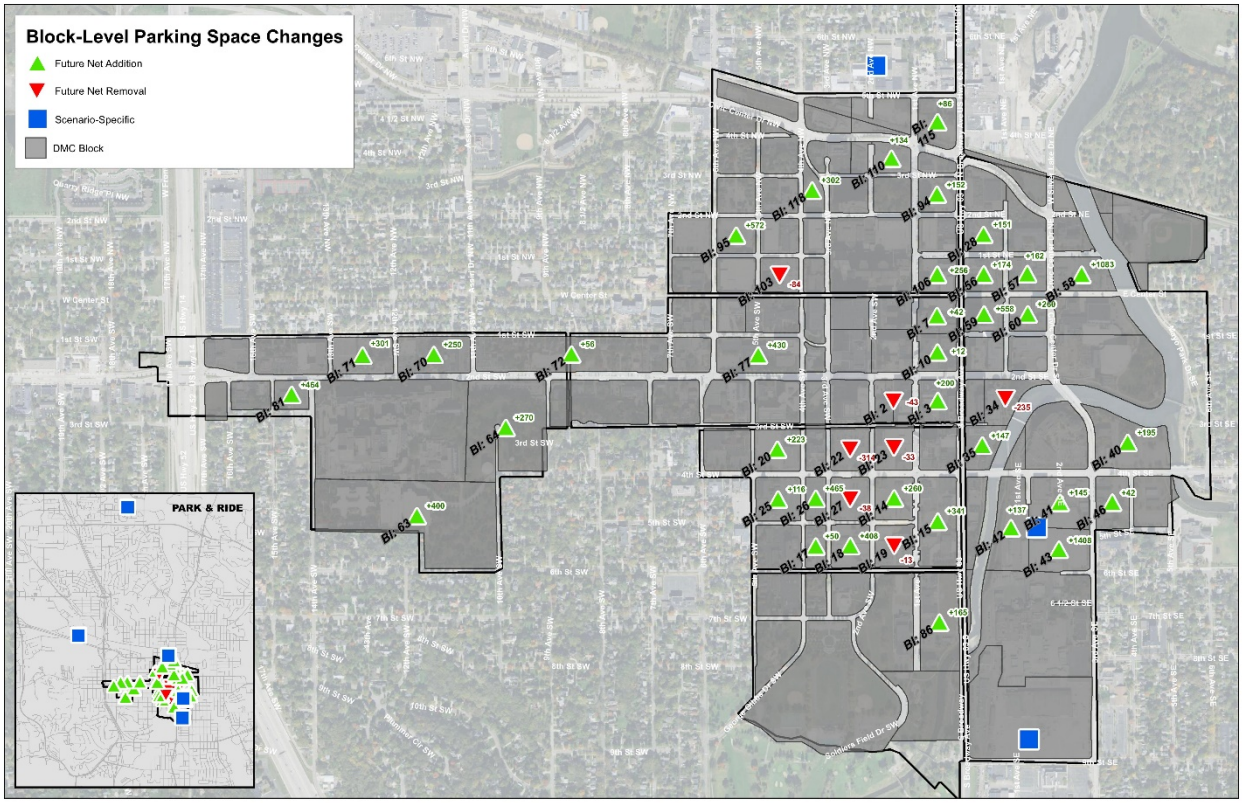
Future Parking Supply

The changes in parking supply provided by Olmsted County included net additions to and net removals of the existing parking supply throughout the downtown core area as shown in the map below. Approximately 16,300 net new parking spaces were identified to be built as part of anticipated development per the Olmsted County parking supply estimate, with approximately 6,600 spaces to be built in peripheral or remote locations primarily to serve employee monthly contract parking. The locations of future peripheral/ remote parking concentrations were tested in a number of scenarios that considered more than simply parking utilization, but also traffic volumes and transit potential to identify the best opportunities for future parking reservoir locations.

Parking Supply Changes by District (Development Scenarios, July 2017)

Parking Facility Type	*Employee Contract Parking*	*Private/ Reserved Off-Street*	*General Public Off-Street*	*Mayo Patient Parking*	*On-Street Parking*	*Net Supply Change*
Central Station	874	398	204	(58)	-	1,418
Discovery Square	508	701	172	84	-	1,465
Downtown Waterfront	1,186	1,345	1,696	-	-	4,227
Heart of the City	(306)	572	247	300	-	813
St. Mary's Place	526	584	334	125	-	1,569
UMR/ Recreation	-	30	135	-	-	165
Peripheral/ Remote	6,600	-	-	-	-	6,600
Net Supply Change	9,388	3,630	2,788	451	-	16,257

Future Parking Supply Changes Map



Future Land Use Data

The land use changes anticipated for the future per Olmsted County estimates included significant square footage for net new future development in the DMC study area, plus a development program to increase residential units in the downtown study area, university enrollment, and convention space. The land use changes in the future model considered localized parking demand generation rates identified for the Rochester DMC in the existing model, with the assumption that future parking demand will have similar characteristics to today's demands. The assumption that future demand will be similar to today does not take into account potential mode shift, or technological advances in the DMC area, but provides a baseline to understand how today compares to the future. Although potential mode shift is not included as part of the parking demand calculations it is the intent of the parking professionals that mode shift be a key strategy to limit the amount of parking infrastructure and single occupancy vehicle use under future conditions. Mode shift goals/targets have been established that employers and developers will strive to achieve through development practices and travel demand management strategies.

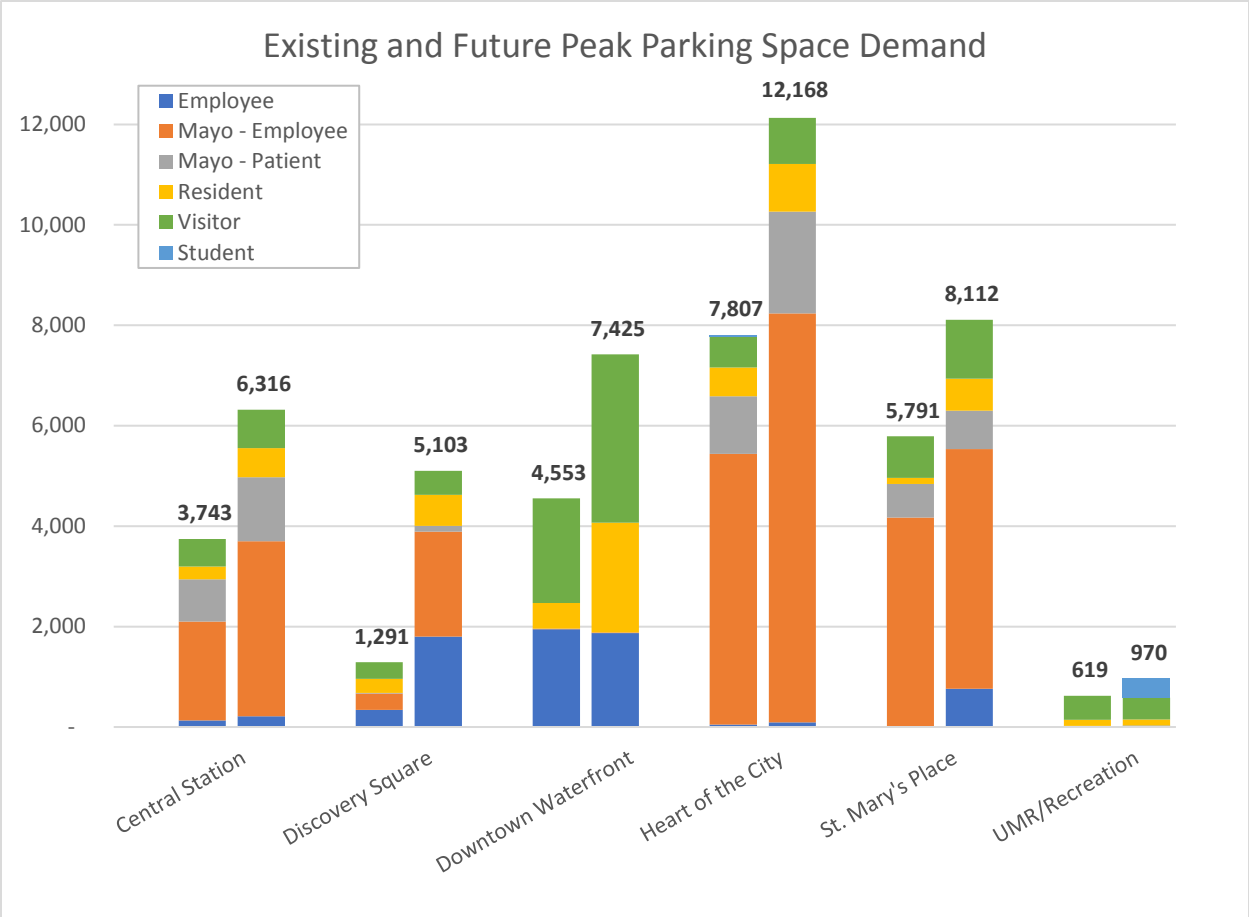
Future Parking Demand

Parking demand, which is based on land use intensities, is constant for the future scenarios since the anticipated development provided by Olmsted County is a fixed future consideration. Future parking demand is anticipated to behave similarly to existing parking demand, anticipating some similarities to local development and parking/ driving characteristics. Therefore, parking demand estimates for the future scenarios considered the localized land-use based parking demand rates identified during the model calibration process, which are unique to the Rochester DMC study area. Based on the future development program from Olmsted County, the net increase in parking demand anticipated from the future development identified approximately 16,300 net new parking spaces desired by the development changes. This increased parking demand from approximately 23,800 spaces existing to nearly 40,100 spaces in the future. The change between existing and future parking demand by district and user type is identified below in the table, and the total demand is compared between Existing and Future in the chart below.

Future Parking Space Change in Demand

User Type by Land Use	*Central Station*	*Discovery Square*	*Downtown Waterfront*	*Heart of the City*	*St. Mary's Place*	*UMR/ Recreation*	*Net Demand*
Employee	81	1,455	(78)	45	759	7	**2,269**
Mayo - Employee	1,519	1,660	-	2,755	602	-	**6,536**
Mayo - Patient	433	212	-	875	97	-	**1,617**
Resident	324	338	1,678	379	514	-	**3,233**
Student	-	-	-	-	-	385	**385**
Visitor	217	147	1,272	306	349	(41)	**2,250**
Net Demand	**2,574**	**3,812**	**2,872**	**4,360**	**2,321**	**351**	**16,290**

Existing and Future Peak Parking Space Demand



Projected Demand for New Parking Spaces Through 2035 (based on the "balanced DMC development program")

User Type	Parking Demand	Preferred Location
Mayo Patient/Visitors	1,600	Within DMC District
Downtown Visitors	2,300	Within DMC District
UMR Students	400	Within DMC District
Downtown Residents	3,300	Within DMC District
Mayo Employees	6,600	Outside DMC District
Non-Mayo Employees	2,300	Outside DMC District
Total	**16,500**	

Timing of New Parking Demand (based on the "balanced DMC development program")

	Within DMC District	Outside DMC District	Preferred Location
Phase 1	1,440	1,250	Remote Park and Rides
Phase 2	2,180	1,960	Remote Park and Rides, Parking Areas A, B
Phase 3	2,410	2,600	Parking Areas A, B
Phase 4	1,820	2,840	Parking Areas A, B
Total	**7,850**	**8,650**	
	16,500		

DMC TRANSPORTATION GOALS SUPPORTED BY PARKING

- Create a park-once downtown environment connected by a frequent downtown circulator
- Build shared-parking prioritized for economic development

PROJECTED COST: $386 MILLION

Summary of scenarios considered

Five transportation scenarios were developed for consideration as part of the overall DMC Transportation Infrastructure Program. The parking component of the scenarios was based on developing around 16,000 net new parking stalls. The scenarios were differentiated by how those new stalls would be allocated to different user types and placed in different locations. See the table below for a summary. Note that the scenarios have a bias toward patients and visitors (and residents) using the new downtown core parking and employees parking outside of the downtown core. In all scenarios, the new patient and visitor parking demand is met in the downtown core; whereas the new and reassigned employee parking demand is met outside the downtown core, with the "Transit Alternative Phase #1" scenario having up to 100 percent new and reassigned employee parking demand met in park and rides.

EMPLOYEE-NEW	*1: DMC MODIFIED*	*2: SCENARIO A*	*3: SCENARIO D*	*4: TRANSIT ALTERNATIVE PHASE #1*	*5: HYBRID SCENARIO*
Downtown Core	0	0	0	0	0
Peripheral	4,000	3,000	2,500	0	2,000
Remote	3,000	4,000	4,000	0	4,000
Park & Ride	2,000	2,000	2,500	9,000	2,650
Employee-Relocated					
Downtown Core	0	0	0	0	0
Peripheral	700	0	0	0	0
Remote	1,000	2,000	0	0	0
Park & Ride	800	500	2,500	2,500	0
Patient / Visitor - New					
Downtown Core	1,500	1,500	1,500	1,500	1,000
Peripheral	0	0	0	0	0
Remote	0	0	0	0	0
Park & Ride	0	0	0	0	0
Patient / Visitor - Reassigned					
Downtown Core	2,500	2,500	2,500	2,500	3,450
Peripheral	0	0	0	0	0
Remote	0	0	0	0	0
Park & Ride	0	0	0	0	0
Student					
Downtown Core	0	0	0	0	385
Peripheral	400	400	400	0	0
Remote	0	0	0	0	0
Park & Ride	0	0	0	400	0
Total New	**15,900**	**15,900**	**15,900**	**15,900**	**13485**

Recommended Strategies and Focus Areas for Advancement of the City of Rochester's Parking and Access Management Program

OVERALL PARKING AND ACCESS MANAGEMENT STRATEGIES SUMMARY

The following section provides a summary listing of parking and access management recommendations for the City of Rochester's Transit and Parking program to consider in the short to mid-term timeframe. Each of the recommended strategies in the summary listing below are described in more detail in the report below and in various supporting documents provided in the report appendices.

Summary of Recommended Parking Strategies

1. Adopt a broader mobility management program development model centered around the concept of finding the most efficient strategy for moving people, not vehicles, in and out of the downtown.

2. Expand the scope of the City's Transit and Parking program by incorporating TDM strategies into the portfolio of services provided

3. Incorporate parking as a key element of a community-based economic development policy (See chapter 10 of this report beginning on page 77)

4. Review and assess the extensive collection of parking management best practices and peer city research provided in this study (See Appendices 2 and 3).

5. Adopt recommended parking rate strategies and continue to evaluate demand-based parking pricing strategies in the future as a key element to support achievement of modal shift goals (See parking rate section of this report).

6. Leverage the investment in the Rochester specific "Park+" parking demand model as an on-going parking planning tool. The Park+ modeling tool provides City staff with the ability to keep parking inventories up to date as changes occur. Periodic demand surveys can also be conducted to keep the model current. A primary use of the model should be to assess the parking/access needs of new/proposed development project. The model can also be a tool for on-going modal split monitoring.

7. Plan to expand the current residential parking permit program (RPPP) (See Appendix 13.).

8. Invest in new parking technology

    a. The following is a list of recommended new parking technology options for the next 5-year period.

        i. New facility count system technologies to improve facility management data and push out parking availability information to dynamic messaging signage and mobility apps

ii. For both City-owned ramps as well as remaining surface parking lots and potentially park and ride locations, it is recommended that a simple and cost effective new product be evaluated. The new system is known as "Parking Logix".

iii. Digital "Pay-by Space" parking meters with credit card acceptance technology is already being piloted in approximately 360 on-street spaces in the downtown.

iv. The trend in the industry seems to be moving towards a "Pay-by-License Plate" methodology. This trend has several advantages (less signage, integration of mobile apps, synergy with mobile license plate enforcement technologies, etc.) We encourage the City to carefully evaluate this methodology as it continues to plan for both on-and off-street parking meter system upgrades in the future.

v. Wireless and hosted license plate recognition parking enforcement systems also be used for periodic data collection and special event parking demand monitoring.

vi. Adding credit card in/out capabilities in all City Ramps

vii. Development of mobile apps for parking payment and information

viii. Implementation of automatic vehicle location (AVL) technology on all City busses in conjunction with the development of a Transit App.

9. Adopt changes to the city's zoning code regulations that shift away from "parking requirements" in favor of a more flexible and mobility oriented approach that utilizes "access requirements" as the preferred methodology

10. Adopt parking garage design guidelines and incorporate adaptive reuse strategies into new garage designs going forward

11. Enhance the customer parking experience

12. Develop strategies to maximize the use of existing parking resources (both public and private), as well as aggressively promoting shared parking and demand management strategies

13. As new transit options evolve in the downtown area, adopt recommended "station area design principles" to promote: land-use and development policy, a wider range of mobility management strategies, and support quality urban design to enhance the community identity of station areas and to make them attractive, safe, and convenient places

14. Expand parking and TMA program branding, marketing, and community engagement strategies

15. Focus on curbside space management – this includes policy development for use of curbside space in the downtown core and potential parking districts

16. Development of a parking and access management financial plan document

Summary of Recommended TDM Strategies

TDM strategy recommendations have a primary goal of changing travel behavior and have been divided into the following categories:

- Parking policies
- Small-scale infrastructure improvements
- Active transportation programs
- Bus programs
- Shared mobility
- Education
- Developer-focused policies
- Implementation

The success of the recommended programs, incentives, and infrastructure improvements will be dependent on the implementation of a strong TDM delivery structure and associated educational efforts.

Parking Policies

Parking policies can have a significant effect on travel behavior.

- Strategy: Expand carpool parking to all municipal ramps
- Strategy: Provide support for parking cash out programs
- Strategy: Move from monthly to daily parking charges
- Strategy: Leverage the loss of current municipal parking ramps with alternative transportation options
- Strategy: Include mobility hub concepts into transit and parking plans
- Strategy: Integrate park and bike program into park and rides/mobility hubs

Small-Scale Infrastructure Improvements

TDM strategies typically exclude infrastructure investment except for smaller-scale and low-cost investments that encourage the use of transit and active transportation. The following recommendations are intended to be low-cost investments.

- Strategy: Include walking times with wayfinding signage
- Strategy: Encourage employers and building owners to provide end-of-trip facilities for transit, rideshare and bike users

Active Transportation Programs

Biking and walking are increasingly popular modes for employees to get to work and employers can increase support for these modes by offering additional amenities. The following recommendations can to be implemented at specific sites and/or throughout downtown.

- Strategy: Subsidize bikeshare memberships
- Strategy: Create bike loans and discounted bike purchase programs

Transit Programs

Successful bus-focused incentives and education programs can significantly increase the rate at which commuters ride transit. Their success is even greater when integrated with service improvements such as those being planned by the city.

- Strategy: Encourage employers and building owners to add real-time transit displays
- Strategy: Study an employer transit pass program

Shared Mobility

Shared mobility is a group of strategies that reduce dependence on the single occupant automobile. They tend to be technology and infrastructure focused. Some strategies previously mentioned, such as bikeshare, or that will be incorporated into other sections of the DMC Transportation Plan, such as expansion of public transit, are shared mobility strategies. Additional core shared mobility strategies that Rochester should consider include:

- Strategy: Facilitate car sharing downtown
- Strategy: Study a mobility pass program
- Strategy: Dedicate street/curb space for shared mobility vehicles

Education

The successful implementation of the recommended strategies will be dependent on an effective education program that utilizes technology and in-person outreach. The goal of the education program is to increase awareness and use of available travel modes, incentives, and programs.

- Strategy: Assure the availability of a travel planning tool
- Strategy: Conduct educational workshops/events
- Strategy: Incorporate TDM communications into overall city communications
- Strategy: Conduct bike education classes
- Strategy: Use virtual reality to educate about biking and taking transit to work
- Strategy: Create and distribute new employee travel kits
- Strategy: Create and distribute new resident travel kits
- Strategy: Develop materials and training to promote living near work

Developer Policies

New developments provide an opportunity to incorporate TDM infrastructure as well as programs to encourage the use of alternative transportation options. Incorporating infrastructure elements early on into the design and construction of buildings and parking facilities greatly reduces the cost and allows them to be integrated into total project costs for financing purposes. The provision of TDM infrastructure and services reduce vehicle trip impacts and parking requirements.

The recommendations in this section are detailed further in the TDM Developer Regulations section of the report.

- Strategy: Encourage the installation of infrastructure that supports TDM and non-auto travel
- Strategy: Encourage parking management at new development sites
- Strategy: Provide free transit passes to new residents/employees
- Strategy: Encourage participation in the TMA

Chapter I
Current Parking Program Assessment Overview and Key Findings

I. Current Parking Program Assessment Overview and Key Findings

Transit and Parking Division Overview

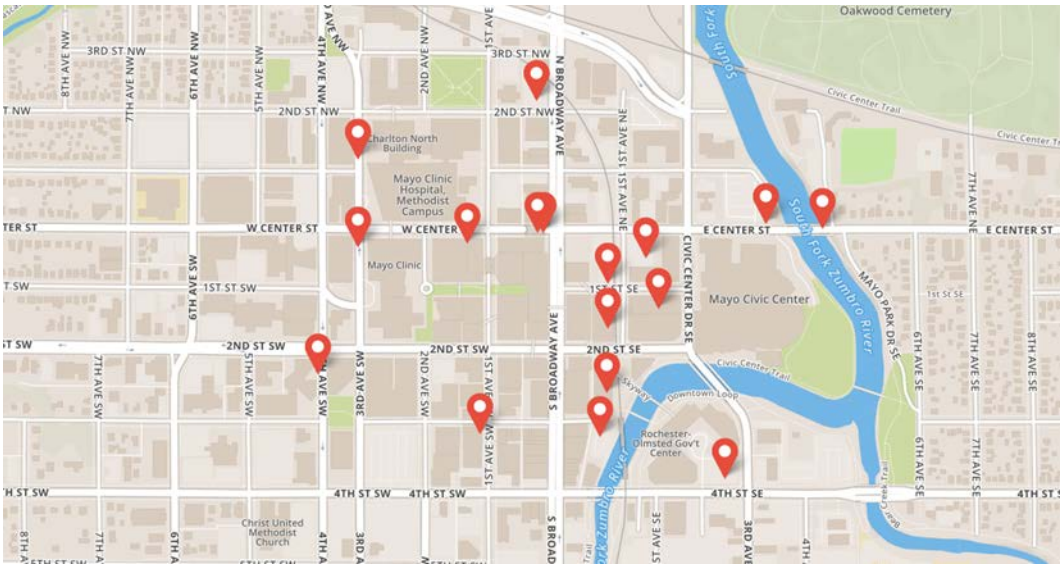
Introduction

This chapter provides an overview of the current Rochester transit and parking program, which is housed within the Transit and Parking Division of City of Rochester's Public Works department. It reviews program organization and staffing, budget and finance. It also reviews planned parking capital investments and parking asset inventory, utilization, and monitoring. An abbreviated list of recent program accomplishments is also provided.

Program Organization

The City has integrated parking management and transit program management together under the department of Public Works. Day-to-day Parking management is outsourced to a private parking management firm (currently Lanier Parking). Rochester Public Transit (RPT) provides safe and convenient public transportation services to the City of Rochester. RPT's bus routes consist of 40 weekday fixed-routes and 8 Saturday routes. Specialized or paratransit service is available for individuals unable to use fixed route buses. This specialized service, called ZIPS, can be accessed once individuals are certified as ADA Paratransit eligible. More information on ZIPS can be found by clicking on the ZIPS web page link: http://www.rochestermn.gov/departments/public-transportation/zips-paratransit-service.

Off-Street Parking



The City of Rochester currently has approximately 4,064 total off-street parking spaces in the downtown area. This consists of 2,973 spaces in five parking ramps and 1,091 spaces in eight surface parking lots. All of the City ramps have indoor skyway connections to adjacent office buildings, retailing, hotels, banks, and civic buildings. Many downtown businesses will validate parking in the City ramps.

On-Street Parking

The City also has 1,229 on-street parking meters in the downtown and St. Mary's areas. Parking meters are enforced 8:00 a.m. to 5:00 p.m. Monday through Friday except the following holidays; New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. On-street parking is prohibited on most streets in the downtown from 2:00 a.m. until 6:00 a.m. Visit City of Rochester's website for details (http://www.rochestermn.gov/departments/public-works/parking).

Parking Rates

Monthly parking is available in any of the five municipal parking ramps. Lease rates range from $90.00 (for rooftop or flex programs) to $170.00 monthly (for commercial assigned parking). Free parking is provided at all meters after 5:00 p.m. during the weekdays and at all times on weekends. Parking in City parking ramps is free after 5:00 p.m. in the evening and on weekends from 6:30 a.m. until 2:30 a.m. Fees may be charged in the ramps during these periods for certain events. During weekdays, parking at the Center Street, Civic Center, First Street and Second Street ramps is "Free" if you enter and exit **within an hour.**

On-street meter rates are:

30 minute:	$0.70
90 minute:	$1.20 / hr.
2 hour:	$1.40 / hr.
3 hour:	$1.20
10 hour:	$0.40

Residential Parking Permit Program

A Residential Parking permit is required to park on certain streets in the City of Rochester. As of October 2016, Residential Parking permit enforcement will no longer require a physical tag on your vehicle as proof of a valid parking permit. The license plate on your vehicle is now your permit.

As per City Ordinance 138A, permittees are required to provide a registered license plate number for the vehicle to be parked in the residential permit parking zone. Parking enforcement will use automatic license plate readers to determine which vehicles are not permitted in the zone. All Parking Tickets must be paid before Permit is approved.

The Residential Parking Permit (RPP) Cost and Requirements:

- Application Fee: $5 one-time fee / vehicle
- Annual Permit Cost: $20 per vehicle / year
- Proof of Residency: Valid Driver's License with current address AND current electric/phone/cable bill, OR lease agreement
- Proof of Vehicle Ownership: State issued registration with license plate number and make, model and year of vehicle

Detailed Parking Program Assessment Methodology and Summary

Kimley-Horn assessed the current City parking program utilizing our "20 Characteristics of Effective Parking Programs" methodology. This assessment document was formatted to provide a detailed explanation of each of the "20 Characteristics" and included an opportunity for the City to provide a "self-assessment" of each area. This is followed by a "consultant assessment" of the same categories of evaluation, as well as a list of specific program "primary action items."

Program assessment methodology (20 Characteristics)

Introduction

In addition to the documentation of current parking program elements noted above, a special program assessment tool was applied to the City of Rochester and the Mayo Clinic parking programs. This parking assessment program, referred to as the "20 Characteristics of Effective Parking Programs," is applicable to most parking programs, but was developed specifically for municipal parking programs.

To the right is a summary of the "20 Characteristics" system evaluation categories.

A program that effectively addresses these 20 program categories into an integrated approach to parking and access management, will have a solid foundation for a sound and well-managed operation.

A transportation and parking system that has all twenty of these characteristics is well on its way to being in a class apart from most parking programs. The goal of this program development and management approach is to create a parking and access management program that will be positive contributor to improving the overall experience of traveling to, and around, Downtown Rochester.

"20 Characteristics" System Evaluation Process Overview

As part of our current program assessment process, we provided the City and Mayo programs an opportunity to conduct a "Program Self-Assessment" using this approach.

Using a rating scale of 1 through 10, where 1 = "poor" and 10 = "excellent", we asked each program leader to rank how they feel their program would score today. At the end of the review, the consultant team also provided their assessment of each program.

- The rating scale is pictured below:

Below is a summary of both the City of Rochester and Mayo Clinic's parking program assessments:

Parking Program Assessment Rating Summary: City of Rochester & Mayo Clinic

Based on Kimley-Horn's "20 Characteristics of Effective Parking Programs" Assessment Tool

	City of Rochester		Mayo Clinic	
Assessment Rating:	**Program Self-Assessment**	**Consultant Assessment**	**Program Self-Assessment**	**Consultant Assessment**
1. System Vision/Mission	6	8	7	7
2. Parking Philosophy	8	8	8	7
3. Strong Planning	10	10	7	6
4. Community Engagement	6	7	8	7
5. Organizational Effectiveness	8	10	7	8
6. Staff Development	6	6	5	5
7. Safety, Security, and Risk Management	9	9	8	8
8. Effective Communication	8	7	8	7
9. Effective and Accountable Revenue Control	10	9	7	6
10. Financial Planning	10	10	7	7
11. Creative, Flexible, and Accountable Parking Management	7	9	7	6
12. Operational Efficiency	9	9	6	6
13. Facilities Maintenance and Asset Protection	9	9	8	8
14. Effective Use of Technology	8	9	4	5
15. Parking System Branding & Strategic Communication	7	7	8	6
16. Customer Service Programs	9	9	7	7
17. Special Event Parking	7	8	N/A	N/A
18. Effective Enforcement	9	9	8	7
19. Transportation Demand Management	8	8	8	9
20. Awareness of Competitive Environment	9	9	4	5
Total Score: (Out of a possible 200)	**163**	**170**	**132**	**127**

It should be noted that in applying this evaluation process to over two dozen programs across North America, the City of Rochester scored higher than 95% of the other programs we have assessed. In the category of mid-sized US municipal parking programs (Population less than 500,000), the City of Rochester scored higher than any program we have reviewed.

The full "20 Characteristics" assessment is provided in Appendix 1.

A few key observations that should be highlighted are noted below:

1. The City of Rochester's Transit and Parking program is one of the best integrated and managed transit and parking programs we have seen anywhere in the country. Normally transit and parking are entirely separate divisions that, many times, function at cross-purposes.

2. Additionally, within the parking section of the program, there is an effective "vertically integrated" structure in place whereby all aspects of parking program management are

consolidated into one operational entity. This is not always the case, especially in mid-sized municipal programs, but is considered a fundamental parking management best practice.

3. The City of Rochester's Transit and Parking program is also structured as an enterprise fund with revenues from on-street, off-street, and enforcement all funneled into the same account. Contributions to the City's general fund are made in the form of a defined formula as part of a "PILOT" (Payment in Lieu of Taxes) arrangement.

4. This degree of parking and transportation program integration reflects an emerging trend within the industry whereby parking and a wide range of transportation program elements are being merged into a more holistic approach to provide community "mobility/access management services." Clearly Rochester has been functioning with this basic philosophy for several years, quite successfully (see list of program accomplishments).

5. This study and its focus on creating a robust set of TDM and shared mobility programs and strategies will further round out the solid program base already in place.

Current City of Rochester Parking Program Assessment Summary

The full task report assessing the current City of Rochester Transit and Parking Program (See Appendix 1 entitled: "J8618-8622_RPT_DMC Parking -TMA Current Program Assessment Report Draft 12-20-2016") which provides a more in-depth overview of the program, including:

- Organization
- Staffing
- Transit and Parking Workforce Planning
- Parking Program Budget and Finance
- Revenues and Expenses
- Planned Parking Capital Investments
- Parking Asset Inventory, Utilization and Monitoring
- Marketing and Communications
- Enforcement

City of Rochester Parking Program – Summary of Program Accomplishments

The full task report on the "Current Transit and Parking Program Overview and Assessment" includes an extensive listing of program accomplishments from 2009 – 2016. This listing of "significant work items" from the past several years does an excellent job of summarizing the types, scope, and scale of the program's operational and administrative activities. It also documents various awards and program recognition, program grants, planning, facilities maintenance/restoration projects, contract management, and other management functions.

To provide a sense of the type of items included with the annual accomplishment lists, items from the last two years are provided below.

2015 Significant Work Items

- Federal Transit Administration (FTA) Operating and Capital Grants $1,964,143
- Award and Deployment of Electronic Fare Box Project $820,295 (PM S Retzlaff)
- Award of Transit Development Plan Update (PM is B Law)
- Update of New Transit and Parking Websites (Coordinator S Retzlaff)
- Implementation of New Parking Enforcement/ Citation Management System
- Phase 2 Parking Enforcement – Selection of License Plate Recognition (LPR) System
- Implementation of New Rates for Parking System (Effective 1/1/2015)
- Third Street IP Camera Upgrade Project $121,158 (90% complete as of 12/15)
- Civic Center Parking Ramp Elevator Upgrade $183,300
- Award of 5 Gillig BRTs Buses (Delivery 2017)
- Delivery of 7 Gillig BRT Buses
- Renewal of Lanier Parking Management Contract (2016-2020)
- First Street Parking Ramp Condition Study
- First Street Parking Ramp Restoration (Concrete and Coatings) $209, 892 partially completed.
- First Street Parking Ramp Restoration MEP Repairs –awarded $89,500
- Continued Participation on Parking Ramp #6 Design
- Award of EMV (credit card) update for all gats and cashiers $62,000
- Mayo Parking Lease for 246 Spaces at Third Street Renewal for 1 year
- Vacation of Walmart North and South Park and Rides (June 2015)
- Startup of Fairgrounds Park and Ride Phase 1(June 2015)
- Startup of IBM Park and Ride (June 2015)
- Continued Analysis of Alternate Fuels for Transit (CNG and all electric)
- 2016 State Operating and Capital Grant Applications
- Preparation of 2016 budgets and CIPS

2016 Significant Work Items

- Federal Transit Administration Triennial Review
- Federal Grant Activity- 2016 FTA Operating / Capital Grants $1,415,400
- Continued federal and State grants administration
- Development and Award of 2017-2021 RFP for Transit Operations
- Deployment of AVL and Real Time Bus Information System
- Continued Work on Transit Development Plan (with coordination meetings with the Comp Plan and DMC activities)
- Hiring of Communications and Outreach Coordinator (October 2016)
- Second Street Ramp Condition Report Completed (work differed pending development project)
- Completion of First Street Ramp Restoration Project
- Installation of EMV (credit card readers) – certification pending
- Update of Digital Pay by Space Software (to IRIS System)
- Award of Parking Ramp Stair Tower Railing Update (Center and Second) $113,800
- Award of Column Caps Projects for Civic and First Street Ramps (50% complete)
- Completed LED conversion of Government Center Lot
- Approval of 2017 Contract Parking Rate Increases (Effective 1/1/2017)
- Award and completion of First Street Ramp Tower and Skyway Re-glazing $220,114
- Renewal of Mayo Parking Lease (through April 30, 2018)
- Renewal of UMR Parking Lease through 8/31/2019 at market rates
- Continued participation in DMC transit studies
- Continued participation in Ramp #6 design
- Continued design discussion of Government Center Lot
- RFP for PARCS design (Ramp #6 and Third) and IP Camera expansion at Civic Center Garage
- Added the Armory Lot 70 spaces
- Continued Design work on St. Mary's Bus Stop
- 2017 State and Capital Grant Applications
- Preparation of 2017 budgets and CIPS (Capital Improvements Program)

This summary reinforces our positive assessment of not only the relatively unique program organization and well-integrated transit and parking functions, but also the high quality of program management and the broad scope of program operations. It is rare, in our experience, to see such an impressive listing of program accomplishments in a mid-sized community parking program.

Chapter II
Parking Rate Assessment Overview

II. Parking Rate Assessment Overview

Current and Recommended Municipal Parking Rates

In 2017 Walker Consultants was engaged by the City to conduct a parking rate study and identified recommendations for the City of Rochester's Parking Enterprise Fund ("PEF") for a 5-year projection period (2018 – 2022). This chapter summarizes the Walker Consultants study and provides additional feedback and recommendation from the Parking and TMA study team.

In general, the City's public parking rates are slightly lower than private parking facilities. Private parking rates range from $2 - $8 for hourly parking. Private monthly parking rates vary, but in general are near the upper limits of the City's public rate structure. Recently the city conducted a

- Guiding principles and goals set forth by the City for the parking rate analysis are to achieve the following:
  - Simplify the current parking rate structure;
  - Provide sufficient revenue to cover annual operating expenses;
  - Allow the City to meet future parking related debt service obligations;
  - Fund future financial reserve requirements; and
  - Support smart parking management objectives, and the Destination Medical Center master plan.

- City parking system changes that will occur between 2018-2022.
  - Ramp 6 (640 spaces with 90 allocated to a hotel) will open in August 2018, replacing the Center Street ramp (393 spaces); planned for demolition in 2019 (1st quarter).
  - Civic Center North surface lot (200 spaces) will close in the 3rd quarter of 2018 to accommodate the construction of Ramp 7 (1,200-space parking structure); planned to open mid-year 2020.
  - Zumbro Market Lot (65 spaces) will close in the 4th quarter 2018.
  - Second Street Ramp (432 spaces) will be demolished in 2020 (4th quarter).
  - Procure $30,000,000 in general obligation bonds in 2018; attributed to Ramp 6 construction.
  - Procure $7,000,000 in general obligation bonds in 2019; attributed to new parking ramp construction.

- The Five-Year Capital Improvement Plan (2018 – 2022) proposed for the system represents a total budget amount of $63,600,000 The source of funds essential to satisfy the budgeted amount include general obligation revenue bonds and retained earnings. Of the total projected budget amount, the City proposes that $37,000,000 will be funded through general obligation revenue bonds, and $9,870,000 will be funded with retained earnings. Use of funds include the following two parking ramp construction projects:

- 2018 – $30,000,000 for Ramp 6 with 640 spaces to serve DMC/ Civic Center Expansion. The exact design capacity subject to further analysis; $2,300,000 is the estimated annual debt service payment.
- 2019 – $7,000,000 for a new 1,200-space ramp

Rate Structure - Hourly/Transient Parking

The fees charge for hourly (transient) parking in City facilities are currently predicated upon a rate structure that in some instances contains more than twenty (20) individual rate categories. Based upon discussions with the City and the parking operator, Lanier; one primary goal is a simplified hourly parking rate structure to implement at all City ramps.

Table 2: Current and Proposed Parking Rate Structure (Ramps)

Center Street Ramp (current)	
< 60 minutes	$0.00
>60 to 90 minutes	$3.50
>90 - 2 hours	$4.50
> 2 to 2.5 hours	$5.50
> 2.5 to 3 hours	$6.00
> 3 to 3.5 hours	$6.50
> 3.5 to 4 hours	$7.00
> 4 to 4.5 hours	$7.50
> 4.5 to 5 hours	$8.00
> 5 to 5.5 hours	$8.50
> 5.5 to 6 hours	$9.00
> 6 to 6.5 hours	$9.50
> 6.5 to 7 hours	$10.00
> 7 to 7.5 hours	$10.50
> 7.5 to 8 hours	$11.00
> 8 to 8.5 hours	$11.50
> 8.5 to 9 hours	$12.00
> 9 to 9.5 hours	$12.50
> 9.5 to 10 hours	$13.00
>10 to 24 hours	$13.50
After 5PM/Weekends	$0.00
Events	$0.00

Other City Ramps (current)	
< 60 minutes	$0.00
>60 to 90 minutes	$3.50
>90 - 2 hours	$4.50
> 2 to 2.5 hours	$5.50
> 2.5 to 3 hours	$6.00
> 3 to 3.5 hours	$6.50
> 3.5 to 4 hours	$7.00
> 4 to 5 hours	$7.50
> 5 to 9 hours	$8.50
> 9 to 12 hours	$9.50
>12 to 24 hours	$13.50
After 5PM/Weekends	$0.00
Events	$0.00

Summary

All day increased from $13.50 to $14.00 compared to Center Street

All day increased from $9.50 to $14.00 compared to other City ramps.

Case:	Base
2018 Rates (proposed)	
< 30 minutes	$0.00
>30 to 60 minutes	$0.00
> 1 to 2 hours	$4.00
> 2 to 3 hours	$6.00
> 3 to 4 hours	$8.00
> 4 to 5 hours	$10.00
> 5 to 6 hours	$12.00
> 6 to 12 hours	$14.00
> 12 to 24 hours	$16.00
After 5PM/Weekends	$0.00
Events	$0.00

Case:	Alternate
2018 Rates (proposed)	
< 30 minutes	$0.00
>30 to 60 minutes	$0.00
> 1 to 2 hours	$4.00
> 2 to 3 hours	$6.00
> 3 to 4 hours	$8.00
> 4 to 5 hours	$10.00
> 5 to 6 hours	$12.00
> 6 to 12 hours	$14.00
> 12 to 24 hours	$16.00
After 5PM/Weekends	$2.00
Events	$5.00

Source: City of Rochester and Walker Consultants

Since many parkers currently park free of charge, this represents a significant source of potential new revenue that can be generated for the parking enterprise fund (PEF). To assess the revenue associated with charging a fee to park after 5:00 PM, on weekends, and for events; Walker developed an Alternate Case model to assess the value of this potential added source of revenue.

Alternate Case assumes the following additional fee structure is implemented.

Table 4: New Revenue Sources (projected)

Rate Category	Rate
< 1 Hour	$ 0.00
After 5:00 PM/Weekends	$ 2.00
Events	$ 5.00

Source: Walker Consultants

In future years, Walker recommends increasing transient rates by 5 percent in 2020, and again by 5 percent in 2022.

Rate Structure Contract/Monthly Parking

The fees charged for contract (monthly) parking in the City ramps and lots consistently undervalues the product offered to the public. Industry standard finds the cost for daytime contract parking is typically discounted to about 80 percent of the cost to park for twenty (20) days monthly, and remit payment for the all-day rate (10-hours).

The City has recommended contract parking rate increases that reflect about 80 percent of the fees charged to park all day in the ramps and lots by 2022 (e.g. $10 all day x 20 days = $200; discounted by 20 percent = $160 monthly rate).

Moreover, the City desires to implement the array of discounts shown in the following table for the other contract rate categories available at the City ramps.

Table 5: Projected Transient Revenue (net of tax) & Demand (2018) – Base and Alternate cases

Case:	Base					
Transient Revenue (2018)	**Transient**	**1 hour free**	**After 5PM**	**Weekends**	**Events**	**Total**
Center Street/Ramp 6	$1,178,393	$0	$0	$0	$0	$1,178,393
Civic Center	$482,978	$0	$0	$0	$0	$482,978
1st Street	$1,304,994	$0	$0	$0	$0	$1,304,994
2nd Street	$568,425	$0	$0	$0	$0	$568,425
3rd Street	$511,493	$0	$0	$0	$0	$511,493
Total (revenue)	**$4,046,283**	**$0**	**$0**	**$0**	**$0**	**$4,046,283**
% Change						23.3%
$ Change						$763,757

Case:	Alternate					
Transient Revenue (2018)	**Transient**	**1 hour free**	**After 5PM**	**Weekends**	**Events**	**Total**
Center Street/Ramp 6	$1,178,393	$0	$64,895	$25,958	$5,408	$1,274,654
Civic Center	$482,978	$0	$25,086	$10,751	$98,552	$617,368
1st Street	$1,304,994	$0	$35,206	$13,691	$14,669	$1,368,560
2nd Street	$568,425	$0	$41,074	$16,429	$5,868	$631,796
3rd Street	$511,493	$0	$29,346	$11,738	$5,502	$558,079
Total (revenue)	**$4,046,283**	**$0**	**$195,606**	**$78,568**	**$129,999**	**$4,450,457**
% Change						35.6%
$ Change						$1,167,931

Transient Units (2018)	**Transient**	**1 hour free**	**After 5PM**	**Weekends**	**Events**	**Total**
Center Street/Ramp 6	109,483	75,343	35,317	14,127	1,177	235,447
Civic Center	56,559	97,516	13,652	5,851	21,454	195,032
1st Street	129,860	53,221	19,160	7,451	3,193	212,885
2nd Street	63,227	31,933	22,353	8,941	1,277	127,731
3rd Street	51,106	5,190	15,971	6,388	1,198	79,853
Total (units)	**410,235**	**263,204**	**106,452**	**42,758**	**28,299**	**850,948**
% Change						-8.7%
$ Change						(81,347)

Source: Walker Consultants

Revenue and Demand - Parking Ramps – 2017-2022 (Contract)

There are currently 2,000 ± contract parking accounts managed and reconciled monthly by Lanier. Contract accounts are projected to generate approximately $2,100,000 in annual revenue (after tax). A breakdown of current contract accounts by location shows that over 49% of the accounts currently park at Third Street, 21% park at the Civic Center ramp, 15% at Second Street, and the balance at the First Street (9%), and Center Street (5%) ramps.

Assuming the contract parking pricing strategy recommended above is implemented, the dramatic annual price increases needed to elevate rates to levels that reflect the proposed discounts from the future all-day parking rate could result in significantly high negative elasticity in the future contract parking demand. This negative impact is projected in the Base and Alternate case contract revenue and demand projections. Additionally, the impact on demand may be slightly off-set starting in 2020, when Ramp 7 replaces the Civic Center North lot (1,200 new spaces), also by increased employment opportunities attributed to the on-going DMC project.

Revenue and Demand – Lots – 2017- 2022 (Hourly and Contract)

In addition to implementing transient and contract rate increases in 2018, Walker recommends increasing transient rates by $1.00 in 2020 to $5.00/day, and $1.00 in 2022 to $6.00/day. Regarding contract rates, we recommend increasing rates annually to elevate the flat-lot contract rates to a level consistent with the proposed discount from the all-day flat-lot rate during the projection period.

Table 11: Projected Transient Revenue & Demand – 2017-2022 Lots (net of tax)

Lots/Transient Revenue (2017-2022)	2017	2018	2019	2020	2021	2022
All Lots	$176,422	$145,961	$148,677	$159,915	$163,114	$175,404
Total (revenue)	**$176,422**	**$145,961**	**$148,677**	**$159,915**	**$163,114**	**$175,404**
% Change		-17.3%	1.9%	7.6%	2.0%	7.5%
$ Change		-$30,462	$2,717	$11,238	$3,198	$12,290

Lots/Transient Units (2017-2022)	2017	2018	2019	2020	2021	2022
All Lots	64,008	39,717	40,512	41,322	42,148	42,991
Total (units)	**64,008**	**39,717**	**40,512**	**41,322**	**42,148**	**42,991**
% Change		-37.9%	2.0%	2.0%	2.0%	2.0%
$ Change		(24,291)	794	810	826	843

Note: Decline in revenue and demand attributed to Civic Center North Lot closure Q3/2018.

Source: Walker Consultants

Table 12: Projected Contract Revenue & Demand – 2017-2022 Lots (net of tax)

Lots/Contract (Revenue)	2017	2018	2019	2020	2021	2022
All Lots	$244,389	$331,116	$339,045	$350,608	$400,628	$507,251
Totals	**$244,389**	**$331,116**	**$339,045**	**$350,608**	**$400,628**	**$507,251**
% Change		35%	2%	3%	14%	27%
$ Change		$86,727	$7,929	$11,563	$50,020	$106,623

Lots/Contract (Annual Units)	2017	2018	2019	2020	2021	2022
All Lots	8,052	6,778	6,941	6,720	6,641	6,472
Totals	**8,052**	**6,778**	**6,941**	**6,720**	**6,641**	**6,472**
% Change		-16%	2%	-3%	-1%	-3%
$ Change		(1,274)	164	(222)	(79)	(169)
Accounts/Month	671	565	578	560	553	539
Net Change		(106)	14	(18)	(7)	(14)

Source: Walker Consultants

The City is exploring, and plans to implement a "pay-by-phone" product soon. The upgraded technology should provide the City with the ability to begin charging meter rates more closely aligned with the fees charged to park in the City ramps.

Due to the lack of technology, Walker suggests no increase in 2018. In subsequent years, we recommend increasing meter rates in 2019, and again in 2022.

Rate Structure – Meters (On-& Off-Street)

Due to planned future development in Downtown, the number of on-street meters will be reduced by 5% annually in years 2018 through 2022, resulting in a negative impact on revenue. Currently, 1,323 ± on-street spaces are metered, and the metered flat lots contain 206 ± spaces. The City is exploring, and plans to implement a "pay-by-phone" product soon. The upgraded technology should provide the City with the ability to begin charging meter rates more closely aligned with the fees charged to park in the City ramps.

Under the current operating methodology (single space, coin only meters), meters can only accommodate payment with coins, and when a meter vault is full, it can no longer accept payment. To accommodate the on and off-street meter rates proposed by Walker, pay-by-phone, and the addition of multi-space meters that accept payment via credit card, must be installed in the future. Walker's meter rate recommendations are shown in the following Table.

Table 13: Current and Proposed Rate Structure (Meters)

Meter/Rates (2017-2022)	2017	2018	2019	2020	2021	2022
30 Minutes	$1.40	$1.40	$1.50	$1.50	$1.50	$1.70
90 Minutes	$1.20	$1.20	$2.00	$2.00	$2.00	$2.20
2 Hours	$1.40	$1.40	$2.50	$2.50	$2.50	$2.80
3 Hours	$1.20	$1.20	$1.50	$1.50	$1.50	$1.70
10 Hours	$0.40	$0.40	$0.50	$0.50	$0.50	$0.60

Source: Walker Consultants

Revenue and Demand – Meters – 2017-2022 (On & Off-Street)

Due to the lack of technology, Walker suggests no increase in 2018. In subsequent years, we recommend increasing meter rates in 2019, and again in 2022. The resulting revenue associated with the proposed future meter rate increases, and Walker's future meter demand projections, assuming a 5% reduction in the number of on-street meters annually starting in 2018, are shown in the following Tables.

Table 14: Projected Meter Revenue – 2017-2022 (on & Off-Street)

Meter Revenue (2017-2022)	2017	2018	2019	2020	2021	2022
On-Street	$1,062,389	$1,009,423	$1,367,029	$1,299,584	$1,234,605	$1,293,669
Off-Street	$144,477	$138,126	$238,576	$227,448	$216,076	$225,996
Total (revenue)	**$1,206,866**	**$1,147,549**	**$1,605,604**	**$1,527,032**	**$1,450,680**	**$1,519,665**
% Change		-5%	40%	-5%	-5%	5%
$ Change		($59,317)	$458,055	($78,572)	($76,352)	$68,985

Source: Walker Consultants

Table 15: Projected Meter Demand – 2017-2022 (on & Off-Street)

Meter Units (2017-2022)	2017	2018	2019	2020	2021	2022
On-Street	503,578	478,399	454,480	431,756	410,168	389,659
Off-Street	127,540	121,163	115,105	109,350	103,882	98,688
Total (units)	**631,119**	**599,563**	**569,585**	**541,105**	**514,050**	**488,348**
% Change		-5.0%	-5.0%	-5.0%	-5.0%	-5.0%
$ Change		(31,556)	(29,978)	(28,479)	(27,055)	(25,703)

Source: Walker Consultants

Rate Structure – Enforcement & Citations

Revenue collected for each citation issued by an enforcement officer to parkers that violate the City code governing on-street parking is currently taxed $12.00 per citation by the State of Minnesota. By example, for a $17.00 expired time meter violation, the PEF realizes $5.00 and the State is paid $12.00. Due to the amount of tax remitted to the State for each citation, the enforcement/citation division currently operates at a deficit. Given this fact, the City desires to have the enforcement/citation operating statement become net-neutral by 2022. To achieve this goal, Walker recommends implementing the following proposed rate structure for the various citation types governed by the City code.

Table 16: Current and Proposed Rate Structure (Enforcement & Citations)

Citation Rates (2017-2022)	2017	2018	2019	2020	2021	2022
Expired Meter	$17.00	$20.00	$20.00	$25.00	$25.00	$30.00
On-Street Violation	$22.00	$25.00	$25.00	$32.00	$32.00	$38.00
Fire Hydrant	$27.00	$30.00	$30.00	$38.00	$38.00	$45.00
Expired Registration	$37.00	$40.00	$40.00	$50.00	$50.00	$59.00
Snow Emergency	$84.00	$87.00	$87.00	$109.00	$109.00	$128.00
Handicap Parking	$152.00	$155.00	$155.00	$194.00	$194.00	$227.00

Source: Walker Consultants

Revenue and Demand – Enforcement & Citations – 2017- 2022

The total projected revenue collected for enforcement/citation violations in 2017 is $729,400.00 ±, and after remitting the tax, the PEF will realize about $298,100.00 ±. Furthermore, the TPD projects that in 2017, they will spend over $490,000.00 ± managing the enforcement/citation program; resulting in an annual net operating loss of about $193,000.00. The following Table depicts the projected enforcement/citation revenue and demand for the projection period, assuming Walker's proposed rate increases are implemented.

Table 17: Projected Citation Revenue & Demand - 2017-2022

Citation Revenue (after tax)	2017	2018	2019	2020	2021	2022
All Types	$298,178	$406,818	$409,550	$595,300	$598,872	$751,786
% Change		36%	1%	45%	1%	26%
$ Change		$108,641	$2,732	$185,750	$3,572	$152,913

Citation Units						
All Types	37,157	36,700	36,920	35,296	35,508	34,513
% Change		-1%	1%	-4%	1%	-3%
$ Change		(456)	220	(1,624)	212	(994)

Note: Decline in the number of citations attributed to reduction in on-street meter count.

Source: Walker Consultants

Rate Structure – Residential Permits

The final source of revenue for the PEF is the management, collection, and reconciliation of an on-street residential parking program, facilitated through the sale of residential permits. In total, residential permit sales provide less than one-half percent (.005%) of the total annual revenue generated for the PEF. Based upon our review, Walker recommends increasing the cost of residential and business permits by $5.00 in 2018, and again in 2020 by $5.00, as depicted in the following Table.

Table 18: Current and Proposed Rate Structure (Residential Permits)

Residential Permit Rates	2017	2018	2019	2020	2021	2022
Application Fee	$5.00	$6.00	$6.00	$8.00	$8.00	$10.00
Business	$20.00	$25.00	$25.00	$30.00	$30.00	$30.00
Residential	$20.00	$25.00	$25.00	$30.00	$30.00	$30.00
Temporary/Day	$10.00	$15.00	$15.00	$18.00	$18.00	$18.00

Source: Walker Consultants

Revenue and Demand – Residential Permits – 2017- 2022

Per the projected actual operating expense projection provided by the TPD, in 2017 the Residential Permit program will operate at a net loss of $12,000 ±. Assuming no change in the number of annual permits sold, and Walker's proposed residential permit rate increases, the following table depicts the future projected revenue.

General Obligation Revenue Bond Assumptions

Five-Year Capital Improvement Plan

The Five-Year Capital Improvement Plan (2018 – 2022) assumes a total budget amount of $63,600,000, and the source of funds include general obligation revenue bonds and retained earnings. Per discussions with the City, plans assume that $37,000,000 of the total budget will be funded with general obligation revenue bonds, and $9,870,000 will be funded with retained earnings. Walker's preliminary financial pro forma analysis measures the financial solvency of the parking system assuming the general obligation revenue bonds are issued in years 2018 and 2019, as summarized below.

Use of Funds

- 2018 – $30,000,000 for new Ramp 6 with 640 spaces to serve DMC/ Civic Center Expansion. The exact
    - design capacity is subject to further analysis; $2,300,000 is the estimated annual debt service payment.

- 2019 – $7,000,000 for a new 1,200 space ramp (construction on an existing 200-space lot); $538,000 is
    - the estimated annual debt service payment.

- 2018 – $30,000,000 Principal Amount
    - 20-Year Term; Annual Debt Service Payment
    - 4.50 Percent Annual Interest Rate
    - $2,300,000 Estimated Annual Debt Service Payment (Rounded ,000)

- 2019 – $7,000,000 Principal Amount
    - 20-Year Term; Annual Debt Service Payment
    - 4.50 Percent Annual Interest Rate
    - $538,000 Estimated Annual Debt Service Payment (Rounded ,000)

Assuming the proposed rate increases recommended by Walker are implemented by the City, the projected net income derived annually for the PEF will increase significantly over the next five-years. The increase in net income projected in Walker' Base Case (Table 20) is primarily attributed to the following:

- Proposed rate increases in the cost of contract and transient parking (+ $786,000 - 2018);
- Increases in the cost to park at an on- or off-street meter (+ $472,000 - 2018).

Walker's Alternate Case projections shown in Table 21 mirror those used to develop the Base Case, except for implementing a charge for parking after 5:00 p.m., on weekends and for events (valued at $400,000 annually).

To accommodate the on- and off-street meter rates proposed by Walker, pay-by-phone, and/or the addition of multi-space meter technology that accepts payment via credit card, must be implemented in the future. Walker's five-year projections of revenue, operating expenses, net income, and debt service for the Base and Alternate Cases are summarized in the following tables:

Table 20: Net Income - Base case (projected)

Case:	Base					
Rochester Parking Fund	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Revenue	$ 7,311,625	$ 8,316,462	$ 9,614,730	$11,068,337	$11,175,680	$13,286,129
Expenses	(5,212,600)	(5,369,400)	(6,130,700)	(6,314,600)	(6,503,800)	(6,698,600)
Net Income	2,099,025	2,947,062	3,484,030	4,753,737	4,671,880	6,587,529
Debt Service (2018 G.O. Revenue Bond $30MM)	-	2,306,000	2,306,000	2,306,000	2,306,000	2,306,000
Debt Service Coverage Ratio	-	1.28	1.51	2.06	2.03	2.86
Debt Service (2019 G.O. Revenue Bond $7MM)	-	-	538,000	538,000	538,000	538,000
Debt Service Coverage Ratio	-	-	1.23	1.67	1.64	2.32
Surplus/(Deficit)	**$2,099,025**	**$ 641,062**	**$ 640,030**	**$ 1,909,737**	**$ 1,827,880**	**$ 3,743,529**

Table 21: Net Income – Alternate case (projected)

Case:	Alternate					
Rochester Parking Fund	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Revenue	$ 7,311,625	$ 8,720,636	$10,028,147	$11,564,678	$11,662,129	$13,859,942
Expenses	(5,212,600)	(5,369,400)	(6,130,700)	(6,314,600)	(6,503,800)	(6,698,600)
Net Income	2,099,025	3,351,236	3,897,447	5,250,078	5,158,329	7,161,342
Debt Service (2018 G.O. Revenue Bond $30MM)	-	2,306,000	2,306,000	2,306,000	2,306,000	2,306,000
Debt Service Coverage Ratio	-	1.45	1.69	2.28	2.24	3.11
Debt Service (2019 G.O. Revenue Bond $7MM)	-	-	538,000	538,000	538,000	538,000
Debt Service Coverage Ratio	-	-	1.37	1.85	1.81	2.52
Surplus/(Deficit)	**$2,099,025**	**$1,045,236**	**$ 1,053,447**	**$ 2,406,078**	**$ 2,314,329**	**$ 4,317,342**

Source: Walker Consultants

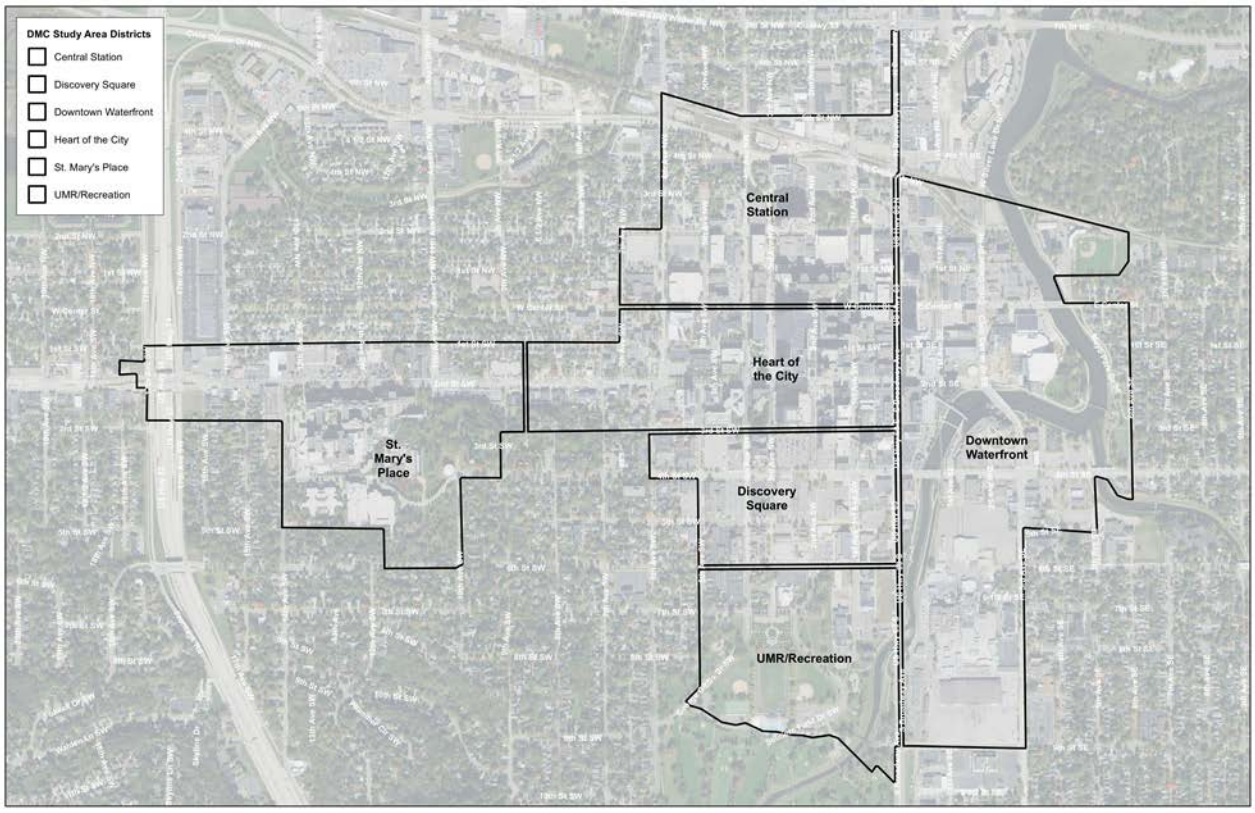
Chapter III
Parking Supply/Demand Assessment

III. Parking Supply/Demand Assessment

Introduction to Rochester DMC Park+ Parking Supply/Demand Modeling

Park+ is an interactive parking scenario planning tool that can evaluate existing parking supply and demand, identify and test changes in parking demand caused by new development and parking facilities, and test the application of parking management strategies. The results of the demand model represent how much parking is needed, where parking is desired, and where existing parking supply can either meet the demand for existing and additional demand in future scenarios, or where available parking may be insufficient. The Park+ model built for the Rochester DMC captures the existing municipal and medical campus that serve as the backbone for downtown Rochester, and considers the impacts on parking from the anticipated heavy growth downtown. The Study Area for the Parking Supply/Demand Assessment is the DMC Core boundary, subdivided into districts as shown in the figure below.

Study Area



The Park+ model consists of two distinct geospatial (GIS) datasets with the following required data:

- Parking Data (Parking Supply):
  - Total number of spaces
  - Parking type (ex. on-street, off-street)
  - User restrictions (ex. employee only, students only, general public)
  - Hourly, daily, and/or monthly parking rates/fees
  - Number of occupied parking spaces by time of day
- Land Use Information (Parking Demand generator):
  - Type of land use (ex. office, hospital, apartment)
  - Intensity (ex. square feet, dwelling units)

The Parking Supply refers to the total number of parking spaces available on-street, in surface parking lots, and in structured parking ramps. Parking supply may have user restrictions, such as monthly contract (employee-only) parking, hourly public parking, or privately parked relationships with a specific parking facility associated only with the tenants and/or visitors of a specific building or complex. Parking demand is based on each specific building or complex, and is characterized by rates or ratios of parking spaces desired by employees, residents, or visitors, etc.

The predictive gravity demand modeling algorithm that drives Park+ is built using a proximity parking approach that dynamically links the land use (parking demand) and parking (supply) datasets based on existing / observed parking occupancy data, land use intensities, walking tolerances, and traditional supply / demand modeling processes. Unlike traditional supply / demand methodology, the Park+ model can localize parking generation rates to individual land uses rather than a land use category. The proximity parking approach assumes that parking demands from individual land uses are generally handled with a specific walking radius of the land use-based demand generator

Existing Model Inputs and Assumptions

Existing Parking Supply

Parking data for the model was provided and collected through a variety of sources. Olmsted County provided a block-level excel parking. Individual parking facility locations and total spaces were identified via data from the City of Rochester, their partner Lanier Parking, and the Mayo Clinic parking and transportation office. Privately-owned parking facilities and spaces were primarily identified and drawn at the DMC block-level using the Olmsted County excel parking dataset, though a sample of individual private parking facilities were observed and drawn based on the field inventory in the first quarter of 2017.

A sample of off-street parking occupancy counts were provided by the City of Rochester, Lanier Parking, and the Mayo Clinic. Supplemental occupancy counts were taken in the first quarter of 2017 including all City-owned off-street parking facilities in the DMC Study Area. Additional parking occupancy was inventoried at most Mayo parking facilities, public-use off-street parking facilities, and a cross section of private off-street parking facilities.

On-street parking occupancy counts are conducted on a regular basis using license plate recognition (LPR) by the City of Rochester. The on-street parking occupancy data used for the base Park+ model came from LPR counts collected first quarter 2017.

Additional information, such as hourly, daily, and monthly parking fees and user restrictions were supplemented by field review, information from the City of Rochester and Lanier Parking, and the Mayo Clinic.

The study area currently holds approximately 28,650 parking spaces in the five sub-districts shown within the Study Area, plus some additional peripheral/ remote parking that serves the downtown area. There are approximately 1,200 on-street parking spaces, with the remaining supply located off-street in lots and ramps. Parking user restrictions are varied throughout the downtown core and include common themes such as employee-only monthly contracts and general public hourly parking. The breakdown of parking space supply by district and user restriction is summarized below. A similar table summarizes the parking supply by facility ownership.

Existing Parking Supply by District and Facility Type

Existing Parking Supply	*Employee Contract Parking*	*Private/ Reserved Off-Street*	*General Public Off-Street*	*Mayo Patient Parking*	*On-Street Parking*	*Total Supply*
Central Station	4,399	1,244		1,090	346	**7,079**
Discovery Square	2,085	639	394	48	349	**3,515**
Downtown Waterfront	1,456	2,631	2,066		266	**6,419**
Heart of the City	1,585	792	330	941	187	**3,835**
St. Mary's Place	2,303	1,093	136	710	27	**4,269**
UMR/ Recreation		826			54	**880**
Peripheral/ Remote	2,646					**2,646**
Total Supply	**14,474**	**7,225**	**2,926**	**2,789**	**1,229**	**28,643**

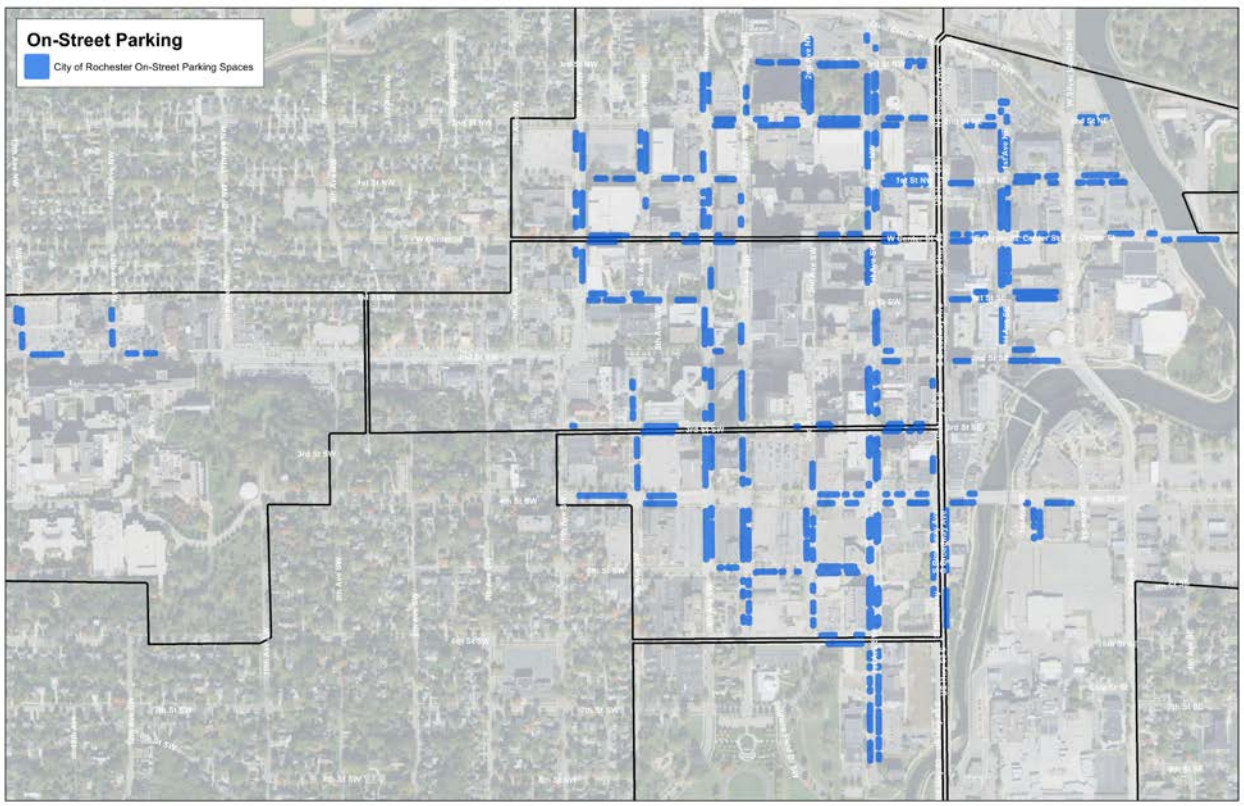
** Parking supply data was provided by Olmsted County, the City of Rochester, the Mayo Clinic, and field review of existing parking facilities.*

Existing Parking Supply by District and Facility Ownership

Existing Parking Supply	*City Owned or Leased**	*Privately Owned*	*Mayo Owned or Leased**	*Total Supply*
Central Station	416	986	5,677	**7,079**
Discovery Square	1,395	744	1,376	**3,515**
Downtown Waterfront	3,027	2,483	909	**6,419**
Heart of the City	580	1,080	2,175	**3,835**
St. Mary's Place	27	1,229	3,013	**4,269**
UMR/ Recreation	54	826		**880**
Peripheral/ Remote	1,568		1,078	**2,646**
Total Supply	**7,067**	**7,348**	**14,228**	**28,643**

** City or Mayo leased parking includes supply that may be owned by a private entity but that is reserved for City public parking, or Mayo parking.*

City of Rochester On-Street Parking



Existing Land Use Data

Land use characteristics are essential to provide a baseline for parking demand rates.

Land use data for the Park+ model within the DMC core study area was provided by Olmsted County at the block-level including land use types and intensities. The land use information included block-level development information for existing land use types and intensities, such as office square footage, hospital square footage, and dwelling units, among all other land uses throughout the DMC area. All existing land use intensities and block locations were based on the Olmsted County *DMC District Base Year Block Level Land Use* spreadsheet, supplemented by spatial-only information from the Olmsted County tax parcel GIS file. Locations of subdivision occurred where DMC blocks were sufficiently large and complex with mixed-use development that breaking up the block would allow more precise proximity-based parking and land use relationships in the model.

Land Use Development Intensities by District

Land Use	*Central Station*	*Discovery Square*	*Downtown Waterfront*	*Heart of the City*	*St. Mary's Place*	*UMR/ Recreation*	*Total*
Administration	84,129	8,081	43,373	1,173,457	270,621		1,579,661
Assisted Living	487		331				818
Athletic Club						100,365	100,365
Auto Service			7,200				7,200
Bank		8,300	4,500				12,800
Church	5,900	59,570		74,600		19,400	159,470
City Park	2				3	34	40
Convenience Market		1,350	5,300		3,350		10,000
Convention Center				19,813			19,813
Day Care			60			20	80
General Retail	27,350	45,890	79,740	121,637	28,145	2,400	305,162
Government Office	29,100	19,300	125,886				174,286
Hospital	879,262				2,737,194		3,616,456
Hotel	587	190	462	1,139	643	28	3,049
Lab/Research		434,222		1,003,990			1,438,212
Manufacturing	27,524		166,000			16,500	210,024

Land Use	*Central Station*	*Discovery Square*	*Downtown Waterfront*	*Heart of the City*	*St. Mary's Place*	*UMR/ Recreation*	*Total*
Medical Office	635,737	67,584		3,292,563			3,995,884
Office	50,290	98,114	950,216	340,171		7,300	1,446,091
Performing Arts			1,113				1,113
Pre-High School				187			187
Residence	130	389	427	557	76	57	1,636
Restaurant	20,000	33,944	71,910	32,950	21,750	5,700	186,254
Stadium			10,770				10,770
University				400			400
Warehouse	30,376		48,338				78,714

Existing Parking Demand/ Model Calibration

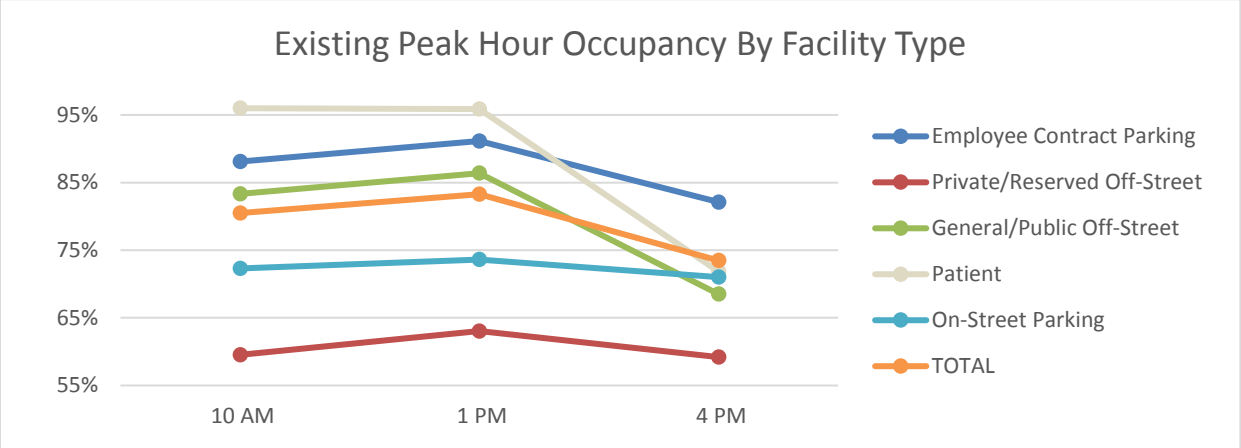
Calibrating the Park+ model is a critical step to prepare the unique and localized parking model based on existing data and observed conditions. In the Calibration process, the proximity parking approach dynamically links the land use and parking datasets based on existing / observed parking occupancy data, land use intensities, walking tolerances, and traditional supply / demand modeling processes. The result of the iterative calibration process is parking generation rates that are unique for each individual land use and modeled relationships between each building and the available surrounding parking supply. The calibrated model represents a baseline from which the impacts of future changes to land use and parking can be more accurately projected.

For model calibration purposes, all user types were assumed to walk 1,200 feet from their parking space to their destination except for Mayo employees. Because of the high rate of utilization of Park & Ride lots by Mayo Employees, and the robust supporting commuter transit network, no distance limit was used between parking spaces and building pairs for Mayo employees. Despite the lack of restriction for this user type, the weighted gravity demand nature of the model maintains a preference for users to park as close to their destination as what was observed.

The existing conditions supply/demand assessment included a comprehensive review of existing parking utilization, reviewing how many parking spaces were occupied during three separate time periods on an average weekday: morning, noon, and late afternoon. The parking occupancy/ utilization data identified that the study area peak parking demand on an average weekday occurs around 1 PM, so while the base model considered all time periods, future scenario planning model runs consider the 1 PM peak.

The localized parking demand rates prepared for the model are unique to the Rochester DMC study area, and are not based on general rates provided by industry standards. The table below identifies parking demand based on existing land use intensities, and calibrated parking demand rates based on the parking utilization/ occupancy rates collected as part of this study.

Existing 1 PM Peak Hour Occupancy by Parking Facility Type



Notable in the chart and map above, it is not surprising that private/ reserved parking facilities are generally underutilized during the periods evaluated since these private/ reserved facilities are unlikely to share between land uses throughout the day. Nor is a surprise that Mayo patient parking is heavily utilized during the morning and afternoon, but dropping significantly in the late afternoon as clinic appointments come to a close for the business day.

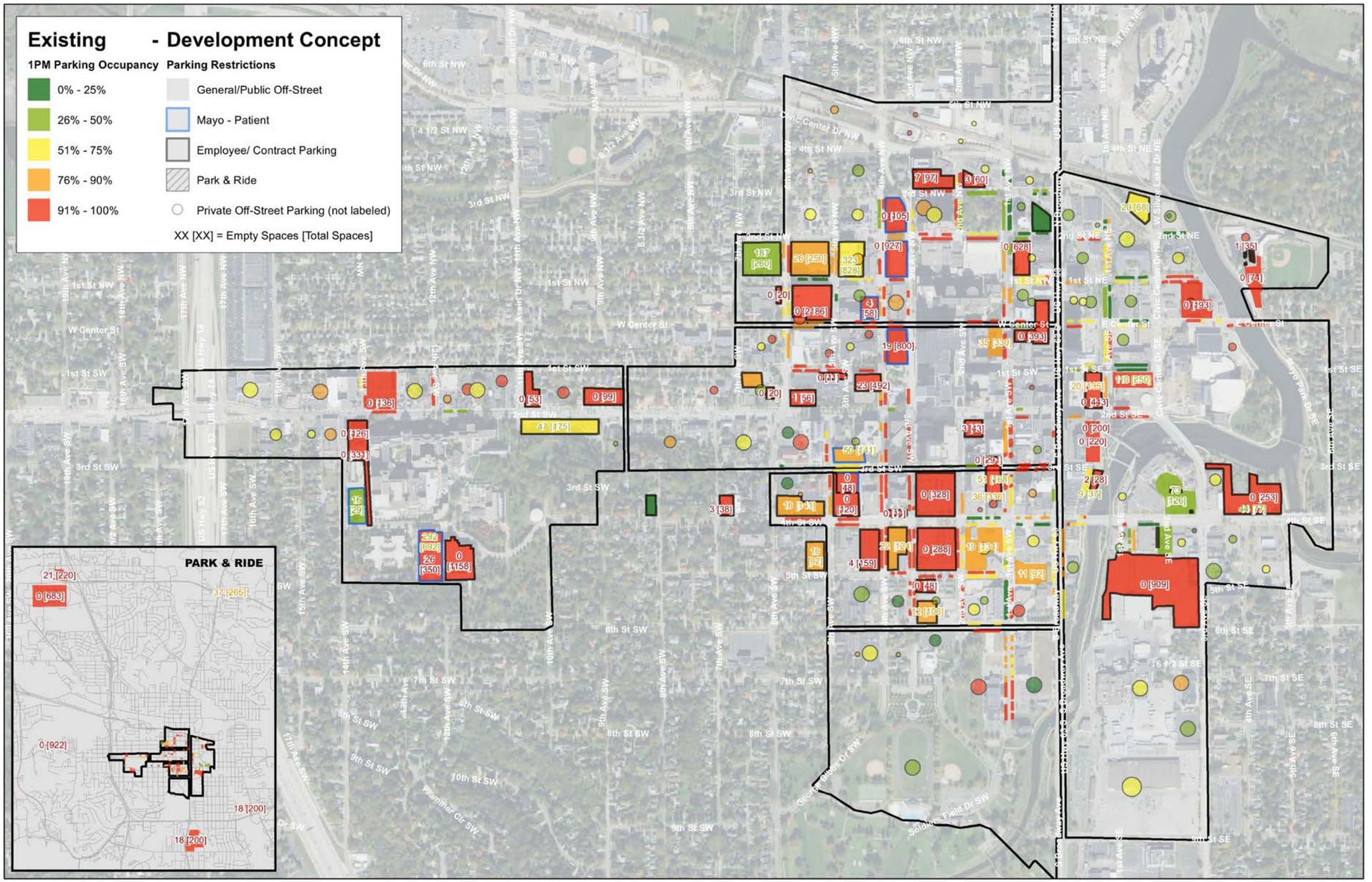
Existing Parking Demand

Existing DMC parking demand is based on a direct relationship of the land use and existing/observed parking occupancies, considering proximity and parking restrictions to model demand behavior. When calibration of the model is fully realized, the localized parking demand rates prepared for the model are unique to the Rochester DMC study area, and are not based on general rates provided by industry standards. The table below identifies parking demand based on existing land use intensities, and calibrated parking demand rates based on the parking utilization/ occupancy rates collected as part of this study.

Existing Parking Demand by District

User Type by Land Use	Central Station	Discovery Square	Downtown Waterfront	Heart of the City	St. Mary's Place	UMR/ Recreation	Total Demand
Employee	133	344	1,950	45		21	2,494
Mayo - Employee	1,966	322	12	5,394	4,173		11,866
Mayo - Patient	843	13	-	1,149	668		2,674
Resident	256	279	505	571	123	121	1,855
Student				34			34
Visitor	544	333	2,085	613	828	477	4,881
Total Demand	3,743	1,291	4,553	7,807	5,791	619	23,804

Existing (Calibrated Model) Study Area Occupancy



Future Rochester DMC Parking Supply/Demand

Future estimates for parking supply and land use changes in the study area were provided by Olmsted County at the block level. The Park+ supply/demand model was modified and updated to incorporate these anticipated changes to the downtown study area system.

Future Parking Data

Future parking supply changes were provided by Olmsted County in coordination with the Portal Capacity analysis conducted by the Street Use Study team. The excel dataset provided by Olmsted County in July of 2017 formed the base model assumptions. An excerpt of the DMC District Block Level Parking Market Breakdown spreadsheet can be found in the Appendix.

Parking supply for scenario alternatives considered based on the July 2017 parking supply considerations differed primarily in the peripheral, remote, and park & ride locations. Because remote and park & ride facilities will be linked to the DMC study area by some form of transit connection, proximity to the study area was not assumed to be a factor in the demand for the facilities. The map below provides a graphical representation of the DMC Study Area blocks that had major changes from the Existing to Future scenarios. Note that future parking supply changes are scenario-specific for several peripheral, remote, and park & ride facilities as marked on the map. After completion of the Park+ modeling effort, an additional Hybrid Scenario was proposed that considered a different future base parking supply than is considered in the scenarios documented in this report.

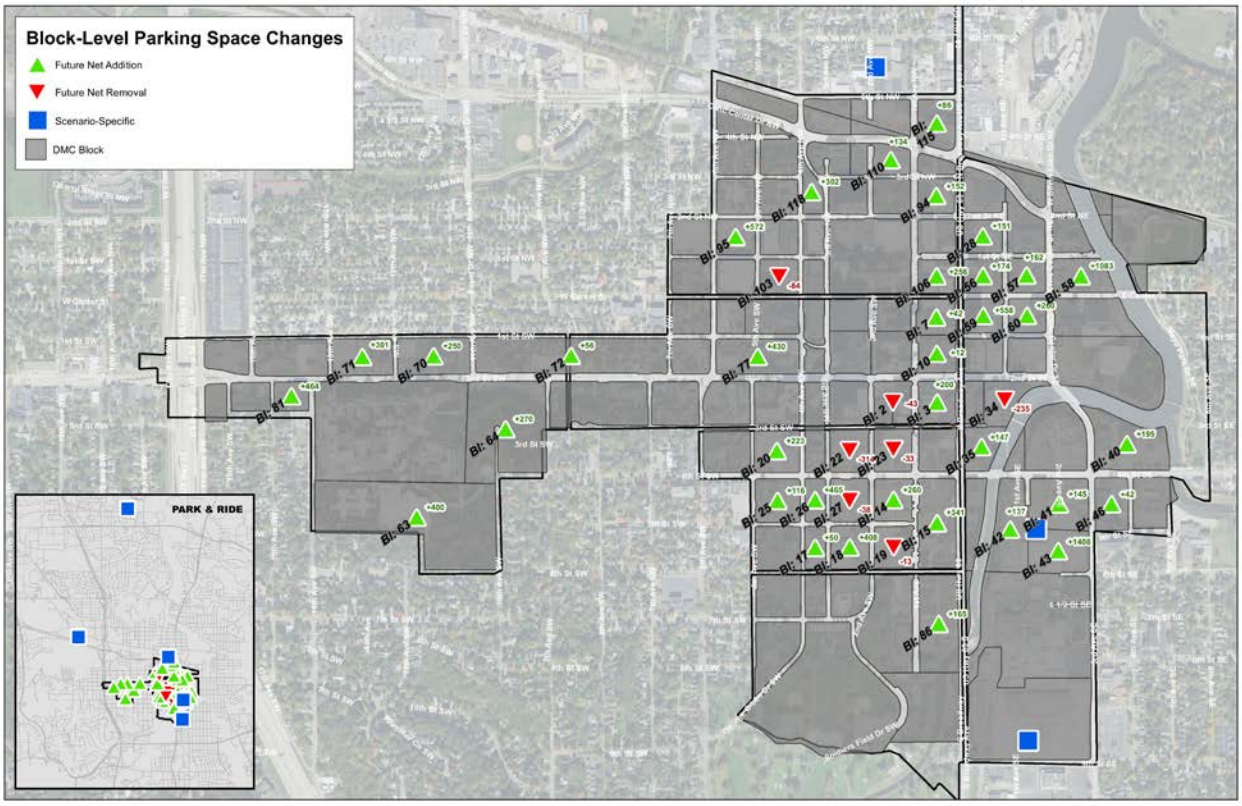
Parking Supply Changes by District (Development Scenarios, July 2017)

Parking Facility Type	*Employee Contract Parking*	*Private/ Reserved Off-Street*	*General Public Off-Street*	*Mayo Patient Parking*	*On-Street Parking*	*Net Supply Change*
Central Station	874	398	204	(58)	-	1,418
Discovery Square	508	701	172	84	-	1,465
Downtown Waterfront	1,186	1,345	1,696	-	-	4,227
Heart of the City	(306)	572	247	300	-	813
St. Mary's Place	526	584	334	125	-	1,569
UMR/ Recreation	-	30	135	-	-	165
Peripheral/ Remote	6,600	-	-	-	-	6,600
Net Supply Change	9,388	3,630	2,788	451	-	16,257

The changes in parking supply provided by Olmsted County included net additions to and net removals of the existing parking supply throughout the downtown core area as shown in the map below. Approximately 16,300 net new parking spaces were identified to be built as part of anticipated development per the Olmsted County parking supply estimate, with approximately 6,600 spaces to be built in peripheral or remote locations primarily to serve employee monthly contract parking. The locations of future peripheral/ remote parking concentrations were tested in a number

of scenarios that considered more than simply parking utilization, but also traffic volumes and transit potential to identify the best opportunities for future parking reservoir locations.

Background Parking Supply Changes Map



Future Land Use Data

Future land use data was provided by Olmstead County at the block level. This dataset was compared to the existing land use data and updated accordingly. The table below summaries the land use changes between the existing and future scenario models. The future changes were interpreted for use in the Park+ model directly from the March 15, 2017 *DMC District Base Year Block Level Land Use w/ Future* data provided by Olmsted County. The raw data is included in the **Appendix**.

Future Change in Land Use Development Intensities by District

Land Use	Central Station	Discovery Square	Downtown Waterfront	Heart of the City	St. Mary's Place	UMR/ Recreation	Total
Administration	490,000	310,000	-	268,151	-	-	1,068,151
Assisted Living	-	-	-	66	-	-	66
Athletic Club	-	-	-	-	-	-	-
Auto Service	-	-	-	-	-	-	-
Bank	-	(8,300)	-	-	-	-	(8,300)
Church	-	-	-	-	-	-	-
City Park	-	-	-	-	-	-	-
Convenience Market	-	-	4,000	-	-	-	4,000
Convention Center	-	-	74,574	-	-	-	74,574
Day Care	-	-	-	-	-	-	-
General Retail	27,300	106,800	222,250	116,200	82,825	-	555,375
Government Office	-	-	-	-	-	-	-
Hospital	282,000	-	-	-	774,000	-	1,056,000
Hotel	329	-	330	506	169	-	1,334
Lab/Research	150,000	1,440,000	-	14,329	-	-	1,604,329
Manufacturing	14,000	174,000	7,300	-	-	(16,500)	178,800
Medical Office	798,000	1,090,300	-	2,574,000	-	-	4,462,300
Office	31,120	(28,200)	224,600	47,220	50,000	10,000	334,740
Performing Arts	-	-	-	-	-	-	-
Pre-High School	-	-	-	-	-	-	-
Residence	292	288	1,826	379	482	-	3,267
Restaurant	-	7,000	(14,000)	7,000	8,500	(3,200)	5,300
Stadium	-	500	-	-	-	-	500
University	-	-	-	-	-	4,500	4,500
Warehouse	(2,400)	-	-	-	-	-	(2,400)

Future Parking Demand

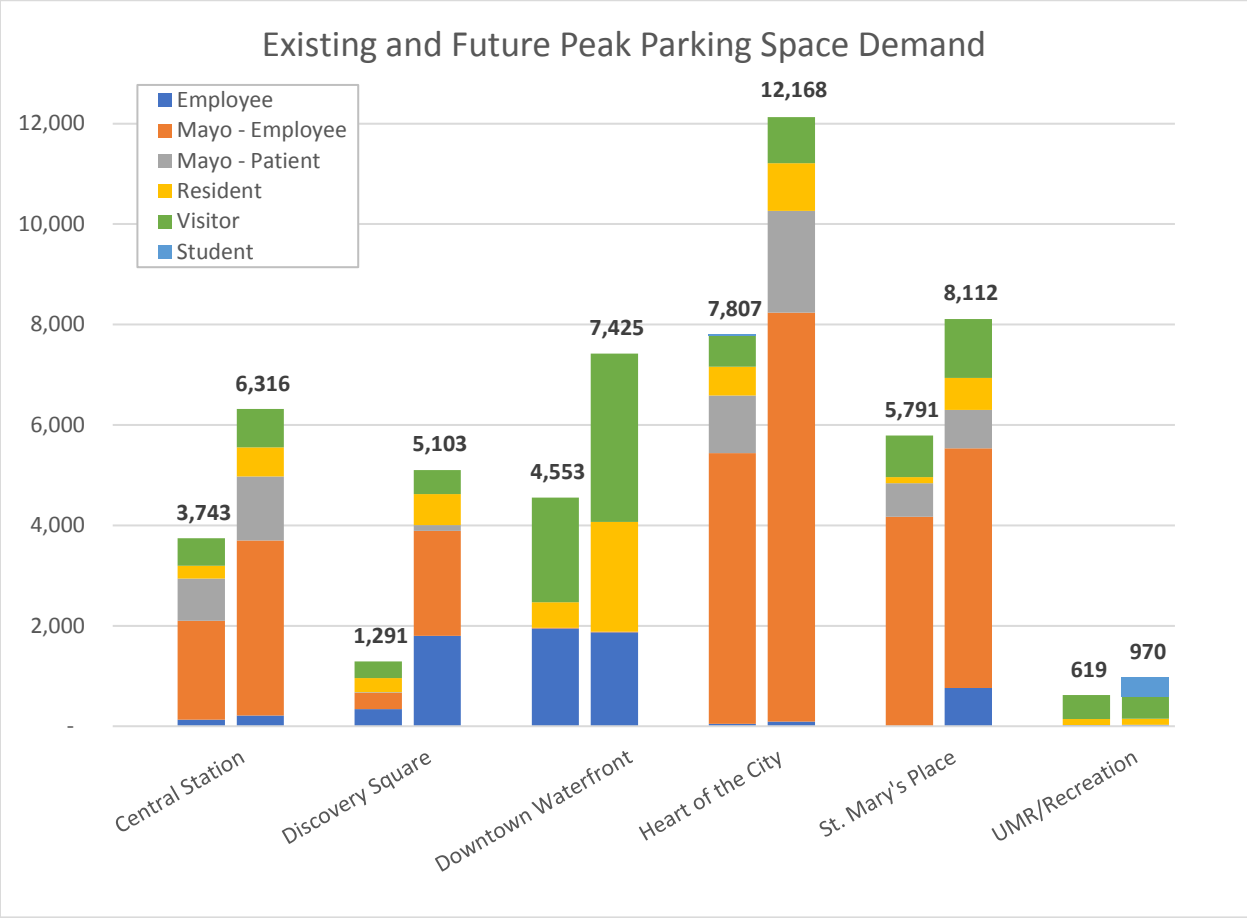
The Park+ model can localize parking generation rates to individual land uses rather than a land use category. Thus, the change in parking demand for the future scenarios is localized to observed/ calibrated parking-to-land-use rates of nearby similar developments, which can anticipate similar parking demand patterns in the future. With the anticipated changes based on the above table, the change in parking space demand is shown in the figure below, and is applicable for all future scenarios where the land use assumption is constant.

Future Parking Space Change in Demand

User Type by Land Use	*Central Station*	*Discovery Square*	*Downtown Waterfront*	*Heart of the City*	*St. Mary's Place*	*UMR/ Recreation*	Net Demand
Employee	81	1,455	(78)	45	759	7	**2,269**
Mayo - Employee	1,519	1,660	-	2,755	602	-	**6,536**
Mayo - Patient	433	212	-	875	97	-	**1,617**
Resident	324	338	1,678	379	514	-	**3,233**
Student	-	-	-	-	-	385	**385**
Visitor	217	147	1,272	306	349	(41)	**2,250**
Net Demand	**2,574**	**3,812**	**2,872**	**4,360**	**2,321**	**351**	**16,290**

Parking demand, which is based on land use intensities, is constant for the future scenarios since the anticipated development provided by Olmsted County is a fixed future consideration. Future parking demand is anticipated to behave similarly to existing parking demand, anticipating some similarities to local development and parking/ driving characteristics. Therefore, parking demand estimates for the future scenarios considered the localized land-use based parking demand rates identified during the model calibration process, and unique to the Rochester DMC study area. Based on the future development program from Olmsted County, the net increase in parking demand anticipated from the future development identified approximately 16,300 net new parking spaces of demand, or spaces desired by the development changes. This increased parking demand from approximately 23,800 spaces existing to nearly 40,100 spaces in the future. The change between existing and future parking demand by district and user is identified above in the table, and the total demand is compared between Existing and Future in the chart below.

Existing and Future Peak Parking Space Demand



Scenarios

DMC MODIFIED FUTURE SCENARIO

The DMC modified scenario results in many facilities reaching and exceeding the maximum effective capacity of 85 percent. Employee contract parking, general public off-street, and Mayo patient parking all exceeded effective maximum utilization during the peak period. St. Mary's Place and the Downtown Waterfront districts also passed this critical threshold.

DMC Modified Occupancies by District and Parking Facility Type

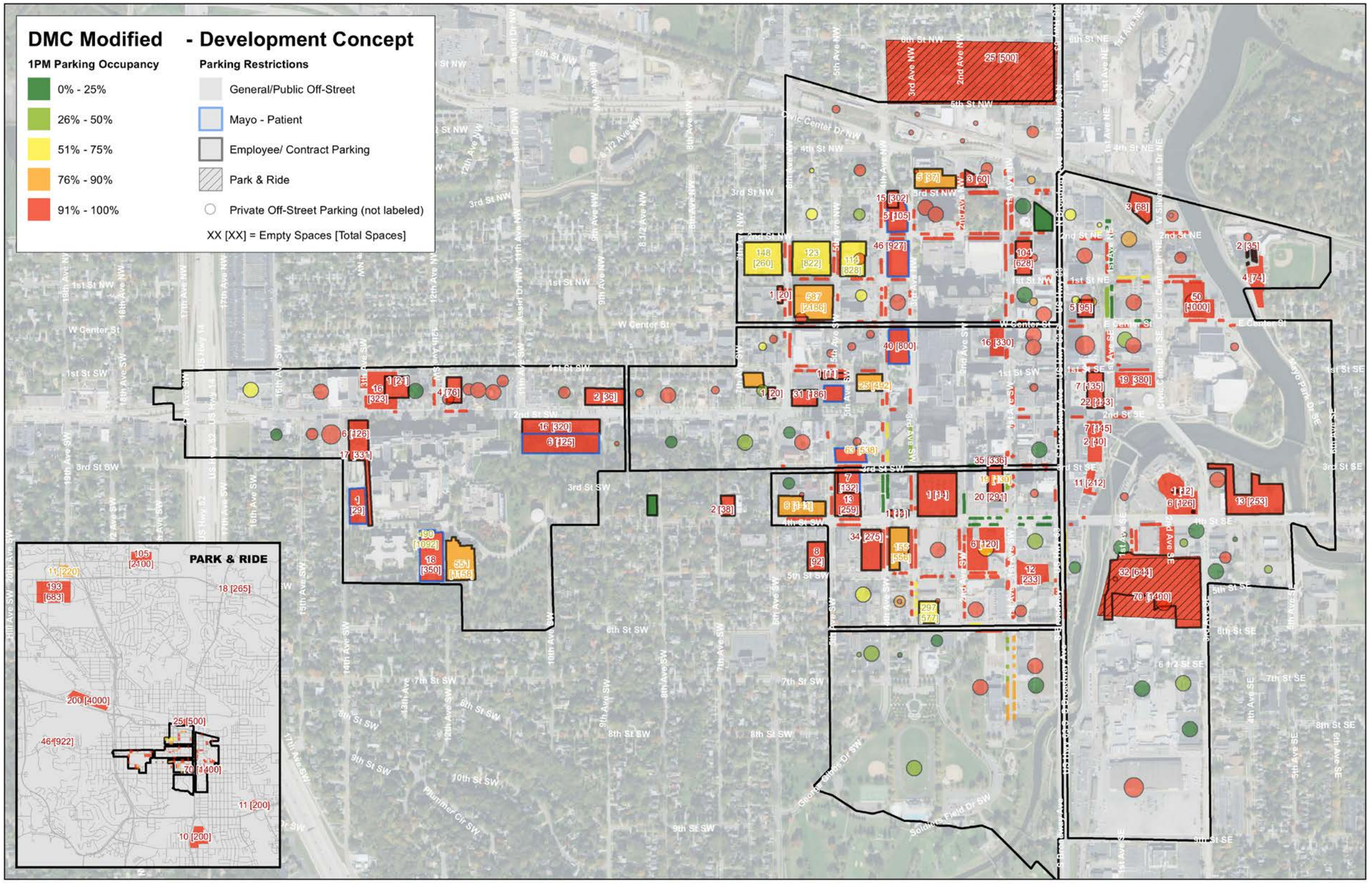
Parking Facility Type	*Employee Contract Parking*	*Private/ Reserved Off-Street*	*General Public Off-Street*	*Mayo Patient Parking*	*On-Street Parking*	*District Occupancy*
Central Station	75.2%	70.3%	95.0%	95.0%	88.7%	77.7%
Discovery Square	81.4%	66.9%	95.0%	95.0%	61.6%	78.0%
Downtown Waterfront	94.8%	71.3%	95.0%		71.5%	85.5%
Heart of the City	88.5%	61.1%	95.0%	95.0%	72.1%	82.3%
St. Mary's Place	80.8%	75.7%	95.0%	95.0%	91.5%	82.6%
UMR/ Recreation		35.7%	95.0%		62.3%	44.8%
Peripheral/ Remote	94.4%					94.4%
Facility Type Occupancy	86.9%	67.2%	95.0%	95.0%	73.7%	83.4%

Based on the development intensities and parking supply in the DMC Modified Scenario, there are expected to be over 2,000 spaces of latent demand. The total parking supply exceeds total parking demand meaning there are locational and user restriction opportunities to satisfy the latent demand. Mayo patient demand constitutes most latent demand. Reclassification of Mayo employee spaces and shared parking agreements with private off-street lots in Central Station and Heart of the City would help alleviate excess parking demand.

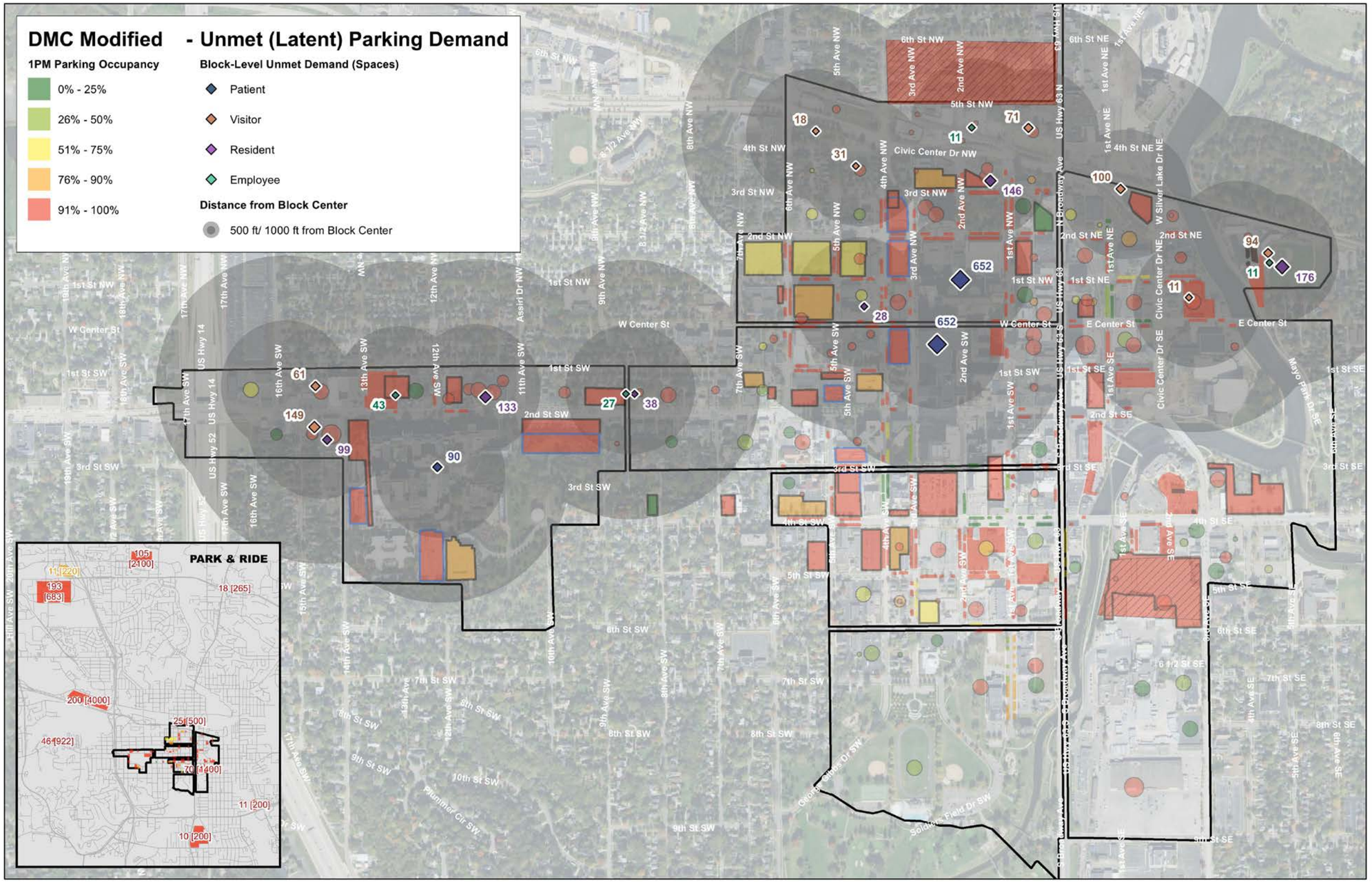
DMC Modified Unmet (Latent) Demand

Unmet Demand	***Central Station***	***Downtown Waterfront***	***Heart of the City***	***St. Mary's Place***	***Grand Total***
Employee	11	11	27	43	92
Patient	652		652	90	1,394
Visitor	182	176	38	232	628
Resident	119	207	4	210	540
TOTAL	963	394	722	575	**2,653**

Future Scenario Modified DMC Study Area Parking Occupancy



Future Scenario Modified DMC Unmet Parking Demand



SCENARIO A

Scenario A results in many facilities reaching and exceeding the maximum effective capacity of 85 percent. General public off-street, Mayo patient parking, and on-street parking all exceeded effective maximum utilization during the peak period. St. Mary's Place and the Downtown Waterfront districts also passed this critical threshold.

Scenario A Occupancies by District and Parking Facility Type

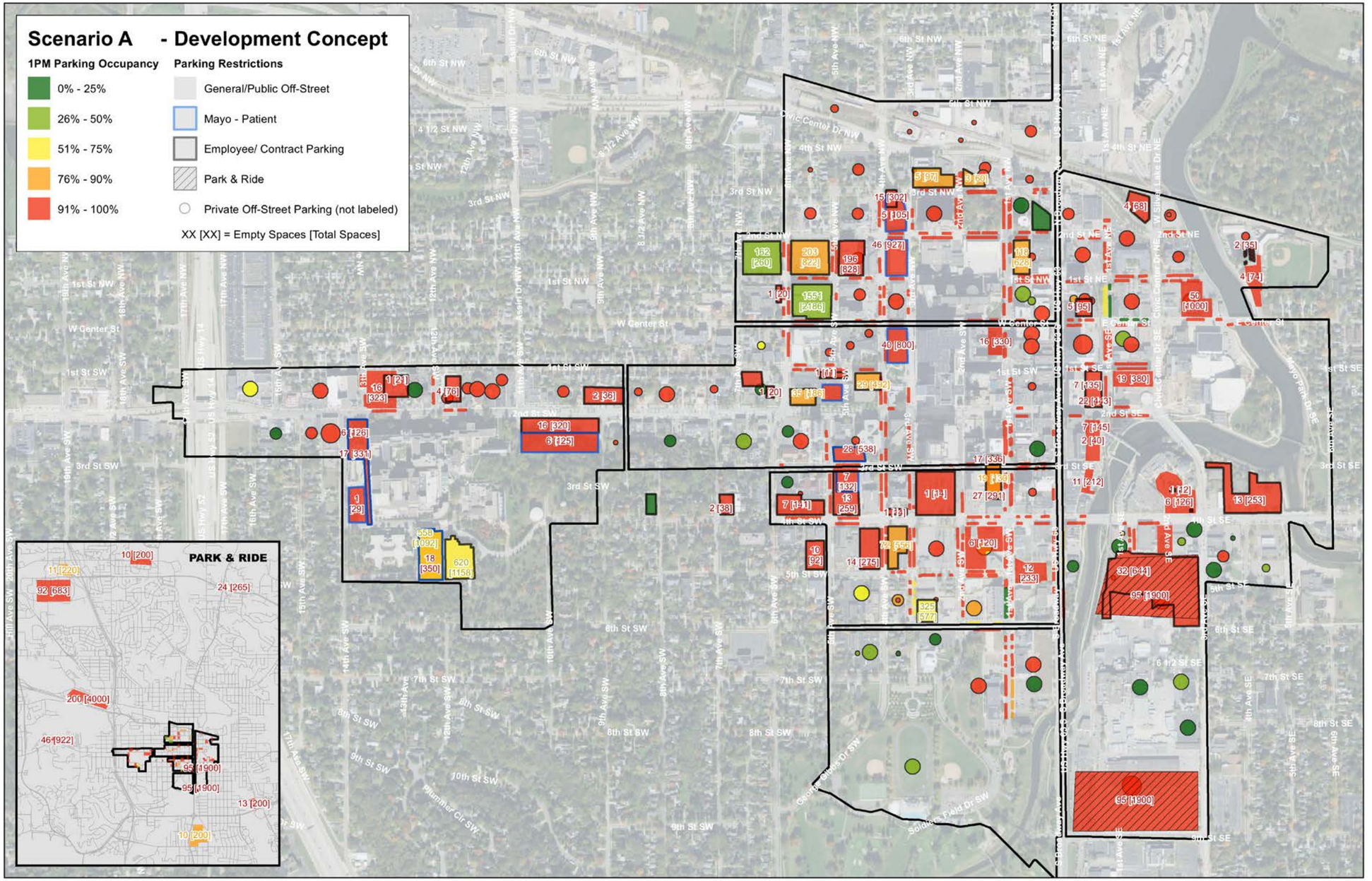
Parking Facility Type	*Employee Contract Parking*	*Private/ Reserved Off-Street*	*General Public Off-Street*	*Mayo Patient Parking*	*On-Street Parking*	*District Occupancy*
Central Station	63.2%	77.8%	95.0%	95.0%	95.0%	71.9%
Discovery Square	80.2%	70.6%	95.0%	95.0%	90.1%	80.4%
Downtown Waterfront	94.9%	73.3%	95.0%		84.1%	88.1%
Heart of the City	88.9%	61.8%	95.0%	95.0%	95.0%	83.6%
St. Mary's Place	66.6%	75.7%	95.0%	95.0%	95.0%	75.7%
UMR/ Recreation		35.7%	95.0%		90.6%	46.2%
Peripheral/ Remote	94.2%					94.2%
Facility Type Occupancy	82.4%	69.6%	95.0%	95.0%	91.1%	82.1%

Based on the development intensities and parking supply in Scenario A, there are expected to be over 3,000 spaces of latent demand. The total parking supply exceeds total parking demand meaning there are locational and user restriction opportunities to satisfy the latent demand. Mayo patient and resident demand constitute the majority of latent demand. Reclassification of Mayo employee spaces and shared parking agreements with private off-street lots in Central Station, Downtown Waterfront, and Heart of the City would help alleviate excess parking demand.

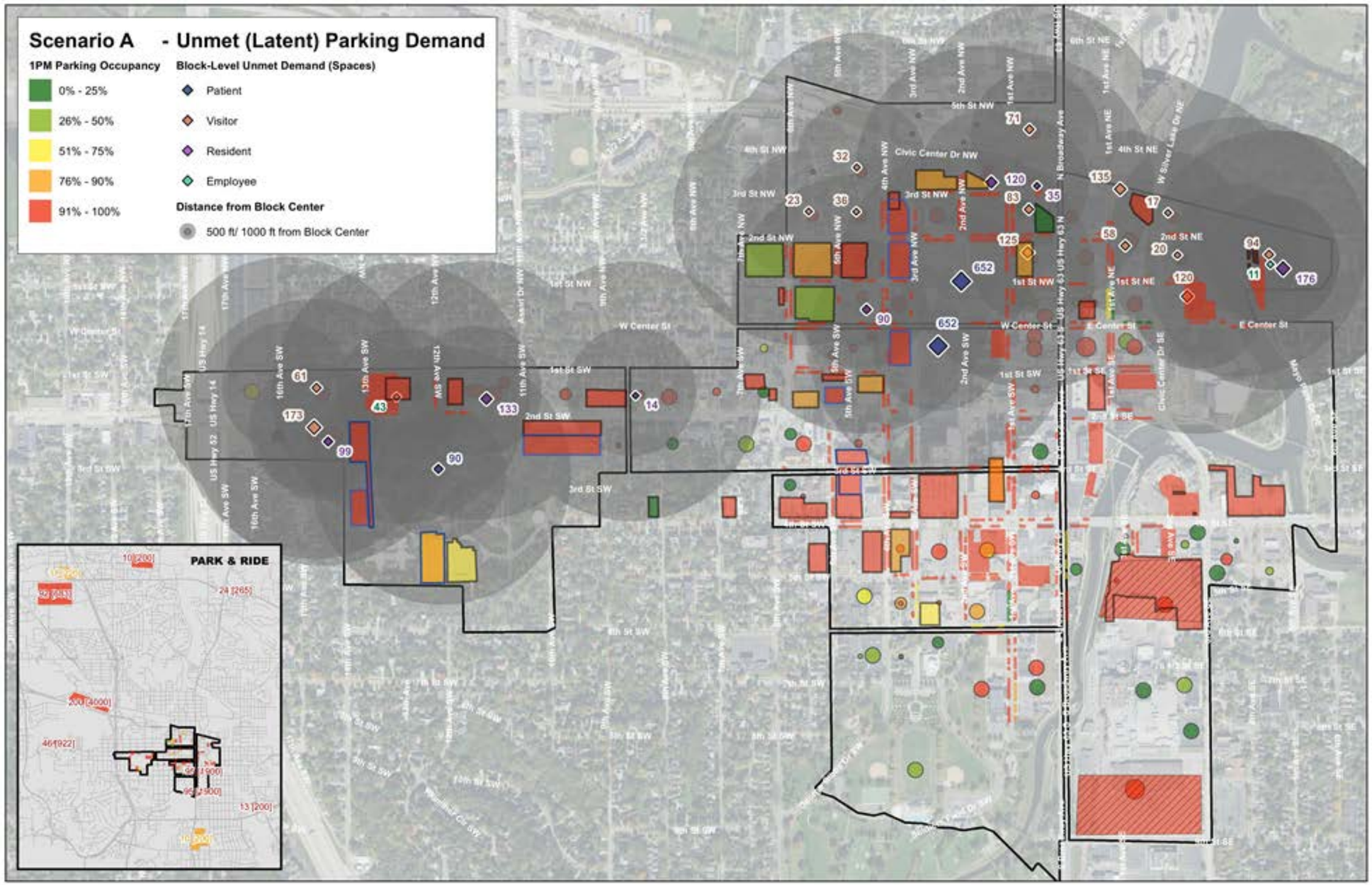
Scenario A - Unmet Demand

	Central Station	*Downtown Waterfront*	*Heart of the City*	*St. Mary's Place*	*Grand Total*
Employee	46	18	-	43	108
Patient	652	-	652	90	1,394
Visitor	256	176	14	232	678
Resident	382	444	-	234	1,060
TOTAL	1,336	638	666	599	**3,240**

Future Scenario A Study Area Parking Occupancy



Future Scenario A - Unmet Parking Demand



SCENARIO D

Scenario D results in many facilities reaching and exceeding the maximum effective capacity of 85 percent. Employee contract parking, general public off-street, Mayo patient parking, and on-street parking all exceeded effective maximum utilization during the peak period. St. Mary's Place and the Downtown Waterfront districts also passed this critical threshold.

Scenario D - Occupancies by District and Parking Facility Type

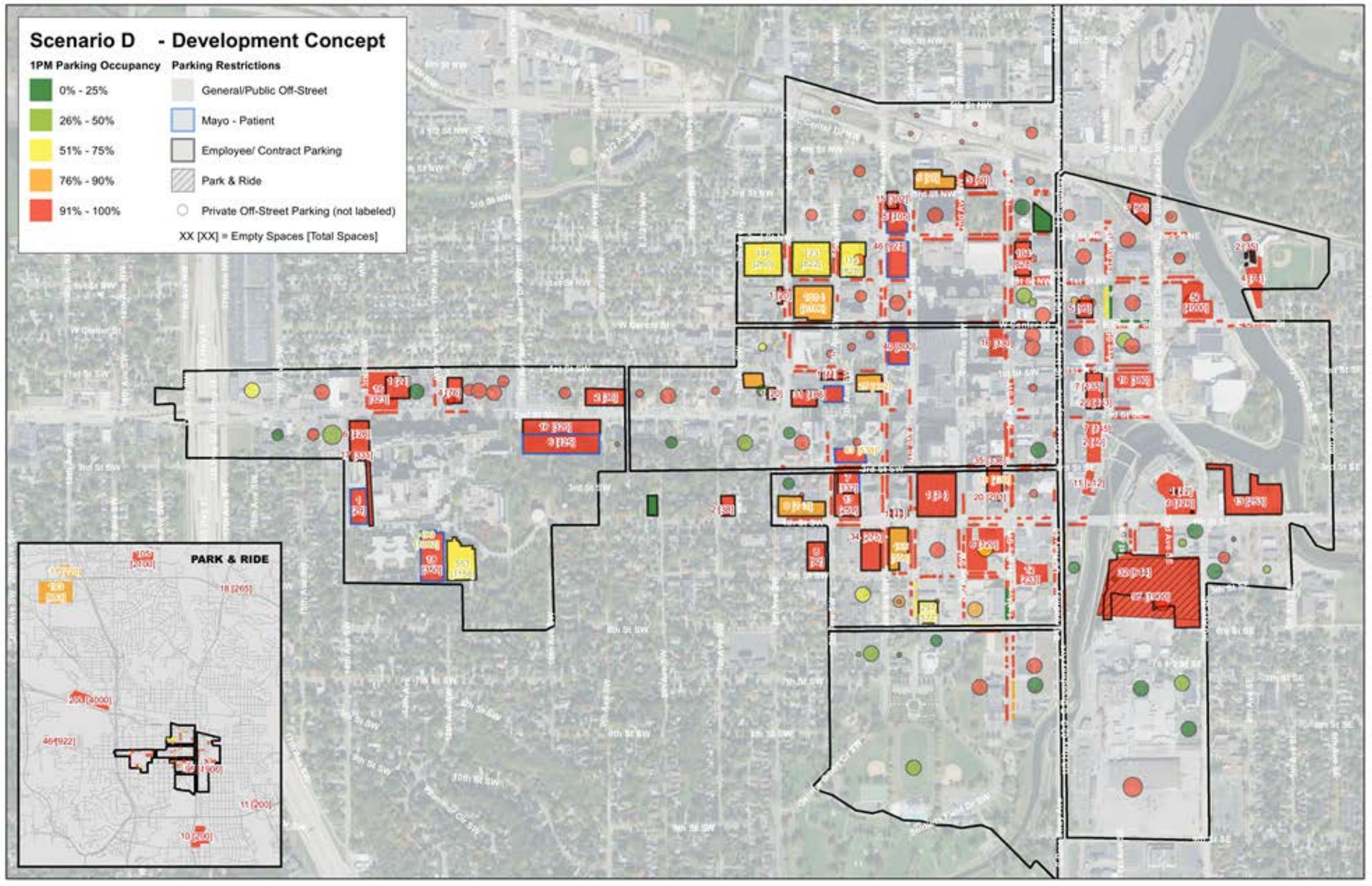
Parking Facility Type	*Employee Contract Parking*	*Private/ Reserved Off-Street*	*General Public Off-Street*	*Mayo Patient Parking*	*On-Street Parking*	*District Occupancy*
Central Station	75.2%	77.8%	95.0%	95.0%	95.0%	79.4%
Discovery Square	81.4%	70.6%	95.0%	95.0%	90.1%	81.0%
Downtown Waterfront	94.8%	73.3%	95.0%		84.1%	87.0%
Heart of the City	88.5%	61.8%	95.0%	95.0%	95.0%	83.5%
St. Mary's Place	69.8%	72.6%	95.0%	95.0%	95.0%	76.4%
UMR/ Recreation		35.7%	95.0%		90.6%	46.2%
Peripheral/ Remote	93.2%					93.2%
Facility Type Occupancy	85.1%	69.1%	95.0%	95.0%	91.1%	83.4%

Based on the development intensities and parking supply in Scenario D there are expected to be over 2,600 spaces of latent demand. The total parking supply exceeds total parking demand meaning there are locational and user restriction opportunities to satisfy the latent demand. Mayo patient demand constitutes the majority of latent demand. Reclassification of Mayo employee spaces and shared parking agreements with private off-street lots in Central Station and Heart of the City would help alleviate excess parking demand.

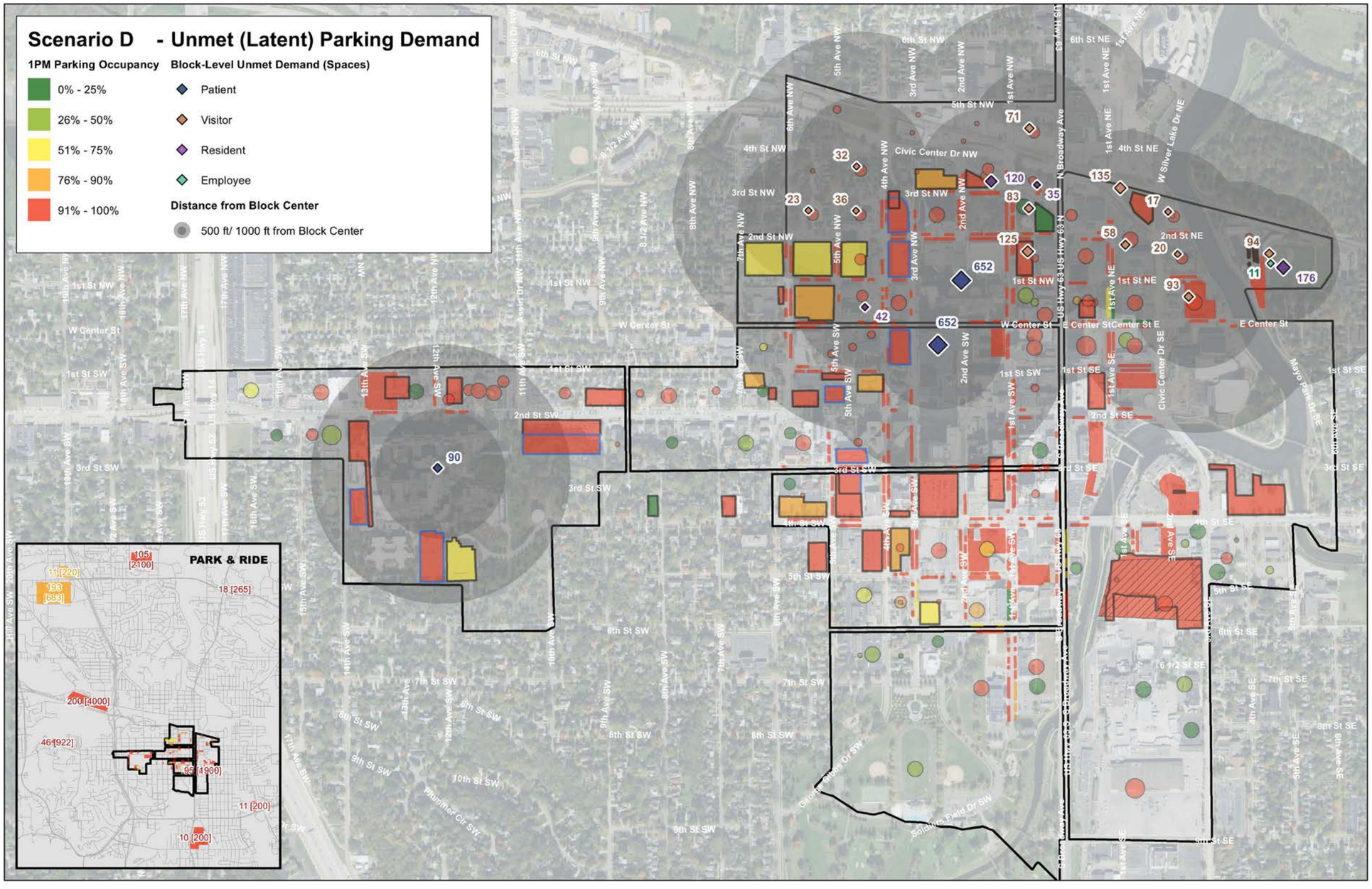
Scenario A Unmet Demand

Unmet Demand	***Central Station***	***Downtown Waterfront***	***Heart of the City***	***St. Mary's Place***	***Grand Total***
Employee	46	18	-	-	65
Patient	652	-	652	90	1,394
Visitor	208	176	-	-	384
Resident	382	417	-	-	799
TOTAL	1,288	611	652	90	**2,642**

Future Scenario D Study Area Parking Occupancy



Future Scenario D - Unmet Parking Demand



SCENARIO TRANSIT

Scenario Transit results in many facilities reaching and exceeding the maximum effective capacity of 85 percent. Employee contract parking, general public off-street, and Mayo patient parking all exceeded effective maximum utilization during the peak period. Central Station, St. Mary's Place, and the Downtown Waterfront districts also passed this critical threshold.

Transit Scenario Occupancies by District and Parking Facility Type

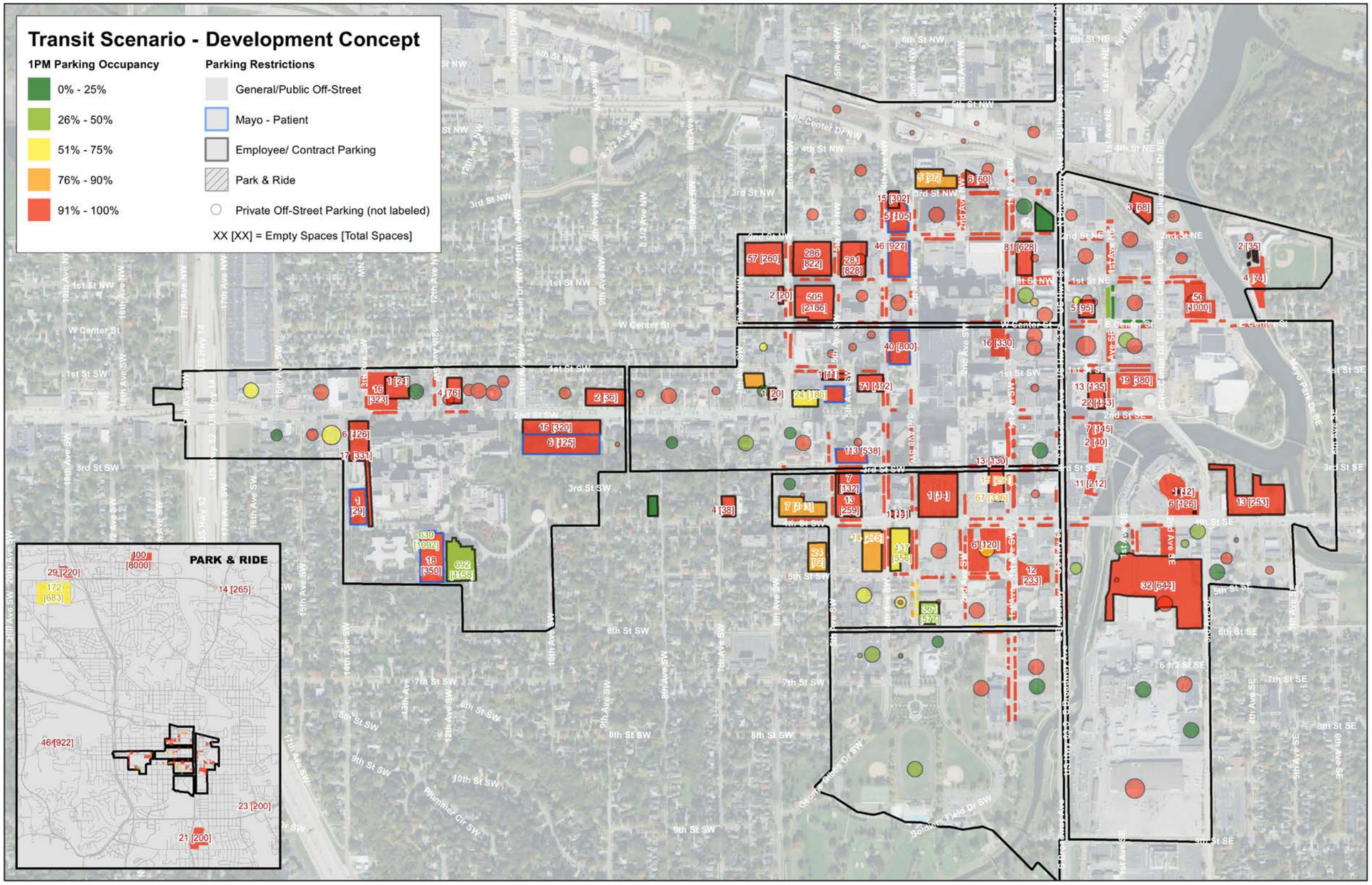
Parking Facility Type	*Employee Contract Parking*	*Private/ Reserved Off-Street*	*General Public Off-Street*	*Mayo Patient Parking*	*On-Street Parking*	*District Occupancy*
Central Station	93.5%	76.9%	95.0%	95.0%	95.0%	90.6%
Discovery Square	70.2%	73.5%	95.0%	95.0%	91.9%	76.1%
Downtown Waterfront	94.9%	75.8%	95.0%		85.2%	86.5%
Heart of the City	91.2%	61.9%	95.0%	95.0%	95.0%	84.2%
St. Mary's Place	46.7%	68.5%	95.0%	95.0%	95.0%	64.0%
UMR/ Recreation		36.2%	95.0%		95.0%	46.8%
Peripheral/ Remote	93.1%					93.1%
Facility Type Occupancy	85.2%	69.7%	95.0%	95.0%	92.0%	83.6%

Based on the development intensities and parking supply in Scenario Transit, there are expected to be over 2,500 spaces of latent demand. The total parking supply exceeds total parking demand meaning there are locational and user restriction opportunities to satisfy the latent demand. Mayo patient demand constitutes the majority of latent demand. Reclassification of Mayo employee spaces and shared parking agreements with private off-street lots in Central Station and Heart of the City would help alleviate excess parking demand.

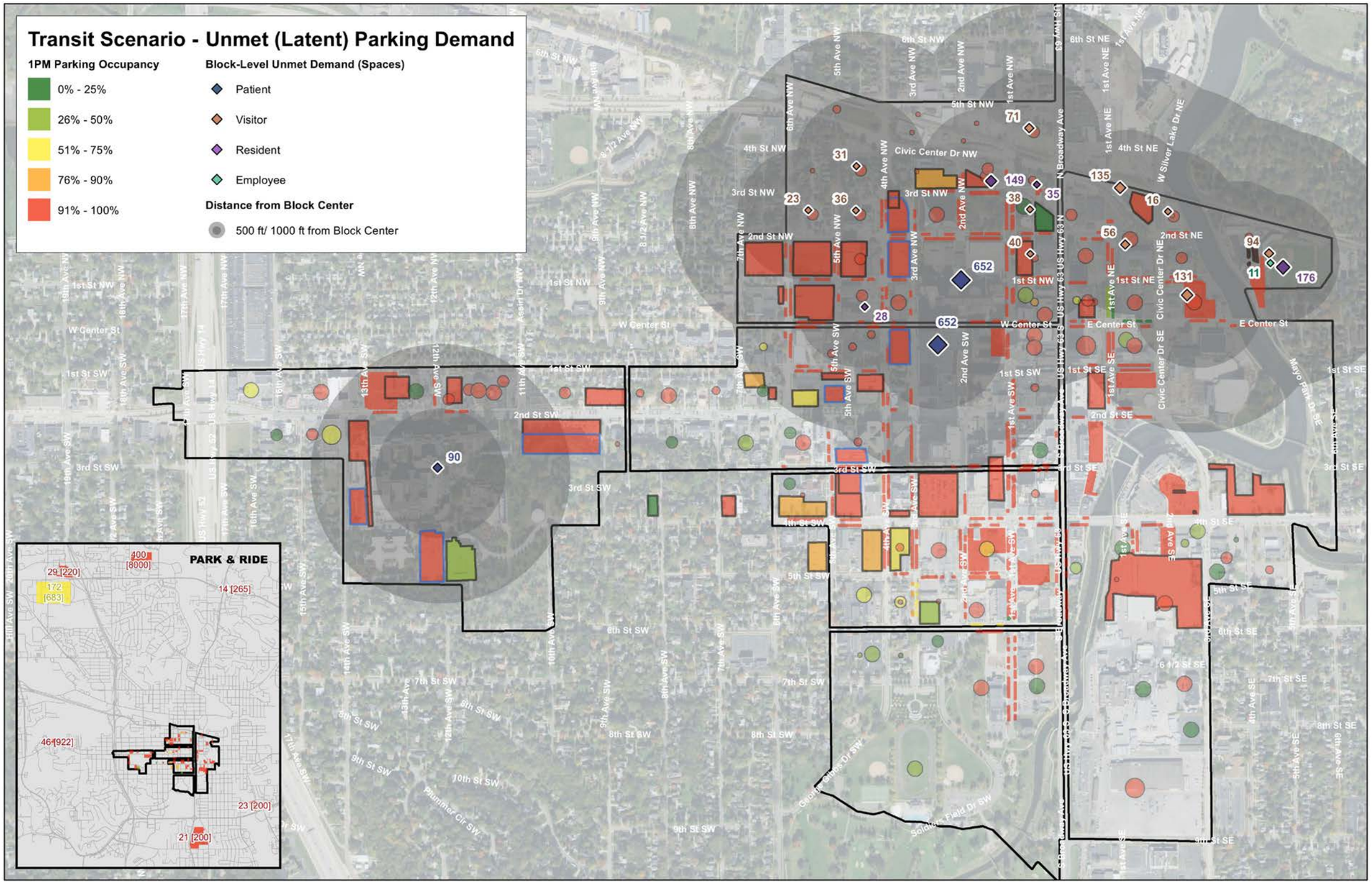
Transit Scenario Unmet Demand

Unmet Demand	*Central Station*	*Downtown Waterfront*	*Heart of the City*	*St. Mary's Place*	*Grand Total*
Employee	36	18	-	-	54
Patient	652	-	652	90	1,394
Visitor	223	176	-	-	399
Resident	250	441	-	-	691
TOTAL	1,161	634	652	90	**2,538**

Future Transit Scenario Study Area Parking Occupancy



Future Transit Scenario Unmet Parking Demand



Mayo Parking System Focused Review

Mayo Parking System Focused Review

The Mayo parking system received attention as a sub-study in the parking supply/demand analysis conducted for this effort. This section provides an overview of the Rochester DMC Park+ future scenario model results, specifically discussing Mayo-related employee and patient/visitor parking. Much of the content contained herein was discussed in the Mayo Parking Workshop that was held on October 4, 2017. Key action items and questions from the Mayo Parking Workshop included the following:

Key Takeaways:

- Need to find accommodation for ~1,400 patient parking spaces surrounding Central Station/Heart of the City (Downtown) areas.
- Mayo staff will work to identify Mayo-employee parking that can be repositioned as Mayo-patient parking in these areas to accommodate unmet patient needs.

Answer these key questions:

- Is Mayo willing to fully assign all employee parking based on geographic location and/or how the employee is likely to arrive in Rochester?
- Where does Mayo think the latent demand for patient/visitor parking can be accommodated?
- Are there certain existing facilities that could have the parking assignments modified to better optimize the parking system?

Key Mayo-Specific Park+ Model Findings

- No unmet demand was identified for Mayo Employees.
    - The Existing/Calibrated model identified nearly 100% utilization of Park & Ride facilities predominantly filled by Mayo employees.
    - Model results showed both a significant increase in Park & Ride facilities, and modeled a similar heavy use of Park & Ride facilities by Mayo Employees in the future condition, matching the relative 'attraction' identified in the Existing model.
- There are approximately 1,400 spaces of unmet demand for Mayo Patients/ Visitors in the future, consistent across the four studied future scenarios.
    - The model identified 90 spaces of unmet patient/ visitor demand in the St. Mary's Place area, and just over 1,300 spaces of unmet patient/visitor demand Downtown.
    - Parking changes for each of the future scenarios targeted employee/ park & ride facilities and had no identified changes for patient and/or visitor parking, making these results consistent across future parking scenario models.

Assumptions

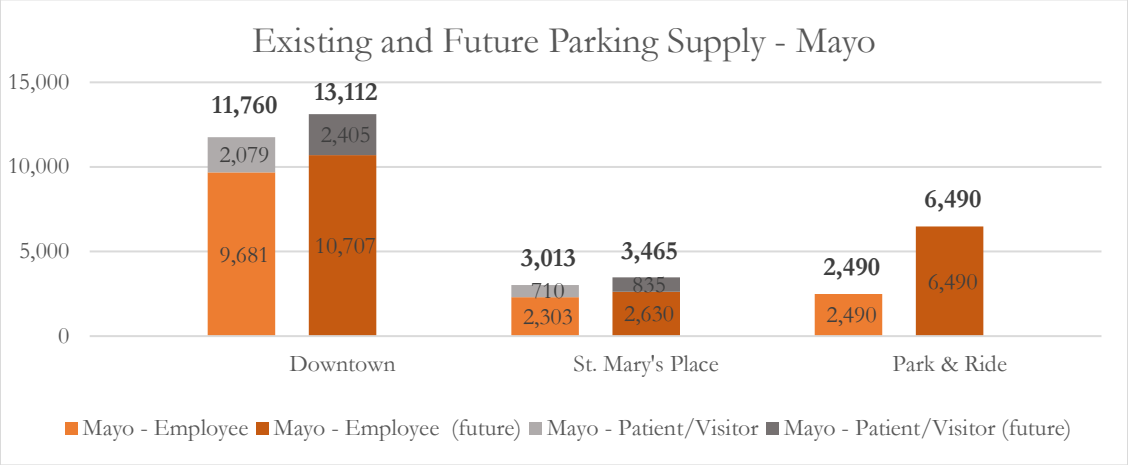
The study areas for this Mayo-specific review, have been simplified to consider St. Mary's Place and the rest of the DMC Study Area as just "Downtown." This better reflects the separation of the St. Mary's Place campus vs. the Downtown Mayo facilities.

The parking and land use model data is identical to the broader DMC Study Area, but has narrowed focus on a sub-set of Mayo-specific parking and land use.

PARKING SUPPLY

- Total number of Mayo Employee and Mayo Patient/Visitor parking spaces available in the model.
- Total number of spaces is the same for all future alternatives, but provides location alternatives for future peripheral and remote parking per future scenario.

Existing and Future Parking Supply – Mayo



PARKING DEMAND

- Existing demand based on Calibrated Park+ model, matching existing land use and observed parking occupancies to identify current rates/ ratios of parking by land use.
- Future demand based on a single future scenario assumption – future land use/ anticipated development is constant across all future scenarios.
- Demand for parking is determined by the projection of observed/ calibrated parking-to-land-use rates/ ratios onto future anticipated land uses.

Existing Parking Demand – Mayo

User Type	*Downtown*	*St. Mary's Place*	*Grand Total*
Mayo - Employee	7,694	4,173	11,866
Mayo - Patient/Visitor	2,006	668	2,674
Grand Total	**9,700**	**4,841**	**14,541**

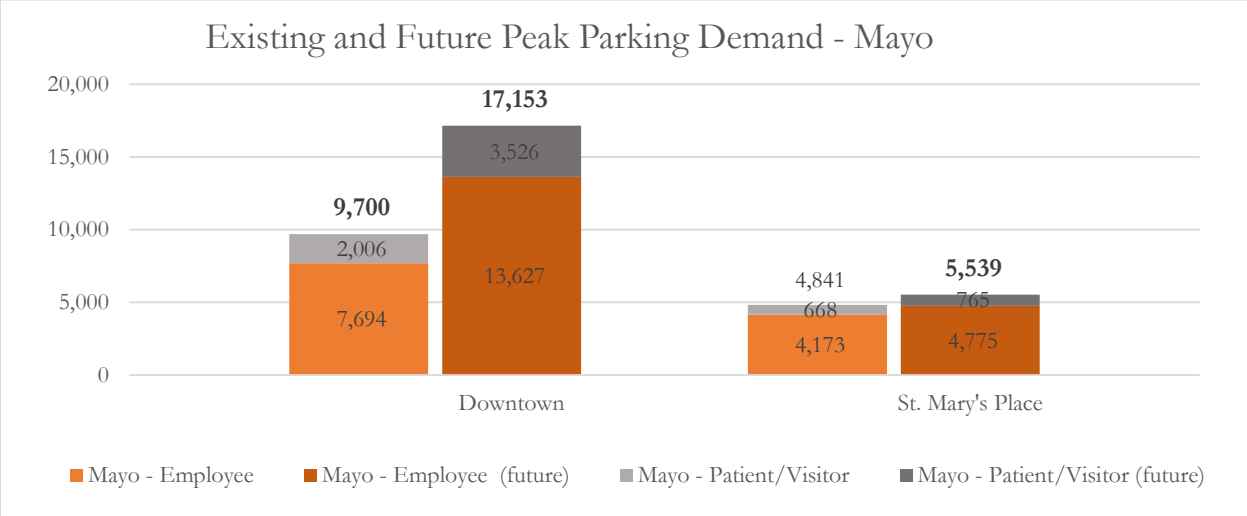
Future Parking Demand – Mayo

User Type	Downtown	St. Mary's Place	Grand Total
Mayo - Employee	13,627	4,775	18,402
Mayo - Patient/Visitor	3,526	765	4,290
Grand Total	**17,153**	**5,539**	**22,692**

New Parking Demand Identified from Existing to Future – Mayo

User Type	Downtown	St. Mary's Place	Grand Total
Mayo - Employee	5,933	602	6,535
Mayo - Patient/Visitor	1,520	97	1,616
Grand Total	**7,453**	**699**	**8,152**

Existing and Future Peak Parking Demand – Mayo



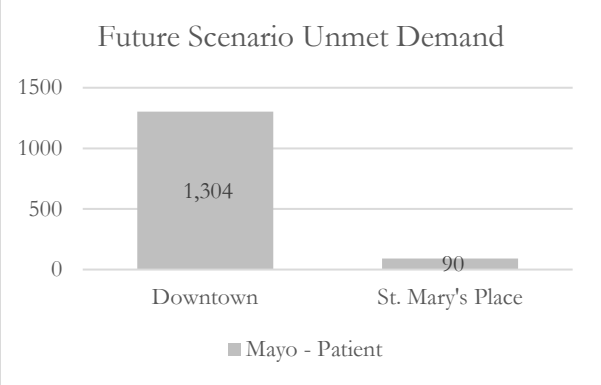
Unmet Demand Results

Future DMC Park+ models considered the variation of parking supply modifications of peripheral, remote, and park & ride facilities and the resulting effect on the distribution of parking demand for the adjacent and nearby land uses. Unmet demand (latent demand) identifies parking spaces that are desired adjacent or nearby based on land uses, but are unavailable due to parking user restrictions and/or limited nearby parking supply.

Future Unmet Parking Demand - Mayo

All Parking Scenarios	*Downtown*	*St. Mary's Place*	*Grand Total*
Mayo – Employee	-	-	-
Mayo – Patient/ Visitor	1,304	90	1,394
TOTAL	**1,304**	**90**	**1,394**

Future Scenario Unmet Parking Demand – Mayo



Summary of Mayo Specific Park+ Model Results and Key Findings

MAYO PATIENTS/ VISITORS

- There is unmet demand for approximately 1,400 Patient/Visitor parking spaces for Mayo land uses.
- Limited additional Patient/ Visitor parking was identified for the future scenario, resulting in a disparity between demand and supply.
- The largest concentration of unmet parking demand (approx. 1,300 spaces) for Patients/ Visitors occurs in the Central Station and Heart of the City districts.

MAYO EMPLOYEES

- Mayo Employees are sufficiently parked in future conditions, which include the proposed increase of peripheral and remote parking facilities.
- Some Mayo Employee parking, as designated today in the downtown area, show lighter utilization by employees in the future model. Peripheral/ remote parking intended for Mayo Employees is well utilized in the existing condition. Future scenarios add significantly to this 'attractive' peripheral parking supply, and the model assumes these facilities are similarly attractive and well utilized as they are in the existing condition. This results in the peripheral/ remote lots absorbing much of the projected future demand.

Chapter IV
Parking as an Economic Development Strategy

IV. Parking as an Economic Development Strategy

Introduction

The idea that parking can be an effective economic development strategy has gained greater and greater acceptance as innovative programs from around the country have proven this concept with many successful examples. We have documented several of these case studies in this report.

Leveraging Parking and Mobility Management Options as Tools for Economic Development

PURPOSE

Development of a policy linking parking development and management as a key element of community and economic development policies can be an effective strategy. This document suggests strategies and approaches to leverage parking and access management investments as part of an overall downtown business development strategy and encourages shared parking and shared mobility as key elements to support the larger DMC transportation vision.

INTRODUCTION

Having a well-defined and shared vision relative to preferred or targeted types of development is an important first step in this recommended approach. This task report will also focus on the development of general guidelines related to parking and economic development incentives as well as the development of specific policies to better align parking and mobility asset development and management to support community and economic development goals.

The document entitled: "J8618-8622_RPT_Parking and Economic Development Policy 12-20-2016" (Appendix 4.) and the following supportive appendices provide more detail including sample development agreements and a sample "Business Development Scorecard"

a. J8618-8622_RPT_Appendix_A_Village Green Parking Agreement FINAL 1007
b. J8618-8622_RPT_Appendix_B_Sample Business Scorecard – DMC
c. J8618-8622_RPT_Appendix_C_TPA-CA~1

Parking as an Economic Development Incentive – General Guidelines

Below is a listing of questions that can be used as general guidelines that should be evaluated when developing policies related to leveraging parking as an economic development element. Developing the philosophical underpinnings of these policies that are consistent with larger City development goals is an important foundation if overall economic development policies are to be consistent and aligned with larger community values and strategic plan objectives. The following guidelines are presented as a starting point for discussion purposes with the expectation that they will be reviewed and refined by City staff and elected officials before any official policy recommendations are put forward.

Parking can be a very powerful development incentive but must be applied in a fair and consistent manner that advances the larger community strategic goals. The following issues are examples of the type of recommended criteria to be considered as part of the assessment for either committing a significant number of existing parking resources or the development of future parking assets as an element of a development partnership.

ALIGNMENT WITH GUIDING PRINCIPLES

While many of the elements below reflect basic municipal development review processes and goals, special attention should be focused on the degree to which the proposed development projects are in alignment with the adopted DMC development and transportation vision as well as community economic development goals.

When evaluating whether the City will consider an investment in parking to encourage or incentivize a new development project, the following standard set of questions should be answered upfront:

1. Does the proposed development contribute to economic health of the downtown/community and is it consistent with the DMC Guiding Principles? What are the envisioned contributions?

2. Does the proposed development project include prioritized or highly valued development goals or program elements supported by the City of Rochester and the DMC vision?

3. Are the proposed land-uses or combination of land-uses associated with this project appropriate the specific area?

4. Is the proposed development project in alignment with the Transportation Principles (Section 7.1.2) and Infrastructure Planning Principles (Section 8.1.2) of the DMC Development Plan and/or the Downtown Master Plan?

5. Does the proposed development project incorporate special elements valued by the City, DMC, Mayo Clinic and other community groups/plans? If yes, specify.

6. Has the City/County Planning Department reviewed and endorsed the proposed development plan for consistency with the City's Comprehensive Plan?

7. Does the proposed development project create any unusual or unacceptable parking or traffic impacts such as "portal capacity" issues) at the gateways into the District or high levels of traffic congestion?

8. Is the developer willing to create new parking assets in accordance with City adopted parking structure design guidelines to ensure compliance with downtown development standards and parking structure design best practices?

9. Has the initial economic development impact of the project been estimated? What is the anticipated project impact in the following areas?

a. New jobs for downtown?

b. Jobs retained in downtown?

c. Increase in property taxes/TIF Contributions?

d. Estimated increase in sales tax revenue?

e. Stimulation of additional development?

f. Stimulation of additional support jobs?

g. Support of existing retail, restaurant and other existing service providers?

10. Is participation in this development project appropriate and consistent with the Downtown Master Plan or the DMC Plan? If so, please describe.

ALIGNING PARKING PROJECT DEVEVLOPMENT WITH CITY PLANNING RESOURCES – GENERAL GUIDELINES

Beyond the parking focus of the guidelines below, promotion of shared parking, shared mobility strategies and active transportation elements are critical to the development of multi-modal transportation vision for downtown Rochester. Another planning dimension that should be considered is planning for "public or a district level parking program" compared to development specific parking planning.

Below is another set of questions which addresses the potential impact of proposed development deals as they relate to the existing parking management program. Supporting and enhancing the financial and operational influence of the parking and access management program going forward should be a priority when considering new development projects as this function can have an important impact on the health and vitality of an effective urban environment.

1. Are there opportunities for partnership/collaboration with the developer or property management firms relative to other downtown parking program goals?

    a. Does this project create any possible public use of spaces after typical weekday work hours, weekends, holidays, etc.?
    b. Does this project create any possible shared parking opportunities?

2. Will this project generate additional parking revenue to support or contribute positively to the City's parking program?

    a. If yes, specify:

        - Estimated visitor/patient parking spaces: ____
        - Estimated spaces contracted: ____

- Estimated annual revenue: _____

3. Does this proposed development project create any new or unusual operating expenses that might negatively impact the City's parking program?

4. Are there opportunities for the City's parking program to operate any new parking capacity for a management fee? Is this desirable relative to this specific project?

5. Is the net financial impact of this project relative to the City's parking program projected to be positive?

6. Are the activities proposed, relative to participation in this development opportunity, in compliance with the City's parking program bond covenant requirements/restrictions (i.e., the ability to maintain bond coverage ratios, etc.)?

7. Does this development project create any special conditions that undermine the financial or market position of the City's parking program?

Introduction to Parking as an Economic Development Strategy Purpose

POLICY STATEMENT AND PURPOSE

The City of Rochester parking policy will embrace a comprehensive approach that emphasizes leveraging parking infrastructure investment as a key element of community and economic development. Parking investments, made as part of an overall downtown business development strategy, should carry an expectation of a five to one return on public funds invested. To achieve this level of return, projects that offer significant shared parking benefits are strongly encouraged.

The preferred approach for future City parking development will be through public-private partnerships with private developers when the proposed development projects are well aligned with the downtown master plan vision and land-use plans. Rather than building separate public parking assets, the City envisions partnering with private development projects in which the private development will provide adequate parking for their proposed combination of land uses in accordance with City adopted development and land use policies.

By jointly developing parking on those projects within the downtown core, the costs of major parking development elements (foundations, stair towers, elevators, mechanical systems, etc.) can be shared creating significant cost saving benefits for both parties compared to doing separate developments and thus providing an additional incentive for the proposed development to occur. Beyond incentivizing quality developments that support the development vision of downtown, the development of some amount of public parking with the new development is designed to provide additional public parking to support anticipated adaptive reuse and in-fill projects that are likely to occur in the immediate area of the new development.

For development projects that are complementary to the downtown vision, provide positive contributions to community and economic development objectives. The joint development of shared parking assets provides the following benefits:

- This approach reduces development costs for both the developer and the City.
- This approach encourages the use of shared parking and reduces the overall amount of parking required in the downtown.
- Ideally, the City would manage the jointly developed parking facility ensuring consistent, high quality parking management and promoting use of parking access and revenue control systems that the community is already familiar with (improving ease of use).
- The jointly developed parking facility would be designed in accordance with City developed parking design guidelines to ensure high quality design standards reflecting industry best practices. (See design guidelines provided as part of this study).
- By providing a supply of public parking in conjunction with the new development (to support additional in-fill development and adaptive reuse of other adjacent properties) this approach will ultimately provide a better distributed public parking supply for hourly parkers and retail support throughout the downtown.

Development of a policy on when a stand-alone public parking project may be appropriate such as to help promote infill and adaptive re-use of other properties may be needed. Preliminary policy objective might include:

1) Public parking is an option to facilitate adaptive reuse of an identified significant historic structure to facilitate preservation, or
2) Public parking will be considered as an alternative to facilitate infill on small or irregular shaped lots where it can be demonstrated that efficient on-site parking provision is not feasible, or
3) Leveraging an investment in public parking as an incentive to attract private development in a blighted or underperforming area

To promote the effective management of existing and future public parking resources, a consolidated parking management function within the City organization that is coordinated with shared mobility services such as public transit and travel demand management services will continue to be strongly supported. The parking management program will be a key partner for creating 'balanced and sustainable community access strategy". To facilitate this, the parking department will need to take a more holistic approach to overall downtown access, developing policies and practices that support a more multi-modal approach.

Integration of good urban design principles relative to parking facility design will also be prioritized. The goals of this policy element are to better integrate parking infrastructure into the urban fabric and to contribute to a compact, walkable and vibrant downtown – this includes parking structure design criteria such as street-level activation, a preference for mixed use parking developments, LEED Silver building certification, etc."

PRIMARY POLICY ELEMENTS

The three central elements of the recommended parking policy relate to linking the parking strategy to community and economic development. These primary policy elements are:

1. Integrating parking planning into a larger "Downtown Business Strategy" context.
2. Setting an expectation of 5 to1 return on parking investments as part of an overall downtown economic development strategy
3. Supporting a consolidated and "vertically integrated" parking and access management program.

NEW PROGRAM INITIATIVES AND STRATEGIC DIRECTION

The City, Mayo Clinic, and the DMC are already moving in the proper strategic direction. The City already has in place the foundation for a well-managed and "vertically integrated" parking program (consolidated off-street parking management with on-street resource management and parking enforcement). In fact, it should be emphasized that the City of Rochester already surpasses most communities in this regard as it not only has an existing "vertically integrated" parking program, but one that also is integrated with the community transit agency management. This is a somewhat unique and incredibly valuable arrangement; it is also a solid foundation upon which an enhanced and more comprehensive "access management" program can be built for the future.

To help advance the Rochester Transit and Parking program to a higher level, the following initiatives are recommended:

- Updating parking and mobility planning information and adding new planning tools/ capabilities (parking demand model, parking policy refinement, multi-modal/shared mobility/TDM program development etc.).
- Identifying and addressing specific parking issues such as:
    - On-street time limits
    - Better aligning on-street and off-street pricing and policies
    - Assessment of city employee parking
    - Maximizing utilization of under-utilized private parking resources
    - Evaluating a "district approach" to parking development/management
    - Developing strategies to encourage shared parking
- Assessing investments in new on-street technologies that offer enhanced customer payment options and greater convenience.
- Promoting a broader focus on sustainable community access strategies by creating a more balanced combination of parking, transportation and shared mobility options, etc.
- Development of an overall parking strategy/set of policies to support community and economic development.

PARKING POLICY DEVELOPMENT

One key objective that emerged from this study is interest in the development of a strategic parking policy as it relates to the use of parking as a potential catalyst element in support of downtown development. This includes policy guidance related to parking investment and the use of parking as a potential development incentive.

Recommended Parking Policy Overview

The recommended parking development policy for the City of Rochester builds upon its significant investment in parking infrastructure. The City should continue to view parking as important civic infrastructure and carefully consider parking as one of several potential incentive options related to attracting new community investment. The recommended approach encourages several fundamental philosophical and related policy considerations and provides several new parking analysis tools. One of the primary guiding principles of the recommended parking policy is to view parking development projects and the resulting infrastructure as true "investments."

As with any other type of investment, there should be an expectation of a specific return for public dollars invested. Based on successful strategies from around the country, a 5 to 1 return is recommended as a goal. For example, if the City were to invest $10,000,000.00 in a new parking facility, the expected return on this investment would be at least $50,000,000.00 in private sector investment. This is one means of leveraging parking investment as a tool for community and economic development.

Two of the key lessons learned from communities where this model has been successfully applied include:

1. A reinforcement of the importance of "shared parking" as a central component of the strategy. This is important because the ability to leverage complementary (as opposed to overlapping) peak parking accumulation factors[1] allows the sharing of spaces between land uses and thereby allows the garage to support more private sector development projects. This greatly enhances the chances of attaining the 5 to 1 return on investment goal.

2. Recognize the importance of retaining ownership and control of parking assets (i.e., leasing the spaces, not "giving them away").

"The City of Rochester parking policy will embrace a comprehensive approach that emphasizes:

- Leveraging parking infrastructure investment and enhanced parking management as a key element of community and economic development.
- Integration of parking planning into the larger "Downtown Business Strategy" context.
- Setting an expectation of 5-to-1 return on parking investments as part of the overall downtown business development strategy.
- Ensuring effective management of existing public parking resources, including a strong emphasis on "shared parking".
- Supporting a "vertically integrated" and consolidated parking management organization.
- Promoting a 'balanced and sustainable community access strategy'.
- Utilization of good urban design principles relative to parking facility design to better integrate parking infrastructure into the urban fabric – this includes criteria such as street-level activation, mixed use parking development, LEED certification, etc.

Recommended Key Parking Policy Principles

This approach also encourages a broader assessment of the economic impacts of proposed development projects, including: initial project value, jobs creation (short-term and long-term), property tax impacts, estimated sales tax contributions, and potential for stimulating additional development or community investment.

The new "parking demand model" (Park + Model), developed as part of this study, should provide the City with updated parking planning data on an on-going basis as a tool to support the recommended parking policies, if properly maintained.

RECOMMENDED PARKING POLICY

This section lays out eight recommended parking policies. Each policy is presented in the following format:

- A "policy statement"
- A stated policy purpose
- Key issues related to the policy, and
- Supporting tools

The eight recommended parking policies include:

- Policy #1– Maintain Ownership of Parking Assets & Grow the System
- Policy # 2 – Set an Expectation of a 5 to 1 Return on Parking Investments
- Policy # 3 – Strongly Support the Concept of "Shared Parking"
- Policy # 4 – Leverage Parking Investment to Support New Development Opportunities
- Policy # 5 – Support a Consolidated Parking Management Organization to Promote Effective and Customer Friendly Parking Management
- Policy # 6 – Develop a robust parking planning function
- Policy # 7 – Create a Balanced and Sustainable Community Access Strategy
- Policy # 8 – Promote a "Park Once – Pedestrians First" Approach for Downtown Rochester and integrate Good Urban Design Principles Relative to Parking Facility Design

Policy #1 - Maintain Ownership of Parking Assets & Grow the System

- To better leverage parking infrastructure investment as a key element of community and economic development and to develop a more effective downtown development support system, the City should, over time, maintain public parking assets to be approximately 40% of the total parking supply. To achieve this long-term goal, it is critical that ownership of public parking assets be maintained. The 30% - 40% target within the CBD has two major goals:
    - By allowing the private supply to increase, this means less parking that the City would have to fund. To achieve this desired outcome, it will be important to let the parking prices increase to market levels to create more of a financial incentive for the

private sector to begin to see these investments as financially feasible. Allowing parking pricing to rise to "market levels" (as opposed to artificially subsidizing public parking rates) will also help promote desired mode split goals. It is also important for the private sector to realize that the City will no longer continue to build parking as they have in the past (thus the importance of having a well-defined new public parking policy).

- Maintaining a significant share of the overall parking market (30% - 40% within the CBD area) is important in that the City will still have adequate resources to influence market rates and set a high standard of operational excellence as a community benchmark.

PURPOSE:

- Many successful parking districts view parking as essential infrastructure and because of this have over-built supply in strategic locations and then worked on multiple tracks to stimulate community development to "grow into it". Being ahead of the supply curve is not a bad thing. Who would want to build a water system, for example, with only enough capacity to handle the demand of the current population.

- Another approach is to consider the "idealized build out" of the downtown based on a comprehensive downtown plan, then develop your parking development plan to support the desired build out. This approach should be guided by two major principles – first, keep the public parking supply at approximately 30% - 40% of the total parking supply in the CBD area - this provides flexibility relative to attracting new development and creates the capacity to address uses in the realm of the "public good". In the case of Rochester, the issues of developing a high quality urban environment and recognizing the "portal capacity" issues related to potential traffic congestion are also key concerns. Second, understand that typically more of your parking investment needs to be made on the front end of the process, but must also take into account the development climate/pace of development.

- As an example, the CCDC/ "BoDo" example from Boise, ID cited in the appendix "Task Report" entitled "An Update of Parking Requirements Reform" delves into the issues of "How much parking is enough?" for evolving urban areas and transit oriented developments. The same case study also illustrates the need to maintain ownership and control of public parking assets. It is important to note that the development of the Myrtle Street parking garage was done with public funds to effectively support the eastern half of the BoDo mixed-use development (specifically the cinema and the new Hampton Inn Suites), but that CCDC retained ownership of the parking garage. The nature of the hotel parking need was well suited to a shared parking approach, meaning that parking would always be available for the hotel without the need to hand over ownership of any spaces or creating long-term exclusive use rights. A memorandum of understanding combined with a practical reality of the parking usage has been satisfactory for all parties.

- Where the public chooses to manage a significant share of the parking in a district, it is important that the approach be coupled with "creating places where people want to be." The combination of integrated parking into the urban form (all your parking should be in convenient, mixed-use facilities with activated street-level uses) and a make a concentrated effort on "place making" and public realm improvements.

KEY ISSUES:

- Manage public parking resources to ensure optimum utilization
- Implicit in this goal is the need to maintain ownership and control of public parking assets

Supporting Tools:

- Craft a "Community Vision" document for downtown development goals from recent community plans such as retail plans, housing strategies, public space plans, transportation infrastructure plans, etc.

Policy #2 - Set an expectation of a 5 to 1 return on parking **investments**

- City policy should set an expectation of a 5 to 1 return on parking investments. These investments will provide community infrastructure to support a variety of private sector developments equaling or exceeding 5 times the investment value of the parking facility.

PURPOSE:

- There are some downtown development agencies and urban renewal districts that have begun setting an expectation of a defined return on infrastructure investments. To be a true development partner, the city needs to think about investment returns and what it means to the community when using public infrastructure to induce additional economic development.

  This policy was effectively implemented in Boise Idaho. Boise's urban development agency, the Capital City Development Corporation (CCDC) had a stated goal of a 5 to 1 return on parking investments. In the recent "BoDo" (Boise Downtown) project, they leveraged $15,500,000.00 in public infrastructure investment (The Civic Center parking garage [$8,000,000.00], the Myrtle street garage [$6,000,000.00] and a $1,500,000.00 investment in streetscapes) in return for $87,000,000.00 in private development – a 5.61 return on investment. (See case studies in the appendix 4).

KEY ISSUES:

- Use the leverage of parking and transportation investments to attract development
- Utilize parking investment to catalyze other community and economic development
- Establish policy goals re: parking investments
- Educate developers on the preferred types of development desired by the community
- Establish an expected return on infrastructure investment

Supporting Tools:

- Recommended "Community Vision" Document

Policy #3 - Strongly support the concept of "Shared Parking

- To achieve the desired return on investment (Policy 2), the concept of "Shared Parking" is crucial. City policy should strongly support the concept of "Shared Parking." Projects that provide shared parking benefits should be strongly encouraged and even incentivized as they help the City achieve the desired 5 to 1 parking investment goal. It should be noted,

however, that deals that allow excessive restrictions on the use of shared spaces, reduce the value and effectiveness of this policy and therefore should be avoided.

PURPOSE:

- As part of the parking support policies being proposed, maximizing the benefits of shared parking is an important consideration. Because of the cost of investing in structured parking, it is in the City's best interest to get the most benefit from these public fund investments. The effective application of shared parking strategies, where applicable, can extend the reach and impact of investments in public parking and greatly contribute to achieving the recommended 5 to 1 return on infrastructure investments.

KEY ISSUES:

- Maximize returns on public parking investment
- Optimize use of existing parking resources
- Extend reach of existing parking resources
- Promote more sustainable parking and transportation strategies

Supporting Tools:

- Parking Demand Model
- Shared Parking Model

Policy # 4 – Leverage Parking Investment to Support New Development Opportunities

- City parking investments should be used to support and incentivize new development opportunities, but City parking assets should be leased (with limited restrictions), and not given away or sold (except as part of a larger strategic investment plan).

PURPOSE:

- While parking is supported as a tool to leverage further investment in downtown Rochester, there are right ways and wrong ways to use it if the goal is to build an effective parking management program to support the long-term health of the City. When evaluating parking as a potential development incentive, ask the following questions:
    - Does this arrangement give away or sell City owned assets?
    - Does this arrangement restrict the shared-use of City parking assets?
    - Prior to offering parking assets as an incentive, has an assessment been developed to quantify the value of the parking assets in both current and future dollars? Have future parking revenues been factored into the assessment. Have costs to replace the parking assets in the future been factored into the assessment?
    - If parking is offered as a development incentive, does the value of the development project elements at least equal the value of the parking assets relinquished (if applicable)?

    - Are there other economic development incentives that would be equally as effective in moving the deal forward without negatively impacting the development of a strong public parking system?

- If the answer to any of these questions is "No," the proposal should be reconsidered or at least be given extra scrutiny.
    - If a decision is being considered that violates the principles above, has a "City desired benefit" been identified and negotiated to offset the loss of the parking investment?

Policy #5 – Support a Consolidated Parking and Access Management Organization and Promote Effective and Customer Friendly Parking Management

- The City should ensure effective management of existing public parking resources. There are several strategies for achieving this multi-dimensional goal, chief among them is supporting and strengthening the consolidated parking management organization under the City, stabilizing the public parking supply over time to be approximately 40% of total parking and establishing a long-term goal of creating a self-supporting parking enterprise.

PURPOSE:

- It has been demonstrated that a parking system that is "vertically integrated" (centrally managed as a single operating agency) and that controls, at a minimum, off-street public parking, on-street parking and parking enforcement can, over time become a self-supporting and self-sustaining venture. In fact, there are many examples of programs that not only cover their operating and maintenance costs, but also debt service, facility and system maintenance reserves and even set aside funds for future parking facility development, provide funding for alternative transportation programs or provide revenues back into the City's general fund.
- In addition to developing a strong, self-sustaining parking program primarily funded by user fees, this investment in parking and access management can generate additional benefits when directed by an organization that is focused on community development or downtown revitalization. Some of the most advanced, progressive and successful parking management programs in the country today utilize this model. Examples include:
    - Boulder, CO (Parking District Model)
    - Capital City Development Corporation, Boise, ID (Urban Renewal District)
    - Ann Arbor, MI (Downtown Development Authority)
    - Downtown Tempe Community, Inc., Tempe, AZ (Business Improvement District)
    - City of Fort Collins, CO (Vertically Integrated City Department Model)

  A key "paradigm shift" for each of these communities is that the organization's primary missions is seen as "district management" or "urban revitalization". Parking is used a tools to support and advance the larger district management objectives.

KEY ISSUES:

- Have a defined focus on parking management and a comprehensive parking management strategy that is used as a tool to promote overall urban district management
- Create well-defined parking management policies and procedures
- Create a parking planning program element with defined parking planning and management criteria, metrics and benchmarks

Supporting Tools:

- Development of a "dual mission philosophy" in which parking and access management policy supports larger downtown district vitality and development
- Parking Demand Model
- Adopt a set of parking management internal benchmarks
    - See Appendix 17: Recommended Parking Management and TDM Benchmarks

Policy #6 – Develop a Robust Parking and Access Management Planning Function

- Within the consolidated City Parking and Access Management Program, a special focus on the development of a robust parking planning function is recommended. Using the new "Parking Demand Model" tool, the City should plan future public parking investments on a "quadrant basis" or similar "district basis". The demand model tool provides the capability to keep parking supply, utilization and even land-use data up to date. Keeping this data current is a key policy objective as this will greatly enhance the City's ability to effectively assess the parking dimensions of new development proposals as well as to plan for future parking needs.

PURPOSE:

- Use the new parking demand model to create "customized parking assessments" for proposed development projects by selecting an area around the proposed development site (typically defined by walking distance tolerance).
- Create a definition of "parking adequacy" specific to the City of Rochester (the Park+ Model can help define this). Develop specific parking criteria for each of the four downtown quadrants or special parking districts. Monitor these base planning numbers on a regular basis.
- As the parking supply and community access patterns change over time, adapt parking and transportation strategies to improve access, enhance the customer experience and increase event success and attendance through better communications, coordination with Police and traffic enforcement, and by being responsive to feedback from businesses and stakeholders.
- Consider not only the localized demands created by a specific development, but also how that development's parking needs align with the needs of the specific quadrant or district it is located in. Consider a variety of parking needs including a range of employee parking options; short, intermediate and long-term parking options; retail support parking; special events parking; etc.

KEY ISSUES:

- Understanding of parking needs/issues and ongoing monitoring (data driven management)
- Documentation and assessment of localized parking demand issues ("parking hot-spots")
- Staying "ahead of the curve" relative to parking needs
- Utilize the new parking demand model tool to provide more effective parking analysis related to new development projects
- Maintaining a calibrated Park+ model to provide the technical basis for analysis

Supporting Tools:

- Park + Parking Demand Model

Policy #7 - Create a Balanced and Sustainable Community Access Strategy. Promote a "Park Once" Approach for Downtown Rochester.

- The parking and access management program will be a partner for success in achieving a 'balanced and sustainable community access strategy'. Coordination and collaboration with local transit development, DMC, Mayo Clinic, State, County and other large employers is essential. "Demand side strategies" should be given equal importance to "supply-side strategies". Work collaboratively with these agencies to create a tool to monitor progress in decreasing single occupant vehicle usage (i.e., develop a "Mode Split Monitoring Report").
- Development of a community educational forum for on-going promotion of the benefits of TDM, Shared Mobility and other demand management strategies as they relate to community development and quality of life issues will be another important program element.

PURPOSE:

- Eliminate the all-too-common issue of putting parking into its own "silo". The focus should be on developing an "integrated access management strategy for downtown" that supports other community goals such as: "walkability", congestion management, public safety, promotion of alternative transportation modes, environmental responsibility, and the creation of "places for people".

KEY ISSUES:

- Adopt the key elements of a comprehensive and integrated transportation/access strategy recommended in the ITS Studies
- Define key metrics and access management strategy goals
- Develop measurement strategies and tools
- Conduct measurements and establish the current baseline in primary access categories such as parking, transit, light rail, bikes, walking, carpools/vanpools, etc.
- Parking specific criteria might include: parking supply/demand, public vs. private supply, specific public parking demand ratios, on-street utilization (for example – manage to achieve 15% availability), parking supply within walking distance to key demand generators, etc.

Supporting Tools:

- Parking system utilization data
- Transit Monthly Ridership Reports
    - Local Boardings per Weekday
    - Local Boardings per Mile
    - Express Boardings per Weekday
    - Average Express Boardings per Trip
    - American Community Survey Journey to Work data and Census Transportation Planning Package travel behavior data

Policies #8 – Integrate Good Urban Design Principles Relative to Parking Facility Design

- The City and DMC will actively promote the integration of good urban design principles relative to parking facility design to better integrate parking infrastructure into the urban fabric – this includes criteria such as requiring street-level activation, preferences for mixed use parking development, LEED or Green Garage certification for all future mixed-use parking facilities, etc. The concept of peripheral and remote parking for employees is another key concept that supports this principle in Rochester.

PURPOSE:

- Urban design is often mistakenly treated only as a "beautification filter" that people put on at the end of a development approval process. From the beginning of a development proposal, urban design needs to be understood as the "product output" to ensure "value" is simultaneously understood and weighed with "cost."
- Public sector development of its parking "products" can produce a public benefit [physical and financial]. The same can be true for private sector parking "product" development. Purely utilitarian-looking and operating parking facilities can be an economic liability, no matter what was spent on it. Similarly, a facility designed aesthetically, but not for function will negatively affect surrounding development. Conversely, a parking property [lot or structure] that is designed to a high standard to look good and work well is an economic development benefit
- Promoting walkability and offering multiple options to move around the downtown without driving and parking multiple times promotes less traffic, congestion, pollution and better supports local businesses.

KEY ISSUES:

- Community education of transportation options
- Special event parking information
- Evaluate creative alternative transportation options

Supporting Tools:

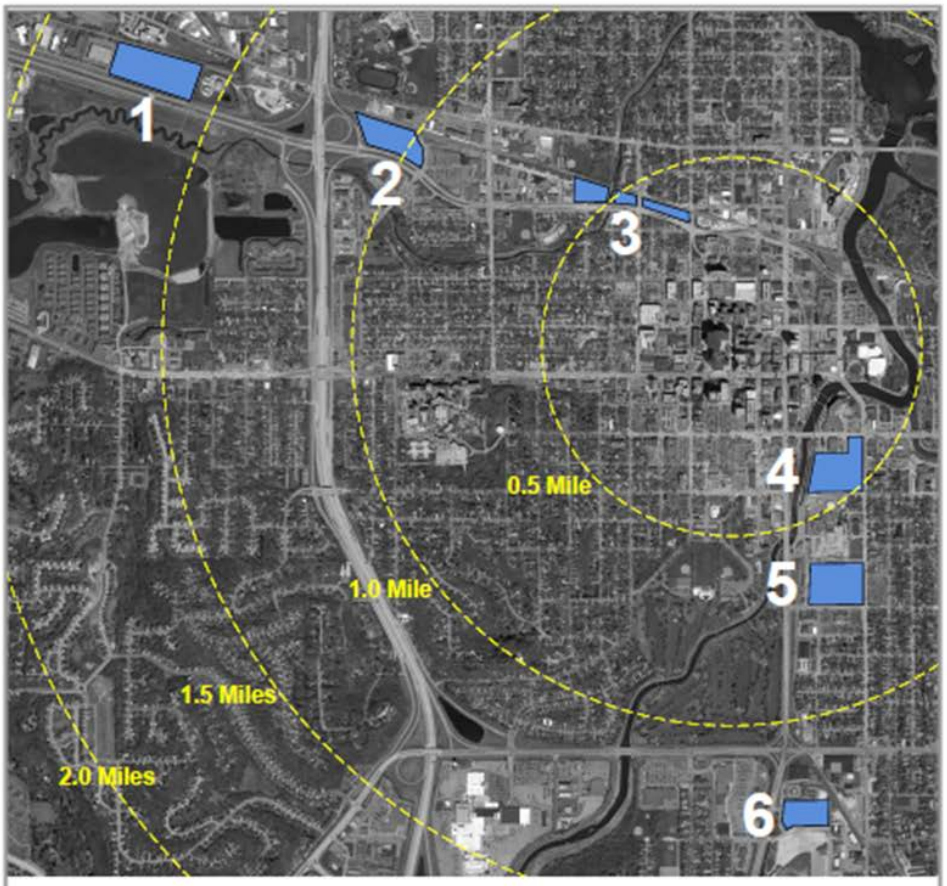
- Periodic pedestrian surveys
- Parking Facility Design Guidelines

Chapter V
Parking and Mobility Infrastructure Development

V. Parking and Mobility Infrastructure Development

Parking Site Assessment Evaluation Summary

Conceptual plans for parking facilities were developed for six sites that were identified as possible locations for commuter parking outside of the DMC boundary area. The conceptual plans provided an estimate of the total number of spaces that could feasibly be provided at each site, including the number of levels and the spaces / level. Due to their location, outside of the DMC boundary area, with most outside of a reasonable walking distance, all sites require some form of transit connection to and from the downtown area. The following exhibit presents a summary of the potential parking that can be accommodated at each site. The attached technical memorandum ("Parking Sites – Initial Site Assessments 05-04-20170) provides additional detail regarding each site.



Site	Existing Stalls[1]	Parking Sq.Ft.[2]	Stalls Per Level[3]	Parking Capacity[4]	Levels Req'd	Adaptive Reuse	Residential Units	Transit Hub
1	0	509,000	1,450	1,000 - 7,500	1 - 5			
2	170	217,000	620	1,000 - 3,000	2 - 5			
3	75	181,200	500	500 - 3,000	1 - 6			
4	860	309,900	880	1,750 - 4,750	2 - 6			
5	900	383,900	1,090	1,000 - 2,500	1 - 3			
6	532	144,000	410	1,000 - 4,500	3 - 11			

1 - Based on count from Google Earth Pro
2 - Based on 20' boundary setback on all sides
3 - Based on 350 sq. ft/ per stall
4 - Based on peripheral parking capacity analysis see attached Table 1

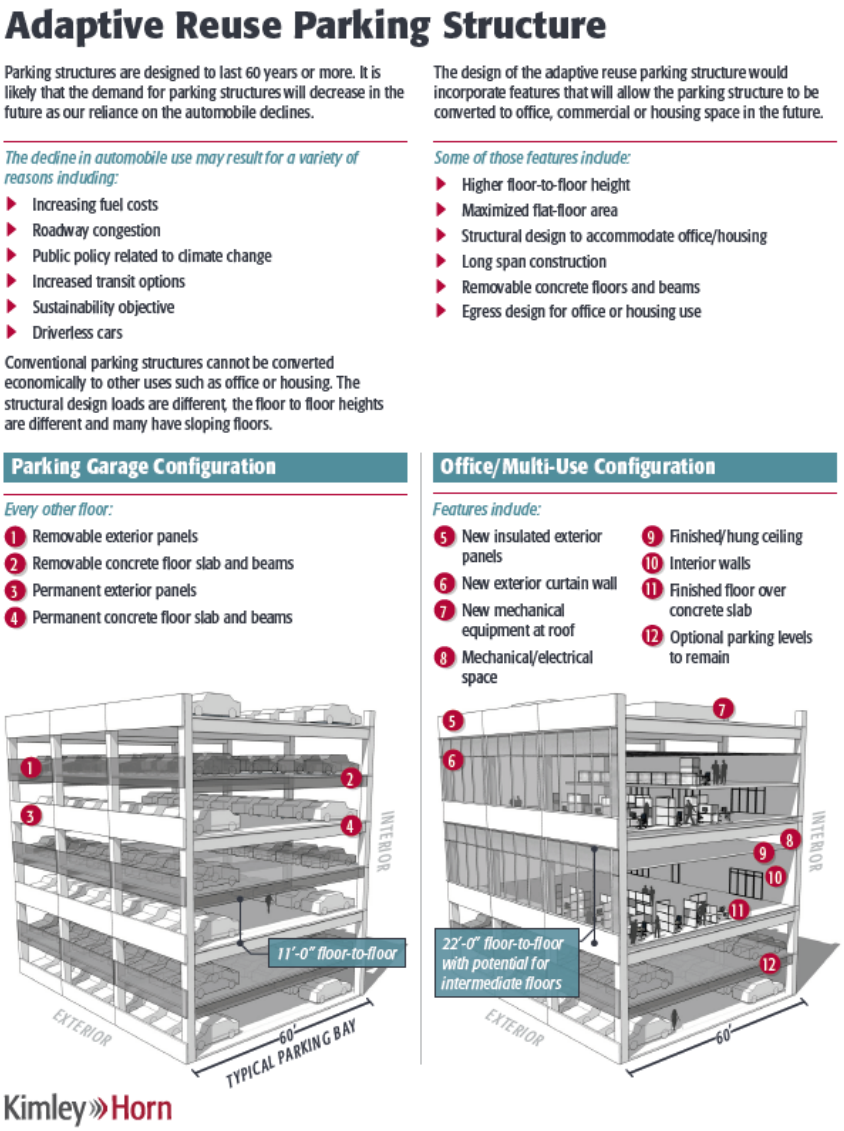
Parking Site Assessment Summary

Kimley»Horn

Parking Site Assessment
DMC Parking & TMA Study
Rochester, Minnesota

Planning for the Adaptive Reuse of Parking Structures

Looking to the future, parking professionals, architects, planners and designers are all considering the impact to traditional parking structures if the promise of autonomous vehicles becomes a reality. Early projections estimate a potential reduction in parking demand in the 30% – 50% range (within 20 – 30 years). Under this scenario, designing parking structures that could "adaptively reuse" 30% – 50% of the structure for other uses (office, residential, classroom, day care, etc.) only makes sense to evaluate.



This report section (and supporting documents referenced below) explore the technical issues associated with the concept of adaptive reuse parking facilities. Designs must consider future direction of the industry, including the following trends:

- Migration of suburbanites to urban centers
- Millennials driving less and forgoing car ownership
- Car sharing services (e.g., Uber, Lyft, Zipcar)
- Connected and autonomous vehicles
- The drive towards reducing vehicular traffic and making communities becoming more pedestrian-friendly and walkable

Many communities are taking measures to meet the evolving parking and transportation needs of communities of today and of the future. For example, forward-thinking administrators are revising their zoning codes and moving away from the minimum to maximum parking ratios for selected land uses. In addition, most are recognizing reduction in parking demand for transit-oriented development (TODs) and shared-use parking. In the case of Rochester, we should consider the entire DMC district a "transit oriented district".

Most people would agree that the need for parking structures is not going to go away anytime soon, even as technology is rapidly changing. Parking may not be the most glamorous element of a development or community but many community planners and developers recognize that when done right, it is the key to realizing their vision for an active and vibrant community and a successful development.

The service life of many parking structures designed is 50-75 years. As such, these facilities are and will continue to be fixtures of our urban landscape. We realize that mobility options and preferences are going to change over time as are the needs of the community. The last thing anyone wants is to build a structure that will be obsolete or severely underutilized.

What if parking structures could be designed to not only handle the current need but also be adaptable to better meet the evolving parking and transportation needs of communities in the future? What if we could future-proof the parking structure of today and design them to be adaptable to become say a community mobility hub, a community event center, or other land use types (office, clinical space, residential, etc.). Can this be done physically and economically?

Appendix 8. entitled: "J8618-8622_Assessing an Uncertain Transportation Future - DMC 2017" provides extensive research re: autonomous vehicles as well as detailed information re: the technical aspects of planning for adaptive reuse garages including sections on: preliminary code issues, prototype design concepts, opinion of probable cost for prototype concept designs and ideas related to phased parking development options.

Parking Garage Design Guidelines

The Parking Garage Design Guidelines document (See Appendix 5.) was developed for the City of Rochester as a guide for future parking structure design in Downtown Rochester. It contains information to help developers and designers incorporate parking structure components into proposed projects.

The garage design guidelines include the following categories:

- Introduction
- Project Delivery
- Sustainable Design & Accreditation
- Site Requirements
- Site Constraints
- Concept Design
- Circulation and Ramping
- One-way vs. Two-way Traffic
- Other Circulation Systems
- Access Design
- Parking Layout and Geometrics
- Parking Layout Efficiency
- Pedestrian Requirements
- Accessible Parking Requirements
- Safety and Security
- Lighting
- Signage and Wayfinding
- Drainage
- Open or Enclosed Parking Structures
- Structural Systems
- Durability Design
- Other Considerations
- Incorporating Other Land Uses
- Sustainable Operations & Mgmt.
- Sustainable Ops & Mgmt. Checklist

In any future parking development project, it is highly recommended that a qualified parking structure design specialty firm be engaged in the project due to the unique characteristics and special design expertise required to develop a successful project.

KEY POINTS

The intended purpose of the garage design guidelines tool is to:

- Produce functional, well-designed and patron friendly parking structures that will become valued infrastructure elements for the Downtown and surrounding areas.
- Following the guidelines can eliminate or minimize common design mistakes by addressing specific issue/concerns early in the design process.
- Enhance and facilitate the use of public/private partnerships going forward.
- Educate staff on the basics of good parking garage design, leading to better projects and improved development planning.

Note: These guidelines should be periodically updated to reflect state-of-the-art parking design practices and principles.

Parking Structure Development Costs Update

As the DMC Transportation & Infrastructure Program is recommending a significant amount of new parking development, we have provided the following update on parking structure development costs. Based on a review of several industry sources, including hundreds of completed parking structure projects of varying size, scope, and geographic location (omitting parking structures that are entirely below-grade because the cost of such structures is much higher), the national median construction cost for a new parking structure in 2017 is approximately **$19,000 – $20,000 per space or $56.99 – $59.00 per square foot**, increasing approximately 2.5% from 2015, when the median cost was approximately $18,600 per space based on historical data.

When evaluating the Minneapolis market area, the median construction cost for a new parking structure in 2017 is approximately 8.0% higher than the national average with a construction cost of **$20,769 per space or $62.18 per square foot**.

Construction cost data does not include items such as land acquisition, architectural and engineering fees, environmental evaluations, materials testing, special inspections, geotechnical borings and recommendations, financing, owner administrative and legal, or other project soft costs. Soft costs are typically 15% to 20% of construction costs.

Features Typically Included in A Median Cost Parking Structure:

- Precast concrete superstructure
- Attractive precast concrete facade, but with basic reveal pattern
- Shallow spread footing foundations
- All above-grade construction
- 8’ 6” to 8’ 9” wide parking spaces
- Glass-backed elevators and unenclosed stairs clad with glass curtain wall to the exterior
- Basic wayfinding and signage
- Open parking structure with natural ventilation, without mechanical ventilation or fire sprinklers
- Little or no grade-level commercial space
- Basic parking access and revenue control system
- Energy efficient fluorescent lighting

Enhanced Design Features That Could Increase Construction Costs Above the Median Range:

- Cast-in-place, post-tensioned concrete superstructure for lower maintenance
- Attractive facade with precast, brick, metal panels, and other materials
- 8’ 9” to 9’ 0” wide parking spaces for user comfort
- Green Garage Certification following the Green Parking Council standards
- Energy-efficient LED lighting with occupancy and photocell computer controls
- Custom wayfinding and signage system
- Storm water management including on-site retention/detention
- Deep foundations, such as caissons or pilings
- Below-grade construction

- Enclosed stair towers due to local code requirements
- Enclosed parking structure without natural ventilation, where mechanical ventilation and fire sprinklers are required
- Grade-level commercial space
- Mixed-use development where the parking is integrated with office, retail, residential, or other uses
- State-of-the-art parking access and revenue control system
- License plate recognition systems
- Parking guidance systems
- Count system with variable message LED signs
- Pay-on-foot parking revenue control stations
- WiFi and cellular services

FACTORS AFFECTING PARKING STRUCTURE COSTS

People often think of parking structure development costs primarily in terms of dollars per space, however, there are many other factors that should be considered. The cost of a parking space is a product of parking efficiency (SF per space) and structure efficiency (dollars per square foot). Each component plays a critical role in determining the ultimate cost of a parking facility. Parking efficiency is the total gross area of a parking structure, inclusive of stairs, elevators, and all parking floors, divided by the number of spaces. Typical parking efficiency for an above ground, stand-alone garage is 300 to 350 SF per space. Many below-grade or mixed-use garages can have parking efficiencies of 400 to 500 SF per space. Factors affecting parking structure development costs include:

- **GEOGRAPHY.** Construction costs vary by location due to regional factors such as the cost of labor and availability of materials. In addition, factors such as higher seismic regions and soil conditions have a large impact on cost.
- **NUMBER OF PARKING LEVELS.** In general, a larger-footprint parking structure with fewer levels will cost less per parking space than a taller structure with a smaller footprint. The cost per square foot of the first level at-grade is less than levels elevated above the ground. A lower-height, larger-footprint structure will have a higher proportion of the cost in the first level. Taller structures are heavier which affects the foundation cost. A taller structure generally has a less efficient parking layout, which translates into more square footage for each parking space.
- **PARKING BELOW-GRADE.** Parking below-grade is much more expensive than parking above-grade. A five-level, above grade parking structure may cost $50 per square foot. If this same structure is depressed one level below-grade, the cost can increase approximately 15% to $57.50 per square foot. If the same structure is put two levels below ground, the cost increases even more because of the impacts of having to dig deeper (45% higher than the original cost or approximately $72 per square foot).
- **STRUCTURAL SYSTEM.** 60% to 70% of parking costs are in the structural system. As such, the type of framing system will have a significant effect on the cost of each parking space. There are two general types of framing layouts—short-span and long-span. Short span requires a column approximately every three parking spaces (27x30 feet square) to support the floor slab. Long span requires columns spaced 60 feet apart, with beams spanning over

the stalls and drive aisle. Generally, short-span systems cost less per square foot, but negatively effects efficiency. Long-span systems cost more per square foot, but result in more stalls in the same square footage.

The structural system can be cast-in-place concrete, precast concrete, or structural steel. The most cost-effective option depends on the project's location and the region's preferred construction methods. The selection of a system not common in the area will generally cause the cost to increase.

- **FOUNDATION.** Structures built in areas with poor soil conditions requiring more expensive, deeper foundation systems will cost more. The difference between a shallow and deep foundation system can increase the price approximately 10% overall—taking the cost from $50 to $55 per square foot, for example.
- **ARCHITECTURAL FACADE TREATMENT.** The appearance of a parking structure is important to the surrounding environment. The cost of making that structure more aesthetically-pleasing can affect the cost per parking space of up to 15%. If the structural system is used to create the architectural facade, the cost per square foot will be less. However, the use of architectural elements in addition to the structural system will increase the cost. If the architectural design creates an inefficient structural system, the cost could increase drastically.
- **TOTAL PARKING SPACES.** A smaller project will cost more per space than a larger project. A 200-space parking structure on a small site may cost about 30% more per square foot than a 1,000-stall structure on a reasonably sized lot.
- **PARKING EFFICIENCY.** The cost of a parking space is the cost per square foot multiplied by the square foot per space. The more square footage per stall, the higher the cost.

Example:

- Typical efficiencies for short-span structures: 330-390 sf/stall
- Typical efficiencies for long-span structures: 300-340 sf/stall
- Typical efficiencies for mixed-use structures: 400+ sf/stall

Example:

Assume a 500-space structure costs $50 per square foot:

- 330 sf/stall * 500 stalls = 165,000 sf * $50/sf = $8,250,000
- 360 sf/stall * 500 stalls = 180,000 sf * $50/sf = $9,000,000

The difference is $750,000, or $1,500 per stall.

- **PREMIUM ELEMENTS.** Program elements added to parking will increase the cost per stall. A photovoltaic system covering 50% of the top level can add approximately 25-30% to the building's cost per square foot of the building. However, there may be operational cost savings that can support this type of elements. A mixed-use component will also increase the cost per stall due to negative impacts on efficiency and the structural framing system. Special site conditions such as the need to reroute utility lines or perform substantial demolition may increase cost as well.
- **MARKET CONDITIONS.** The cost of parking can be negatively and positively affected by market conditions by 10% or more. A normal bid market will generate four to six bids from qualified contractors. An aggressive bid market might see 10 or more bids, causing the price to decrease. This can also create concern if the bidders are not qualified. An impacted bid market might see one to three bidders and a price increase due to lack of competition.

In the end, most owners budget for parking in terms of dollars per space. To be as accurate as possible, it is best to understand the project in terms of parking efficiency as well as structural efficiency. Design decisions that enhance efficiency can often help make a project financially feasible.

Sources:

Fixr, Build a Parking Garage Cost (https://www.fixr.com/costs/build-parking-garage)
Note: FIXR estimates a $59 per square foot cost, though their estimate of the national average stands between $50 to $70 for most projects.
International Parking Institute, "How Much Does a Structure Cost?" H. Dean Penny, Kimley-Horn
Victoria Transport Policy Institute, "Parking Costs" (www.VTPI.org)
Carl Walker, Inc., "Parking Structure Cost Outlook" (www.carlwalker.com)
Parking Today, "The Top 10 Issues Affecting the Cost of Building a Parking Space" by Watry Design

Chapter VI
Mobility Hubs as an Emerging Best Practice

VI. Mobility Hubs as an Emerging Best Practice

Mobility Hubs

Mobility hubs are multimodal transportation nexus points intended to integrate various transit and emerging mobility services to facilitate a wide range of linked trips. The mobility hub concept originated as branded public spaces designed and programmed to integrate travel modes with information to guide trip planning and mode-selection. An initial emphasis on on-site information kiosks soon eased as smartphones became widely adopted.

The concept has proven broadly useful to call attention to points of intersection between two or more travel modes, and to reduce barriers to their use. As emerging mobility options increasingly diversify travel options in more places, and as technology makes it increasingly easier to find immediate information on and access to these options, informal mobility hubs are emerging across many of our communities. A bus rider who hails a Lyft ride when a next-bus-arrival sign indicates a trip delay is one example of an informal mobility hub in action. Mobility hubs can include a variety of multimodal infrastructure components customized for their location within the transportation network, and they can range from simple to complex in their range of features.

Mobility Hubs Can Be as Simple or as Complex as they Need to Be

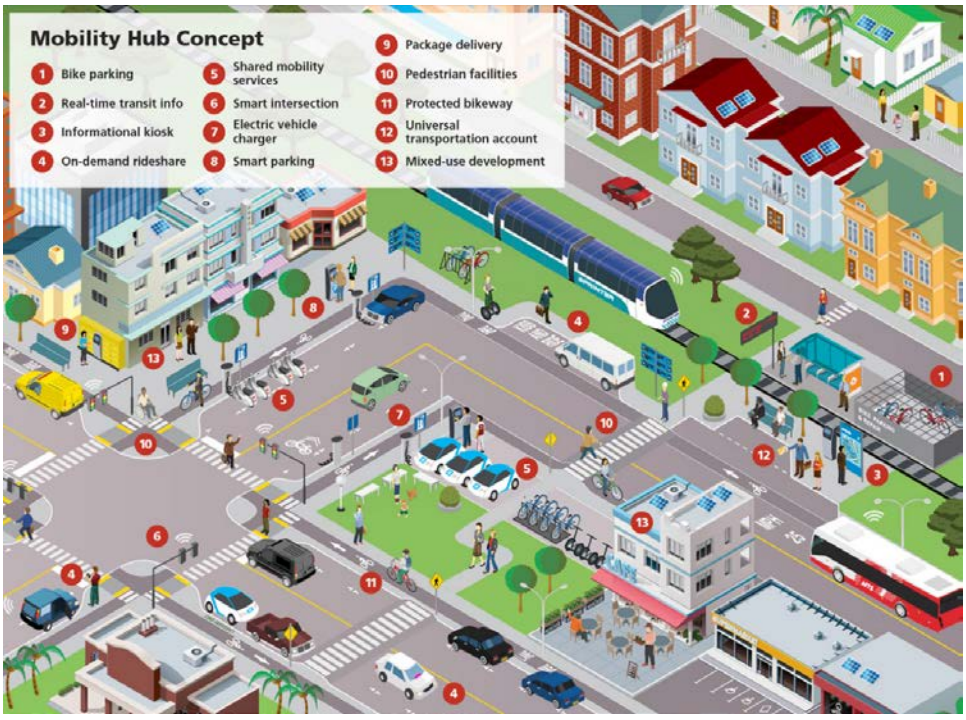


Image Source: SANDAG

For the purposes of this document, the term "mobility hub" refers to any intentional co-location of two or more publicly accessible travel modes within a public space or facility, complemented by information/services to make these options broadly useful and accessible.

Parking and Mobility Hubs

From the beginning, parking has been a common component of mobility hubs. Depending on the place and circumstance, mobility hubs are typically viewed either as a means of reducing the need for parking, or as an opportunity to make use of existing parking facilities to facilitate non-driving travel modes for longer stages of a trip. In the former case, parking will be minimized, eliminated, or restricted to shared cars or ride-service vehicles. In the latter case, however, placing alternative modes and services near concentrations of parking can greatly increase awareness of the available transportation alternatives.

Mobility Hubs and the Future of Parking

As uncertainty regarding the future of parking[1] (and of parking garages in particular[2]) increases, it is becoming clear that the evolution of the parking garage must accelerate to address the risk that such change might present for the financial investment in infrastructure meant to provide 40-plus years of value.[3] In this context, the mobility hub concept has emerged as a promising means of diversifying the functional role of parking facilities, and of directly accommodating many of the travel modes and services likely to reduce personal-vehicle travel in many city centers.[4]

Multimodal Hub Implementation

Two levels of mobility hub implementation are recommended for DMC-focused parking facilities in the Hybrid Transit Scenario. The Hybrid Transit Scenario proposes accommodating future DMC growth at parking facilities at park-and-ride locations (referred herein as "Remote Facilities"), at remote parking facilities within about one mile of the DMC (referred herein as "Peripheral Facilities"), and within the Downtown Core (referred herein as "Downtown Facilities"). Three selections of mobility hub elements are proposed for each type of parking facility, depending on its location at a Remote, Peripheral, or Downtown Facility. The exact locations of these facilities has

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[1] Rao, Santosh. 2017. "Managing the Parking Transition — A Call for More Data." *Medium*. January 5. https://medium.com/uber-under-the-hood/managing-the-parking-transition-a-call-for-more-data-afb76772d36c.

[2] Marshall, Aarian. 2016. "It's Time to Think About Living in Parking Garages." *WIRED*, November 2. https://www.wired.com/2016/11/time-think-living-old-parking-garages/.

[3] Rusch, Emilie. 2016. "Denver Developers Have Seen the Future of Parking, and It Is No Parking at All." *The Denver Post*, October 16. http://www.denverpost.com/2016/10/15/denver-developers-future-parking-self-driving-cars/.

[4] Bouton, Shannon, Stefan M. Knupfer, Ivan Mihov, and Steven Swartz. 2017. "Urban Mobility at a Tipping Point | McKinsey & Company." Accessed May 19. http://www.mckinsey.com/business-functions/sustainability-and-resource-productivity/our-insights/urban-mobility-at-a-tipping-point.

yet to be determined. Following is a guide to mobility hub implementation at Remote Facilities and Downtown Facilities.

Priority Hub Elements by Location Relative to DMC Core

AT REMOTE FACILITIES (PARK-AND-RIDE FACILITIES LOCATED A FEW TO SEVERAL MILES OUTSIDE THE DMC)

For facilities planned to function as remote parking options, mobility hub features should focus on amenities that help enable a primarily-transit commute – or a park-and-pedal commute, if regional trails are present – with parking located closer to the home end of the commute trip.

Bike Parking

Ensure that these park-and-ride facilities do not overlook bike parking. Whether provided as low-cost bike racks, which should nonetheless be sheltered and secure as appropriate for long-term parking, or a high-amenity "bike rooms", accommodating bikes on site will reduce car-parking demand while also underscoring healthy commutes as a core DMC objective.

Kiss-and-Ride

Kiss-and-ride facilities consist of dedicated, time-limited stopping areas or parking spaces at transit stops/stations that allow commuters to be picked up or dropped off and begin or complete their trips via public transit.

Park and Pedal

Regional-trail connections linking to the proposed Rochester City Loop could expand the market base for remote parking facilities, and facilitate more bike commuting into the DMC.

On-Site Trip Chaining

Co-locating goods and services commonly included in chained-trip commutes can increase the viability of remote parking facilities, simplifying daily routines for those connecting to on-site transit. Some uses to consider include the following.

- Daycare
- Pet services
- Bank
- Copy/mail services
- Dry cleaning and laundry
- Pharmacy
- Coffee shop
- Wine and beverage store

AT PERIPHERAL FACILITIES (PARKING OFFERING FIRST/LAST-MILE CONNECTIVITY TO THE DMC CORE)

For facilities designed to intercept driving commuters just outside the DMC, mobility hub features should focus on "first-mile/last-mile" solutions, such as those listed below. The primary mobility connection is assumed to be high frequency transit, offering short rides into the DMC, complemented with distinctive first-mile/last-mile components, as indicated below.

Bike House

Offering a more active alternative to transit, a bike house can provide a safe and convenient location for personal bike storage for those looking to end a mostly-driving commute with a physically-active last mile.

Bike-share

Offering a more active alternative to transit, and the convenience of not having to own a bike or securing parking options for one.

Kiss-and-Ride

Kiss-and-ride facilities consist of dedicated, time-limited stopping areas or parking spaces at transit stops/stations that allow commuters to be picked up or dropped off and begin or complete their trips via public transit.

One-way car-sharing

Offering more flexibility, in terms of point-B locations and schedules, particularly during times of reduced circulator frequencies.

Ride-sharing

Facilitating formal and ad hoc carpools (prime spaces reserved for registered carpools + spaces/lanes for drivers to await passengers) can accommodate those primarily seeking to reduce parking costs within the DMC.

Ride-services

Passenger pick-up/drop-off spaces for TNC services and traditional taxis.

AT DOWNTOWN FACILITIES

Most of those parking within the DMC will presumably be within walking distance of their destination, and thus not seek to make modal connections. However, DMC-located mobility hubs can provide an ideal location for a "one-stop shop" for learning about and accessing non-driving "primary mode" commute options, with the on-site population of drivers as the primary target audience. Primarily, this is about using garage space, and particularly the ground-floor spaces that interact with surrounding sidewalks, to accommodate and display the diversity of mobility options available throughout the DMC. This can be particularly valuable in locations and within facilities that might otherwise struggle to attract/retain private retail uses to "liner" spaces.

Mobility hub implementation in these locations, therefore, should focus on the following.

- Raising awareness of non-drive-alone mobility options among drivers likely using some of the most expensive parking in Rochester.
- Raising awareness of all non-drive-alone mobility options among all those who pass by these parking structures, including those who might not otherwise know about car-sharing, bike-sharing, or ride-matching services.
- Providing retail storefront space for the DMC TMA.
- Providing staffed assistance to make "shared mobility" services, which tend to rely heavily on smartphone apps and credit-card payments, more broadly accessible.
- Seek synergies with public facilities and gathering spaces, such as outdoor plazas, Skyways, libraries, public Wi-Fi hotspots, etc.

Key components of a DMC-located mobility hub include the following.

BIKE HOUSE

In these locations, showers and lockers will be a more-critical component compared to those serving peripheral locations.

Bike-share Station

Including the important opportunity for staff-assisted access if accompanying a TMA storefront location.

Car-share Parking

More traditional car-share as well as one-way services should do well at these central locations.

Transit Fare Purchases

DMC locations would offer the broadest access to mobility hub services, thus offering ideal locations for offering direct transit-fare purchases, via TMA staff or vending kiosks.

Ride-share Waiting Lounges

Sheltered and comfortable spaces in which to await hired TNC, taxi, or other shuttle/on-demand-service rides.

Commuter Store

A staffed kiosk that includes real-time, multimodal trip-planning displays to complement the personalized trip-planning assistance offered by the staff person. The kiosk may also sell transit passes and provide information on shared mobility options available.

Figure 57- Hub Elements Overview

Hub Elements	Most Appropriate Hub Locations	Typical Space Requirements	Essential Infrastructure Needs	Owner/Operator
Bike Parking	All	Minimum set-aside of 240 square feet (SF)	Shelter, bike racks, bike lockers	Rochester Downtown TMA, Rochester Municipal Parking
Park and Pedal Amenities	Remote Facilities	Varies	Oversized elevators to accommodate bicycles Bike drop-off zone	Rochester Municipal Parking
On-Site Trip Chaining Land Uses	Remote Facilities	• Coffeehouse – 1,000-2,000 SF • Daycare – 1,500 SF • Bank – 3,000 SF • Copy/mail services – 1,500 SF • Pet services – 3,500 SF • Cleaners – 2,000 SF • Wine and beverage - 2,000 SF • Pharmacy – 2,000 SF	Standard retail-space amenities	Rochester Downtown TMA, leased as commercial space
Bike House	Peripheral Facilities, Downtown Facilities	1,500 SF	Repair station, restrooms, showers/lockers Class B retail-space amenities	Rochester Downtown TMA, Rochester Municipal Parking, Local bike non-profit
Bike-share Station	Peripheral Facilities, Downtown Facilities	Minimum of 300 SF	10-20 bikes, wayfinding/signage, mobile app	NiceBike
Kiss-and-ride	Remote Facilities, Peripheral Facilities	Circulation space 200 SF per dedicated parking space	Circulation lanes, Dedicated parking spaces, Signage	Rochester Municipal Parking, Rochester Public Transit
One-way car-sharing	Peripheral Facilities	200 SF per space	Dedicated parking spaces, Signage	Rochester Municipal Parking + car-sharing vendor (e.g. car2Go, Maven, Zipcar)
Ride-sharing	Peripheral Facilities	200 SF per space	Signage, mobile app to facilitate ride-matching (e.g. Scoop)	Rochester Downtown TMA, Rochester Municipal Parking, ride-matching technology vendor (e.g. Scoop)
Ride-services	Peripheral Facilities	200 SF per space	Signage	Uber, Lyft
Car-Share Parking	Downtown Facilities	Minimum of three spaces	Signage	Rochester Municipal Parking + car-sharing vendor
Transit fare Purchases	Downtown Facilities	500-1,000 SF	Standard retail-space amenities	Rochester Downtown TMA, Rochester

Hub Elements	Most Appropriate Hub Locations	Typical Space Requirements	Essential Infrastructure Needs	Owner/Operator
				Public Transit
Ride-share Waiting Lounges	Peripheral Facilities Downtown Facilities	250 SF	Standard retail-space amenities + Real-time transit information (e.g. TransitScreen, Roadify)	Rochester Downtown TMA, Rochester Municipal Parking
Commuter Store	Downtown Facilities	At least 200 SF	Utility hookups (e.g. electric, Internet)	Rochester Downtown TMA

Mobility Hub Implementation Sites in the Hybrid Transit Scenario

The Hybrid Transit Scenario proposes two transit routes to connect the DMC with areas to the northwest and southeast of the DMC Core. The two routes share termini at along US Highway 14 west of US Highway 52 northwest of the DMC Core, and at 3rd Avenue SE & 6th St SE at the southeast. From west to east, Route 1 travels on Civic Center Drive NW, 3rd/4th Avenues West, 6th Street South, and 3rd Avenue SE. Route 2 travels from west to east on Civic Center Drive NW, 11th Avenue West, 2nd Street South, and 3rd Avenue SE.

The study recommends mobility hub implementation at Parking Area A northwest of the District and Parking Area B southeast of the District, as well at two site within the DMC District in the Heart of the City sub-district and the St. Mary's Place sub-district at locations to be determined. Limited additional mobility hub functions to meet the needs of commuters at remote park-and-ride facilities are also recommended.

Figure 58 - Mobility Hub Implementation Site Characteristics

Site	Name/Address	Existing Stalls	Acres	Parking Capacity	Facility Type
1	A&A Mini-Storage Facility, 2301 US-14	0	14	1,000 – 7,000	Remote Facility
5	Kmart, 201 9th St SE	900	10	1,000 – 2,500	Peripheral Facility
N/A	Downtown (Various sites)	0	N/A	7,850 patient/visitor (new)	Downtown Facility
N/A	Park-and-ride[5]	0	N/A	2,650 employee (new)	Remote Facility

[5] Site location to be determined

Following is an assessment of mobility-hub implementation issues and opportunities at each candidate site, based on ground conditions, input from City staff, and a review of related planning materials prepared as part of the ITS studies.

PARKING AREA A: SITE 1: A&A MINI-STORAGE FACILITY, 2535 N FRONTAGE RD

Site 1 is currently occupied by the A&A Mini-Storage facility, on the North Frontage Road of US-14. The property is located at the terminus of the North Frontage Road and has no connectivity with the primary carriageway of US-14 at tis time, though planning for how to access the site from TH 14 is being conducted. The nearest connection to the local roadway network from North Frontage Road is at Wilder Road NW, about ½ mile west of the entrance of Site 1. The surrounding area is industrial, with few points of interest nearby.

Site 1's location on North Frontage Road presents challenges for bicycle and pedestrian access. Given the location of residential development in the area that would be within walking distance it seems the pedestrian bridge system with its connecting trails provides reasonable access to the site if nearby residents would choose to walk to Site 1 to access the circulator. As has been discussed the parking structure could be constructed to provide direct access for cyclists or pedestrians to the parking structure.

Because of this site's remote location – a 10-minute drive, 55-minute walk, or 15-minute bike trip from the DMC – Site 1 is categorized as a Remote Facility. While retail facilities to encourage on-site trip-chaining are typically recommended at Remote Facilities. Site 1's poor access to the rest of the roadway network makes these opportunities unviable. To facilitate bicycling and pedestrian elements of the mobility hub, a level-grade crossing from the existing bike/pedestrian bridge to the 2nd or 3rd deck of the parking structure is recommended. This level-grade crossing would provide a less circuitous connection for residents of neighborhoods north of Site 1. A direct pedestrian/bike connection to the parking structure would increase the "park and pedal" potential of this site. Further enhancements could include a bike-share station or the provision of secure bike parking for people who might drive to the site and then grab their bike to complete a trip into downtown.

It is likely that the majority of travelers will access Site 1 via private vehicles, functioning as a park-and-ride facility. However, to reduce parking demand in the long-term and facilitate Site 1's transition from park-and-ride facility to mobility hub, two modifications to the Site are recommended:

1. Retrofit the elevated pedestrian bridge over US-14 to allow bike/pedestrian access from North Frontage Road; and

2. Add sidewalks and bike facilities to North Frontage Road to encourage bike and pedestrian access to the site.

As a Remote Facility, Site 1 could support three mobility hub components: kiss-and-ride, bike parking, and park-and-pedal amenities, provided the bike/pedestrian improvements above are implemented. If implemented in conjunction with the Comprehensive Plan Primary Transit

Network Concept, these improvements could help transform Site 1 from a more conventional park-and-ride facility to a multimodal mobility hub. However, this concept (integrating this site into the PTN corridor which is intended to run along 7th ST and north potentially along the Douglas Trail corridor).as this strategy is not in the Rochester Comprehensive Plan at this time.

SITE 5: KMART, 201 9TH ST SE

Site 5 consists of a big-box format retailer, currently occupied by Kmart, surrounded by about 3 acres of surface parking. It is bordered by a strip-style retail development to the west, facing South Broadway, an industrial facility to the north, single-family residential neighborhood to the east, and the Olmsted Medical Center to the south. The site faces the intersection of 9th Street SE and 3rd Avenue SE. Compared to other candidate sites, Site 5 is located in an area with moderate land use diversity, although not to the same degree as Site 4.

Given Site 5's location in a commercial area, on-site trip-chaining land uses may be viable, as these land uses could attract more than just commuter parking; employees and others associated with Olmsted Medical Center across the street and the neighborhood to the east could expand the customer market for existing businesses.

Pedestrian access to Site 5 is adequate, with sidewalks on both sides of 9th Street SE and 3rd Avenue SE. Crosswalks are present on all four sides of the intersection of these streets, with crossing distances of about 70 feet on 3rd Avenue SE and 50 feet on 9th Street SE. Site 5's large surface parking area, which occupies the majority of the site, does not have any demarcated pedestrian paths between the surrounding streets and the store entrance. 9th Street SE has in-road bike facilities, while 3rd Avenue SE does not. However, Site 5 has two distinct pedestrian/bike access options. Currently, there is a path running parallel to Broadway on the east side of the street that connects to the existing River Trail system to the northwest of Site 5. The second option is to cross Broadway at 9th Street SE to access trails in Soldier's Field Park, which provides bridge access across the Zumbro River and into the south end of the DMC district.

Service via Local Bus

Site 5 is currently connected to the transit network through Routes 6M, at 9th Street SE & 3rd Avenue SE, and 7A, at South Broadway north of 9th Street SE. Route 6M has 60-minute headways and operates 8:15 am – 3:15 pm, weekdays only. Route 7A operates at 60-minute headways, between 7:45 am and 5:45 pm, weekdays only.

Proposed Transit Circulator Service

The Hybrid Transit Scenario proposes a southern terminus for both of its transit routes at Site 5, along 3rd Avenue between 8th Street SE and 9th Street SE. Site 5 has somewhat longer access times to DMC than Sites 3 and 4, about 5 minutes by car, 9-12 minutes by bus (9 minutes by Route 6M, 12 minutes by Route 7A), 5 minutes by bike, and 18 minutes by walking. As a result, Site 5 is considered a Peripheral Facility, with the following mobility hub components recommended:

- Bike parking
- Bike House
- Bike-share Station
- Kiss-and-ride
- On-site Trip-Chaining Land Uses
- One-way car-sharing
- Ride-sharing
- Ride-services
- Ride-share Waiting Lounge

SITE 6: OLMSTED COUNTY FAIRGROUNDS

Proposed Transit Circulator Service

Under all scenarios, including the Comprehensive Plan Primary Transit Network Concept, Site 6 would be served by the Downtown Transit Circulator along South Broadway, on its western border. Site 6 would be served on its east side by a circulator running along 3rd Ave. Site 6 could potentially be provided service by the Primary Transit Network concept articulated in the Rochester Comprehensive Plan.

In the long-term beyond the scope of this analysis, the Hybrid Transit Scenario envisions a service extension to the south, ending near Site 6 at 3rd Avenue SE & 16th Street SE.
Site 6 has the second-longest access times to DMC after Site 1, about 7 minutes by car, 12-24 minutes by bus (12 minutes by Route 6M, 24 minutes by Route 6A), 11 minutes by bike, and 30 minutes by walking. As a result, Site 6 is considered a Remote Facility, with the following mobility hub components recommended:

- Bike parking
- Kiss-and-ride
- Park-and-pedal amenities
- On-Site Trip Chaining Land Uses

Park-and-Rides

Park-and-ride location(s) proposed in the Hybrid Scenario would contain parking supplies sufficient for up to 2,650 DMC employees. These sites' exact locations have yet to be determined. The park-and-ride(s) would also feature the following mobility hub components:

- Bike parking
- Bike House
- Bike-share Station
- On-Site Trip Chaining Land Uses
- One-way car-sharing
- Ride-sharing
- Ride-services
- Ride-share Waiting Lounge

Downtown Facility

A Downtown Facility within the DMC Core, whose exact location has yet to be determined, will include mobility components under the Hybrid Transit Scenario. The Downtown Facility will also include 7,850 parking spaces. Proposed mobility hub components include:

- Bike House
- Bike-share Station
- Car-share Parking
- Transit Fare Purchases
- Ride-share Waiting Lounges
- Commuter Store

Chapter VII
Potential Future Parking and Mobility Hub Funding Strategy Alternatives

VII. Potential Future Parking and Mobility Hub Funding Strategy Alternatives

Given the large amount of new parking development needed to satisfy future development and employee growth projections and the proposed strategy to locate much of the commuter parking outside the "portal capacity" boundaries, combined with the need to develop and fund the new TMA and associated TDM strategies, new financial options and funding strategies may be required in the future.

The following are several potential alternative funding strategies are provided below for the City of Rochester to consider.

Scenario #1 – Dedicate all parking system revenues to fund future parking infrastructure development (after set asides for parking operations, maintenance and maintenance reserves).

- Given that the current parking system is generating positive cashflow, excess parking revenues could be dedicated to future parking and mobility management program infrastructure investments after set asides for parking operations, maintenance and maintenance reserves.

Scenario #2 – Parking Asset Divestiture to Create Capital for New Parking Asset Development

- Having successfully developed several public parking garages which have now had some or most of their debt retired, divestiture of these facilities could generate funds for new capital investments. The City could sell selected parking assets to interested property owners or investment firms then reinvest the proceeds to continue strategic parking garage and mobility system development that has the potential to advance the DMC transportation infrastructure plan and stimulate new community and economic development activity.

Scenario #3 – Evaluate parking asset privatization/monetization as a potential downtown development or transit system funding strategy

- The option to leverage parking facilities through a "monetization" strategy involving a long-term leasing of the City's debt-free facilities in exchange for a fairly large upfront payment, is an option being used on a limited basis across the US. The most famous (or infamous) example was the monetization of the Chicago parking system. This deal was largely criticized for a number of reasons. A more successful use of this approach was implemented at the Ohio State University campus in 2012. The successor firm to the successful Ohio State University deal is Oaktree Capital.

Scenario #4 – Institute a Parking Tax

- Many communities across the country have parking taxes. In some communities, the tax is applied on a per stall basis and in others it is essentially a sales tax added to the value of any parking transaction. Parking taxes are typically used to support larger transportation infrastructure investments. An excellent summary of parking taxes with examples from various communities can be found at http://www.vtpi.org/parking_tax.pdf.
- Potentially all private parking garages and lots could be taxed with the money going toward public garage construction or TDM initiatives. To incentivize participation in TDM initiatives large businesses that actively participate in Transportation Demand Management programs could potentially earn credits (rebates) on their taxes as a tool to encourage participation.

Scenario #5 – Create a Transportation District Management Model. This alternative would involve the creation of some form of Special Improvement District focused on Transportation Infrastructure similar in structure to Property-Based Improvement Districts (PBIDs/SIDs/LIDs, CDCs)

- **Property-Based Improvement Districts (PBIDs)** – Sometimes called Special Improvement Districts or Local Improvement Districts
    - A PBID is a quasi-governmental entity utilized to foster the growth of commercial business districts. As a financing mechanism, PBIDs are used to provide revenue for a variety of local improvements and services that enhance, not replace, existing municipal services. The PBID is self-imposed and self-governed and must be supported by private sector businesses and property owners to be established. There are currently 200+ PBIDs across California and more than 1,500 across the United States. In California, PBIDs are created pursuant to the "Property and Business Improvement District Law of 1994" as amended. The number of PBIDs in existence across California, the US, and the world, indicate their effectiveness and importance to the health of commercial business districts. Once established, PBIDs have a 95%+ renewal rate. PBIDs have a track record of success for reasons including:
        1. They are flexible in what they can pay for and do. Unlike some special district funding tools that can only pay, for example, for maintenance or infrastructure, PBIDs can fund a wide range of services as well as subsidize management, staff and operational. Additionally, different levels of services within a PBID can be delivered by creating "geographic benefit zones." This allows one overarching district to provide different levels of service in a coordinated way for a larger area.

        2. They are a reliable source of revenue that can leverage other resources. Once established, PBIDs provide a guaranteed revenue stream each year, allowing for future planning and the ability to utilize dependable funds to leverage loans, grants, etc.

3. The costs of a PBID relate directly to its benefits, making it inherently fair. Assessments are based on characteristics of the properties and are devised to align with the services being delivered. The PBID law requires that the assessment to any individual property be tied directly to the benefits being received, and that a return on investment be demonstrated. Additionally, participation isn't just limited to commercial property owners – all classes of property within a PBID must participate, including commercial, government, residential, non-profits and mixed-use.

- **Community Development Corporation (CDC)**
  - CDC's are "not-for-profit" entities that allow multiple investors to participate in both the physical and economic development of an area. Because they are stand-alone non-profits created for a community-serving purpose that acquire resources from a broad range of sources, they are highly flexible in how they are used. Their varied benefits include:
    - Their 501c3 status. Having 501c3 status means that revenue can be brought in from a wide variety of sources. The public can easily contribute funds to a 501c3, and grant dollars are easier to access. Additionally, private sector donations (either from investors or community entities like banks) are easier to acquire as the contribution brings with it a tax deduction for the contributor.
    - They are community-based. They bring together the public and private sectors to achieve common-goals that each could not achieve acting alone.
    - They leverage a diversity of funds. General funds, grants, fees, private investment, banks, donations, etc. can all be leveraged for the same purpose.
    - They are extremely flexible. They are non-governmental and therefore can fund diverse projects. There are very few limitations on what they can do. A CDC is a great tool for collecting revenues from a variety of sources. A CDC can also be used as a way to bring together funding dedicated to a specific area and collectively manage them for a unified purpose. The CDC is a potential tool to help link a PBID, IFD and Parking District – and leverage these dollars – for downtown Rochester.
  - The CDC is another strong funding collection tool that can be helpful in tackling tough-to-address development challenges, can spur economic development, and can unite the public and private sectors.
- **Local Improvement Districts (LIDs)**
  In this mechanism, you would determine what properties would benefit by the construction of a garage and assess the cost to those who are benefitted. The City could subsidize the project to some level (such as 30-50-60%), with the balance being paid by the benefitted properties. Use of a tool such as this is a way to close the gap between the available public monies and the cost supported by fees. This approach could leverage limited public money to ultimately develop sufficient parking as the property owners contribute money for needed parking. An option that can be considered is to condo the facility with each floor being a condo unit, assessing certain private floors to the private property owners along with a share

of the common area land costs while having other floors as public parking. The pooling of resources through an LID has the potential to stretch public dollars a lot further Pooled resources will go a lot further.

Scenario #6 - Create a Parking Urban Renewal District (URD)

- The creation of a new URD would need to be of sufficient size to provide space for private (i.e. taxable) development to produce revenue allocation proceeds (TIF) to pay off construction costs. How much goes to each type of public investment (parking, streets, utilities etc.) would be a policy discussion by the City Council. Sufficient amenities would be required to attract the private investment into the new district so that TIF would be generated to pay for parking structures. While the concept has merit, it would need to be tailored to a specific development proposal rather than being a speculative action.

Other Options – Grant Funding

Chapter VIII
Parking and Mobility Management Programs Best Practices Review

VIII. Parking and Mobility Management Programs Best Practices Review

Introduction

This chapter provides an overview of three major elements the City and DMC staff should consider as they work to develop a more cohesive and comprehensive parking and access management strategy for the City of Rochester moving forward:

- A toolbox of parking and access management best practices.
- Peer City Research, focusing on an overview of the approach being applied in Boulder, CO as a potential model
- An extensive research effort on national and, in some cases, international mobility and parking management best practices (Note: UrbanTrans also provided a set of recommended TDM best practices as part of their TDM plan).

Parking and Access Management Best Practices Toolbox

To provide an ongoing resource for the DMC, a "Tool Box" of parking management and design best practices, compiled over several years, is provided in Appendix 2. The goals are to provide a comprehensive categorization of parking planning, management, and design areas to make finding specific best practices easier.

Peer City and Best Practices Research Summary

The following information provides an overview of the parking management "best practices" and "peer city" research efforts conducted as part of the current program assessment and best practices documentation task for the DMC Parking and TMA Study. The full parking and access management best practices and peer city research report can be found in Appendix 3. (Task Report entitled: J8618-8622_RPT_DMC Parking - Best Practices Research 12-20-2016).

This research effort is organized by the following major categories:

PARKING MANAGEMENT STRATEGIES - ON-STREET

PARKING MANAGEMENT STRATEGIES - OFF-STREET

TECHNOLOGY AND INNOVATION STRATEGIES

PARKING ENFORCEMENT STRATEGIES

PRICING STRATEGIES

PARKING CODE STRATEGIES

TDM STRATEGIES

DISTRICT MANAGEMENT STRATEGIES

Parking management best practices in the above referenced document are organized as follows:

- Strategy Overview
- Description
- Action Items for Consideration
- Potential Sub-Strategies for Implementation
- Documented Results
- Stakeholder Engagement
- Applicability/Similarity to Rochester
- Replicability
- Policy Implications
- Cost Implications
- References/Resources

It should also be noted that specific "Peer Cities" were identified by the consultant team. In some cases, the places where parking management and TDM innovations are occurring cannot truly be called "peer cities" to Rochester due to their size or other factors, however, due to the advanced nature of many of Rochester's programs, we looked beyond programs of the same size or geographic character. These innovative communities/programs were simply classified as "Cities We Can Learn From" to distinguish them from true "peer cities".

In addition, given the advanced and progressive nature of the programs currently in place in Rochester, many of the identified "best practices" are already in place.

The following summarizes best practices and peer city research efforts conducted as part of the current program assessment (See report document entitled: "City of Rochester Mobility Management and Parking Strategies Best Practices Research - Innovative Approaches to Municipal Parking and Access Management").

This document presents a broad range of mobility and parking management best practices that City staff can use as a "library of strategies" for application in the future (beyond the specific recommendations provided). The following is a listing of communities and programs included in our best practices research.

- Ann Arbor, MI
- Austin, TX
- Berkeley, CA
- Fort Collins, CO
- Madison, WI
- Palo Alto, CA
- Santa Monica, CA
- Portland, OR
- San Francisco, CA
- Seattle, WA
- Los Angeles, CA
- Charlotte, NC
- Raleigh, NC
- Odense and Copenhagen, Denmark
- Freiburg, Germany

Potential Peer City / Strategic Approach to Parking and Access Management

A recent project that Kimley-Horn has been actively involved in for the past two years and that has much applicability to the Rochester DMC planning efforts is a project from Boulder, CO referred to as the "Access Management and Parking Strategies" or "AMPS" project for short.

The project team recommends that the City of Rochester consider the "AMPS" approach as a potential model for City and the DMC District to consider as they continue to work to develop a comprehensive, cohesive and community centric parking and access management strategy. It is recommended that the City of Rochester learn from and leverage the "AMPS" approach in the following ways:

Develop a set of forward thinking program goals

- Develop tools and strategies to evolve Rochester's access and parking management to a state of the art system reflecting the city's and DMC's sustainability and economic development goals.
- Align parking and access management philosophies and programs with larger Citywide and DMC policies, goals and adopted plans.

Guiding Principles

The following is a set of recommended program "Guiding Principles" which provides a set of criteria that can be used to both guide program development in terms of overarching goals as well as to assess the relevance and appropriateness of specific provided best practices that should be evaluated and refined as tools to advance the City of Rochester's parking and access management programs.

- **Provide for all transportation modes and safety:** Support a balance of all modes of access for a safe transportation system: pedestrian, bicycle, transit, and multiple forms of motorized vehicles—with the pedestrian at the center.
- **Customize Tools by Area:** Use of a toolbox with a variety of programs, policies, and initiatives customized for the unique needs and character of the city's diverse neighborhoods both residential and commercial.
- **Support a Diversity of People:** Address the transportation needs of different people at all ages and stages of life and with different levels of mobility – residents, employees, employers, seniors, business owners, patients, students and visitors.
- **Seek Solutions with Co-Benefits:** Find common ground and seek mutually supportive outcomes among community character, economic vitality, and community well-being with elegant solutions—those that achieve multiple objectives and have co-benefits.
- **Plan for the Present and Future:** While focusing on today's needs, develop solutions that address future demographic, economic, travel, and community design needs. Align with the city's Master Plans, including the updated Transportation Master Plan, as well as the city's and DMC's sustainability goals.
- **Cultivate Partnerships:** Be open to collaboration and public and private partnerships to achieve desired outcomes.

AMPS Program Summary

The Boulder AMPS project was finalized in the Summer of 2017 and was submitted for an International Parking Institute (IPI) program excellence award. A copy of the Boulder AMPS project summary document is provided for reference in Appendix 10. (J8618-8622_RPT_DMC Parking- Best Practices Research 12-20-2016).

Chapter IX
Recommended Parking and Access Management Strategies and Focus Areas

IX. Recommended Parking and Access Management Strategies

The following section provides a focused set of parking and access management recommendations for the City of Rochester's Transit and Parking Program to consider in the short- to mid-term timeframe. The following is a summary listing of recommended strategies.

Parking Management Recommendations Summary:

- **Adopt a broader mobility management program development model**

    a. Utilize the Boulder AMPS program development strategy as a basis for developing a broader mobility management program development model

        i. See appendix 10. as a recommended program development model for Rochester

    b. Develop a set of parking and TDM performance metrics and track data on an on-going basis

        i. See provided sets of recommended parking and TDM performance metrics. See appendix 17. Recommended Parking and TDM Program Benchmarks - DMC

    c. Expand the transit and parking program's scope by incorporating recommended TDM strategies

        i. See TDM chapters of this report as well as an appendix 11. entitled: J8618-8622_RPT_Shared Use Mobility Overview 12-20-2016

- **Incorporate parking as a key element of a community-based economic development policy**

    a. Review, modify as needed and adopt the draft "parking as an economic development policy" approach outlined in this report. Also see Appendix 4. entitled: J8618-8622_RPT_Parking and Economic Development Policy 12-20-2016

- **Review and assess the extensive collection of parking management best practices and peer city research provided in this study**

    a. See Appendix 3. entitled: "J8618-8622_RPT_DMC Parking- Best Practices Research 12-20-2016" and Appendix 2. Entitled: "Parking Management and Design Best Practices")

- **Adopt recommended parking rate strategies and continue to evaluate demand-based parking pricing strategies in the future as a key element to support achievement of modal shift goals**

a. See parking rate chapter of this report (Chapter 2.)

- **Leverage the investment in the Rochester specific "Park+" parking demand model as an on-going parking planning tool**

    a. Combine with a program of on-going modal split monitoring and demand management strategy effectiveness

- **Plan to expand the current residential parking permit program**

    a. See Appendix 13. entitled: "White Paper on Residential Parking Permit Programs"

- **Invest in new parking technology**

    a. The following is a list of recommended new parking technology options for the next 5-year period.

        i. New facility count system technologies to improve facility management data and push out parking availability information to dynamic messaging signage and mobility apps

        ii. For both City-owned ramps as well as remaining surface parking lots and potentially park and ride locations, it is recommended that a simple and cost effective new product be evaluated. The new system is known as "Parking Logix".

        iii. Digital "Pay-by Space" parking meters with credit card acceptance technology is already being piloted in approximately 360 on-street spaces in the downtown.

        iv. The trend in the industry seems to be moving towards a "Pay-by-License Plate" methodology. This trend has several advantages (less signage, integration of mobile apps, synergy with mobile license plate enforcement technologies, etc.) We encourage the City to carefully evaluate this methodology as it continues to plan for both on-and off-street parking meter system upgrades in the future.

        v. Wireless and hosted license plate recognition parking enforcement systems

            1. This system can also be used for periodic data collection and special event parking demand monitoring.

        vi. Adding credit card in/out capabilities in all City Ramps

        vii. Development of mobile apps for parking payment and information

viii. Implementation of automatic vehicle location (AVL) technology on all City busses in conjunction with the development of a Transit App.

- **Adopt changes to the city's zoning code regulations that shift away from "parking requirements" in favor of a more flexible and mobility oriented approach that utilizes "access requirements" as the preferred methodology**

    a. See Appendix 22. entitled: J8618-8622_RPT_Task 5_Aligning_Parking_Requirements_V3

- **Adopt parking garage design guidelines and incorporate adaptive reuse strategies into new garage designs going forward**

    a. See Appendix 5. entitled: J8618-8622_RPT_COR Parking Design Guidelines_2016 Final Draft_12-20-2016

- **Enhance the customer parking experience**

    a. See Appendix 15. entitled: "Releasing the Parking Brake by Engaging the Customer"

- **Develop strategies to maximize the use of existing parking resources (both public and private), as well as aggressively promoting shared parking and TDM strategies**

    a. See Appendix 7. Entitled: J8618-8622_RPT_COR Employee Parking & Commute Option Programs and Strategies to Maximizing Existing Parking Resources

- **Achieve parking program accreditation through the International Parking Institute**

    a. See Appendix 18. Re: information on the "Accredited Parking Organization" (APO) program developed by the International Parking Institute.

- **Expand Parking and TMA program branding, marketing, and community engagement strategies**

    a. See following support documents:

        i. Parking/TMA Strategic Communications Plan - Branding/Marketing/Strategic Communications Plan

            1. Parking-TMA Strategic Communications Plan - Appendix 14 - Annual Report Template

            2. Parking-TMA Strategic Communications Plan – Appendix 21 - MPC Annual Report

            3. Parking-TMA Strategic Communications Plan - Appendix 20 - Sample Crisis Communications Plan

4. Parking-TMA Strategic Communications Plan - Appendix 19 - IPI Emergency Prep Manual 2015

- **Focus on curbside space management – this includes policy development for use of curbside space in the downtown core and potential parking districts**

    a. See appendix 26. entitled: "The Value of On-Street Parking - A Recommended Approach to Prioritizing Uses of On-street Public Right-of-way

- **Development of a parking and access management financial plan document**

    a. Develop a parking/access management program financial plan

        i. See Appendix 9. For a sample financial plan template entitled: (J8618-8622_RPT_Parking System - Financial Plan Template 12-20-2016)

Each of the recommended strategies noted above are described in more detail below and in various supporting documents provided in the report appendices.

Key Recommended Parking Strategies

1. **Adopt a broader mobility management program development model**

    b. Leveraging the idea to align parking and access management philosophies and programs with larger Citywide policies, goals and adopted plans, Kimley-Horn recommends the DMC develop a process through which city staff, leadership, boards/ commissions, and the community at large can work collaboratively to continuously improve Rochester's approach to multimodal access and parking management across the city and within special districts, such as Downtown, the Mayo main campus and St. Mary's areas, the government district, etc.

2. **Expand the transit and parking program's scope** by incorporating TDM strategies and becoming a key partner in the development and on-going implementation of the TMA. These strategies to mitigate single-occupant vehicle use, complemented by the planned investments in new transportation infrastructure will be critically important to addressing the projected traffic congestion issues (portal capacity issues) as the DMC plan evolves and development/employment growth goals are attained

    a. A major component of this project has been the formation of a new TMA comprised of key City, DMC, and downtown employers.

3. **Incorporate parking as a key element of a community-based economic development policy**

    a. During a set of meetings with City and Mayo Clinic transportation staff to assess current parking and access management programs, the DMC Plan guiding principle of developing "a comprehensive strategy to drive economic development and investment"

was discussed. As a result of that discussion, a policy document was developed that focused on how parking can potentially be used as a tool to support and complement economic development policy. This report was provided as a resource document for staff to review. A customized version of this approach was developed for the Rochester community, tailored specifically for the City of Rochester in support of the larger DMC plan. (See Appendix 4. entitled: J8618-8622_RPT_Parking and Economic Development Policy 12-20-2016.)

b. Having a well-defined and shared vision relative to preferred or targeted types of development is an important first step in this recommended approach. It is recommended that the City of Rochester develop a set of general guidelines related to parking and economic development incentives as well as the development of specific policies to better align parking and mobility asset development and management to support community and economic development goals.

c. The primary purpose of the Parking as an Economic Development Policy document is to provide guidance on the development of a policy linking parking development and management as a key element of community and economic development policies. This document suggests strategies and approaches to leverage parking and access management investments as part of an overall downtown business development strategy and encourages shared parking and shared mobility as key elements to support the larger DMC transportation vision.

d. To promote the effective management of existing and future public parking resources, a consolidated parking management organization will continue to be strongly supported. The parking management program will be a key partner for creating 'balanced and sustainable community access strategy" i.e. the parking department will take a more holistic approach to overall downtown access, developing policies and practices that support a more multi-modal approach.

e. Integration of good urban design principles relative to parking facility design will also be prioritized. The goals of this policy element are to better integrate parking infrastructure into the urban fabric and to contribute to a compact, walkable and vibrant downtown – this includes parking structure design criteria such as street-level activation, a preference for mixed use parking developments, LEED Silver building certification, etc."

4. **Review and assess the extensive collection of parking management best practices and peer city research** provide in this study. Adopt strategies that address current and evolving program needs over time

a. Two key documents have been provided that document a wide range of parking and access management best practices for the City's review and consideration. These include: Appendix 2. (Parking Management and Design Best Practices) which provides parking and access management strategies.

b. The second major "best practice" resource document is Appendix 3. entitled: J8618-8622_RPT_DMC Parking- Best Practices Research 12-20-2016

5. **Adopt recommended parking rate strategies** and continue to evaluate demand-based parking pricing strategies in the future as a key element to support achievement of modal shift goals

   a. The City of Rochester engaged Walker Consultants to conduct a parking rate study in parallel to this Parking and TMA study. Kimley-Horn conducted a peer-review of the parking rates study and supports the recommended parking rate adjustment strategies.

   b. Critical to both studies is the recommendation to invest in certain parking technology upgrades (discussed in more detail in recommendation # 8 below).

6. **Leverage the investment in the Park+ parking demand model as an on-going parking planning tool. combine with a program of on-going modal split monitoring and demand management strategy effectiveness.**

   a. Another significant investment made as part of this Parking and TMA study was the development of a robust GIS-based parking demand modeling program referred to a "Park +". This tool is owned by the City and can be a powerful platform for on-going tracking of parking inventory, utilization, modal split and other planning factors going forward. Perhaps more important is the ability that the model provides City, County and regional planners with a tool to assess parking development scenarios on an on-going basis.

   b. The City/County/DMC/Mayo Clinic should dedicate specific staff to fully understand and be able to leverage this new tool as a component of on-going downtown area planning work into the future. (See Appendix 23. entitled: "J8618-8622_RPT_Park+ Framework 12-20-2016").

7. **Plan to expand the current residential parking permit program**

   a. As development and growth of the downtown area evolves, downtown neighborhoods will come under increasing pressures related to parking. The City already has a basic residential parking program in place, but expanding these programs and enhancing program operational efficiency using new technologies will be important going forward.

b. Recommended Residential Parking Permit program focus areas include:

- Focus Area 1: Process for expansion/creation of NPP zones
- Focus Area 2: Types and number of NPP permits (per household)
- Focus Area 3: NPP permit pricing
- Focus Area 4: Application, permitting and administrative efficiency
- Focus Area 5: Preservation of neighborhood livability/character
- Focus Area 6: How the NPP program could serve neighborhoods with unique, mixed-use characteristics like the downtown neighborhood, the historic southwest neighborhood and the Kutzky Park neighborhood.
- Focus Area 7: Improve the effectiveness of enforcement while encouraging voluntary compliance

c. Specific recommendations include:

- Develop administrative process improvements, including: online sale/renewal of residential permits, additional education for rental property owners regarding how their tenants can apply for NPP permits and enhanced permit qualification information online.
- Enhance enforcement of existing NPP zones and adjacent neighborhoods/districts via enforcement by plate using License Plate Recognition (LPR) technology.
- Develop a graduated fine structure and implementation plan for council approval based on the Ft. Collins model of increased fine amounts for NPP violations with issuance of additional tickets.
- Explore a GIS-based website tool that would allow permit holders to type their address into a search box and know immediately if their address is within an NPP zone.
- Explore two-year (vs. annual) residential permits.
- Coordinate with the Planning Department and others to explore how the impacts of zoning, occupancy limits and regulations could play a role in determining the appropriate number of permits issued per address or unit (co-ops, accessory dwelling units (ADUs), mixed use, etc.) rather than solely by parking occupancy.

d. Additional program development and policy guidance are provided in Appendix 13. entitled: Parking White Paper on Residential Parking Permit Programs 2017.

8. **Invest in new parking technology**

    a. The Parking Department is very aware of the need for certain technology upgrades and has been planning to for new technology in several areas including the following:

        i. New facility count system technologies to improve facility management data and push out parking availability information to dynamic messaging signage and mobility apps
            1. For both City-owned ramps as well as remaining surface parking lots and potentially park and ride locations, it is recommended that a simple and cost effective new product be evaluated. The new system is known as "Parking Logix".
        ii. Digital "Pay-by Space" parking meters with credit card acceptance technology is already being piloted in approximately 360 on-street spaces in the downtown.
            1. The trend in the industry seems to be moving towards a "Pay-by-License Plate" methodology. This trend has several advantages (less signage, integration of mobile apps, synergy with mobile license plate enforcement technologies, etc. We encourage the City to carefully evaluate this methodology as it continues to plan for both on-and off-street parking meter system upgrades in the future.
        iii. Wireless and hosted license plate recognition parking enforcement systems
            1. This system can also be used for periodic data collection and special event parking demand monitoring.
        iv. Adding credit card in/out capabilities in all City Ramps
        v. Development of mobile apps for parking payment and information
        vi. Implementation of automatic vehicle location (AVL) technology on all City busses in conjunction with the development of a Transit App.

9. **Adopt changes to the City's Zoning Code regulations that shift away from "parking requirements" in favor of a more flexible and mobility oriented approach that utilizes "access requirements" as the preferred methodology** (See chapter 10 and Appendix 22. Entitled: Align Zoning and Parking Requirements with Growth & Mobility Vision).

        i. It is recommended that the DMC code be modified to ensure that most parking, whether provided on-site or via In Lieu Fees, provides access benefits that go beyond the development site, and to allow for private and public investments to shift away from parking where and when mobility and TDM become more relevant and effective.

ii. By keeping parking as a primary option, this approach will allow the City to focus on parking solutions in the near-term, as downtown parking facilities are redeveloped and replacement capacities remain a priority. Five years from now, the same code will allow the City to jointly-develop a mobility hub, or expand a bikeshare system should replacement capacities no longer be a necessary part of repurposing downtown parking garages.

iii. At the same time, the approach provides a unique range of options for developers to meet requirements that are no longer framed tightly around parking.

1. Provide on-site parking, which will be credited toward (or increase) requirements, depending on how it is managed and how broadly accessible the spaces are.
2. Provide on-site mobility and TDM amenities, which will non-driving travel to the site more viable and appealing.
3. Provide funding for district-level investments, which will provide public parking, mobility, and TDM benefits, as befitting context and circumstance at the time.

iv. Using the existing framework for calculating minimum parking requirements, the "requirement" is shifted away from parking toward a requirement to manage the project's access needs and impacts, measured as Access Management Requirement (AMR) points.

v. Developers can meet a project's AMR through any combination of

4. On-site parking,
5. Bonus TDM measures, and
6. In Lieu Fee payments.

See Appendix 24. Entitled: "Rochester MN - Access Over Parking 02-06-17 and NN Zoning Code Update 11-28-2016".

10. Adopt parking garage design guidelines and incorporate adaptive reuse strategies into new garage designs going forward

a. A comprehensive set of parking ramp design guidelines has been provided as a tool to ensure high quality and functional parking facility design going forward.

i. See Appendix 5. entitled: J8618-8622_RPT_COR Parking Design Guidelines_2016 Final Draft_12-20-2016

b. Another key document provided in this study is Appendix 8. entitled: "Assessing an Uncertain Transportation Future - DMC 2017," which provides guidelines for the development of what are being referred to as "parking ramp adaptive reuse strategies." Theses adaptive reuse strategies anticipate the projected parking demand

reductions associated with the main streaming of autonomous vehicles in the next 10 – 30 years.

c. See Appendix 25. entitled: "Mobility Hubs Overview and Implementation Guide_092217". This document was developed by Nelson Nygaard on the concept of developing "Mobility Hubs" as an emerging parking/mobility management infrastructure concept.

11. **Enhance the customer parking and access experience**

a. This less technical recommendation focuses on providing a positive customer experience as it relates to both parking as a well a s other dimensions of community access.

b. Appendix 15 is presentation entitled: "Releasing the Parking Brake by Engaging the Customer", which contains many potential customer experience enhancement strategies.

12. **Develop strategies to maximize the use of existing parking resources** (both Public and Private) as well as aggressively promoting Shared Parking and Demand Management Strategies

a. In Appendix 7. entitled: "Employee Parking & Commute Option Programs and Strategies to Maximizing Existing Parking Resources" a range of strategies and commute program options are provided for the City's consideration.

13. **Achieve parking program accreditation through the International Parking Institute (IPI)**

a. The IPI has, in the past few years, developed a rigorous parking program accreditation process for the industry. Appendix 18 provides an overview of the program as well as a detailed matrix of program evaluation criteria which includes 14 assessment categories and over 300 specific evaluation criteria.

b. This program has become the industry benchmark for recognizing high quality parking and mobility programs. We feel the Rochester program would have little trouble in achieving accreditation and beyond the program validation and recognition that comes through the accreditation process, it is also a valuable staff training and program development exercise.

14. **Expand parking and TMA program branding, marketing and community engagement strategies. develop a strategic communications program for the overall parking/transit/TDM program**

a. In Appendix 14. entitled: Mobility Management Program - Parking/TMA Strategic Communications Plan, a comprehensive approach to developing a robust "strategic communications plan" has been provided.

b. Key document elements include:

i. Brand Development
ii. Messaging
iii. Audience Segmentation
iv. Media Relations
v. Communications Tools and Tactics
vi. Roadmap to Implementation and
vii. Metrics to Measure Success

15. **Focus on curbside space management –** This recommendation focuses on policy development for use of curbside space in the downtown core and potential parking districts.

    a. This includes policy for use of curbside space in our parking districts, as well as the rest of the City. Uses competing for use of this space include:

        i. Unrestricted parking;
        ii. Time restricted parking (signed);
        iii. Metered parking;
        iv. Designated handicapped parking;
        v. Loading Zones;
        vi. Passenger Loading Zones (Taxi/TNC staging areas)
        vii. Bicycle parking (i.e. Bike corrals, etc.)
        viii. B-Share stations
        ix. Dedicated Car Share Spaces
        x. Electric Vehicle Parking/charging

    Appendix 26. entitled: "The Value of On-Street Parking - A Recommended Approach to Prioritizing Uses of On-street Public Right-of-way" discusses the increased competition for valuable curb-lane real estate in downtown areas and provides a range of potential strategies for the City's consideration.

16. **Leverage Parking as tool for community and economic development**

    a. The idea that parking can be an effective economic development strategy has gained greater and greater acceptance as innovative programs from around the country have proven this concept with many successful examples. We have documented several of these case studies in this report.

    b. Appendix 4. entitled: "J8618-8622_RPT_Parking and Economic Development Policy 12-20-2016" and the following supportive appendices provide more detail including sample development agreements and a sample "Business Development Scorecard".

        a. J8618-8622_RPT_Appendix_A_Village Green Parking Agreement FINAL 1007

        b. J8618-8622_RPT_Appendix_B_Sample Business Scorecard – DMC

c. J8618-8622_RPT_Appendix_C_TPA-CA~1

17. **Development of a parking and access management financial plan document**

    a. As the Parking/Transit/TMA programs merge in the coming years, it is highly recommended that a "Parking and Access Management Financial Plan" document be developed to provide high level program guidance relative to financial program development. Appendix 9. entitled: J8618-8622_RPT_Parking System - Financial Plan Template 12-20-2016 has been provided as a possible template for the recommended financial plan document.

18. **Development of program performance metrics**

    a. Data-driven management is a key foundation for any successful parking and transportation program. Leveraging new technologies to exploit the range of new data resources as well as developing a defined set of analysis tools and performance metrics is highly recommended.

    b. Two sets of on-going program evaluation metrics that are recommended for the City of Rochester's Transit and Parking/TDM programs are provided in the report appendices. While the City already does a good job of tracking and monitoring basic program functions, the advent of new developments in parking and transportation technologies are creating ever richer data sets that can be analyzed to improve program performance through enhanced data driven management.

        i. Appendix 17 provides a set of recommended program metrics relates specifically to parking management.
        ii. Appendix 17 also provides a set of recommended program metrics related specifically to transit and TDM program management.

Chapter X
Align Zoning and Parking Requirements with Growth & Mobility Vision

X. Align Zoning and Parking Requirements with Growth & Mobility Vision

Parking requirements established within municipal zoning codes are a powerful tool for shaping a city's transportation and development character. For several decades, zoning codes across the United States have emphasized minimum requirements for on-site, tenant-reserved parking spaces to protect local street-parking capacities from parking activity generated by new development. The concern was that without these requirements, developers would save money and developable land area by not building any parking, relying instead on nearby street parking to accommodate their project's parking needs. In response, cities began to require sufficient accessory parking at each new development — enough to ensure that a space would always be available for anyone who needed one. For this to work, developers must not only provide enough parking to meet peak demand, but they need to provide it for free to prevent drivers from parking on-street to save money. The result of this approach is the common practice of requiring far more parking than is consistently needed at new development projects. As a result, most American downtowns and commercial centers have been inundated with surface parking facilities that are mostly empty, most of the time.

Minimum parking requirements not only depress local economic development by wasting the area's most productive real estate, but they also undermine walkable, bike-friendly, and transit-accessible development patterns.

Less Parking Still Provides Access

In downtown Rochester, the City's willingness to rent excess parking supply on a contract basis has created efficiencies resulting in high rates of weekday utilization in most downtown parking facilities. Furthermore, existing surface lots are viewed as "interim uses" for land that will eventually be developed into more active uses. This proactive management approach has helped recapture more value from existing parking and enhanced downtown Rochester's multimodal mobility environment.

Minimum parking requirements are not the only reason projects include excessive parking supplies. Developers and lenders who are unfamiliar with walkable, transit-accessible urban centers often bring assumptions and formulas built from experience gained in highly auto-dependent environments, insisting upon levels of parking that exceed both local zoning code requirements and the highest peak levels of observed demand. [6] [7] As a result, removing minimum parking

[6] Kazis, Noah. 2012. "East River Plaza Parking Still Really, Really Empty, New Research Shows." Streetsblog. April 20, 2012. https://nyc.streetsblog.org/2012/04/20/east-river-plaza-parking-still-really-really-empty-new-research-shows/.

[7] Schwartzman, Paul. 2009. "At Columbia Heights Mall, So Much Parking, So Little Need," October 8, 2009. http://www.washingtonpost.com/wp-dyn/content/article/2009/10/07/AR2009100703996.html.

requirements may not be enough to address the many problems created by a glut of free, private parking in urban areas.

The Emerging Mobility Disruption

The cost of over-requiring parking is set to become even greater, as disruptive "Shared Mobility" technologies are widely expected to cause a profound shift in consumer mobility preferences and a significant drop in personal-auto parking demand. While the exact impact is still unknown, some experts estimate that self-driving vehicles predominantly utilized through on-demand, shared-mobility services, could reduce demand for off-street parking by up to 90% over the next two decades.[8] In large cities where their fleets of drivers are more ubiquitous, ride-hailing services like Uber and Lyft are already significantly reducing auto-dependency, allowing more commuters to shift their primary mode away from driving by providing a ubiquitous, affordable, and increasingly-familiar "rainy day" commute option.

The ride-hailing phenomenon has good company in several, more-established Shared Mobility services, such as car-share, bike-share, and computer-matched ridesharing. Where access to these options is consistent, one-car and carless households are becoming far more common,[9] further reducing demand for private vehicle parking.[10] Driverless vehicles are expected to bring a new level of disruption to the ever-expanding mix of mobility options. Driverless ride-hailing services will combine the advantages of car-sharing (privacy and autonomy) and ride-hailing companies (door-to-door service without any need for parking) at a fraction of today's cost.[11]

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[8] Thompson, Clive. 2016. "The Worst Thing about Driving Is about to Change." *Mother Jones*, January 2016. http://www.motherjones.com/environment/2016/01/future-parking-self-driving-cars/.

[9] Shaheen, Susan A., Adam Cohen, and Melissa Chung. 2009. "North American Carsharing: A Ten-Year Retrospective" *Transportation Research Record.* 2010 (January):35–44.

[10] American Public Transit Association. 2016. "Shared Mobility and the Transformation of Public Transit." Transit Cooperative Research Program Report J-11, Task 21 (page 7). Transportation Research Board. https://www.apta.com/resources/reportsandpublications/Documents/APTA-Shared-Mobility.pdf.

[11] https://www.morganstanley.com/ideas/car-of-future-is-autonomous-electric-shared-mobility Morgan Stanley. 2016, June 15. "Auto Industry Is Ripe for Disruption." Accessed December 26, 2017. https://www.morganstanley.com/ideas/car-of-future-is-autonomous-electric-shared-mobility.

Provide Access, but Keep Parking in the Mix

The DMC Transportation Infrastructure Program proposes that the DMC code combine parking and Shared Mobility elements together to ensure that most parking enhances access to non-driving modes as they become more viable and relevant. By keeping parking as a primary option, this approach will allow the City to focus on parking solutions in the near-term, as downtown parking facilities are redeveloped and replacement capacities remain a priority. Five years from now, the same zoning code will allow the City to jointly-develop a mobility hub, or expand a bike-share system should replacing the capacities of repurposed downtown garages become unnecessary. At the same time, the approach provides three different options for developers to meet access requirements that are no longer framed tightly around parking alone:

- Provide on-site parking, which will be credited toward (or increase) requirements, depending on how it is managed and how broadly accessible the spaces are.
- Provide on-site mobility and TDM amenities, which will make non-driving travel to the site more viable and appealing.
- Provide funding for district-level investments, which will provide public parking, mobility, and TDM benefits, as befitting context and circumstance at the time.

How Parking Requirements become Access Management Requirements

Using the existing framework for calculating minimum parking requirements, the "requirement" is shifted away from providing a certain number of parking spaces and toward a requirement to manage the project's access needs and impacts, measured as Access Management Requirement (AMR) points.

Three Options to Satisfy AMR

Developers can meet a project's AMR through any combination of

- On-site parking,
- Bonus TDM measures, and
- In Lieu Fee (ILF) payments.

Parking Spaces Credited According to the Access They Provide

On-site parking spaces included in a proposal are credited toward the AMR, according to the following space-type categories.

DEFINING SPACE TYPES

Defining parking space types in the code will help the City link parking management to development approvals, by providing more qualifying AMR credits when parking is managed to emphasize efficiency, and less AMR credits when parking will create redundancy and induce more driving in the process. Classifying parking spaces by type will also allow the City to build several best practices into this process with less need for prescriptive explanation; types of desirable best practices include

- Incorporating Public Parking in Private Development: Management approaches that facilitate shared-parking efficiencies increase space credits toward an AMR. Those that reduce these efficiencies increase the project's AMR.
- Unbundling Parking Costs lease costs: Spaces that are priced separately from unit or space rents receive more credits toward an AMR.
- Allow Flexible Maximums in Return for Public Benefits: Rather than assigning a "hard cap" on parking, spaces provided in excess of the project's baseline AMR actually increase the AMR, requiring increased TDM commitments, fee payment, or the inclusion of public parking. While this adds flexibility in how much parking can be provided, it provides a public benefit contribution for each space built above the AMR.

In a proposed system utilizing Access Management Requirement points, the types of parking in the system for classifying parking include:

RESERVED PARKING SPACE

A parking space that is managed to limit access to specified individuals or individuals engaged with specific on-site uses (residents, tenants, and their guests/customers).

ACCESSORY PARKING SPACE

A parking space that is managed to limit access to individuals engaged with specific on-site uses (residents, tenants, and their guests/customers), but are shared between all on-site land uses.

PUBLIC PARKING SPACE

A parking space that is managed to provide at least 12 hours of public parking in any 24-hour period, with approved signage to effectively identify these hours of public access.

PRICED PARKING SPACE

A parking space – whether reserved, accessory, or public – that is priced comparable to rates charged by the City for nearby off-street facilities.

MUNICIPAL PARKING SPACE

A parking space that is provided within City facilities, or directly managed by the City, whether located in a private or City-owned parking facility.

EXCESS PARKING SPACE

Any reserved and accessory parking space provided in excess of the project's AMR, calculated as the total number of reserved and accessory spaces, minus the project's AMR.

Assigning Credits

The table below summarizes proposed credits to be assigned to the space types defined above.

Figure 59. Parking Credits Table

Parking Space Types	Credit Toward AMR (points)
Reserved Spaces	-0.25
Accessory Spaces	0.75
Public Spaces	1.0
Priced Spaces	0.25 (additive)
Municipal Spaces	1.5
Excess Spaces	-0.75 (additive)

Understanding the Point System Rationale

- Reserved and Excess spaces receive "negative" credits, reflecting the fact that these management approaches work against supply efficiencies and tend to induce more driving.
- Public spaces are treated as the "baseline" credit (1.0), emphasizing that this is preferred as the normative form of management in the DMC.
- Accessory spaces receive less credit, reflecting the reduced efficiency of this management approach.
- Credits for Priced and Excess spaces are assigned additive to the credit assigned to their primary space type (Reserved, Accessory, or Public), so, for example:
    - Reserved spaces provided in excess of the project's AMR would be credited at -1.0 per space (A Reserved space receives -0.25 credit added to an Excess space credit of -0.75);
    - Public spaces that are priced would be credited at 1.25 per space (A public space receives a credit of 1.0 added to a Priced space receives a credit of 0.25);
    - Accessory spaces provided in excess of the project's AMR would be credited at 0.0 per space (An accessory space receives a credit of 0.75 which is offset by the Excess Space credit of -0.75).
- Municipal spaces are credited to reflect the optimal efficiencies made possible by incorporating their management into the overall City program.
- ILF payments will be credited at the same rate as Municipal spaces, as that is the only form of parking ILF revenue can fund.

NOTE: In the original study report on the topic of AMR as a system to manage parking, there was an example of how it would work. It seems either a reference to the study report or reproducing that example would be valuable

Chapter XI

Transportation Demand Management (TDM) Program Development Plan

XI. Transportation Demand Management (TDM) Program Development Plan

Overview

A Transportation Demand Management plan was developed for the City of Rochester as part of this Parking and TMA study by UrbanTrans, North America. The following is a brief summary of the UrbanTrans TDM Plan. For more details see the full report document entitled: "City of Rochester Transportation Demand Management Plan – March 2017"

The City of Rochester TDM Plan was created to identify strategies and tools to reduce the number of vehicle trips associated with intensified land uses and to minimize parking demand. TDM is a collection of strategies designed to reduce roadway congestion and demand for single occupancy vehicle travel while redistributing travel demand to alternative travel modes, times, and routes. In other words, TDM manages how people travel to, from and within the downtown.

TDM is part of an overall access management strategy, that includes transit, pedestrian, bicycle, and parking improvements. This plan is primarily focused on the DMC district, which includes downtown Rochester. However, additional data and analysis from the wider City of Rochester area is provided for comparison to the downtown area and to identify possible other areas in the City that may benefit from TDM strategies.

TDM Plan Development Process

The plan development process included the following steps: 1) a review of existing and planned conditions and transportation services that will affect travel to, from, and within the DMC district and City of Rochester and TDM programs and efforts; 2) best practices; 3) stakeholder interviews and an employer survey; 4) development of draft TDM recommendations; 5) stakeholder input; and 6) development of a final plan.

Existing Conditions Analysis

This section of the TDM Plan describes the existing conditions for the City of Rochester, with a focus on downtown Rochester, as they relate to TDM. The analysis and data include:

- Employment and Demographic Data
- Transportation System
- Existing TDM Programming

A review and summary of existing transportation and TDM studies that was relevant to this report is included in full report document entitled: "City of Rochester Transportation Demand Management Plan – March 2017".

TDM Delivery Best Practices

As noted above, one section of the TDM plan provides a review of TDM best practices. The cities and projects chosen for this summary were diverse, but each has strong elements of TDM strategies and programming that are applicable to the City of Rochester context. Each best practice includes relevant information and lessons learned for Rochester.

Programs were chosen based on a set of criteria relevant to the current DMC project scope. Best practice projects included:

- Medical Centers
  The following were chosen as best practice medical centers to showcase how to introduce TDM programs across a district, provide programs relevant to medical staff that might not work traditional hours, and engage large employers with robust TDM programs.
  - University Circle/Cleveland Clinic, Cleveland, OH
  - Medical Academic and Scientific Community Organization (MASCO), Boston, MA
  - Buffalo Niagara Medical Campus (BNMC), Buffalo, NY
- Peer Cities
  Rochester peer cities were chosen based on the size of the city, aggressive mode shift goals, commitment to parking management and the presence of a large employer(s). Case studies include:
  - Ann Arbor, Michigan
  - Palo Alto, CA
  - Boulder, CO
  - Chattanooga, TN
- Specific sector best practices, such as hospitality, municipal and university
  The best practices included in this section were selected because they showcase noteworthy TDM strategies or approaches tailored towards specific sectors that are relevant to Rochester. They include case studies from hospitals, universities, the hospitality industry as well as local and regional government.
  - Seattle Children's Hospital, WA
  - Stanford University, Palo Alto, CA
  - Seaport Hotel, Boston, MA
  - Courtyard by Marriott, Bellevue, WA
  - Wake County, NC
  - City of Bend, OR

Stakeholder Input

Stakeholder input was gathered through interviews with employers and representatives from the city and transportation service providers. In addition, employers throughout Rochester were surveyed to determine how the transportation system affects them and their employers, what transportation programs would be helpful to them, and how willing they are to participate in a transportation demand management program.

An employer survey was conducted in January 2017 to obtain input from Rochester employers regarding the transportation issues that affect their worksites and employees, their interest in potential strategies and programs to reduce negative transportation impacts, and interest in participating in a TMA or similar organization.

The survey questions were developed by UrbanTrans in coordination with the Parking and TDM team and city staff. The survey was hosted online and survey participants were recruited by the Rochester Downtown Alliance and Rochester Chamber of Commerce. Both agencies sent emails to their members that explained the purpose of the survey, provided a link to the survey, and asked the members to complete the survey. The survey was completed by 193 businesses that, combined, employ almost 60,000 of the 105,000 individuals who work in Rochester. Of the businesses that responded to the survey, 85 are in downtown and 108 are located outside of downtown.

Survey results were presented in graphical format summarizing the following major categories:

- Perceptions of Active Transportation
- Perceptions of Transit
- Perceptions of Parking
- General Transportation Perceptions
- Transportation System's Effect on Staffing
- Transportation System's Effect on Revenue and Costs

TDM Program Interest

Respondents were also provided with a list of TDM strategies and supportive infrastructure and asked whether their organization offers the item, would consider offering the item, or is not interested in offering the item. Respondents could also say they were not sure if they item was offered or that the item is not applicable to their organization. The results are summarized in figures that show the percent of respondents who said their organization offers the strategy or infrastructure or would consider offering the strategy or infrastructure. Reported interest in programs was used to identify TDM strategies to implement in Rochester and discuss with stakeholders in later stages of the study effort.

Downtown employers were more interested in offering programs that encourage employees to ride the bus than were other employers.

Summary graphics were presented in the following areas:

- Interest in Bus Programs
- Interest in Bike and Carpool Programs
- Interest in Work Hour/Location Programs
- Interest in Incentives and Educational Programs
- Free vs. Paid Employee Parking
- Employer Owned vs. Leased Parking
- Employer Ability to Reduce Parking Costs
- Willingness to Participate in a TMA
- Willingness to Provide Financial Support to a TMA
- Interest in Potential TMA Services

TDM Recommendations

Initial TDM strategy recommendations were identified based on the data collected, knowledge of existing planning activities, initial stakeholder involvement, and the experience of the consulting team. The initial recommendations provide a starting place to guide future discussions. The strategies need to be vetted with city staff and the TMA stakeholder group, which began meeting in the Summer of 2017. In addition, the organizational structure that is selected to deliver TDM services and the amount of funding that is available for TDM activities will affect the strategy recommendations. Finally, the strategy recommendations will be affected by the outcomes of the pilot TDM project that is being implemented with city staff.

TDM strategy recommendations have been divided into the following categories:

- Parking policies
- Small-scale infrastructure improvements
- Active transportation programs
- Bus programs
- Shared mobility
- Education
- Developer-focused policies
- Implementation

The success of the recommended programs, incentives, and infrastructure improvements will be dependent on the implementation of a strong TDM delivery structure and associated educational efforts.

Parking Policies

Parking policies can have a significant effect on travel behavior. The following recommendations are initial and will require further review as the parking study advances and associated recommendations are developed.

Strategy: Expand carpool parking incentive to all municipal ramps

The city is developing a program that will allow carpools with three or more people to bypass the garage waitlist and receive a discount on their monthly parking fee. The amount of the discount is still being determined. The program has the potential to reduce the rate at which commuters drive alone to downtown and can be augmented with carpool matching.

ACTION: The city should finalize implementation of the carpool parking incentive and roll it out to all downtown parking ramps. Carpool matching assistance should be offered to interested individuals to increase participation rates. The identification of carpool matching and other trip planning tools is discussed later in this document.

Strategy: Provide support for parking cash out programs

With parking cash-out, employees who choose to give up their employer-provided parking space are offered a payment that can be used to pay for transit or vanpool fares, to pay for bike purchases or maintenance, or kept as cash. Employees typically participate in a monthly cash-out, but daily cash-out programs exist. With monthly and daily cash-out, employees receive a set amount of money for each month or day that they choose to not drive to work. Cash-out programs are most successful when implemented in an environment where parking is unbundled. It is applicable to any organization that either provides parking free to its employees or partially subsidizes the cost of parking.

ACTION: Educational materials should be provided to employers to help them implement parking cash-out programs. This can include best practices information, data on likely impacts and cost savings, and implementation assistance. To help establish the program and secure employer participation, early participants should receive incentives that allow them to offset the cost of offering cash out without relinquishing their parking passes. Ideally, sufficient funding should be available to provide up to 100 employees with a $100 monthly cash out payment for up to three months. Employers' lessons learned while receiving the incentive can be incorporated into the educational materials.

As a more advanced strategy, the city may be able to mandate employer implementation of parking cash-out programs, as is done in California and Rhode Island. Mandates can apply to all employers or be limited to those that do not own their parking spaces and can reduce the number of spaces they lease. Requirements can also vary based on the number of employers.

Strategy: Move from monthly to daily parking charges

Monthly parking passes discourage the use of non-auto travel modes. Once an employee has paid for a monthly parking pass any funds spent on transit are in addition to parking fees and represent a financial loss. In addition, walking, biking, or carpooling to work will not result in any parking cost savings. Daily parking charges remove the negative externalities associated with monthly charges.

ACTION: The city plans to charge for parking on a daily basis in new ramps, but should expand the policy to existing ramps. Alternatively, or as an interim step, the city could allow parkers who have monthly passes to purchase daily passes or a monthly "scratch-off" card at a daily rate equivalent to what they currently pay for monthly parking. Because employees would save money on days they do not park, they would be motivated to commute using non-drive alone travel modes.

Strategy: Leverage ramp loss

The pending closure of City ramps provides an opportunity to encourage drivers to try other travel modes through education and the provision of incentives.

ACTION: Drivers who use parking ramps that are being demolished should be offered information on other travel modes and incentives (outlined later in this document) to switch to the bus, walking, biking, or carpooling to work. These programs should be implemented three to six months before ramps close.

Strategy: Include mobility hubs into Transit and Parking plans

Mobility hubs allow for a seamless transition between travel modes. They typically integrate transit service, bikeshare, carshare, and vehicle parking. Additionally, they are well served by pedestrian and bicycle paths and routes.

ACTION: The City is in the process of locating park and ride lots to serve downtown commuters. When applicable, these should be expanded into mobility hubs that include secure bike parking facilities, bike fix-it stations, carpool/rideshare pick-up and drop-off areas, preferential parking for carpools, real-time bus and shuttle information, and comfortable waiting areas. Depending on the success of carshare service in Rochester, the hubs could also include carshare vehicles. Ideally space will also be allocated for ancillary services such as childcare, dry cleaning, coffee shops/carts, and convenience stores. Note: a future strategy will be required to turn vehicle parking space to other mobility and/or land uses as technology matures. This should be considered during the planning and design process.

The mobility hub concept and requirements can be further outlined during the Transit and Parking planning processes.

Strategy: Integrate park and bike program into park and rides

Park and bike programs build on the mobility hub concept and provide commuters with a location where they can park their car for free outside of the city core and subsequently complete their commute by bicycle. A similar program called Park&Pedal has been very successful in the Boston area (www.parkandpedal.org).

ACTION: Integrate park and bike programs into applicable mobility hubs and park and ride locations. Additionally, identify smaller parking areas that are adjacent to the city's trail system that can be designated for bicyclists to park and ride into downtown. If usage is high at a parking area consider installing a bike fix-it station.

Small-Scale Infrastructure Improvements

TDM strategies typically exclude infrastructure investment except for smaller-scale and low-cost investments that encourage the use of transit and active transportation. The following recommendations are intended to be low-cost investments.

Strategy: Include walking times with wayfinding

The inclusion of walking times on wayfinding signage or devices can encourage walking by decreasing perceived distances. Walking times can be integrated into existing and planned wayfinding signage or done in a stand-alone manner.

ACTION: Assure that current wayfinding planning efforts result in signage that includes walking times. Where possible update older signage to include walking times.

Strategy: Encourage employers and building owners to provide end-of-trip facilities

Facilities such as changing rooms, showers, lockers, and secure long-term bicycle storage can be instrumental in shifting travel behavior from driving alone to adopting an active transportation mode. Additionally, these facilities can help building owners obtain LEED points.

ACTION: Educate employers and building owners regarding the benefits of providing end-of-trip facilities that bike storage rooms, bike corrals, or bike lockers that allow bicyclists to securely store their bicycles. Also encourage employers and building owners to provide locker rooms or shower facilities. Alternatively, employers or building owners can negotiate shower access with nearby private gyms.

Active Transportation Programs

Biking and walking are increasingly popular modes for employees to get to work and employers can increase support for these modes by offering additional amenities. The following recommendations can to be implemented at specific sites and/or throughout downtown.

Strategy: Subsidize bikeshare memberships

Bikeshare programs allow travelers to rent bicycles for short periods of time. Bikeshare can help overcome first and final mile issues and provide travelers with an alternative to driving alone for relatively short trips. Bikeshare members tend to have lower auto ownership rates and drive less than non-bikeshare member counterparts. Studies have found that on average seven percent of bike share members replaced their personal vehicle with the bike share service.

ACTION: Should Rochester expand its bikeshare system, incentives should be provided to encourage employees to use the system for trips. Incentives can be provided in the form of free annual membership, subsidized annual memberships, or free rides. This action is dependent on the city expanding the existing program and its implementation will vary based on the bikeshare system's fee structure.

Strategy: Create bike loans and discounted bike purchase programs

Lack of access to a bicycle is often cited as a reason for not biking to work. Individuals who do not have a bicycle are unlikely to try bicycling; the high cost of purchasing a bicycle is a strong disincentive if a person is not sure they will enjoy riding a bicycle or use it as a long-term travel option. These issues can be overcome by allowing people to use a bicycle for free for a limited period or providing discounts on bicycle purchases.

ACTION: Allow commuters to borrow a bicycle for approximately one month at no cost so they can try it out as a commute mode. Ideally the program can be implemented in coordination with a local bicycle store. This simplifies implementation and generally results in access to more types of bicycles.

Bicycle discounts can augment the bicycle loan program or function separately. Individuals interested in purchasing a bicycle for commute purposes can be provided with discounts. Ideally the discount program will be coordinated with one or more bicycle stores and those stores will match the discount provided through a TDM program. The number of discounts provided per year can be limited to avoid high program costs.

Bus Programs

Successful bus-focused incentives and education programs can significantly increase the rate at which commuters ride transit. Their success is even greater when integrated with service improvements such as those being planned by the city.

Strategy: Encourage employers and building owners to add real-time transit displays

Studies show that real-time transit data makes existing riders happier and encourages new riders for high-frequency routes. In addition to real-time transportation information, the display screens can contain information on nearby events, public announcements, weather, and other items that may be of interest to residents, employees, and visitors.

ACTION: Encourage employers and building owners to incorporate real-time transit displays in high visibility areas at street level where people are starting trips such as commercial building and hotel lobbies, entryways to shops, or elevators. Additionally, the city should consider locating one to two screens at a prominent outdoor space with a high volume of pedestrian traffic. Note: there may be an opportunity to sell advertising to defray subscription costs.

Strategy: Study an employer transit pass program

Employer transit pass programs are available throughout the country and allow employers to purchase transit passes for their employees as a significant discount. The value of the discount can vary but is typically highest in communities that require the purchase of transit passes for all employees. Other communities may offer discounts that vary based on the number of transit passes purchased with discounts typically no lower than 10 percent. Costs to the employee can vary from zero (employer covers full cost) to an amount equal to the discounted value (employer offers no additional discount).

Employer pass programs have successfully increased transit ridership by significantly decreasing costs for riders thereby making riding the bus more financially competitive with driving (especially when free parking is available to commuters). Transit agencies benefit by filling extra capacity and by receiving predictable lump sum payments making budgeting easier. Employers and the city benefit by reducing the need for parking and delaying or eliminating the need for building new parking facilities.

There are several options for how to implement an employer pass program. Ideally the passes would be purchased by employers and would allow holders to use transit at no cost to them or at a highly-discounted price. The most successful models require employers to purchases passes for all their employees, but at a highly-discounted rate.

Depending on the success of the program it could be expanded to neighborhoods. A neighborhood group would sponsor the program and the discounts offered and associated rules would be similar to those of the employer program.

ACTION: RPT should study the potential impact of an annual transit pass, particularly one that allows the holder to take an unlimited number of rides on RPT. This should be studied concurrently with the mobility pass (discussed later) to ensure that the system allows for, not only automated fare collection, but also integration with other fare payment or programs.

Shared Mobility

Shared mobility is a group of strategies that reduce dependence on the single occupant automobile. They tend to be technology and infrastructure focused. Some strategies previously mentioned, such as bikeshare, or that will be incorporated into other sections of the DMC Transportation Plan, such as expansion of public transit, are shared mobility strategies. Additional core shared mobility strategies that Rochester should consider include:

Strategy: Facilitate carsharing downtown

Carsharing is the short-term rental of automobiles to the public. Carshare makes it possible for employees to leave their cars at home when they need to attend mid-day meetings or run mid-day errands. The programs also make it easier for households to reduce the number of vehicles they own. Carshare members, on average, have lower auto ownership rates and drive less than non-carshare members. One study found that, on average, 21 percent of carshare members in North America gave up their primary or secondary vehicle after joining a carshare program .

Carshare membership can be on an individual basis as well as for a corporate account in which specific employees can utilize the membership.

ACTION: The city is developing a request for proposals for carshare companies. It is important to note that many carshare providers will not go into a new market without a revenue guarantee. The RFP should include incentives for the carshare companies to respond, such as allowing on-street parking spaces to be converted to carshare parking spaces without a lengthy approval process and possible conversion of the city fleet to carshare vehicles.

Strategy: Study a mobility pass program

A mobility pass combines payment for several modes of transportation into one pass or fare medium. In addition to paying for public transportation, a mobility pass could be used to pay for parking, bikeshare, and carshare. It could even work at local retailers. Mobility passes eliminate barriers to the use of alternative transportation modes by making payment easy. A driver whose parking pass can also be used to pay a transit fare will find it much easier to ride the bus.

ACTION: The city runs the local transit system and owns a significant portion of downtown parking. As the parking study progresses it should consider the feasibility of offering a single payment option for parking and RPT. Such a payment option could help facilitate daily parking fees. Depending on their interest, RCL, could be included in the program. If the bikeshare program is expanded, it

should be included in the mobility pass program. Effort should also be made to integrate any future carshare programs into the mobility pass.

Strategy: Dedicate street space for shared mobility vehicles

The dedication of street space for shared mobility vehicles assures that space is available for dropping off and picking up taxi, TNC, shuttle riders and other related vehicles. It also assures that highly visible and convenient space is available for parking carshare vehicles.

ACTION: Develop rules and protocols that clarify the process of converting on-street parking spaces to spaces for shared use mobility providers. This includes parking spaces and loading zones. To be successful, loading zones should be clearly marked and integrated into the wayfinding system. If loading zones are not clearly marked, TNCs are likely to stop in traffic lanes, bicycle lanes, and bus loading zones to load and unload passengers.

Education

The successful implementation of the recommended strategies will be dependent on an effective education program that utilizes technology and in-person outreach. The goal of the education program is to increase awareness and use of available travel modes, incentives, and programs.

Strategy: Assure the availability of a travel planning tool

One way to help area employees, residents, and visitors navigate the changing transportation system is a travel planning tool. A commonly used tool is Google Maps, which can provide information on bus, walk, bike, and TNC travel options.

Some cities have chosen to develop their own travel planning tools that are designed to provide functionality that is not found in existing third-party tools. This often includes multi-modal trip plans, information on additional TNC services, more accurate bicycle and pedestrian route options, and additional trip making features such as rideshare matching and fare payments. These trip planning tools can include trip cost information and data on the environmental and health impacts of different travel options. Travel options can also be sorted based on criteria that includes travel time, cost, and environmental impact.

Both Google Maps and other travel planning tools are able to provide real-time bus information, which should be considered a crucial element of any travel planning tool.

ACTION: The city, in coordination with the TDM stakeholder group, should determine whether a stand-along trip planning tool should be developed or whether travelers should be encouraged to use existing third-party tools such as Google Maps and other already available travel planning tools. If a unique tool is deemed appropriate, the TDM implementing organization could be responsible for its development and marketing.

Regardless of whether a stand-alone trip planning tool is recommended, the city and other appropriate parties should assure that General Transit Feed Specification (GTFS) data, which is used by third party applications to make trip recommendations, is up to date and shared appropriately. As of the writing of this plan, Google Maps is displaying a warning that its GTFS data for Rochester is not up to date.

Strategy: Conduct educational workshops/events

Educational workshops and events offer an opportunity to speak directly with commuters and provide them with information on alternative travel modes that is tailored to their needs and lifestyle.

ACTION: Workshops should be conducted throughout the year at major employment sites and in coordination with significant local and regional events, such as Bike Week. Workshops should be tailored to focus on specific transportation modes, new or updated transportation services, underused bus routes, and other areas of opportunity. The workshops and events should be implemented by the TDM implementing organization in coordination with employer partners, transit providers, carshare companies, applicable non-profits, and others. Two example events are discussed below.

- Plan a bus ride-along event for a new or underutilized bus route. Market directly to employees along the route and offer an incentive for attendance.
- During Bike Week coordinate bike rides into the city with "bike trains," bringing together seasoned riders and new riders as they bike into the city together. New riders will feel a sense of increased confidence by riding with their peers and will gain tips to sustain the behavior.

Strategy: Incorporate TDM communications into overall city communications

As the transportation system changes and improves, downtown commuters need to be provided with timely information about bus route changes, new transportation services, ramp closures, construction impacts, and other applicable impacts.

ACTION: The city should take advantage of significant changes to the transportation system to market alternative transportation to affected or interested travelers. Incorporate bus, carpool, walk, and bike travel options and any available incentives into city website and digital media channels. This will complement communications from the TDM implementing organization, discussed in the next section.

Strategy: Conduct bike education classes

Just like driving on the roads, biking alongside traffic and pedestrians entails a learning curve. Bike education classes teach commuters how to ride safely, help them identify good routes, and provide motivation for long-term behavior change.

ACTION: Offer bike education classes to downtown employees that cover topics ranging from beginner tips for riding safely (Bike Commuting 101) to more advanced topics such as Commuting Gear for all-weather trips and bicycle maintenance. Approximately four classes should be conducted per year.

Strategy: Use virtual reality to educate about biking and taking transit to work

Virtual reality (VR) allows users to be submersed in a computer-generated simulation in a seemingly real or physical way. The cost of VR equipment and creating VR simulations has dropped significantly. VR can help a traveler learn how to ride the bus and what it is like to do so. It can also help people experience what it is like to ride a bike in traffic and how to do so safely. Because it is a relatively new technology, it has a high cache and people want to participate in VR simulations.

ACTION: Create VR simulations that allow commuters to experience riding the bus and biking to work and then provide incentives to encourage them to try those travel modes. VR simulations can be used at educational workshops and events.

Google Cardboard is a low-cost VR viewing option, but others are quickly becoming available. VR simulations can be created with inexpensive 360 degree cameras and free software.

Strategy: Create and distribute new employee travel kits

Research shows commuters are more likely to change commute habits when they change where they work. New employee travel kits take advantage of this "behavior change moment" by providing employees with information on non-auto travel modes and available travel incentives.

ACTION: Create and distribute transportation welcome kits to new downtown employees that include key information on alternative transportation options. The kits can be distributed to employers and property managers who would then provide the kits to new employees.

Strategy: Create and distribute new resident travel kits

As with changing a job location, moving to a new home offers a "behavior change moment." New resident travel kits provide information about nearby bus routes, bicycle trails, carshare vehicles, bikeshare stations, and other applicable travel options. Ideally, the kits also include free bus passes and other incentives to encourage residents to try new travel options.

ACTION: Create and distribute transportation welcome kits to new residents living in downtown that include key information on alternative transportation options. The kits can be distributed to property managers and real estate agents who would then provide the kits to new residents.

Strategy: Develop materials and training to promote living near work

Live near work programs encourage employees to purchase or rent homes and apartments near where they work. This is typically done through marketing efforts that inform employees of nearby residential options and, in some cases, offer rent and other discounts.

ACTION: Develop materials that inform downtown employees of nearby residential options. In addition, teach property managers and leasing agents how to engage potential and new residents in conversations about their travel behavior and options with the goal of encouraging them to live near work and increase the amount they travel using the bus, on foot, and by bicycle.

Chapter XII

Developer Policies

XII. Developer Policies

New developments provide an opportunity to incorporate TDM infrastructure as well as programs to encourage the use of alternative transportation options. Incorporating infrastructure elements early on into the design and construction of buildings and parking facilities greatly reduces the cost and allows them to be integrated into total project costs for financing purposes. The provision of TDM infrastructure and services reduce vehicle trip impacts and parking requirements.

The recommendations in this section are preliminary and will be further refined as part of a separate study effort specific to developer TDM regulations and results of recently enacted TDM requirements.

Strategy: Encourage the installation of infrastructure that supports TDM and non-auto travel

Low-cost infrastructure such as secure bike parking, shower facilities, and preferential parking can yield significant reductions in vehicle travel and support the successful implementation of TDM programs and services. Infrastructure investments are applicable to all types of development.

ACTION: Through development regulations or voluntary development agreements, require or encourage developers to offer some or all of the following infrastructure.

- Preferential carpool parking (not applicable to residential development): Dedicate a certain number of preferential parking spaces for exclusive use of commuters who carpool. The spaces can be covered, heated, close to the building entrance, or otherwise preferable. Preferential parking can also be offered on a time limited basis. As an example, if spaces are not in use by a certain time of day, they can be made available for general parking.
- Provide carshare parking: Provide dedicated parking spaces for car share vehicles on-site. Ideally, these spaces are accessible to the general public to ensure adequate utilization of the vehicles. This recommendation is dependent on the availability of carshare vehicles in Rochester and interest by carshare operators.
- Provide secure bike parking: Secure parking can be in the form of lockers, a bike room, a bike corral or other facility that provides restricted access via a keycard, key or other electronic mechanism.
- Provide shower facilities or gym access (not applicable to residential development): Locker rooms, ideally with shower access should be provided when reasonable. Should a building choose to provide a workout facility with showers, those showers should be made available to any bicycle commuters who desire to use them.
- **PROVIDE BUS STOP IMPROVEMENTS:** Developers should work with the bus operators to improve bus stops near or at the development site as needed. This could include adding a shelter, creating a bus pullout, or adding seating to the bus stop.
- Provide pick-up/drop-off areas: Include dedicated pick-up and drop-off areas for employees, residents and visitors using taxis, transportation network companies, shuttles or are being dropped off by their car- or vanpool.

- **CONNECT WALK/BIKE PATHS:** Assure that internal pedestrian and bicycle paths seamlessly connect to external sidewalks, bike lanes, or paths.
- Install information kiosk/display/screen or similar: Designate a location for a kiosk, display or screen in the lobby or another high traffic area of the building or site where transportation information can be displayed. This could be real-time bus information on a monitor or a display with bus schedules and other transportation option information.

Strategy: Encourage parking management

Parking management strategies and policies can significantly impact the success of TDM programs by establishing a cost for parking, making it easier to reward parkers when they do not drive, and allowing lessees to achieve cost savings when they reduce parking demand.

ACTION: Through development regulations or voluntary development agreements, require or encourage developers to implement some or all of the following parking management strategies.

- Encourage unbundled parking: Pricing parking separately from the price of commercial space leases or residential rents accomplishes two goals at once. It incentivizes tenants to only lease or rent as many parking spaces as they truly need, which can lead to a decrease in cost and it provides an incentive to consider subsidizing transportation alternatives instead of paying the cost of parking.
- Encourage access controlled parking and parking management system: Adding access controls to parking facilities enables charging for parking and provides valuable data on parking facility utilization. A parking management system can maximize efficiency by enabling better tracking and communication of available spaces, facilitating charging for parking in various time intervals, and facilitating the implementation of parking cash-out programs.

Note: Boulder, CO uses an acronym "SUMP" that stands for shared/unbundled/managed and priced. Something similar could be developed specific for Rochester.

Strategy: Provide free transit passes

Providing free transit passes to tenants encourages them to use transit rather than drive alone and park. By providing passes when a development is new, it is possible to take advantage of an important change moment to induce travel behavior change. Workers tend to be more open to considering transportation options other than driving alone when adjusting to a new commute after moving to a different work or home location.

ACTION: Ideally require new developments to provide tenants with free transit passes for a period of at least three years.

Strategy: Encourage participation in a TMA or similar organization

The city is about to make a significant investment in a TMA or other similar organization. One of the biggest barriers to a success for a TMA is gaining access to employees. This can be addressed by

requiring new developments to become members of the TMA and, as part of leases, require commercial tenants to agree to participate in the TMA.

ACTION: Require developers to join the TMA or its equivalent and write leases such that they require tenants to participate in the TMA by allowing TMA staff to conduct events on site and implement efforts to monitor and evaluate the effectiveness of TDM activities.

Chapter XIII

TDM Next Steps and Implementation Strategies

XIII. TDM Next Steps and Implementation Strategies

As a next step, the strategies need to be reviewed and vetted by the city and through a stakeholder engagement process. As part of the stakeholder engagement process, an organizational model for the delivery of TDM services needs to be chosen. To help with the identification of an organizational model, a TMA feasibility and organizational model analysis was completed concurrent with the development of this document. In that analysis, a TMA was found feasible and several organizational models were presented for consideration. The selected organizational model will affect how strategies are implemented.

TDM Pilot

Concurrent to the stakeholder engagement process, a TDM pilot is being conducted with city staff and another downtown employer, to be identified. The pilot will provide an opportunity to test the TDM strategies outlined in this document and develop support for the TDM. The city pilot will last approximately four months. Results from the pilot will be used to adjust the TDM plan recommendations prior to a larger TDM rollout to the community.

TDM Program Launch

Upon conclusion of the stakeholder engagement process and TDM pilot, the following strategies will need to be implemented to assure the broader delivery of TDM services to the community.

Strategy: Develop Work Plan and Start Up Materials for DMC Focused TDM Organization

The city and employer stakeholders will be discussing organizational models for a downtown/DMC TDM Organization. Once a model is chosen and the organization formed, specific strategies and actions will be identified based on the specific needs of the organization's and its stakeholders.

ACTION: Once formed, develop a two-year business plan focused on the DMC district. This business plan will include, at a minimum:

- Clear and measurable organizational goals: The organization's program success will depend on articulating programmatic goals that are tied to achievable and measurable travel behaviors, funding requirements and other key societal impacts that are important for the community, such as health impacts.
- Foundational communication strategies and goals: This would include the organizational brand, website, social media presence and other communication tools. Goals would include how to communicate personalized travel information.
- A targeted sales strategy and program delivery: This will include building a network of engaged employer transportation coordinators (ETCs). ETCs will be the workplace champions assisting with delivery of the TDM program to their employees, providing further customization to their unique employee culture.

- Identifying key tools and technology: This will include a review of tools for trip planning as well as tools that offer the ability to increase vehicle occupancy through ride sharing, assist with campaign management and facilitate cash-out programs.

Strategy: Hire a TDM Coordinator at the City

Implementation of many of the strategies will require a city-based TDM coordinator to develop, implement and measure the success of the strategies. This recommendation will ultimately depend on the organizational model chosen for the delivery of TDM services.

ACTION: Hire a TDM coordinator. The selected person or entity should understand transportation demand management, basic marketing, program evaluation, and project management.

Strategy: Study the need for a "retail outlet" for TDM services

Currently transit users can buy monthly passes at city hall, the bus facility, and a handful of retail outlets. Some tickets and ticket books can also be bought on the bus. If this system continues, a downtown retail outlet, in conjunction with other mobility services would be useful. However, if a universal transit pass is established, almost everyone should have a pass, in which case alternatives to a physical storefront could be considered.

ACTION: Complementary to the transit pass study, review the need for a retail outlet to sell transit passes. If such a need does not exist, explore alternatives such as provision of information at the Visitor Center or other centrally located existing information center. Potentially train staff as TDM ambassadors to address all transportation questions, provide transit pass sales and more.

Strategy: Develop TDM Evaluation Plan

Evaluation can assist in understanding program impacts and needed program improvements. It can also provide a better understanding of the audience and whether marketing efforts are resonating.

ACTION: Conduct a baseline survey with introductory employer partners to develop tailored TDM service and program implementation plans. The survey should collect baseline travel data and partners should be surveyed every two years to determine program impacts on travel behavior and needed program improvements. In addition, transit ridership data and other key data representing alternative mode usage downtown should be tracked.

Strategy Summary

The following table summarizes the TDM strategies that have been recommended. It includes a general timeline as to when the strategies should be implemented and their general impact on travel mode choice. In addition, for strategies identified for implementation immediately or in the short term, first year staffing and funding requirements are listed.

STRATEGY	*START UP STAFF TIME*	*ESTIMATED START UP COSTS*	*TIMELINE**	*MODE SHIFT IMPACTS***
Parking Policies				
Expand carpool parking incentive to all municipal ramps	Existing city staff		In Progress	Medium
Provide support for parking cash out programs	0.1	$30,000	Immediate	High
Move from monthly to daily parking charges	Existing city staff		Immediate	High
Leverage ramp loss			Medium Term	Low-Medium
Include mobility hubs into Transit and Parking plans			Long Term	Low-Medium
Integrate park and bike program into park and rides			Long Term	Low
Small-Scale Infrastructure Improvements				
Include walking times with wayfinding			Short-Medium Term	Low
Encourage employers and building owners to provide end-of-trip facilities			Short-Medium Term	Low
Active Transportation Programs				
Subsidize bike share memberships			Medium-Long Term	Low
Create bike loans and discounted bike purchase programs			Short-Medium Term	Low
Bus programs				
Encourage employers and building owners to add real-time transit displays			Short-Medium Term	Low-Medium
Study a Regional Transit Pass Program		$32,000	Immediate	High
Shared mobility				
Consider a Mobility Pass		Included in RTP study	Immediate	Medium
Facilitate Carsharing Downtown* **	Existing city staff	$6,000	Immediate	Low
Dedicate Street Space to Share Mobility	Existing city staff		Immediate	N/A
Education				
Assure the availability of a travel planning tool	0.05		Immediate	Low-Medium

Conduct educational workshops/events	0.15		Immediate-Short Term	Low
Incorporate TDM communications into overall city communications	Existing city staff		Immediate	Low
Conduct bike education classes			Short Term	Low
Use virtual reality to educate about biking and taking transit to work			Short Term	Low
Create and distribute new employee travel kits			Short Term	Medium
Create and distribute new resident travel kits			Medium Term	Medium
Develop materials and training to promote living near work			Medium Term	Low
Developer-focused policies				
Encourage the installation of infrastructure that supports TDM and non-auto travel			Short Term	Medium
Encourage parking management			Short Term	High
Provide free transit passes			Short Term	High
Encourage participation in a TMA or similar organization			Short Term	N/A
Next Steps and Implementation				
Conduct TDM pilot with the city employees and a key downtown employer	0.45		Immediate	
Develop Work Plan and Start Up Materials for DMC Focused TDM Organization	0.5		Immediate	
Hire a TDM Coordinator at the City			Short Term	
Study the need for a "retail outlet" for TDM services	0.1		Immediate	
Develop TDM Evaluation Plan	0.05		Immediate	
Total	1.4	$68,000		

Note: 1.4 FTE staff time covered through UrbanTrans contract

**Immediate, Short-term (2-3 years), medium term (4-5 years), long term (6 years plus). Specific timeline to be developed in consultation with the DMC Transportation Plan*

***In the case of a study, mode shift impacts are based on an assumption that the study would result in implementation of the study recommendations.*

****Maximum monthly cost based on a revenue guarantee of $1,500 per month per car for four cars*

Chapter XIV

Development Regulations to Support TDM

XIV. Development Regulations to Support TDM

Background

The City of Rochester is seeking to implement TDM requirements for new developments within the Destination Medical Center District Parking Overlay Zone (DMC), as well as citywide, that support the city's goals of achieving a modal shift from driving alone, maximizing investment in multimodal transportation infrastructure, assuring a walkable and vibrant downtown, and maximize the potential for economic development by mitigating traffic impacts and incentivizing the use of non-single occupant vehicle (SOV) travel modes.

Guiding Principles – DRAFT

TDM requirements were developed using the following guiding principles identified by the city:

- Requirements shall build on the interim requirements adopted for the Destination Medical Center District Parking Overlay Zone.
- Requirements shall support shifting from a focus on parking to proposed access management requirements.
- Requirements and the application and approval process shall be clear and allow for easy compliance by developers and easy tracking and management by city staff and/or the transportation management association (TMA).
- Requirements shall distinguish between new developments in the DMC and the rest of the city, commercial and residential developments, and small and large developments.

Interim Requirements

Rochester recently adopted interim TDM regulations as part of a Destination Medical Center District Parking Overlay Zone, which amends Section 63.400 Off Street Parking Provisions of Chapter 63 of the Rochester Land Development Manual. Section 63.429 requires any new development or redevelopment project located within the boundary of the Destination Medical Center District Parking Overlay Zone that contains more than 15,000 square feet or additional commercial gross floor area or more than 50 residential units to prepare a Travel Demand Management Plan (TDMP) that identifies measures to minimize the vehicular transportation impacts of the development on parking and roadway infrastructure in the district. The section lays out TDMP submission processes as well as requirements for plan content. A list of optional physical design measures and operational TDM measures is provided, but at a minimum, the TDMP shall include the following measures:

A transit pass program offered to onsite residents and/or employees offered by the site owner and subject to independent agreement with the city.

One or more shared or community vehicles made available onsite for use by residents of a new residential development with an established procedure for use by residents. Minimum of one vehicle per 50 residential units.

On-site bicycle parking provisions of Section 64.427 Subd. 3(F), which require 1 bicycle parking spot per 10 auto parking spaces for medium-sized developments. Large developments shall provide bicycle parking at a rate of 1 bicycle parking space per 10 auto spaces for the first 50 auto spaces and 1 bicycle parking space per 20 auto spaces thereafter. In both cases, the minimum number of bicycle spaces is 10 and they shall be located within 100 feet of a primary building entrance along a walkway or within an abutting parking area connected to a primary building entrance via a walkway.

Components of Effective Developer TDM Regulations/Guidelines

As part of this study, the project team undertook a review of existing TDM requirements in other jurisdictions to understand their various elements and how they may be applicable to Rochester and to obtain lessons learned that can be applied to Rochester's TDM requirements. The review identified several important elements of an effective developer TDM program. The best practices are detailed in Appendix A and draw from six case studies that offer different models, but also many similarities, in their approach to encouraging or requiring new developments to consider and implement TDM strategies. Case studies were selected to include primarily small- to medium-sized cities with a significant workforce, cities in Minnesota and across the country, and a variety of approaches to encourage or require developers to include TDM measures. Information was obtained by reviewing applicable zoning codes, plans, and guidance documents, and through phone and email conversations with staff contacts. Important elements described below include applicability of requirements; measurable goals and metrics; required, encouraged or eligible TDM measures; duration of the requirements; application and review process; monitoring and compliance process; program evaluation and developer outreach; and communication and education.

The project team's "Task 5: Align Zoning and Parking Requirements with Growth and Mobility Vision" report describes the balance between parking and TDM components as the city moves from parking to access management requirements.

Applicability of Requirements

This refers to both the type and size of development for which a regulation is applicable as well as what triggers the requirement. In some cases, the trigger is based on the type (land uses) and size of the development. Requirements can also be triggered by the number of parking spaces a development is proposing, the number of peak-hour trips a development is expected to generate or if a rezoning application must be submitted. In addition, requirements can differ by type of land use, development size, location in or outside of special zoning or overlay districts or other factors.

Options

To avoid complexity, it is recommended to tie TDM requirements to an existing development-related threshold. Currently, there are several triggers in place that could be used as thresholds to determine what TDM requirements apply. They are based on development size and trip generation and include:

- Citywide: A Traffic Impact Study (TIS) is required for any proposed development of a land use type that has an average trip generation rate of 125 trips per acre per day or more and which will generate 750 average daily trips or more.
- Citywide: Code requirements for bike parking, accommodation of a transit stop, pedestrian and bicycle circulation and similar requirements follow a two-tiered structure:
- Residential and commercial developments on 1- to 5-acre sites and with buildings of 40,000 to 80,000 square feet
- Residential and commercial developments on more than 5 acres and buildings larger than 80,000 square feet
- DMC: Interim guidelines apply to commercial buildings 15,000 square feet or larger and residential buildings of 50 units or more. This being an interim guideline, the square footage and unit threshold could be revisited in the final regulations.
- Combination: Applicability thresholds could remain the same for new developments in the DMC (15,000 square feet of commercial or 50 residential units) and be tied to one of the existing citywide thresholds outside of the DMC.

While some communities tie TDM requirements to the number of parking spaces provided by a development, this approach would not be an ideal trigger for Rochester, as the city is actively encouraging a shift away from building parking.

Recommendation

It is recommended that the City of Rochester continue with the existing thresholds identified for the interim TDM regulations within the DMC and tie the citywide requirements to the requirement to prepare a TIS. This approach would allow the city to continue to monitor whether the thresholds are appropriate and provide continuity for projects within the DMC. Developments outside of the DMC would simply be required to add a TDM element to the traffic study they already have to prepare. Rather than having to create a new review process for projects outside of the DMC, TDM plan review by city staff would be incorporated into the traffic study review.

Figure 61 - Recommended Applicability Requirements

	DMC	Citywide (Outside DMC)
Commercial	15,000 square feet	When a TIS is required (750 ADT or average of 125 daily trips per acre)
Residential	50 residential units	

Integration with Access Management Requirements

Because TDM measures have the potential to reduce parking demand, they are sometime used as a bargaining tool to allow developers to build less parking than the minimum required by code. The city's move away from parking to access management requirements would allow developers to use bonus TDM measures, on-site parking and/or in-lieu fees to fulfill access management requirements. Bonus TDM measures - TDM activities that go beyond those required - would be selected by the developer to get credit towards access management requirements.

Recommendation

Identify a set of bonus TDM measures a developer can choose from to partially fulfill their access management requirements and assign point values based on impact on SOV travel. Integrate the bonus TDM values into access management calculations. Financial incentives or subsidies would be most suitable, as they typically yield the largest reduction in SOV travel.

Measurable Goals and Metrics

The most effective requirements are those that clearly specify measurable goals and metrics as part of the process. Typically, these include auto trip reduction goals, primarily during peak periods, or mode share goals. This component ties directly into the monitoring and compliance aspect discussed later.

Both the Rochester Downtown Master Plan (RDMP) and the DMC plan set a goal to reduce the share of single occupant vehicle work trips in the DMC/RDMP area by approximately 30% over the next 20 years (by 2040[12]). A corresponding trip reduction or mode share goal should be set for new developments. Goals typically apply to peak-period travel and vary by location (DMC/citywide, proximity to transit, etc.) and land use.

Options

- Establish peak period auto trip reduction goals for new developments in the DMC and citywide. Auto trip reduction goals are typically set as a percentage below ITE auto trip generation rates or, if available, locally adjusted auto trip generation factors. Goals should be set to help achieve the established auto trip reduction goals mentioned above. Auto trip reduction goals will require periodic monitoring in the form of traffic counts or by conducting surveys of employees, residents and other project users. The best method likely depends on the project location, access, and land use type. Example:
    - Residential and commercial projects in the DMC: auto trip reduction goal of 30% below ITE rates
    - Residential and commercial projects outside of DMC: 5% below ITE rates

[12] http://www.rochestermn.gov/home/showdocument?id=7437

- Establish mode share goals for the DMC and citywide, ideally for all trips, not just peak period trips. Instead of focusing on the number of trips, mode share can be used as a measure of progress. Being able to measure progress on mode share, a baseline needs to be established and may be available from city-wide or DMC-wide travel survey. The key metric would be the percentage of single-occupant vehicle. Example:
    - Residential and commercial projects in the DMC: mode share goal of approximately 30% below existing DMC SOV mode share.
    - Residential and commercial projects outside of DMC: 5% below citywide SOV mode share.

How goals and metrics are tracked and enforced is dependent on the TDM program set-up. The City of Rochester can either develop an outcome-oriented or a prescriptive program or a combination of both:

- An outcome-oriented program sets trip reduction or mode share reduction goals for projects depending on location and other factors and then gives developers the freedom to implement any TDM programs and services they deem necessary to achieve those goals. Tracking requires traffic counts and/or surveys to be able to measure whether goals are achieved. Case study examples include the City of Cambridge and Fairfax County.
- A prescriptive program requires developers to provide a set of programs and services, identified by the city. The city can mandate implementation of specific programs or allow the developer to select programs from a checklist of options as long as a certain minimum number is reached. Tracking requires that developers report implementing a set of TDM measures. In this scenario, trip or mode share reductions are not tracked on a regular basis, which means that good estimates of potential trip reductions by program are needed to develop the required and/or optional TDM programs and services to choose from. The City of Boulder's program provides an example of a prescriptive approach.
- A TDM program could include prescriptive and elective elements, for example, it could mandate certain site requirements and allow the developer to choose any programmatic measures that would allow them to reach their goal. Another option is to employ an outcome-oriented approach within the DMC and a prescriptive approach outside of the DMC to simplify the process.

Recommendation

Because the city has identified mode share goals for the DMC, staff recommends using mode share, specifically the share of SOV travel, as a measure to track progress, set goals and to gauge success. The percentage reduction goal for developments within and outside the DMC should be informed by modeling results and ensure that new developments will contribute proportionately to the overall mode share goals set for the DMC and citywide.

The consultant team recommends further analysis and stakeholder involvement to determine which program set-up would work best in Rochester.

TDM Measures

Measures required in a TDM plan typically fall into two categories: TDM supportive infrastructure/site requirements and TDM program requirements. The former includes items such as secure bicycle parking, preferential carpool/vanpool parking spaces, a site design that ensures that it is easy to both access and navigate the site by walking, cycling, and using public transit, or similar features that are incorporated into the physical design of the development to support the use of non-SOV transportation. Programmatic measures include providing transit passes, carpool, bike share or similar subsidies or incentives to residents or employees of the site; promoting or offering carpool matching; marketing transportation options and/or joining and actively participating in a transportation management association.

Options

- Site requirements (TDM supportive infrastructure)
    - Code compliance (bike parking, etc.)
    - Additional site requirements can include: showers/lockers, sidewalks and other pedestrian infrastructure improvements beyond basic requirements, kiosk/transit screens or similar, pedestrian scale lighting, wayfinding, EV charging stations, dedicated carpool/vanpool and carshare parking, bikeshare, off-street delivery zones, TNC drop-off areas, on-site childcare, and other applicable on-site amenities

- TDM Program requirements and/or electives
    - Minimum requirements should ensure that the City has the ability to communicate with the current and future owners and managers of the property to monitor progress and evaluate success. They also ensure that programs are coordinated with related transportation goals (such as parking) and support a DMC TMA. Programmatic requirements can include:
        - Dedicated transportation coordinator/TMA contact
        - Some level of access to employees/residents for promotion of alternative travel options and programs (e.g., hosting events and commitments to distribute emails and printed materials)
        - Participation in/access to employees/residents for surveys or other monitoring/evaluation efforts
        - Demonstrated parking management (shared, unbundled, managed access, paid parking)
        - TMA membership (DMC)
    - Additional TDM program elements can include:
        - Financial incentives and subsidies, such as transit pass subsidies, parking cash-out, bikeshare subsidies, carshare subsidies and carpool incentives
        - Provision of (or contribution of funding towards): shuttle service, guaranteed ride home, on-site bikeshare and car share, and ridematching

    - Certain TDM measures can be designated as suitable bonus TDM measures to be implemented in lieu of on-site parking and to fulfill access management requirements. Financial incentives or subsidies would be most suitable, as they typically yield the largest reduction in SOV travel[13] .
- City assistance selecting appropriate infrastructure and programs can include:
    - List of approved measures to choose from to reach trip reduction or mode share goal
    - Checklists and/or spreadsheet or online tools to assist with compliance. This could include a point system based on expected trip reduction impact.

Recommendation

It is recommended that the city establish minimum requirements as identified above (code compliance for site requirements and minimum TDM program requirements) and allow developers freedom in reaching their goal through the selection of additional TDM measures appropriate to the project site and tenant mix. Developers should also be able to propose additional TDM measure to partially fulfill their parking and access requirements. Depending on the final program set-up that is selected, resources should be developed to facilitate the process for both developers and city staff.

Application and Review Process

Integrating TDM requirements as much as possible into existing processes ensures that they do not get overlooked and minimizes the burden on both developers and city staff. A developer should easily be able to determine what the requirements are, how to comply with them, how to be involved in monitoring and what the repercussions of noncompliance are. This can be accomplished by providing checklists, spreadsheets or online tools, and clear and concise documentation.

Recommendation

The interim DMC parking regulations require the TDM plan to be submitted with the TIS or as a stand-alone plan when no TIS is required. It is recommended that this will be extended as a citywide requirement of a TIS (61.520-529)[14] .

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13 See "Task 5: Align Zoning and Parking Requirements with Growth & Mobility Vision" for further detail.

14 Currently, TDM measures already play a role in the Traffic Impact Study process in cases, where the study does not indicate the desired service levels.

Monitoring and Compliance Process

The monitoring and compliance process is critical to the success of any TDM requirements for new developments. Best practices show that the impact of a developer TDM program is correlated with the extent to which it is monitored and enforced. TDM supportive infrastructure can be a prerequisite for issuing a certificate of occupancy, while a new monitoring and compliance process likely needs to be developed for programmatic requirements. Last, some sort of penalty should be considered for non-compliance. This could include fines, permit revocation, withholding of a financial guarantee paid upfront or similar deterrence. Best practices have shown that the threat of a penalty is typically enough to gain compliance.

Options

- TDM supportive infrastructure can be verified by city staff prior to issuing a certificate of occupancy.
- Establish periodic reporting of progress towards established goals, ideally annually. The process should be simple, standardized and manageable for both developers and city staff.
- Establish a financial guarantee a developer pays upon issuance of the certificate of occupancy. The guarantee will be forfeited and put towards the DMC TMA and/or a citywide TDM program should the developer fail to achieve the mandated trip reduction/mode share goals and/or to implement agreed upon TDM programs.
- Establish a compliance process that includes escalating penalties for failing to comply with reporting requirements and failing to achieve goals. The process could begin with a warning and end with a financial penalty.

Recommendation

In addition to verifying infrastructure requirements prior to issuing the certificate of occupancy, it is recommended that the city establish a simple, but effective monitoring and reporting process and a compliance process that includes escalating fines for non-compliance and for not achieving established SOV goals. Penalties have been identified as more effective than financial guarantees, as those are typically wrapped into overall project cost estimates and assumed to be forfeited. As shown in the case of the City of Cambridge, the threat of a significant financial penalty is typically enough to obtain compliance.

Program Evaluation

While the monitoring and compliance process ensures that individual developers comply with their requirements, an overall program evaluation is used to measure the overall impact of the developer TDM program. The goals and metrics identified have an influence on the best methods for collecting data for program evaluation. Depending on the project location and type, trip reduction can be measured with traffic counts, while mode share typically requires surveys. In some cases, both are needed to obtain accurate data. Additional data that could be collected to inform future

policy decisions include utilization of bicycle parking spaces, carpool/vanpool parking and parking in general.

Options

- Traffic counts can be used to determine trip generation for projects that have their own vehicular access and do not share parking facilities.
- Because some of the current parking supply and much of the parking supply envisioned for the DMC in the future is in shared facilities (potentially both on-site and off-site), it may not be practical to measure trips and trip reductions by counting vehicle trips to and from the new development. In those cases, utilization of assigned parking spaces may be one way to determine vehicle trips serving a development.
- Travel surveys can also be used to determine the number of vehicle trips serving a development, to supplement traffic count data or to collect other information that may be used to inform TDM programming and transportation planning in general. Travel surveys can be conducted on a project by project basis or DMC or citywide to determine the overall impacts of the program, though the latter would make it more difficult to tie results directly to the program.

Recommendation

Building periodic travel surveys and reporting into the compliance and monitoring process would ensure that results can be accumulated and assessed at the DMC and citywide level and used to determine the overall success of the program in achieving mode share goals.

Developer Outreach, Communication and Education

Involving developers in program design is an effective way to improve the program, ensure that it meets the developers' needs, achieve buy-in and increase compliance in the long run. This can be achieved in a variety of ways, including workshops, focus groups, one-on-one interviews and online engagement tools[15].

Once the TDM requirements are ready to be implemented, the following have proven useful in obtaining compliance:

- Developer education, such as how-to workshops, webinars, one-on-one assistance
- Program documentation about the requirements, program standards, processes, tools and expected benefits. These could include:
    - Online and printed program information

[15] The City of San Francisco credits much of its successful launch and implementation of its new developer TDM requirements to the extensive outreach that was conducted.

- Tools developers can use to determine TDM requirements and compliance options
- Guidance and standards for compliance reporting, including survey instruments, standardized forms

Recommendation

The city should conduct an outreach process to obtain feedback on program set-up details, as those could significantly affect compliance. Once requirements have been finalized, clear and concise program documentation should be prepared and other resources and tools should be developed as needed based on the format and requirements of the final program. Once the program is underway, feedback from developers on the local effectiveness of different TDM measures should be collected periodically to inform future adaptations to the program.

Duration of TDM Requirements

TDM supportive site requirements can be verified prior to issuing a development's certificate of occupancy and are more likely than TDM programs to remain in place if building ownership or management changes.

Requirements for TDM programs are sometimes limited to a certain time period following occupancy, however, the most effective programs require ongoing TDM programming for the life of the development. For programmatic requirements to be successfully implemented and maintained over time, two precautions should be put in place:

- Requirements should be tied to the property and transfer with ownership.
- Requirements should be clearly communicated to property managers and employer tenants and ideally be included in lease agreements.

Recommendation

All of the following are recommended to ensure that TDM program benefits endure throughout the life of a project:

- Include any programmatic TDM requirements as covenants or deed restrictions of the property.
- Require that applicable TDM requirements are included in lease agreements.
- Require that a current contact is on file with the city at any given time.

TDM STRATEGIES SUMMARY

TDM strategy recommendations have been divided into the following categories:

- Parking policies
- Small-scale infrastructure improvements
- Active transportation programs

- Bus programs
- Shared mobility
- Education
- Developer-focused policies
- Implementation

The success of the recommended programs, incentives, and infrastructure improvements will be dependent on the implementation of a strong TDM delivery structure and associated educational efforts.

Parking Policies

Parking policies can have a significant effect on travel behavior. The following recommendations are initial and will require further review as the parking study advances and associated recommendations are developed.

- Strategy: Expand carpool parking incentive to all municipal ramps
- Strategy: Provide support for parking cash out programs
- Strategy: Move from monthly to daily parking charges
- Strategy: Leverage ramp loss
- Strategy: Include mobility hubs into Transit and Parking plans
- Strategy: Integrate park and bike program into park and rides

Small-Scale Infrastructure Improvements

TDM strategies typically exclude infrastructure investment except for smaller-scale and low-cost investments that encourage the use of transit and active transportation. The following recommendations are intended to be low-cost investments.

- Strategy: Include walking times with wayfinding
- Strategy: Encourage employers and building owners to provide end-of-trip facilities

Active Transportation Programs

Biking and walking are increasingly popular modes for employees to get to work and employers can increase support for these modes by offering additional amenities. The following recommendations can to be implemented at specific sites and/or throughout downtown.

- Strategy: Subsidize bikeshare memberships
- Strategy: Create bike loans and discounted bike purchase programs

Bus Programs

Successful bus-focused incentives and education programs can significantly increase the rate at which commuters ride transit. Their success is even greater when integrated with service improvements such as those being planned by the city.

- Strategy: Encourage employers and building owners to add real-time transit displays
- Strategy: Study an employer transit pass program

Shared Mobility

Shared mobility is a group of strategies that reduce dependence on the single occupant automobile. They tend to be technology and infrastructure focused. Some strategies previously mentioned, such as bikeshare, or that will be incorporated into other sections of the DMC Transportation Plan, such as expansion of public transit, are shared mobility strategies. Additional core shared mobility strategies that Rochester should consider include:

- Strategy: Facilitate Carsharing downtown
- Strategy: Study a mobility pass program
- Strategy: Dedicate street space for shared mobility vehicles

Education

The successful implementation of the recommended strategies will be dependent on an effective education program that utilizes technology and in-person outreach. The goal of the education program is to increase awareness and use of available travel modes, incentives, and programs.

- Strategy: Assure the availability of a travel planning tool
- Strategy: Conduct educational workshops/events
- Strategy: Incorporate TDM communications into overall city communications
- Strategy: Conduct bike education classes
- Strategy: Use virtual reality to educate about biking and taking transit to work
- Strategy: Create and distribute new employee travel kits
- Strategy: Create and distribute new resident travel kits
- Strategy: Develop materials and training to promote living near work

Developer Policies

New developments provide an opportunity to incorporate TDM infrastructure as well as programs to encourage the use of alternative transportation options. Incorporating infrastructure elements early on into the design and construction of buildings and parking facilities greatly reduces the cost and allows them to be integrated into total project costs for financing purposes. The provision of TDM infrastructure and services reduce vehicle trip impacts and parking requirements.

The recommendations in this section are preliminary and will be further refined as part of a separate study effort specific to developer TDM regulations and results of recently enacted TDM requirements.

- Strategy: Encourage the installation of infrastructure that supports TDM and non-auto travel
- Strategy: Encourage parking management
- Strategy: Provide free transit passes
- Strategy: Encourage participation in a TMA or similar organization

Each of the recommended TDM strategies noted above are described in more detail in this report and in various supporting documents provided in the report appendices.

Chapter XV

TDM PILOT PROGRAM

XV. TDM Pilot Program

To test the TDM strategies and develop support for the TDM delivery model, a pilot TDM program was conducted. The pilot included the City of Rochester's city hall employees and employees of HGA Architects. The pilot program identified an employee transportation coordinator who implemented the program at each employment site. A site analysis and employee commute survey was conducted at each employment site. Urban Trans developed commute options for each employment site, including employer policy changes, recommended incentives and TDM strategies. Each employment site had a week-long campaign to incentivize employees to use an alternate commute mode. Employees pledged to try a commute mode and receive incentives based on commute mode. Employees recorded how they travelled each day during "Try-It Week." "Try-It Week" employees were encouraged to maintain their new commute behavior for 8 weeks.

City of Rochester had 103 participants, with 215 non-drive alone trips logged during "Try-It" week. HGA had 11 participants with 39 non-drive alone trips logged. Alternate transportation modes were carpool, bike, walk and transit.

Of those that agreed to maintain their new commute behavior for 8 weeks:

- 75 staff logged at least one non-single occupancy vehicle (SOV) trip
- 937 non SOV trips logged
- 15 employees logged 10-20 trips
- 16 employees logged 20-30 trips
- 6 employees logged 30+ trips

Lessons learned include:

- Commuters are interested in alternatives
- Incentives are vital
- Trip planning information, especially for transit, is important
- Trip tracking technology will allow for less resource intensive campaigns

The TDM pilot program led to the formation of a new Transportation Management Association, which was launched in late 2017. The TMA will be branded as "ARRIVE ROCHESTER" and UrbanTrans will continue to oversee the TMA's development through 2018.