

Brown's Square

Circulation, Accessibility, & Parking Study

City of Rochester, NY



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Planning Group

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planning & design

Final Report
November 2010

Brown's Square Neighborhood

Redefining the Pedestrian Realm

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Brown's Square Neighborhood

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STUDY PURPOSE/ OBJECTIVE: The purpose of the Brown's Square Circulation, Accessibility & Parking Study is to develop feasible transportation planning and design concepts that will improve circulation, accessibility, and parking for pedestrians, bicyclists, and motorists. This plan will aid officials in guiding future development in such a way as to achieve a balance among modes of transportation and land uses and to promote Brown's Square's goals as stated in its Neighborhood Plan.

STUDY AREA: The study area is bounded by Lyell Avenue and White Street to the north, I-490 to the South, the Genesee River to the east, and Orchard Street to the west. Within these boundaries there are two thriving sports venues, the Soccer Stadium and Frontier Field, as well as the historic High Falls district.

COMMUNITY ENGAGEMENT PROCESS: Public input is a critical component of any neighborhood plan. Resident's opinions provide invaluable insight and information. A public workshop was held on July 21, 2009, at which time the consultants provided an overview of Transportation, Land Use, Streetscape Planning and Urban Design concepts. The group provided valuable insight on how they would like Brown's Square to look and feel. A second public meeting was held on May 18, 2010 to present the recommendations of the study to the residents of Brown's Square.

COMMUNITY OBJECTIVES: The information gathered at the public meeting has proven to be instrumental in identifying transportation, land use, and urban design related issues, opportunities, and the potential for improvements throughout the neighborhood. This study employs several guiding principles tailored to the unique challenges faced by Brown's Square. These guiding principles are:

- Enhance the pedestrian experience along major pedestrian routes
- Enhance parking facilities to better integrate with the neighborhood
- Construct gateways to announce the arrival to Brown's Square, and
- Focus on the Brown's Square neighborhood by building on its strengths

Land Use & Regulatory

RECOMMENDATIONS: The existing industrial uses within the study area create an inconsistent streetscape and serve as a barrier between the neighborhood to the west and the destinations to the east. The neighborhood should require more refined level of design for industrial uses in the area. The City may want to consider a long term strategy that includes the relocation of the industrial uses along Oak Street to areas outside of the neighborhood and the re-





RECOMMENDATIONS: (CONTINUED)

zoning of the industrial district along Oak Street. It is recommended that the area be zoned for and developed with higher density residential or mixed use.

Streetscape and the Pedestrian Realm

It is recommended that future improvements to any street within the Brown's square neighborhood be consistent with the character objectives and guidelines as outlined in the Center City Master Plan. The 2003 Center City Master Plan includes a street typology section with recommended cross-sections and treatments. The Plan includes five street designations; neighborhood street, district street, city street, Main Street, and boulevard. Using these designations as described in the Center City Master Plan, each street within the study area was mapped and is shown in the graphic to the right. Refer to page 54 for a larger map.



Celebrate the Neighborhood

Develop a unique neighborhood theme based on historic and existing assets and celebrate it through design and promotions. The process to develop the theme should be collaborative and include residents, business owners, City staff, and other neighborhood stakeholders. The theme should identify and utilize the unique neighborhood attributes and could include design features such as signs, plaques, banners, lights, etc. Preliminary ideas to consider in developing a theme include:

- Brown's Square Park
- Irish heritage
- Erie Canal
- Kodak
- Zweigel's
- Frontier Field and the Soccer Stadium
- Others



Executive Summary

RECOMMENDATIONS: (CONTINUED)

Develop Oak Street as an Attractive and Pedestrian Friendly Neighborhood Connector

Oak Street was identified in the Brown's Square Neighborhood Plan and by participants at the Design Workshop as an important pedestrian link between the High Falls District, Frontier Field and the parking areas around it, and the Soccer Stadium. Although community members stated that they do not want sports to be the dominating theme for Oak Street they do want an attractive, pedestrian friendly urban neighborhood street with street trees, pedestrian scaled lighting, well defined crosswalks, street furniture, and thematic design features indicative of the Brown's Square neighborhood. They also want multi-story buildings that engage the street and parking areas located in the rear or side yards. There is also a desire for residential uses either as a component of mixed-use buildings or high density residential, such as row or townhouses (see land use recommendations on page 51 for further details).



Public Transit

To maximize ridership and user experience, public transit should be as accessible as possible to visitors and residents of Brown's Square. Transit stops should be clean, properly located, and visually identifiable. Upgraded or custom transit shelters should be considered at identified neighborhood gateway locations and other high volume nodes.



Example transit shelter



RECOMMENDATIONS: (CONTINUED)

Re-align Dewey/Broad

There are two ways in which Dewey and Broad can be re-aligned to create a single four-way intersection as opposed to offset “T” intersections. Option A would involve shifting the alignment of Dewey to the west to meet the existing Broad/Lyell intersection. Option B requires a shift in the alignment of Broad St to the east to align with the existing Dewey/Lyell intersection. Planning level analyses indicate that both options are feasible, however, a more detailed engineering study is required to determine how well either option would operate. At the current time, Option A is the preferred alternative of the City.



Saratoga & Verona Improvements

Streetscaping and other traffic calming improvements are planned for Saratoga Avenue and Verona Street to address the residents’ concern about high travel speeds and improve the general safety and aesthetic of the residential neighborhoods. The improvements will include three mid-block curb extensions and intersection curb extensions on Saratoga Avenue at Smith Street. It is advised that the recommendations from the Monroe County Pedestrian Safety Study (2003) be implemented along with the traffic calming and streetscaping measures on Saratoga and Verona. This would include the installation of high visibility crosswalk markings on the eastbound approach to the Lyell/Spencer intersection.

Convert One-way Streets

Conversion of one-way streets back to two-way operation is feasible based upon a preliminary assessment of capacity. Consideration should be given to converting some (or all) of the one-way streets to two-way, including Morrie Silver Way, Brown Street, Plymouth Avenue, and Verona Street between Jay Street and Morrie Silver Way. The streets no longer require the additional capacity granted by the one-way streets and the conversions would result in reduced speeds and possibly narrower crossing widths for pedestrians if it is determined that lanes can be removed for the installation of curb bumpouts. This alteration will improve wayfinding and make the neighborhood more navigable. A follow-on study that includes more detailed and comprehensive safety and operational investigations will be required to advance this recommendation.



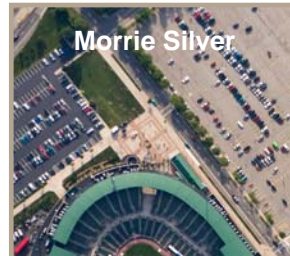
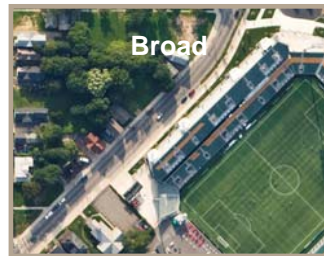
**RECOMMENDATIONS:
(CONTINUED)** **School #5**

Abandon the section of Verona Street adjacent to School #5 to allow the school to reverse the one-way direction and provide better circulation for school buses. This way, buses can be staged adjacent to the school without impeding the flow of traffic. This addresses resident concerns regarding bus staging on side streets.

Traffic Calming

The Steering Committee, guided by resident input, has identified 4 key roadways with perceived speeding issues. These include Broad Street adjacent to the Soccer Stadium, Plymouth Avenue adjacent to Frontier Field, Morrie Silver Way adjacent to Frontier Field, and State Street adjacent to the High Falls Garage. Speed studies at these locations have confirmed that 85th percentile speeds are 5-10 mph higher than the posted speed limits. It is therefore recommended that these locations be considered for traffic calming and pedestrian realm enhancements to improve the safety and enhance the comfort of pedestrians.

Applicable treatments include the provision of curb bump-outs, median refuge islands, raised crosswalks, textured pavement, painted intersection treatments, lane striping, and raised intersections. Ultimately, the goal is to slow down traffic, which will contribute to the success of the neighborhood as a pedestrian-oriented environment.





RECOMMENDATIONS: (CONTINUED)

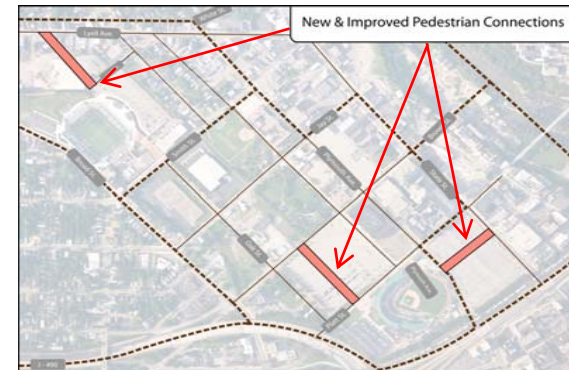
Gateway Treatments

The Brown’s Square neighborhood contains three major entertainment attractions: High Falls, Frontier Field, and the Soccer Stadium. Visitors and other through-going motorists should be “made aware” that they are entering a distinct and remarkable neighborhood. Unique gateway treatments would promote the neighborhood and serve to calm traffic. Gateway treatments can include a modern roundabout, a roadside sign, or an elaborate arch over the road such as the High Falls District sign on State Street. Potential gateway locations are depicted in Figure 28 on page 61.

Parking Utilization

According to field observations, the number of parking spaces in the area is more than adequate to support simultaneous events at both stadiums. The proximity, convenience and safety of parking deters patrons, not the availability of parking spaces. It may be beneficial to create new surface parking lots located in closer proximity to the Soccer Stadium. This would resolve issues related to parking proximity and perceived or real safety issues. In addition, new pedestrian linkages (see below) will displace existing parking spaces that could be replaced by new more proximate parking. Potential locations for new surface parking areas are shown on page 61.

Parking utilization can also be improved through wayfinding signage and improved pedestrian connections. Linkages to parking are also key to optimal parking utilization. Users must be able to conveniently walk from their parking space to their destination with the least amount of discomfort and effort. Pedestrian linkages should be provided through the Kodak parking lot between the High Falls garage and Frontier Field as well as to the north of the Soccer Stadium connecting the Stadium to Lyell Avenue via Oak Street. In addition, the possibility of providing shuttle bus service should be explored as a coordinated effort for both stadiums. Additional wayfinding signs should be located throughout the neighborhood as shown on the map in **Figure 31** on page 62.



**RECOMMENDATIONS:
(CONTINUED)**

Bicycling Connections

To make the neighborhood more accessible to non-motorized roadway users and increase resident opportunities for recreation, Brown's Square should feature strong connections to the Genesee River Trail, which runs north/south directly through Center City. Bike lanes/space (depending on available width) should be provided on Jay Street and Vincent Street to connect the stadium to the Genesee River Trail at Smith and Vincent Streets. Jay Street is a major spine throughout both Brown's Square and JOSANA (Jay Orchard Street Area Neighborhood Association) and can provide a necessary linkage for residents between neighborhoods and local attractions.

The map below shows locations for existing and proposed bicycle parking. The symbols on the map correspond to different types of bicycle parking shown below.

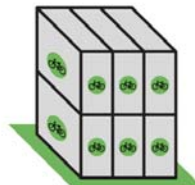


Intended for short term storage periods between 2-4 hours, generally uncovered and unsupervised. Relatively inexpensive.



\$100-300 per unit
(parks 2 bikes)

Bike Rack



Intended for long term or all-day storage periods, generally lockable and secure from theft and the elements

\$1,000-4,000 per unit
(parks 2 bikes)

Bike Locker



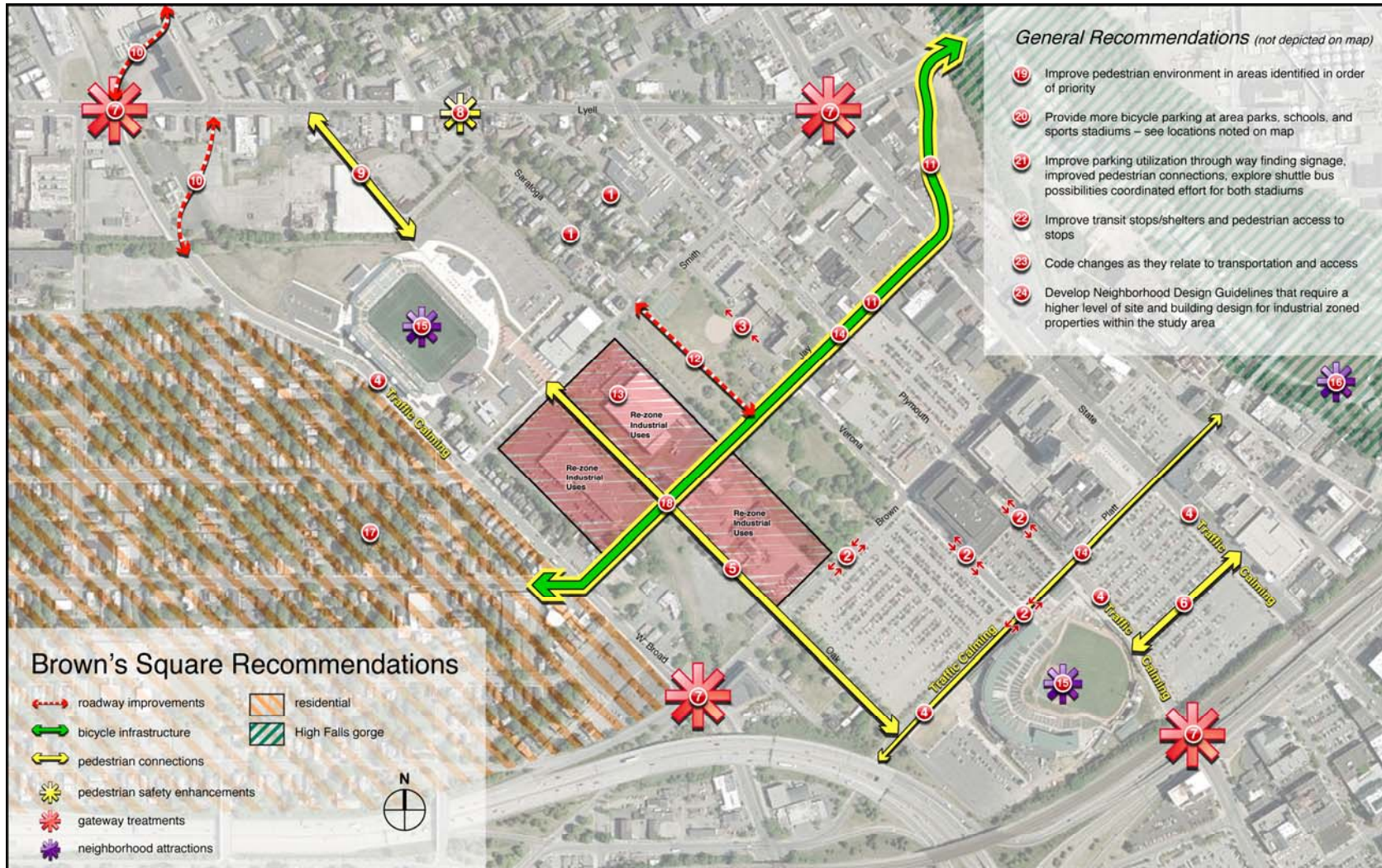
Intended for long term storage periods between 4-10 hours, desirable in festival/pedestrian oriented areas

\$ variable depending on design

Bike Shelter



Executive Summary



- General Recommendations** (not depicted on map)
- 19 Improve pedestrian environment in areas identified in order of priority
 - 20 Provide more bicycle parking at area parks, schools, and sports stadiums – see locations noted on map
 - 21 Improve parking utilization through way finding signage, improved pedestrian connections, explore shuttle bus possibilities coordinated effort for both stadiums
 - 22 Improve transit stops/shelters and pedestrian access to stops
 - 23 Code changes as they relate to transportation and access
 - 24 Develop Neighborhood Design Guidelines that require a higher level of site and building design for industrial zoned properties within the study area

Brown's Square Recommendations

- roadway improvements
- bicycle infrastructure
- pedestrian connections
- pedestrian safety enhancements
- gateway treatments
- neighborhood attractions
- residential
- High Falls gorge

- 1 Streetscaping on Saratoga & Verona (planned construction spring 2010)
- 2 Convert streets to two-way (additional study required)
- 3 Reverse the one-way direction of Verona Street adjacent to School #5
- 4 Address speeding issues with traffic calming treatments and ped. enhancements
- 5 Strengthen pedestrian connection between the sports stadiums
- 6 Provide a pedestrian linkage through the Kodak parking lot
- 7 Provide gateway treatments
- 8 Install identified ped. safety improvements from MCDOT Ped Safety Study.
- 9 Strengthen the pedestrian connection between the soccer stadium and Lyell
- 10 Re-align Broad Street with Dewey Ave (two options, study required)
- 11 Provide bike lanes on Jay and Vincent to connect to Genesee River Trail
- 12 Extend Saratoga Ave between Jay and Smith St. (Neighborhood Plan)
- 13 Relocation of industrial uses on oak and re-zoning of industrial district
- 14 Strengthen pedestrian connections
- 15 Leverage the sports stadiums
- 16 Leverage the assets of the High Falls gorge
- 17 Strengthen connections between residential areas and the neighborhood
- 18 Strengthen Oak St/Jay St node



IMPLEMENTATION & FUNDING:

Implementation of the proposed recommendations is subdivided into three categories: immediate to near term (0-5 years), medium term (5-10 years), and long term (10-20 years). Many of the Immediate to Near Term recommendations can be implemented as part of ongoing maintenance and other programs while others in this phase of implementation are either relatively low cost modifications or funding for these types or improvements may be available. Medium Term recommendations require more planning and funding to implement and can likely be accomplished in the 5 to 10 year timeframe. The Long Term recommendations are generally more expensive and are likely to require significant planning to implement. It is noted that the longer timeframes may more closely align with typical timeframes of regional programs in the Transportation Management Area used for programming funding. Specific improvements may be made sooner as funding becomes available. Opportunities for funding and a description of the funding sources that are available are included in the final section of the full report.

Example Short Term Recommendations

- Strengthen pedestrian connection between the sports stadiums via Oak St through use of streetscape improvements, wayfinding, and thematic design features
- Improve transit stops/shelters and pedestrian access to stops
- Provide more bicycle parking at area parks, schools, and sports stadiums –
See locations noted on map

Example Medium Term Recommendations

- Re-align Broad St with Dewey Ave
- Provide bike lanes on Jay St and Vincent St to connect to Genesee River Trail at Vincent and Smith Streets.
- Extend Saratoga Ave between Jay and Smith Streets (as illustrated in the Draft Neighborhood Plan)

Example Long Term Recommendations

- Consider a long term strategy that includes the re-locat-ion of the industrial uses along Oak St to areas outside of the neighborhood and the re-zoning of the industrial district along Oak St to support higher density residential and commercial uses



COST ESTIMATES: The costs associated with many of the immediate to near term recommended improvements are relatively low and inexpensive. A number can be implemented with little or no cost, (e.g. enhanced crosswalk striping, landscaping, furnishings, wayfinding elements), while other recommendations require a more significant infrastructure investment. The cost for these as well as the for more substantial improvements such as the recommended Saratoga Avenue Extension were estimated based upon recent bid prices for comparable elements.

| RECOMMENDATIONS | PLANNING LEVEL COST ESTIMATE |
|--|------------------------------|
| | |
| Furnishings: | \$15,700 |
| Landscaping: | \$37,200 |
| Gateway Treatments, Wayfinding Signs, and Wayfinding Kiosks: | \$36,000 |
| Raised Crosswalk, Enhanced Crosswalks, and Curb Extensions: | \$570,000 |
| Re-stripe Jay Street with Bike Lanes: | \$250,000 |
| New Transit Shelters (4): | \$32,000 |
| Pedestrian Linkages (Kodak lots & North Oak St): | \$5,000 |
| Reverse One-way Direction of Verona (School #5 block): | \$10,000 |
| Construct Saratoga Avenue Extension: | \$300,000 |
| Develop Neighborhood Design Guidelines: | \$15,000 |
| Develop SRTS Plans for Schools #5 & #19: | \$10,000 |
| Conduct detailed analysis of Dewey/Broad Re-alignment Options: | \$10,000 |
| Study feasibility of One-way Street Conversions: | \$30,000 |
| Study feasibility/desirability of Roundabout at Broad/Morrie Silver: | \$10,000 |
| Total: | \$1,330,900 |



I. Introduction

Brown's Square Park



Creating walkable, livable communities requires a good mix of land uses and a high degree of street and route connectivity. When possible, pedestrians and motorists should have route options when trying to reach their destinations. There are opportunities in the Brown's Square neighborhood to create strong, identifiable connections within the neighborhood to all activity centers including the Genesee River. Connections to Center City, the Susan B. Anthony Neighborhood, and other destinations outside the study area are equally important. Connections must be carefully evaluated based on criteria such as users, origins, and destinations.

The quality of the public realm contributes to the overall economic and social well-being of a community. Streets and other public spaces must be attractive, safe, and function effectively. This study carefully evaluates the existing public realm experience and develops a framework for which to make enhancements that balances the needs of all users. Developing a thriving urban neighborhood is complex and inextricably linked to many functions and factors. Land use and transportation components must be coordinated with good urban design elements.

This study employs several guiding principles tailored to the unique challenges faced by Brown's Square. These guiding principles are:

- Enhance the pedestrian experience along major pedestrian routes
- Enhance parking facilities to better integrate with the neighborhood
- Construct gateways to announce the arrival to Brown's Square, and
- Focus on the Brown's Square neighborhood by building on its strengths.



State St. north of Platt

High Falls



A. Community Background & Study Area Description

The Brown's Square Neighborhood is important to local and regional economic development because of its major attractions and entertainment venues. The neighborhood is facing challenges due to increased traffic and congestion. During major sporting and entertainment events large amounts of traffic create safety and accessibility issues along major and minor arterials as well as at intersections throughout the neighborhood. Pedestrian and bicycle circulation and safety associated with access from residential areas to the west, through the neighborhood, to the Genesee River and Gorge to the east, are of major concern. There is also a lack of clearly defined



I. Introduction



pedestrian and bicycle circulation paths throughout the neighborhood. The 2003 Center City Master Plan incorporates ideas for the Brown's Square Neighborhood, as well as general elements of good design and solutions for healthy, viable neighborhoods. The City's Sector 3 Neighbors Building Neighborhoods (NBN) Action Plan and a draft neighborhood master plan also outline a number of goals and strategies related to achieving a safe and friendly environment for pedestrians and bicyclists by improving access and circulation and enhancing the public realm and streetscape.

The Brown's Square Community derived its name from Francis Brown, one of Rochester's founders. He gave "the square" to the City in 1821, making it the first piece of land donated for a park in Rochester's history. Soon after, workers began to move into the area near the flour mills which lined the Genesee River in the High Falls and Brown's Race District. The neighborhood was an ideal location for industrial uses as a result of its proximity to the railroad to the south (now the inner loop) and the Erie Canal (now Broad Street). Brown's Square was historically a working class residential neighborhood that housed the local industrial developments' employees and their families. Centrally located, Brown's Square Park was a popular attraction for neighborhood children.

The Brown's Square neighborhood is centrally located in the heart of the City of Rochester, New York. Brown's Square's claims to fame are its rich history and beautiful sports stadiums. Brown's Square also features High Falls, a district showcasing nature's wonders as well as the industrial roots of the city. The location of Brown's Square, directly adjacent to the downtown core, makes it a prime location for entertainment (sports venues, High Falls), shopping (in the Lyell/State Urban Village district), and quality housing. The wealth of natural resources and recreational opportunities in the vicinity of the neighborhood makes it a desirable area for visitors and residents.

Throughout the years, the Brown's Square community has undergone a great deal of change. From a once thriving residential neighborhood to a magnet for industry, the neighborhood faces yet another transformation. Home to two major sports venues and many small businesses, the area is a prime location for revitalization efforts centered on integrating these venues into the existing neighborhood and increasing the residential population through a variety of housing choices.

Brown's Square is a diverse neighborhood composed mostly of dense residential and commercial uses. The neighborhood also contains two schools, and is anchored by two sports stadiums.

This study has categorized Brown's Square into 5 distinct districts, each featuring differing uses and character. Those districts are:

- **Brown's Square District**
- **High Falls District**
- **Lyell/State Urban Village District**
- **Lyell/Broad District**
- **School #17 Residential Neighborhood District**



Study Area



The city streets that border and bisect the neighborhood, Lyell, State, and West Broad, offer the opportunity to enhance connections amongst the neighborhood's destinations, strengthen the aesthetics of the neighborhood, and create a public realm for pedestrians to enjoy.

The study area is bounded by Lyell Avenue to the north, the Genesee River to the east (including the High Falls District), Interstate 490 & the Inner Loop to the south, and Orchard Street to the west.

B. Study Purpose and Process

The purpose of the *Brown's Square Circulation, Accessibility & Parking Study* is to develop feasible transportation planning and design concepts that will improve circulation, accessibility, and parking for pedestrians, bicyclists, and motorists. This plan will aid officials in guiding future development in such a way as to achieve a balance among modes of transportation and land uses and to promote Rochester's goals as stated in the Brown's Square Neighborhood Plan, as well as the city's Comprehensive Plan.

At the beginning of the study, a Steering Committee was formed to establish neighborhood priorities and pursue the neighborhood's plan with respect to transportation and community design. The committee has guided the study process, reviewed concepts, and acted as liaisons to the broader community. Members of the committee include city officials, representatives from the Neighborhood Association, local merchants and business owners, the school district Facilities Planner, and concerned residents. Other members include representatives from the New York State Department of Transportation (NYSDOT), Monroe County Department of Transportation (MCDOT), and the Genesee Transportation Council (GTC). GTC is the regional Metropolitan Planning Organization that is overseeing and administering the Brown's Square Circulation, Accessibility & Parking Study. They are responsible for the cooperative allocation of federal transportation monies for transportation-related projects, programs, and initiatives.



Purpose: To improve circulation, accessibility, and parking for pedestrians, bicyclists, and motorists.

Process:

Steering Committee

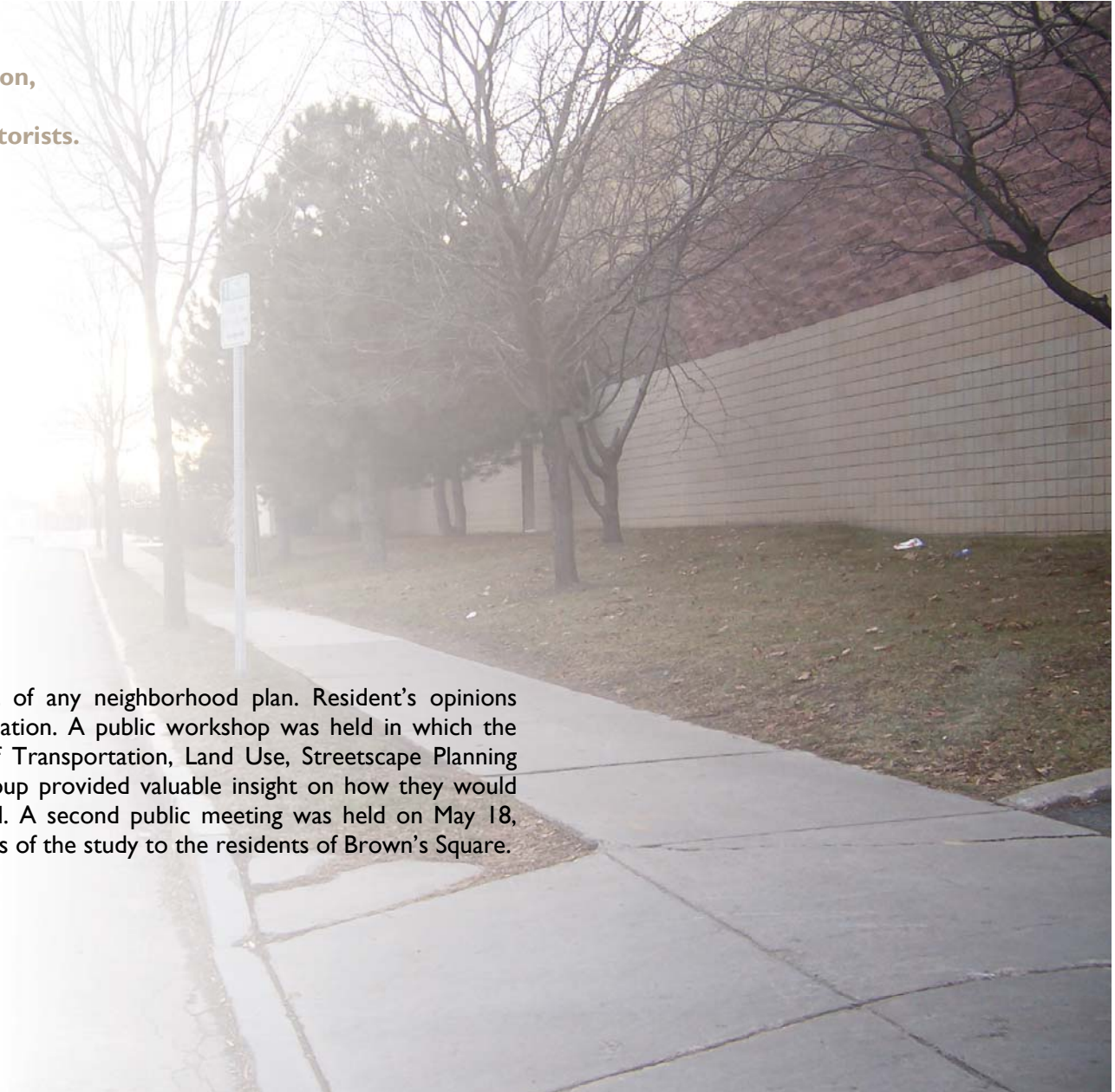
- **NYSDOT & MCDOT**
- **GTC**
- **City Officials**
- **Neighborhood Association**
- **Local merchants**
- **Concerned Residents**

Public Participation:

- **Public Workshop**
- **Planning Exercises**

PUBLIC PARTICIPATION

Public input is a critical component of any neighborhood plan. Resident's opinions provide invaluable insight and information. A public workshop was held in which the consultants provided an overview of Transportation, Land Use, Streetscape Planning and Urban Design concepts. The group provided valuable insight on how they would like Brown's Square to look and feel. A second public meeting was held on May 18, 2010 to present the recommendations of the study to the residents of Brown's Square.





A. Community Assets

Each of the five districts composing Brown's Square has its own unique identity and opportunities for growth, reinvestment, and revitalization

- Brown's Square District
- High Falls District
- Lyell/State Urban Village District
- Lyell/Broad District
- School #17 Residential Neighborhood District



Figure 1 - Five Districts of Brown's Square

The Brown's Square neighborhood is home to Kodak's world headquarters, Frontier Field, The High Falls District, numerous businesses, and more than a thousand City residents. A new soccer stadium was completed in June 2006 and the City Planning office completed a draft of a Brown's Square Community Plan in August 2006. The "Plan" was the result of a thorough analysis of neighborhood characteristics and looks to integrate the two stadiums into the neighborhood, leverage public expenditures through new public and private development, and improve the connectivity throughout the area while enhancing neighborhood aesthetics.

Five districts were delineated in an effort to preserve the unique characteristics present in each district. The Brown's Square District includes residential neighborhoods, industrial development, School #5 and Frontier Field. The High Falls District (including Brown's Race) is both historically and aesthetically significant while providing the area with a compact mixed use district. Residential housing is provided in the Lyell/State Urban Village District as well in the Lyell/Broad District which also provides retail uses and services to the neighborhood. The School #17 Residential Neighborhood consists primarily of single family homes.



II. Inventory & Analysis



Regional Attractions

Frontier Field, the minor league baseball stadium and home to the Rochester Red Wings is located within the Brown's Square district on Platt Street. The ballpark was built in 1996 and seats 12,000 people.

Frontier Field



The Soccer Stadium is just north of Frontier Field at the intersection of Smith and Oak Street, within the Lyell/Broad district. The stadium is the home field for the Men's and Women's Rochester Rhinos soccer teams and hosts various other sporting events. The field was completed in 2006, and has a capacity of 13,768 people. Oak Street is the major pedestrian route between the soccer stadium and Frontier Field.

Soccer Stadium



High Falls is an area of historic significance, as it was the site of some of Rochester's earliest industrial development in the early 1800s. It is now a vibrant district lined with offices, restaurants, and fantastic viewing areas of the waterfall. New loft residences and other developments are currently under way, providing evidence that the High Falls district is continuing to grow and flourish.

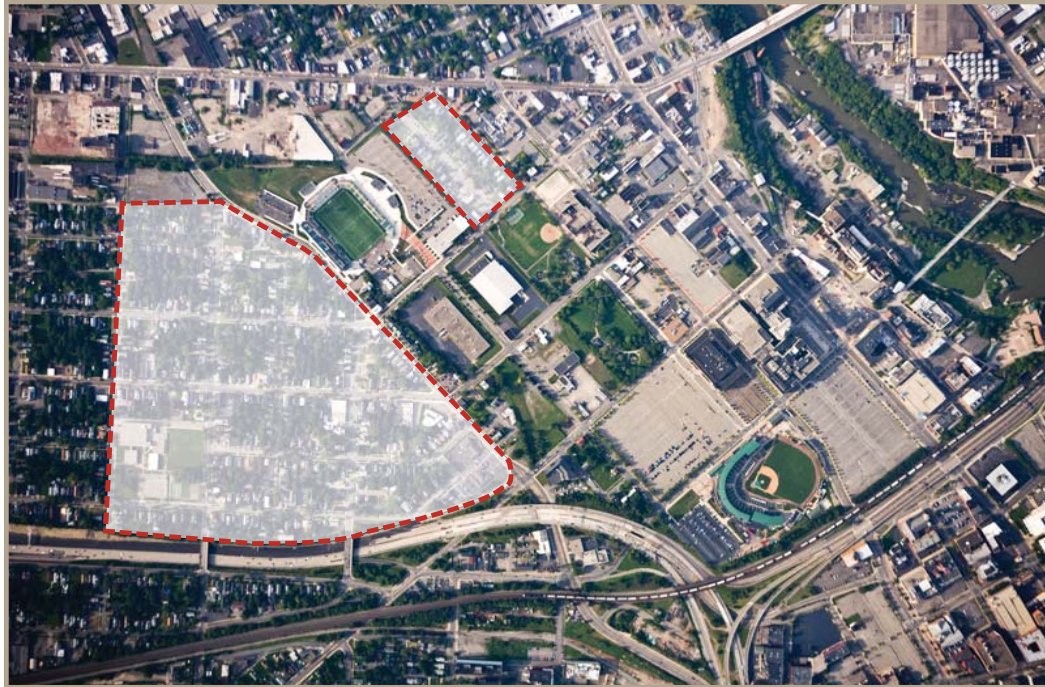
High Falls





II. Inventory & Analysis

RESIDENTIAL NEIGHBORHOOD



Brown's Square contains approximately 3/5th of a square mile of residential land use within the School #17 Residential Neighborhood District. There is also housing, to a smaller extent, on the streets just east of the Soccer Stadium. Although some of this housing is dilapidated and in need of rehabilitation, the



School #17 Residential Neighborhood District

Bounded by:

Broad to the east
Orchard to the west
Lime to the north
I-490 to the south

presence of this neighborhood in close proximity to the stadiums and commercial areas of State Street and Lyell Avenue provides an opportunity to improve the pedestrian realm of the neighborhood. The dense urban fabric of the neighborhood makes it well suited to support a vibrant pedestrian network. Improvements to the pedestrian realm and bicycle facilities will benefit residents and visitors alike.

According to the 2000 decennial census, the poverty rate of the School #17 Residential Neighborhood district is approximately 45%,¹ which is triple the statewide poverty rate of 15%. The presence of poverty in Brown's Square underscores the tremendous need for revitalization throughout the neighborhood.



II. Inventory & Analysis



B. Land Use Patterns

The existing land use pattern within the Study Area is shown in Figure 2 and is summarized below:

Commercial - Commercial activity is generally concentrated along the major thoroughfares including Lyell Avenue, State Street and Jay Street and in the High Falls District. The most notable commercial presence within the Study Area is the Kodak World Headquarters on State Street between Brown Street and Platt Street.

Residential - Residential uses are located west of Broad Street and on Saratoga and Verona Streets, south of Lyell Avenue. The dominate housing type is single family homes.

Industrial - Industrial activity is scattered throughout the Study Area. Larger industrial and warehousing operations are located in the heart of the Study Area on the south side of Smith Street on either side of Oak Street.

Community - There are a number of community uses within the Study Area. These include Brown's Square Park, School #17, and School # 5.

Sports Stadiums - A Soccer Stadium is located at the intersection of Smith and Oak Street. The Frontier Field Baseball Stadium is located on the south side of Platt Street, east of Oak Street. There are a number of parking lots adjacent to the two stadiums.

Photos of existing land uses within the Study Area





II. Inventory & Analysis

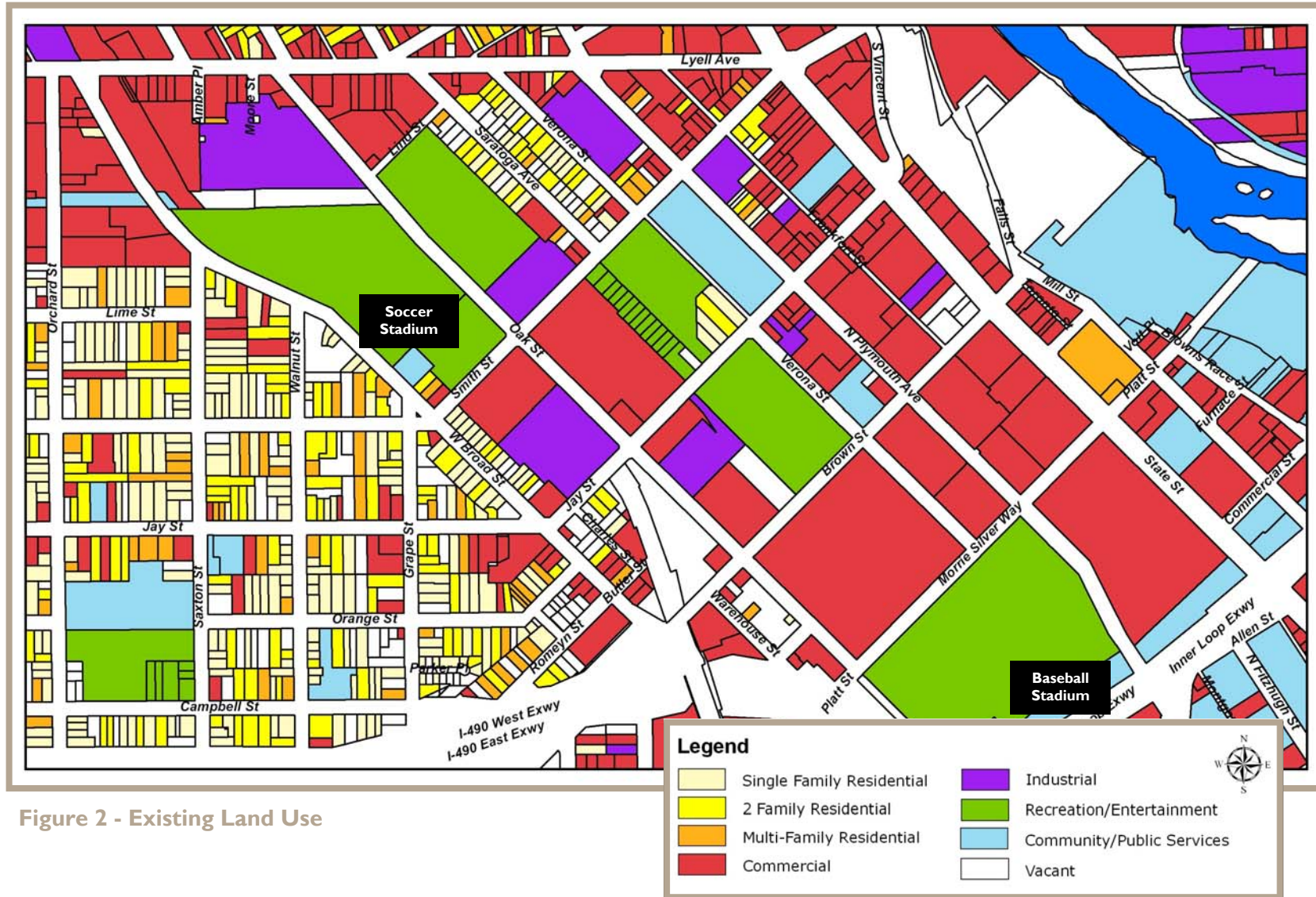


Figure 2 - Existing Land Use



C. Previous Studies and Current Zoning

Over the past decade, the City of Rochester has completed several planning and zoning efforts that relate to the Brown’s Square Circulation, Access, and Parking Study. These plans and studies are summarized below.

CITY OF ROCHESTER COMPREHENSIVE PLAN, 1999 - “THE RENAISSANCE PLAN”

This Plan was developed over a three year period utilizing an extensive public input process which was lead by the Mayor’s Stewardship Council. The Plan’s content was primarily developed by 11 subject committees with assistance from City Staff. Once completed, the Plan was reviewed by the public at numerous neighborhood meetings and public hearings. The final Plan consists of eleven campaigns. According to the Plan, “These campaigns represent significant new directions and priorities that our city will embrace as we move into the 21st Century. Each campaign includes a vision or “outcome” statement, indicators of success or “benchmarks”, a generalized policy statement, several more specific goal statements and several related strategy statements.” The campaigns include:

- Involved Citizens
- Environmental Stewardship
- Quality Service
- Center City
- Educational Excellence
- Regional Partnerships
- Tourism Destination
- Arts and Culture
- Health, Safety, and Responsibility
- Economic Vitality
- Vital Urban Neighborhoods

The 1999 Comprehensive Plan acknowledges that the City’s land area is almost fully developed. As a result, the community should focus on the enhancement and re-development of existing residential and commercial areas. These re-development efforts should place a priority on creating neighborhoods that provide a quality urban environment that fosters a variety of travel options. In order to accomplish this, the Plan contains numerous policy and design recommendations which are relevant to this study. These include:

- Maintain a zero setback and primary pedestrian access from public sidewalks;
- Provide sidewalks at a minimum of 5’ wide in residential areas and a minimum of 8’ wide in commercial or mixed use cores;
- Provide amenities for pedestrians including but not limited to benches, trash receptacles, bike racks, water fountains, well marked crossings and signage; and
- Provide infrastructure and streetscape amenities to facilitate increased use of public transit;

It should be noted that the Comprehensive Plan does not contain specific recommendations for the future land use pattern for the City, including the Brown’s Square Neighborhood. However, the Center City Campaign does identify the High Falls Area as one of eight districts that make up the Center City. According to the Plan, “It is these districts that will draw many new residents, visitors, and tourists to Rochester. Once established, each district will build on its unique assets and urban character.” The Comprehensive Plan recommends that the City should develop an area plan for each of these areas to guide future investment and to market the area. As previously stated, the Circulation, Access and Parking Study is part of that effort for the Brown’s Square Neighborhood and the High Falls District.



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JAY STREET - STATE STREET - PLYMOUTH AVENUE REVITALIZATION STUDY, 2005

This Study was initiated by the City's Economic Development Department to help guide various public and private investment programs and projects. The Study Area was bordered by State Street to the east and Verona Street to the west. The northern and southern boundary was approximately one-half block north and south of Jay Street. The goals identified for the area include:

- Need to identify development expansion and development opportunities;
- Create a district identity;
- Create convenient off-street parking;
- Develop a façade renovation program; and
- Develop a street plan to make improvements to the streetscape and improve the quality of the public realm.

The Study recommendations consist of various development opportunities, off-street parking configurations, and streetscape and façade improvements designed to enhance the look and vitality of the area. It also contains cost estimates for the various public and private projects identified as part of the Study.

CENTER CITY MASTER PLAN, 2003

"It is the policy of our city to pursue recognition and development of our downtown area as the region's Center City to include an exciting mix of housing, specialty retail and services, restaurants, arts and cultural venues, entertainment and night life. We also encourage the marketing and promotion, both regionally and nationally, of our Center City as the economic and cultural core of our region and its recognition by both citizens and visitors as being safe, vital and exciting."

~ The Renaissance Plan

The Center City Master Plan was part of an effort to implement one of the primary recommendations of the City's Comprehensive Plan; the Center City Campaign. The Center City Master Plan identifies development objectives, design principles, and improvements to the private and public realm intended to achieve the policy articulated above. These include the following:

Development Objectives

- Create a pedestrian circulation system that ties Center City together and links the Genesee River, Main Street, and key attractions; and
- Encourage alternate modes of transportation within Center City wherever and whenever possible.

Design Principles

- Create, maintain and/or re-enforce pedestrian-oriented and human-scaled urban streets within the Center City that promote safe pedestrian movement, access and circulation and a pleasant urban experience for pedestrians;



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- Locate, to the maximum extent possible, parking areas out of view from the public realm; include landscape details such as trees, shrubs and berms to soften hard edges and to buffer adjacent properties; and
- Protect, respect and expand the design of green space, landscaping and usable open space within Center City and encourage public and private development which enhances this character with landscape design details such as plantings, fountains, art, decorative walls and fences, plazas and pedestrian malls.

Private & Public Realm Improvements Proposed for the Brown's Square Neighborhood & the High Falls Entertainment District

The Center City Plan recommends that a detailed schematic plan for the Brown's Square Neighborhood be developed that addresses the following issues:

- Develop a strong land use and design connection between the soccer stadium and the commercial district along Lyell Avenue;
- Develop amenities and building façade improvements that reflect a “sports district” design theme within and adjacent to the stadiums;
- Revitalize the existing commercial/mixed-use districts along Lyell Avenue, between Lake Avenue and Broad Street;
- Develop a formal pedestrian access way from the soccer stadium to the parking areas adjacent to Frontier Field;
- Rehabilitate Brown's Square Park; and
- Develop a mixed-use district at the Lake Avenue, Lyell Avenue, State Street, Smith Street intersection.

The plan recommendations for the High Falls District are shown on the following page.



II. Inventory & Analysis

Center City Plan Recommendations

- 9. *High Falls Beer Garden* - Develop Beer Garden at High Falls to provide an attraction on the east side of the River.
- 10. *High Falls Park* - Provide a passive recreation area in the lower gorge.
- 11. *Beebee Station* - Re-develop the station as a mixed-use entertainment venue.
- 12. *State St/Platt St Intersection* - Develop this area as a major gateway into the area.
- 13. *State Street Area* - Develop Kodak lot with a mix of uses and enhance pedestrian connections connecting to and across State Street. (includes 13a+b).
- 14. *Parking Garage* - Develop new parking garage as part of the new, mixed use development.
- 15. *State Street / Kodak Office* - Re-development storefronts and buildings opposite Kodak Tower.

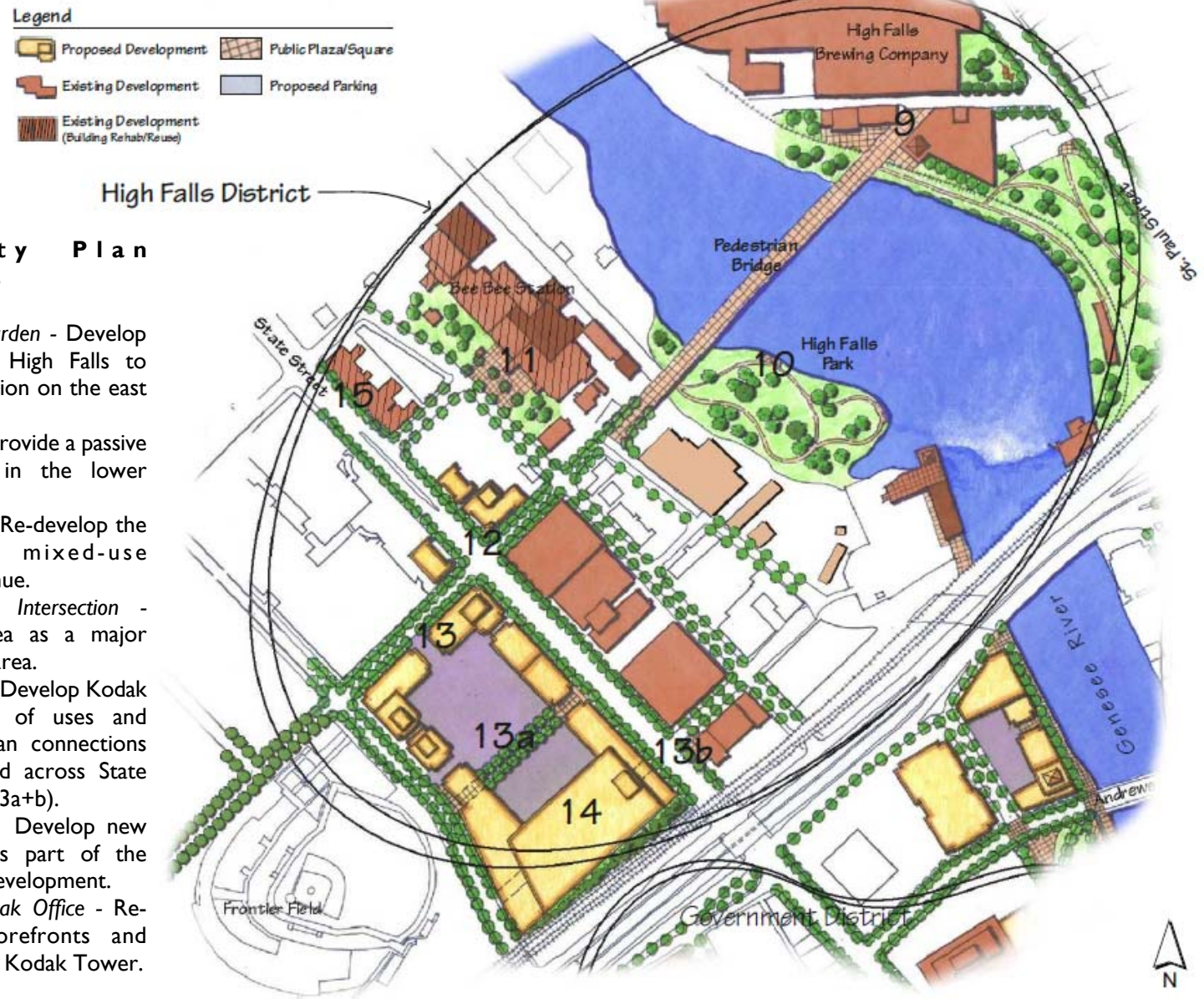


Figure 3 - Center City Recommendations



II. Inventory & Analysis



CITY'S NEIGHBORHOOD PLAN

In 2006 the City of Rochester's Bureau of Planning prepared a small area plan for the Brown's Square neighborhood. The Plan, entitled the Brown's Square Community: A "Gateway to Center City", was initiated as a result of the 2003 Center City Master Plan which recommended small area plans be prepared for each of the eight neighborhoods or areas surrounding the downtown "core".

As was stated in the neighborhood plan, the Brown's Square community is in a period of transition and has undergone many changes over the course of the last several years. In the summer of 2006, a 13,700 seat, 50 million dollar soccer stadium - home of the Rhinos - opened several blocks to the north of Frontier Field, home to the Rochester Red Wings AAA League Baseball team. In addition, nearly 11 million dollars in state funds have been allocated for a variety of improvements and enhancements throughout this neighborhood including the construction of a mixed-use development on State Street across from Kodak's World headquarters. High Falls, a former entertainment district adjacent to the Genesee River, is being transformed into a mixed-use district with the addition of residential and office uses.

The Brown's Square neighborhood plan includes a complete inventory and analysis of neighborhood assets, liabilities, as well as the opportunities and constraints. Based on that analysis a series of development objectives were formed to help guide the revitalization process. According to the Plan, the 10 development objectives listed below express the long term vision for the neighborhood with each development objective serving a purpose. Collectively, they provide a framework to reach the Community's vision.

1. Develop neighborhood as a "themed" sports/entertainment district that capitalizes on Frontier Field and the soccer stadium as attractions.
2. Incorporate public sports facilities into neighborhood as much as possible through appropriate spaces, pedestrian connections and design details.
3. Establish a village square, park or open space icon within the neighborhood.
4. Develop Oak Street as a principal pedestrian connection between Frontier Field and the soccer stadium.
5. Improve Access into and through the neighborhood.
6. Develop sufficient parking for land use and sports/entertainment attractions.
7. Encourage and reinforce new housing within the neighborhood.
8. Create attractive/friendly streetscapes throughout the neighborhood.



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- 9. Revitalize commercial corridor along Lyell Avenue; visually and functionally connect corridor to new stadium area to the south.
- 10. Revitalize High Falls entertainment district; visually and functionally connect district to stadium neighborhood to the west.

The Composite Map below (see Figure 4) was developed and included in the neighborhood plan. It was the result of a thorough analysis of neighborhood characteristics and looks to integrate the two stadiums into the neighborhood, leverage public expenditures through new public and private development, and improve the connectivity throughout the area while enhancing neighborhood aesthetics.

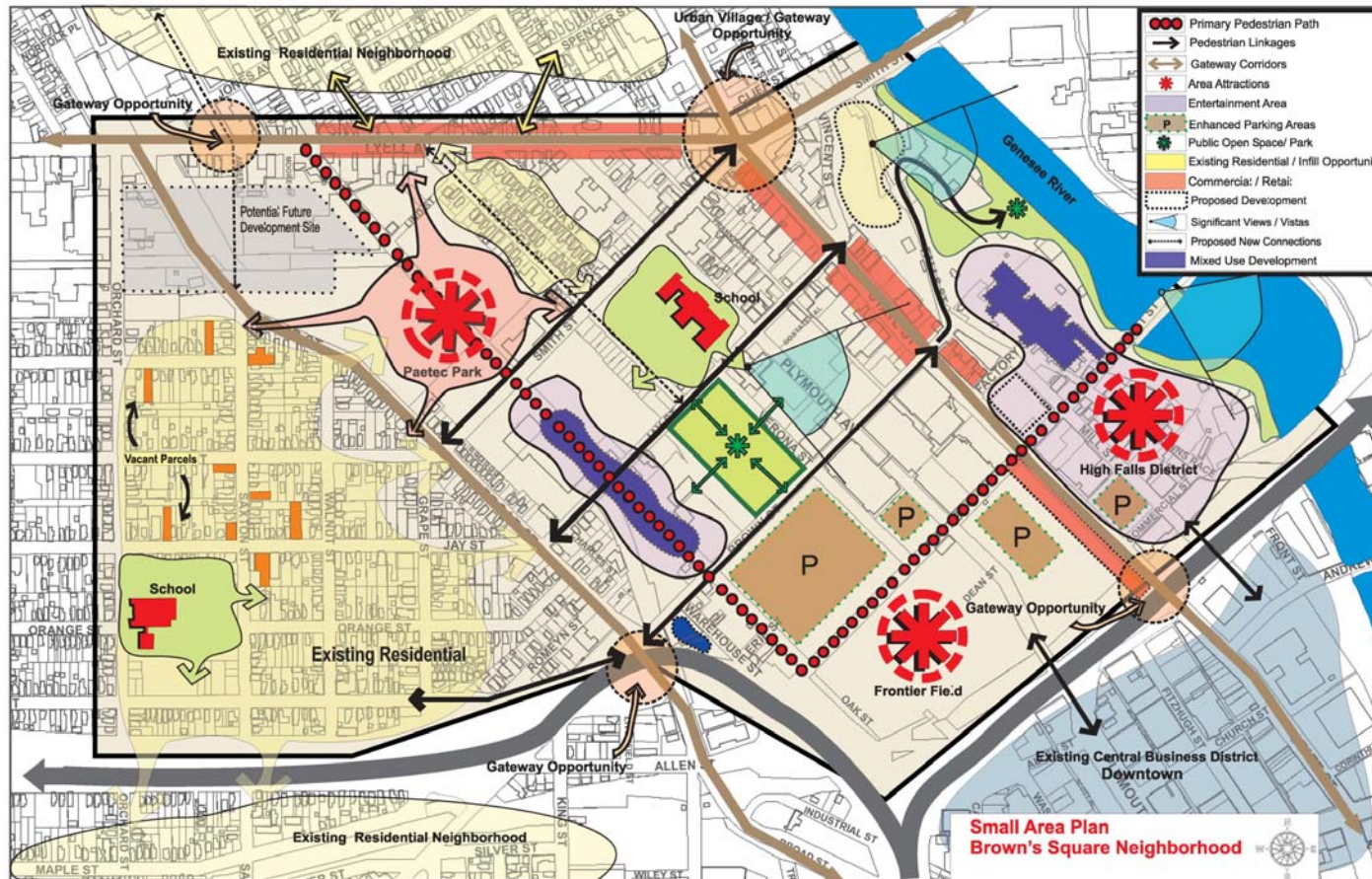


Figure 4 - Neighborhood Concept Plan



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CITY OF ROCHESTER ZONING CODE, 2003

The City of Rochester's current zoning code was adopted in 2002 and took effect on January 1, 2003. The 2003 code was a comprehensive revision of the City's Zoning Map and corresponding district requirements and permitting procedures. As shown in Figure 4, there are currently six zoning classifications within the Brown's Square Circulation, Access, and Parking Study Area. These district regulations were reviewed for language that is intended to foster multi-modal transportation options within the Brown's Square Neighborhood and are summarized below.

- **Community Center Commercial District (C-2)** - The purpose of the C-2 District is, "to provide diverse commercial development along gateway transportation corridors and neighborhood or village centers with a dense mixture of uses such as housing, retail and other complementary uses that serve the adjacent neighborhood and the community at large. The C-2 District is preserved through appropriate design elements, amenities or treatments that create, enhance and reinforce the design relationships between the buildings, sites and streets and still establish an ambience that is uniquely urban and pedestrian-oriented."

The C-2 District contains bulk and design regulations that are intended to create an attractive public realm and provide a pleasant pedestrian experience. These include requiring buildings to be placed at or near the sidewalk and having a minimum height of 2½ stories.

- **Center City District (CCD)** - The purpose of the CCD District is, "to foster a vibrant, safe, twenty-four-hour Center City by encouraging residential development while retaining and further developing a broad range of commercial, office, institutional, public, cultural and entertainment uses and activities." To accomplish this, the CCD regulates the design of buildings and sites, not the use of the property. In addition, the design principles of the Center City Master Plan have been incorporated into the City Zoning Code. These include: Creating a pedestrian circulation system that ties Center City together and links the Genesee River, Main Street and key attractions/destinations and encouraging alternate modes of transportation within Center City whenever and wherever possible.

The regulatory framework within the CCD consists of detailed design requirements for buildings, sites, and parking lots. These regulations are intended to ensure a high quality urban environment that is conducive to walking, biking, or public transit service.

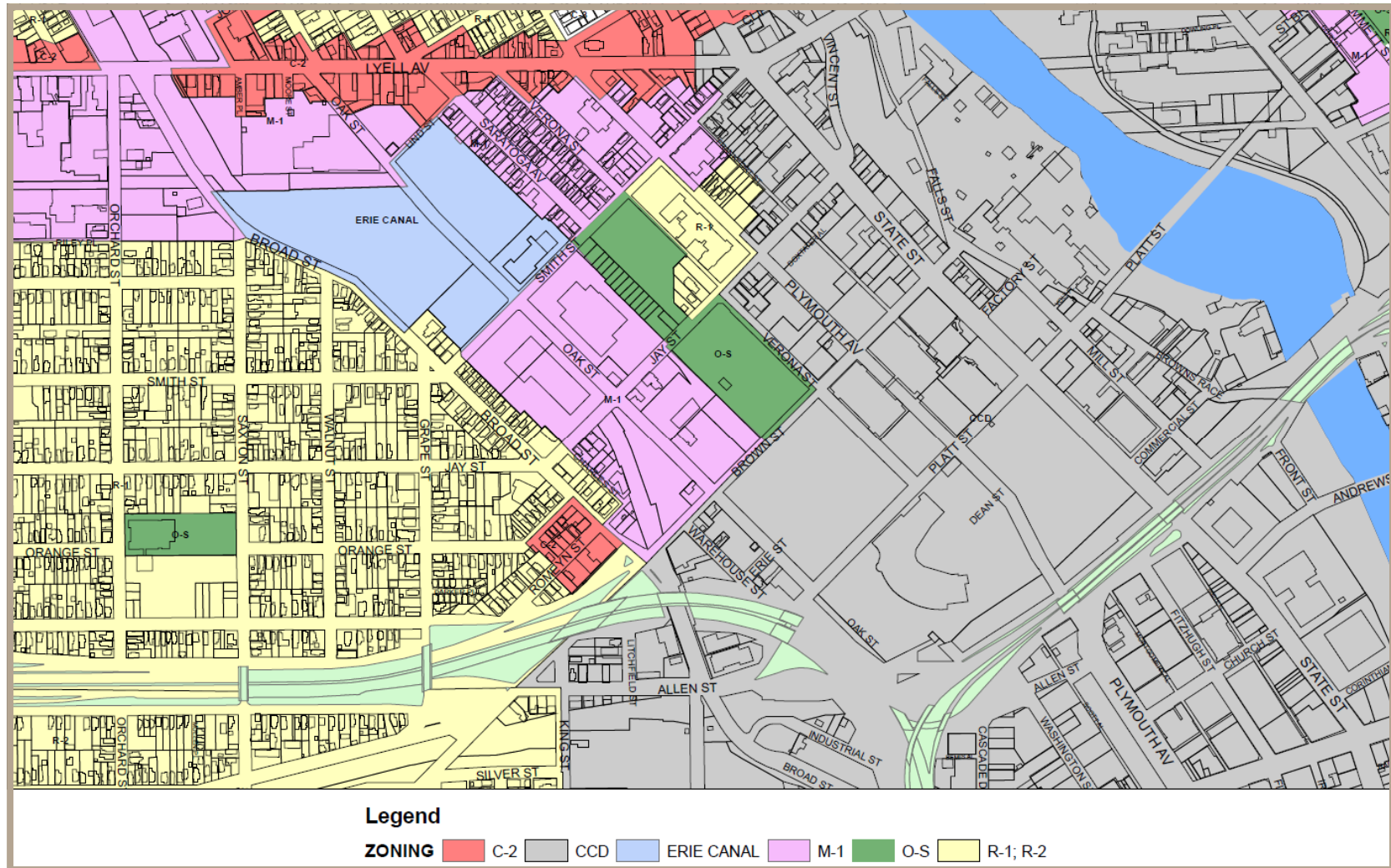
- **Erie Canal Urban Renewal District (EC-URD)** - Urban Renewal Districts are separate and distinct areas with identified objectives, actions and land use plans for the purpose of eliminating substandard and deteriorated structures and other blighting influence in an area of the City, through demolition and subsequent redevelopment. These districts promote economic development in the City and beautification of an area in both the public and private realm and provide the City with the ability to convey property to support private development.

The EC-URD was established to provide the legal framework to construct the Soccer Stadium and accessory facilities such as parking and administrative buildings. Due to the unique nature of the stadium and its accessory uses, development within the district is exempt from the City-Wide Design Regulations and Standards.



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Figure 5 - Existing Zoning District Map





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- **Industrial District (M-1)** - The purpose of the M-1 District is to “promote the retention and growth of employment opportunities by providing areas where a broad range of industrial uses may locate and where options for complementary uses exist in older two-story and multistory buildings.” A review of the zoning regulations that apply to the M-1 District indicates that the emphasis on creating a pleasant pedestrian environment is significantly less than that of the C-2 or Center City District. As a result, the industrial zoning located around the Oak Street/Jay Street intersection may inhibit the area’s development as a strong pedestrian link between the residential neighborhoods to the west and the various destinations to the east.
- **Open Space District (O-S)** - According to the purpose statement for the O-S District, “Rochester recognizes the value and importance of the resources for City and regional residents and, therefore, strictly limits the development of these areas. Open Space Districts are intended to apply to all publicly owned parks, squares, recreational areas, natural wildlife areas, the waterfront and cemeteries.” There is no regulatory language that is specifically intended to promote multi-modal transportation options within the O-S District. It should be noted that the City-Wide Design Regulations and Standards do apply to any development that occurs in the O-S District.
- **Residential Districts (R-1 & R-2)** - The purpose of the Low-Density Residential District (R-1) “is intended to maintain residential areas at relatively low densities.” Meanwhile , the purpose of the Medium-Density Residential District (R-2) is, “to provide a mix of housing choices. The inclusion of single-family residential, two-family residential and multifamily residential provides a diversity of housing choices while the bulk and density regulations maintain the lower-density scale of the neighborhoods. These residential areas are located proximate to neighborhood-scale shopping and service opportunities. The district requirements are intended to preserve, promote and protect a quality of urban residential living characterized by unobstructed front yards, pedestrian-scale streetscapes and buildings scaled and designed to be compatible with the neighborhood.”

The Zoning Code has several provisions to ensure that the City’s residential neighborhoods remain conducive to walking and biking. These include the residential compatibility standards designed to ensure that new home construction respects the scale and character of surrounding properties. In addition, restrictions on enclosing existing porches and front yard parking lots serve to preserve the public realm.

- **City-Wide Design Regulations and Standards** - According to the purpose statement, “The guidelines and standards are intended to encourage lively, pedestrian-friendly and attractive streetscapes and open spaces where Rochester residents and visitors will enjoy walking, biking, driving and shopping. Focusing on the immediate neighborhood of any development project, the guidelines and standards maximize visibility for pedestrians, ensure appropriate building design, including entrances, doors and windows, promote open front



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porches in residential neighborhoods, require attractive signage and ensure its compatibility with the surrounding neighborhood.”

This is accomplished through provisions such as:

- γ Any facade facing a sidewalk, street, waterway or open space district shall have an active building elevation. Active building elevations shall include windows, building entrances and other architectural features that enhance the pedestrian scale and experience of the building facade.
 - γ The front facade and main entrance shall face a public street and shall have a direct pedestrian connection to the street;
 - γ The proposed design and arrangement of the building, structure or use shall provide for public pedestrian and visual access to and along the waterfront;
 - γ In C-2 Districts, all new construction along the street shall provide areas of transparency equal to 70% of the wall area between the height of two and eight feet from the ground;
 - γ All glazing shall be clear or lightly tinted;
 - γ Concrete finishes or precast concrete panels shall not be used as exterior building materials and shall be prohibited on all exterior walls unless located in an M-I District and unless some other relief is offered (architectural or landscaping); and
 - γ Mechanical equipment and open storage areas shall be screened from public streets, alleys, paths, private streets and abutting lots to a minimum height of six feet.
- **Off-Street Parking and Landscaping** - The City Code places a premium on limiting the negative impact that large, barren parking lots can have on the streetscape while promoting walking, biking, and public transit use. In order to reduce the amount of parking within the City and increase transportation options, the Code provides for the following:
 - γ Bicycle parking shall be provided equal to 10% of the vehicle parking requirements for the property, for a minimum of two bicycles, for all multi-family housing (over 10 units), commercial and industrial uses;
 - γ No use other than single, two-family and attached residential uses, shall provide more than 110% of any of the off-street parking requirements, except through the submission of a parking demand analysis and approval of a special permit;
 - γ Except in the M-I District, parking shall not be permitted between a building and the sidewalk on the street. Where existing or proposed buildings are set back from the public right-of-way, the front yard shall not be converted to parking; and
 - γ A minimum of one landscaped area with a minimum size of 162 square feet (approximately nine feet by 18 feet) shall be provided for every 15 parking spaces and developed as islands within the parking surface area.



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The code also provides a variety of options to reduce the number of spaces required on site if it can be documented that the reduction can be mitigated through other alternatives.

These alternatives include;

- The presence of shared parking agreement between property owners;
- The presence of a transit stop with 1,000 feet of the use; and
- The presence of on-street parking spaces within a 1,000 feet of the use.

In summary, the City has a strong planning and regulatory framework that places a great deal of emphasis on multi-modal transportation options. As investment occurs in the Brown's Square Neighborhood, the existing policies and regulations will serve to improve the quality of urban environment. The most applicable to this study include:

- Ensuring public and private investments create streets and streetscapes that foster connectivity between neighborhoods, commercial districts, the Genesee River, and various attractions.
- Encouraging multi-modal transportation options;
- Continuing to successfully promote the High Falls District, the Soccer Stadium and Frontier Field as destinations for the entire region to enjoy.
- Identifying and implementing improvements to the Brown's Square Neighborhood that will achieve the vision identified by the local residents and businesses.



D. Transportation Characteristics

The roadways within the Brown's Square neighborhood vary in their functional classification and use from Principal Arterials like State Street, Minor Arterials such as Broad Street and Lyell Avenue, to Urban Collectors like Plymouth Avenue and Jay Street to local roadways such as Smith Street and Oak Street. Figure 6 shows the functional classification of the roadways in the study area. Circulation throughout the study area is provided by traveling on both one-way and two-way streets as indicated in Figure 7. The speed limit is 30 MPH in the City of Rochester, unless posted otherwise. The characteristics of the major study area roadways, such as dimensions, signalization, and intersection geometry were documented.



Figure 6 - Roadway Functional Classification



Figure 7 - One-Way Streets

OBSERVATIONS: MOTORIZED AND NON-MOTORIZED CIRCULATION












Vehicular, bicycle, and pedestrian circulation patterns were documented during the AM and PM commuter traffic peaks, as well as during games being held simultaneously at the soccer stadium and Frontier Field. Observations for the game time conditions were made on August 23rd, 2008. Critical observations have been assembled into a table as illustrated in Figure 8.





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Figure 8 - Field Observations


| Observation Type | Time Period | Observation |
|---|--------------|---|
|  | Events | Many pedestrians do not cross the street at designated crosswalks. |
|  | Events | A large amount of pedestrians were coming NB from the area around Frontier Field to the soccer stadium on Oak St. |
|  | AM/PM | Several groups of children were seen walking to and from school, often accompanied by a parent. |
|  | Events/AM/PM | Bicyclists are abundant throughout the neighborhood. Approximately half of bicyclists ride in the street, the others on the sidewalk. |
|  | Events/AM/PM | Vehicle speed did not appear to be excessive. |
|  | Events | The intersections with the largest amount of traffic appeared to be: Brown/Platt, Plymouth/Platt, Brown/Verona, and Plymouth/Verona, State/Brown, State/Platt, and State/Inner Loop ramp. Broad Street maintained steady traffic. |
|  | AM/PM | School buses are abundant throughout the western portion of the neighborhood. |
|  | Events/AM/PM | The neighborhood generally seems to have a strong police presence. |
|   | Events | Police assisted crossings existed at: Brown/Oak, mid-block on Platt, Platt/Plymouth, Oak/Jay, and Oak/Smith. |
|   | Events | Police officers on bicycles were patrolling the neighborhood. |
|  | Events | Several large sized lots on Lyell Ave. are unoccupied. |
|  | Events | Traffic backups to enter parking lots extended a block or more on Brown, Allen/Oak, and Plymouth/Platt. |
|  | Events | There was a tram taking people parked at the Kodak Lot at Brown/Oak to the soccer stadium. |
|  | Events | \$5 parking lots were abundant around the soccer stadium, and seemed to be near full capacity. |


Parking


Bicycle


Pedestrian


Vehicle


Police

EXISTING AND FUTURE TRAFFIC CONDITIONS

Daily traffic volumes along many of the study area highways were obtained from the Monroe County Department of Transportation (MCDOT) database and are depicted in Figure 9. Peak hour traffic volume data has been obtained from the MCDOT SYNCHRO database.

To account for normal increases in area-wide traffic growth, including any unforeseen developments in the project study area, a growth rate of 0.7% per year has been applied to the existing traffic volumes based upon historical traffic volume growth in the study area. A twenty (20) year traffic forecast was derived and used for future traffic analyses.



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Figure 9 - Average Daily Traffic (ADT)





II. Inventory & Analysis

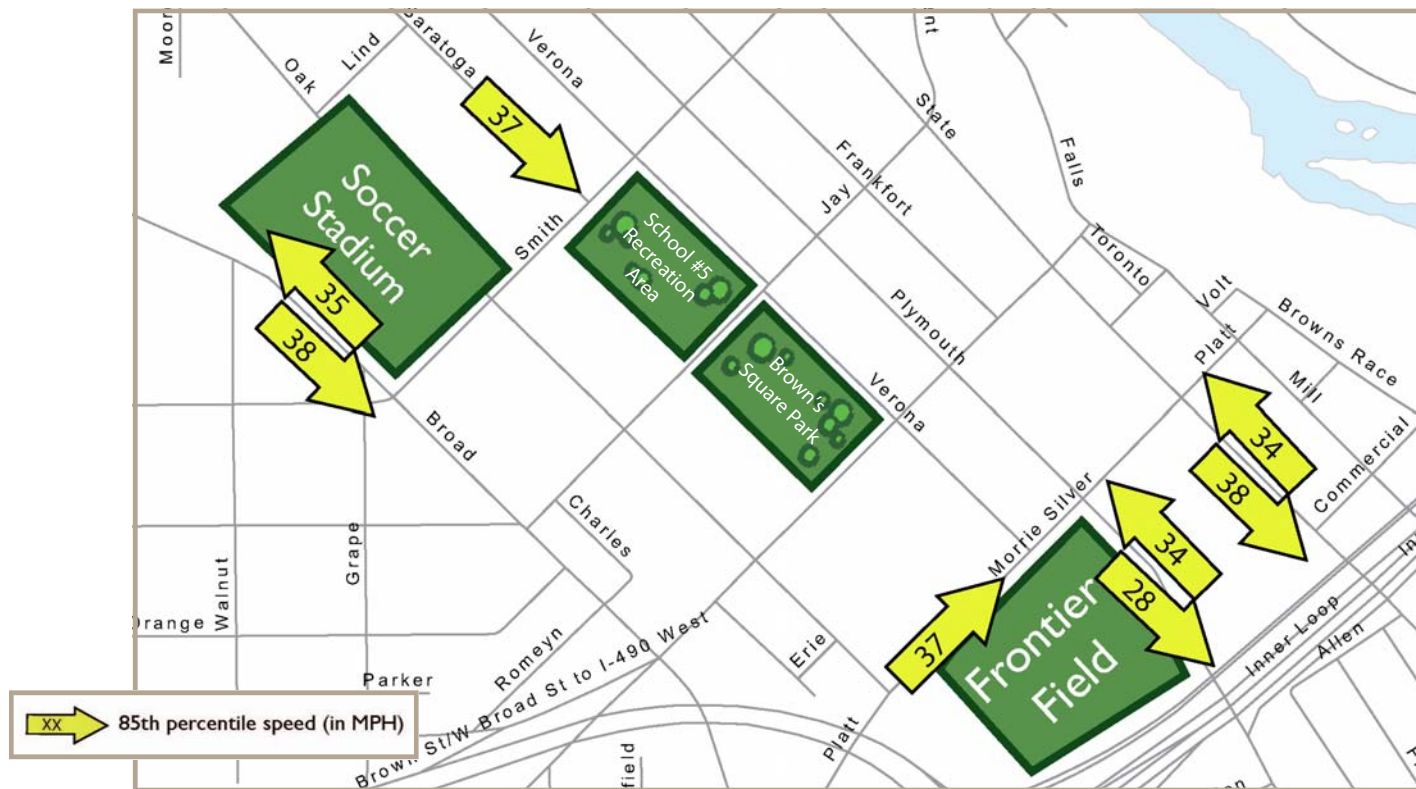


SPEED STUDY

Directional speed studies were performed during off-peak hours at five locations within the study area. Speed data was collected along Broad Street north of Smith Street, along Saratoga Avenue north of Smith Street, along Plymouth Avenue south of Morrie Silver Way, along State Street south of Morrie Silver Way, and along Morrie Silver Way west of Verona Street. The data was analyzed to determine the 85th percentile operating speed among other pertinent information. The 85th percentile speed, which is commonly used for traffic engineering purposes, is the operating speed at which 85% of traffic is driving below and 15% is exceeding. Figure 10 illustrates the 85th percentile speeds at the locations mentioned above.

The results of the speed study indicate 85th percentile speeds that exceed the 30 MPH speed limit by 5 MPH or more in the following locations: Saratoga Avenue, Broad Street, Morrie Silver Way and southbound on State Street.

Figure 10 - Spot Speed Study





E. Parking

The provision of conveniently located, adequate and safe parking is a key component to the success of any commercial district. Low-level aerial photography has been utilized to capture parking data during simultaneous events being held at Frontier Field and the soccer stadium. Parking supply and utilization has been tabulated and analyzed from these aerial images. Parking has been assessed on a district-wide level, and also for each individual lot within the neighborhood.

The results of this analysis play a vital role in determining the current and future needs for parking. The analysis indicates that the parking supply in the Brown's Square Neighborhood is adequate even during simultaneous events at the two stadiums. However, the distribution of parked vehicles indicates that drivers prefer minimal walking distances as evidenced by the very low utilization of the High Falls Garage (28%) during the events and over-utilization of some of the private parking lots immediately surrounding the soccer stadium. Figure 11 summarizes the parking supply and demand by District while Figure 12 shows the parking utilization by individual parking lot. Parking lots shown in Figure 12 with utilization percentages greater than 100% indicate that patrons are either parking illegally or the the lot managers are "creating" parking spaces for the purpose of event parking.



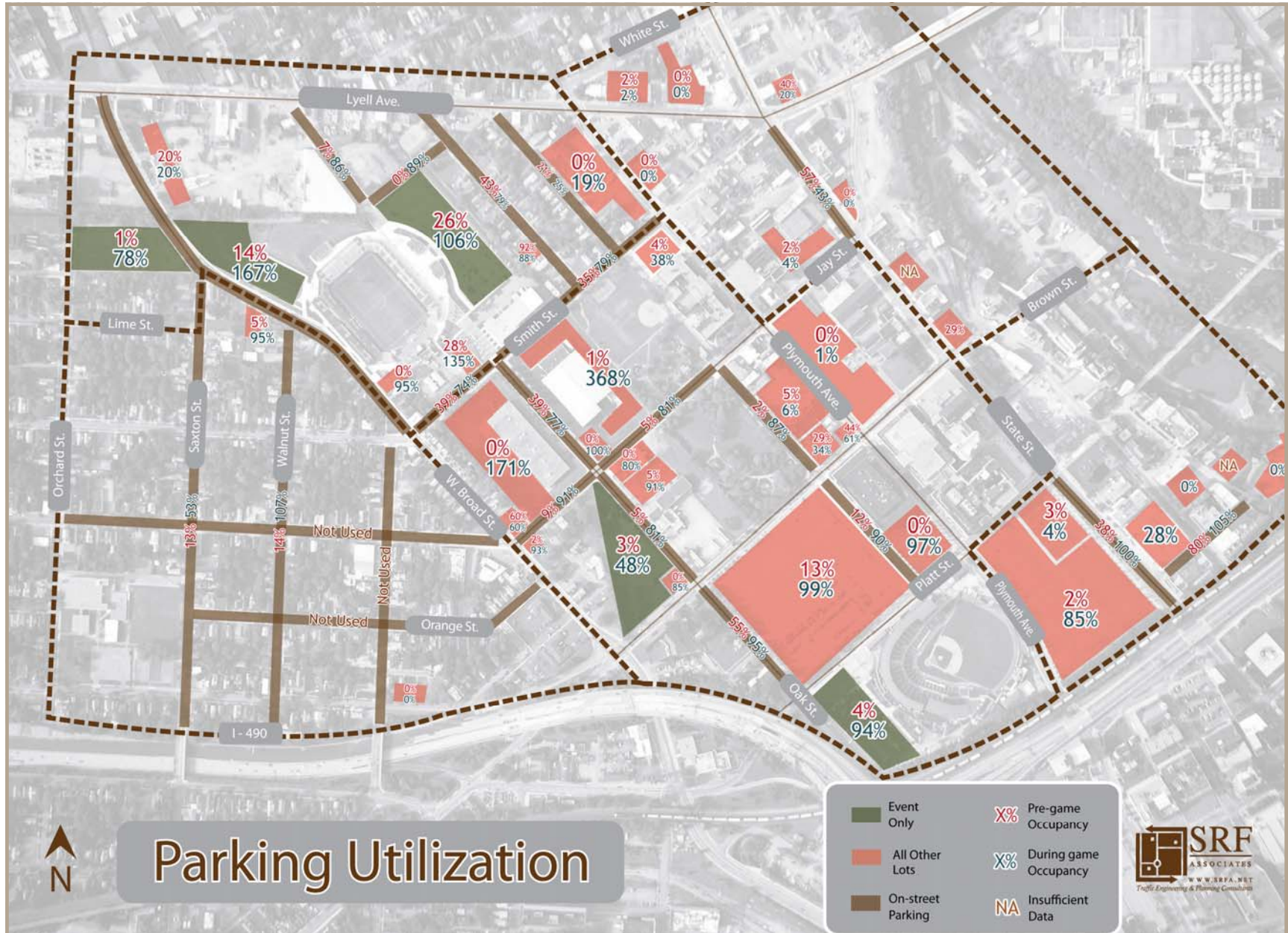
Figure 11 - Event Parking Supply & Demand



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Figure 12 - Parking Lot Utilization





F. Vehicular Traffic Analysis

The peak hour data was used to assess the quality of traffic flow for existing peak hour conditions. Two measures of effectiveness are used, Level of Service (LOS) and Intersection Capacity Utilization (ICU). Levels of Service provides an indication of the amount of delay that a motorist experiences while traveling through an intersection, with LOS 'A' indicating free-flowing traffic flow, and LOS 'F' representing long delays, traffic congestion and queuing. The Intersection Capacity Utilization (ICU) can be thought of as an intersection wide volume-to-capacity ration. ICU is well suited to the purpose of transportation planning studies. The intended applications for ICU are traffic impact studies, future roadway conceptual design, and congestion management programs. The ICU is not intended for operations or signal timing design. The primary output from ICU is analogous to the intersection volume-to-capacity ratio. The ICU does not provide a complete picture of intersection performance, but it does provide a clear view of the intersection's volume related to its capacity. Further analysis using the HCM method is necessary before making any final determinations of improvements. A Summary of LOS/ICU calculations for the study area are presented in Figures 13 and 14. It is important to note that ICU is primarily used for signalized intersections but can also be used on unsignalized intersections to determine the capacity utilization if the intersection were to be signalized.

Analyses of the existing intersections indicate that all of the intersections studied are currently operating at overall level of service "C" or better during the peak hours. All of the study area intersections are currently operating at 65% (or less) of their capacity during both peak hours with the exception of the Lyell Ave/Dewey Ave intersection which is operating at approximately 70% of its capacity during the PM peak hour, and the Lyell Ave/State St intersection which is operating at approximately 75% to 78% of its capacity during both peak hours.

To account for normal increases in area-wide traffic growth, including any unforeseen developments in the project study area, a growth rate of 0.7% per year has been applied to the existing traffic volumes based upon historical traffic volume growth in the study area. A twenty (20) year traffic forecast was derived and used for future traffic analyses. The study area intersections were also analyzed using the projected future traffic volumes with the existing geometry and traffic control at the intersections. The future capacity analyses (Figure 16) indicate that all of the intersections will operate at LOS "C" or better with the exception of the Lyell Ave/State St intersection which is projected to operate at LOS "D during the AM peak hour. Figure 15 shows the future ICU projected at each intersection indicating that all of the study area intersections will operate at 70% (or less) of their capacity during both peak hours with the exception of the Lyell Ave/Dewey Ave intersection which will operate at approximately 76% of its capacity during the PM peak hour, and the Lyell Ave/State St intersection which will operate at approximately 82% to 84% of its capacity during both peak hours.



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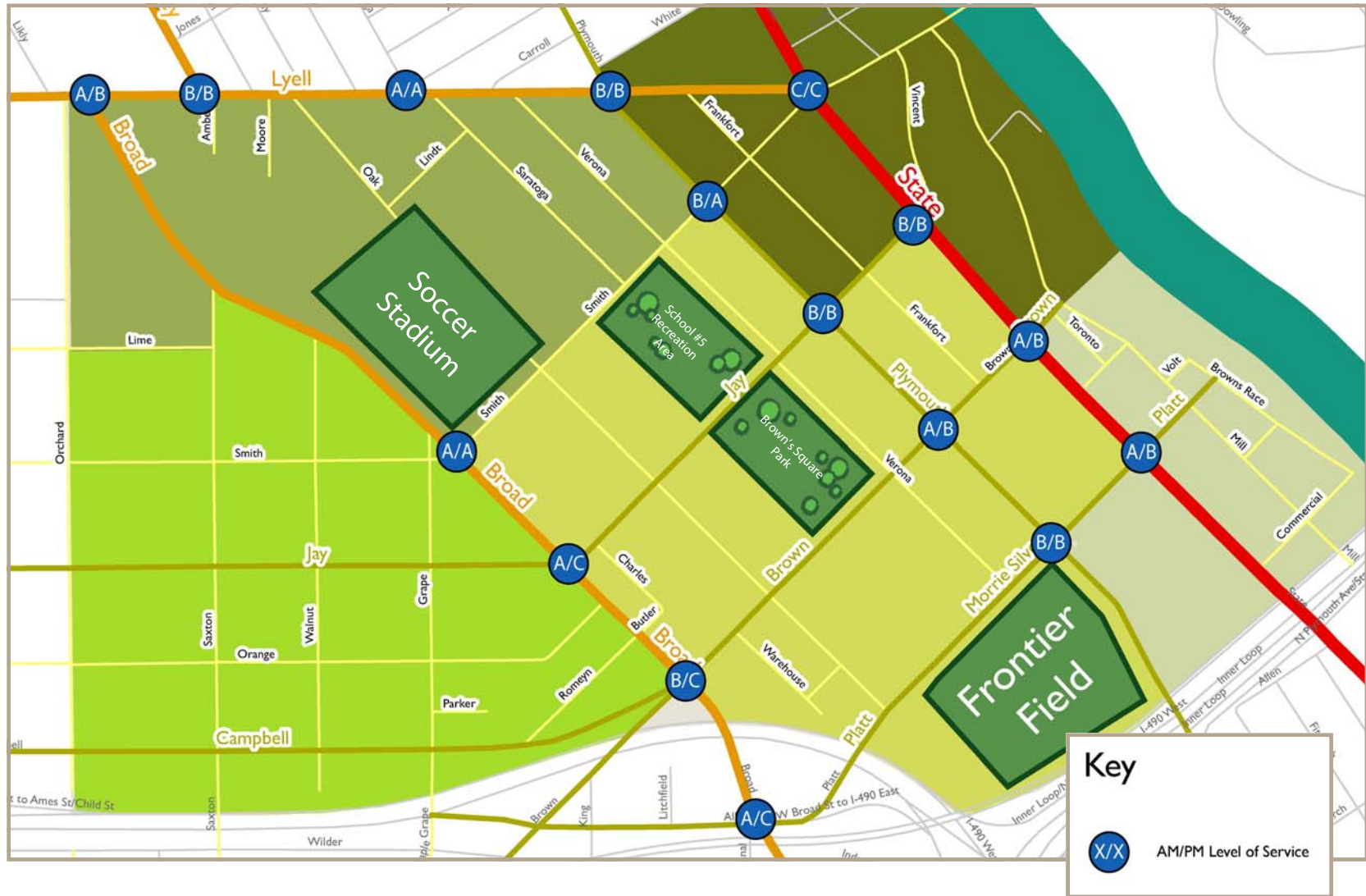
Figure 13 - 2010 Intersection Capacity Utilization





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Figure 14 - 2010 Intersection Level of Service

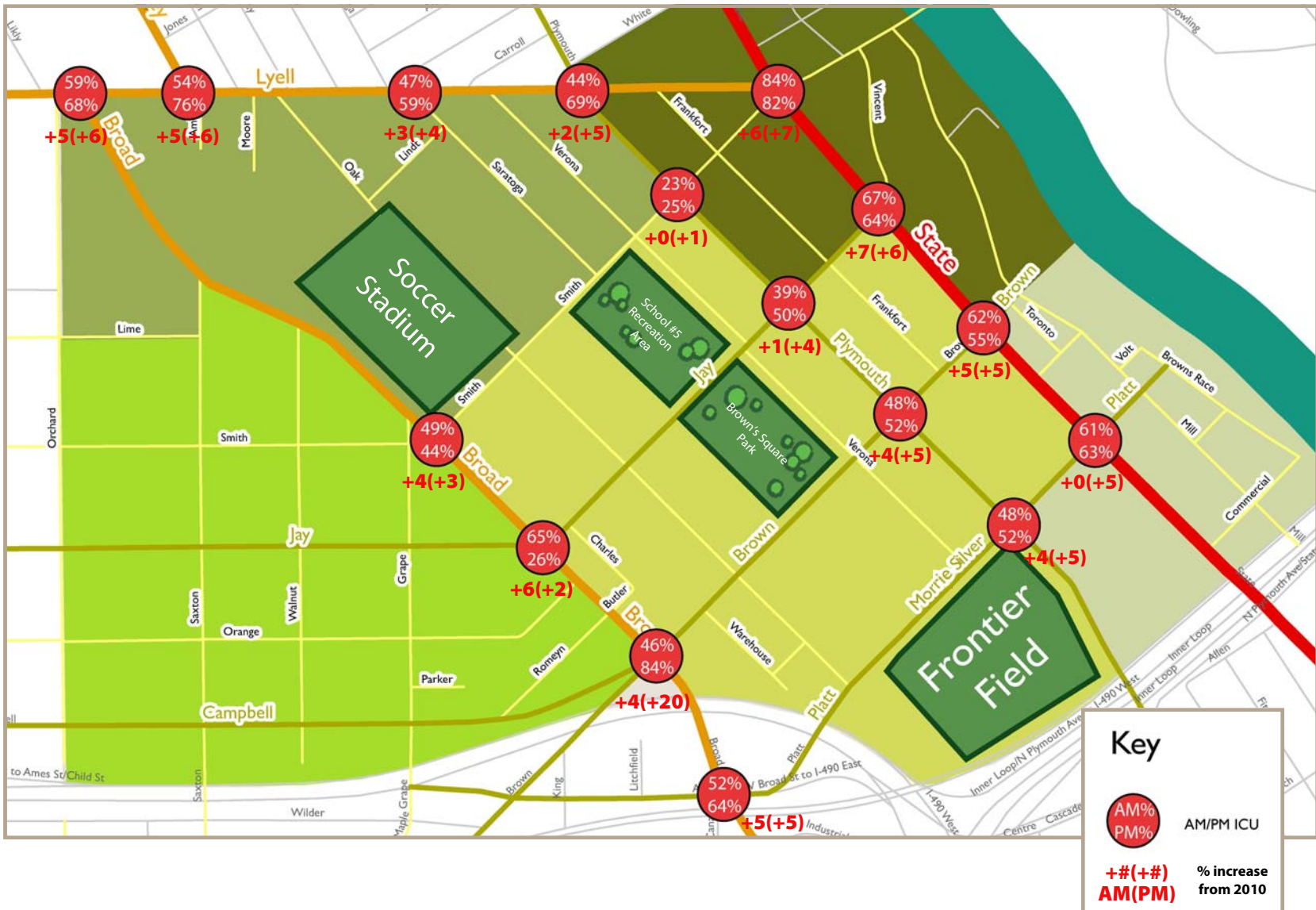




II. Inventory & Analysis



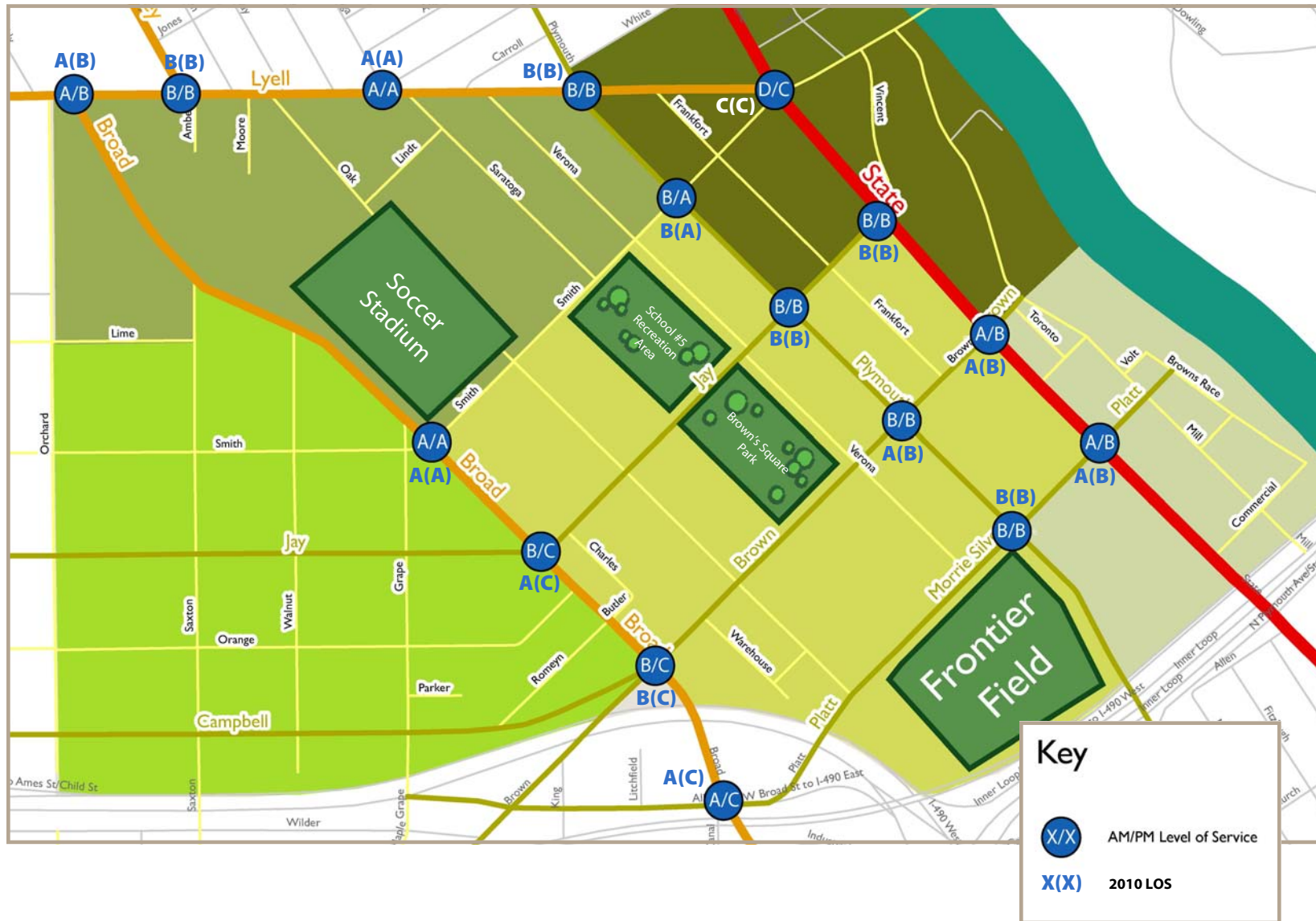
Figure 15 - 2030 Intersection Capacity Utilization





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Figure 16 - 2030 Intersection Level of Service





III. Needs & Opportunities



A. Public Workshop Meeting

Meaningful community participation is critical in developing a reality based plan with support from local residents, business owners, and property owners. In order to gather meaningful public input, the Steering Committee and the Consulting Team held a community design workshop on Tuesday, March 31st at the Soccer Stadium in the Brown's Square neighborhood. Approximately 20 people attended the workshop. The purpose of the workshop was to solicit input from neighborhood residents, business owners, and property owners on both their perception of the effectiveness of the transportation system within the neighborhood and what they envision for land use re-development in the future. Members of the community have shared valuable opinions and insights regarding pedestrian and bicycle circulation, the adequacy of the transit system, parking in the area related to day-to-day activities as well as large scale events, accommodation of vehicular traffic, land use redevelopment, and community character ideals. The information gathered at the workshop has proven to be instrumental in identifying transportation and land use related issues, opportunities, and the potential for improvements in the neighborhood.



Public meeting photos, March 31, 2009





B. Pedestrian Realm Survey and Evaluation

The pedestrian realm can be defined as the area of the right-of-way between the roadway and the abutting building façade or the property line. This is the primary area designated for pedestrian circulation. The pedestrian realm can extend into private property if the facilities to support pedestrians, such as sidewalks or other amenities are present, and the property owner allows the use of the property for pedestrian use. Businesses that benefit from pedestrian traffic often provide amenities for pedestrians, to encourage walking traffic around the business, and enhance safety for pedestrian users.

The pedestrian realm often includes:

- ◇ Sidewalks
- ◇ Buffer- the area between the sidewalk and the roadway, used to create space between the pedestrian and vehicular traffic
 - ◆ Plantings or other ornamental features may be in the buffer space, on the opposite side of the sidewalk, or on public or private property
 - ◆ On-street parking serves also as a buffer
- ◇ Street/Pedestrian lighting
- ◇ Pedestrian amenities- features for the convenience and safety of pedestrians (e.g. benches, waste and recycling containers, public art)
- ◇ Signage
- ◇ Street furniture (e.g. benches)

Oftentimes, traffic control devices, road signage, and other objects are placed within the pedestrian realm, but may not be intended for the use of pedestrians. In this case these items can become obstructions to the pedestrian.

Data pertaining to the pedestrian realm along streets within the study area was collected, and conditions of the roadway were measured and documented. Some of the critical variables documented during the data collection process were:

- ◇ Sidewalk width/condition
- ◇ Buffer width
- ◇ Number of street trees
- ◇ Crossing facilities (e.g. marked crosswalk dimensions and pedestrian signal operation)
- ◇ Pedestrian amenities
 - ◆ Benches



III. Needs & Opportunities



- ◆ Newspaper and trash receptacles (convenience elements)
- ◆ Bus stops/shelters
- ◆ Pedestrian generators- described in detail in the “Walk Score” segment of this report
- ◆ Other features providing additional comfort, convenience, or safety for pedestrians
- ◆ Conflict points (i.e. locations where a pedestrian is in direct conflict with vehicular traffic while using the sidewalk)
- ◇ Personal security (the feeling of safety from criminal activity); and others

These variables are utilized in evaluating how well the roadways serve non-motorized users.

There are sidewalks along both sides of the street throughout Brown’s Square. Crosswalks are provided at all signalized intersections, and other critical unsignalized and mid-block locations around the two schools and the Kodak building, where pedestrian volumes are expected to be highest.



The view westbound on Platt Street



III. Needs & Opportunities



Snapshots of the Brown's Square Pedestrian Realm



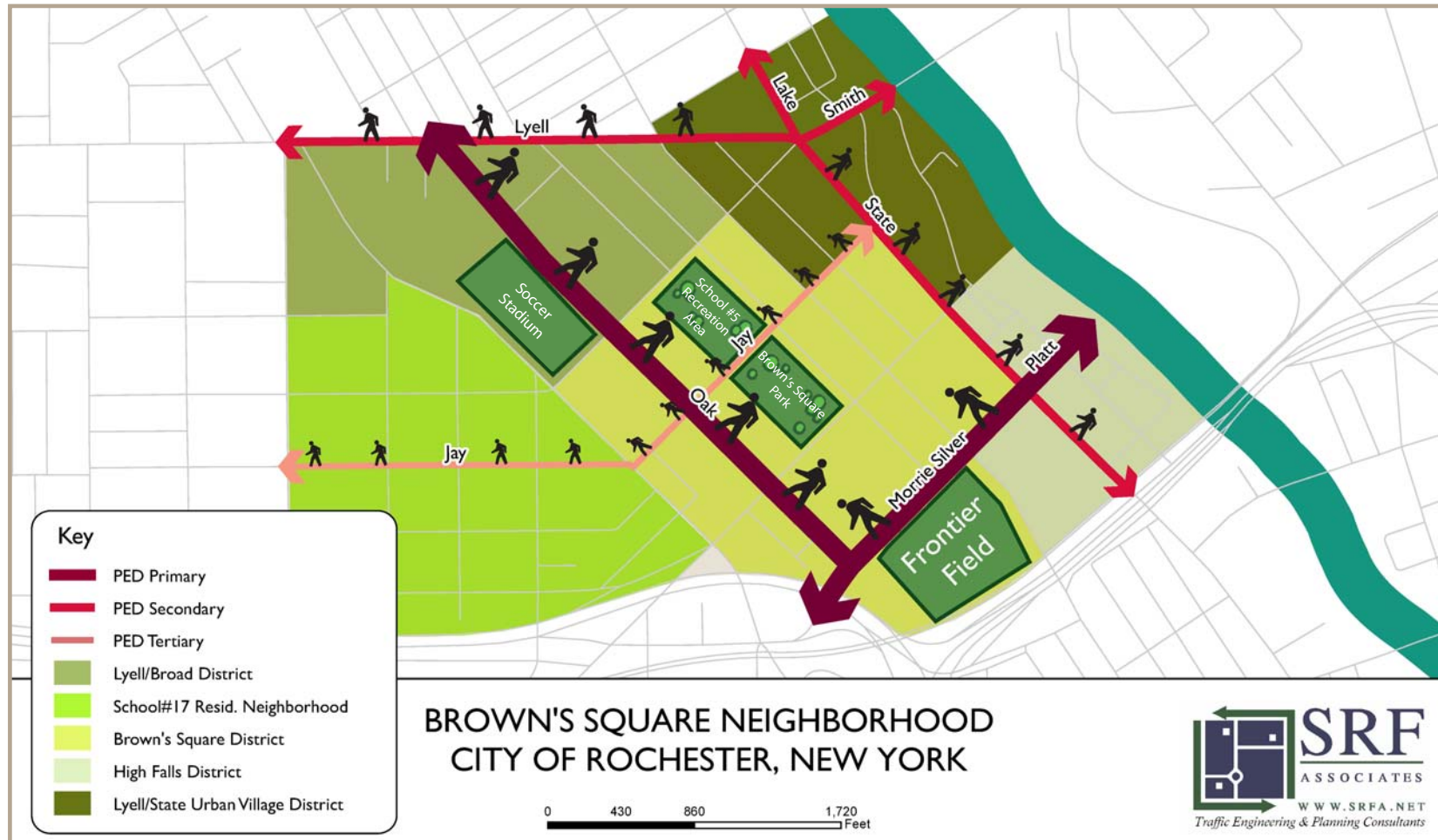
III. Needs & Opportunities



MAJOR PEDESTRIAN ROUTES

Following a detailed inventory of the Brown's Square pedestrian realm, the major pedestrian routes were separated into three classes: Primary, Secondary, and Tertiary. These classes are based on departure/destination points, existing pedestrian traffic observations, as well as areas targeted by the Brown's Square Neighborhood Plan. The routes are illustrated in Figure 17.

Figure 17 - Major Pedestrian Routes





III. Needs & Opportunities

PEDESTRIAN QUALITY OF SERVICE ASSESSMENT

A pedestrian Quality of Service (QOS) has been developed for the pedestrian realm on both sides of the roadway, along the major pedestrian corridors within the study area. The various corridors are divided into segments based on the unique characteristics of each segment. Every segment of the pedestrian realm has its own QOS score ranging from A-E, based on the pedestrian realm variables previously described.

The Australian method, developed by Nicole Gallin for calculating Pedestrian Quality of Service, was used for analysis purposes in this study. A research paper entitled Application of Level of Service Methods for Evaluation of Operations at Pedestrian Facilities published in the Transportation Research Record in 2002 compared five different pedestrian Level/Quality of Service methodologies. This method was chosen upon review of the previously mentioned research paper and because of the critical pedestrian realm factors that are considered in calculating the QOS score. The Australian Method is focused on safety, as well as the relative comfort and convenience for pedestrians, which the Highway Capacity Manual (HCM) methodology neglects to measure.

The consultant team, in collaboration with the Steering Committee, has assigned weights to the Pedestrian QOS variables, ranging from 1 to 5, corresponding to their importance in the context of the Brown's Square Neighborhood. The following scale was used for determining the weight of each variable:

Table 1 - Pedestrian QOS Weighting

| Weighting Scale | |
|-----------------|-----------------|
| 1 | least important |
| 2 | less important |
| 3 | important |
| 4 | more important |
| 5 | most important |

In order to clarify why variables were assigned a specific weight, the following explanations are presented:

3- Path Width– The width of the sidewalk is important in terms of comfort and a perception of safety.

5- Surface Quality- The quality of the sidewalk's surface is of great importance to users for safety and perception of the environment, and has been weighted accordingly for this assessment.



III. Needs & Opportunities



3- Obstructions– Because obstructions can be a problem for those users with mobility impairments, this variable was assigned an average weight of importance.

4- Crossing Opportunities– Crossing facilities are a primary consideration when considering the safety of a pedestrian network, therefore they were weighted heavily in this assessment.

4- Support Facilities- Pedestrian amenities and road characteristics suited to pedestrians are likely to contribute to users' desire to walk the neighborhood, therefore support facilities were weighted more important in this assessment.

3- Connectivity- The degree to which the path provides a useful, direct and logical link between key departure points and destinations is an important measure of the walkability of the neighborhood and was weighted accordingly.

4- Path Environment- The quality and width of buffer space between a pedestrian and vehicular traffic contributes positively to that pedestrian's level of comfort, hence buffer space was weighted more importantly in this assessment.

5- Potential for Conflict- Pedestrian/vehicle conflicts are a recognized safety concern due to numerous driveways. This factor has been weighted heavily and most importantly for this assessment.

1- Pedestrian Volume– Since it is unlikely that a high number of pedestrians will cause significant discomfort amongst other pedestrians in Brown's Square, this variable was assigned a low weight and least important.

1- Mix of Users- Most of the users observed on the sidewalks were walking (as opposed to skateboarding, rollerblading, etc.). The presence of other non-walking users will not significantly decrease a users comfort, therefore this variable was assigned a low weight.

3- Personal Safety- User comfort is diminished if there is any perception that criminal activities or violence is prevalent in the surrounding community; therefore this variable was weighted as important.

The QOS is determined by the total point value accumulated, which is calculated by multiplying



III. Needs & Opportunities

the points awarded to each variable based on field data by the weight of that variable. The QOS is determined by the point scale, as depicted in Table 2. The detailed calculations for the QOS of each segment can be found in the Appendix.

QUALITY OF SERVICE GRADING SCALE

It should be noted that Pedestrian Quality of Service differs greatly from Vehicular Levels of Service. A Level of Service of "C" is generally considered an acceptable vehicular level of service. However, a Quality of Service of "C" or lower for a pedestrian quality of service indicates that while basic pedestrian conditions exist, a significant number of factors impact the pedestrians' safety and comfort. Therefore, a pedestrian QOS of "C" is not an acceptable score for a segment of pathway or sidewalk.

- **QOS A** is a pedestrian environment where ideal pedestrian conditions exist and the factors that negatively affect pedestrian QOS are minimal.
- **QOS B** indicates that reasonable pedestrian conditions exist but a small number of factors impact on pedestrian safety and comfort. As QOS A is the 'ideal', QOS B is an 'acceptable' standard.
- **QOS C** indicates that basic pedestrian conditions exist but a significant number of factors impact on pedestrian safety and comfort.
- **QOS D** indicates that poor pedestrian conditions exist and the factors that negatively affect pedestrian QOS are wide-ranging or individually severe. Pedestrian comfort is minimal and safety concerns within the pedestrian environment are evident.
- **QOS E** indicates that the pedestrian environment is unsuitable. This situation occurs when all or almost all of the factors affecting pedestrian QOS are below acceptable standards.

Table 2 - Pedestrian Quality of Service

| Quality of Service Scale | |
|--------------------------|----------------|
| QOS A | > 132 points |
| QOS B | 101-131 points |
| QOS C | 69-100 points |
| QOS D | 37-68 points |
| QOS E | < 36 points |

As presented on Figure 18 on the following page, the Pedestrian Quality of Service indicates that the most significant areas of concern are along Broad Street, followed by Oak Street, and portions of Smith Street, State Street, Jay Street, and Morrie Silver Blvd. The detailed analysis for each segment is contained in the appendix.

CROSSWALK QUALITY OF SERVICE

An assessment of marked crosswalks was performed to document the level of real and perceived safety experienced when crossing the street. The results of the analysis showed that no significant safety deficiencies exist at the marked crosswalk locations in Brown's Square. However, this is not to say that the amount of crosswalks is sufficient. Marked crosswalks at mid-block locations can raise driver awareness of pedestrians, while also indicating to pedestrians the safest place to cross the street. However, mid-block crossings should only be considered where there is considerable demand and the distance between signalized crossings is quite far. Mid-block crossings may introduce a false sense of security for pedestrians, therefore, marked mid-block crossings should only be installed in conjunction with other pedestrian safety and traffic calming devices.



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Figure 18 - Pedestrian Quality of Service





III. Needs & Opportunities

WALK SCORE

Walk Score is an online service provided by Google that enables users to find walkable places to live. Walk Score calculates the walkability of an address by locating nearby stores, restaurants, schools, parks, etc. Walk Score measures how easy it is to live a car-lite lifestyle. The online software then calculates a score for a chosen address based on a zero to one-hundred scale. The walk score was assessed at various locations throughout Brown's Square. All addresses analyzed returned a walk score of at least 65, while many scored even higher. This is an indication that Brown's Square contains or is near many pedestrian generators. As such, the neighborhood should be designed to support, promote, and enhance pedestrian trips.

C. Bicycle Accommodations

Bicycle safety is judged on the presence or absence of a dedicated bicycle facility, shared lane widths including the on-street parking lane, and the amount of space a cyclist needs to safely maneuver. Other considerations which affect bicycle safety are speed limits, average annual daily traffic (AADT) volumes, percentage of heavy traffic, number of driveways, and any obstructions to the public realm, including overgrown landscaping and road grates. Bicycle infrastructure and facilities were also inventoried during the walk of the study area.

The Brown's Square Neighborhood lacks any form of dedicated bicycle facilities. There are no road shoulders or bicycle lanes provided to give bicyclists desirable maneuvering room and comfort. In addition, the outside lane is often too narrow to accommodate bicycles riding alongside vehicular traffic, with the exception of short segments of Brown Street and West Broad Street. In most cases, bicycle users must either use the sidewalk, or take their chances on the narrow outside lane of the road when traveling in the area.

Many bicyclists were observed during field observations around the neighborhood, including bicycle police during the events being held at the soccer stadium and Frontier Field. While some bicyclists chose to ride in the roadway, others were more comfortable using the sidewalk. Generally, Brown's Square has a strong presence of bicyclists throughout the neighborhood.

D. Transit Accommodations

The Rochester Genesee Regional Transportation Authority (RGRTA) is headquartered on East Main Street in Rochester and oversees public transportation in Monroe, Genesee, Livingston, Orleans, Wayne, Wyoming and Seneca Counties.

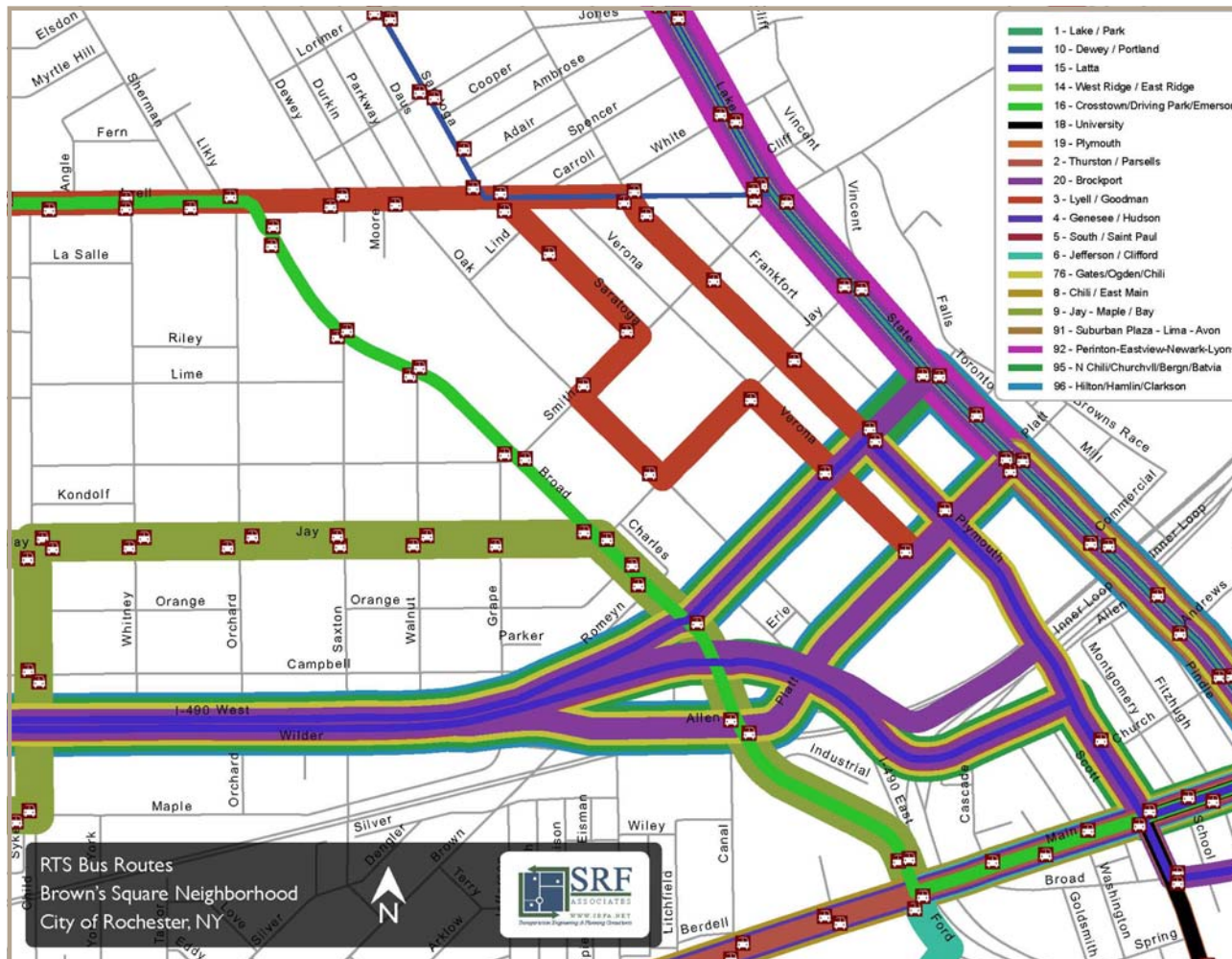


III. Needs & Opportunities



RGRTA has provided information regarding the various routes that serve Brown's Square, as well as bus stop locations. There are twenty bus routes that traverse the study area. Having an inventory of bus stop locations offers insight into potential locations for pedestrian realm improvements, as well as design treatments and appropriate road geometry at intersections. Figure 19 depicts the routes that pass through Brown's Square. At a glance, the map indicates which roadways the are served by the greatest number of routes.

Figure 19 - RTS Bus Routes





III. Needs & Opportunities

E. Safety

Providing safe routes of travel for cars, bicycles, and pedestrians is a responsibility and priority for all communities. Accident reports were investigated to assess the safety history at the intersections within the study area. The accidents included in the current review collectively covered slightly more than a three-year time period from January 2006 through February 2009. During this period, more than 325 accidents were documented within the study area including eleven accidents involving bicyclists and four involving pedestrians. There were accident concentrations at the following intersections:

Table 3 - Accidents

| INTERSECTION | NUMBER OF ACCIDENTS | INTERSECTION | NUMBER OF ACCIDENTS |
|----------------------------------|---------------------|----------------------------|---------------------|
| Lyell/State St/Lake Ave/Smith St | 48 | Brown St/Oak St | 17 |
| Lyell Ave/Broad St | 27 | Brown St/State St | 14 |
| Broad St/Jay St | 26 | State St/Jay St | 10 |
| Lyell Ave/Plymouth Ave | 24 | Broad St/Saxton | 9 |
| Plymouth Ave/Morrie Silver Way | 22 | Plymouth Ave/Jay St | 8 |
| Lyell Ave/Dewey Ave | 20 | State St/Morrie Silver Way | 7 |
| Broad St/Brown St | 20 | Broad St/Walnut | 3 |
| Lyell Ave/Saratoga | 17 | | |

There are concentrations of pedestrian/vehicle collisions at several locations along Lyell Avenue within the study area including the intersections with State Street, Saratoga Avenue, and Dewey Avenue as indicated in Figure 20.



III. Needs & Opportunities



Pedestrian Injury Collision Rate* by 5 Districts Brown Square Neighborhood, NY

Comparison: 20/100,000 Population

- Exceeds or Meets ($\leq 20/100,000$)
- 1 - 4 Times (21-80/100,000)
- 4 - 6 Times (81-120/100,000)
- > 6 times ($\geq 121/100,000$)
- Schools
- #(#) Population(# of Accidents)



* Based on July 2001 - July 2003 collision data provided by the 911 control center and 2000 population data provided by the U.S. Census

Figure 20 - Pedestrian Injuries



III. Needs & Opportunities

F. Parking

The parking data discussed in the Inventory & Analysis section of this report indicates that there is an adequate supply of parking within the Brown's Square neighborhood to accommodate all of the current uses including simultaneous events at the two stadiums. However, the distribution of parking throughout the area indicates that patrons choose to park as close to their destination as possible. Figure 21 indicates that the more underutilized parking lots/garages fall just outside of the 1/4 mile or a 6 minute walking radius but well within a 1/2 mile or a 12 minute walk.

There is an opportunity to encourage motorists to choose more remote parking if either the walk to/from their destination is safe, pleasant and inviting or if convenient, free and easy to use shuttle services are provided.

G. School Parking and Access

Residents from the neighborhood surrounding School #5 attended the public workshop meeting and voiced their concerns regarding school bus parking along Saratoga Avenue and Verona Street. Parking regulations along Verona Street were changed from alternate side parking to parking along one side of the street only. Most of the residents rely on the on-street parking as they have limited or no off-street parking. School buses, typically 4-6 buses, park along Verona Street between 2:45 and 3:10 PM as they wait for access to the portion of Verona Street adjacent to the school where they pick up students. The residents can't park along the street when the school buses are parked.

The Rochester City School District has recently changed the start and end times of several schools in the district including School #5. School will start later, 9:15 AM, and end later 3:35 PM. In addition, there is an opportunity to abandon the segment of Verona Street adjacent to the school between Smith Street and Jay Street. The segment could then be used by the school for school bus pick-up and drop-off and the bus circulation pattern could be altered to allow buses to travel northbound. This would allow children to exit the buses towards the school and would not require them to cross in front or behind the buses. Bus queuing could then be relocated from the residential section of Verona Street to Jay Street adjacent to Brown Square Park.

H. One-way Street Circulation

The Brown's Square neighborhood is criss-crossed with one-way streets. Many of these streets, such as Saratoga Avenue and Verona Street, are one-way for safety reasons. Others, like Brown Street and Morrie Silver Blvd, are one-way to provide additional capacity. Changes in land use and travel patterns throughout the neighborhood have reduced the need for the capacity provided by the one-way streets. There is an opportunity to re-evaluate travel patterns and possibly convert some of the one-way streets back to two-way to allow for easier access and circulation throughout the neighborhood.



III. Needs & Opportunities

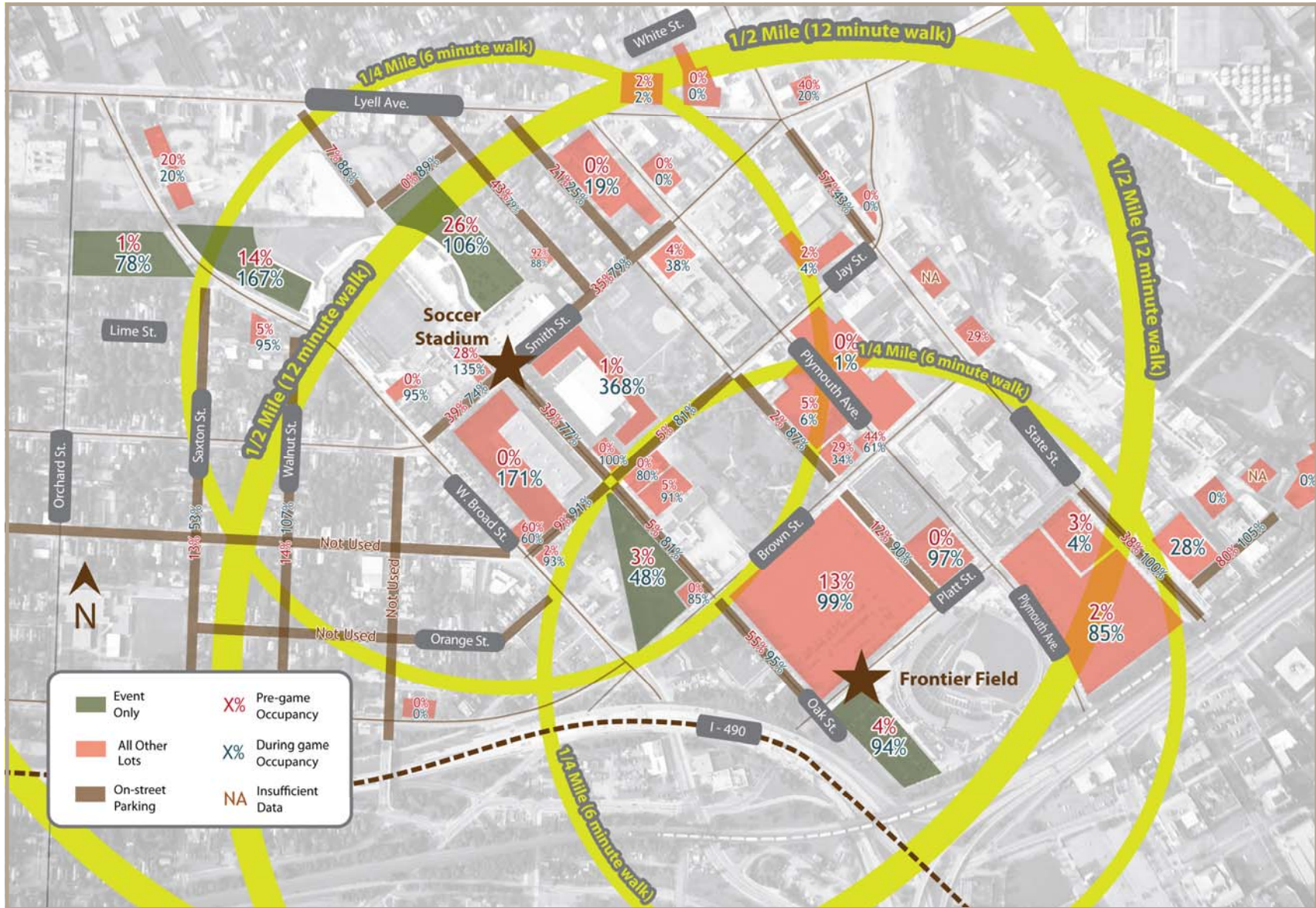
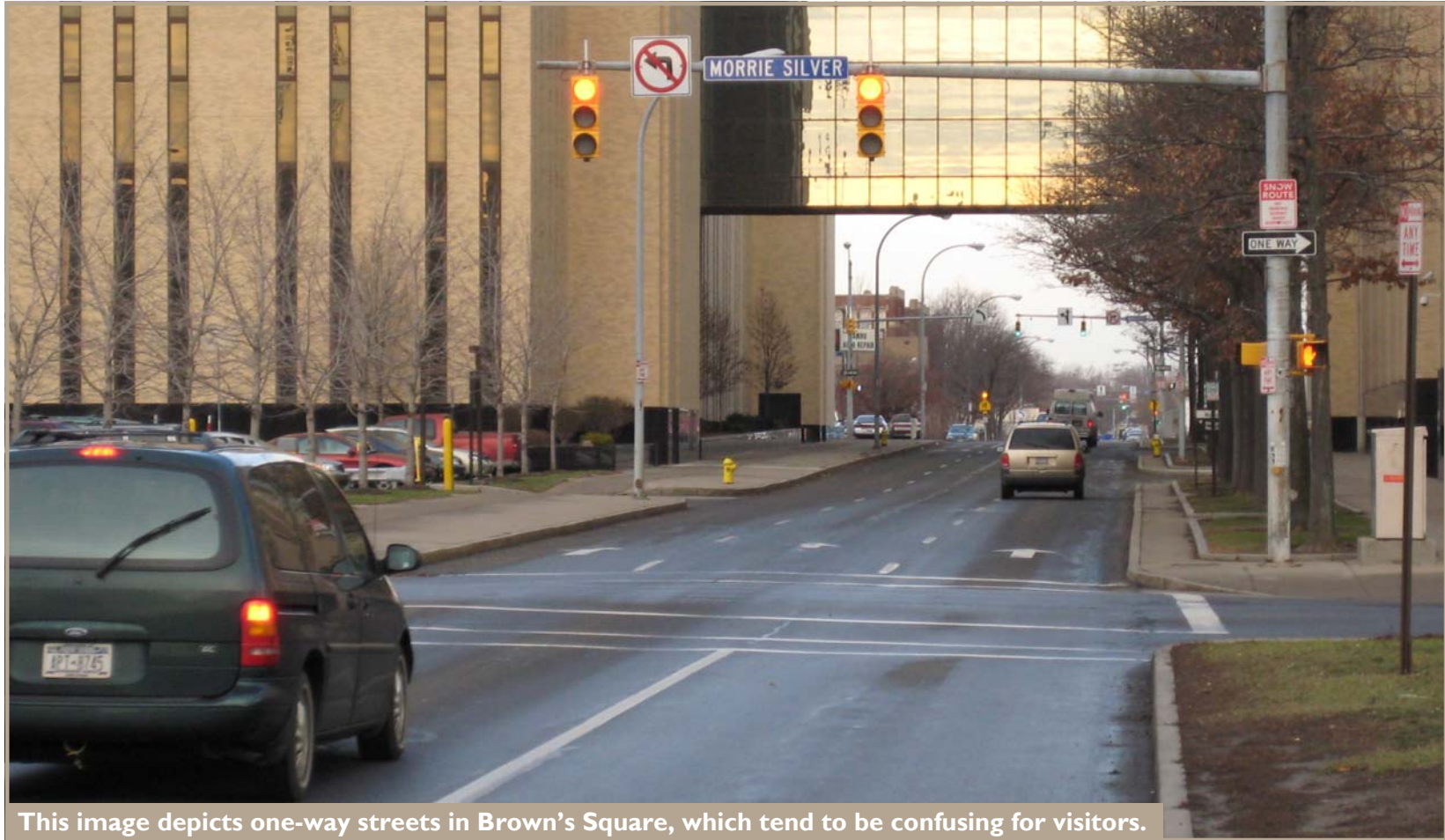


Figure 21 - Parking & Effective Walking Range



III. Needs & Opportunities



This image depicts one-way streets in Brown's Square, which tend to be confusing for visitors.

As previously discussed, the ICU projected at each intersection indicates that all of the study area intersections will operate at 70% (or less) of their capacity during both peak hours with the exception of the Lyell Ave/Dewey Ave and the Lyell Ave/State St intersections. This indicates that the intersections that are critical to the functioning of the current one-way streets are likely to have adequate capacity to allow for conversion to two-way streets. An opportunity exists to further explore the needs, impacts, and costs of converting some of the one-way streets in the neighborhood to two-way streets.



III. Needs & Opportunities



I. Re-alignment of Dewey/Broad/Lyell

There may be an opportunity for the off-set intersections of Lyell Avenue with Dewey Avenue and Broad Street to be aligned with one another. This alignment would eliminate some turning movements that currently occur and allow motorists to travel straight through from Dewey Avenue to Broad Street and vice versa. The benefits of such an alignment include utilizing vacant land that was once used for industrial/commercial uses in the area, simplification of the dual intersection for motorists, elimination of queuing conditions between intersections, and safety enhancements for pedestrians and bicyclists traveling through the intersection.

There are two different design approaches to the re-alignment. The “car-friendly” design favors the automobile by providing left turn lanes on all four approaches and right turn lanes on the eastbound, westbound, and northbound approaches to the intersection. The “pedestrian-friendly design” eliminates all three right turn lanes provided in the “car-friendly” design to provide shorter crossing distances and fewer opportunities for vehicle/pedestrian conflicts. Stakeholders will have to decide which design approach is in keeping with the vision for the neighborhood. While the “pedestrian-friendly” design is likely to experience periods of congestion, this may be a fair sacrifice for improved crossing convenience and safety for pedestrians. The ICU results indicated in Table 4 are for planning level purposes. A detailed investigation of these options is necessary to build upon the results of this analysis.



Aerial view of where Dewey and Broad meet Lyell

Table 4 - LOS of Re-aligned Broad/Dewey

| 2028 Projections: Re-aligned Broad St/ Dewey Ave Intersection | | | | |
|--|------------------------|---------|-------------------------------|---------|
| Lyell / Dewey- Broad | Car Friendly Design | | Pedestrian Friendly Design | |
| | AM | PM | AM | PM |
| EB | B | C | E | E |
| WB | C | D | D | E |
| NB | B | C | C | D |
| SB | D | D | E | E |
| Overall | C(24.6) | C(33.1) | D(51.4) | E(60.4) |
| ICU | 75% | 87% | 95% | 97% |



III. Needs & Opportunities

J. Walking and Bicycling Opportunities

Every trip truly does begin and end with a walk. Because walking is such a vital part of each trip, providing adequate and comfortable environments for walking is of paramount importance. When people are inclined to walk, less vehicle trips are generated. There are numerous health, environmental, and economic benefits of walking. Environments that are well-suited to pedestrians allow residents and visitors to take advantage of these many benefits.

Pedestrian facilities exist throughout the neighborhood although they are uninviting and lacking amenities such as benches, landscaping, and other aesthetic elements. There are opportunities to enhance the pedestrian realm along Oak Street and other streets throughout the neighborhood, especially where the Pedestrian Quality of Service Assessment has found deficiencies.

Facilities for bicyclists are also in need of improvements. Bicycles allow us to extend the effective range of non-motorized trips. Bicyclists should feel safe and have roadway space allocated to them, especially on high volume or high speed roads. There may be opportunities to enhance the comfort of bicyclists on roadways throughout Brown's Square. In addition, there are opportunities to improve parking conditions for bicyclists throughout the neighborhood.

Tables 5 and 6 are quite telling of the tremendous need for adequate pedestrian and bicycle facilities in Brown's Square. Generally, residents of the neighborhood have less access to automobiles, and have above average use of walking and bicycling as a viable form of transportation.



Pedestrian crossing Plymouth Avenue



III. Needs & Opportunities



| Mode of Transportation to Work | | | | |
|--------------------------------|-----------|------------|--|---------------|
| | New York | | Brown's Square (Census Tracts 2, 41, 96.04) | |
| | | % of Total | | % of Total |
| Total Population 16+ Years Old | 8,211,916 | | 1451 | |
| Car, Truck, or Van | 5,377,096 | 65.48% | 903 | 62.23% |
| Public Transportation | 2,006,194 | 24.43% | 242 | 16.68% |
| Bicycle | 25,036 | 0.30% | 38 | 2.62% |
| Walked | 511,721 | 6.23% | 189 | 13.03% |

Table 5 - Mode of Transportation to Work

| Availability of Vehicles | | | | |
|--------------------------|-----------|------------|--|---------------|
| | New York | | Brown's Square (Census Tracts 2, 41, 96.04) | |
| | | % of Total | | % of Total |
| Total Households | 7,056,860 | | 2,124 | |
| No vehicle available | 2,092,756 | 29.66% | 1,017 | 47.88% |
| 1 vehicle available | 2,329,545 | 33.01% | 789 | 37.15% |
| >1 vehicles available | 2,634,559 | 37.33% | 318 | 14.97% |

Table 6 - Availability of Vehicles



IV. Recommendations

A. Land Use and Regulatory Recommendations

Require A Higher Level of Design For Industrial Uses In The Area

The existing industrial uses within the study area create an inconsistent streetscape and serve as a barrier between the neighborhood to the west and the destinations to the east. For example, the section of Oak Street located south of Smith Street (shown in upper photo) has a relatively attractive streetscape due to:

- Large building setbacks occupied by lawns and greenspaces;
- Well maintained decorative and chain-link fences; and
- Mature street trees.

By comparison, the section of Oak Street located south of Jay Street (shown in lower photo) has an unappealing streetscape due to:

- Lack of greenspaces and large, paved or gravel parking areas;
- Loading docks and truck storage areas located in close proximity to the street;
- Lack of consistently spaced street trees; and
- Buildings that are placed relatively close to the street that have little or no aesthetic contribution to the streetscape.

According to Section 120-161 of the Zoning Code for the City of Rochester, neighborhoods have the ability to develop Neighborhood Design Guidelines. These guidelines are intended to, “offer further guidance to the review authority in determining if a development meets the objectives of this chapter and the neighborhood. These guidelines are developed to ensure that new development is compatible with the surrounding area.” It is recommended that the neighborhood work closely with City Staff and a design consultant to develop Neighborhood Design Guidelines that require a higher level of site and building design for industrial zoned properties within the study area. The Brown's Square Neighborhood Design Guidelines should place an emphasis on creating a more attractive public realm which fosters connectivity within and through the industrial areas.



View looking south along Oak Street from Smith Street



View looking east along Oak Street south of Jay Street



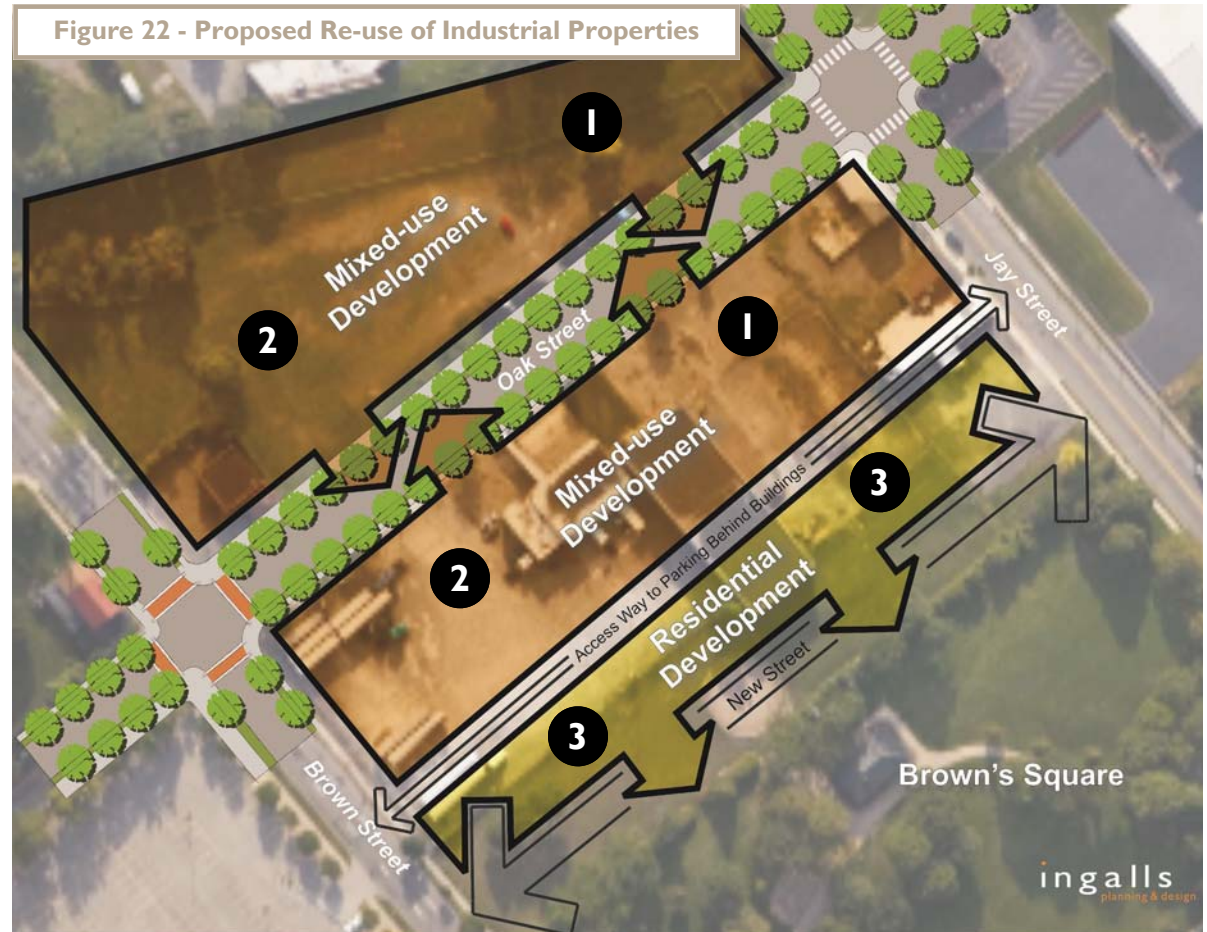
IV. Recommendations



Relocate Industrial Uses Over Time

The Neighborhood Design Guidelines described in the previous section can be developed within the next six months to improve industrial uses as they re-develop. However, the City may want to consider a long term strategy that includes the relocation of the industrial uses along Oak Street to areas outside of the neighborhood and the re-zoning of the industrial district along Oak Street. Once these uses have been re-located, it is recommended that the area be zoned for and developed with higher density residential type uses or a mix of commercial and residential uses (as shown in the figure to the right). The presence of residential or commercial uses creates the potential for a high degree of connectivity within and through the Oak Street area. Extending Saratoga Avenue would allow new residential development to occur within the neighborhood fronting the existing Brown's Square Park. This development would buffer the park from the adjacent mixed use development.

These images are intended to serve as examples of the preferred types of development expressed by the local stakeholders and articulated in the Draft Brown's Square Neighborhood Plan. Image #1 is of a mixed use building which has traditional architectural styling and detailing. Image #2 is of the St. Anthony's Square residential development along West Main Street. Image #3 is of a new townhome development built adjacent to a community greenspace.





IV. Recommendations



Corner of Main Street & Winton Road circa 2000



Corner of Main Street & Winton Road in 2008

Re-zone the Industrial District Along Oak Street

The existing Industrial Zoning (M-1) Requirements for the City include:

- No minimum building height;
- No minimum or maximum building setback requirements;
- Building walls that face the street shall have a minimum of 20% transparency;
- Concrete or pre-cast panels are permitted exterior building materials;
- Mirrored or reflective glass are permitted exterior building materials; and
- Parking may be permitted between the building and a street.

The existing Commercial Zoning (C-2) Requirements for the City include:

- Minimum building height of two stories or 20 feet;
- Zero building setback from a public street;
- Building walls that face the street shall have a minimum of 70% transparency; and
- Parking must be located to the side or rear of the building.

A review of the Industrial and Commercial Zoning Requirements indicates that the existing zoning requirements are designed to foster the creation of a strong public realm which is attractive, smaller scaled, and induces pedestrian and bicycle activity. (The results of the City's code can be seen in the "before" and "after" pictures shown to the left.) This approach to land use regulation and the resulting development is consistent with the objectives developed as part of the Brown's Square Neighborhood Planning Process. By comparison, the Industrial Zoning Requirements do not place a great enough emphasis on fostering a comfortable and pleasant environment for walking and biking and do not achieve the objectives established by the City and the neighborhood.

The photo simulation shown on page 57 provides an example of the positive impact new development that adheres to the existing commercial requirements would have on the character of the Oak Street corridor.



IV. Recommendations

B. Streetscape and Pedestrian Realm

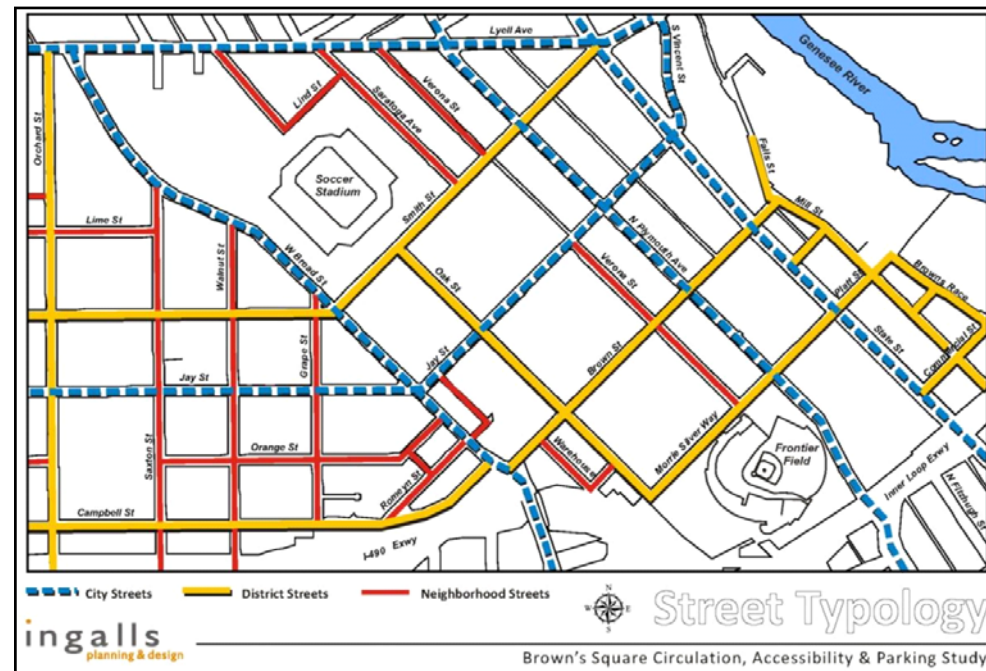
Develop Streets based on the Plan for the Public Realm as outlined in the Center City Master Plan

The 2003 Center City Master Plan includes a street typology section with recommended cross-sections and treatments. The Plan includes five street designations; neighborhood street, district street, city street, Main Street, and boulevard. Using these designations as described in the Center City Master Plan, each street within the study area was mapped and is shown in the graphic to the right. The street types identified in the Brown's Square area include:

- City Street - Principal facility for carrying traffic through and across Center City. City streets connect districts and provide the primary means for entering/exiting the neighborhood.
- District Street - Moderately-scaled connector street that provides vehicular and pedestrian access to and between neighborhood and city streets and to and through neighborhoods and districts.
- Neighborhood Street - Pedestrian-oriented local street that connects residences and neighborhoods with each other and with district and city streets.

It is recommended that future improvements to any street within the Brown's square neighborhood be consistent with the character objectives and guidelines as outlined in the Center City Master Plan. See that plan for more details.

Figure 23 - Street Typology





IV. Recommendations

Celebrate the Neighborhood

Develop a unique neighborhood theme based on historic and existing assets and celebrate it through design and promotions. The process to develop the theme should be collaborative and include residents, business owners, City staff, and other neighborhood stakeholders. The theme should identify and utilize the unique neighborhood attributes and could include design features such as signs, plaques, banners, lights, etc. Preliminary ideas to consider in developing a theme include:

- Brown's Square Park
- Irish heritage
- Erie Canal
- Kodak
- Zweigel's
- Frontier Field and Soccer Stadium





IV. Recommendations



Develop Oak Street as an Attractive and Pedestrian Friendly Neighborhood Connector

Oak Street was identified in the Brown's Square Neighborhood Plan and by participants at the Design Workshop as an important pedestrian link between the High Falls District, Frontier Field and the parking areas around it, and the soccer stadium. Although community members stated that they do not want sports to be the dominating theme for Oak Street they do want an attractive, pedestrian friendly urban neighborhood street with street trees, pedestrian scaled lighting, well defined crosswalks, street furniture, and thematic design features indicative of the Brown's Square neighborhood. They also want multi-story buildings that engage the street and parking areas located in the rear or side yards. There is also a desire for residential uses either as a component of mixed-use buildings or high density residential, such as row or townhouses (see land use recommendations for further details).

The graphic to the right illustrates Oak Street from Brown Street to Smith Street and shows opportunities for the development of activity nodes at each end. However, streetscape improvements should be made throughout the Oak Street corridor, including the segment between Brown Street south to Morrie Silver Way. The Smith Street node was identified because the primary pedestrian entrance to the soccer stadium is located adjacent to the intersection and is on axis with Oak Street. Some enhancements have been made to this area as part of the construction of the stadium. The existing entrance plaza to the stadium should be coordinated with future streetscape improvements on Oak Street, such as enhanced crosswalks, thematic design features, wayfinding signs, etc. The Brown Street intersection should also include enhanced crosswalks and other design features but could include mixed-use development fronting Oak Street. A majority of the block between Brown Street and Jay Street on the west side is owned by the City of Rochester. If this area is developed, opportunities for interpretation of the historic Erie Canal, which ran through the area, should be considered.

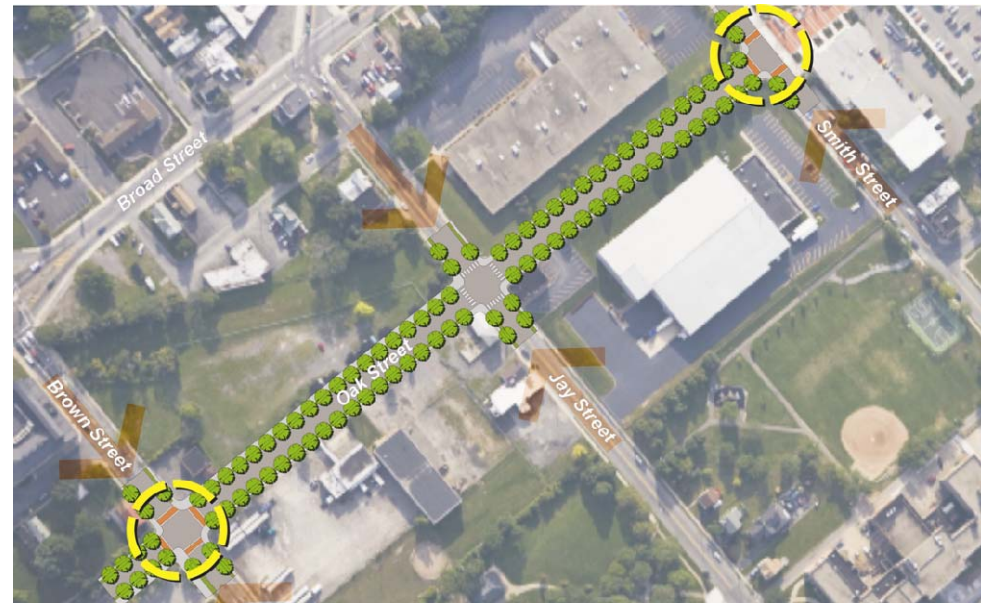


Figure 24 - Oak Street Activity Nodes



IV. Recommendations



Figure 25 - Oak Street Rendering





IV. Recommendations



C. Transportation Recommendations

TRANSIT ACCESS

To maximize ridership and user experience, public transit should be as accessible as possible to visitors and residents of Brown’s Square. Transit stops should be clean, properly located, and visually identifiable. **Figure 26** demonstrates a well designed transit stop that is accessible to pedestrians and the mobility impaired. The sidewalks on both sides of the transit stop should be of ample width, and clear of debris and obstructions. The bus loading area should feature a wheelchair landing pad of adequate width to accommodate the maneuvering of a wheelchair.

Public transit is vital to efficient and economical urban life, as such, transit stops should be designed to a high standard to comfortably accommodate users. Transit shelters should be considered at key high-volume transit nodes. Since Brown’s Square has been envisioned as a lively festival area that caters to the pedestrian, it is fitting that the transit stops/shelters receive a high level of treatment. Upgraded or custom transit shelters should be considered at identified neighborhood gateway locations and other high volume nodes.

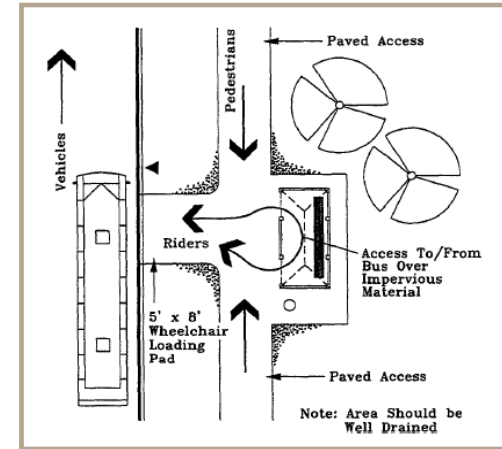
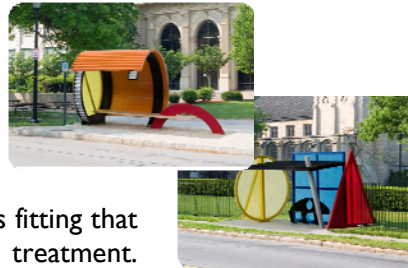


Figure 26 - Accessible Transit Stop Diagram

RE-ALIGN DEWEY/BROAD

There are two ways in which Dewey and Broad can be re-aligned to create a single four-way intersection as opposed to offset “T” intersections. Option A would involve shifting the alignment of Dewey to the west to meet the existing Broad/Lyell intersection. Option B requires a shift in the alignment of Broad St to the east to align with the existing Dewey/Lyell intersection. Planning level analyses indicate that both options are feasible, however, a more detailed engineering study is required to determine how well either option would operate.



Figure 27 - Dewey/Broad Re-alignment



IV. Recommendations

SARATOGA AND VERONA IMPROVEMENTS

Streetscaping and other traffic calming improvements are planned for Saratoga Avenue and Verona Street to improve the general safety and aesthetic of the residential neighborhood streets. The improvements will include three mid-block curb extensions and intersection curb extensions on Saratoga Avenue at Smith Street.

CONVERT ONE-WAY STREETS

Conversion of one-way streets back to two-way operation is feasible based upon a preliminary assessment of capacity. Consideration should be given to converting some (or all) of the one-way streets to two-way, including Morrie Silver Way, Brown Street, Plymouth Avenue, and Verona Street between Jay Street and Morrie Silver Way. The streets no longer require the additional capacity granted by the one-way streets and the conversions would result in reduced speeds and possibly narrower crossing widths for pedestrians. This alteration will improve wayfinding and make the neighborhood more navigable. A follow-on study that includes more detailed and comprehensive safety and operational investigations will be required to advance this recommendation.



Figure 7 - One-way Streets



IV. Recommendations

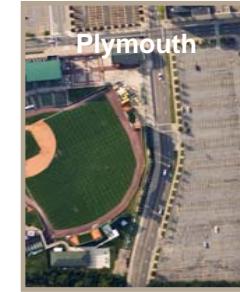
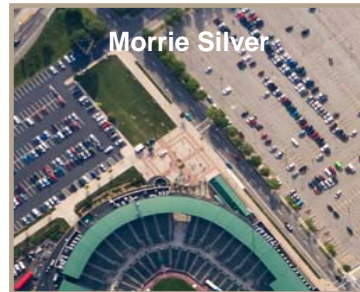
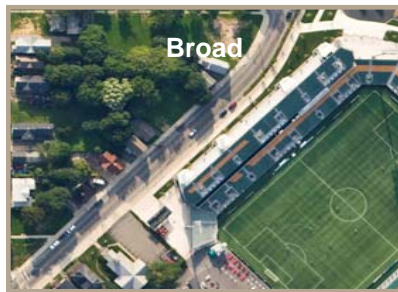


SCHOOL #5

Abandon the section of Verona Street adjacent to School #5 to allow the school to reverse the one-way direction and provide better circulation for school buses. This way, buses can be staged adjacent to the school without impeding the flow of traffic. This addresses resident concerns regarding bus staging on side streets. If the one-way direction of this segment of Verona Street were to be reversed, most existing southbound traffic on Verona Street would likely choose to utilize Oak Street to continue southbound through the neighborhood. If the recommendation from the Neighborhood Plan to extend Saratoga street southward to Jay Street is implemented, that would provide southbound motorists with another viable travel route. A study with more detailed and comprehensive safety and operational investigations will be required to advance this recommendation.

TRAFFIC CALMING

The Steering Committee, guided by resident input, has identified 4 key roadways with perceived speeding issues. These include Broad Street adjacent to the Soccer Stadium, Plymouth Avenue adjacent to Frontier Field, Morrie Silver Way adjacent to Frontier Field, and State Street adjacent to the High Falls Garage. Speed studies at these locations have confirmed that 85th percentile speeds are 5-10 mph higher than the posted speed limits. It is therefore recommended that these locations receive traffic calming and pedestrian realm enhancements to improve the safety and enhance the comfort of pedestrians. Further analysis may be required to determine appropriate design treatments.



Applicable treatments include the provision of curb bump-outs, median refuge islands, raised crosswalks, textured pavement, painted intersection treatments, lane striping, and raised intersections. Ultimately, the goal is to slow down traffic, which will contribute to the success of the neighborhood as a pedestrian-oriented environment. A follow-on study that includes more detailed and comprehensive safety and operational investigations will be required to advance these treatments.





IV. Recommendations

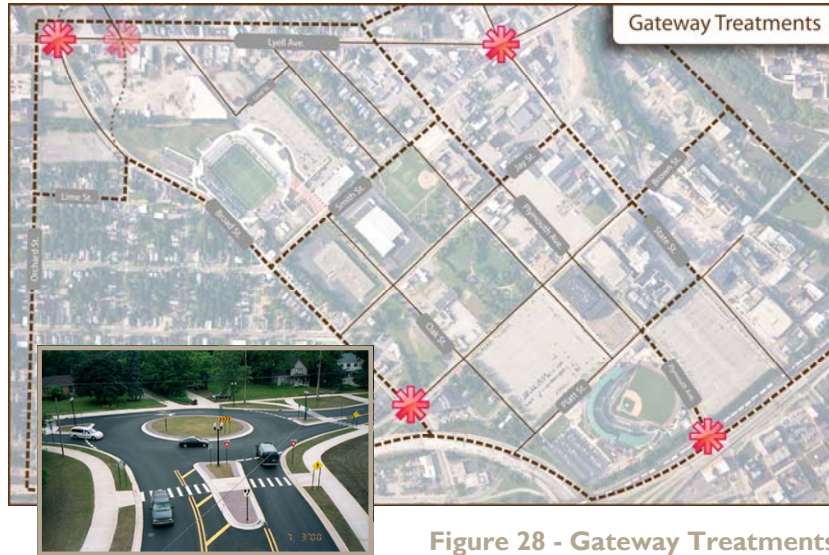


Figure 28 - Gateway Treatments

GATEWAY TREATMENTS

Community gateways can be as simple as landscaped sign installations that announce to motorists that they are entering a community or neighborhood. Effective community gateways communicate to motorists that they are making a transition, in the case of Brown's Square from Center City to the Brown's Square neighborhood.

The Brown's Square neighborhood contains three major entertainment attractions: High Falls, Frontier Field, and the Soccer Stadium. Visitors and other through-going motorists should be "made aware" that they are entering a distinct and remarkable neighborhood. Unique gateway treatments would promote the neighborhood and serve to calm traffic. **Figure 28** depicts the locations for potential gateways.

Gateway treatments can include a modern roundabout, a roadside sign, or an elaborate arch over the road such as the High Falls District sign on State Street. Changes to roadway geometry such as the installation of a roundabout would require a detailed follow-on investigation.

PARKING UTILIZATION

According to field observations, the number of parking spaces in the area is more than adequate to support simultaneous events at both stadiums. The proximity, convenience and safety of parking deters patrons, not the availability of parking spaces. It may be beneficial to create new surface parking lots located in closer proximity to the Soccer Stadium. This would resolve issues related to parking proximity and perceived or real safety issues. In addition, new pedestrian linkages, discussed below, will displace existing parking spaces that could be replaced by new more proximate parking. Potential locations for new surface parking areas are shown in the image to the right.

Parking utilization can also be improved through wayfinding signage and improved pedestrian connections. Linkages to parking are also key to optimal parking

Figure 29 - Potential City-Owned Parking Lots





IV. Recommendations



utilization. Users must be able to conveniently walk from their parking space to their destination with the least amount of discomfort and effort. Pedestrian linkages should be provided through the Kodak parking lot between the High Falls garage and Frontier Field as well as to the north of the Soccer Stadium connecting the Stadium to Lyell Avenue via Oak Street. **Figure 30** displays other beneficial pedestrian linkages. In addition, the possibility of providing shuttle bus service should be explored as a coordinated effort for both stadiums. Additional wayfinding signs should be located throughout the neighborhood as shown on the map in **Figure 31**.

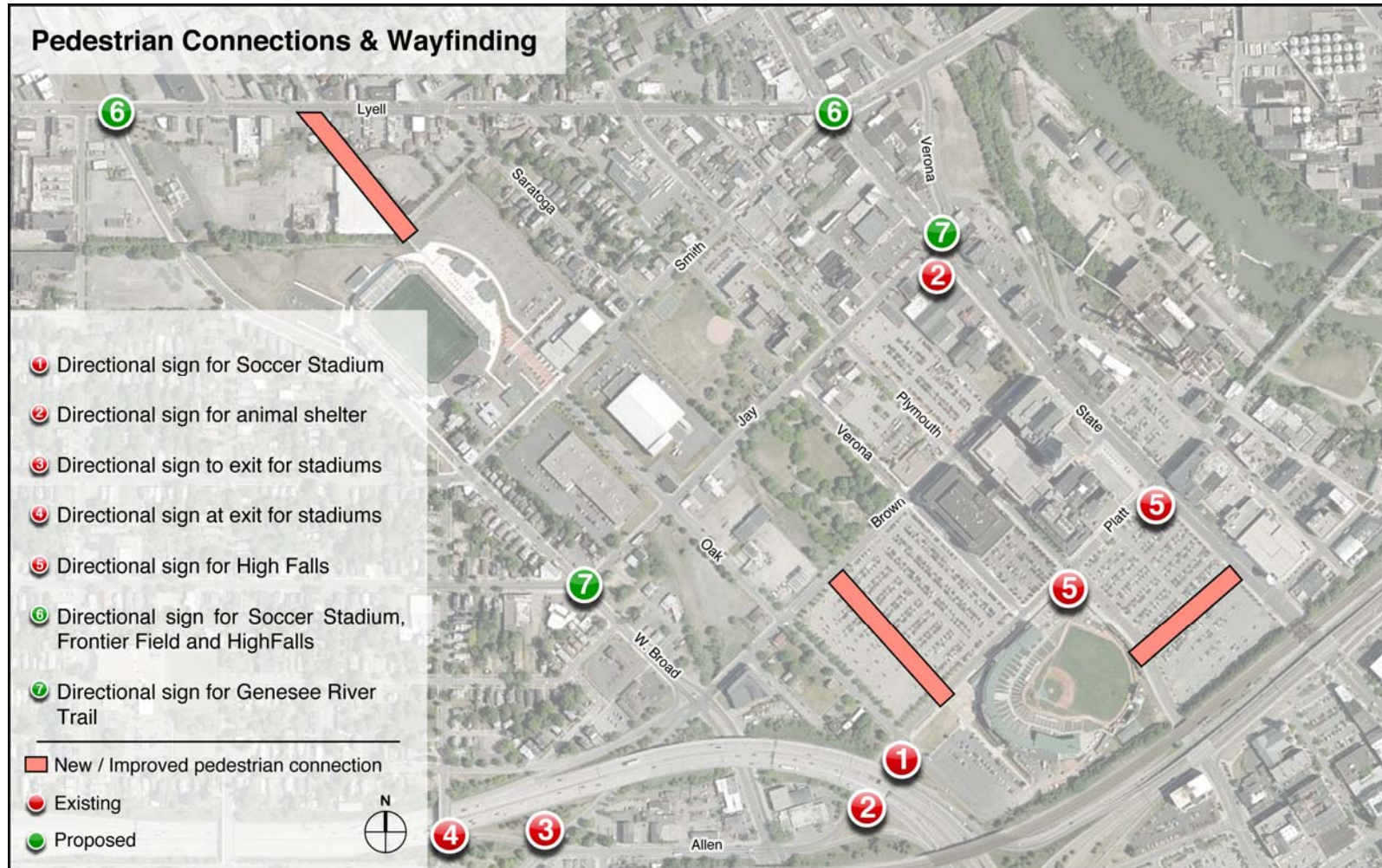


Figure 30 - Pedestrian Connections & Wayfinding



IV. Recommendations

BICYCLING CONNECTIONS

To make the neighborhood more accessible to non-motorized roadway users and increase resident opportunities for active transportation, Brown's Square should feature strong connections to the Genesee River Trail, which runs north/south directly through Center City. Bike lanes/space (depending on available width) should be provided on Jay Street and Vincent Street to connect the stadium to the Genesee River Trail at Smith and Vincent Streets. Jay Street is a major spine throughout both the Brown's Square and Josana neighborhoods and can provide a necessary linkage for residents between neighborhoods and local attractions.



Figure 31 - Proposed Bike Lanes

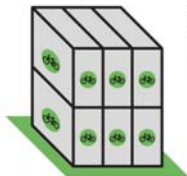
The map on the right shows locations for existing and proposed bicycle parking. The symbols on the map correspond to different types of bicycle parking shown below.

Intended for short term storage periods between 2-4 hours, generally uncovered and unsupervised. Relatively inexpensive.



Bike Rack

\$100-300 per unit (parks 2 bikes)



Bike Locker

Intended for long term or all-day storage periods, generally lockable and secure from theft and the elements

\$1,000-4,000 per unit (parks 2 bikes)



Bike Shelter

Intended for long term storage periods between 4-10 hours, desirable in festival/pedestrian oriented areas

\$ variable depending on design

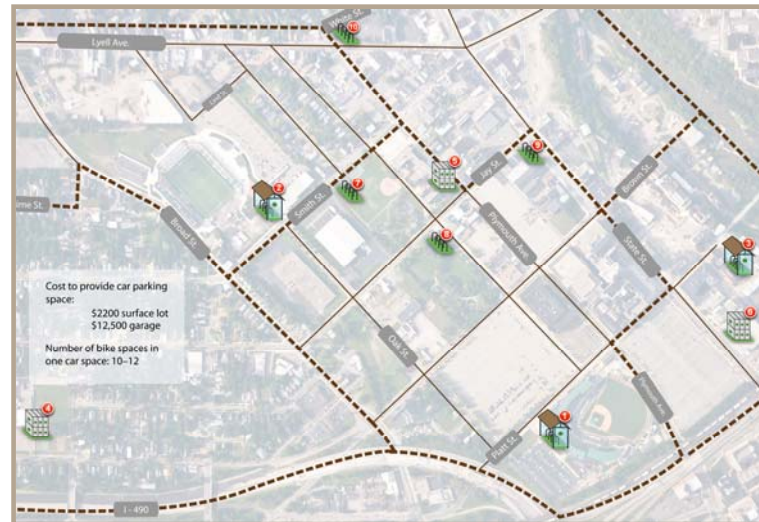
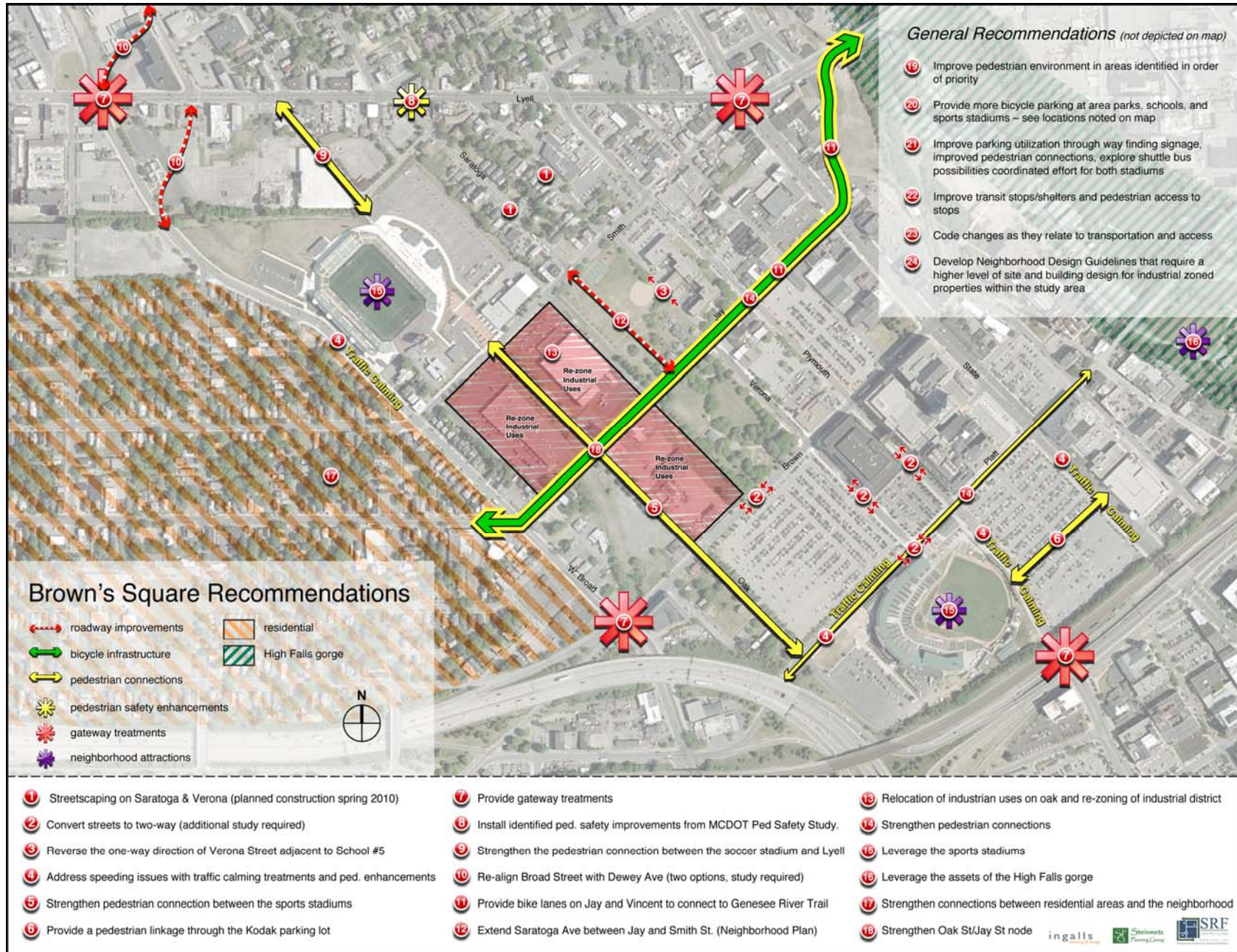


Figure 32 - Proposed Bicycle Parking



IV. Recommendations

Figure 33 - Recommendations Map





V. Implementation & Funding

A. Implementation & Funding

Recommendations for implementation of the proposed improvements are outlined on the following pages. They are subdivided into three categories: immediate to near term (0-5 years), medium term (5-10 years), and long term (10-20 years). Many of the Immediate to Near Term recommendations can be implemented as part of ongoing maintenance and other programs while others in this phase of implementation are either relatively low cost modifications or funding for these types or improvements may be available. Medium Term recommendations require more planning and funding to implement and can likely be accomplished in the 5 to 10 year timeframe. The Long Term recommendations are generally more expensive and are likely to require significant planning to implement. It is noted that the longer timeframes may more closely align with typical regional NYSDOT timeframes used for programming funding. Specific improvements may be made sooner as funding becomes available. Opportunities for funding and a description of the funding sources that are available are included on the following pages.



V. Implementation & Funding

FUNDING OPPORTUNITIES

| RECOMMENDATIONS (NUMBER CORRESPONDS TO MAP) | CHIPS | NEA | SRTS | CDBG | TEP | NYS CA | DEC UFG | NYS DCR | TIP | RTP | MISC |
|--|-------|-----|------|------|-----|-----------|------------|------------|-----|-----|-------|
| IMMEDIATE TO NEAR TERM (0-5 YEARS) | | | | | | | | | | | |
| 1. Improve streetscape on Saratoga and Verona | ● | | | ● | | | | | | | 1 |
| 2. Evaluate the impacts of converting the one-way streets back to two-way | | | | | | | | | | | 3 |
| 3. Reverse the one-way direction of Verona St adjacent to School #5 | | | | | | | | | | | 1 |
| (see p. 40) Improve pedestrian environment in areas identified in order of priority- Oak St, Morrie Silver Way (Oak St to State St), State St (Platt to Lyell), and Lyell (Oak to Broad) and Lake to Plymouth (see attached table for basis of prioritization) | ● | ● | ● | ● | | ● | ● | | | | 1,5 |
| (see p. 63) Provide more bicycle parking at area parks, schools, and sports stadiums | | | | ● | | | | | | | 1,5 |
| 4. Provide traffic calming treatments and pedestrian enhancements in areas with speeding issues on Broad St, Morrie Silver Way, State St, and Plymouth Ave | ● | | ● | ● | ● | | | | ● | | 1 |
| (see p. 62) Improve parking utilization through way finding signage, improved pedestrian connections, explore shuttle bus possibilities coordinated effort for both stadiums | ● | | | | | | | | | | 1,4,5 |
| 5. Strengthen pedestrian connection between the sports stadiums via Oak St through use of streetscape improvements, wayfinding, and thematic design features | ● | ● | | ● | | ● | ● | | | | 1,5 |
| (see p. 58) Improve transit stops/shelters and pedestrian access to stops | ● | ● | ● | ● | | ● | | ● | | | 1,4 |
| 6. Provide a designated pedestrian linkage through the Kodak parking lot between High Falls garage and Frontier Field | | | | | | | | | | | 1,5 |
| 7. Provide gateway treatments at the following locations: Plymouth at Inner Loop, Broad at Platt, and Lake at Lyell | ● | ● | | ● | ● | ● | ● | ● | ● | | 1,2 |

CHIPS - New York State Consolidate Local Street & Highway Improvement Program; NEA - National Endowment for the Arts; SRTS - Safe Routes to School; EPASG - US Environmental Protection Agency Smart Growth Program; TEP - Transportation Enhancement Program; NYSCA - New York Council on the Arts; DECUFG - Department of Environmental Conservation Urban Forestry Grants; NYSDCR - New York State Division of Coastal Resources; TIP - Transportation Improvement Program; RTP - Recreational Trails Program

V. Implementation & Funding

FUNDING OPPORTUNITIES

| RECOMMENDATIONS | CHIPS | NEA | SRTS | CDBG | TEP | NYS CA | DEC UFG | NYS DCR | TIP | RTP | MISC |
|--|-------|-----|------|------|-----|--------|---------|---------|-----|-----|-------|
| 8. Implement recommendations for pedestrian safety improvements on Saratoga and Verona Streets. | ● | | | ● | | | | | | | 1,6 |
| 9. Strengthen the pedestrian connection between the soccer stadium and Lyell Ave along the northern part of Oak Street (see p. 51) Develop Neighborhood Design Guidelines that require a higher level of site and building design for industrial zoned properties within the study area | ● | ● | | ● | | ● | ● | | | | 1,5 |
| Coordinate all bicycle facility improvements with the City Bicycle Master Plan | | | | ● | | | | | | | 1,2,6 |
| Integrate potential pedestrian safety enhancements with the City Greenprint Plan | | | | | | | | | | | 1,2,6 |
| Develop a detailed Safe Routes to School Plan for Schools #19 and #5 | | | ● | ● | | | | | | | |
| MEDIUM TERM (5-10 YEARS) | | | | | | | | | | | |
| 2. Convert one-way streets to two-way (following detailed analysis) | ● | | | ● | | | | | | | 1 |
| 10. Re-align Broad St with Dewey Ave | ● | | | ● | | | | | ● | | 1,2 |
| 11. Provide bike lanes/space on Jay St and Vincent St to connect to Genesee River Trail at Vincent and Smith Streets. | | | ● | ● | ● | | | | ● | ● | 1 |
| 12. Extend Saratoga Ave between Jay and Smith Streets (as illustrated in the Draft Neighborhood Plan) | ● | | | ● | | | | | | | 1 |
| LONG TERM (10-20 YEARS) | | | | | | | | | | | |
| 13. Consider a long term strategy that includes the relocation of the industrial uses along Oak St to areas outside of the neighborhood and the re-zoning of the industrial district along Oak St to support higher density residential and commercial uses | | | | ● | | | | | | | |

MISC Funding Sources

1. City Capital Improvement Program
2. NYSDOT in partnership with the City
3. GTC - Unified Planning Work Program
4. Rochester Genesee Regional Transportation Authority
5. Public / private partnership
6. MCDOT in Partnership with the City (signal and sign costs only)



V. Implementation & Funding

GRANT FUNDING OPPORTUNITIES

| NAME OF FUNDING SOURCE | DESCRIPTION | WEB SITE | APPLICA-TION DEAD-LINE | FUNDING AMOUNT AVAILABLE |
|--|--|---|--|--|
| NYS Quality Communities Clearinghouse | Listing of Grants and Financial Assistance for NYS | http://www.qualitycommunities.org/grants.shtml | | |
| NYS Consolidated Local Street & Highway Improvement Program (CHIP) | The objective of the New York State Consolidated Local Street & Highway Improvement Program (CHIP) is to assist localities in financing the construction, reconstruction, or improvement of local highways, bridges, sidewalks, or other facilities that are not on the State highway system. Projects must have a useful life of at least 10 years and be located in the public right-of-way. | https://www.nysdot.gov/portal/page/portal/programs/chips | Requests can be made quarterly; Feb, May, August, & Nov 2010 | The annual allocation is calculated according to the formula specified in Section 10-c of the Highway Law. |
| National Endowment for the Arts (NEA) | NEA has a number of grant programs to fund various programs and projects. The most relevant to the recommendations contained in this plan is the Mayors' Institute on City Design® (MICD). Since 1986, the MICD has helped transform communities through design by preparing mayors to be the chief urban designers of their cities. The purpose of this program is to support a variety of diverse projects, across the country in communities of all sizes. Projects may include planning, design, and arts engagement activities. | http://www.nea.gov/grants/index.html | March 15, 2010 | \$25,000 to \$250,000, requires 50% non-federal match |
| New York Safe Routes to School (SRTS) | Safe Routes to School (SRTS) is a federal, state and local effort to enable and encourage children, including those with disabilities, to walk and bicycle to school — and to make walking and bicycling to school safe and appealing. | https://www.nysdot.gov/portal/page/portal/divisions/operating/opdm/local-programs-bureau/srts | Most recent deadline was April 1, 2008 | \$25K-\$150K for non-infrastructure projects; \$25K-\$400K for infrastructure projects |
| Community Development Block Grant (CDBG) | The program provides annual grants on a formula basis to entitled cities and counties to develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low- and moderate-income persons. | http://www.hud.gov/offices/cpd/communitydevelopment/programs/entitlement/ | Most recent deadline was January 8, 2010 | The City's CDBG allocation in 2009 was \$9,654,741 |
| Transportation Enhancement Program (TEP) | In recognition that transportation systems are influenced and impacted by more than the condition of the traditional highway and bridge infrastructure, this program enables funding for transportation projects of cultural, aesthetic, historic and environmental significance. | https://www.nysdot.gov/portal/page/portal/programs/tep | Most recent deadline was June 27, 2008 | Varies, 20% local match required |

V. Implementation & Funding

GRANT FUNDING OPPORTUNITIES

| NAME OF FUNDING SOURCE | DESCRIPTION | WEB SITE | APPLI- CATION DEADLINE | FUNDING AMOUNT AVAILABLE |
|--|---|---|--|---|
| New York State Council on the Arts (NYSCA) | NYSCA accepts grant proposals each year from nonprofit organizations incorporated in New York State. NYSCA is organized into discipline programs, each of which receives funding requests in a specific arts discipline or field. | http://www.nysca.org/public/grants/index.htm | Varies | Varies |
| NYS DEC Urban Forestry Grants (DECUFG) | Grants are designed to encourage communities to actively enhance tree cover along their streets and in their parks, to properly care for and maintain their community trees, to develop tree inventories and management plans, and to inform their residents of the value and benefits of urban trees. | http://www.dec.ny.gov/lands/5285.html | Most recent deadline was June 4, 2008 | \$25K to \$75K depending on community size with a 50% local match requirement |
| NYS Division of Coastal Resources (NYSDCR) | The Department of State's Division of Coastal Resources works with communities throughout New York State to help them make the most of what their waterfronts have to offer. | http://www.nyswaterfronts.com/grantopps.asp | Varies | Varies depending on the specific program. |
| Transportation Improvement Program (TIP) | The TIP includes both highway and transit projects as well as urban and rural projects on both State and local facilities. NOTE: Many of the improvements identified in the Plan are eligible for funding through the TIP. However, enhancement-only projects are not typically as competitive as the bridge and road maintenance and construction projects also funded by the TIP. | http://www.gtcmpto.org/Docs/TIP.htm | Next application deadline will be Summer, 2011 | Varies |
| Recreational Trails Program (RTP) | The Recreational Trails Program is a State-administered, Federal assistance program to provide and maintain recreational trails for both motorized and non-motorized recreational trail use. | http://www.nysparks.state.ny.us/grants/programs/recreation.asp | Last round, Oct 2006 | Varies |



B. Cost Estimates

The costs associated with many of the immediate to near term recommended improvements are relatively low and inexpensive. A number can be implemented with little or no cost, (e.g. enhanced crosswalk striping, landscaping, furnishings, wayfinding elements), while other recommendations require a more significant infrastructure investment. The cost for these as well as the for more substantial improvements such as the recommended Saratoga Avenue Extension were estimated based upon recent bid prices for comparable elements.

It should be noted that there is significant variability in the degree to which improvements can be implemented and the costs associated with the improvements. For example, the gateway treatments can include special features, decorative pavement treatments and significant landscaping, or other less expensive treatments with only plantings and less expensive pavement treatments. Other improvements in the transportation system such as the Saratoga Avenue Extension, or Oak Street improvements, may likely evolve over an extended time through a combination of private/public partnerships.

Table 7 - Cost Estimates

| RECOMMENDATIONS | PLANNING LEVEL COST ESTIMATE |
|--|------------------------------|
| | |
| Furnishings: | \$15,700 |
| Landscaping: | \$37,200 |
| Gateway Treatments, Wayfinding Signs, and Wayfinding Kiosks: | \$36,000 |
| Raised Crosswalk, Enhanced Crosswalks, and Curb Extensions: | \$570,000 |
| Re-stripe Jay Street with Bike Lanes: | \$250,000 |
| New Transit Shelters (4): | \$32,000 |
| Pedestrian Linkages (Kodak lots & North Oak St): | \$5,000 |
| Reverse One-way Direction of Verona (School #5 block): | \$10,000 |
| Construct Saratoga Avenue Extension: | \$300,000 |
| Develop Neighborhood Design Guidelines: | \$15,000 |
| Develop SRTS Plans for Schools #5 & #19: | \$10,000 |
| Conduct detailed analysis of Dewey/Broad Re-alignment Options: | \$10,000 |
| Study feasibility of One-way Street Conversions: | \$30,000 |
| Study feasibility/desirability of Roundabout at Broad/Morrie Silver: | \$10,000 |
| Total: | \$1,330,900 |