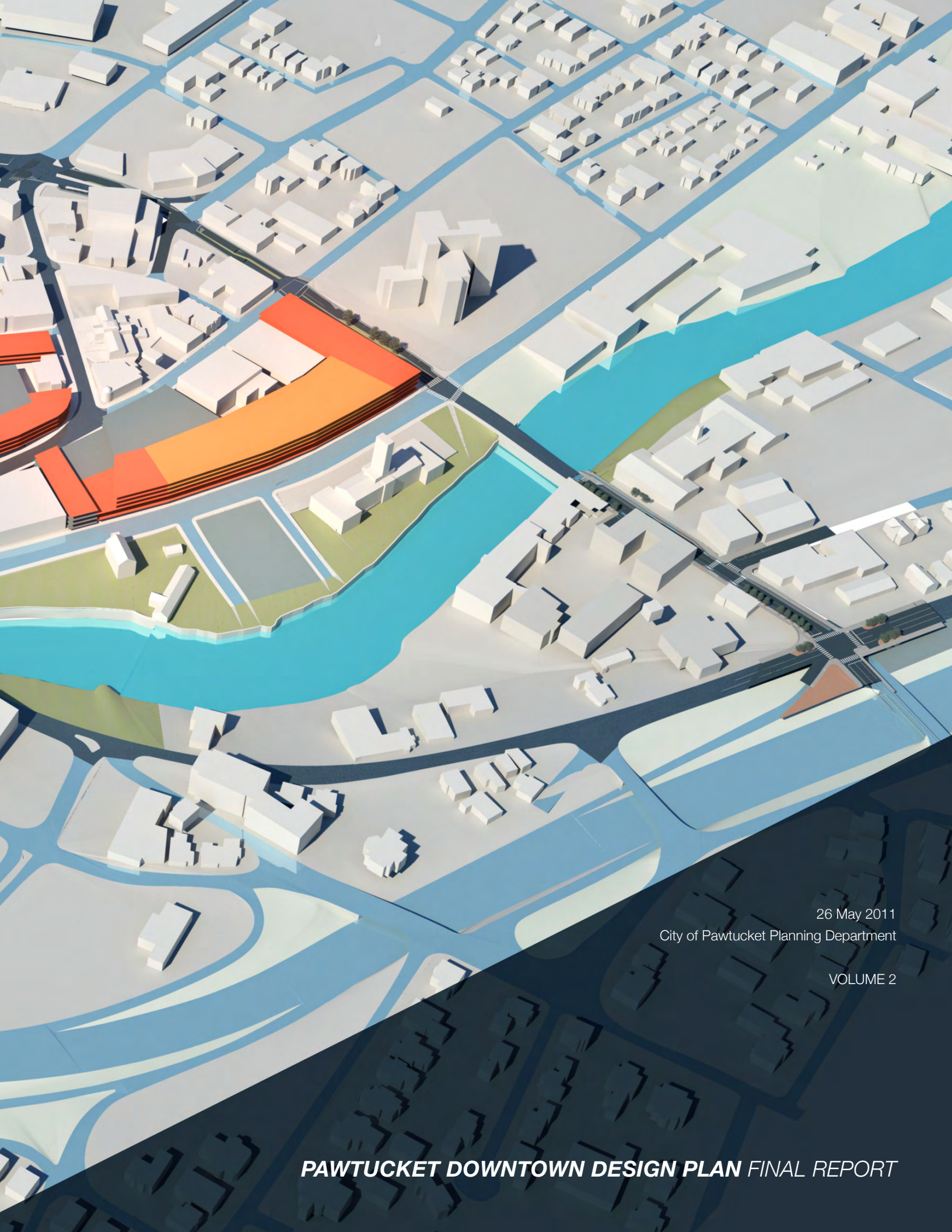
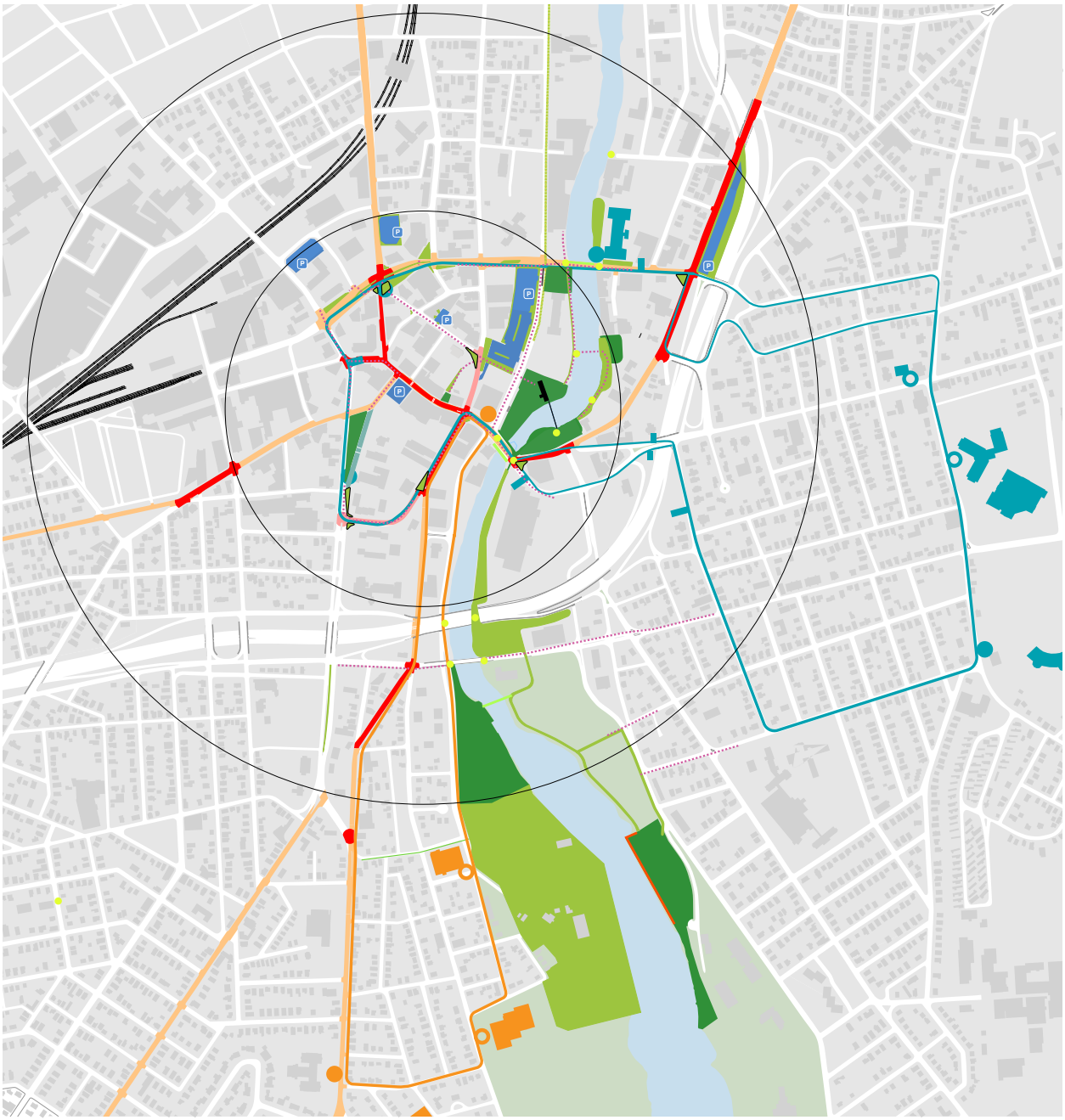


26 May 2011

City of Pawtucket Planning Department

VOLUME 2

PAWTUCKET DOWNTOWN DESIGN PLAN *FINAL REPORT*



Thurlow Small Architecture
L + A Landscape Architecture
McMahon Associates
Horsley Witten Group
Highchair designhaus

26 May 2011
City of Pawtucket Planning Department

PAWTUCKET DOWNTOWN DESIGN PLAN *FINAL REPORT*

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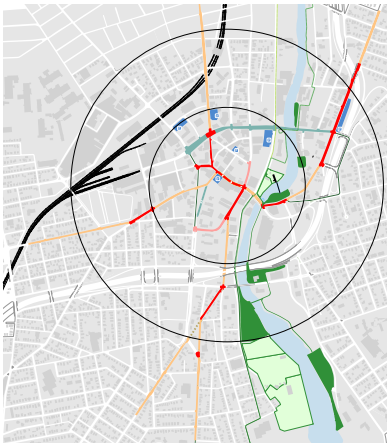


MAP OF PDDP PROJECTS

Pawtucket, Rhode Island, is a city of roughly 73,000 situated just a few miles north of Providence on the Blackstone River. Like many small New England cities, Pawtucket's fortunes have ebbed and flowed with history. It expanded with the industrial revolution in the 1800s, suffered an outflow of manufacturing in the 1930s, lost residents and density to suburbanization and urban renewal in the 1950s and '60s, and resurged with real estate growth in the early 2000s.

Many of these eras introduced plans to redesign Pawtucket's physical environment, and the city today reflects these layered efforts. Its unused train station deteriorates slowly above a closed rail stop. Interstate 95 coarsely cuts off the downtown from its neighborhoods. The core of the city, once a meeting point of historic routes, is now a confusing set of one-way streets and inescapable loops.

In the spring of 2010, the City of Pawtucket's Planning Department and the Pawtucket Foundation initiated a project to fix the downtown. Called the Pawtucket Downtown Design Plan, the project's goal is to improve the city's infrastructure and, as a result, foster sustainable economic and residential development. The city selected the Thurlow Small Architecture to lead a team that includes: L+A Landscape Architecture; McMahon Associates, traffic engineering; Horsley Witten Group, regulatory consultant; and Highchair designhaus, graphic design and signage consultant, for the 10-month project to study traffic, public space, and zoning.

Before solving Pawtucket's problems, the PDDP team had to better understand their roots. In 1790 Pawtucket presented a vision of America as an urban industrial nation to a receptive Alexander Hamilton, then Secretary of Treasury, as he crossed the Main Street Bridge and visited Slater Mill. The city soon emerged as a dense urban hub connected to commercial corridor spokes. That clear pattern, though still evident today, was later interrupted by major projects intended to benefit the city, like the interstate and the northeast rail corridor as well as a succession of planning decisions that altered the function of short segments of roadway and intersections.

While presumably made with good intentions, these choices inevitably undid established connections. The design team found that linking existing routes,

TWO-WAY MAIN STREET

instead of reconfiguring them, could allow people to use their natural instincts to get around. All we had to do in a town developed during the textile era was knit its original threads back together.

The Pawtucket Downtown Design Plan proposes five concepts in response to specific problems that look backward to move forward — not through nostalgia but common sense.

PROBLEM *While Pawtucket is not congested, it is really hard to get to and move around downtown.*

CONCEPT The first concept reconnects the historic turnpike system, including the former Boston Post Road, so that travelers see clearly how to get to and from Main Street. This **Turnpike System** concept would first be implemented on Main Street and East Avenue Extension by opening them to two-way traffic, decreasing wide intersections, increasing on street parking, and enhancing both pedestrian and bicycle access. Supportive details of this system include wayfinding and street signage that work from prior downtown signage programs, environmentally and business-friendly street furnishing options for Main Street, and the recommendation of a lighting replacement program. This project also encourages the use of newly available public space in key locations to be developed into special gateways to downtown.

PROBLEM *The rail, the river, the highway, public transit and an upcoming Blackstone Valley Bikeway all come through but not together in downtown.*

CONCEPT The second concept identifies Exchange Street as a true place of "exchange" between the highway, the river, the coming train station, and the delineated systems for bicycles, local car and bus traffic, and pedestrians. This concept would first be implemented on Exchange Street between Broadway and the Nathanson Bridge in the Armory District and near Tolman High School as part of an existing street improvement project currently underway. **The Exchange** concept employs the sidewalk ribbon concept that employs a buffer space between pedestrians and traffic where public amenities, utilities

TURNPIKE SYSTEM COMPONENTS

and trees can be located as well as cycle tracks for bicycle use in high traffic volume areas. The Exchange also proposes two new bicycle loops, or bike circulators, that would use striping, signage, and bicycle amenities to safely link the coming bikeway and downtown to important historic sites, local schools and McCoy stadium. This concept also encourages the integration of new RIPTA rapid bus changes and future commuter rail pedestrian linkages into the downtown area as those projects move forward.

PROBLEM *Finding parking is downtown is perceived as a problem even though there is too much surface parking.*

CONCEPT The third concept is a **"P"arking** system that will discourage the creation of new surface parking and decrease the city's environmental impact. Aspects of this concept include: encouraging future landscape systems that replace impervious parking surfaces with permeable options to decrease the heat island effect and improve water runoff issues; lighting replacement strategies to decrease energy use and light pollution; signage to improve wayfinding and enhance use; and the encouragement of specific areas of on street parking limit enforcement to allow the downtown system to work better as is. The concept also encourages the introduction of two-wheeled motor vehicle parking to support more environmentally-friendly transportation.

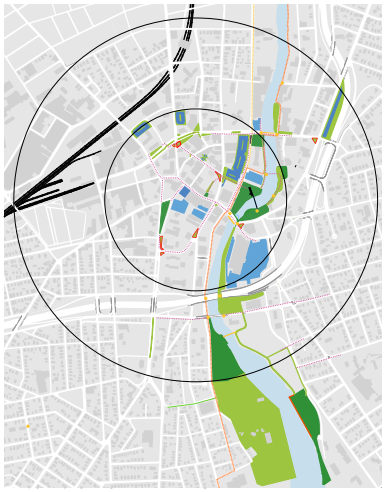
"P"ARKING SYSTEM LOCATIONS

PROBLEM *The river is a vital resource, but not very publicly accessible.*

CONCEPT The fourth project develops a **Riverway** that supports public spaces along the mostly undeveloped river and connects them to local neighborhoods. This concept proposes that specific existing areas of public land be developed into public parks and viewpoints to frame the river for residents and visitors, connected to each other and the coming Blackstone Valley Bikeway. Two parks have already been designated adjacent to the new Bridge 550 project, Bridge Park West and East; a design proposal for the latter is included in the PDDP. As well, this project encourages the incorporation of sustainable practices in downtown, including the adoption of a tree ordinance and a green street network initiative to increase the tree canopy.

PROBLEM *The current regulatory process relies on special use permits and variances.*

CONCEPT The final project, **Downtown Guidance**, cleans up zoning and land use issues to encourage the pedestrian-oriented, mixed-use development the city wants and discourage the car-dominated, low density it doesn't. This concept assists the city in changing its current regulations to offer mixed use and multi-tenant commercial by right, removing parking requirements for the Commercial Downtown District, reduces allowable maximum height restrictions in downtown and offers development guidelines to support appropriate and compatible urban design and architecture.



LANDSCAPE PLAN

The PDDP concepts are broad in ambition, but detailed and organized into a list of projects that address short, medium and long-term phase implementation. While each project can be completed individually, they also add up to a bigger more productive vision and will require coordination between local and state level agencies, continued political and community support, and funding from federal, state and local levels.

Inevitably, the Pawtucket Downtown Design Plan is not really a single "plan" so much as a set of ongoing projects. These efforts may not fix everything about downtown, but they will give the city a solid infrastructural base that provides healthy and clear ways to get around by allowing the city to leverage its many strengths. Pawtucket is what so many places are not — a small, walkable urban center filled with new and old buildings, neighborhoods of people from all over the world, hardy entrepreneurs, and accessible city government. At just one corner, Fountain and Exchange streets, you can find a world-class theater, a silkscreen company, a high school, a renovated mill full of design companies, a historic armory, and, just across the adjacent river full of wildlife, you reach City Hall, a post office, a public library, and a historic site soon to be the center of a new National Park. In developing the downtown plan, the PDDP team found that the best design direction was simply to make a place evident to itself and others.

The PDDP team began the Pawtucket Downtown Design Plan by studying the existing conditions of the City of Pawtucket's downtown, urban boundaries, and region. We gathered existing information from previous reports, studies, traffic data and projects from a variety of sources including the City of Pawtucket's Planning and Public Works departments, the Rhode Island Department of Transportation, the Rhode Island Public Transit Authority, the Pawtucket Foundation, local institutions and stakeholders. (A list of sources can be found on pages 4 and 5 of the Existing Conditions Report.) This material was also made public and available online on the PDDP website, www.downtownpawtucket.us, under the Pawtucket Planning Database. The PDDP team also completed a series of site observation and documentation visits.

After reviewing and analyzing the information, the PDDP team developed a set of maps and observations about the current conditions of public space and street use in the plan's area. This established the project team's perspective on challenges and opportunities for the plan design.

STUDY AREA & PDDP PROCESS

The City of Pawtucket and the Pawtucket Foundation initiated the Pawtucket Downtown Design Plan (PDDP) in 2010. They obtained funding from Rhode Island State-wide Planning Challenge Grant, provided matching funds, and issued a Request for Proposals to hire a design consultant team in April 2010. After reviewing proposals and interviewing a set of finalists, the review committee selected a team lead by urban design firm Thurlow Small Architecture with the support of

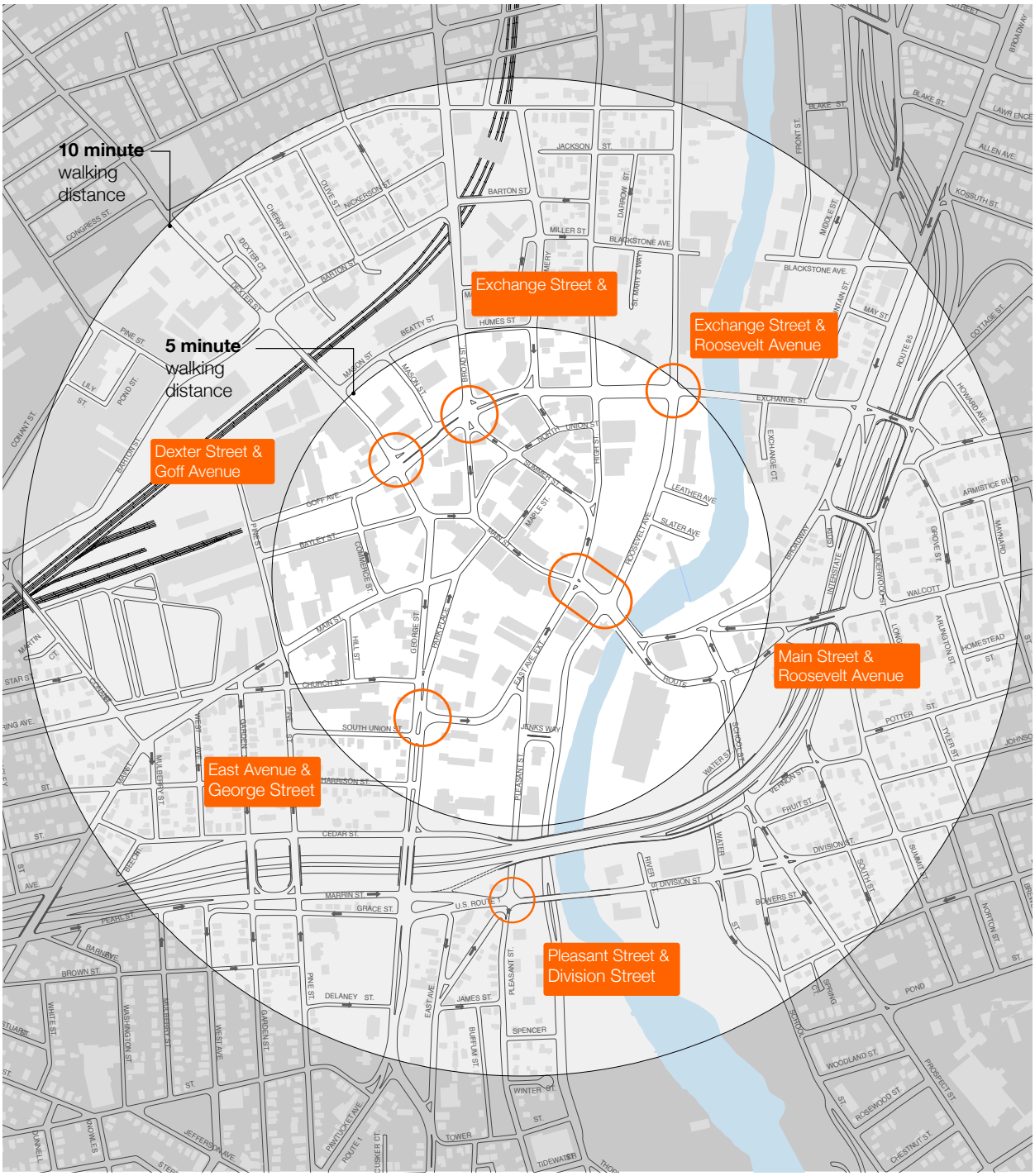
The city also assembled a Technical Advisory Committee (TAC) consisting of local and state public officials and stakeholders. The TAC included representatives from the Rhode Island Department of Transportation, the Rhode Island Public Transit Authority, Rhode Island Statewide Planning, the Rhode Island Housing Keepspace Project, the Pawtucket Foundation, and City Departments, including Planning and Public Works, as well as representatives from the Mayor's Office and members of the city Council.

The PDDP study topics include traffic, public space, streetscape, and its regulatory framework. The area of study was downtown Pawtucket bounded by a radius equivalent to a ten-minute walking distance from Main Street, as shown in the adjacent diagram. The core of the downtown fits within a five minute walking distance shown in the smaller circle.

The PDDP included the following key public and technical advisory meetings:

Jun 01	Task 1	Project Began
Jun 22	Task 2	Community Meeting #1 - Introduction
Jun 24	TAC #1	Technical Advisory Committee meeting
Jul 09	Task 1	Existing Conditions Report completed
Aug 03	TAC #2	Technical Advisory Committee meeting
Sep 23	TAC #3	Technical Advisory Committee meeting
Sep 27	Task 3	Top Options completed
Sep 28	Task 4	Community Meeting #2 - Top Options & Vision
Oct 21	TAC #4	Technical Advisory Committee meeting
Dec 02	Task 5	Community Zoning Workshop
Jan 27	TAC #5	Technical Advisory Committee meeting
Feb 17	Task 5	Preferred Alternative completed
Feb 17	Task 6	Community Meeting #2 - Projects
Mar 08	TAC #6	Technical Advisory Committee meeting
Apr 14	Task 7	Preferred alternative refinement draft
Apr 14	Task 8	Final PDDP Report & Documents

Along with the above described public meetings, members of the PDDP team held five informal open lunches at Cup'n'Saucer on Main Street during the first six months of the project and maintained a website at: www.downtownpawtucket.us that included the Pawtucket Planning database, project information and meeting dates, and areas for public comment.


10 minute walking distance
5 minute walking distance
Exchange Street &
Exchange Street & Roosevelt Avenue
Dexter Street & Goff Avenue
Main Street & Roosevelt Avenue
East Avenue & George Street
Pleasant Street & Division Street
LEGEND
Original study Intersections
One Way Streets
North

REPORT CONCLUSIONS

The following conditions were noted in the PDDP Existing Conditions Report completed in July 2010:

CONTEXT

Regional relationships
Primary consumer destinations are outside of the city
Primary employment locations are outside of downtown
Downtown is a gateway to Blackstone river valley
Downtown is a unique convergence of river, highway & rail line

Urban development
Main street is, and was always, the perceptual center
River was spine of power, then decay, now development
Highway detached neighborhoods on two sides of downtown
Historic routes became disconnected

Urban history
Historic layers describe city instincts

Urban design massing & density
Scale of downtown buildings appropriate for city center
Low density zones just outside of center

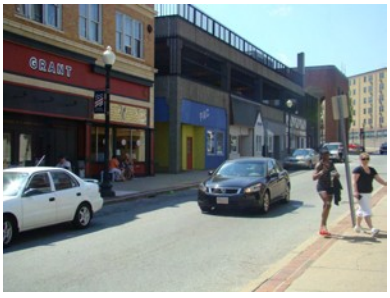
Street edge continuity
Area between main & summer streets has most continuous street edge
Open lots on edge of downtown significantly undermine street edge
Loss of public space clarity and protocol
Discontinuities disrupt sense of downtown boundaries and density
Good urban fabric variation

URBAN DESIGN

Current & upcoming development
Recent development in close proximity to main street
Recent large developments are mostly housing
Current development is primarily smaller scale commercial
Data indicates future unlikely to see large-scale housing development

Districts and historic properties
Significant individual historic buildings remain, but are a loose field

PUBLIC SPACE / LANDSCAPE



Public space & activity spots
Public transportation initiates public activity
People use public outdoor space
Lunchtime is busy

Streetscape
Lighting mostly for cars, not pedestrians
Sidewalks in mostly acceptable condition, need maintenance
Striping in poor condition

Pedestrian & automobile conflicts
There are dangerous pedestrian crossings between intersections
Crossing areas are unique problems to solve

Greenspace
Sidewalks are the primary public space
Slater mill is the primary big open event space
The river is the primary green space

Water flow & topography
Significant impermeable paving exists in downtown pawtucket
Flooding a potential threat to downtown

Parking parking lots & on-street parking
Surface parking dominates the downtown landscape
On street parking limits are rarely enforced
Parking pairings
Signage is missing to identify the use of many lots
Many private lots are under used

PARKING

RIPTA bus lines, stops & shelters
There is a high density and diversity of bus lines
Rapid bus will be a significant opportunity
Bus locations generate significant pedestrian activity

TRANSIT

One way street patterns
One way streets around downtown cut it off
People inside and outside of pawtucket find one ways confusing

TRAFFIC

Downtown routes in & out
Finding main street requires local knowledge

Bicycle use & infrastructure
Bicycles are commonly used as transportation
There are no clear traffic protocols for bicycles
There is limited bicycle parking in downtown
Besides bicycles, people commonly use other personal vehicles

The major intersections in downtown operate at good levels of service
While the one-way streets reduce the number of conflict points at intersections, they necessitate additional miles traveled to reach destinations.

ZONING

CHALLENGES AND OPPORTUNITIES

From the existing conditions, the PDDP team found a set of challenges and opportunities to address in developing projects to improve downtown Pawtucket:

CHARACTER

The downtown could better express its character as a gateway.
The downtown Pawtucket area works like a set of commercial corridors spokes into the centralized city hub, yet it is not only hard to make the connection to the core of Main Street, but not clear when one has entered into the downtown area in general. The downtown could likely get further commercial support from recognition as a special area of density and growth.

The downtown could make better exchange points between its three most important systems: the river, the rail and the highway.
These three systems are the most vital physical and infrastructural resources in downtown Pawtucket and unique in the state. Pawtucket is the gateway to the entire region of the Blackstone Valley. The highway is a critical linkage to the eastern seaboard including airports. The rail line is the future of passenger and freight investment. In Pawtucket, these all come together within less than a third of a mile; access points come within two-thirds of a mile of each other, but finding those access point and links between them are not evident.

Downtown Pawtucket's historic buildings significantly contribute to the organic, cultural and aesthetic sense of downtown.
When people first come to Pawtucket, they often react positively to the remaining historic properties that are different in type, era, and style. The downtown area is a commercial New England business district that was developed primarily between the 1880s and the 1930s. The buildings are substantial in mass, ornament and of strong institutional and public typology. While it matches a type found regionally, this character is special, unique, and important.

DENSITY

Downtown is disrupted by low density surrounding it and surface parking in it.
The biggest interruption of the historic and retail character of downtown Pawtucket is the large areas of surface parking, much of which is under used and privately owned. There is a noticeable ring of low density around the center of downtown that negatively contributes to the connections beyond.

Recent larger development has been housing; recent smaller development has been commercial.
The real estate boom of the early 2000s enhanced the residential population and tax base in the downtown area, particularly in renovated mill space. The boom did not, however, improve economic conditions for commercial properties in a major way as the residential growth was not significant enough to establish a consumer base for local stores. Many of the people who moved to the new downtown units do not work or buy daily provisions in Pawtucket.

TRAFFIC

Main Street's one way configuration disrupts its use as a center.
The core of Main Street, from Broad Street to High Street, is a visible center to the downtown area, but can not function or connect properly to help it be accessible easily from surrounding neighborhoods or cities because it is confusing to find.

Downtown does not have a traffic amount problem.
Traffic count data shows that intersections are rated at appropriate levels for a downtown urban area. The traffic problem is thus not one of amount, but rather of access.

The one way streets are very confusing and cut off the downtown from its neighborhoods.
Traffic patterns have been set over time by incremental changes to facilitate unique circumstances and the overall ease of moving to the center of the city has become more difficult. It is hard to get around when you can't move back the same way you came. Local people rely on local knowledge of how to get around; visitors just get lost.

Pawtucket is at the center of important historic routes.
Many important historical events happened in downtown Pawtucket because it was well linked to New York and Boston. While these are not evident in the way the streets currently work, all of the key roadways exist except for one small section. The logics of how to move through the city could be re-formed and would help people use their natural cue and instincts to move to and from the downtown area instead of relying on signage or local knowledge.

TRANSIT / BICYCLES / PEDESTRIANS

The downtown needs to be linked across the highway.
Interstate 95 significantly cut off the downtown from Providence and the east side of Pawtucket when it was built. The city has not recovered from that decades old split and would benefit from projects that restitch both sides.

There are dangerous pedestrian crossings between intersections that need unique solutions.
Several situations in downtown Pawtucket encourage pedestrians to do perilous crossings. The first is at Roosevelt Avenue and Main Street at the bus hub; the second is at Main Street mid way between Broad Street and High Street; and the third is on Goff Avenue mid way between Dexter Street and Broad Street. These conditions are unique and need to be addressed through specific street improvements or by working with property owners and state agencies.

There are a lot of bicyclists in downtown, but not a clear protocol on where they should be.
There are many bike riders in downtown Pawtucket and both they and automobile drivers would benefit from a clear and designated system for their space in the public way. With new accommodation, bike ridership would also likely rise, decreasing the use of cars and future parking needs.

Downtown has a high density of bus lines and great potential as a terminus of the future rapid bus.
Downtown Pawtucket has a high density of bus lines, stops and activity in downtown but does not take advantage of the pedestrian activity nor help to organize the routes. The downtown hub has significant pedestrian traffic and generates most of the social activity. The one way streets contribute to bus route inefficiency.

NATURAL RESOURCES

The river is the most important resource for public space and private development.
The river is a beautiful and re-energizing resource that significantly contributes to the character of downtown Pawtucket. Compared to a typical downtown urban area, the areas around the Blackstone River are surprisingly undeveloped. In downtown, they consist of forrest, cultivated grassy banks, and former mill properties. Outside of downtown, they are mostly open and uncultivated but impacted natural forest and riverbank. There is a lot of opportunity in considering its future for public use and increasing City tax base.

Downtown has too much impervious paving.
The large areas of impermeable paving in the downtown area almost eliminates the natural ecological flow of water through the Blackstone Valley to the river and harms not only the water quality and below surface recharge, but impacts flood-prone areas during high volume events. These large expanses of paving also increase the heat island effect.

There is little organized programmed greenspace, but lots of wild natural space along the river.
Because the river area, particularly outside of downtown, is undeveloped, there is a significant opportunity to consider how the open spaces can be preserved, made more accessible, and protected before larger development might occur so that the public can access the river for recreation and wildlife can maintain habitat. The city has an opportunity to both support the redeveloping ecological system and grow economically.

PUBLIC SPACE

People use public space during the daytime.
While most people perceive downtown as being relatively empty of activity, increasingly there are more people on the street waiting for public transit and patronizing local restaurants, social organizations, or institutions. During the lunch hour, particularly in summer months, it is common to find many people seated on benches, walking around, or on bicycles.

Except on and around Main Street, lighting is mostly for cars, not pedestrians
Lighting in downtown Pawtucket consists mostly of industrial fixtures intended to illuminate the neighborhood generally. This creates a combination of over lighting some areas, particularly at public parking areas, and under lighting others, particularly small streets for pedestrians. The existing pedestrian light fixture types contribute to light pollution and are not energy efficient.

PARKING

Pawtucket has enough parking in downtown for current use and some moderate expansion.
The number of spaces in the downtown area meets current needs for businesses. Assuming no sudden growth, there is also some available space for incremental needs over the coming years. The perceived parking problem is not due to amount available, but to what is for public use.
On-street spots are used as long-term parking. Private lots are under used.
Because there is no parking limit enforcement in the downtown area, people who work in downtown often park their cars in on street spaces and leave their

cars there all day. This disrupts the potential for people who are patronizing local shops from having direct access to close spaces and encourages the sense that there is a parking "problem."

Parking lots have poor signage.
Another contributor to the sense of a parking problem is that the lots that are available are not signed clearly and drivers find it confusing to locate an available off street spot. Some lots also have a combination of public and restricted uses. Signage would help.

ZONING

There are roadblocks to the most important uses downtown.
Mixed use, including mixed commercial and the combination of residential with commercial, currently requires a Special Use Permit within the Commercial Downtown (CD) District. This additional layer of permitting creates a perception of additional risk to applicants and a second layer of permitting that is not necessary for these most desirable uses. Also, dimensional requirements associated with multi-tenant commercial use make it extremely difficult to re-occupy some of the buildings along Main Street.

Parking regulations are ready for more flexibility.
Pawtucket allows for a reduction in required parking downtown when compared with other areas of the community, acknowledging that a vibrant mixed use district must have flexibility. However, there are still requirements in place today that make re-occupation of some structures very challenging. Changes in regulations will need to reflect an overall shift to viewing parking downtown as a "system" that operates beyond individual sites, on a neighborhood scale.

Main Street is a cultural resource that would benefit from design guidelines.
The Zoning Ordinance today incorporates many design principles that are intended to help shape development in a manner that is consistent with the historic fabric and economic goals of the community. These principles, however, are not presented in a way that is easily enforced and can be interpreted in many different ways.

VISION

Rather than develop open guidelines, the PDDP team developed a set of concepts that formed into specific projects that could convey community ambitions and methods for implementation. Downtowns are a set of complex interactions between urban systems that involve physical infrastructure, such as roadway surfaces, utilities, sidewalks, and signaling equipment, but also programs, such as city administrative processes, such as parking enforcement, maintenance, and economic development. These projects intend to reframe the historic and existing efforts in the city with contemporary logics of economic and ecological stainability along with simple pragmatic observations to help systems work better together, to help pedestrians, bicycles and public transportation share priority on roadways, and offer ways in which the character of the city can express itself.

These were presented in stages as they were developing: first to the Technical Advisory Committee on August 3, 2010, then to the Pawtucket Foundation's board, one of the sponsoring organizations, on September 8, followed by a full community-wide meeting on September 28. The community meeting was approximately two hours in length and included many questions from the audience. The presentation was posted to the project website and people were asked to make comments online as well as to join lunches once a month with the project team leader, Maia Small.

The projects of the PDDP are:
THE TURNPIKES
THE EXCHANGE
"P"ARKING
RIVERWAY
DOWNTOWN GUIDANCE

HOW DO I GET TO DOWNTOWN PAWTUCKET?

CONCEPT 1 : FOLLOW THE TURNPIKE, ALL ROADS LEAD TO MAIN STREET

Turnpike project goals
Make finding Downtown easy
Normalize Pawtucket's streets and intersections
Bring people to Main Street naturally
Link people now to Pawtucket's past

Turnpike project components
Re-establishing Two-way traffic
Adding On-Street parking
Encouraging bicycles and pedestrians
Adding historic route signage
Creating special paving and striping

Main Street improvements goals
Make two-way traffic without changing utilities
Make it active, functional, & beautiful
Add traffic calming

Main Street components
Two-way traffic
On-street parking alternating on both sides
Raised shared space surface
Bike accommodations

Through our study of the origins of transportation and vehicle movement through the downtown area of Pawtucket we discovered that Main Street has been a significant route since the early 1700s. The first recorded path or roadway in the city was the Boston Post Road, an important linkage from Boston to New York City that began as a Native American trail and was more formalized after European settlement as the King's Best Highway.

The Boston Post Road was instrumental in the development of New England as it offered a known route for goods and people during settlement expansion and organization. It functioned as the origins of postal travel and was identified as a service route by postmaster general Benjamin Franklin prior to the Revolutionary War.

In Pawtucket, the Boston Post Road route can still be identified along the existing streets of Pawtucket Avenue to Pleasant Street, to Main Street, across the Main Street bridge, up Broadway and onto what is now Washington Street (named after President George Washington's inaugural ride to Boston). While this route currently exists (save one very short segment that has been given to private development), it has been disconnected from common use because of one way configurations and limited intersection options.

Other roadways developed in Pawtucket's early colonial years, specifically a privatized turnpike system that began in the early 1800s and was sold to municipalities in the 1830s. Four important turnpikes converged on Pawtucket: the Valley Falls Turnpike that connected Central Falls and Cumberland; the Norfolk Bristol Turnpike that connected South Attleboro and Boston; the Mineral Spring Turnpike that connected North Providence and Connecticut; the Providence East Turnpike that connected Hope Street and the east side of Providence; and the Providence Pawtucket Turnpike that connected North Main in Providence to Pawtucket. These routes all converged like spokes on the hub of a short segment of Pawtucket's Main Street.

The PDDP Turnpike proposal for downtown Pawtucket is to re-establish these key historic routes into downtown Pawtucket. These routes represent natural instincts for movement in the city and help establish existing landmarks for navigating to and through downtown.

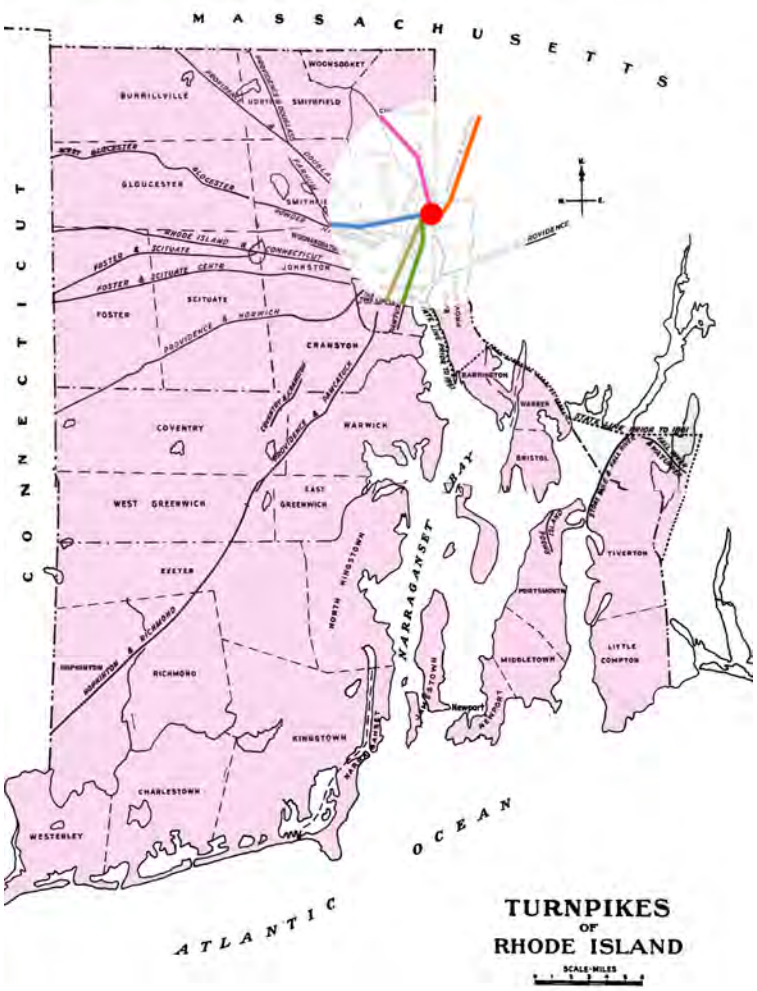
Valley Falls Turnpike
Central Falls & Cumberland

Norfolk Bristol Turnpike
South Attleboro & Boston

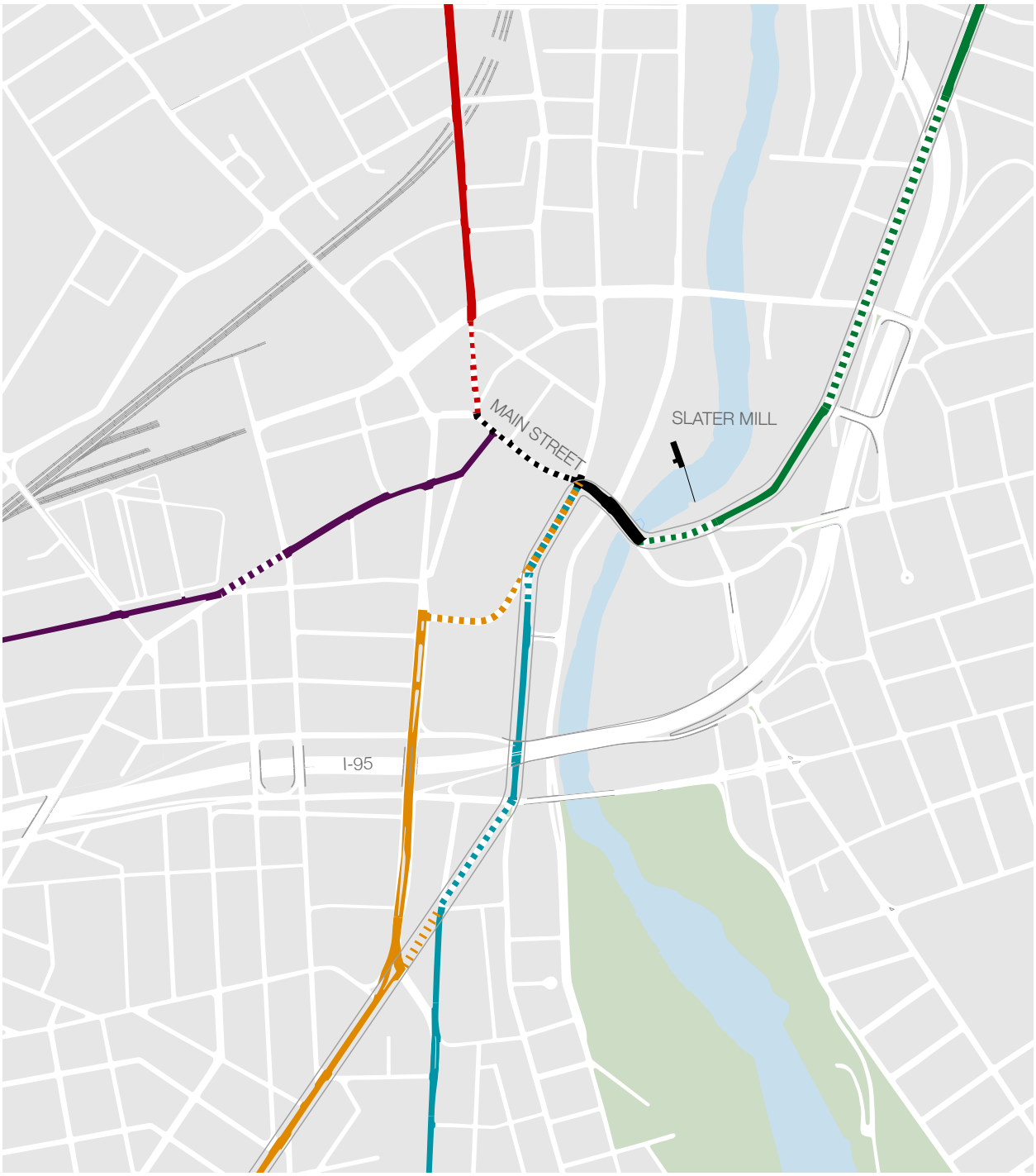
Mineral Spring Turnpike
North Providence & Connecticut

Providence East Turnpike
Hope Street & east side of Providence

Providence Pawtucket Turnpike
North Main in Providence

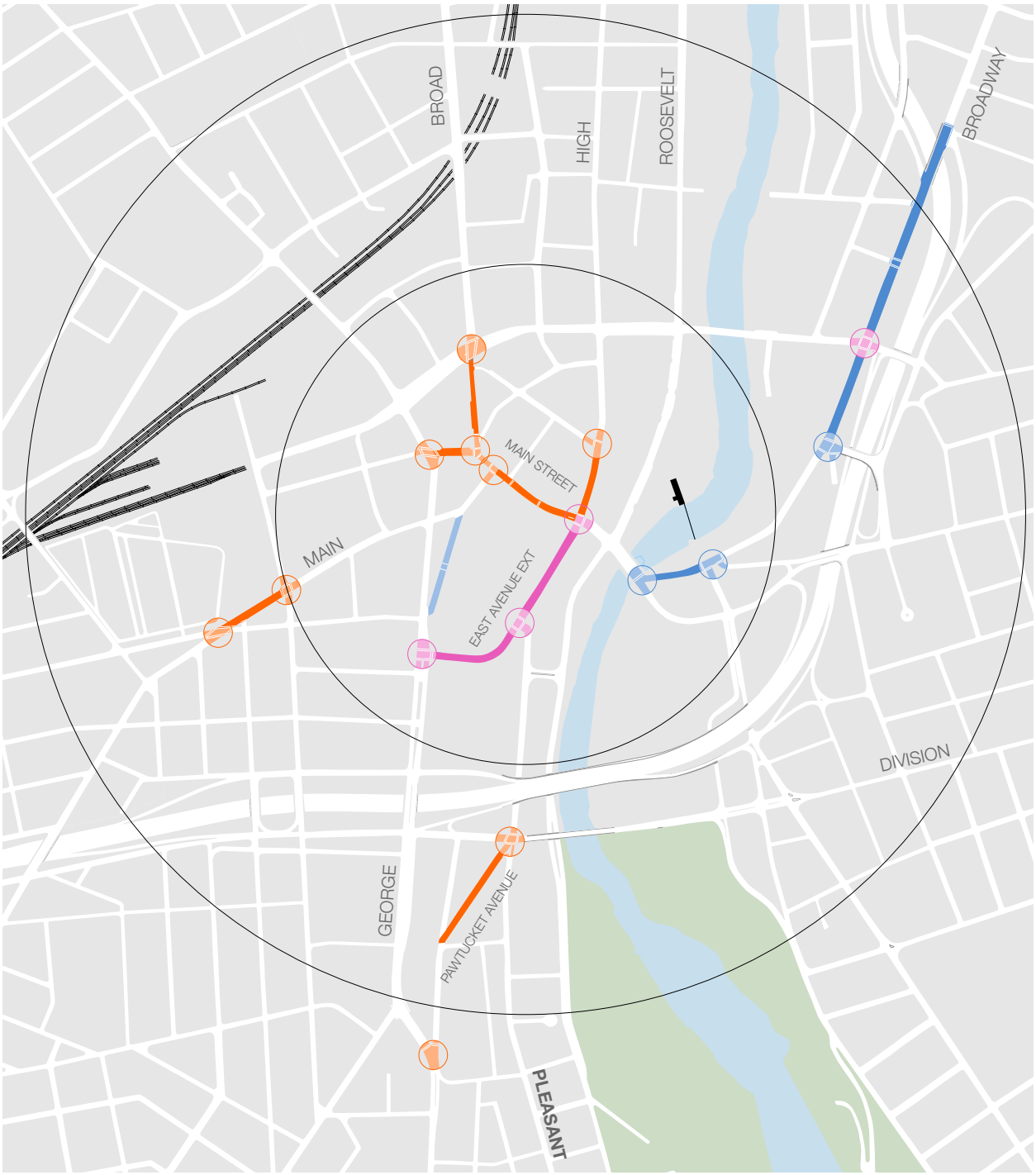


This diagram shows the turnpikes of Rhode Island in the 1800s.



This diagram shows the historic turnpike routes and their existing locations by color. All of the routes exist except the short segment of Pawtucket Avenue shown dashed. The segment of George Street and East Avenue Extension is the only route that deviates from the original historical path.

Valley Falls Turnpike Central Falls & Cumberland
Norfolk Bristol Turnpike South Attleboro & Boston
Mineral Spring Turnpike North Providence & Connecticut
Providence East Turnpike Hope Street & East side of Providence
Providence Pawtucket Turnpike North Main in Providence
Boston Post Road New York City to Boston



This diagram shows the roadway segments that would need to be modified from one-way to two-way operation in order to make the Turnpike System functional. They are also shown in phases based on likelihood of funding and viability.

- Short-term
- Medium-term
- Long-term

Views of existing and proposed Broad Street and Exchange Street intersection


downtown
Pawtucket

HOW DO I MOVE AROUND DOWNTOWN PAWTUCKET? ***CONCEPT 2 : TAKE THE EXCHANGE***

Exchange goals
Find alternative transportation easily
Make it safe to ride a bike
Help kids get to school
Add trees and beauty to Downtown

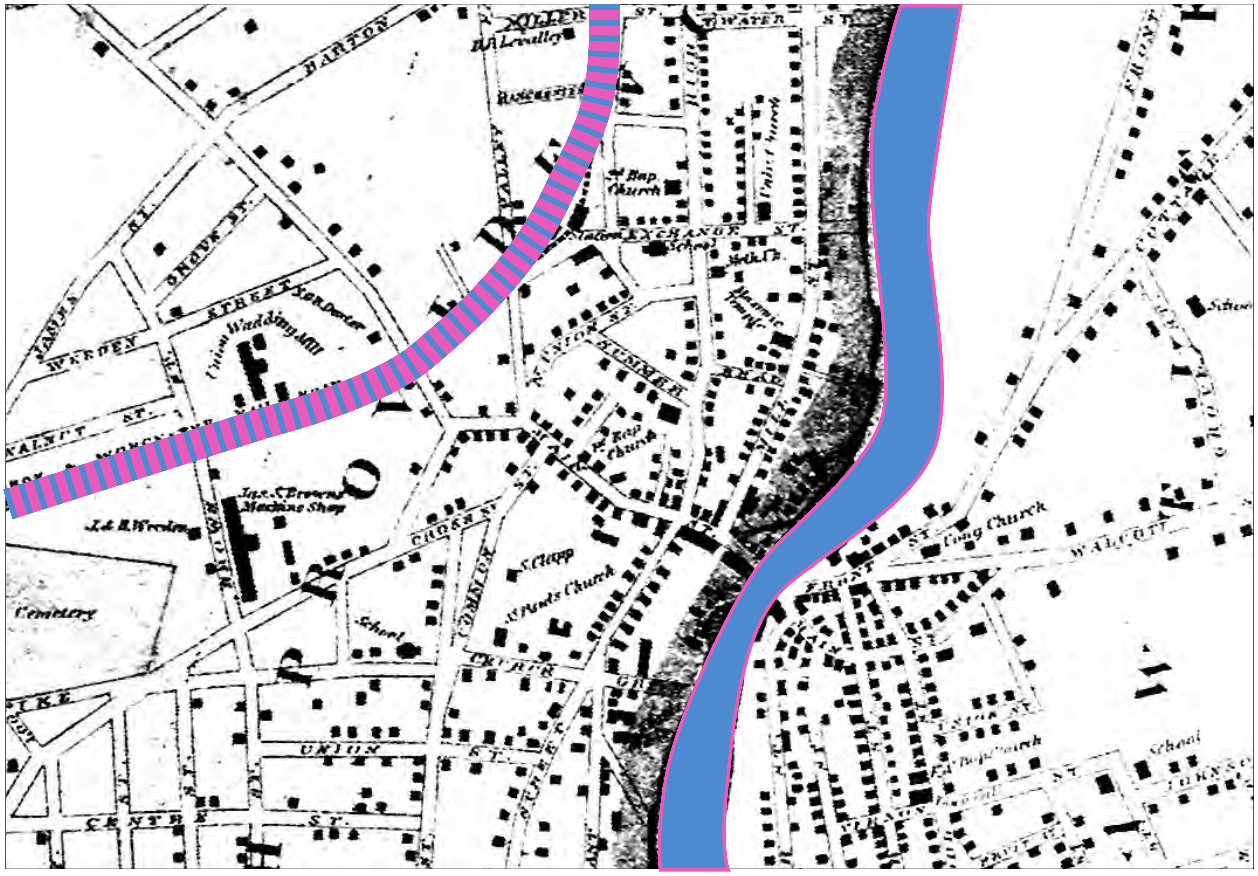
Exchange components
Intersection diets
Bicycle lanes
Sustainable plantings & trees
RIPTA bus focus
Specific RIPTA bus shelters
Improved crossing at Tolman HS
Normalize intersections

Exchange Street has historically been a linkage between the river and the rail line and later to the interstate highway. The original train station was located at Montgomery and Exchange Streets before the rail line was moved farther west towards Goff with the station moving north towards Barton and Broad Streets. Exchange is one of the best linkages between the what is anticipated to be the new commuter rail stop station and the Blackstone River. It is a wide street with many trees that function now as a clear way to move around the center of downtown. It is one of the only two-way boulevards in Pawtucket and the only one near downtown (Park Place, while wide, does not allow clear two-way travel),

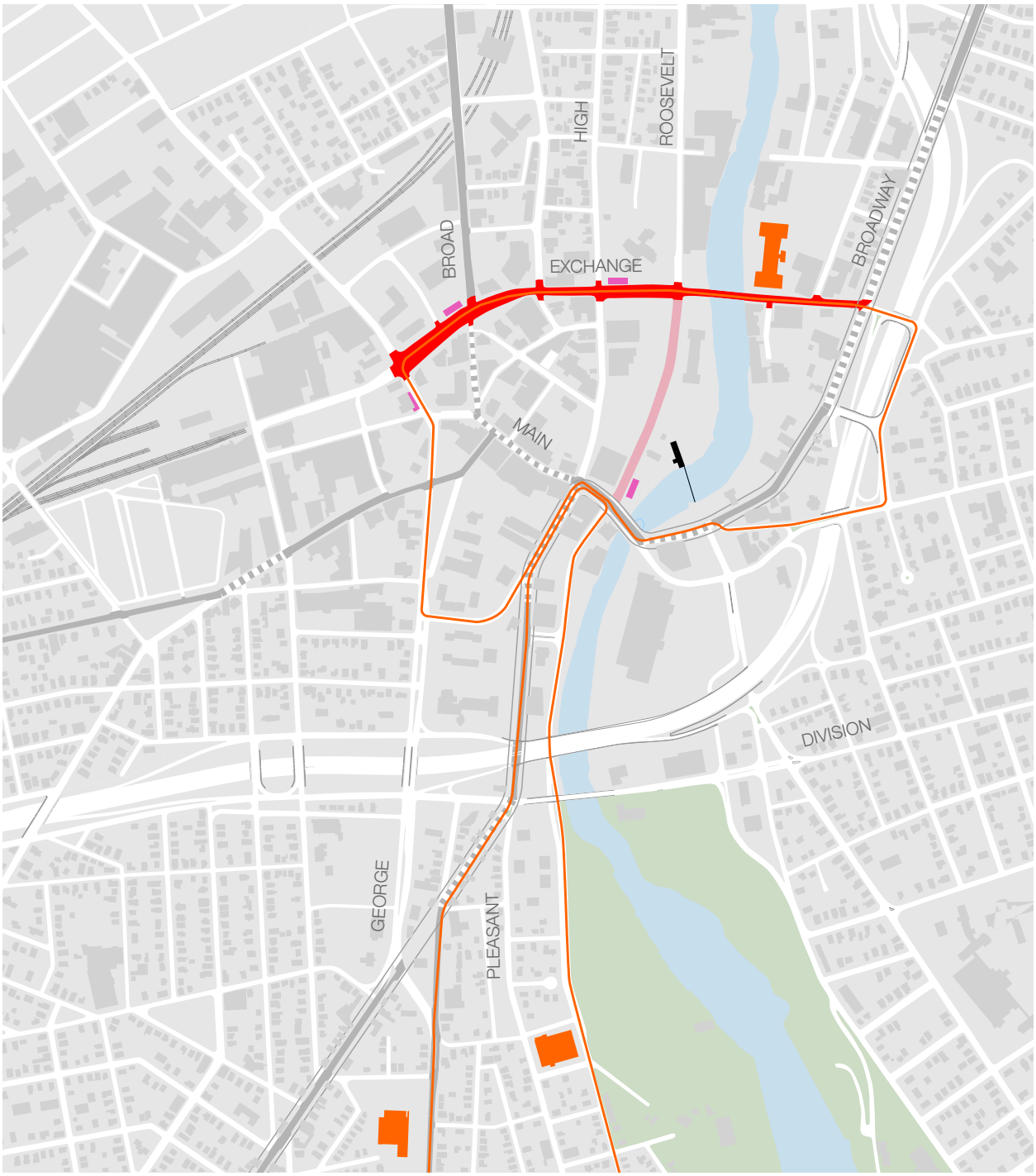
The Exchange Project is intended to establish the importance of multiple forms of transit and make finding, accessing and crossing between them easy. With the introduction of the RIPTA rapid bus system that will efficiently connect downtown Pawtucket with downtown Providence, this is an opportunity for the city to capitalize on statewide investment. There are also numerous bus lines that currently move through downtown, many of which run along Exchange Street, Roosevelt Avenue and HIgh Street.

The Exchange project looks to reinforce the “boulevard” and traffic calming nature of Exchange Street by reducing automobile travel lanes, increasing on street parking, adding bicycle lanes, increasing the number of trees and plantings, coordinating with new RIPTA bus shelters and generally making pedestrian travel safer by having short crosswalk distances at intersections and better coordinated signals. The bicycle paths also are designed to form two “circulator” loops around downtown playing on the legacy of Pawtucket’s much derided traffic circulator and connecting the two high schools, the Blackstone Academy and an elementary school along with McCoy Stadium, home of the PawSox, and three other neighborhood schools with downtown. Students often use the bus system after school as well, so this makes it safer and easier for students to access public transportation. Connecting the schools with the bicycle loops also encourages students to ride their bikes, decreasing early morning and afternoon pickup and drop off traffic on Exchange Street and East Avenue and increasing their physical fitness.

Adding bicycle lanes in to an area that currently does not have them is a difficult investment since having designated bicycle riding space is mostly effective if it is part of a larger system. In this case, as loops bisected by the coming Blackstone Valley Bikeway, they are self-contained system that can be expanded upon through future efforts.

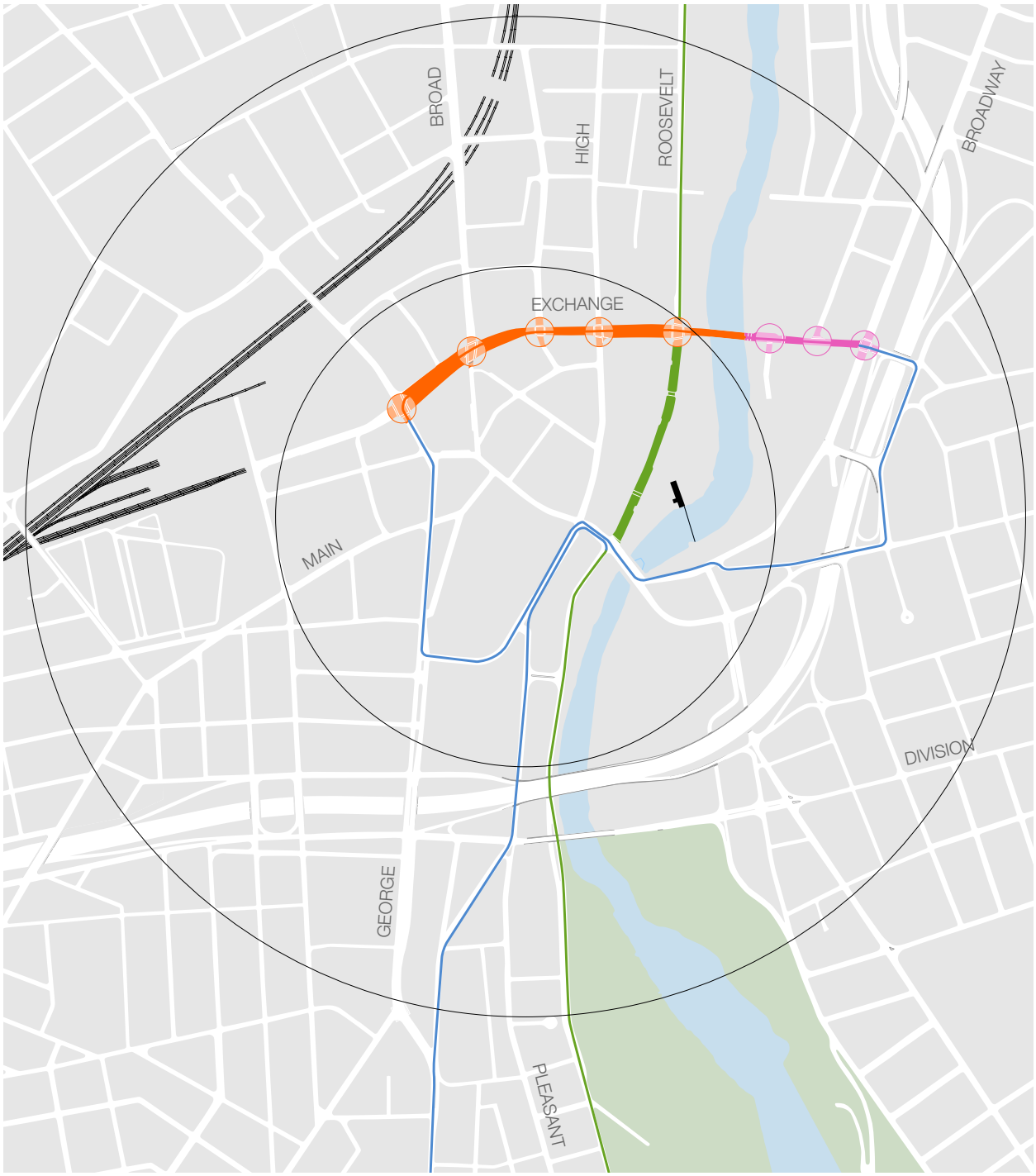

BARTON
WATER
WARDEN
CENTRE
UNION
WALCOTT
Cemetery
Cong Church
School

Proposed Exchange Components



Street improvements from Dexter to Broadway;

- Bicycle circulators to local schools
- RIPTA bus stops



This diagram shows each part of the Exchange project in phases.

- Short-term
- Medium-term
- Long-term
- Affiliated

Views of existing and proposed Roosevelt Avenue and Exchange Street intersection

HOW DO I STOP IN DOWNTOWN PAWTUCKET? ***CONCEPT 3 : "P"ARKING***

"P"arking goals
Make finding parking easy
Encourage development
Reduce water run-off

"P"arking components
Enforce on-street parking
Add on-street spaces
Create "P" signage at parking lots
Increase pervious surfaces
Add trees
Renovate City Garage
Change parking requirements

Historically, Pawtucket's downtown street edges were lined with commercial buildings as it was developed prior to the use of the automobile. Originally, pedestrian movement was the primary form of getting through the downtown; then carriages and streetcars became common. Eventually, the downtown streets were redesigned to accommodate cars, a system that also included parking lots, wider streets, and larger sidewalk corner radii.

Currently, 25% of all land area in downtown is surface parking. There are currently 1,730 parking spaces, 10% of which is on street parking, 90% of which is in parking lots. 70% of all parking spaces are found on private lots; 30% of parking spaces are on public streets, lots or garages. The biggest users of parking in the core of downtown are City Hall, the Visitors Center building, the YMCA and the Public Library.

After reviewing recent parking studies completed for the city, the PDDP found that parking is ample for the current and anticipated uses in the near future. The parking system, however, does not work efficiently because lots are not adequately signed and on street parking limits are not enforced. There is enough activity by businesses and offices in downtown that employees generally park in the on street parking locations during daytime hours, restricting those spots for commercial customers and short-term parking. Having a system of moving spaces is important to keeping up the flow of traffic, density of commercial activity and encouraging retail shopping.

The "P"arking project addresses the above concerns by developing a set of program and physical infrastructure improvements: enforce the two-hour parking limit for on street parking spots, provide standard "P" signage for public lots that clarifies how it can be used, fund City garage renovations to make it safer and more appealing, increase on street parking spaces through the turnpike system and roadway diets, and, for the public surface parking that remains, use more pervious paving and tree edges on public lots to decrease the heat island effect, water run-off issues, and add density along the sidewalk.

Additionally, the large amount of surface parking is a result of zoning laws that have required businesses to provide the maximum needed parking for the uses of their occupancy. As property values have decreased, this has encouraged the demolition of older buildings for the creation of surface parking to support the remaining businesses. As well, recent parking studies have recommended more surface parking be added in anticipation of unrealistic downtown growth. In some cases, they have recommended removing important historic structures. This project addresses the abundance of surface parking by changing the zoning regulations so that there is zero requirement for parking for commercial uses and limited parking requirements for residential uses in the downtown area.

The above diagram shows all of the public and private surface parking areas in downtown Pawtucket. The bottom images show the type of building-lined streets typical of its early urban development, particularly in the late 1800s and into the 1930s. The picture on the lower right shows the more typical condition today-- gaps between buildings filled with surface parking. Also as is shown, surface parking is generally not filled to capacity.

Surface parking lots in downtown Pawtucket are vast areas of asphalt with few trees. “P”parking suggests new types of permeable surfaces be used as lots are redone and trees added to both provide shade and create lot edges.

Public lots in and around downtown Pawtucket can receive blue “P” parking signs to indicate their available use and location. Strategic signs can be located nearby to direct traffic towards their entrances.

Riverway goals
Help people get to the river
Offer a beautiful place to get exercise
Protect the river's natural resources
Encourage appropriate development

Riverway components
Links existing public green spaces
Create view spots and corridors
Adds to tree canopy
Links City to planned BV Bikeway
Defines BV Bikeway parking areas

The Blackstone Valley River is the heart of downtown Pawtucket and its greatest natural resource for natural habitat, public space and private development. Always an important place, the Pawtucket Falls were an important Native American fishing and crossing point. For colonial Europeans, the water was first resource for living and then for power as industrialization harnessed the potential energy of the falls and Pawtucket became the birthplace of the American Industrial Revolution. The placement of Slater Mill, followed by mills of many types over the next hundred years, was key in the development of the city and the Blackstone Valley region.

Eventually, industry changed, out grew its small-scale facilities, and abandoned the Pawtucket downtown area. Because there had been few or no industrial regulations, the river became the most polluted river in the United States, destroying fish, wildlife and plant ecosystems. Eventually, development along the river was abandoned as it was a dangerous flow of toxins and decay.

In the mid 20th century, public efforts began to bring the river back to health. In the 1970s, the Zap the Blackstone initiative and Environmental Protection Agency regulations started programs to revitalize the water quality and natural health of the river region. Over the past few decades, the river has increasingly become safe and renewed and it is anticipated to hit key water quality milestones in the coming decade increasing the potential of public access.

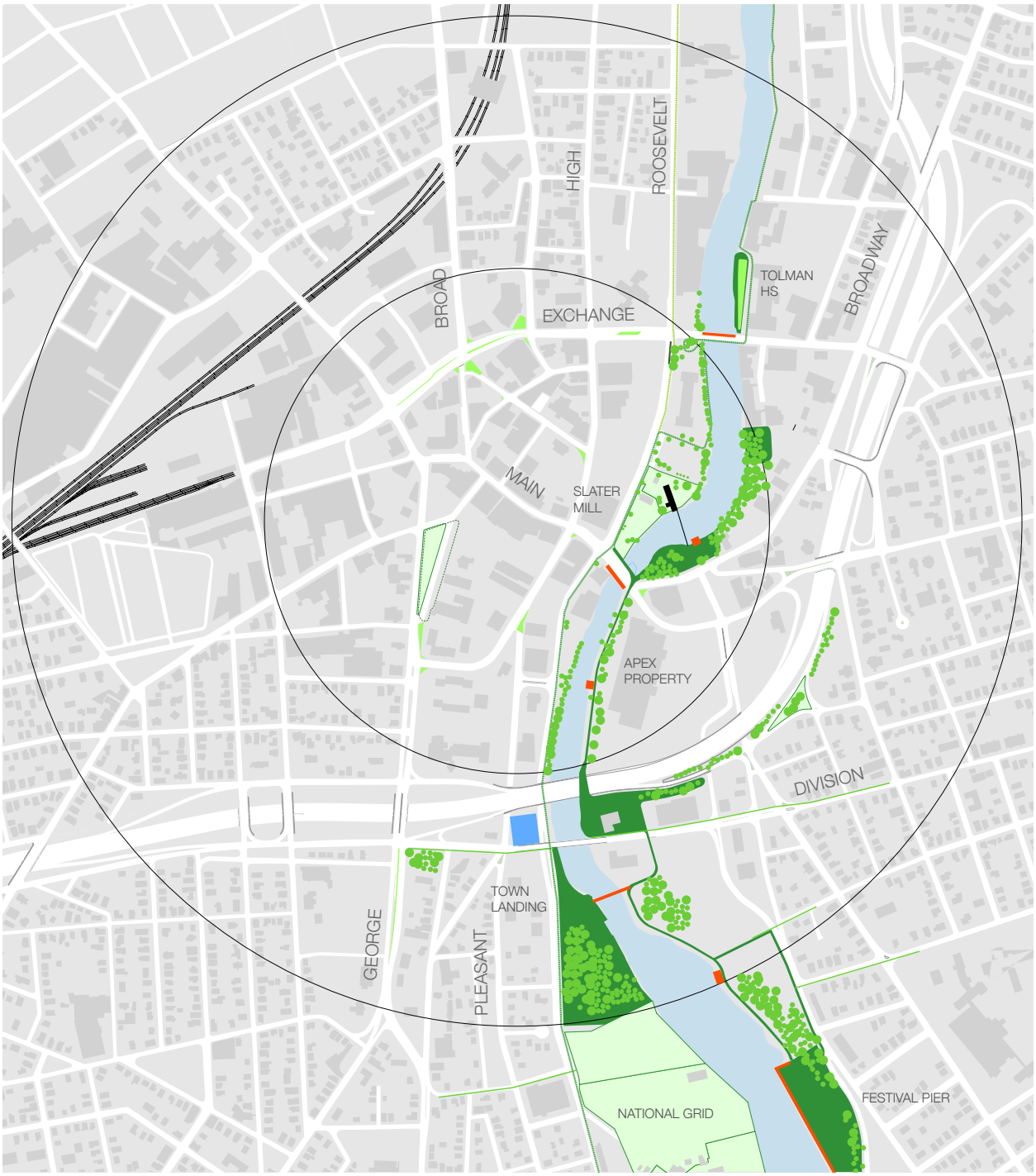
In the future of downtown Pawtucket, the river will be a crucial place for recreation, healthy ecosystems, transportation, economic growth, and residential use. The existing surviving mill buildings have already become places for adaptive reuse and new neighborhood growth. These are sustainable housing types and help increase the city's tax base.

The next infrastructure investment will be the Blackstone Valley Bikeway which will be built through the downtown area. The PDDP team recognizes the potential to leverage this effort into a larger network of public spaces that link existing properties from downtown north to Central Falls and south along both sides of the river to the Festival Pier, Town Landing, East Providence and Providence.

These linked spaces form the proposed Riverway-- it would include publicly owned land for recreation or development that includes public space. Currently the spaces along the river are either highly urban and built or leftover wild spaces that neither function as healthy ecological spaces nor as functional public recreation areas. If these spaces are tied together, the network could become an emerald necklace of natural beauty for healthy living.

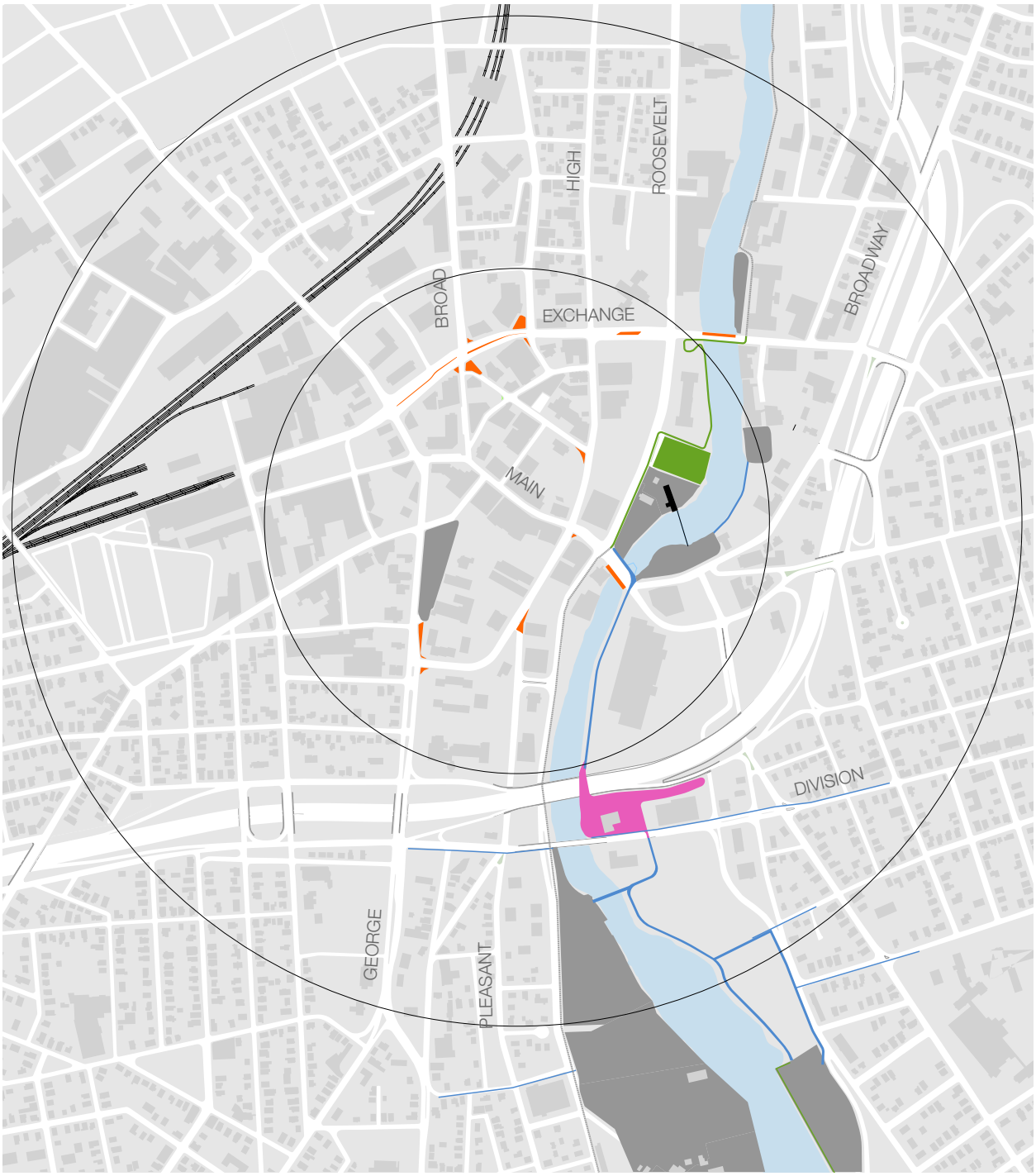
The Blackstone River was first a source of life, then power, then danger, now health and ecological and economic revitalization.

Proposed Riverway system



The riverway components include existing public property locations such as the Town Landing, the Festival Pier, the new public right of way on the east side of the Blackstone River next to the Apex property, up to the Slater Mill property and to Tolman High School. The orange shows the areas for special elements that allow visual connection or pedestrians to the river including a potential pedestrian and bicycle bridge that connects the east and west sides of the river below the Division Street bridge.

- Riverway connection paths
- Existing public sites for riverway
- Existing Tree Canopy in proposed riverway sites
- Riverway river view points
- Proposed RIDOT Blackstone Valley Bikeway
- Potential future or affiliated riverway sites
- New public landscape areas



The most immediate projects that could support this overall concept are the spaces adjacent to the new bridge 550 being built currently. In the long-term view, it is important to include linkages into the surrounding neighborhoods.

- Short-term
- Medium-term
- Long-term
- Affiliated

Guidance goals
Variance Free Environment
Support other Downtown efforts
Provide development information

Guidance components
Fixing what is broken
Strengthening good ideas
Lay the foundation
Encourage local efforts
Development guidelines available

While often not an overt element of physical infrastructure, a City's regulatory framework sets a community's goals into action through the process of private development. With the increase of residential and commercial development in the early 2000s, Pawtucket's existing regulatory system was tested by new types of development. Many of these projects did not fit in the original zoning goals and thus the process developed a history of special use permits and variances to accomplish what are now standard practices in other successful communities of the same size. This pattern of allowing special exceptions as a matter of course has left the regulatory bodies without a clear path and development with extra hurdles.

Downtown Guidance is intended to do some regulatory housekeeping so that the city encourages the types of development it wants and discourages the types it doesn't. It also hopes to foster supportive projects that benefit the city's downtown and to leverage positive density and activity.

Downtown Guidance includes:

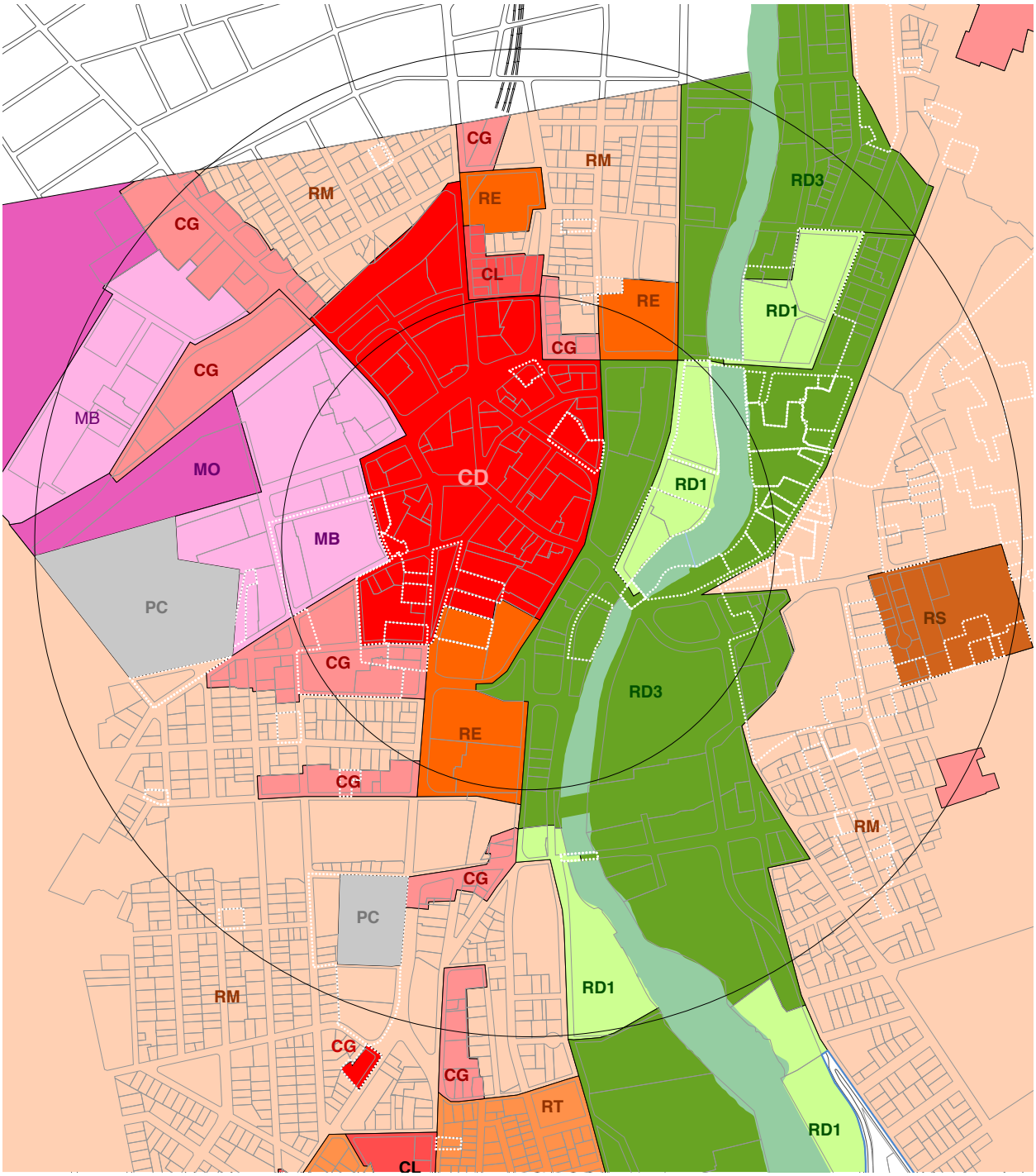
Fixing what is broken
This work will take care of zoning and land-use regulatory housekeeping that will allow mixed-use and multi-tenant commercial use projects by right, reduce special use permits, and change residential density limits.

Strengthening Good ideas
This initiative will shift parts of the Development Plan Review from the Ordinance to the Regulations, and employ the power of zero to eliminate parking requirements for commercial development, setback requirements in the commercial downtown and make adjustments that can bring variances to zero as well.

Lay the Foundation
This will help future regulatory projects by looking in a more sophisticated way at design in the design guidelines for development, take a look at form-based codes, and investigate incentive zoning logics that can involve the transfer of development rights, boost green development and look forward towards how downtown's changes can affect the city as a whole.

Encourage Local Efforts
A set of local citizens that have organized into a neighborhood association that is the precursor to a downtown business improvement district are hoping to improve the quality of how Main Street looks. The PDDP encourages these local grown efforts to raise money and incrementally improve the streetscape.

Make Development Guidelines available online
When the new design guidelines and incentives are available, the PDDP wants to support the Pawtucket Foundation's goals to market the downtown and make the information freely available. The PDDP website will be transformed into this public space for people, entrepreneurs and developers to find good information.


CG
RM
RE
RD3
CL
RD1
CD
MB
MO
PC
RS
RT
Commercial Downtown
Commercial Local
Commercial General
Industrial Built-up
Industrial Open
Residential Elevator
Residential Multifamily
Riverfront Public Open
Riverfront Mixed-Use
Cemetery
Overlay Districts

DEFINING SCOPE

The Vision process of the PDDP gave us a set of five concepts that responded to the challenges set forth by the scope of the PDDP and the existing downtown conditions. With this bigger picture of the influences and community ambitions, it was important for the team to narrow the specific areas of further study in order to fulfill the goals of the PDDP proposal. Originally, the proposal request called for four intersections to be designed to 30%; in discussion with city officials and the Technical Advisory Committee, it became clear that the project could have greater impact with more areas designed to less depth than fewer with more. This would help the city gain funding and have a greater long-term impact.

In revising the scope after the second community meeting in September 2010, the team offered three options from which to select six intersections that could be designed to 10% with conceptual plans describing roadways in between.

We presented three options with areas of focus: Main Street, a long-time focus of planning energy and the heart of downtown; Exchange Street, anticipated to have funds available for resurfacing due to the RIDOT Bridge 550 project; and the River, identified as an important resources and due to advance with the coming Blackstone River Bikeway.

PREFERRED ALTERNATIVES

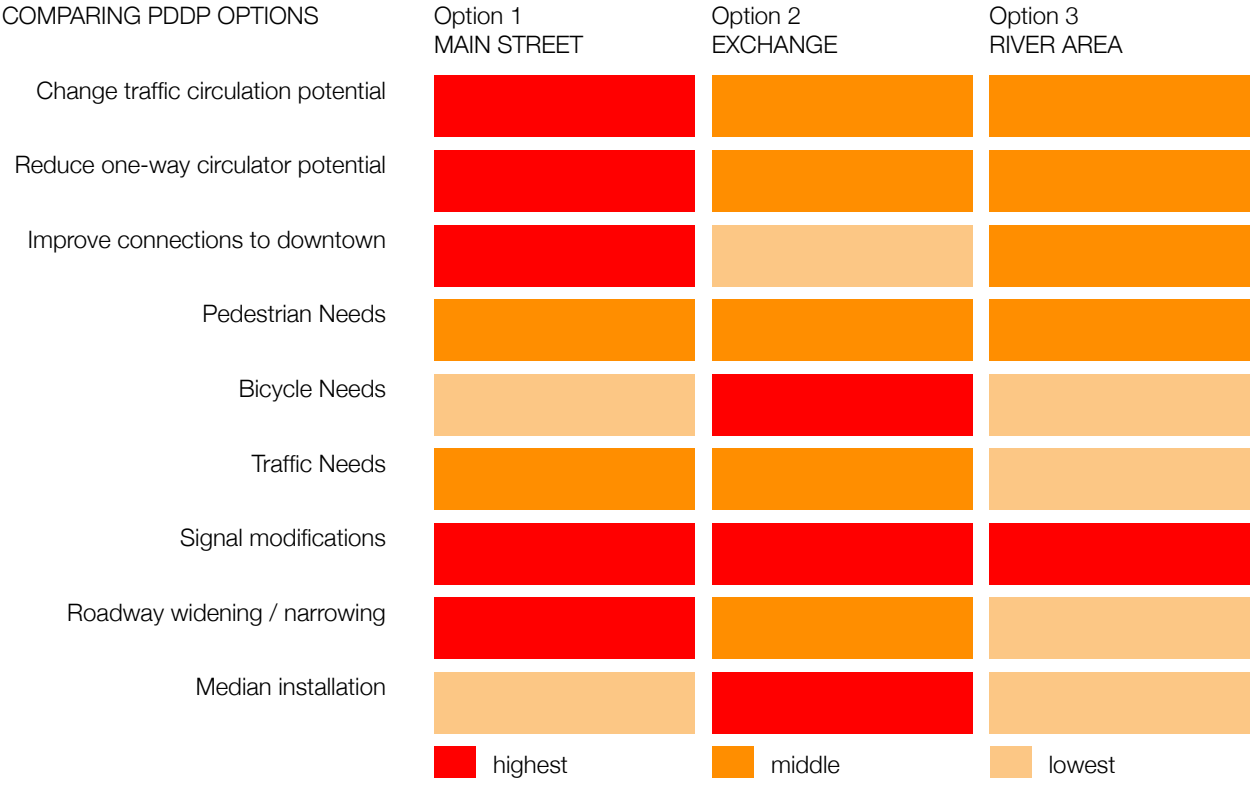
PDDP PROCESS TO REFINE SCOPE

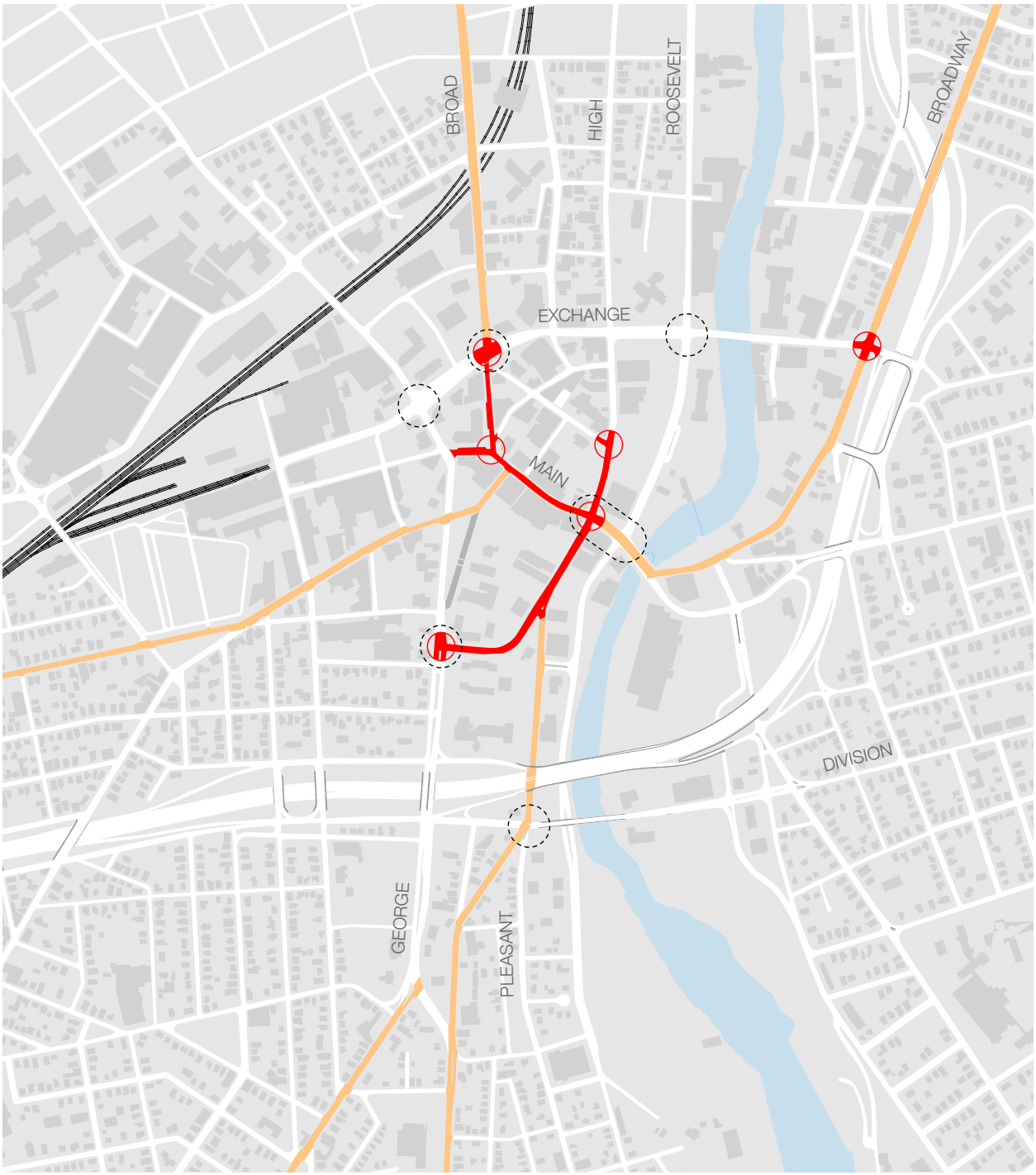
In presenting the following three scope options, City officials and community members clearly prioritized Main Street, with the supportive hope that the other projects could follow. Additionally, because of fund already allocated for street improvements at Exchange Street between the Nathanson Bridge and Broadway, the team was also asked to study this street area and intersection.

The final scope was based on the Main Street focus, with the addition of Pleasant Street and East Avenue Extension and Bayley and Dexter Street intersections. Exchange Street and Broad Street are not included in this report, but will follow in the projects described below.

The city sought additional planning funds to study the Pleasant and Division Street intersection from Statewide Planning and Exchange Street from Dexter Street to Broadway from Rhode Island Housing through the Pawtucket Citizens Development Corporation Pawtucket and Central Falls Keepspace Project. Those two projects will begin after the PDDP and will be considered addenda to it.

COMPARING PDDP OPTIONS

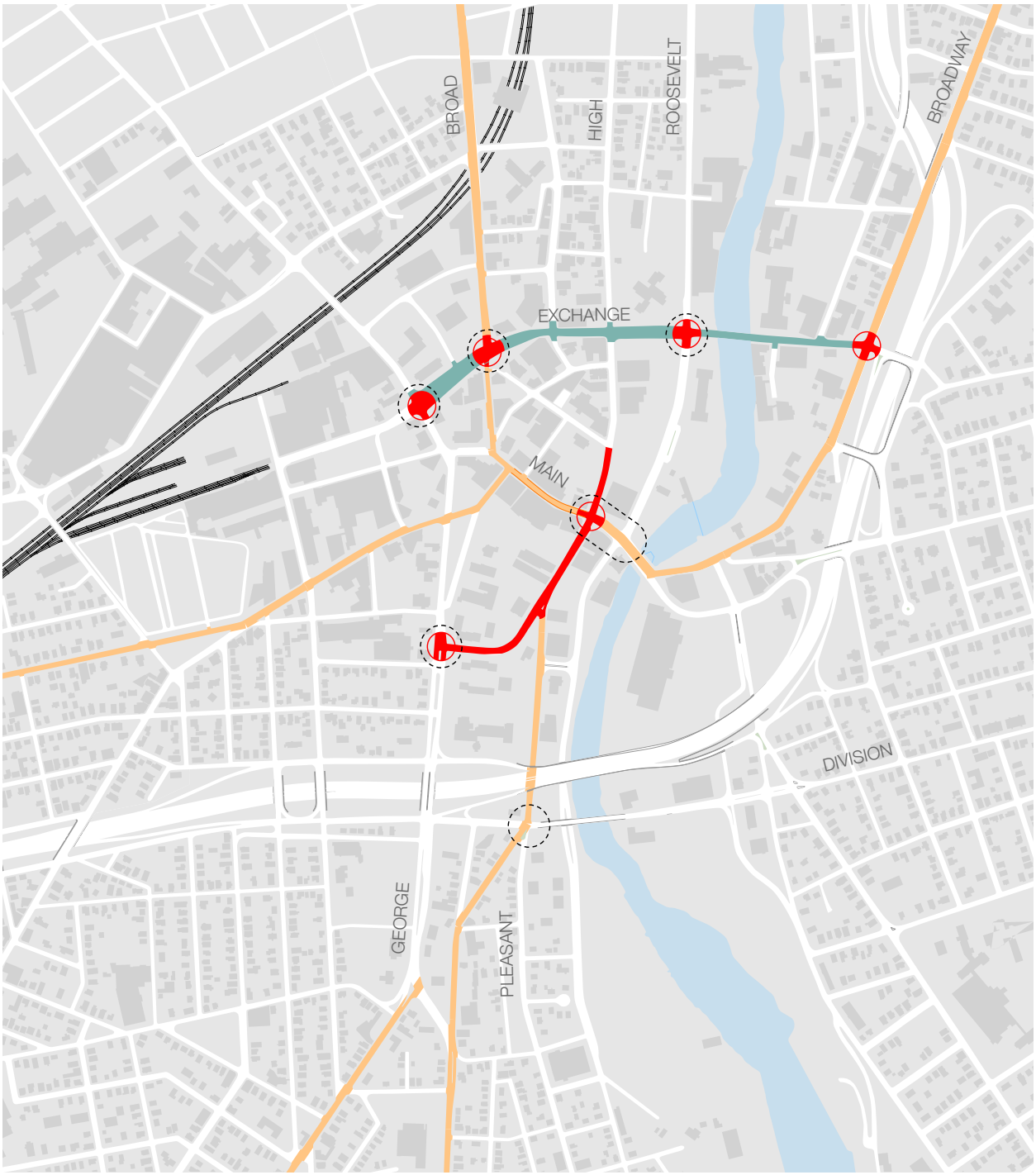




Main Street scope included:

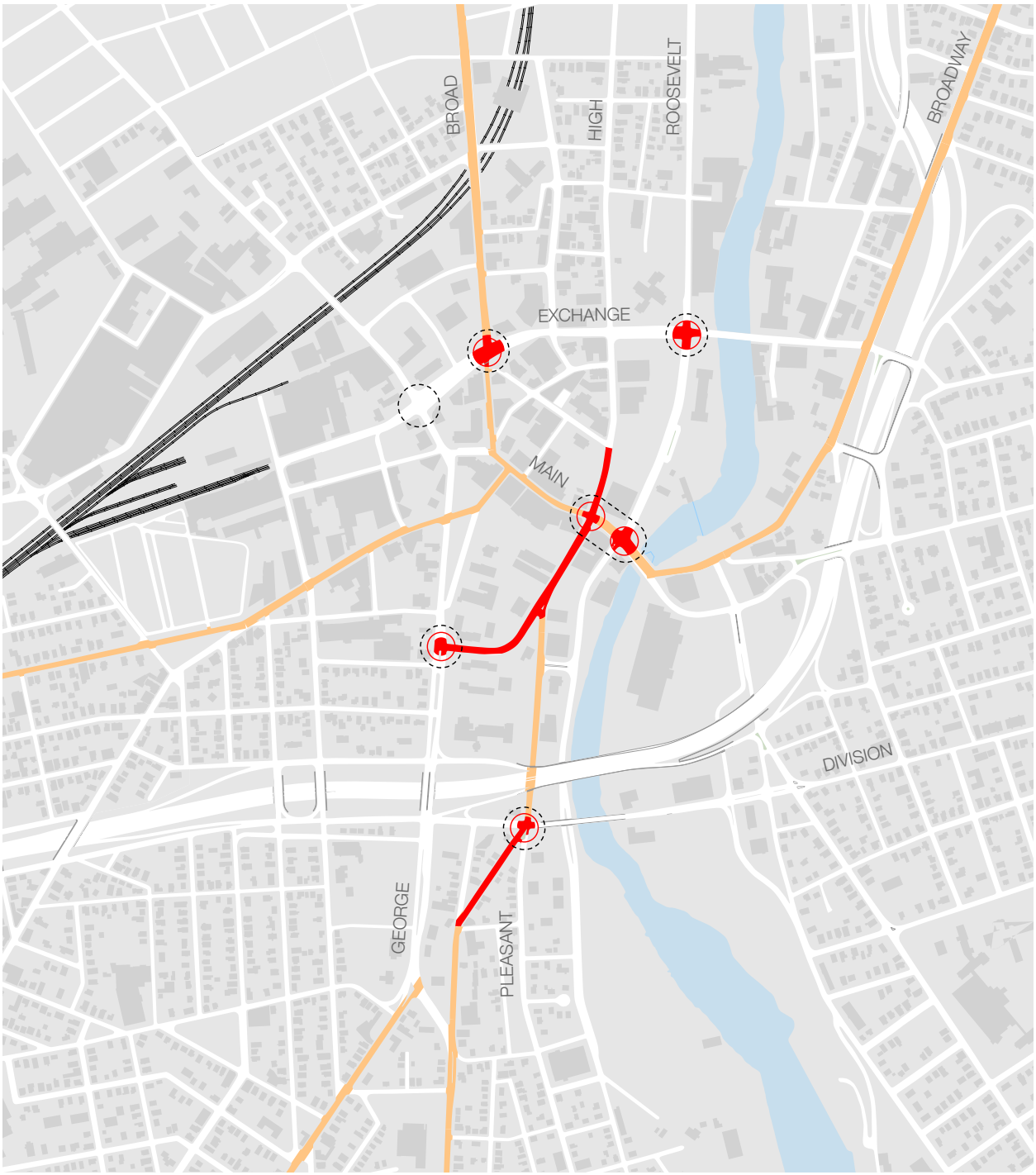
Exchange Street and Broad Street intersection to 10%
Main Street and North Union Intersection to 10%
Main Street and High Street Intersection to 10%
George Street and East Avenue Extension Intersection to 10%
Summer Street and High Street Intersection to 10%
Broadway and Exchange Street Intersection to 10%

Exchange Street Scope Priority



Exchange Street scope included:

Exchange Street and Broad Street intersection to 10%
Exchange Street and Dexter Street Intersection to 10%
Exchange Street and Roosevelt Avenue Intersection to 10%
Main Street and High Street Intersection to 10%
George Street and East Avenue Extension Intersection to 10%
Broadway and Exchange Street Intersection to 10%

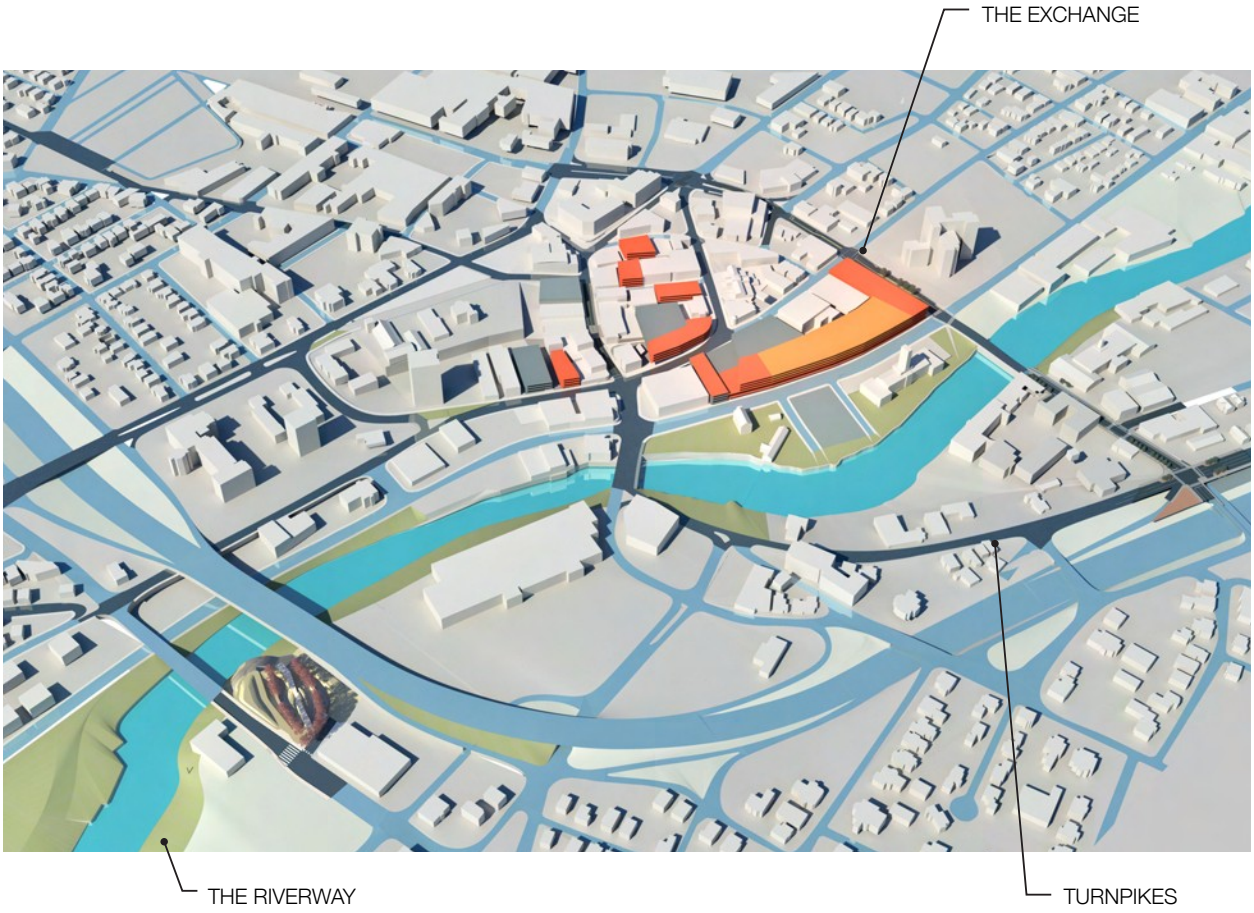


River focus scope included:

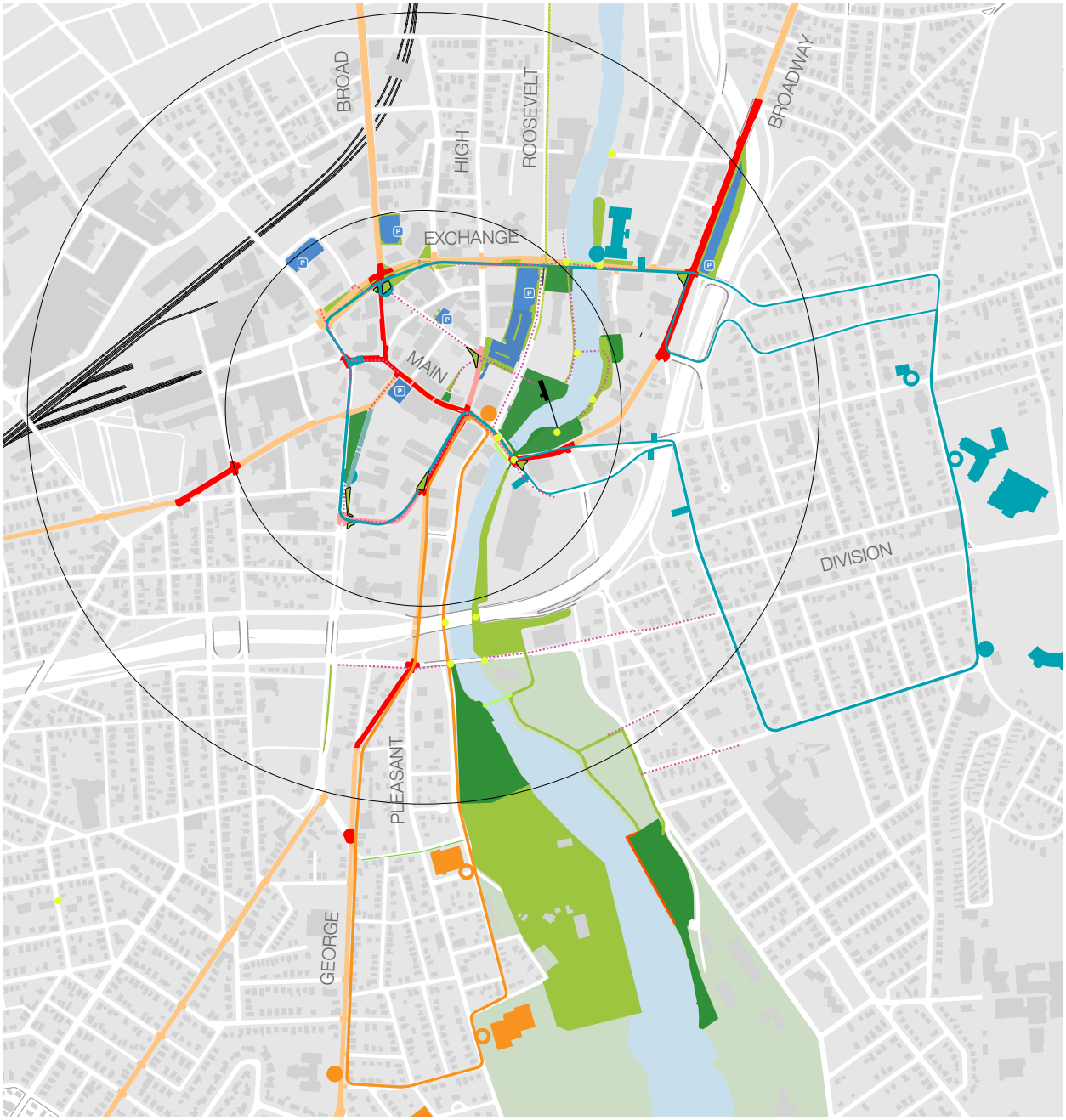
Exchange Street and Broad Street intersection to 10%
Exchange Street and Roosevelt Avenue Intersection to 10%
Main Street and High Street Intersection to 10%
Main Street and Roosevelt Avenue Intersection to 10%
George Street and East Avenue Extension Intersection to 10%
Pleasant Street and Division Street Intersection to 10%

DESIGN

OVERVIEW



A diagram showing the PDDP projects over the downtown area.



This diagram shows the five concepts over the downtown area.

INTRODUCTION

The PDDP Traffic improvements include general principles that define the Turnpike and Exchange projects, traffic analysis that supports the conversion of one way to two ways, and conceptual plans of Exchange Street from the Nathanson Bridge to the Broadway, Main Street from Broad Street to High Street, and both short-term and long-term options for East Avenue Extension from George Street to Main Street. Upcoming addenda will include Exchange Street from Dexter to the Nathanson Bridge and the Pleasant Street and Division Street intersection.

STREET IMPROVEMENTS PRINCIPLES

The Turnpike System has a set of physical components that help define the route, allow for multiple kinds of transportation to work together, and develop material goals that work as wayfinding. Also, as a system, the components support one another in a cohesive way, but must also adapt to its specific location and conditions. Each layer of markings help to define the edges of one type of movement from the other. The sidewalks function like a continuous ribbon that connects pedestrians clearly to crosswalks. The spaces between the sidewalk and the street edge is a buffer area is where lighting, trees, newspaper racks, utilities and signage are located. The bicycle system is either located on the sidewalk as a cycle track to avoid putting cyclists between parked and moving cars, or are on the street where there is no parking. The components also use a color coded system on signage, lighting and curb edges where appropriate, to define a wayfinding system.

To follow a turnpike is easy-- just look for a colorful turnpike sign, point yourself towards downtown and you will end up on Main Street on a route that people have used for nearly two hundred years. The Turnpikes give residents and visitors something that, from day to day, is both useful and full of historic meaning. The follow design principles govern the development of the turnpike systems, see also Sidewalk Ribbon concept, page 100:

Crosswalk
Intersection distances are minimized to decrease pedestrian and car conflict areas.

Wayfinding
A color wayfinding system, including paving and signage, is added to make it easy to locate yourself and find Main Street.

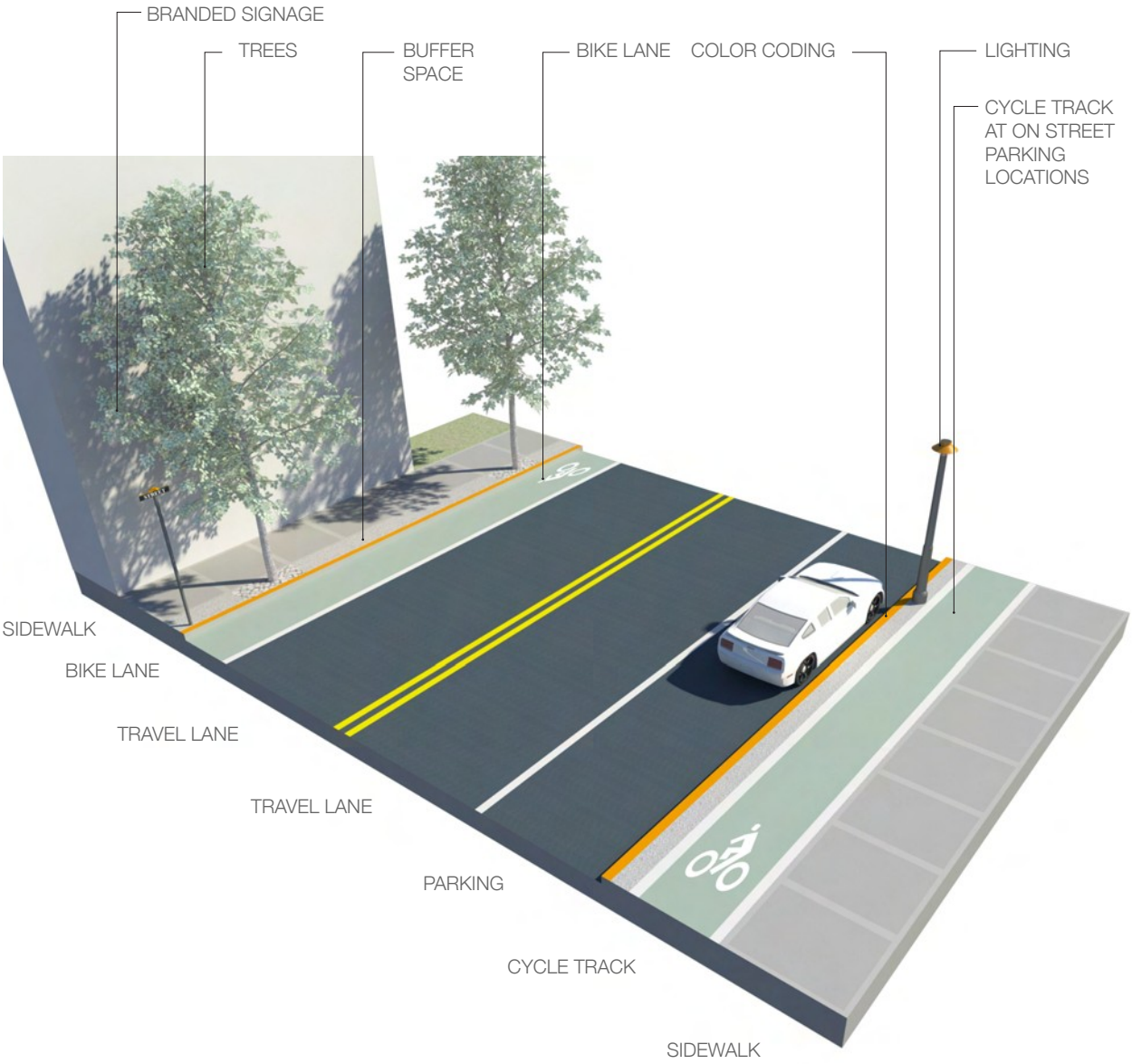
Signage
Signs have two options: a full street sign in the color of the turnpike with each turnpike having a distinctive color and a “top hat” version that could be added to existing street signs if they have already been replaced.

Lighting
New energy efficient pedestrian-oriented lighting would be added to the turnpike routes that would consist of Dark Sky approved lamp-types and fixtures. Fixtures would reflect a historic character appropriate to the height of the commercial era of downtown Pawtucket.

Trees
Low maintenance plantings and permeable paving are added wherever possible in the space between the sidewalk and the roadway.

One Way Traffic Conversion
One way street segments are reconfigured into two ways streets.

On Street Parking Enhancement
Any changes to the streets must be on street parking neutral and, wherever possible, positive. On street parking is encouraged.



Bicycle Rider Provisions

Bicycles are an important form of travel along the turnpikes and are given special protection from motorized vehicles. Bicycle priority can be designated in the following ways:

- if there is no on street parking and roadway width permits it, bike lanes are added.
- If the roadway is too narrow, sharrows are a last resort
- if there is on street parking or a bus stop, a cycle track is added at the level of the sidewalk with a 1.5 foot minimum buffer space between parked cars and the track edge.

TRAFFIC ANALYSIS

As the proposed projects were being developed, traffic analyses were conducted to ensure that the proposed changes could accommodate the current traffic demands for the Downtown area. Projects 1 and 2 alter the traffic flow in downtown.

Project 1, Take the Turnpike, recommends the conversion from one-way to two-way traffic for the following roadway segments:

Short-term:
- East Avenue Extension –George Street to Main Street

Medium- Term:
- High Street from main Street to Summer Street
- Main Street from High Street to Bayley Street
- Broad Street from Main Street to Exchange Street
- Main Street from Mineral Spring Avenue and Pine Street
- Pawtucket Avenue from East Avenue to Pleasant Street

Long-Term
- Broadway from Underwood Street to Kossuth Street
- Broadway from Main Street to School Street
- Park Place East from Church Street to Main Street

Traffic volumes for the PM peak hour condition were re-assigned to the proposed street network with two-way roadways and capacity analyses were conducted for the major intersections. Note that count data was not available to evaluate the conversion of Broadway, Pawtucket Avenue, Park Place East, and Main Street near Mineral Spring Avenue.

Intersection capacity analyses were conducted for the six study area intersections to evaluate the 2010 projected PM peak-hour traffic conditions. The analyses were based upon actuated signalization with optimized timings and were conducted using Synchro capacity analysis software, based on procedures contained in the 2000 Highway Capacity Manual (HCM). Operating levels of service are reported on a scale of A to F with A representing the best conditions (with little or no delay) and F representing the worst operating conditions (long delays). Typically in an urbanized area, LOS D is considered adequate.

The major intersections analyzed had overall intersection LOS of “C” or better under existing conditions. Traffic operations do not decline with the introduction of two-way streets. The major intersections are expected to operate at an overall LOS “C” or better with traffic reassigned to a two-way street system.

The capacity analyses are summarized in the adjacent table.

Project 2, Take the Exchange, implements traffic calming techniques along Exchange Street. Exchange Street currently carries approximately 500 vehicles in one direction during the peak hour and this volume can be serviced in one travel lane. Additional turn lanes can be provided at major intersections as needed.

Weekday Afternoon Peak Hour									
			Existing 2010			Recirculated 2010		
Intersection	Movement		LOS[1]	Delay[2]	V/C[3]	LOS	Delay	V/C
Division Street at Pleasant Street	EB	L	C	28.5	0.28	Unchanged		
		T	C	21.0	0.83			
	WB	TR	B	16.3	0.61			
	NB	LTR	B	14.6	0.62			
	SB	LTR	A	7.5	0.11			
	Overall		B	18.0	0.83			
Goff Avenue at Dexter Street	EB	L	C	26.5	0.76	Unchanged		
		TR	A	6.2	0.14			
	WB	LT	A	8.7	0.43			
		R	A	2.4	0.39			
	NB	LTR	B	17.5	0.66			
	SB	LTR	B	12.4	0.20			
	Overall		B	12.5	0.76			
Goff Avenue at Broad Street	EB	L	E	57.2	0.80	C	24.8	0.54
		TR	C	22.8	0.22	B	15.2	0.23
	WB	LT	C	26.5	0.45	C	31.0	0.68
		R	A	6.1	0.32	A	6.3	0.28
Summer	NB	L	D	44.6	0.78	C	31.1	0.09
		TR	C	25.7	0.38	B	18.6	0.30
Main	NB	LTR	–	–	–	B	17.4	0.36
	SB	LTR	D	38.9	0.84	C	26.7	0.78
	Overall		C	32.8	0.84	C	22.7	0.78
Exchange Street at Roosevelt Avenue	EB	LTR	A	9.6	0.35	Unchanged		
	WB	LTR	C	25.1	0.81			
	NB	LTR	B	12.0	0.40			
	SB	LTR	C	23.9	0.71			
	Overall		B	18.4	0.81			
Main Street at East Avenue	EB	LT	B	12.4	0.54	–	–	–
		LTR	–	–	–	B	12.1	0.59
	WB	LT	–	–	–	C	25.1	0.83
		R	A	0.8	0.43	A	2.0	0.08
	NB	LTR	–	–	–	D	39.8	0.88
		T	A	7.7	0.20	–	–	–
		R	A	2.8	0.36	–	–	–
	SB	LTR	–	–	–	B	19.1	0.14
	Overall		A	5.5	0.54	C	23.8	0.88
George Street at East Avenue	NB	T	A	4.0	0.12	A	5.1	0.22
		R	A	1.5	0.16	A	1.5	0.16
	SB	L	B	18.0	0.50	–	–	–
		T	A	0.1	0.17	–	–	–
		LT	–	–	–	B	17.7	0.79
	WB	LR	–	–	–	C	24.8	0.57
	Overall		A	3.7	0.50	B	14.3	0.79

1 Level-of-Service

2 Average vehicle delay in seconds

3 Volume to capacity ratio

– Not Applicable

EXCHANGE STREET - NATHANSON BRIDGE TO BROADWAY

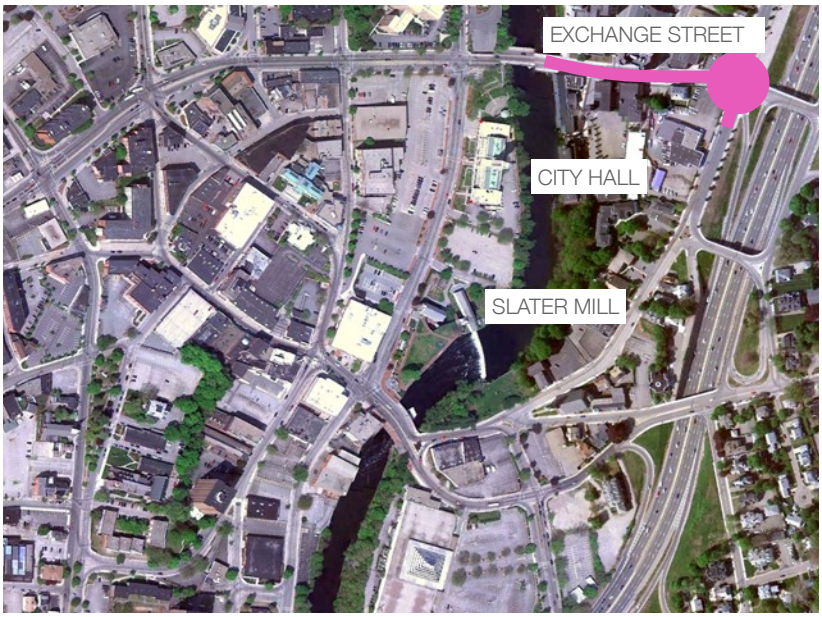
NATHANSON BRIDGE TO BROADWAY

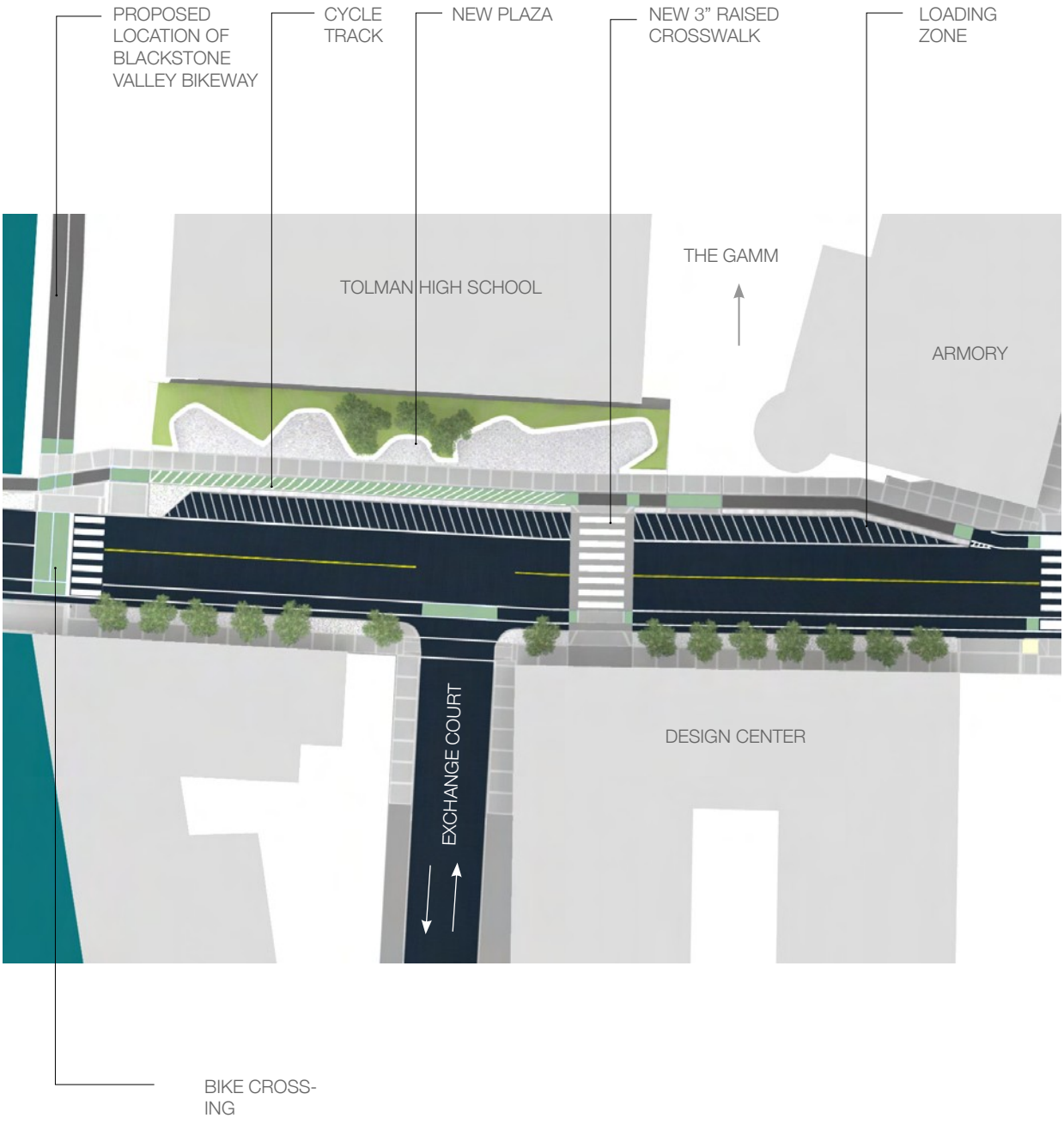
Proposed improvements at the intersection of Exchange Street and Broadway will focus on reducing the length of pedestrian crossings and traffic calming. The curb radii of the southeast and southwest corners will be decreased and a curb extension will be installed in the northeast corner of the intersection. The existing traffic islands within the intersection will be removed. Lane assignments on the westbound Exchange Street approach will be unchanged, with one through lane and one left-turn lane for vehicles turning southbound onto Broadway. The eastbound approach will have two lanes; an exclusive right-turn lane for vehicles accessing Broadway southbound and the center lane for eastbound traffic accessing I-95 southbound.

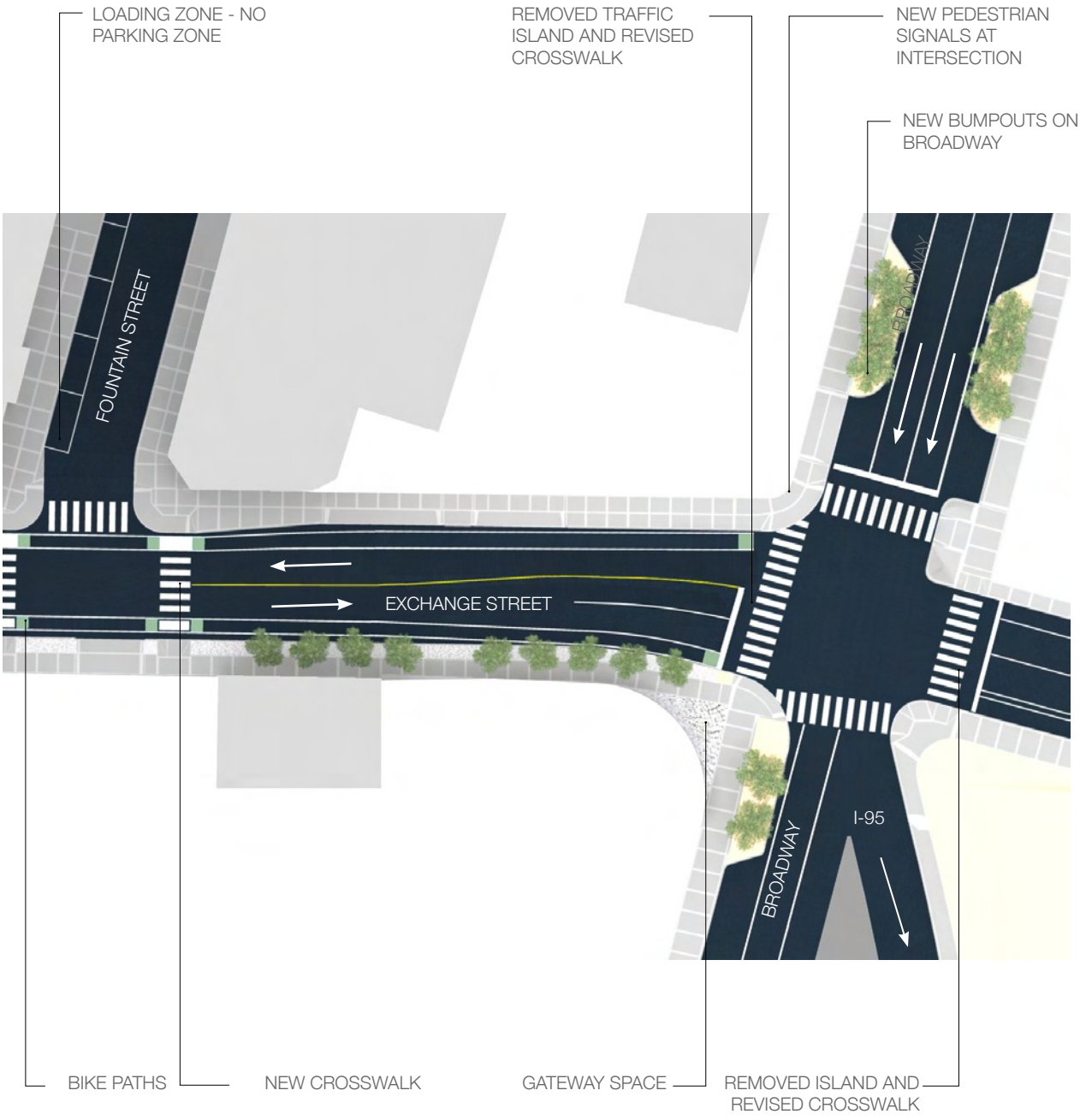
Lane assignments on the Broadway southbound approach will be consolidated from a right-turn lane, two through lanes and a through-right lane to one through lane and one through-right lane. Curb extensions will be installed on either side of Broadway, approximately 40-feet north of the intersection. Existing on-street parking will be retained on Broadway north of the proposed curb extensions.

A bike lane will be installed along the north side of Exchange Street, east of the intersection, and will continue through the intersection and onto the sidewalk on the north side of Exchange Street, west of the intersection. A bike lane will also be installed on the south side of Exchange Street, west of the intersection. Pedestrian crossings will be provided across all legs of the intersection.

LOCATION MAP




PROPOSED LOCATION OF BLACKSTONE VALLEY BIKEWAY
CYCLE TRACK
NEW PLAZA
NEW 3" RAISED CROSSWALK
LOADING ZONE
TOLMAN HIGH SCHOOL
THE GAMM
ARMORY
EXCHANGE COURT
DESIGN CENTER
BIKE CROSS-ING


LOADING ZONE - NO PARKING ZONE
REMOVED TRAFFIC ISLAND AND REVISED CROSSWALK
NEW PEDESTRIAN SIGNALS AT INTERSECTION
NEW BUMPOUTS ON BROADWAY
FOUNTAIN STREET
BROADWAY
EXCHANGE STREET
I-95
BROADWAY
BIKE PATHS
NEW CROSSWALK
GATEWAY SPACE
REMOVED ISLAND AND REVISED CROSSWALK

EAST AVENUE EXTENSION - LONG-TERM

CONCEPTUAL PLAN

GEORGE STREET &
EAST AVENUE EXTENSION TO 10%

PLEASANT STREET &
EAST AVENUE EXTENSION TO 10%

MAIN STREET &
HIGH STREET TO 10%

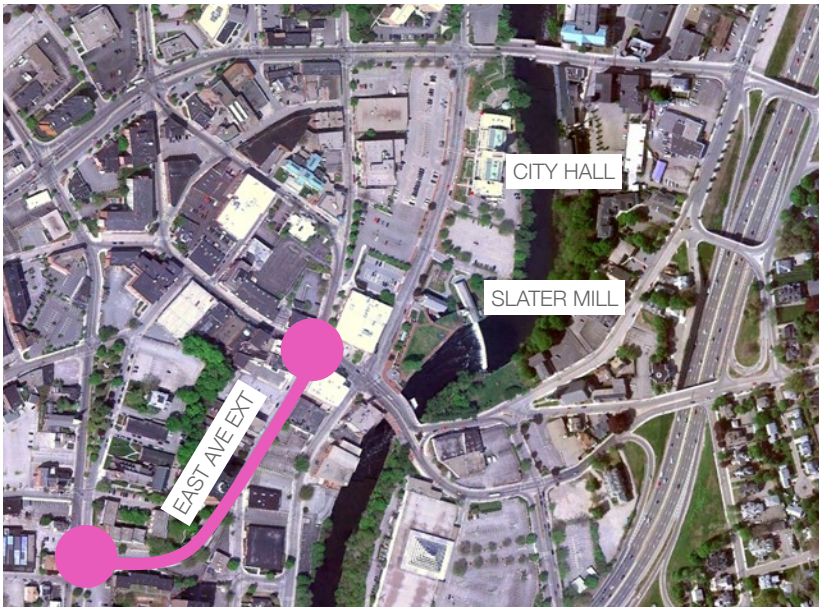
SUMMER STREET &
HIGH STREET TO 10%

Long-term improvements to East Avenue Extension will include modifications to the intersection of East Avenue Extension at Pleasant Street. Currently Pleasant Street intersects East Avenue Extension as the minor approach of the T-intersection. The proposed alignment will be such that East Avenue Extension northbound will serve as the minor-street approach at the Pleasant Street intersection. Long-term improvements also include the conversion of High Street to accommodate two-way travel north of the Main Street intersection during this phase of the project.

George Street and Park Place West at East Avenue Extension
Long-term improvements will focus on revising the curb line to decrease the pedestrian crossing distances at the intersection. The width of East Avenue Extension will be decreased from approximately 40-feet to 28-feet, accommodating one travel lane in each direction. The curb radii of the northeast and southeast corners will be decreased to provide shorter distances for pedestrians crossing East Avenue Extension, George Street and Park Place West. The lane assignments on the George Street northbound approach will be revised from a through lane and a through-right lane to one through lane and one right-turn lane. The curb line on the east side of Park Place West will be revised to accommodate one receiving lane for the George Street northbound through movement. Further modifications will be made to the existing traffic island within the intersection and a traffic island will be installed north of the intersection. Pedestrian crossings will be provided across all legs of the intersection.

Pleasant Street and East Avenue Extension
Long-term improvements at the intersection will focus on prioritizing traffic flow between East Avenue Extension to the north and Pleasant Street. This will be accomplished by revising the alignment of East Avenue Extension

LOCATION MAP



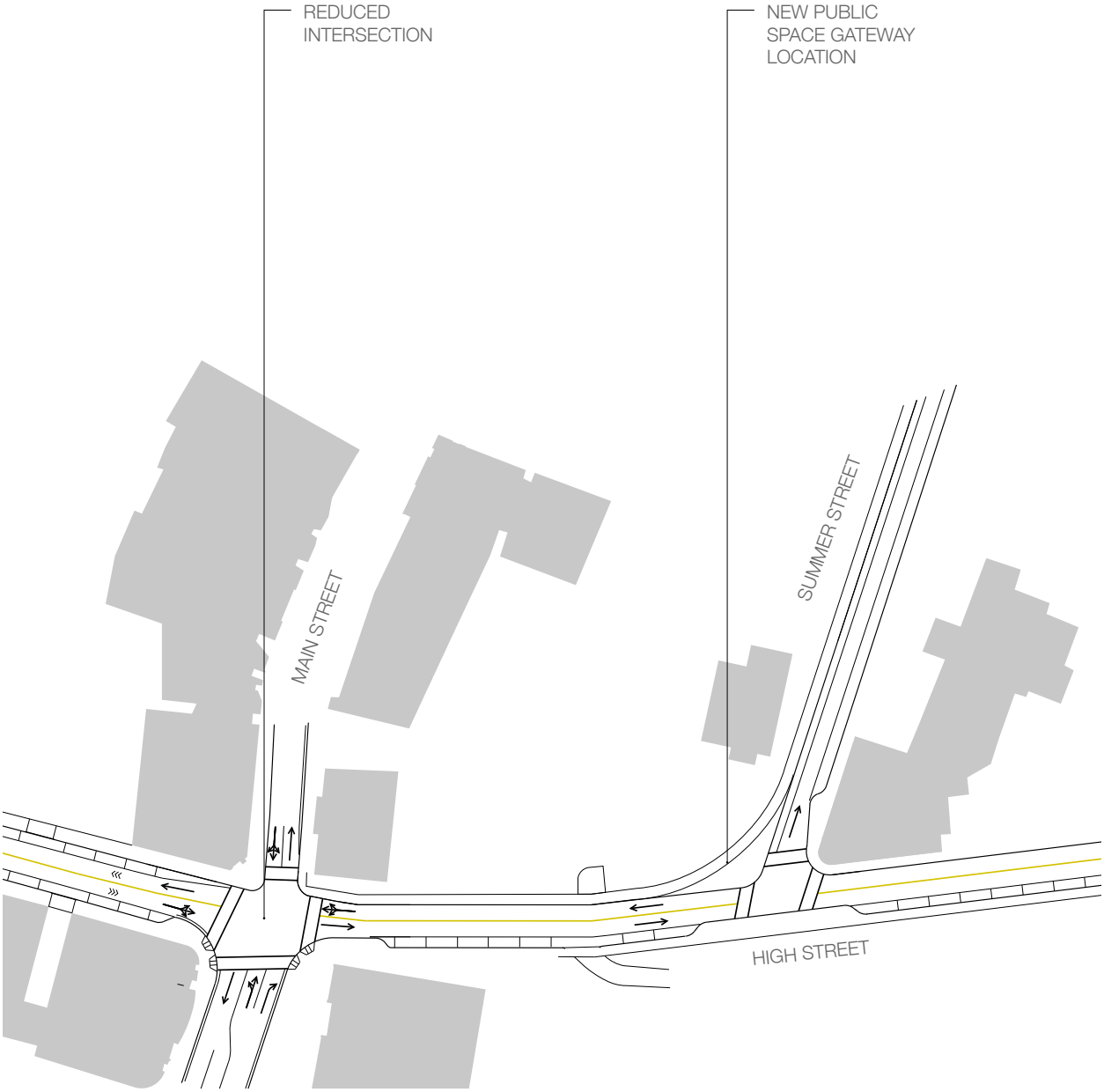
north of the intersection to be continuous with the Pleasant Street alignment and the East Avenue Extension northbound approach will become the minor leg at this T-intersection. The traffic island currently separating northbound and southbound vehicles on Pleasant Street will be removed. Sharrows (or bike lanes width permitting) will be added on the east side of Pleasant Street and carried through the intersection onto East Avenue Extension. Pedestrian crossings will be provided across all legs of the intersection.

Main Street at High Street and East Avenue Extension
The main focus of the proposed improvements at this intersection is to improve the flow of traffic by introducing two-way traffic flow on all approaches. Long-term improvements include geometric improvements to the intersection and the introduction of two-way travel on Main Street, west of the intersection. The exclusive westbound left-turn lane introduced in the short-term improvements will be converted to a through-left lane, allowing vehicles to continue westbound through the intersection on Main Street. The curb radii of the northwest and southwest corners will be increased to accommodate buses turning westerly onto Main Street from High Street and East Street. The alignment of Main Street east of the intersection will be shifted slightly to the south and the northeast corner curb radius will be decreased in order to reduce the length of the pedestrian crossings, which will be provided across all legs of the intersection.

Summer Street at High Street
Two-way travel will be introduced on High Street south of the Summer Street intersection as part of the long-term East Avenue Extension improvements. The proposed improvements at this intersection focus on accommodating the two-way travel patterns on High Street south of Summer Street. Under existing conditions, High Street accommodates two-way travel north of the Summer Street intersection. The existing traffic island in the middle of the intersection will be removed to allow vehicles to continue southbound on High Street through the intersection. Existing on-street parking will be retained on Summer Street and High Street. A curb bump-out is proposed along the east side of High Street to calm traffic and reduce the length of pedestrian crossings. Also, the southwest corner curb radius will be significantly decreased to reduce the length of pedestrian crossings, which will be provided across all legs of the intersection.

EXISTING GEORGE STREET AND EAST AVENUE EXTENSION INTERSECTION


CONNECTION TO RE-ALIGNED PARK PLACE
ENHANCED ON STREET PARKING
NEW PUBLIC SPACE GATEWAY LOCATION
GEORGE STREET
EAST AVE EXT
PLEASANT STREET
NEW PRIORITY OF PLEASANT STREET OVER EAST AVENUE EXTEN-
ADDED SHARROWS FOR BICYCLES


REDUCED
INTERSECTION
NEW PUBLIC
SPACE GATEWAY
LOCATION
MAIN STREET
SUMMER STREET
HIGH STREET

EAST AVENUE EXTENSION - SHORT-TERM

GEORGE STREET &
EAST AVENUE EXTENSION TO 10%

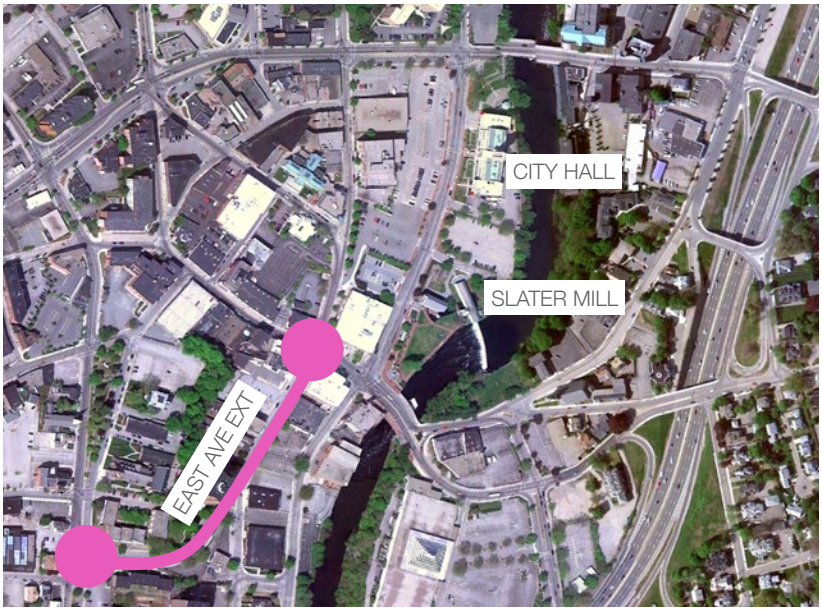
MAIN STREET &
HIGH STREET TO 10%

Short-term improvements on East Avenue Extension will focus on implementing two-way traffic flow from its intersection with Park Place West and George Street to the Main Street intersection. The existing width of East Avenue Extension will accommodate one travel lane in each direction with no changes to the curb line of the roadway. On-street parking will be maintained on both sides of East Avenue Extension.

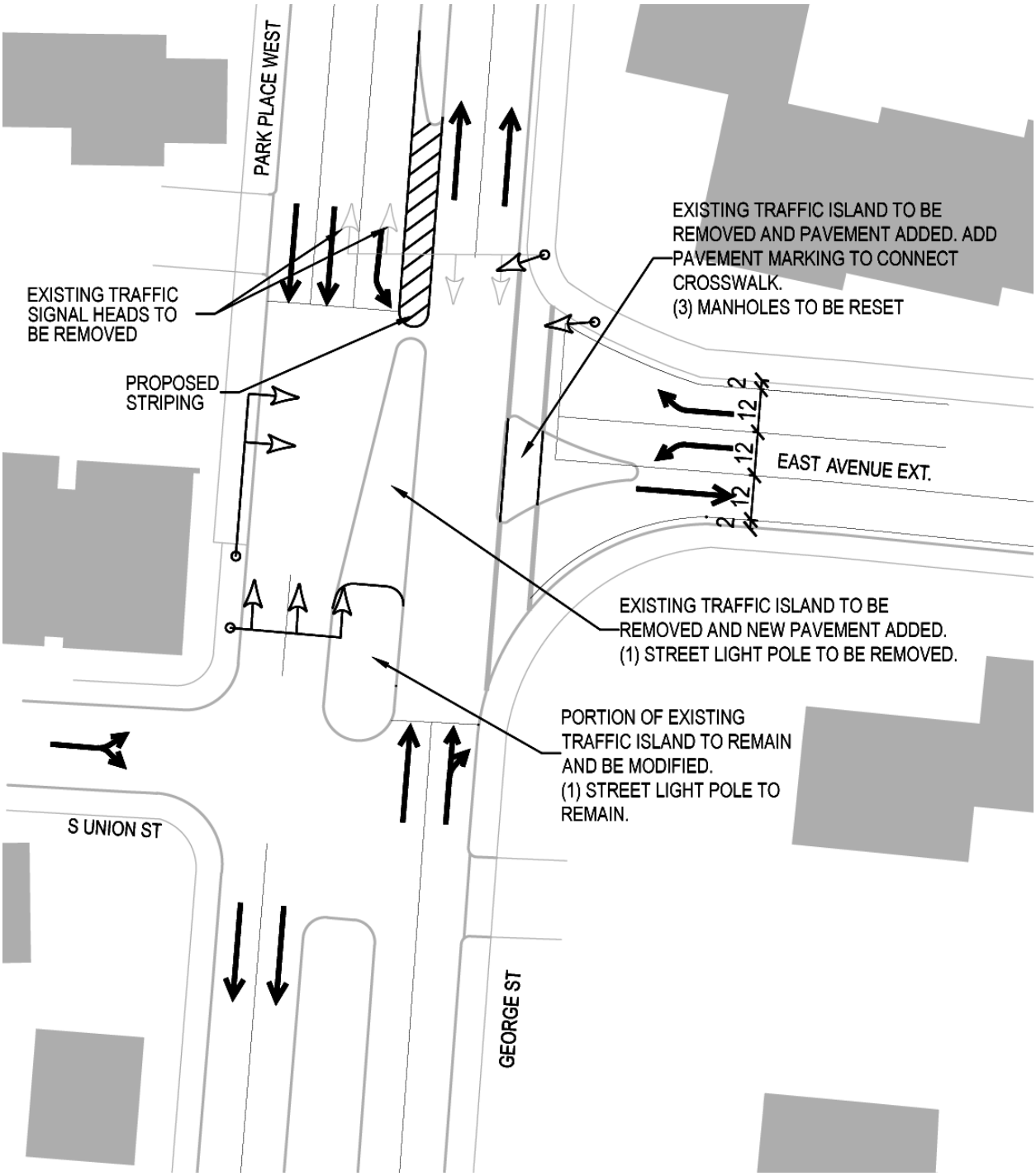
George Street and Park Place West at East Avenue Extension
Short-term improvements at the intersection of George Street and Park Place West with East Avenue Extension will focus on accommodating vehicles entering the intersection from the East Avenue Extension approach. Removal of the traffic island on East Avenue Extension and modifications to the traffic island in the middle of the intersection, opposite East Avenue Extension, will be necessary to accommodate vehicles turning southbound onto George Street from East Avenue Extension. New traffic signal equipment will be installed at the intersection to serve the revised lane assignments. Striping will be extended southerly from the traffic island north of the intersection to align vehicles turning left onto East Avenue Extension from Park Place West.

Pleasant Street and East Avenue Extension
Under short-term conditions, East Avenue Extension will be a two-way roadway at this intersection. No changes will be made to Pleasant Street itself or the alignment of East Avenue Extension under the short-term improvements. Under short-term improvements, left turns from East Avenue Extension southbound onto Pleasant Street will be permitted; left turns from Pleasant Street northbound onto East Avenue Extension will not be permitted.

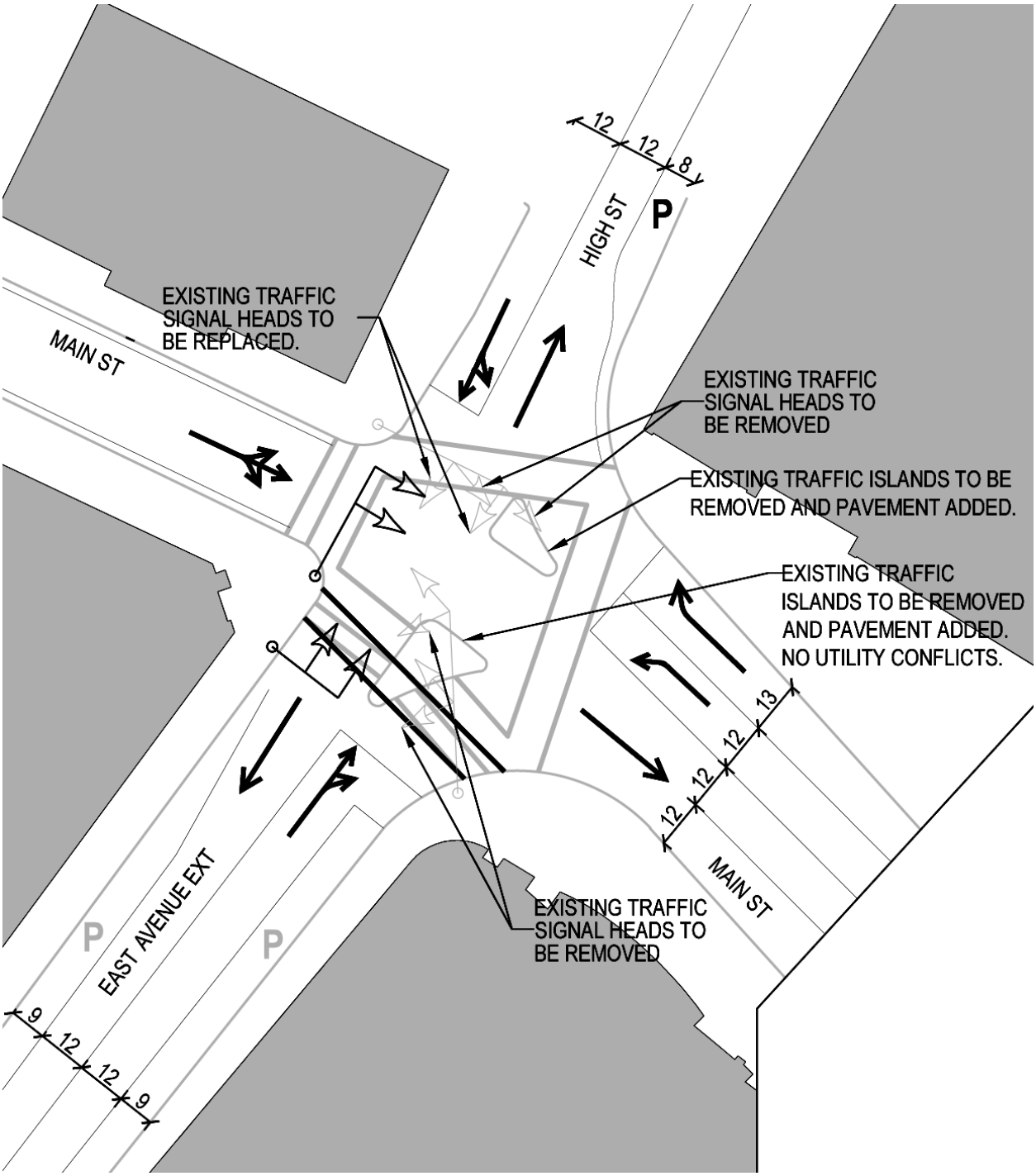
LOCATION MAP



Main Street at High Street and East Avenue Extension
The main focus of the proposed improvements at this intersection is to improve the flow of traffic by introducing two-way traffic flow on all approaches. Short-term improvements include striping both East Avenue Extension and High Street to accommodate two-way travel. Main Street west of the intersection will remain one-way eastbound. The westbound Main Street approach will be striped to accommodate two lanes: a left-turn only and a right-turn only. The traffic islands at the intersection will be removed and new traffic signal equipment will be installed at the intersection. Existing on-street parking will be retained on either side of East Avenue Extension, south of the intersection, and new street parking will be provided along the east side of High Street, north of the intersection.



George Street and Park Place West at East Avenue Extension



Main Street at High Street and East Avenue Extension

MAIN STREET

CONCEPTUAL PLAN

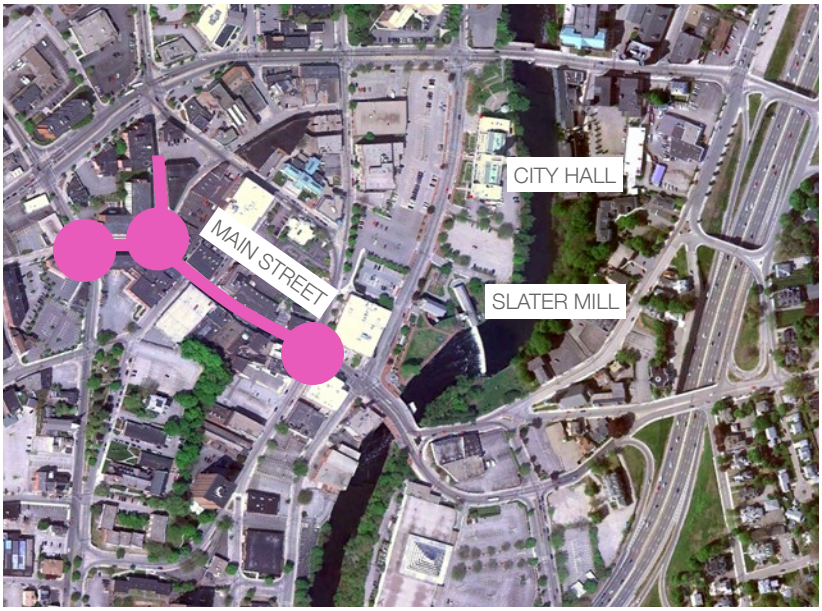
MAIN STREET &
BROAD STREET TO 10%

DEXTER STREET &
MAIN STREET TO 10%

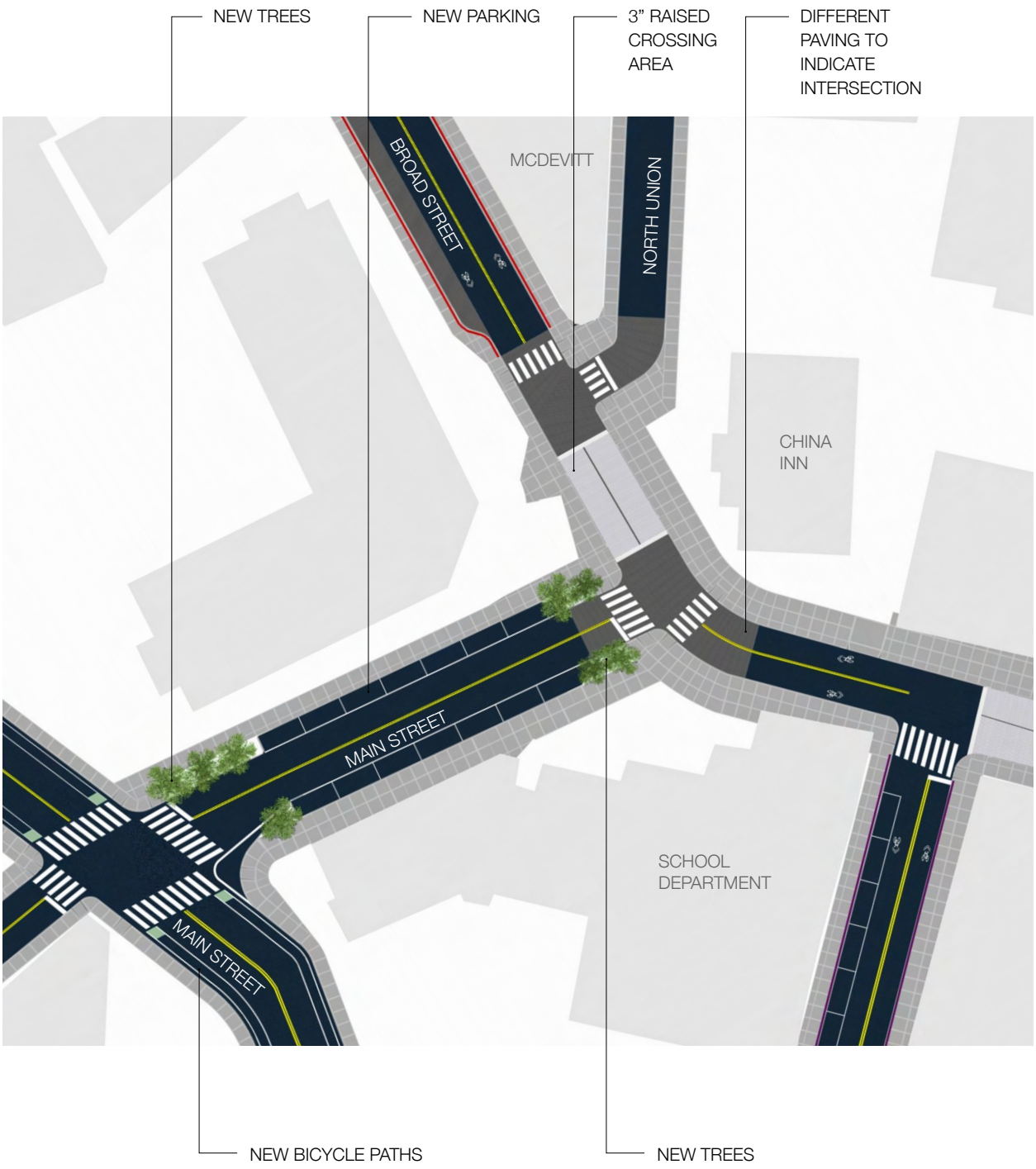
A long-term goal of the project is to improve traffic flow throughout the Downtown Pawtucket area by converting Main Street to two-way travel between Dexter Street/Park Place West and East Avenue Extension/High Street. While the existing width of the roadway will accommodate one travel lane in each direction, modifications must be made to the curb line to provide on-street parking along the roadway.

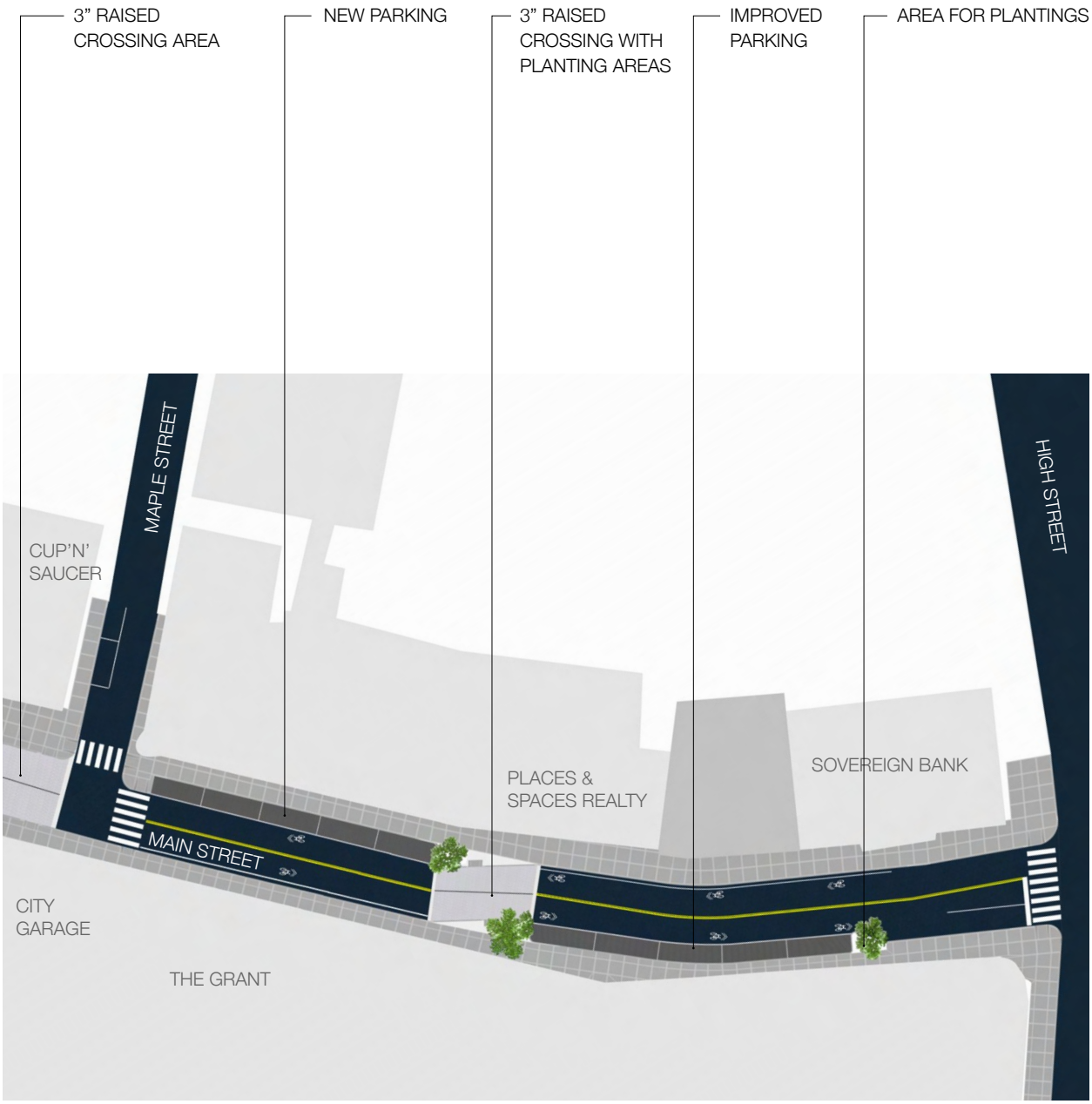
Main Street at Broad Street
Long-term improvements include modifications to Main Street and Broad Street to accommodate two-way travel on both roadways. The curb line between Main Street and North Union Street will be revised to reduce the length of pedestrian crossings. The alignment of the North Union Street terminus will be modified to create a T-intersection with Broad Street. Curb line modifications will be necessary to retain existing on-street parking along the west side of Broad Street and the north side of Main Street west of Broad Street. Pedestrian crossings will be provided across all legs at the intersections of Main Street/Broad Street and Broad Street/North Union Street.

Main Street at Dexter Street, Park Place West and Bayley Street
With the conversion of Main Street to two-way travel under long-term conditions; southbound left-turn, northbound right-turn and eastbound through movements will be introduced at the intersection of Main Street at Dexter Street, Park Place West and Bayley Street as part of the long-term improvements. The existing eastern through lane on Dexter Street will be used as a through-left lane and the existing eastern through lane on Park Place West will be used as a through-right lane. On-street parking will be provided on the north side of Main Street and the west side of Park Place West. Pedestrian crossings will be provided across all legs of the intersection.




downtown
WALK
Pawtucket


NEW TREES
NEW PARKING
3" RAISED CROSSING AREA
DIFFERENT PAVING TO INDICATE INTERSECTION
MCDEVITT
BROAD STREET
NORTH UNION
CHINA INN
MAIN STREET
SCHOOL DEPARTMENT
MAIN STREET
NEW BICYCLE PATHS
NEW TREES


3" RAISED CROSSING AREA
NEW PARKING
3" RAISED CROSSING WITH PLANTING AREAS
IMPROVED PARKING
AREA FOR PLANTINGS
MAPLE STREET
HIGH STREET
CUP'N' SAUCER
PLACES & SPACES REALTY
SOVEREIGN BANK
MAIN STREET
CITY GARAGE
THE GRANT

COST ESTIMATE - EXCHANGE STREET, EAST AVE EXTENSION & MAIN STREET ESTIMATES

Exchange Street Improvements
Proposed improvements to Exchange Street focus on calming traffic and improving the roadway for pedestrians and bicyclists, as shown on pages 62 and 63. Revisions to the curb line at the intersection of Broadway and Exchange Street will shorten the distance pedestrians must walk to cross the street, and raised crosswalks will provide pedestrian accommodations while serving to calm traffic. The cost of construction for the proposed improvements along Exchange Street from west of Exchange Court to east of Broadway will be approximately $332,300. This estimate represents the cost of the curb-to-curb improvements within the area described and does not include any features behind the curb line of the roadway. This estimate does not include utility work or the proposed bumpouts on Broadway. The landscape estimate for the public space from the curb line to private lots is $370,000. Itemized spreadsheets for the cost estimates are provided in Appendix E.

East Avenue Extension Short-Term Improvements
A construction cost estimate was prepared for the short-term improvements proposed on East Avenue Extension between the signalized intersections Park Place West/George Street and Main Street/High Street. The goal of the short-term improvements is to convert East Avenue Extension to a two-way roadway between the intersections described above. Both intersection and traffic signal improvements will be necessary to accommodate two-way travel; no curb work will be required along the edges of the roadway. Existing traffic islands within the intersections will need to be modified or removed, additional traffic signal equipment will need to be installed at both signalized intersections and pavement markings must be removed and reapplied along the roadway. The cost of construction for the short-term roadway improvements is summarized in the tables below. The lower estimate of $72,000, shown in Table XX, reflects the installation of wooden utility poles to support the new traffic signal equipment. The upper estimate of $88,000 shown in Table XX reflects the installation of new steel traffic signal poles to accommodate the new traffic signal equipment. This estimate does not include utility work and assumes that the existing traffic signal controller can accommodate the new traffic signal equipment and phasing. An itemized spreadsheet for the cost estimate is provided in Appendix E.

East Avenue Extension Short-Term Improvements w/Wooden Signal Poles

INTERSECTION	STREET IMPROVEMENTS	SIGNAL IMPROVEMENTS	SUB-TOTALS
PARK PLACE WEST/GEORGE STREET	$21,000	$30,000	$51,000
MAIN STREET/HIGH STREET	$8,500	$10,000	$18,500
EAST AVENUE EXT (ROADWAY)	$2,500	N/A	$2,500
TOTAL			$72,000

East Avenue Extension Short-Term Improvements w/Steel Signal Poles

INTERSECTION	STREET IMPROVEMENTS	SIGNAL IMPROVEMENTS	SUB-TOTALS
PARK PLACE WEST/GEORGE STREET	$21,000	$45,000	$66,000
MAIN STREET/HIGH STREET	$8,500	$11,000	$19,500
EAST AVENUE EXT (ROADWAY)	$2,500	N/A	$2,500
TOTAL			$88,000

East Avenue Extension Long-Term Improvements

Long-term improvements along East Avenue Extension are proposed from Park Place West/George Street to the intersection of High Street and Summer Street. The long-term improvements along East Avenue Extension are focused on converting the roadway to two-way travel while improving the geometry of the roadway and its intersections, as shown on pages 66 and 67. The intersections of High Street/Summer Street, East Avenue Extension/Main Street/High Street and East Avenue Extension/Park Place West/George Street will experience changes to the curb lines and revisions to the existing traffic islands within the intersections as well as the necessary signal improvements at the signalized intersections to accommodate two-way traffic flow. The intersection of East Avenue Extension and Pleasant Street will experience a major change, with the alignment of East Avenue Extension being revised to serve as the minor-street approach in a T-intersection with Pleasant Street. Pavement markings will be revised at all intersections and along the roadway. The cost of construction for the long-term improvements is summarized in the table below. The cost of construction for all long-term improvements proposed along East Avenue Extension and High Street from Park Place West/George Street to Summer Street will be approximately $384,000. This estimate does not include utility work and assumes the existing traffic signal controller can accommodate the new traffic signal equipment and phasing. The landscape estimate for the public space from the curb line to private lots is $422,000. Itemized spreadsheets for the cost estimates are provided in Appendix E.

East Avenue Extension Long-Term Improvements

INTERSECTION	STREET IMPROVEMENTS	SIGNAL IMPROVEMENTS	SUB-TOTALS
PARK PLACE WEST/GEORGE STREET	$89,500	$45,000	$134,500
PLEASANT STREET	$82,000	N/A	$82,000
MAIN STREET/HIGH STREET	$74,000	$30,000	$104,000
HIGH STREET/SUMMER STREET	$59,000	N/A	$59,000
EAST AVENUE EXTENSION (ROADWAY)	$4,500	N/A	$4,500
TOTAL=			$384,000

Cost Estimates Main Street

As part of this project Main Street and Broad Street will be converted to two-way roadways in order to improve traffic flow throughout Downtown Pawtucket. The most substantial change needed to facilitate this conversion is the installation of on-street parking accommodations within the existing sidewalk area, as shown on pages 74 - 75. This will allow enough space for a travel lane in each direction along Main Street and Broad Street. North Union Street will remain a one-way roadway but improvements will be made to its intersection with Broad Street to create a T-intersection. Signal improvements will be required at the intersections of Broad Street/Goff Avenue and Main Street/Park Place West as part of the two-way conversion. The cost of proposed improvements to Main Street and Broad Street will be approximately $230,000. This estimate does not include utility work. The landscape and streetscape estimate for the public space from the curb line to private lots is $945,000. Itemized spreadsheets for the cost estimates are provided in Appendix E.

TRAFFIC & STREET IMPROVEMENTS

The Turnpike System is a network to be built over a series of street improvement projects. The most important idea from the Turnpikes is that routes, not just sites, are important to the legacy of the city-- that the downtown's natural connections to other places are valuable and vital. The disconnection of the internal roadway network due to one way conversions, and the interruptions of the highway, the river and the rail line, are significant hurdles to Pawtucket's future economic and social development. The turnpikes seek to restore these connections.

While not all areas of the Turnpikes could fit into the scope of the PDDP, there is one simple segment of one way to two way conversation that could have a significant impact on travel from other parts of Rhode Island and Pawtucket into downtown: Main Street between Church and Mineral Spring Avenue. This segment would be a simple adjustment of signalling on either end and restriping and could be accomplished with minimal expense and little roadway work.

Broadway's one way segments from the Main Street Bridge to I-95 presents an unfortunate disconnection between downtown and the north east side of Pawtucket that will be the most difficult area to reconnect. This also works with a larger network of roadways between Exchange Street and Underwood that make pedestrian and bicycle crossings dangerous. Because this is a RIDOT roadway that connects a set of interstate on and off ramps, we anticipate this to be a long-term, but important, one way to two way conversion and hope that RIDOT sees the local benefit to better linkages and calmed traffic.

The PDDP team recommends that the values of the Turnpike System be established in each future project in downtown. Each segment completed will add significant functionality to the project; eventually, the system will not work unless there is a critical mass of accomplishment. The network needs to be linked to create an impact.

INTRODUCTION

The PDDP team reviewed existing parking surveys and reports, specifically: the Parking Supply Demand Study (2005), the Downtown Parking Study (2000) and Parking in Downtown Pawtucket (1987). The conditions of downtown parking have changed little in the past decades as the population and business development of the city has remained steady. Residential development has improved in the last ten years, but all new built development required ample deeded spaces, so this did not impact the larger commercial picture.

The current downtown parking condition has been shaped by a typical pattern of automobile priority in a historic commercial core: streets have been widened, zoning required businesses to offer parking spaces on private property which resulted in older buildings to be removed for surface lots, and little public investment in a parking system was required. The high visibility and surface area of the current public and private lot arrangement leaves the downtown visually scarred and ambiguous lines between pedestrian and automobile space. The high number of open lots allows the automobile to intrude even into the interior of the block by crossing and lining sidewalks further eroding the clear protocol of pedestrian prioritized space.

The PDDP Parking Project “P’arking, is uses a set of infrastructural and program systems to help better define the parking conditions.

PARKING PROGRAMS

Parking programs that can help downtown's public parking facilities are a set of physical improvements and services that can help parking become available to those that need it to enhance economic development in downtown. Other factors that drive the parking systems downtown include local Zoning Ordinance requirements. The PDDP team examined these in detail and proposed several amendments that are discussed in Regulatory Framework, page 139.

GOAL

On street parking is for short-term (two hours or less)
Off-street parking is for long-term (more than two hours)

PROPOSAL

Enforce Two hour limits on public street on street parking.

Currently, many of the spaces along downtown streets are used by employees who can park directly outside of their offices or businesses. These spaces are then filled all day blocking the possibility of customers using the spaces for day to day activity. By enforcing the on street limits, currently the city does not have an enforcement system, more spaces, particularly on Main Street, will be available for people who want to patronize local shops, restaurants and vendors.

This ease of stopping in and moving on, helps activate customer access, improve traffic calming (as cars have to slow down to accommodate parking cars), and encourage people to think of downtown as accessible. The people who stay longer than two hours are generally residents and employees. Employees will need to find private or public lot or garage spaces for parking all day. This encourages lots that are more full and will eventually increase pressure towards repairing the existing garage and potentially investing and building a future garage that could open space on existing lots for commercial development.

The PDDP team recommends that Main Street be the top priority for this enforcement with Roosevelt Avenue next and then all of the commercial downtown zone. The individual PDDP street improvement projects will add on street spaces which will help offer new places for people to find spaces.

GOAL

Improve existing parking

PROPOSAL

Renovate the Main Street Garage

The existing garage at Main Street is in disrepair in a number of architectural ways: the lighting is poor; it has poor visibility from the inside to the outside (partially determined by its siting within a slope) making it feel unsafe; the exterior and interior materials have deteriorated; the pedestrian linkages are not clearly signed or made evident and its general appearance and signage are not of a high architectural quality. The location and size of the garage is appropriately scaled and within close distance to Main Street, but until it is more appealing and perceived as safe, it will not get the proper use to relieve Main Street of its 'all day' parkers. Some recent improvements in signage have increased its use, but it is not used nearly to capacity. Renovating the garage would also be a big sign to residents of the city investing in its downtown's development.

Encourage the use of two-wheeled motorized vehicles

GOAL

Add two-wheeled motorize vehicle spaces to on street and lot parking

PROPOSAL

On way to highlight the diversity of transit and movement of people in downtown and decrease the priority of he automobile is to encourage the use of smaller vehicles, including motorcycles and mopeds. They are more energy efficient, take up less space to park, and are more interactive with their public environment. To encourage their use, it is important to offer spaces for them to park. In many cases, small spaces left over in parking planning can offer ample room for these vehicles and the PDDP team encourages this system in future street improvement planning. The PDDP includes spaces directly adjacent to Main Street on Maple and High Streets.

Reduce light pollution and energy use

GOAL

Develop lighting project to replace current parking lighting with energy efficient, pedestrian-oriented, automatic timing system

PROPOSAL

Current lighting in City parking lots use a typical “shoebox” parking lighting fixture which is Dark Sky friendly, but does not use energy efficient bulbs. The lighting in the city parking garage has very poor and industrial light quality. The PDDP team recommends that the garage lighting be replaced in the short-term as part of a larger garage renovation project with more pedestrian-oriented LED fixtures and that the parking lots fixtures and lamps be replaced with LED and Dark Sky compliant fixtures and lamps when the current fixtures expire.

See ‘Lighting’ under STREETSCAPE AND PEDESTRIAN SYSTEMS for more information about the Dark Sky International Association and Department of Energy lighting grants, pages 102 and 103.

Reduce precipitation run off, recharge ground water and reduce heat island effect

GOAL

PROPOSAL

Replace current solid asphalt parking surfaces with permeable paving

Water run off is a significant problem in improving the water quality in the Blackstone River and reducing instances of flooding. Downtown Pawtucket has suffered flooding during two recent periods of high river levels, in 2010 and 2005 and anticipate future floods at increased frequency and, while it can not control the water flowing from up river, it can decrease its own impact on the natural watershed area.

As well, the significant asphalt paving in the downtown area increases heat absorption which can cause higher temperature levels in the downtown area increasing cooling loads for downtown buildings and generally making it more uncomfortable for pedestrians.

For future public parking lots and replacement projects, the city should work towards reducing heat island effects and water run off rates for any remaining public surface parking areas that are not transitioned into a higher use

development.

A goal of 50% pervious paving is recommended by LEED Neighborhood Standards to reduce the heat island effect. This can be accomplished by using a variety of paving types that both offer an attractive surface for pedestrians and a durable surface for cars.

Design: adding trees and vegetation
With good landscape architecture practices, it is easy to increase areas of sustainable, low maintenance plantings and decrease areas of parking. This can be done through the addition of islands, mini-parks, "bump-ins" where the public sidewalk pushes plantings into parking areas as a buffer between moving cars on the public streets and parked cars in a public lot. It not only adds green to reduce the heat island effect and help water management, but makes the lot more amenable to and safer for pedestrians and encourages the reprogramming of the space for other purposes.

Effectiveness	Good for heat island reduction because it includes trees for shade and vegetative areas, but parking areas have to be larger to accommodate the same number of cars; Not ideal for water run-off since the non-vegetative areas are impervious.
Applications	High traffic areas
Durability	High
Maintenance	Increased from standard lot
Aesthetics	Looks like a parking lot with some landscape decoration

Eco-paving: assembled units with large openings
A variety of products are available that allow grass to grow through unit components so that a surface can be a combination of vegetation and ground stabilization. Some of these units are made of traditional masonry materials and other are made from recycled plastic components. The plastic cellular units, often called "turf blocks" or "grass pavers," distribute the weight of traffic and prevent compression of the underlying soil and stabilize what looks like a continuous field of grass. Masonry units can be more easily seen and add to the overall aesthetic. Both exist as well proven systems that can handle large forces, such as fire engines, and offer a smooth surface in winter. Example products of this material type include: Grass-crete, Terrafirm Eco-grid, BodPave™ Porous Grass Paving Grids, and EZ Roll Grass Pavers.

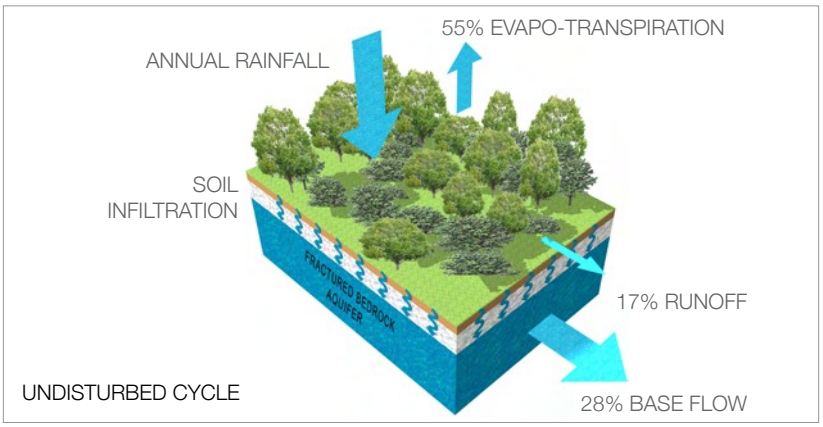
Effectiveness	Best option for water-run off, Best option for heat reduction
Applications	Low traffic areas
Durability	Structure, high; plantings; medium
Maintenance	Increased from a standard lot
Aesthetics	High, Looks like a park

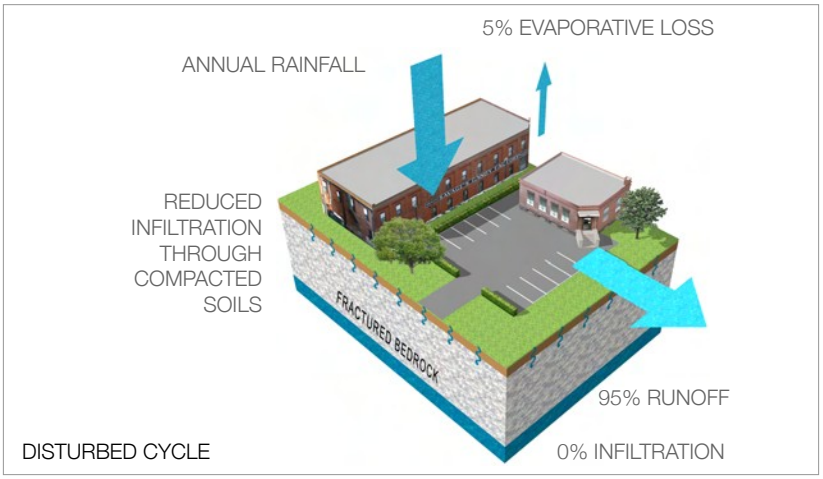
Porous surfaces: surfaces with small openings
Traditional masonry units can be used with permeable joints for water to seep through. Because it is masonry, it has little effect on heat absorption rates, however, joints can be vegetated over time which has a minor effect. The benefit for masonry is that is a more appealing material which encourages the re-use of surface parking areas for other programs, such as cultural events, farmer's markets, and vending. Examples of this material type include: Advanced Pavement Technology Aqua-Bric, Eco-Tek, Eurocobble, and Uni

Eco-Stone.

The most common materials for parking lots, concrete and asphalt can be done with new techniques and types so that they are porous. This does not affect heat island reduction, but it does help significantly with water run off. More information can be found at the websites of the National Ready Mixed Concrete Association and the National Asphalt Pavement Association.

Effectiveness	Good option for water-run off, permeability can decrease over time with sand infiltration; does not help heat reduction
Applications	High traffic areas
Durability	High
Maintenance	Same as a standard lot
Aesthetics	Masonry: high aesthetic value; Porous concrete or asphalt: looks like a regular parking lot





PARKING LOT IMPROVEMENT PROJECTS

GOAL

Sign all public lots.

PROPOSAL

Use the standard blue "P" signs.

Existing lots are not clearly signed for drivers as they look for a place to park. While there are numerous public spaces that are free, it is unclear where they are and how they work. The standard blue P signs give a strong visual cue to find parking and the signs can be augmented with basic information like "2 HOUR" or "FREE" to help drivers understand the rules. This is a standard found in the US and abroad.

The locations chosen to be signed are all of the public lots in downtown Pawtucket, this includes:

- Lot at Broad Street and Humes Street
- Lot at Dexter Street and Ferland Way
- Lot at Broadway and Exchange Street
- Lot on Summer Street next to the library
- Lot at Roosevelt Avenue and Exchange Street
- Main Street Garage

See the following pages as well as the large downtown plan for sign locations and orientations on the lots listed above.

GOAL

Reduce heat island effect and better define lot edges

PROPOSAL

Add trees to edges of parking lots

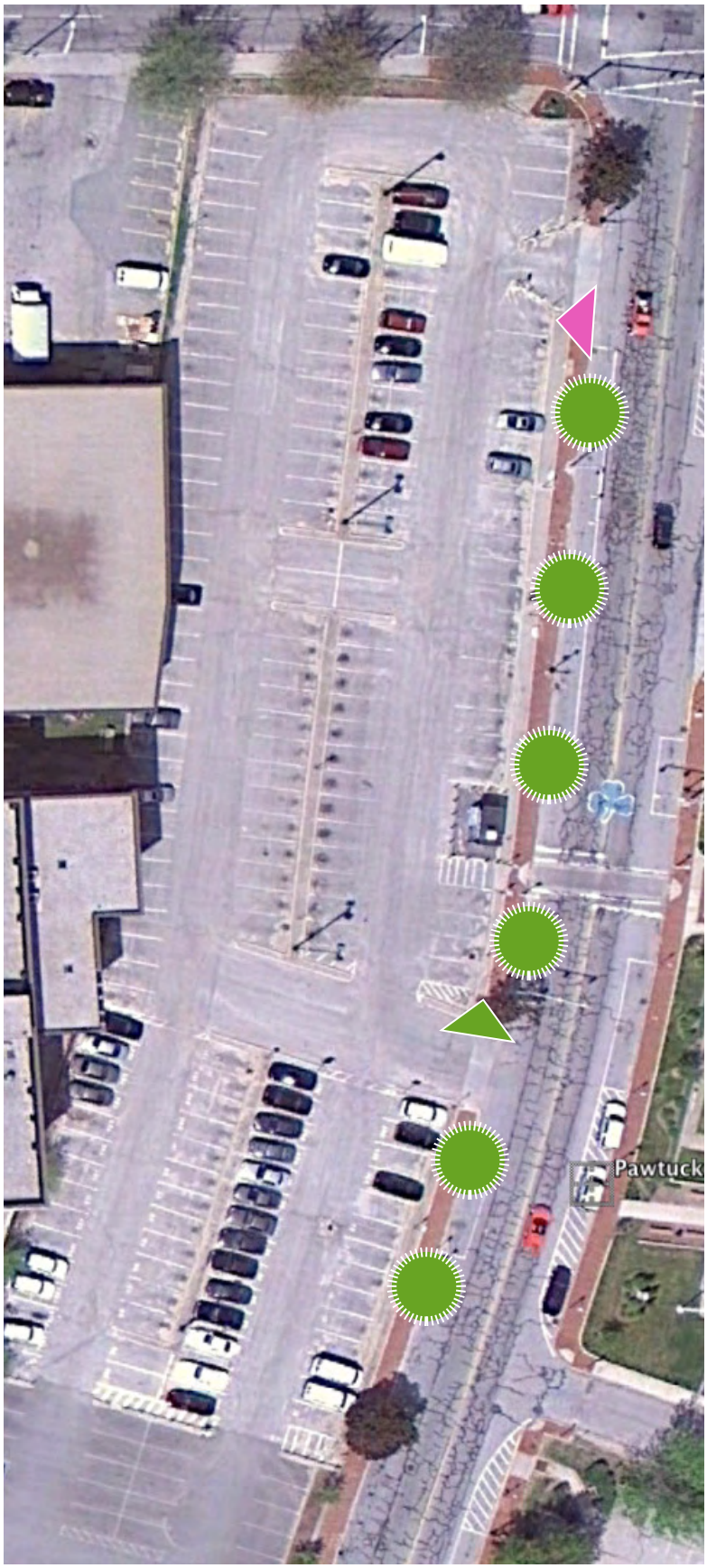
Surface parking lots reduce the sense of density in downtown and add vast areas of absorptive surfaces that increase the urban heat island effect. The city should add trees to the edges of lots and internally in lots during replacement projects to add to the overall downtown tree canopy and help define lots edges to increase a sense of density. Deciduous trees will increase shading during summer months cooling people and remaining pavement and offer sunlight during cold winter months to do the opposite. See the following pages as well as the large downtown plan for tree locations, organization and spacing on the lots listed above.

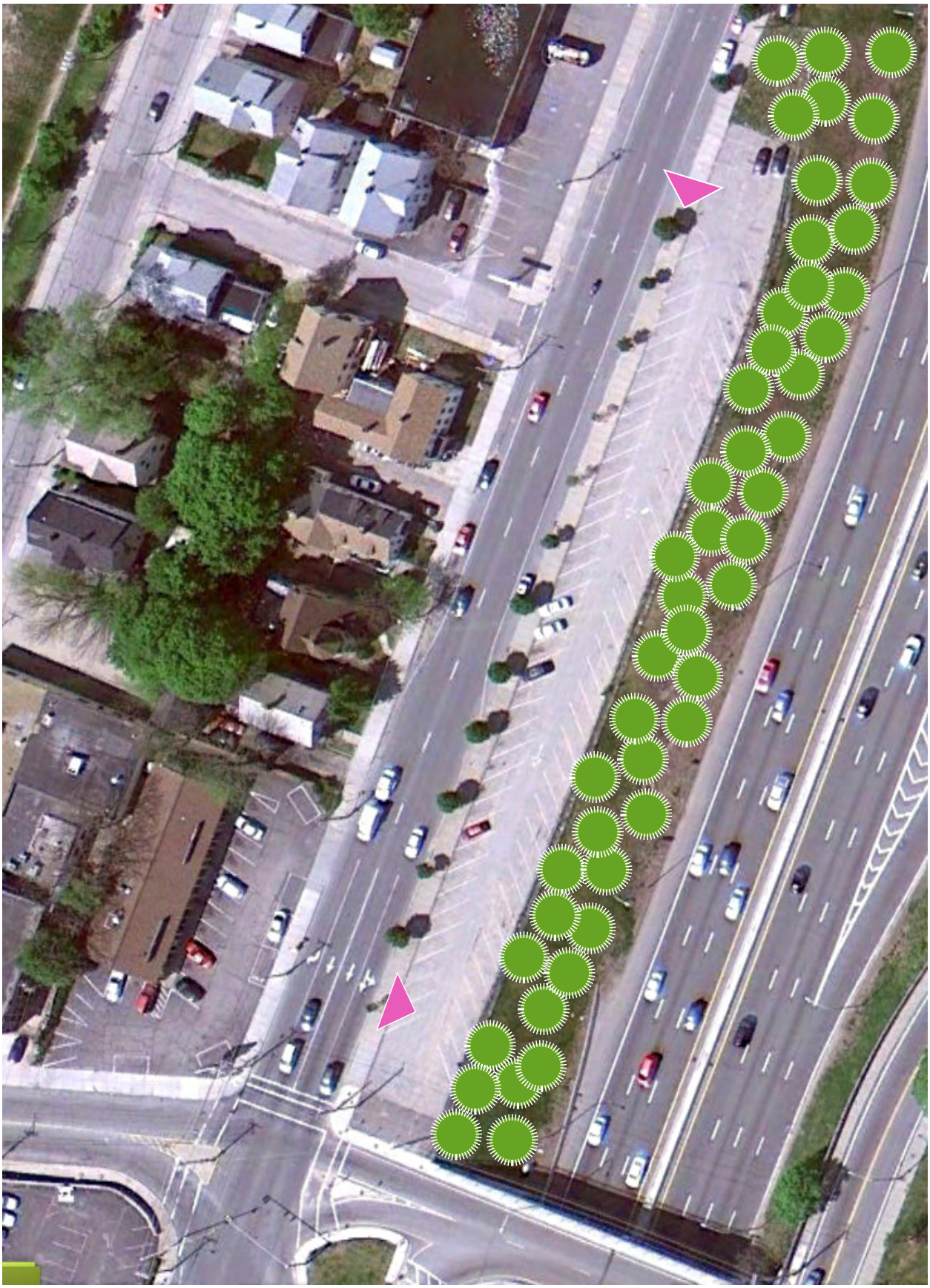
See Landscape Recommendation (page*).

1. Lot at Dexter Street and Ferland Way
2. Lot at Broad Street and Humes Street
3. Main Street Garage
4. Lot on Summer Street next to the library
5. Lot at Roosevelt Avenue and Exchange Street
6. Lot at Broadway and Exchange Street

RECOMMENDED
TREE LOCATION

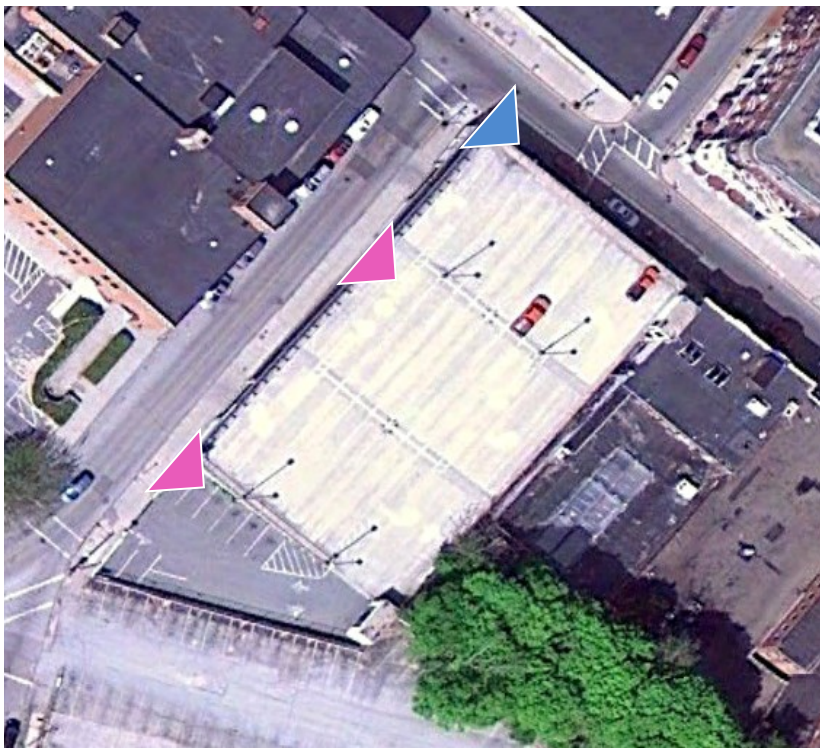
FACE OF SIGN

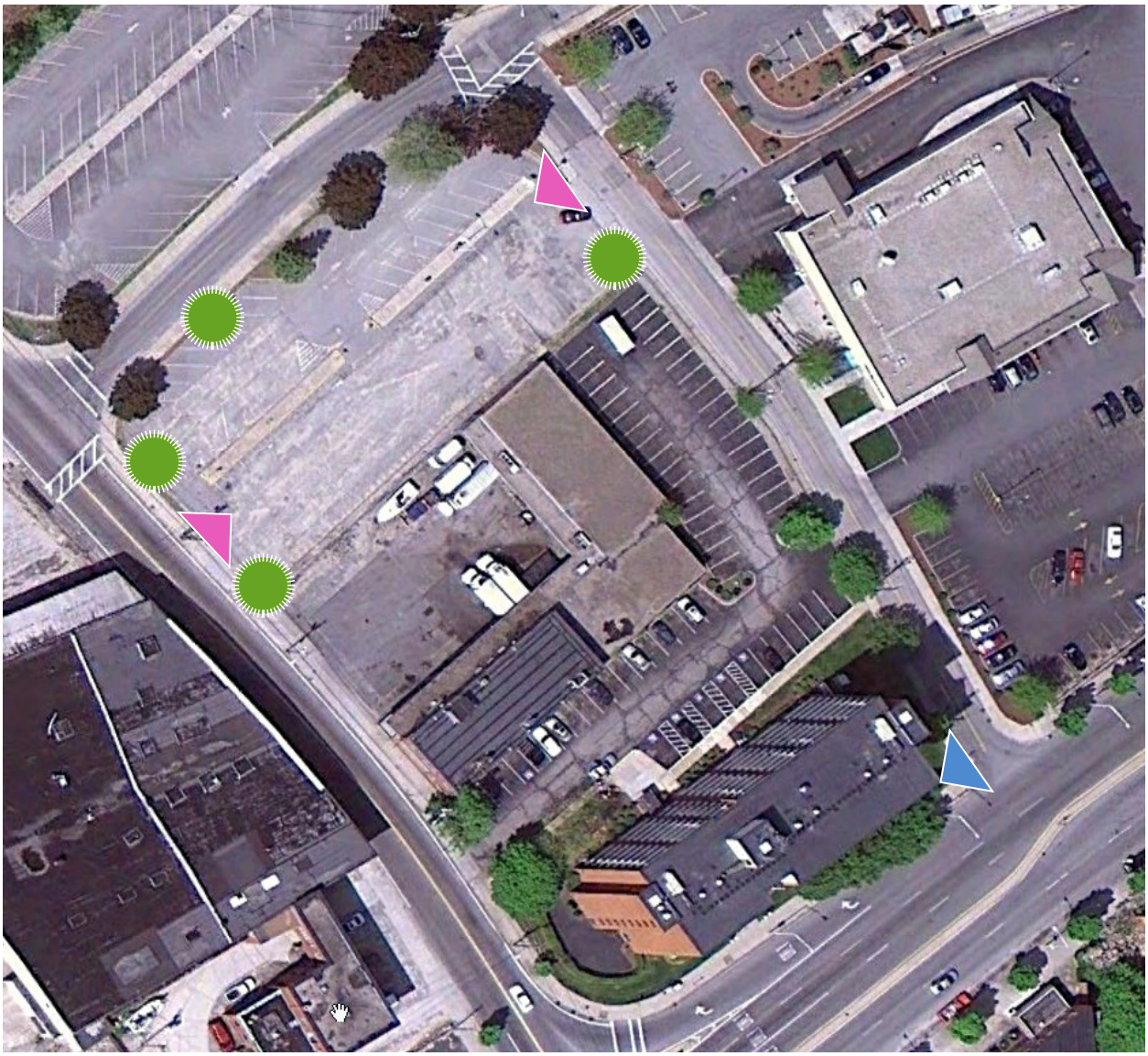




RECOMMENDED
TREE LOCATION

FACE OF SIGN





PUBLIC PARKING MANAGEMENT

The PDDP is primarily recommends adjustments to the existing parking system as its system size is adequate, but not very functional. Improved signage and encouraging all day parkers to move out of on street spaces should alleviate the parking perception problem and allow the current system to work more effectively. Changing current methods of designing and constructing lots, both in landscape and lighting, should also help make existing surface parking more energy efficient, safer, and better for the natural environment. Perhaps the largest change to parking in the PDDP is to the management of private lots requirements in the zoning modification, as that will decrease the need for making more parking in the coming years.

Eventually, when the density of commercial development increases significantly, the city as a whole, including public agencies, private business and institutional stakeholders, will need to look a larger parking strategy. When this occurs, the city will presumably have more options with a larger tax base to raise funding. When this occurs, we recommend that the city look for ways not to increase parking areas, but rather *parking density* through the development of parking garages and also consider investments that encourage the use of public transportation, bicycle use, and pedestrian access to decrease parking pressures. Shared parking strategies are also very useful; for example, the future commuter rail stop parking could also be made available for weekend shoppers. Private employers should also seek incentive programs with local transit agencies, such as RIPTA, to encourage their employees to ride public transit to work.

Generally, we hope that the city puts parking less in front of the overall growth needs of the city infrastructure, as it has been for the past few decades, because this incentivized the destruction of important historic buildings and construction of more suburban models of site design. Future development needs are hard to predict, but a parking “problem” can be alleviated in many more ways as the city evolves than simply by adding more.

INTRODUCTION

While public streets have been primarily used for passenger automobile traffic, the PDDP recommends balancing this with increased priority of public transit, both bus and rail, and bicycle travel.

Bicycle use in the downtown area is perilous, but there are a surprising number of riders. Because there is no clear system or designated space for cyclists and Rhode Island drivers are not attuned to them sharing the road, bicyclists currently play it safe by riding on the sidewalk, braving it in the same lanes with cars or even walking their bikes. The goal of the PDDP is to establish how a hub and spoke logic can spark a new bicycle lane system that can eventually permeate Pawtucket as a whole and link regionally. Bicycle use is ideal for the city that is small enough to traverse and flat enough to be comfortable. With the increase of gasoline prices, this small transit population is likely to rise.

Bicycling improves physical condition and decreases the use of motorized vehicles improving air quality for everyone. With the number of students in local schools, safer routes will open up new opportunities for many people who would choose to ride if it was encouraged.

While RIPTA has a terminus in downtown Pawtucket, ridership levels could be improved and the bus waiting area at Roosevelt Avenue, while very active, is not perceived as positive. The area at the stop is congested and dangerous as riders cross between waiting and moving buses to get to the other side of the street. Simple changes in parking areas can decrease this congestion, but this area will be in flux as the new Rapid Bus and Blackstone Valley Bikeway arrive.

BICYCLE CIRCULATOR

The bicycle network proposed in the PDDP consist of two parts that form a hub and spoke system. The spoke component is the turnpike system that establishes a network of lanes that link from Main Street out towards other neighborhoods and cities via the historic turnpike routes. They not only link to each other on Main Street, but the regional Blackstone Valley Bikeway that will eventually come through the center of the city along the river.

The hub component are the two bike circulators as loops that bring people from the center of town to two adjacent areas where there are a set of local schools and landmarks and back again. Playing on the historic "circulator" terminology that described a one-way traffic circle around downtown built in the 60s, these loops offer two routes to two types of riders. The first is to local elementary, junior high and high school students as both loops connect to a pocket of public and charter schools near the downtown area. These loops offer students a safe route to and from school encouraging their physical activity and easy and independent travel to and from home, to afterschool programs or sports, or to downtown bus routes. The second are to visitors who might arrive on the future Blackstone Valley Bikeway and would have the option to detour through Pawtucket's national and local historic districts and landmarks including downtown mills, churches and stately homes in the Quality HIll District and McCoy Stadium for minor league baseball games ad events.

The bicycle loops offer four components for development: bicycle sheltered parking, open parking, on street markings, and signage.

GOAL

Make riding bicycles easier and safer

PROPOSAL

Add bicycle lanes, sharrows, and cycle tracks & signage
The PDDP recommends offering bicycles the most advanced designation possible in the development of bicycle space on roadways. Whenever space allows, full bicycle lanes with complete markings should be used as shown in the Manual on Uniform Traffic Control Devices developed by the Federal Highway Administration. Sharrows are acceptable in narrow widths, but should only be used when lanes are not possible. Cycle tracks are a great alternative to on road bicycle lanes, particularly in low speed or congested areas where bicyclists would be at risk of moving between parked and moving cars and will be riding slowly and can more easily negotiate pedestrian movement.

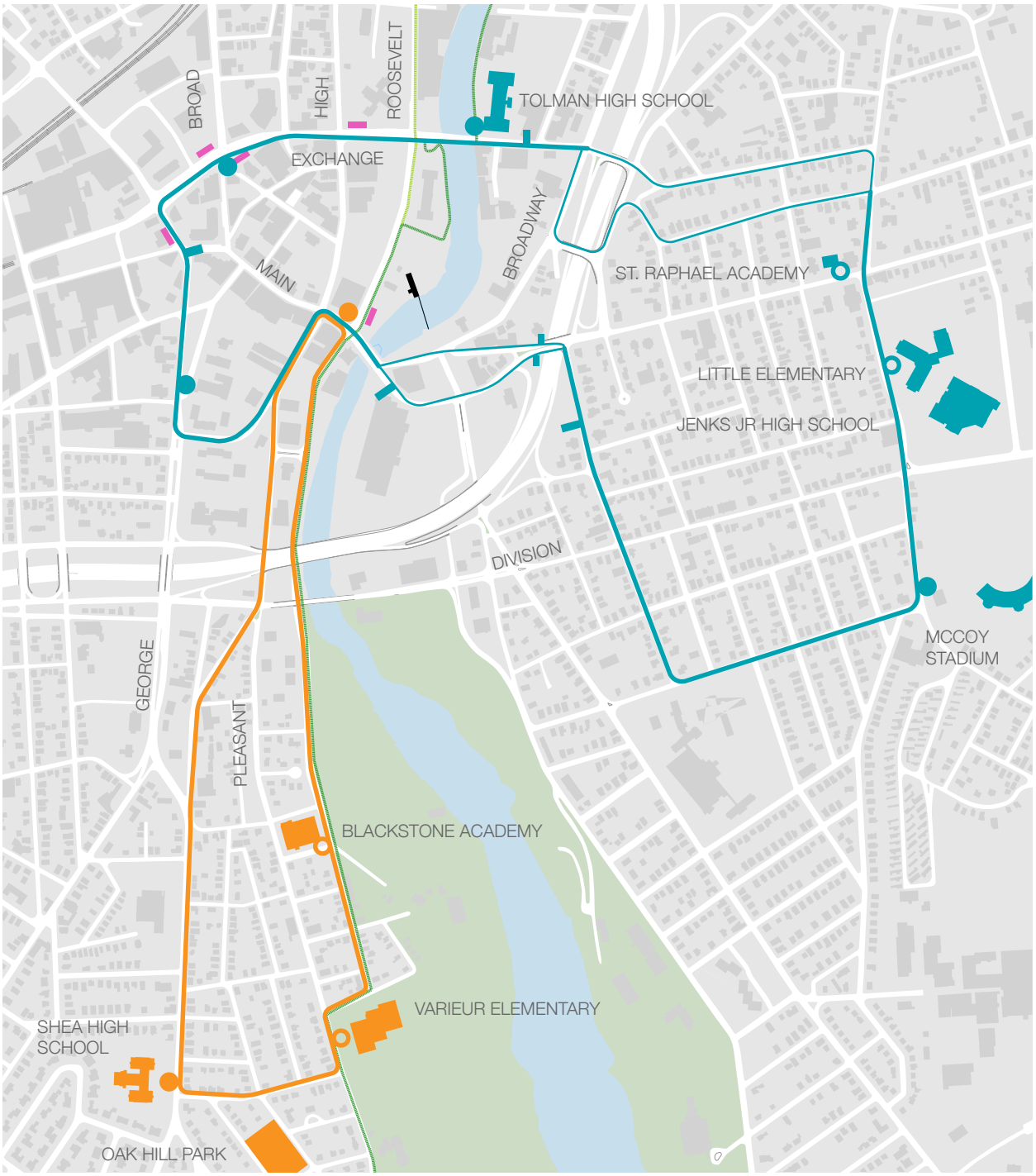
If lanes and tracks are well marked, signage can be used more as a supportive methods for bicyclists to locate a specific route. For the bike circulators, small signs along the route can help identify it to visitors and larger signs at the bike parking hubs at schools or key landmarks can include maps or local area information.

GOAL

Develop support system for bicyclists

PROPOSAL

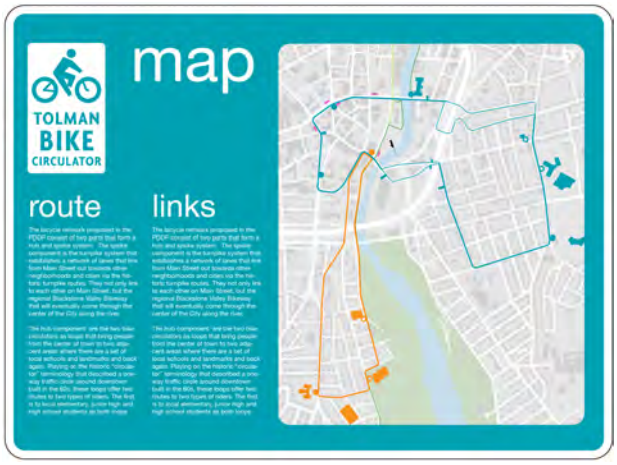
Add bicycle shelters, parking, and map signage
The PDDP recommends that each school be fitted with bicycle parking that is easily identified as being an amenity on the circulator route. Additionally, parking should be provided near the new gateway spaces (see*) and adjacent to key historic properties. See map for specific locations.



Bicycle Circulator map showing two routes: Tolman Circulator and Shea Circulator

- Bicycle shelter location with bicycle parking, signage, and map. Tolman circulator: Tolman High School, New Park at Broad and Exchange Streets, St. Paul's Episcopal Church & Park Place, McCoy Stadium. Shea circulator: Shea High School, Blackstone Valley Visitor's Center & Slater Mill
- Bicycle parking location: all public and private schools
- Bicycle parking and historical marker. Tolman Circulator: Old Colony & Main Street, Apex & First Congregational Church, To Kalon Club & the Grand Manor, Quality Hill Historic District, the Armory
- Existing RIPTA bus stops

At each of the key locations indicated on the map on the previous page, sheltered bicycle parking and signage would be available for riders and visitors like the type shown above. While the shelter might be designed uniquely to exhibit local character or artistry, the PDDP recommends using standard parking racks like the type shown here-- simple u-shaped bars that can each offer parking space for two bikes and easy lock access to both ends of the bike. Shelters or bicycle parking can also accommodate benches or other public amenities or be coordinated with bus shelters.



Signs can help support the bike circulators by indicating routes to pedestrians, bicyclists, and drivers. Other signs can indicate parking for bicycles, forward information on the roues, rules of the road, and historical markers. These signs would be color-coded to indicate which loop is which and help the wayfinding logic.

TRANSIT SYSTEMS

As RIPTA is going through significant changes and new goals, it will be important for the city to have a strong connection and collaboration to best integrate the city's priorities and RIPTA investment in the coming years. Two recommendations can help in the short term, prior to the RIPTA Rapid Bus line:

GOAL

Protect transit riders as pedestrians

PROPOSAL

Change RIPTA bus waiting zone on Roosevelt Avenue to on street two hour parking

One of the most dangerous areas in downtown Pawtucket is on Roosevelt Avenue at Main Street where RIPTA buses pull in on both sides to pick up passengers. While a current street improvement project will improve the crosswalk between Slater Mill and the Blackstone Valley Visitor's Center and help with traffic calming, that area still needs refinement to improve safety. When the Blackstone Valley Bikeway is added in this area, significant modifications will happen to the east edge of Roosevelt and new bus shelters and sidewalk areas hopefully can improve. Currently, one reason there is increased congestion is that there is a long area on the West side of Roosevelt Avenue where buses currently wait-- contrary to RIPTA operations-- before beginning their next route. This is only possible because the buses are given this zone for their use. By changing the parking regulations from the Blackstone Valley Visitors Center to City Hall parking to two hour parking, it will increase parking spaces for the public calming traffic further and decreasing the habit of bus waiting and large-scale vehicle congestion. This is an easy low-hanging fruit adjustment that the city can implement easily.

GOAL

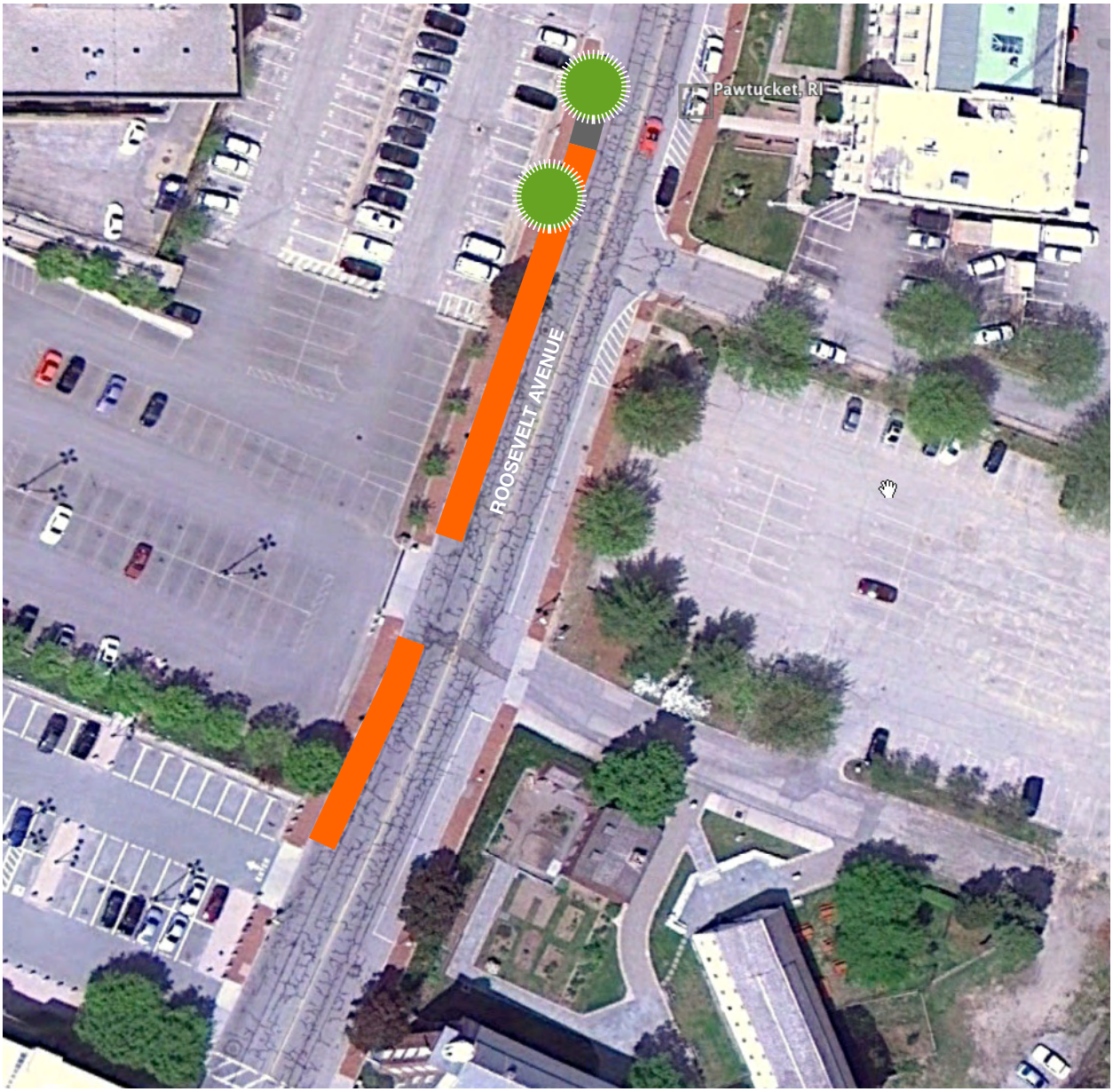
Increase the use of buses and visibility of access

PROPOSAL

Work with RIPTA to develop Pawtucket specific bus stops & reroute bus lines as one way conversions open up shorter routes

With the addition of the RIPTA Rapid Bus line #99 that will speed passengers to and from downtown Providence to downtown Pawtucket and the implementation of the recommendations from the Metro Transit Enhancement Study, there will be new opportunities to do Pawtucket-specific bus shelters that can help make RIPTA easily identifiable and offer street furniture that reflects local character and design.

Additionally, as the turnpike segments and one way to two way conversions happen over time, there will be new opportunities to more efficiently reroute RIPTA bus lines saving fuel, time, and confusion in stop and line locations. Ideally, the turnpikes will match with RIPTA routes which will help people move to Main Street by methods other than driving.



This image shows the location , in orange, that is currently a no parking zone that could be modified for two hour public parking by simply adding striping and new signs. This would add parked and parking cars to this section of the street adding calming, offering more parking in a congested area and decreasing the perception of the width of the street.

new tree

TRANSIT SYSTEMS

Enhancing transit use supports the PDDP goals to improve public spaces and streets in Downtown Pawtucket, better connect to its neighborhoods and neighboring communities, and provide alternatives to automobile use to uphold the quality of life in historic downtown Pawtucket. Using public transit and bicycles reduces energy use, improves air quality, increases public health, reduces the need for surface parking, and encourages social interaction. While it seems like a simple choice, people change many behaviors when they ride buses or bikes and it generally enhances local retail shopping, participation in events, and connectivity to local issues.

There is currently no bicycle accommodation in the City of Pawtucket other than bike parking at the public library and Blackstone Valley Visitor Center; bicyclists must share the same lane as vehicular traffic. The first improvement currently in development is temporary bicycle striping that will connect the terminus of the Blackstone Valley Bikeway in Cumberland to Providence's Blackstone Valley Boulevard. The PDDP supports further projects to encourage bicycle use.

RIPTA's investment in the #99 route Rapid Bus line, the first in its system, will be an exciting addition to the downtown bus transit hub and is a great opportunity for the city to better link with Providence. The current development of a RIPTA linkage to the South Attleboro MBTA stop is an important regional linkage for people in Pawtucket to link to Boston. Eventually, a future commuter rail stop will arrive in Pawtucket replacing the need for this bus route.

Downtown Pawtucket has a tremendous opportunity to organize the area around the new stop for transit-oriented development, however, the stop must make sure to establish existing neighborhood priorities in this process. Pawtucket will be the recipient of significant investment in infrastructure and has the community ambition to leverage them into a set of local improvements.

INTRODUCTION

Streetscape can mean a variety of types of changes to the street: sidewalk improvements, street furniture, signage, lighting and landscape elements. The PDDP has focused on more infrastructural projects that require more major construction to establish a solid foundation for downtown improvements, than surface treatments of furnishings. This is partially due to the implementation strategy goals of the city, but also because Pawtucket's downtown has had a history of more surface apparent streetscape changes, particularly on Main Street, that have mostly been perceived as "failures" in that they did not spark commercial and retail growth. The high expectations of these projects limited the sense of their success.

The PDDP team has been concerned about suggesting projects that are focused on "beautification" or designing elements that simply dress up the downtown. Because the downtown area is growing slowly and organically, it seems appropriate that the layers of street furniture or more decorative elements be added by local business owners, residents and institutions. Businesses that invest in improvements are also more likely to monitor, maintain and develop them. The PDDP thus includes areas for temporary plantings, street trees, furnishing types, and previous signage and banner work completed by Highchair designhaus for implementation to support an existing downtown neighborhood organization that is pursuing smaller-scale improvements.

One of the best opportunities for landscape and streetscape improvements are the new gateway spaces created by intersection diets, specifically at Pleasant Street and East Avenue Extension; Broadway and Exchange Street; George Street and East Avenue Extension; and anticipated to be at Broad Street and Exchange Street. These new pieces of public land can express the unique characteristics of their locations.

SIDEWALK RIBBON SYSTEM

The sidewalk ribbon system would apply at all future street improvement projects except on Main Street which has a special character and unique design. The basic streetscape system works as follows:

RECOMMENDATIONS

Help make finding the pedestrian path easy, especially across roadways

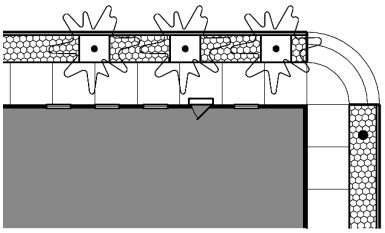
SYSTEM

Design the sidewalk like a continuous ribbon

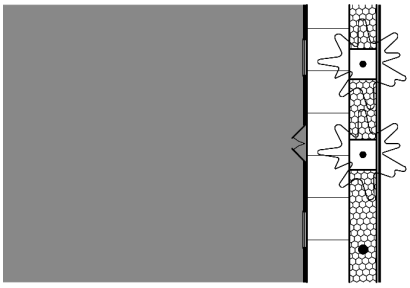
To help prioritize the pedestrian, the sidewalk becomes the dominant right of way in all public spaces between the automobile travel lanes and private lots. The primary component of the ribbon is the concrete sidewalk itself that is positioned towards the center of the available space. Between the sidewalk and the roadway is a small buffer space that stays constant and provides space for trees, plantings, and permeable paving along with any public amenities such as benches, trash receptacles, newspaper vending, utility poles, lighting, signage and fire hydrants. This organizes the public walking space into a clear zone and also offers an easy way to create a tree trench rather than set holes that allow for healthier urban trees and better drainage. Special paving distinguishes areas that are not part of the ribbon and helps to reduce the amount of impervious surfaces. On the other side of the sidewalk are either private lots, buildings without setbacks or pedestrian-oriented programmed spaces like gardens, walkways, seating, or plazas.

The ribbon system can be modified for the specific condition or types of edges available. When the ribbon arrives at the corner, it is aligned with curb cut ramps and crosswalks, so that the egress path is clear and delineated. The ramp then directly enters in protected crosswalk space and directs pedestrians to the ramp on the other side which is then connected to the sidewalk beyond. Facilitating pedestrian travel encourages it.

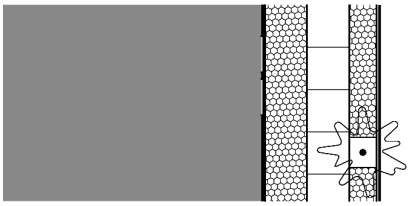
The PDDP also considered the need to integrate the sidewalk into new development and redevelopment opportunities with revisions to local regulations. Orientation of buildings, sidewalk materials, entrance way design, and windows are all addressed as part of the proposed Design Guidelines, which are specifically geared toward enhancing the pedestrian experience. These guidelines are presented in greater detail in Appendix page (tbd).



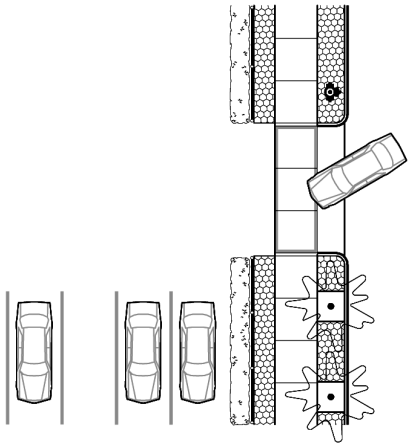
CORNER



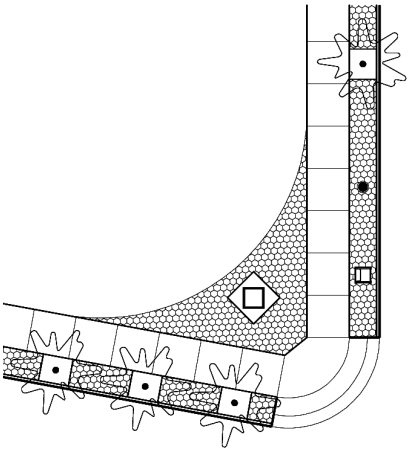
BUILDING



SETBACK



DRIVEWAY



NEW CORNER /
GATEWAY SPACE

LIGHTING

GOAL

Reduce light pollution and energy use and improve pedestrian lighting

PROPOSAL

During street improvement projects, replace and enhance current public space lighting with energy efficient, pedestrian-oriented system

Light pollution is a significant problem that can harm birds and insect habitat and cause resident sleep discomfort. Additionally, over-lighting urban areas uses energy ineffectively or unnecessarily.

Most of the lighting in downtown Pawtucket is oriented for cars, not pedestrians. Main Street is fairly well lit and uses pedestrian scaled lighting. Some areas, like Roosevelt Avenue are over lit due to the large expanse of parking, while others, like North Union and Summer Streets are under lit.

Current lighting fixture types in downtown Pawtucket consist of primarily two types: acorn luminaires on cast iron posts that use 150 high pressure sodium bulbs and cobra roadway lamp heads. The cast iron historic styled light posts also are used for banner attachments and street signs. The cobra heads are on their own posts on Broadway, Exchange Street and Goff Avenue and, in the core of downtown, attached to utility poles.

The PDDP team recommends transitioning from the existing lamp and fixture types to energy efficient and light pollution reducing models and practices. The city can accomplish this in one of two ways:

Lighting Revision Project Option

- Keep existing poles and swap out luminaires to top shielded acorn globes or add interior reflector shields to existing globes and LED bulbs to comply with Dark Sky principles and improve energy efficiency.
- Add poles with in low lit areas with new dark sky compliant acorn globes, LED bulbs, and posts that match the dominant cast iron type.
- Add new energy efficient and Dark Sky friendly lighting fixtures in special areas when specific project funding allows, such along the turnpikes and Exchange Street, that support the branding and wayfinding goals of those projects.

Lighting Replacement Project Option

A second option is for the city to begin a more significant lighting replacement project that would eliminate the existing miss match of fixtures types and styles. To do this, the PDDP team recommends that the city participate in an upcoming demonstration and workshop given by the Department of Energy to best select appropriate fixture and lamp types and hire a lighting consultant to assist in a detailed plan. This project could include public parking lots and facilities as well as public sidewalks, streets, and parks. Additionally, DOE workshop participation will prepare the city to be able to write a grant to obtain funding from the Department of Energy Municipal Solid-State Street Lighting Consortium.

There are three resources that can help further this effort:

- The International Dark Sky Association (http://www.darksky.org) and the Illuminating Engineering Society of North America is developing standards for reducing light pollution, including a Model Lighting Ordinance.
- The recently established LEED Neighborhood development Program has established a Light Pollution Reduction Credit which also establishes best practice standards (see addendum*).
- The US Department of Energy has recently established the Municipal Solid-State Street Lighting Consortium that helps identify LED products and can help facilitate grant awards.

Lighting Quality Inventory

Main Street
Pedestrian-oriented lighting; adequate visibility; poor quality fixture

North Union
North segment - Auto-oriented lighting; inadequate visibility; poor quality fixture
South segment - Pedestrian-oriented lighting; adequate visibility; poor quality fixture

High Street
Auto-oriented lighting; inadequate visibility; poor quality fixture

Summer Street
Pedestrian-oriented lighting; mostly adequate visibility; poor quality fixture

Roosevelt Avenue
Auto-oriented lighting; over lit due to adjacent parking; poor quality fixture

Exchange Street
MIxture of pedestrian and Auto-oriented lighting; mostly adequate visibility; poor quality fixture

East Avenue Extension
Auto-oriented lighting; mostly inadequate visibility; poor quality fixture

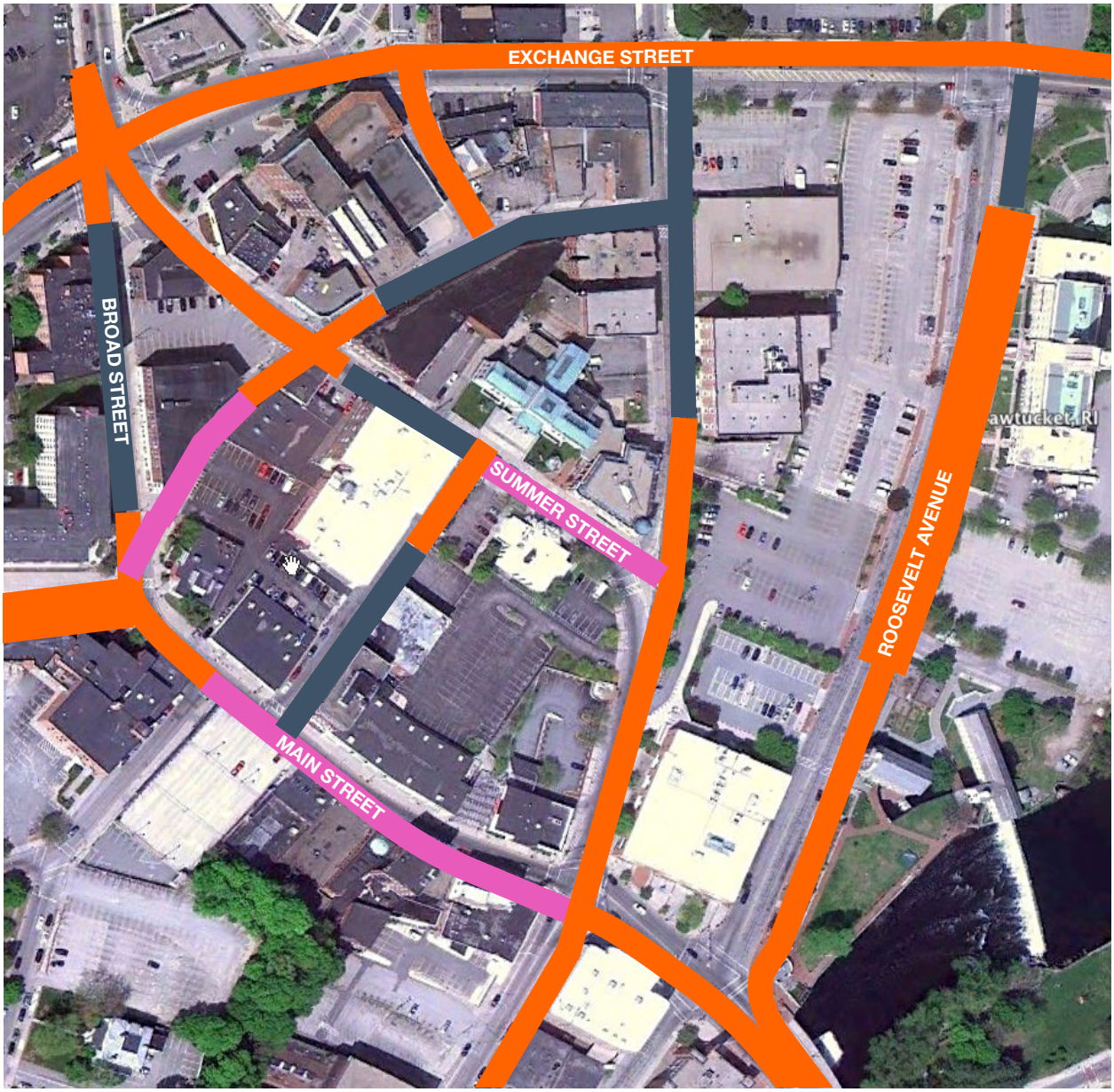


Diagram showing existing lighting conditions.

- Auto-oriented lighting; over lit level
- Auto-oriented lighting; acceptable lighting level
- Pedestrian-oriented lighting; acceptable lighting level
- Not adequate lighting level

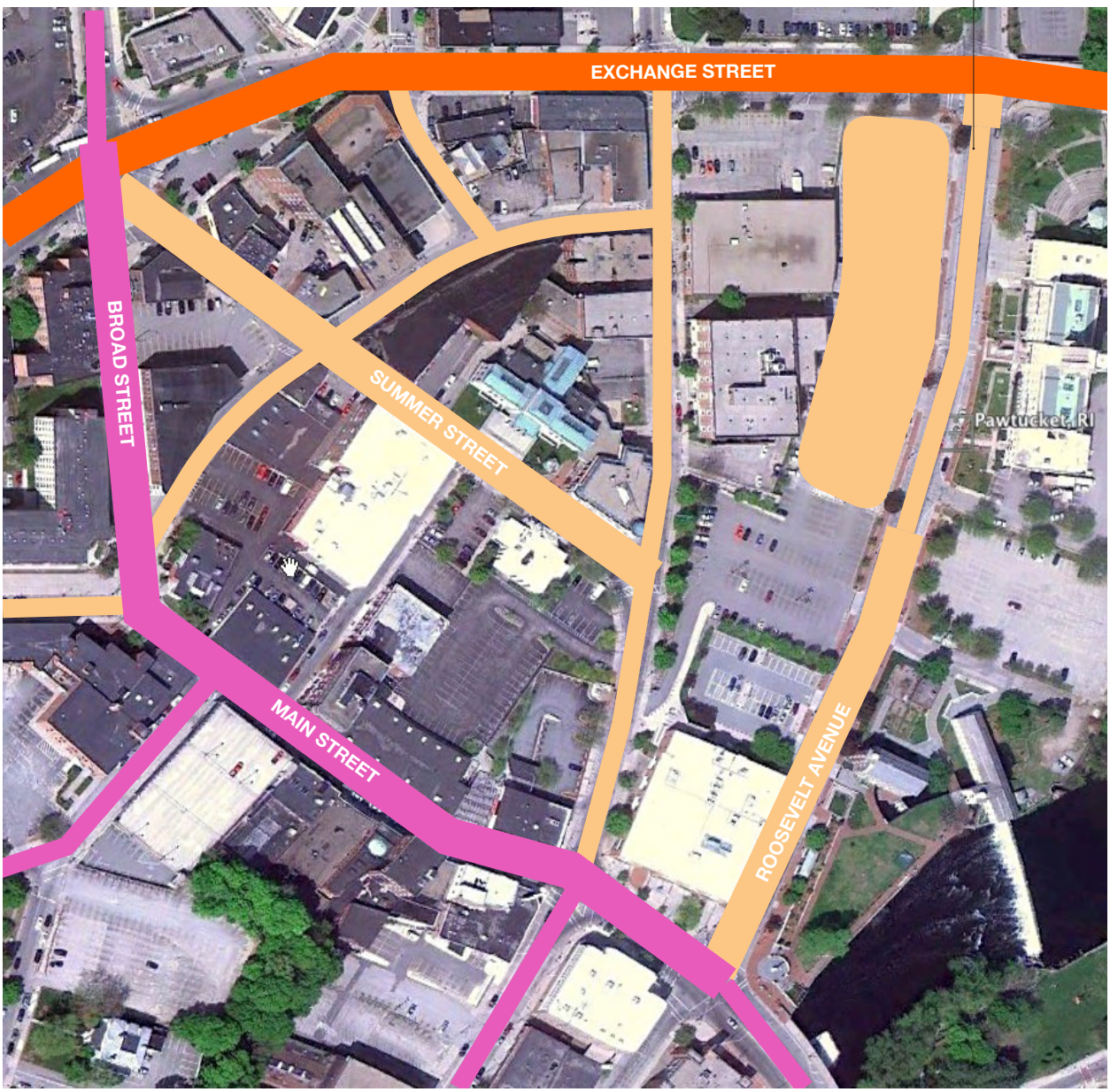


Diagram showing zone types for lighting improvement project.

- Turnpike Lighting fixture types - historic character post with wayfinding color band
- Exchange lighting fixture types - historic character post with special distinctive luminaire
- General lighting fixture type - historic character post with shielded acorn luminaire
- Widths indicate two lighting levels - low pedestrian use & high pedestrian use

STREET FURNISHINGS

GOAL

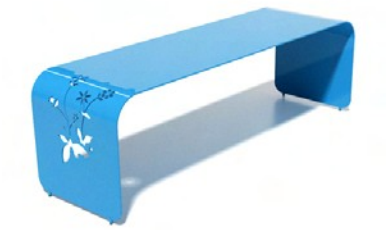
Encourage bicycle use near retail

PROPOSAL

Provide safe bicycle parking on Main Street
Bike racks provide on-street parking for bicycles and should be constructed to allow strong security from bicycle theft as well as provide consistency with the street furnishing design for each area.

Site Specifications

- Clear path: With few exceptions, bike racks must allow a minimum clear path of 8 feet in width
- Clearance from the curb: All bike racks must be a minimum of 18 inches from the curb
- Clearance from large objects: 15 feet from fire hydrants, bus stops, taxi stand or hotel loading zones, and franchise structures
- Clearance from openings: 10 feet from corner quadrants, driveways, and building entrances
- Clearance from other objects: 5 feet from standpipes and above-ground structures such as signs, meters, lights, mailboxes, planters, etc.
- Clearance from surface changes: 3 feet from tree pit edges, grates, and utility covers



GOAL

Encourage pedestrian activity near retail

PROPOSAL

Provide furnishings on Main Street
Furnishings on Main Street prior to street improvements should reflect the organic and growing nature of the downtown community. Over-planning or large investments in furnishings prior to more substantial growth in economic or retail development may only offer nice amenities that sit empty and highlight the lack of activity. These products are best used when monitored by the local community on a day to day basis as well as removed seasonally as appropriate. Thus the PDDP recommends that the city not provide these types of furnishings in an overall program, but rather empower, support, and help to fund local non-profits or future downtown business improvement district organization who can implement this work responsibly and incrementally as conditions change. generally, the PDDP recommends that furnishing selections are made that encourages the use of recycled materials, materials either fabricated locally or designed by local craftspeople. A few source options are: hiring the Steelyard in Providence, Loll Designs, and Orange22 Botanist.

Sponsor–a–Basket / Planter / Bench Program
Sponsoring organizations may purchase and place custom waste receptacles with the approval of the Department of Public Works. The waste receptacle design must meet Pawtucket specifications. Sponsored waste receptacles may bear the name or logo of the sponsoring organization, but cannot include advertising of any kind. Locations must be submitted for approval along with the Sponsor-a-Basket Letter of Intent.

The following are some guidelines for furnishing programs:

Benches
Benches are best situated in areas with heavy pedestrian traffic, especially retail shopping corridors, transit stops, plazas, or near cultural institutions Currently there is no RIDOT standard design for benches in the right–of–way. The Department of Parks and Recreation utilizes several styles of benches in parks. These may be used in plazas and on streets. However a revocable consent or a maintenance agreement is generally required.

- Benches may be installed on the street subject to a revocable consent or maintenance agreement from RIDOT along streets under RIDOT purview.
- No bench shall be shorter than 5 feet in length
- Benches adjacent and parallel to the building shall be installed no more than 6 inches from the building face.

Waste receptacles
Waste receptacles are concentrated in commercial areas, They may also be placed in predominantly residential zones and serviced on residential refuse routes, along with household trash.

The PDDP recommends that furnishings are not bought en masse, but incrementally by local business owners or in small sets. This will enhance the organic nature of he urban are that fits with its current economic and development status. It is important that each bench be secured against theft and monitors by local residents or business employees so that vandalism is kept to a minimum. Since Main Street is not fully inhabited, it is also recommended to only provide appropriate low numbers to avoid having them look empty.

Planters & Plantings
Planters are also recommended only if they are well cared for and monitored by local participants, otherwise they are open to vandalism, trash, and theft. These should be planted with seasonal, native species and size-appropriate plantings.

The PDDP also recommends that trees should only be planted in the ground as part of the projects or programs listed in the PDDP where there is ample physical volumetric space for their roots and overhead open canopy space to promote their growth and health and reduce the chance of sidewalk damage.

Planting types should highlight the use of evergreen shrubs as year-round structure with flowering shrubs. Perennials are not recommended and annuals can be used as seasonal underplanting. Some recommended species are:

Evergreen: buxus sempervirens, ilex crenata, and meserve holly
Flowering shrubs: azalea, hydrangeas, philadelphus

SIGNAGE

GOAL

Help people find Main Street

PROPOSAL

Turnpike signage
The turnpike system includes a simple wayfinding logic for how to get to and from downtown Pawtucket by using color, signage, and materials.

Signage is an inexpensive way to reinforce natural routes to Main Street. The PDDP team has developed a signage logic that includes both a full street replacement sign and a top hat that can be added to existing signs that have recently been replaced. The city began a signage replacement program recently that uses clear black signs with strong white letters. This is a nicely compatible graphic logic that can works well with the turnpike goals. Color is the key logic for wayfinding through signage-- each turnpike has a specific color and it helps visitors and residents to know that if they find a color-filled sign, they are on a route either to or from the core of Main Street.

As one-way segments are transitioned to two-way through street improvement projects, street signs would be replaced with color-coded versions shown on the adjacent page. The full replacement signs would be used at key intersections of major routes. The top-hat type turnpike signage would be used on existing signs that have already been converted to the new sign types and in more general locations that signify that a cross street is coming to a turnpike route.

EXISTING DOWNTOWN DISTRICT SIGNAGE

Proposed signage in existing turnpike segments prior to street improvements. Shown are the full sign types.

Full replacement signs would be used at key intersections between significant routes.

Top-hat versions would be used where signs have already been converted or as more general intersections.

WAYFINDING SIGNAGE

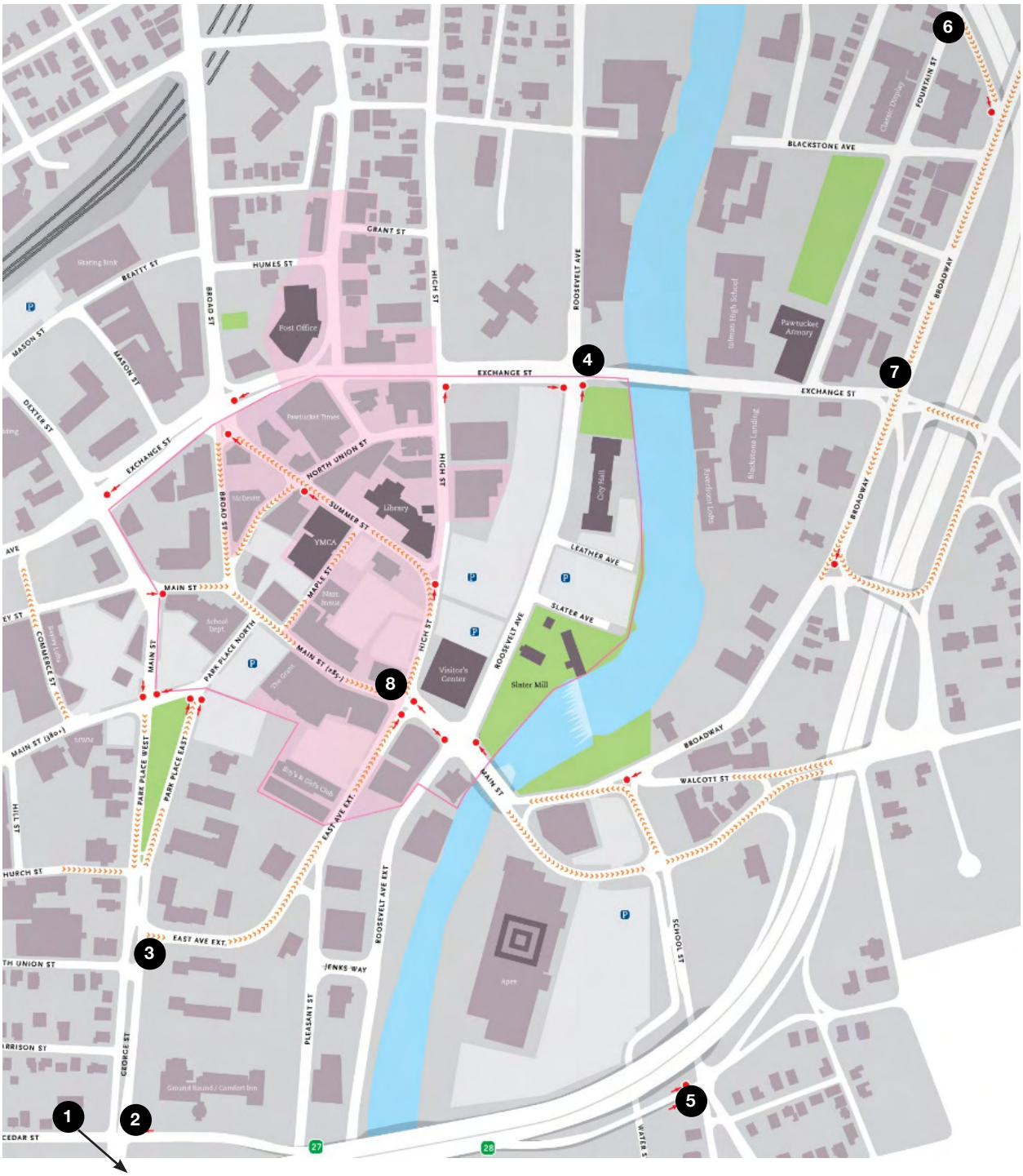
GOAL

Help people find special places

PROPOSAL

Special location wayfinding signage

Highchair designhaus completed a study of signage wayfinding in downtown Pawtucket in 2009. While the long-term hope is that the one way conversation will make finding one's way around through the turnpikes much more instinctive and clear, having key signs at highway off-ramps will always help people find the key downtown institutions. The PDDP team recommends the following signs be made to help visitors find Downtown, City Hall, Slater Mill, the Armory, the YMCA, and the Public Library, and key commercial streets, such as Exchange Street, Dexter Street, and Broad Street.



1 I-95 Exit 27N - sign directing towards downtown (at exit ramp shown off map at George and Marrin Streets)

2 I-95 Exit 27S - sign directing towards downtown

3 George Street & East Avenue Extension - sign directing towards downtown

4 Roosevelt Avenue and Exchange Street - sign directing towards Main Street

5 I-95 Exit 28N - sign directing towards downtown

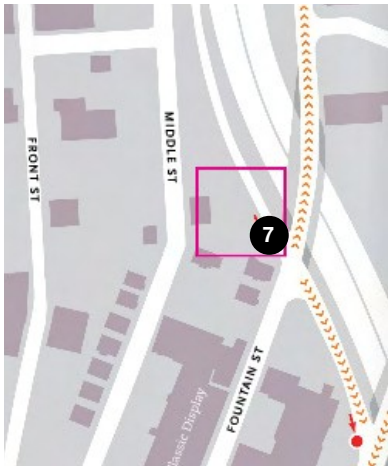
See following page for 6 7 8

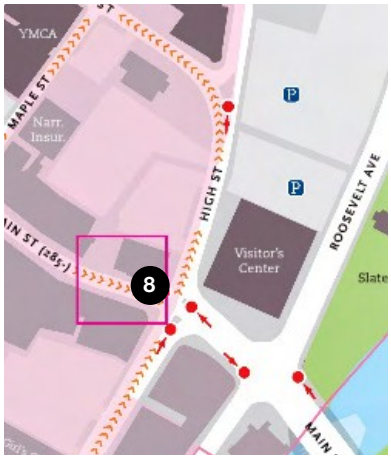
Fonts:

ACEFGHMORSYZ
Avenir Black

AaEeFfGgHhMmYyZz
PMN Caecillia Heavy

From the Highchair report "Signs should be constructed of D.O.T.-grade aluminum, with reflective coating. Teal and blues are color-fast (more than reds and yellows), yet we suggest that an ink-on-aluminum process be used instead of applied vinyl, as this process tends to fade, crack and/or peel over time."





6 Two signs at I-95 Exit 29 at Fountain Street that direct drivers to the Armory, Slater Mill, City Hall, & Downtown and Fountain Street, North on ramp to I-95, RI Antiques, & Massachusetts.

7 Two signs located on Broadway at Exchange Street that help visitors to find Downtown, City Hall, the Visitor's Center, & Slater Mill, and the Armory, Dexter, Broad & Exchange Streets.

8 Two signs at Main and High Street that help people find the Visitor Center, Slater Mill, City Hall, & I-95, and the Library, the YMCA & Exchange Street.

MAIN STREET BANNERS

GOAL

Update current downtown graphics

PROPOSAL

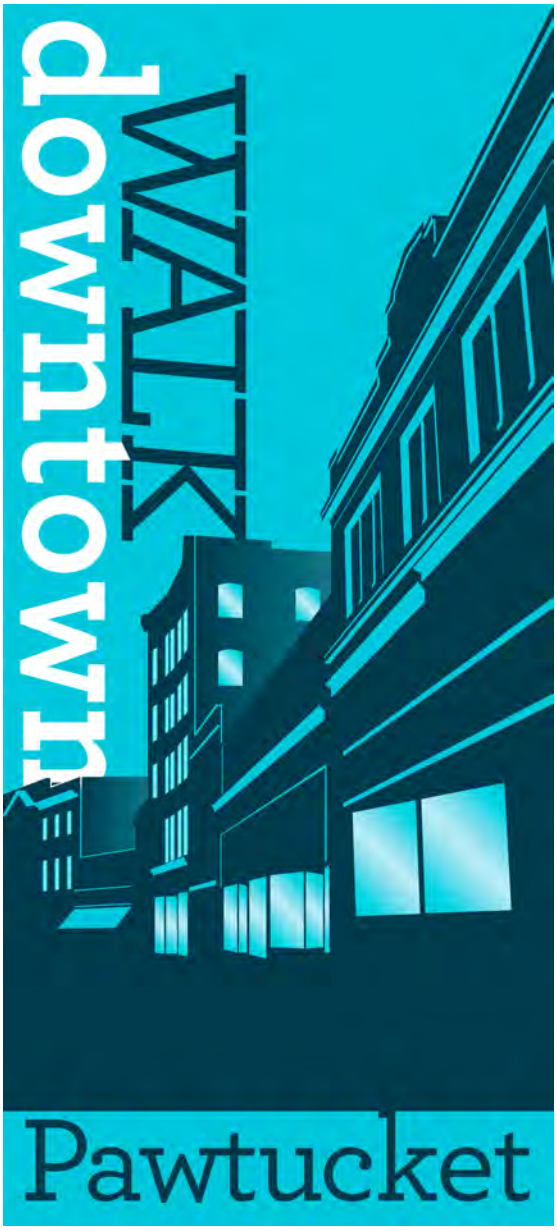
Replace existing banners with new versions
The City of Pawtucket has a variety of banners that fit into existing light posts. The PDDP team recommends replacing these with the graphics shown on the right, a local design that reflects the authentic and organic Main Street storefront quality that currently exists and has historically existed at the core of the downtown area. These banners can be swapped out for special events and replaced over time.

General principles:

- Horizontal banners are not permitted.
- Vertical banners shall be not more than 3 feet wide and not more than 8 feet in length.
- All banners larger than five square feet must have six air slits
- Banners shall contain no advertisements
- The trade name or logo of the sponsor of the event (if applicable) shall occupy no more than 10% of the lower portion of the banner

EXISTING AND PROPOSED BANNER DESIGNS

PDDP DESIGN



Recommended banners for Main Street to replace existing banners.

One of the goals of the PDDP is to improve the quality of space and access for pedestrians in downtown because foot traffic offers opportunities for private retail and commercial space investment. Increased pedestrian activity also reduces the need for car parking, reduces pollution, and generally encourages a healthier community. The PDDP has focused primarily on street improvement projects that change the physical infrastructure of public street spaces because these are the most difficult in terms of duration and expense, however, many of the short-term options to improve public space can be taken on by local non-profits, businesses and residents with funding, approval and installation assistance from the city. The PDDP encourages local initiatives for the following reasons:

Encourages authentic expression Small investments by locals leads to a more organic and less "designed" street environment which will better express the authentic sense of place and culture. Pawtucket is full of cultural, artistic, and entrepreneurial energy and this is better expressed by layers of small investments by the community.

Avoids over promising Large acquisitions of furnishings prior to economic development often offers a visual false promise that activity is there before it is. This can demoralize a local community and empty furnishings simply adds to a local perception that "Pawtucket is dead." It is important not to over promise through design improvements.

Offers neighborhood watch If people who are there every day participated in the design, creation, funding or installation of streetscape improvements, they are more likely to care and watch over them. Local initiatives have a better chance of being protected from vandalism, theft and neglect.

INTRODUCTION

While Pawtucket's downtown appears a built area of urban landscape, it significantly contributes to a larger regional ecosystem and environment. This contribution currently is fairly poor-- with large amounts of impermeable surfaces, asphalt, and automobile transportation, the natural systems are either limited or overwhelmed with precipitation, wildlife, pollutants and all aspects of biological life.

The Landscape planning in the PDDP intends to help improve the management of these systems so that the downtown's contributions are positive to the water, air, soil and habitat systems. The PDDP team also recognizes the critical importance of the Blackstone River and its relationship to downtown and intends to enhance access while enhancing its renewal.

The landscape projects included in the PDDP include ways to link existing public spaces, add publicly accessible parks, increase permeable surfaces and vegetation, add trees, and encourage principles that tie greenspace and people together. These proposals include developing:

DOWNTOWN GATEWAYS
A TREE ORDINANCE
A GREEN STREET NETWORK
DESIGN ELEMENTS THAT FRAME THE RIVER
THE BRIDGE PARK EAST AND
THE RE-ALIGNMENT OF PARK PLACE

LANDSCAPE PLAN

GOAL

Make downtown Pawtucket greener

PROPOSAL

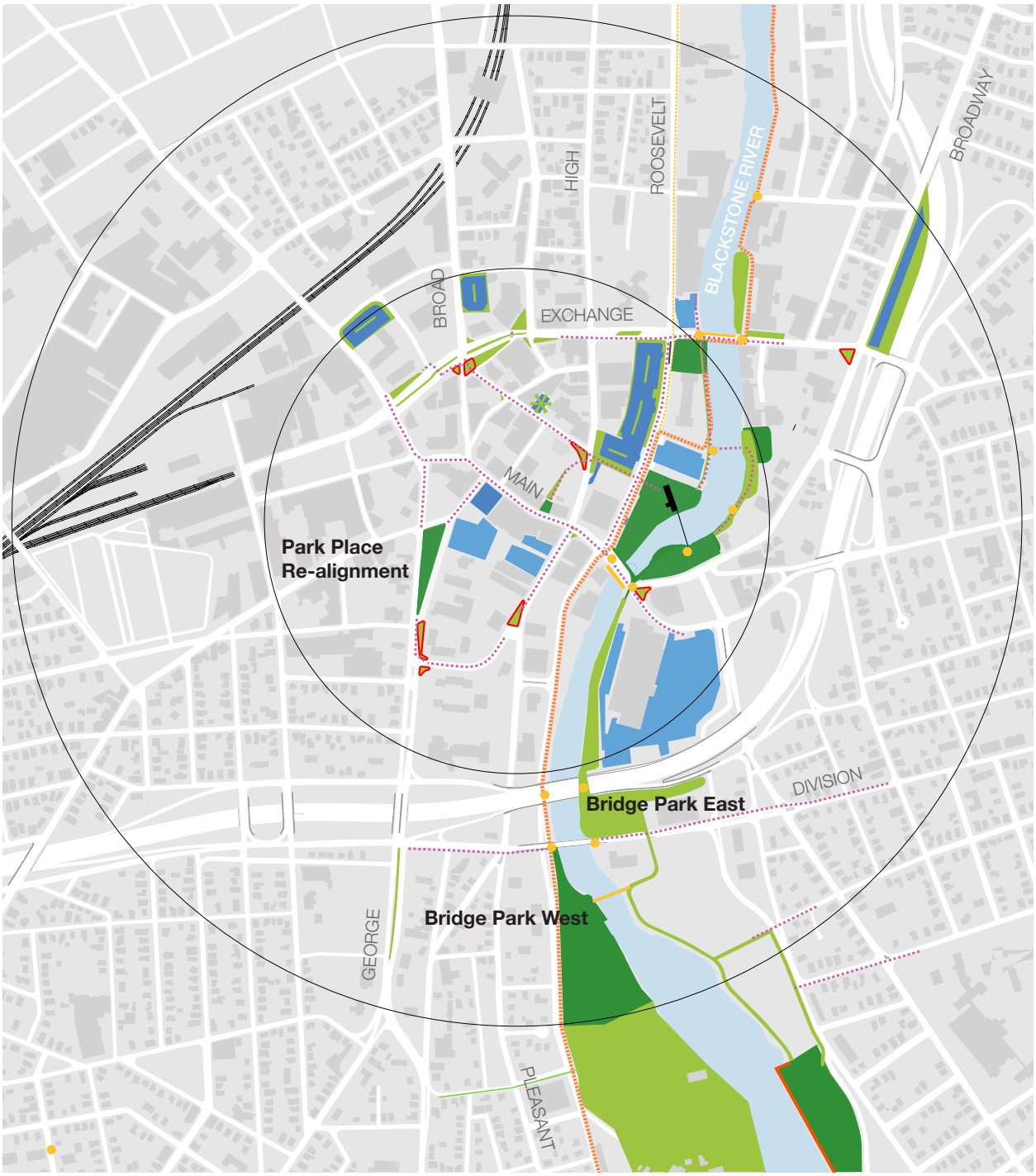
Highlight the river and support health in its watershed
Pawtucket, like many cities in the Northeast United States, has a rich industrial heritage based on energy and commerce derived from it's river. In 1790, Samuel Slater built the second American cotton mill in Pawtucket, RI and this mill is the central reference point of the early rise of the Industrial Revolution in America today. Post-industrial cities turned their backs to the river but with current efforts being made to clean the rivers, we can again turn our urban design attention back to the water as a natural and cultural resource.

River edges
The Pawtucket River is the portion of the Blackstone River which lies in the City of Pawtucket. The Blackstone River runs from Worcester, MA to Pawtucket Falls, just south of the Slater Mill at the Main Street bridge. At this point the river turns tidal and is named the Seekonk River. The original native American name for the river was the "Kittacuck", which meant "the great tidal river". During the industrial revolution, and due to the proliferation of mills along its shores, it was dubbed "America's hardest working river."

The edges or banks of the Pawtucket River are currently a combination of exposed geologic strata and WPA (Works Progress Administration)-era concrete bulkheads. Native and invasive plants have found refuge in silt deposits along the banks of the river.

Pollution and contamination
Much of the pollution from the Industrial Revolution lies trapped in the river sediment, especially at the dams. In recent years, pollution can be traced to the wastewater treatment plant in Worchester, Massachusetts, which discharges into the Blackstone. In 1990, the United States Environmental Protection Agency (EPA) called it "the most polluted river in the country with respect to toxic sediments" and in 1998 it was made "An American Heritage River" in an effort to protect and clean it. River cleanup is still underway. Today, the Blackstone is considered a Class C River, suitable only for "secondary contact" activities like boating, for much of its length.

Pawtucket's three bridges
The Pawtucket River and it's combination of bridges and falls is unique. Pawtucket's three bridges - the Main Street Bridge, designed by Luther Kingsley in 1858 to replace earlier bridges; the Division Street Bridge, designed by Horace Foster in 1876; and the Exchange Street Bridge, designer unknown in 1928 - connect each side of the city and provide visual access to the deeply incised river. Events such as the Dragon Boat and Columbian Festivals make the river a destination for locals and tourists.



LEGEND

- River
- Buildings
- Public Parking lots
- Private parking lots - selected
- Existing parks
- Pedestrian connections
- Existing Temporary Bike Strip
- Future BV Bikeway
- New Gateway space
- Potential green space
- Riverway spaces
- Program parking lots for alternate uses

GATEWAYS

GOAL

Make gateways into downtown Pawtucket

PROPOSAL

Use the new areas of public land from the street improvement projects for special markers

In the process of developing roadway diets that shrink lanes widths, turning radii and crosswalk lengths, new areas of public space can be transformed from the domain of the automobile into a set of public uses. Many of the very wide areas that the PDDP addresses are at the edge of downtown, as they were designed either as part of the car dominant "circulator" or were extensions form the highway system into downtown. This width can now be used to the city's advantage by reallocating to new purposes such as recreation, relaxation, events and the specific character of the location.

East Avenue Extension Plan

George Street and East Avenue Extension

This proposal offers new space at the northeast corner of this intersection and sets up a new alignment for Park Place to be reconnected to local historic properties. This new land becomes an extension of the park, a gateway for pedestrians to walk to Main Street.

Pleasant Street and East Avenue Extension

In the two-way conversion of East Avenue Extension, Pleasant Street becomes prioritized, as it was a historic route, and East Avenue Extension is reduced, as it came later in Pawtucket modern development. With this re-alignment, a new area of land is available that forms a potential gateway into the Main and High Street intersection, a perfect introduction for travelers from Hope Street and East Avenue to find their way to downtown by tracing the river.

Summer Street and High Street

With Main Street becoming the dominant route in its proposed two-way configuration, Summer Street is no longer a major thoroughfare and can become a civic center, a place for people and institutions to have local traffic and safer public space for events. In this return to the local activity, a special corner emerges at High and Summer Street that faces the historic library building that easily lends itself as a place to admire the building and introduce a slower and calmer Summer Street area.

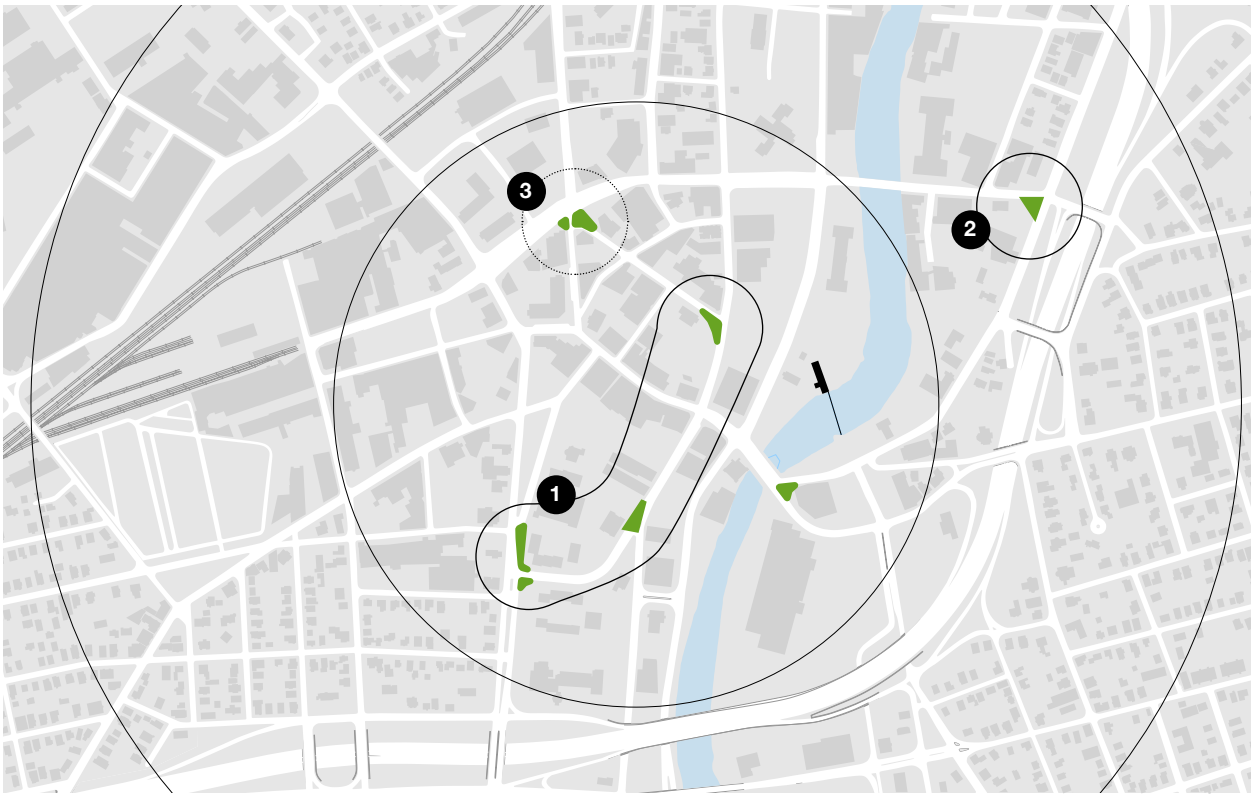
Exchange Street Plan

Broadway and Exchange Street

One of the first ways people are introduced to Pawtucket is by getting off the north bound interstate 95 at exit 29, turning left onto Broadway, and then right onto Exchange Street, dropping down the hill past the Armory to the river. At this corner, a new public space emerges offering a great place for sculpture or markers that signifies the local artistic character of the neighborhood that is complete with an important regional theater, historic buildings, including the armory, a high school, as well as numerous creative offices and light manufacturing.

Exchange Project - to be addressed in addendum project

The new space formed at this intersection as it is reduced from its large size can offer a small public park that would include shade, seating and a place for local restaurants to extend to the public realm.



1 **East Avenue Extension Plan**
George Street and East Avenue Extension - Gateway to Park Place Re-alignment
Pleasant Street and East Avenue Extension - Gateway to downtown from East Avenue
Summer Street and High Street - Gateway to Summer Street institutions

2 **Exchange Street Plan**
Broadway and Exchange Street - Gateway to Armory District and downtown from I-95 and East side

3 **Exchange Project** - to be addressed in addendum project
Broad Street and Exchange Street - Gateway to downtown from Central Falls

TREE ORDINANCE

GOAL

Improve air and water quality and reduce storm water run-off
Trees boost air and water quality, moderate temperatures, and improve public health. Trees reduce storm water runoff by intercepting rain in their canopies and allowing it to evaporate.

Pawtucket currently has approximately 9% of tree coverage! It is the goal of this plan to establish 30%- 40% tree canopy coverage in downtown Pawtucket. This effort will leverage the planting of trees collectively by homeowners, land-owning institutions, and city-sponsored tree planting. A healthy tree in your yard contributes to the urban tree canopy, which benefits the environment and all city residents.

Trees live longer when planted together as groves or in trenches with modified soils. Modified soils allow for greater water and air infiltration which provides a healthy growing medium for street trees.

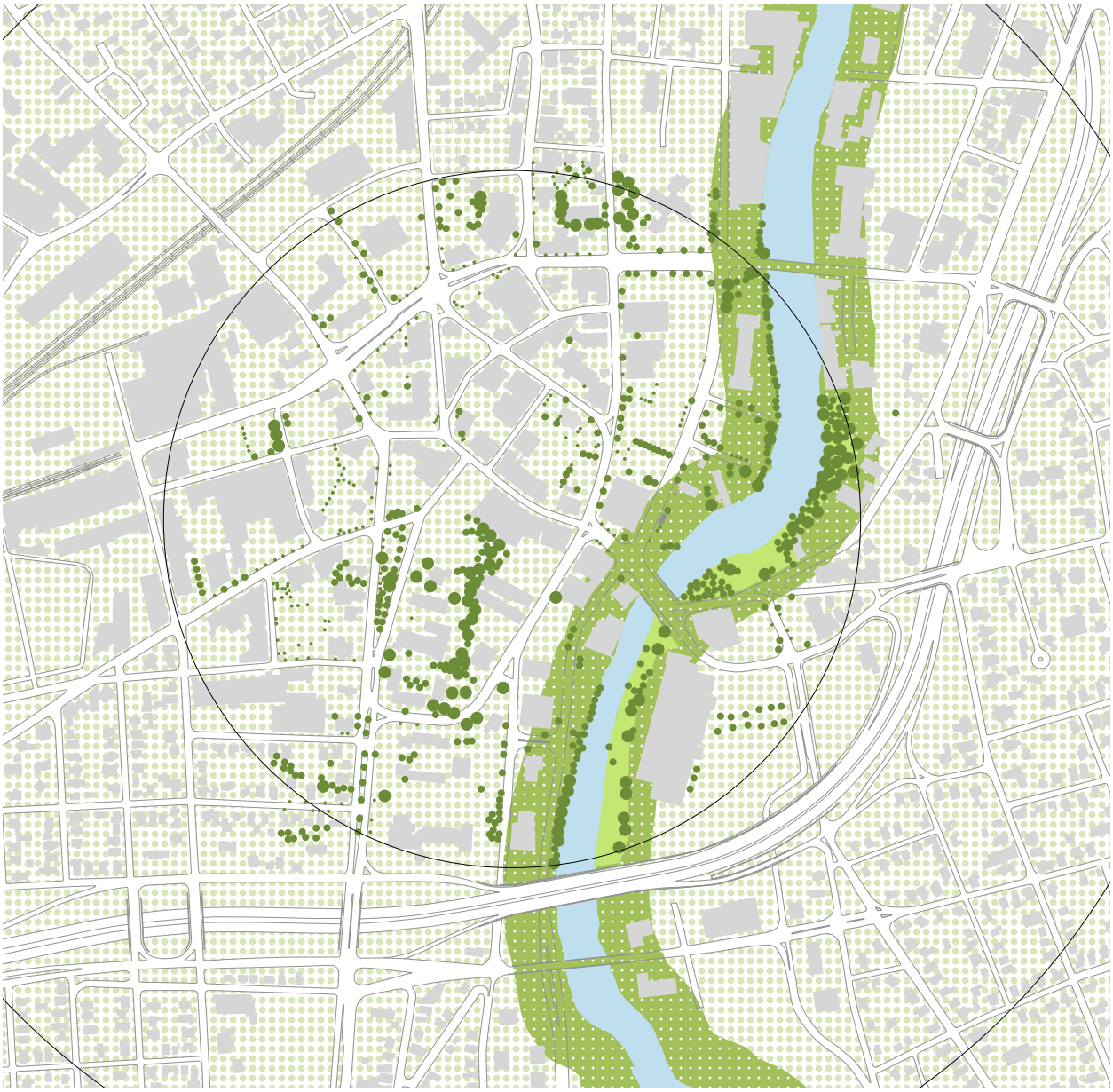
PROPOSAL

Establish a Tree Ordinance

- Establish 30% - 40% tree canopy cover ordinance similar to Providence, RI.
- Protect historic or large trees over 30” diameter by requiring public notice and city approval prior to removal
- Encourage planting GROVES rather than individual trees
- Establish minimum soil volume of 200 cubic feet (e.g.) 20’ long x 5’ wide x 2’ deep) for urban tree planting
- Require tree TRENCHES rather than PITS (see #4 directly above) with pervious cobblestone, decomposed granite, or other surface
- Establish municipal tree list of preferred species (with dominant native selections)

PAWTUCKET’S CURRENT APPROVED TREE LIST

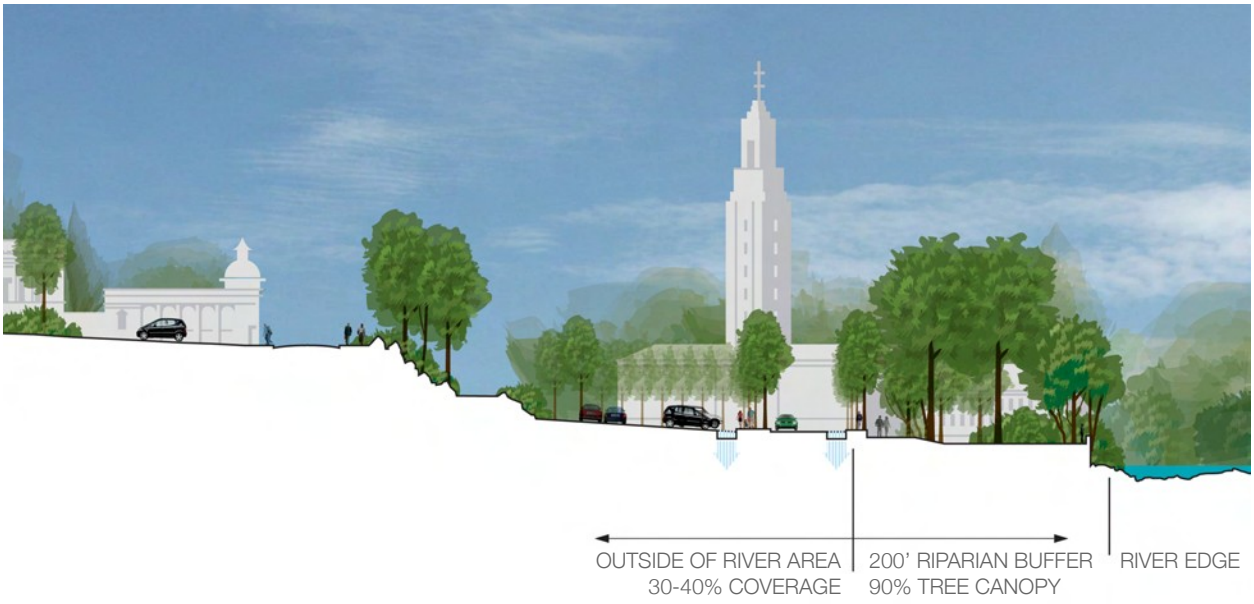
Pyrus calleryana “Chanticleer”	Chanticleer Pear
Tillia cordata	Corzam Corinthian Linden
Syringa reticulata	Tree Lilac
Ulmus parvifolia ‘Drake’‘	Drake’ Chinese Elm
Zelkova serrata	“Green Vase” Japanese Zelkova



LEGEND

- river
- buildings
- existing pervious understory
- existing trees
- 90% tree coverage recommended
- 40% tree coverage recommended

PROPOSED TREE LIST (PARTIAL)



URBAN STREET TREE SPECIES LIST	Acer campestre	Hedge Maple
		'Queen Elizabeth'
	Acer rubrum	red maple
	Carpinus betulus 'Fastgiata'	European hornbeam
	Cladrastis kentuckea	yellowwood
	Crataegus viridis	green Hawthorn
		'WinterKing'
	Fraxinus pennsylvanica	green ash
		'Marshall's'
		'Seedless'
		'Summit'
	Ginkgo biloba	Ginkgo Tree
		'Autumn gold'
		'Princeton Sentry'
	Gleditsia triacanthos	honeylocust
		'Shademaster'
	Koelreuteria paniculata	Golden Rain Tree
	Ostrya virginiana	Eastern Hop Hornbeam
	Platnus x acerfolia	London Planetree
		'Bloodgood'
		'Columbia'
		'Liberty'
		'Yarwood'
	Platanus occidentalis	London plane tree
	Quercus palustris	Pin Oak
		'Crownright'
		'Sovereign'
	Quercus rubra	scarlet oak
	Robinia psuedoacacia	black locust
	Sophora japonica	Japanese Scholar Tree

Tilia cordata	Littleleaf Linden
	‘Corinthian’
	‘Glenleven’
	‘Greenspire’
Ulmus Americana	American elm
Ulmus parvifolia	Chinese Elm
	‘Drake’
Ulmus sp	Elm Hybids
	‘Frontier’
	‘Homestead’
Zelkova serrata	Japanese zelkova
	‘Green Vase’

PARK AND RESIDENTIAL TREE SPECIES LIST

Acer ginnala	Amur Maple
Cornus alternifolia	pagoda dogwood
Cornus florida	flowering dogwood
Cotinus coggygria	Common Smoke Tree
Cotinus obovatus	American Smoke Tree
	‘Cardinal’
	‘Snowdrift’
Fagus grandiflora	American beech
Fagus sylvatica	European beech
Gymnocladus dioica	Kentucky Coffee Tree
Helesia tetraptera	Carolina silverbell
Ilex opaca	American holly
Juniperus virginiana	eastern red cedar
Liriodendron tulipifera	tulip tree
Magnolia x loebneri	Loebner Magnolia
Magnolia x soulangiana	Saucer Magnolia
Magnolia x stellata	Star Magnolia
Malus sp.	Crabapple
	‘Wyman’
Paulownia tomentosa	Royal paulownia
Pinus strobus	white pine
Pinus rigida	pitch pine
Syringa reticulate	Japanese Tree Lilac
	‘Ivory Silk’
	‘Regent’
	‘Summer Snow’

RIVERFRONT DISTRICT TREE SPECIES LIST

Acer rubrum	red maple
Acer saccarum	sugar maple
Amelanchier arborea	tall shadbush
Betula allegheniensis	yellow birch
Betula lenta	black birch
Betula papyrifera	white birch, paper birch
Larix laricina	American larch
Liquidambar stolinifera	sweetgum
Nyssa sylvatica	tupelo
Populus tremuloides	quaking Aspen
Salix alba ‘Tristis’	weeping willow

ECOLOGICAL GREEN STREETS NETWORK

GOAL

Manage storm water run off
Green Streets use vegetated landscape systems to manage storm water runoff at its source. A Green Street is a sustainable rainwater strategy that meets regulatory compliance and resource protection goals by using a natural systems approach to manage water, reduce flow rates, improve water quality, and enhance watershed health. www.portlandonline.com

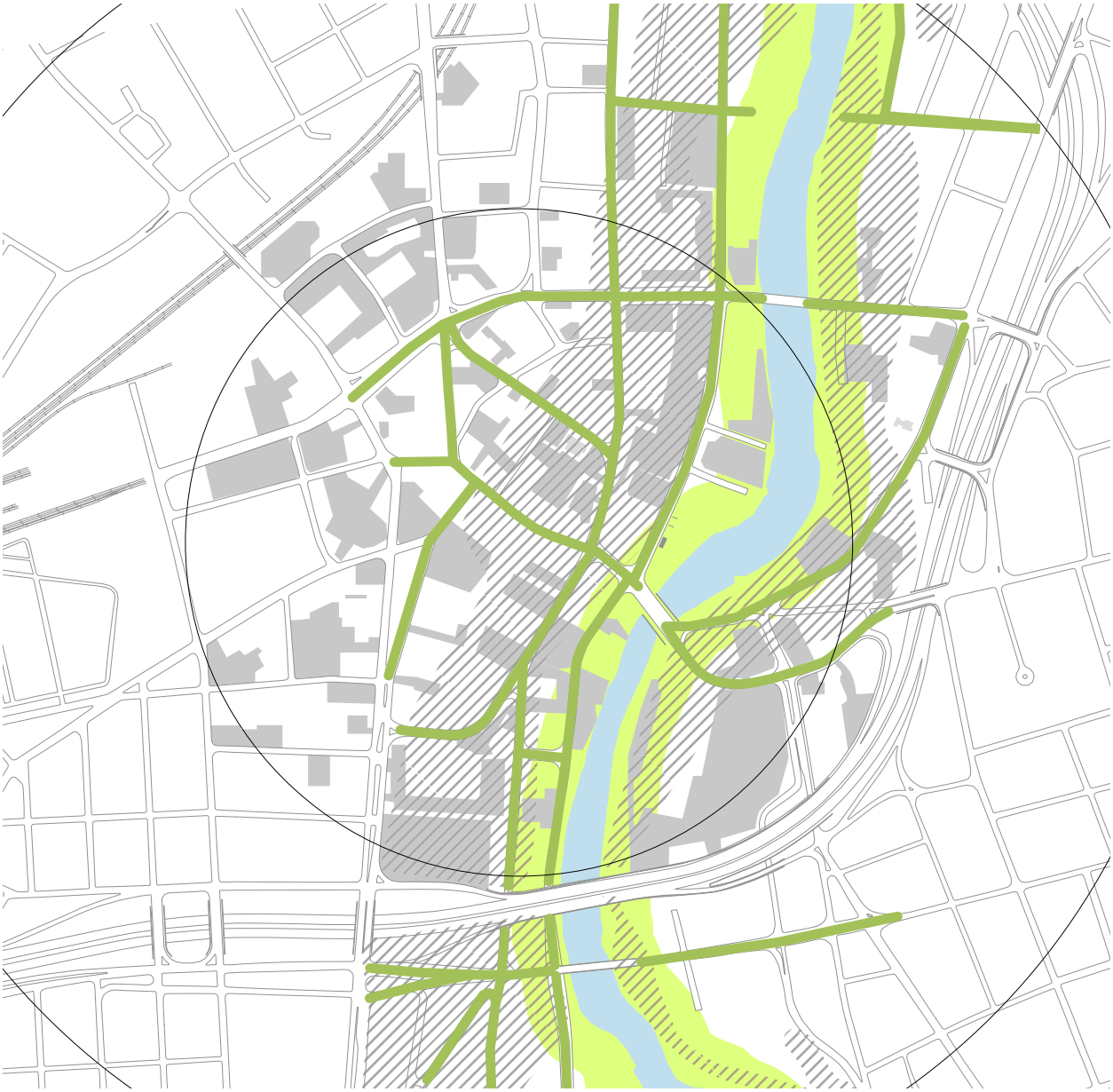
Pawtucket has a valuable natural resource, the Pawtucket River. It is vital to employ Green Street strategies at strategic streets to enhance the health of the river and the city - especially within the River Zone. All surface parking lots and all streets running perpendicular to the river with a downhill slope should be considered.

PROPOSAL

When completing street improvement projects, include green street principles.

- Reduce imperviousness and renovate streets to be no wider than necessary to move traffic effectively.
- Construct driveways and parking with pervious systems, revamp local street specifications to allow context-sensitive street design with narrower travel lanes without curb and gutter systems.
- Green infrastructure retrofit standards for streets need to be adopted as public policies that require green infrastructure practices as standard roadway construction and retrofits.
- Green infrastructure practices should be credited towards required controls for rainwater runoff. Legalize all types of green infrastructure, particularly for the use of water harvesting devices and downspout disconnection, including allowing clean roof drainage to enter the river directly. Where not possible, establish a payment-in-lieu fee for off-site stormwater management facilities.
- A network of green streets, open spaces such as the Slater Mill complex, the river valley bluffs and riparian buffer, and a higher percentage of tree canopy cover will provide the green infrastructure to restore the hydrologic cycle and greatly reduce CSO outflows.

Photo credit: portlandonline.com



LEGEND

- river
- parking lots
- 200’ riparian buffer
- steep slopes
- green streets

RIVERWAY COMPONENTS

GOAL

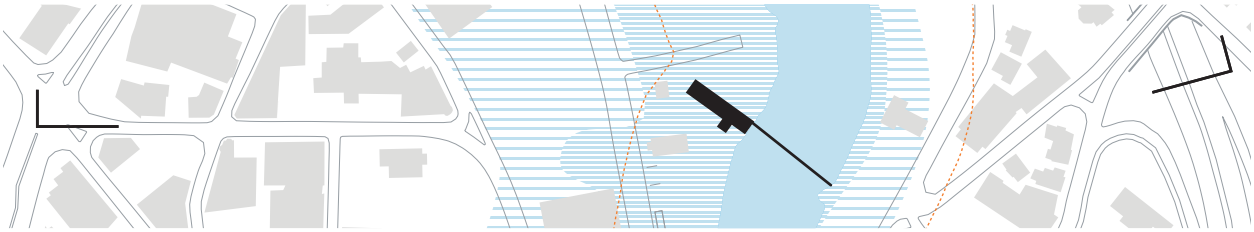
Highlight the river, a critical resource in downtown Pawtucket

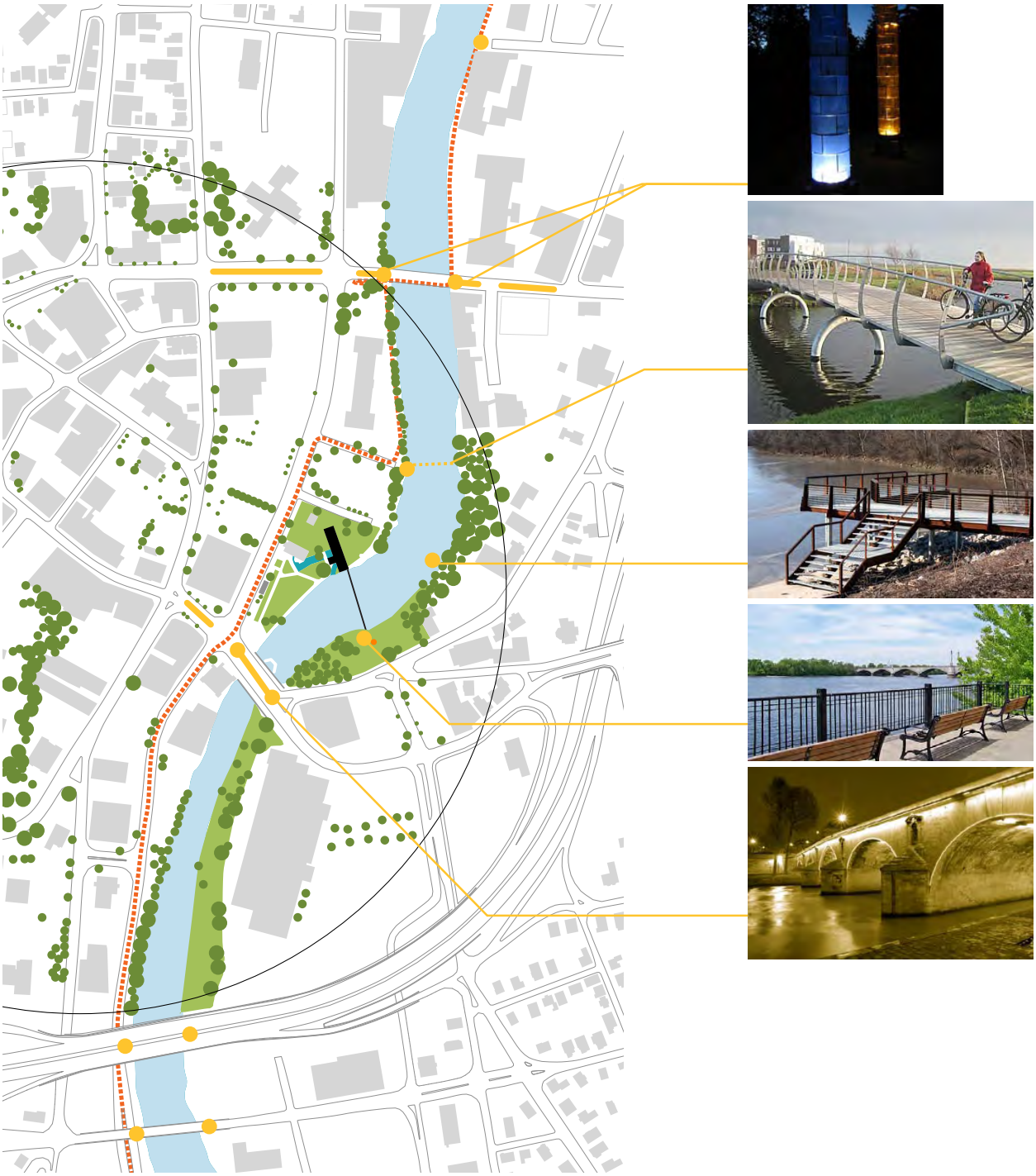
PROPOSAL

Frame the River

The PDDP recommends improving view corridors through selective removal of riverside vegetation, highlighting the bridges and falls with innovative and creative lighting or design solutions, and establishing material thresholds at the bridges to distinguish them from the adjacent streets.

- Create a River Zone from roughly the ridge of the sloping hills that surround the river.
- Create pedestrian access to the river.
- Connect the future segment of the Blackstone Bikeway to the river.
- Mitigate point and non-point source pollution through the implementation of Green Streets program, tree planting programs, and the addition of permeable pavement to the River Zone.
- Implement strategies for highlighting Pawtucket's three bridges at night with innovative lighting and with paving materials and other design solutions to amplify the presence of the river below.
- Improve view corridors to the river through selective removal of riverside vegetation.
- Encourage river activities and events.





LEGEND

- River
- Cat. 4 storm surge zone
- River zone
- 200’ Riverbank wetland
- River zone section

BRIDGE PARK EAST

GOAL

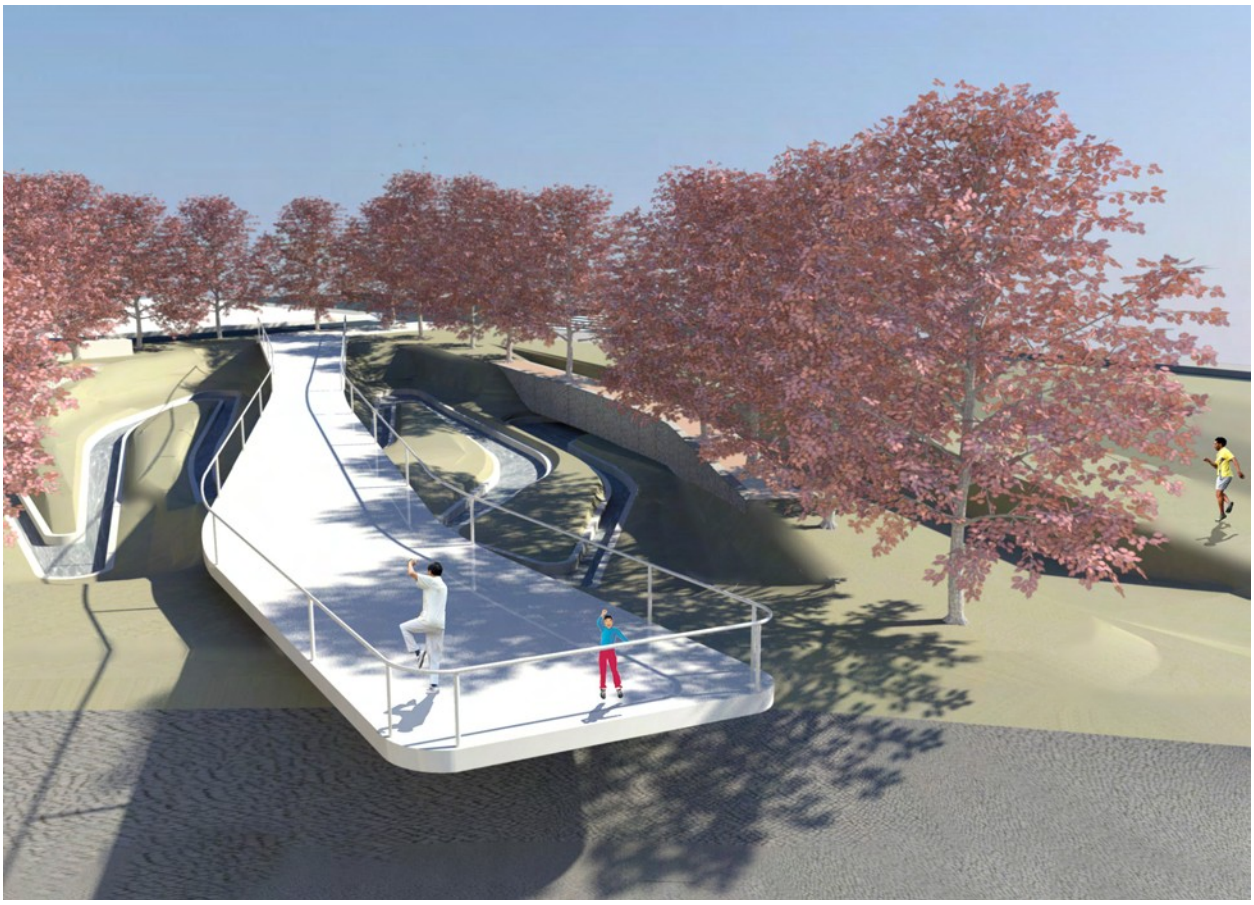
Create more public access to the river

PROPOSAL

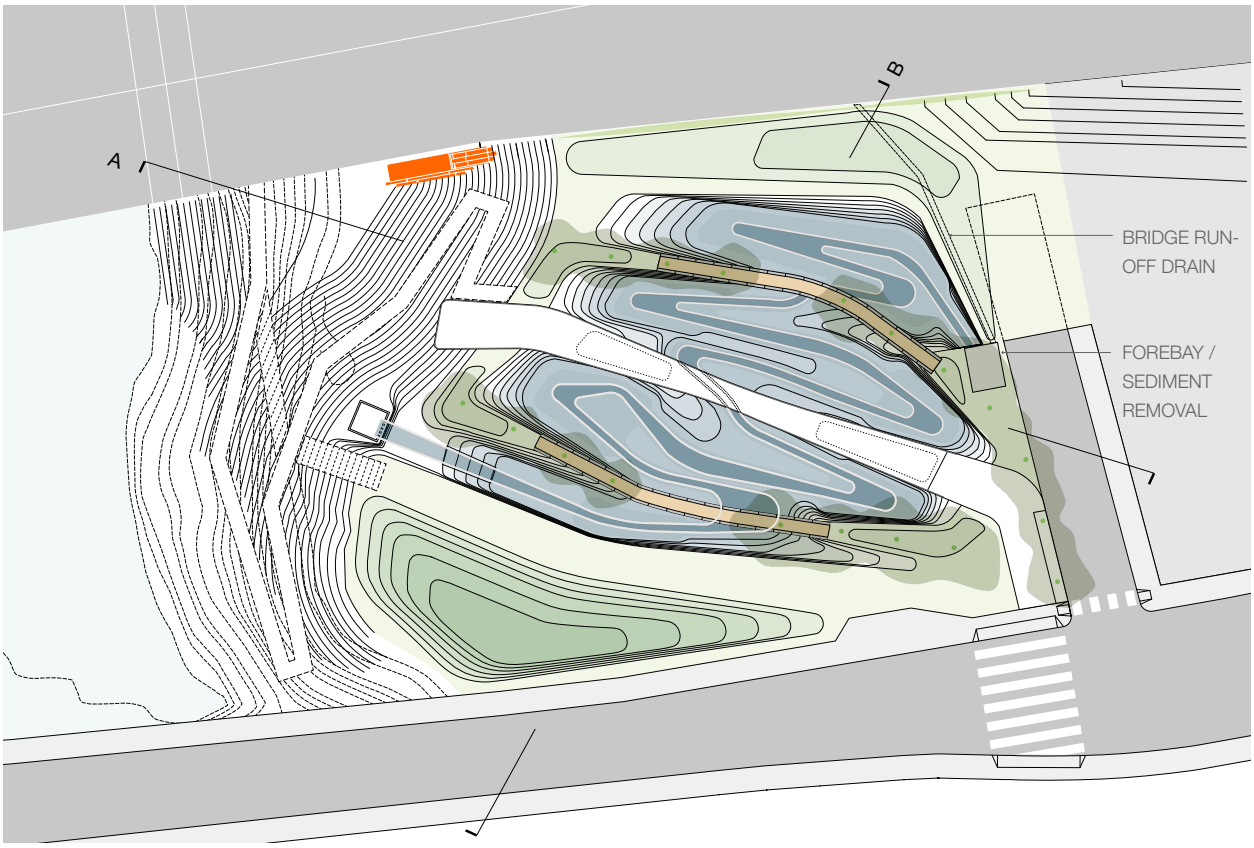
Develop the Bridge Park East
The PDDP team identified an opportunity to create a public park in the location that was to be a storm water retention and management basin adjacent to the future bridge 550 along the east side of the Blackstone River at Division Street.

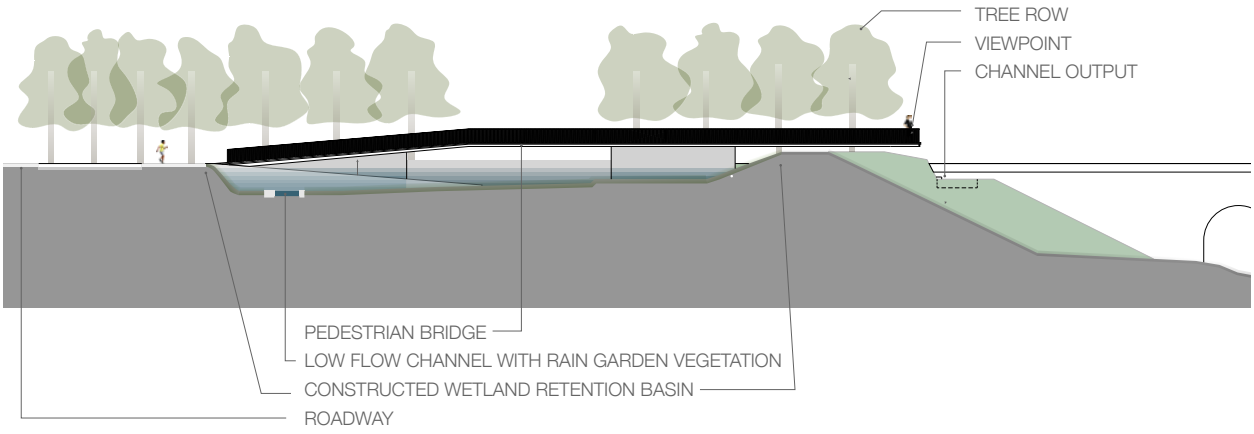
Our design for the project offers a low flow channel and grass basin that could be open to the public and accessible via Division Street. The park design includes a simple bridge over the basin area that leads pedestrians towards the new bridge, highlighting its design. Trees enclose the space spatially and are located in gabion walls that buffer the basin areas. The tree and planting selections for the park suggest types that would change color over the year, offering people different experiences of the foliage. All of the plantings would be native species and would benefit from low maintenance and enhance the natural ecosystem of the river.

In the conclusion of this PDDP, the team and City also discovered the need for another retention area on the west side of the Blackstone River. The PDDP team encourages RIDOT to help the city develop a Bridge Park West.

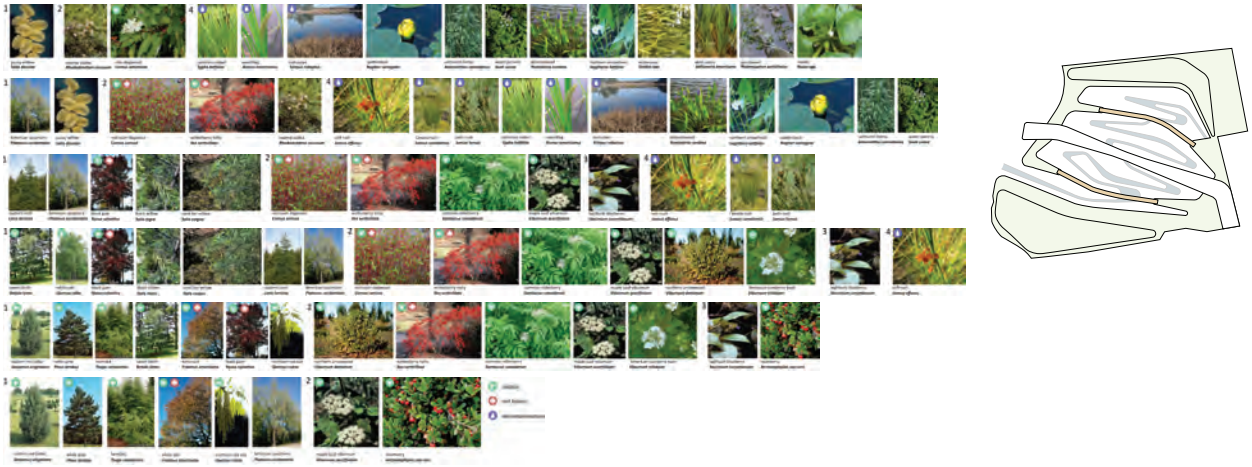


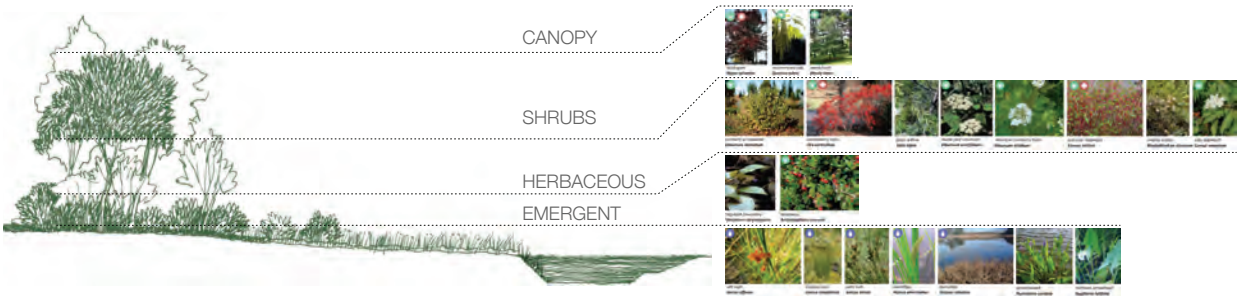
Bridge Park East plan and section A

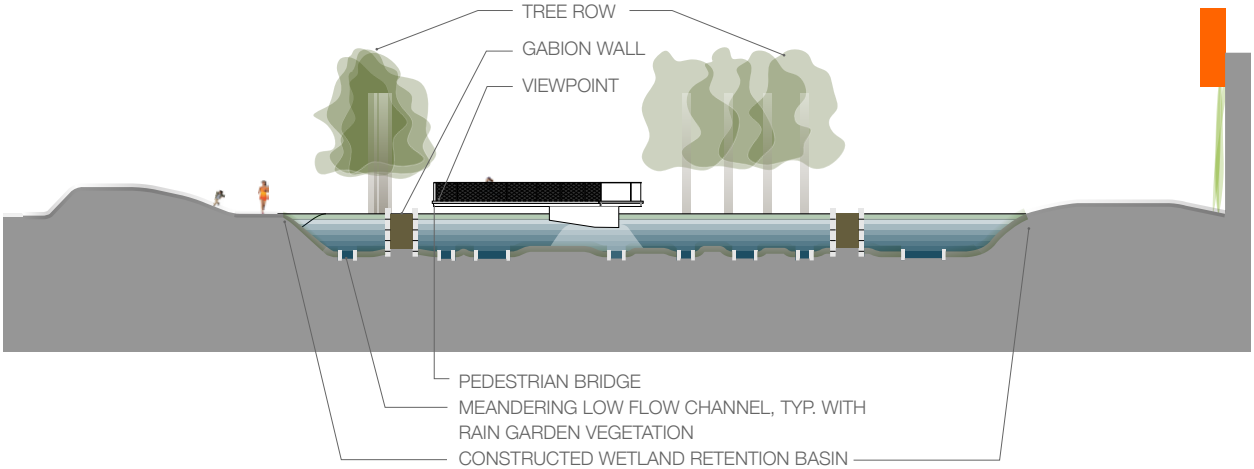




The Bridge Park plan consists of a low flow channel that would be a spine for both water and vegetation growth, two rows of trees set in gabion walls that help filter larger water flow, and a pedestrian bridge that would be open to the public and frames a view of he new bridge 550. Additionally, the park would contain a forebay for sediment removal connected to the interstate bridge run-off drain to accommodate the east side of the bridge's precipitation run-off.







The plantings for the park project support native species that are adapted to wet and dry habitats. Vegetation would include four layers: canopy, shrub, herbaceous, and emergent that form a sustainable ecosystem that can also function as local habitat. Several recommended tree and shrub types, such as winterberry and black gum, turn red in the fall to add seasonal variety to the experience of the park. Other selected plantings would be evergreen, so that the park would be further compelling in winter.

PARK PLACE RE-ALIGNMENT / PAWTUCKET COMMON

GOAL

Re-align George Street and Dexter Streets

PROPOSAL

Re-align Park Place to connect cars to Dexter and pedestrians to Main Street

On the adjacent page is a project highlighted in the Vision Plan that did not clearly fit under the five indicated projects, but we wanted to highlight due to the community and City interest. The Park Place alignment project support both the Riverway and Turnpike systems as a way to better link the neighborhoods and primary routes through the city to Main Street and the River. It also enhances the pedestrian traffic to Main Street and improves access to the historic Wilkinson Park by elevating the east side of Park Place into a shared space route. This work, along with the two way conversion of East Avenue Extension would normalize the intersections and add new public space that could be seen as a western side gateway into the downtown area.

This project would seek to elevate the roadway surface of the segment on the east side of Park Place. This would connect the historic church and active neighborhood to the park better enhancing the beauty and usefulness of the park as a Pawtucket Common and divert traffic onto the segment between dexter Street and George Street making the traffic flow smoother, clearer, and more effective. This helps connect Main Street traffic to Dexter/George Street traffic-- two important routes in the city.

Diagram of the Park Place re-alignment and creation of the Pawtucket Common. By shifting north-bound traffic to Park Place West, George and Dexter Streets would function as a continuous route.

LANDSCAPE

The PDDP team recommends two types of landscape projects within the downtown area:

Greening the downtown
This initiative includes a tree ordinance, recommendations for greening parking lots, gateway spaces, the development of downtown gateways and the Park Place Re-alignment project. Some of these are stand-alone projects, but most would be implemented as part of street improvement projects. This work should be coordinated with the Riverfront District's guidelines. The Riverfront District is a designated area in the city's zoning overseen by the Riverfront Commission, an advisory board to the Planning Commission.

The Riverway
This specific project links and encourages public access to public property immediately adjacent to the Blackstone River including special areas that frame the river itself. To begin this project, the PDDP team recommends that a planning and design project be undertaken to detail the available properties and develop the types connections that could be made as this was beyond the scope of the PDDP. Once at a more advanced design stage, this plan could be used to gain funding, promote riverfront development of the private areas currently being proposed for redevelopment, and as a vehicle to encourage land owners to create publicly beneficial projects that work together.

An important component to any downtown revitalization effort is understanding the degree to which the existing regulatory framework serves to inhibit or enable positive change. More than most elements in the redevelopment equation, local Zoning Ordinance provisions send a signal to potential developers as to whether a given community will provide an opportunity for positive investment. From a developer's perspective, the clarity of permitting processes and the degree to which standards "fit" within the context of existing development may increase the risk already associated with development or may add incentives to the process. Typical barriers that are quickly identified by the development community include the need for multiple permits, the need for permits that could easily be denied, and the need to comply with standards that are not well articulated.

The PDDP team began the process of examining the regulatory framework in Pawtucket on a very broad level. This approach included an audit of all of the Zoning Ordinance provisions and the Planning Commission's regulations that apply to the study area. Observations concerning the Riverfront Commission, the Historic Commission, the downtown, Broad Street and Dexter Street, and the industrial districts north of downtown are all included in the initial Regulatory Audit performed as part of the Existing Conditions Report. From that point, in conjunction with the ongoing circulation work, the PDDP team discussed the full breadth of changes that could occur within the local regulations and what should be prioritized. Members agreed that focusing on the standards and processes associated with the CD District (Commercial Downtown) represented the best starting point for developing actual amendments to local legislation.

The PDDP team developed a series of proposed regulatory amendments for the city's consideration. The text below summarizes these amendments and the full text of the proposed Zoning Ordinance and Planning Commission Regulations can be found in Appendix X. It is important to note that the material provided in the appendix represents recommendations prior to public comment and the required public hearing process with the Planning Commission and City Council. Small modifications to the language provided in the appendix are likely to occur as the city continues through the adoption process.

GOAL

Remove obvious impediments to reoccupation and redevelopment

PROPOSAL

Allow mixed use and multi-tenant commercial by-right

Zoning provisions in the CD District require an applicant for mixed use development or multi-tenant commercial development to obtain Special Use Permit approval from the Zoning Board of Review. This permit creates an unnecessary barrier to what is probably the most important land use within the district because of the additional time required for review and the uncertainty of approval. Although a Special Use Permit does not necessarily preclude these uses, it does raise the possibility that an application may be denied. This situation represents a significant level of uncertainty to a developer when compared with those uses that are allowed "by-right". In these by-right cases, the developer is virtually guaranteed a permit as long as he or she meets the zoning standards associated with that district. With a Special Use Permit, the applicant must meet the zoning standards, but must also satisfy several other criteria which are more discretionary and subject to interpretation. This uncertainty increases the risk of investment and can serve as a serious disincentive to redevelopment.

It is also important to note that the requirements for a Special Use Permit triggers additional site development standards that would not be applicable to these uses if allowed by-right. These requirements are found in Section 410-60 of the Zoning Ordinance and include limitations on residential density (one unit per 2,000 square feet of land area) and additional setbacks and use restrictions. Although these additional standards may be useful in other areas of the city, they are inconsistent with the goals of the CD District. Furthermore, from a practical standpoint, buildings in the CD District may not be able to meet these standards as they already provide higher levels of density and smaller setbacks with their existing configuration. As a result, applying the Special Use Permit process to these buildings may set them up for a variance application—another unnecessary layer of permitting and uncertainty.

The PDDP team identified these land uses as critical to the success of the CD District and recommended that they be allowed by-right.

Improve upon existing provisions designed to encourage redevelopment.

GOAL

Remove parking requirements for the CD District

PROPOSAL

In our review of existing zoning standards, the PDDP team recognized that there are parking standards that acknowledge the need for a more innovative approach to downtown, one that recognizes that parking operates more as a district-wide system rather than an isolated site-by-site approach. For example, the standard parking requirements are reduced by 50% in the downtown for each use, restaurants are fully exempt from parking requirements, and off-site parking can be allowed through a Special Use Permit. These standards represent a "step in the right direction", but should be strengthened to truly answer to the unique conditions within the CD District.

As with other standards examined in our study, it is important to note that many sites in the downtown area could not comply with the existing parking requirements, even with the 50% reduction. With that in mind, and based on existing practice in other cities, the PDDP recommends eliminating parking requirements for all non-residential use in the CD District. Further, the allowances for off-site and shared parking would not require a Special Use Permit, but would be reviewed through the Development Plan Review process as mechanisms allowed by-right. This approach not only removes encumbrances to some existing significant buildings, but provides the business community the flexibility they need to provide parking efficiently for any proposed use.

Move the administration of Development Plan Review to the Planning Commission Regulations

Many Rhode Island communities use Development Plan Review as a review process for by-right uses. Pawtucket uses this procedure throughout the city to review projects either through the Department of Planning and Redevelopment or through the Planning Commission depending on the scale of the proposal. This process provides a forum for the city to review site plans and other information associated with proposed development and to discuss them with the applicant. Unlike a Special Use Permit, however, the Development Plan Review cannot be used to deny an application based on discretionary criteria. The applicant is still assured approval as long as the information provided to the city shows compliance with all applicable standards.

One of the differences in Development Plan Review that arises from one municipality to another is whether the process is administered through the Zoning Ordinance or through the Planning Commission Regulations. In order to clarify the procedures associated with Development Plan Review, the PDDP team provided revisions that would place many of the procedural elements for Development Plan Review in the Planning Commission Regulations, allowing for greater flexibility in the process.

Enhance design requirements

The review of the existing Zoning Ordinance performed by the PDDP team showed that there are dozens of design guidelines or principles within the ordinance that speak to issues of site design, circulation, building form, etc. Notable among almost all of these standards was a pattern of language that is somewhat subjective and open to interpretation. As such, these design principles, however well-conceived, are difficult to enforce and present uncertainty to both developers and City officials.

To remedy this situation, the PDDP team developed design standards for the CD District that deal specifically with different aspects of site development. Issues of pedestrian circulation, uses within setbacks, building orientation, and architectural elements are clearly articulated and, in many cases, illustrated to show visual representations of desirable practices.

GOAL

Anticipate future initiatives and opportunities

PROPOSAL

Reduce the allowable maximum height in the downtown

One of the more interesting observations from the audit of CD District standards is the maximum allowable building height of 100 feet. This number is striking for several reasons including the absence of buildings coming close to that threshold, the lack of historic precedence for that height, and the idea that such a building would comfortably accommodate eight stories and feel very imposing among the smaller structures in the district. Surveying existing buildings today and reviewing historic photographs, five to six story structures are the largest buildings with any significant character and provide a strong baseline for the largest height and massing that is consistent with the district's character.

Another important consideration is that many municipalities do consider density or height bonuses as part of incentive programs within their Zoning Ordinance. Examples of these programs include those for green buildings, the provision of workforce housing, or the acceptance of development rights through a Transfer of Development Rights (TDR) program. Each of these initiatives either already exists in the State of Rhode Island or is under active study. As a result, it is important for Pawtucket to look forward and consider that there may be a time to offer these incentives in the downtown. If the allowable height is already 100 feet, then there really would be no practical opportunity to offer any height "bonus".

The PDDP team recommends reducing the allowable maximum building height within the CD District to 65 feet. This would allow a spacious five-story structure, or a more tightly design six-story structure to be developed by-right. This allowance would not pose any threat to revitalization of the downtown and may anticipate the opportunity to offer incentives in the future.

REGULATORY FRAMEWORK

CONCLUSION

Like many historic New England downtown districts, Pawtucket's CD District was built long before zoning laws were conceived and development patterns emerged from a common sense approach to creating tightly woven social networks and commerce opportunities. The architectural styles common to the late 19th and early 20th centuries were used to frame attractive, dense "main streets" that gathered crowds of people along public ways designed to move people, horses, carts and cars. These neighborhoods continuously evolved over time in an effort to maintain safety without sacrificing the vibrancy that was central to the main street experience. Despite all of the different scales and designs found throughout New England, whether small villages or major urban downtowns, many basic principles are constant in the most successful examples. These include attractive buildings, a clear connection between storefronts and the sidewalk, and the ability to mix uses in a way that blends business with visitors and permanent residents.

As zoning standards continued to develop through the 20th century, primarily in response to suburban expansion, planners struggled with how to adapt these standards and procedures to their main streets. Standards designed to apply "lot by lot" across cookie-cutter developments were ill-suited to deal with environments that operate more as an integrated system. Rigid parking requirements, dimensional standards, and the perceived need to segregate residential and non-residential uses continue to erode the vibrancy of downtown areas across New England. Further, for developers with the vision and expertise to enhance our downtown areas, these rigid regulatory frameworks deter future investment.

Districts like Pawtucket's downtown embody the notion that a neighborhood is greater than the sum of its parts. Equally important as the architecture and the uses associated with an individual site, is the manner in which that site connects to the street and to its neighbors. The challenge, of course, is how to capture these essential elements and facilitate these relationships within a local Zoning Ordinance. The PDDP team focused on both process and standards in our recommendations for the CD District. Recommendations were grouped into three basic categories: 1) Remove obvious impediments to redevelopment; 2) Improve upon some of the existing tools within the ordinance today; and 3) Anticipate future opportunities for incentives.

STATUS AND IMPLEMENTATION

PROJECTS LIST - BY CONCEPT

Following is a list of all of the projects that emerged from the PDDP Vision. This list in intended to assist in their development and implementation. The first list shows them by concept so they can be understood as a group and the second list shows them by timeline so that they can be implemented within the same cycles.

Project	Location specifics	Timeline	Phase
Turnpike System			
East Avenue Extension	George to Main	Short-term	Intersections 10%
Turnpike Signage	All segments	Short-term	Signs designed
East Avenue Extension	Main to Summer	Medium-term	Conceptual plan
Main Street	Broad to High	Medium-term	Conceptual plan
Pawtucket Avenue	East Ave to Division Street	Medium-term	Planning funding
Main Street	Mineral Spring to Church	Medium-term	Vision level
Broadway	One ways	Long-term	Vision level
Turnpike improvements	Existing two-way Segments	Long-term	Vision level
The Exchange			
Exchange Street Improvements	Nathanson Bridge to Broadway	Short-term	Conceptual plan
Exchange Street	Dexter to Tolman HS	Medium-term	Planning funding
Bicycle circulators & shelters	To Tolman & Shea HS	Medium-term	Vision level
RIPTA rapid bus planning & stops	Exchange Street & Roosevelt Ave	Medium-term	RIPTA planning
"P"arking			
P new signage	public lots	Short-term	Graphic design complete
Bus zone to two-hour parking	Roosevelt Avenue	Short-term	Recommendation
Zoning requirement changes	downtown area	Short-term	Language written
Lighting audit & improvements	downtown area	Short-term	Recommendation
Tree edges at lots	public lots	Short-term	Recommendation
Enforcement of two-hour limits	downtown area	Short-term	Recommendation
On street & two-wheeled vehicle parking	downtown area	Medium-term	Vision level
City Garage renovation	Main Street	Medium-term	Recommendation
Permeable paving	public lots	Attrition	Recommendation
Riverway			
Riverway Master Plan	East bank of Blackstone River	Short-term	Recommendation
Bridge Park East	East side of Bridge 550	Short-term	Conceptual plan
Bridge Park West	West side of Bridge 550	Short-term	Recommendation
Tree Ordinance	downtown	Medium-term	Recommendation
Green Street network	downtown	Medium-term	Recommendation
Park Place Re-alignment	Park Place	Long-term	Vision level
Riverway linkages and framing	Slater Mill to Festival Pier	Long-term	Vision level
Riverway linkages and framing	River to School street neighborhoods	Long-term	Vision level
Riverway linkages and framing	ped/bike bridge	Long-term	Vision level
Downtown Guidance			
Zoning changes	downtown area	Short-term	Language written
Design guidelines	downtown area	Short-term	Language written
Website transition	downtownpawtucket.us	Short-term	Site
Wayfinding signage	I-95 Exits & downtown spots	Short-term	Graphic design complete
Banners	Main Street	Short-term	Graphic design complete
Landscape & street furniture	Main Street	Short-term	Plan locations
Commuter rail station connections	Dexter & Barton Streets	Medium-term	Recommendation
Expanding downtown provisions	Pawtucket boundary	Long-term	Recommendation

Responsible Agency	Partner Agency	Funding Sources	Next Steps
City of Pawtucket	RIDOT	RIDOT / Bridge 550	Cost Est & RIDOT / City agreement
City of Pawtucket		City of Pawtucket	Coordinate with DPW
City of Pawtucket	RIDOT	TIP	TIP process
City of Pawtucket	RIDOT	TIP	TIP process
City of Pawtucket	RIDOT	TIP / Bridge 550	PDDP team design
City of Pawtucket	RIDOT	TIP / Statewide Planning	Challenge Grant Application
RIDOT	RIDOT	TIP / Statewide Planning	Challenge Grant Application
City of Pawtucket	RIDOT	TIP	Long-term planning
RIDOT	VHB Engineering	Secured	City monitoring
City of Pawtucket	RIDOT	TIP / Bridge 550	PDDP team design
City of Pawtucket	Statewide Planning	Statewide Planning	Challenge Grant Application
RIPTA	City of Pawtucket	RIPTA	Meeting RIPTA & City of Pawtucket
City of Pawtucket	-	City of Pawtucket	DPW detailing & fabrication
City of Pawtucket	RIPTA	not required	DPW coordination
City of Pawtucket	-	not required	Planning Commission & City Council approval
City of Pawtucket	Dept of Energy	Dept of Energy	Workshop participation & grant application
City of Pawtucket	Paw Foundation	Paw Foundation	DPW coordination
City of Pawtucket	-	City of Pawtucket	System design
City of Pawtucket	-	TIP	Develop TIP projects
City of Pawtucket	-	City of Pawtucket	Source funding
City of Pawtucket	-	City of Pawtucket	Wait for necessary improvement project
City of Pawtucket	RI DEM / CRMC / BVNHC	Statewide Planning	Challenge Grant Application
RIDOT	CRMC / BVNHC	Bridge 550	CRMC & Commonwealth coordination
RIDOT	CRMC / BVNHC	Bridge 550	RIDOT coordination
City of Pawtucket	RI DEM	not required	
City of Pawtucket	RI DEM	City of Pawtucket	
City of Pawtucket	RIDOT	TIP	10% Plan
City of Pawtucket	RI DEM / CRMC / BVNHC	RIDOT	Master Plan
City of Pawtucket	RI DEM / CRMC / BVNHC	RIDOT	Master Plan
City of Pawtucket	RI DEM / CRMC / BVNHC	RIDOT	Master Plan
City of Pawtucket		not required	Planning Commission & City Council approval
City of Pawtucket		not required	Planning Department review
Pawtucket Foundation	City of Pawtucket	private funds	PDDP team coordination with PF team
City of Pawtucket		City of Pawtucket	Sign drafting
Paw Foundation PADS	City of Pawtucket	CDBG	Project management & Implementation
Paw Foundation PADS	City of Pawtucket	CDBG	Project management & Implementation
RIDOT	City of Pawtucket	FTA	RIDOT meeting
City of Pawtucket		Statewide Planning	Challenge Grant Application

PROJECTS LIST - BY TIMELINE

Project	Location specifics	Timeline	Phase
Short-term			
East Avenue Extension	George to Main	Short-term	Intersections 10%
Exchange Street Improvements	Nathanson Bridge to Broadway	Short-term	Conceptual plan
Bus zone to two-hour parking	Roosevelt Avenue	Short-term	Recommendation
P new signage	public lots	Short-term	Graphic design complete
Zoning requirement changes	downtown area	Short-term	Language written
Lighting audit & improvements	downtown area	Short-term	Recommendation
Tree edges at public parking lots	public lots	Short-term	Recommendation
Enforcement of two-hour limits	downtown area	Short-term	Recommendation
Riverway Master Plan	East bank of Blackstone River	Short-term	Recommendation
Bridge Park East	East side of Bridge 550	Short-term	Conceptual plan
Bridge Park West	West side of Bridge 550	Short-term	Recommendation
Zoning changes	downtown area	Short-term	Language written
Design guidelines	downtown area	Short-term	Language written
Website transition	downtownpawtucket.us	Short-term	Site
Wayfinding signage	I-95 Exits & downtown spots	Short-term	Graphic design complete
Banners	Main Street	Short-term	Graphic design complete
Landscape & street furniture	Main Street	Short-term	Plan locations
Medium-term			
East Avenue Extension	Main to Summer	Medium-term	Conceptual plan
Main Street	Broad to High	Medium-term	Conceptual plan
Pawtucket Avenue	East Ave to Division Street	Medium-term	Planning funding
Main Street	Mineral Spring to Church	Medium-term	Vision level
Exchange Street	Dexter to Tolman HS	Medium-term	Planning funding
Bicycle circulators & shelters	To Tolman & Shea HS	Medium-term	Vision level
RIPTA rapid bus planning & stops	Exchange Street & Roosevelt Ave	Medium-term	RIPTA planning
On street & two-wheeled vehicle parking	downtown area	Medium-term	Vision level
City Garage renovation	Main Street	Medium-term	Recommendation
Tree Ordinance	downtown	Medium-term	Recommendation
Green Street network	downtown	Medium-term	Recommendation
Commuter rail station connections	Dexter & Barton Streets	Medium-term	Recommendation
Long-term			
Broadway	One ways	Long-term	Vision level
Park Place Re-alignment	Park Place	Long-term	Vision level
Riverway linkages and framing	Slater Mill to Festival Pier	Long-term	Vision level
Riverway linkages and framing	River to School street neighborhoods	Long-term	Vision level
Riverway linkages and framing	ped/bike bridge	Long-term	Vision level
Expanding downtown provisions	Pawtucket boundary	Long-term	Recommendation
Permeable paving	public lots	Attrition	Recommendation

Responsible Agency	Partner Agency	Funding Sources	Next Steps
City of Pawtucket	RIDOT	RIDOT / Bridge 550	Cost Est & RIDOT / City agreement
RIDOT	VHB Engineering	Secured	City monitoring
City of Pawtucket	Dept of Public Works	Self-sustaining	City coordination
City of Pawtucket	-	City of Pawtucket	DPW detailing & fabrication
City of Pawtucket	-	not required	Planning Commission & City Council approval
City of Pawtucket	Dept of Energy	Dept of Energy	Workshop participation & grant application
City of Pawtucket	Paw Foundation	Paw Foundation	DPW coordination
City of Pawtucket	-	City of Pawtucket	System design
City of Pawtucket	RI DEM / CRMC / BVNHC	Statewide Planning	Challenge Grant Application
RIDOT	CRMC / BVNHC	Bridge 550	CRMC & Commonwealth coordination
RIDOT	CRMC / BVNHC	Bridge 550	RIDOT coordination
City of Pawtucket		not required	Planning Commission & City Council approval
City of Pawtucket		not required	Planning Department review
Pawtucket Foundation	City of Pawtucket	private funds	PDDP team coordination with PF team
City of Pawtucket		City of Pawtucket	Sign drafting
Paw Foundation PADS	City of Pawtucket	CDBG	Project management & Implementation
Paw Foundation PADS	City of Pawtucket	CDBG	Project management & Implementation
City of Pawtucket	RIDOT	TIP	TIP process
City of Pawtucket	RIDOT	TIP	TIP process
City of Pawtucket	RIDOT	TIP / Bridge 550	PDDP team design
City of Pawtucket	RIDOT	TIP / Statewide Planning	Challenge Grant Application
City of Pawtucket	RIDOT	TIP / Bridge 550	PDDP team design
City of Pawtucket	Statewide Planning	Statewide Planning	Challenge Grant Application
RIPTA	City of Pawtucket	RIPTA	Meeting RIPTA & City of Pawtucket
City of Pawtucket	-	TIP	Develop TIP projects
City of Pawtucket	-	City of Pawtucket	Source funding
City of Pawtucket	RI DEM*	not required	
City of Pawtucket	RI DEM*	City of Pawtucket	
RIDOT	City of Pawtucket	FTA	RIDOT meeting
RIDOT	RIDOT	TIP / Statewide Planning	Challenge Grant Application
City of Pawtucket	RIDOT	TIP	10% Plan
City of Pawtucket	RI DEM / CRMC / BVNHC	RIDOT	Master Plan
City of Pawtucket	RI DEM / CRMC / BVNHC	RIDOT	Master Plan
City of Pawtucket	RI DEM / CRMC / BVNHC	RIDOT	Master Plan
City of Pawtucket		Statewide Planning	Challenge Grant Application
City of Pawtucket	-	City of Pawtucket	Wait for necessary improvement project

COST EVALUATIONS

The figures shown in light gray are not included in the final total as they include funding outside of the city.

Establishing an overall cost for the PDDP can only be considered in round figures as the scope of many of its projects are yet undefined. This list is simply to get a range of potential costs for general discussion.

COST RANGE	PROJECT	ASSUMPTIONS
	Turnpike System	
$ 384,000	East Ave Ext - long-term curb to curb	See estimate
422,000	East Ave Ext - long-term landscape	See estimate
60,000 - 200,00	Main Street - Church & Min Spring	Two intersection signals, island removal
200,000 - 500,000	Pawtucket Avenue	Two-intersection revisions
230,000	Main Street curb to curb	See estimate
945,000	Main Street landscape	See estimate
300,000 - 800,000	Broadway	Signal work, bumpouts, and restriping
500,000 - 2,000,000	Two-way segment improvements	Bike striping, lights, signage
	The Exchange	
332,300	Exchange Street - curb to curb	See estimate
370,000	Exchange Street - landscape	See estimate
1,000,000 - 2,000,000	Exchange Street	Intersection diets & cycle tracks
80,000 - 150,000	Bicycle circulators & shelters	Striping, signage, racks & shelters
150,000	RIPTA rapid bus planning & stops	Costs supported by RIPTA
	"P"arking	
3,000	P new signage	City provided signage and labor
200	Bus zone to two-hour parking	Two signs
0	Zoning requirement changes	--
10,000 - 100,000	Lighting audit & improvements	Lamp and/or fixture replacements
15,000 - 50,000	Tree edges at lots	As shown in the plans
0	Enforcement of two-hour limits	Program should be self-sustaining
0	On street & two-wheeled veh parking	Part of street improvements
200,000 - 1,000,000	City Garage renovation	$50 / s.f.
0	Permeable paving	Part of future replacement projects
	Riverway	
50,000	Riverway Master Plan	Design services
900,000	Bridge Park East	RIDOT existing Bridge funding
1,000,000	Bridge Park West	RIDOT existing Bridge funding
0	Tree Canopy & ordinance	--
0	Green Street network	--
1,000,000 - 1,200,000	Park Place Re-alignment	Raised roadway, signal modifications
5,000,000 - 8,000,000	Riverway linkages	Wide range of scope
	Downtown Guidance	
0	Zoning changes	--
0	Design guidelines	--
5,000 - 30,000	Website transition	Funded privately
8,000	Wayfinding signage	City installed, Indicated locations
2,000	Banners	10 banners
50,000 - 100,000	Landscape & street furniture	Existing / future CDBG funding
200,000 - 500,000	Commuter rail station connections	Funding through future project
30,000	Expanding downtown provisions	Consultant funding
$ 11 - 18 M	**TOTAL PDDP COST RANGE**	

The PDDP team will continue to develop two additional planning projects that stem from the PDDP concepts after the conclusion of this report.

The Exchange
Rhode Island Housing has agreed to fund additional planning services for the PDDP team to develop a plan for Exchange Street from Dexter Street to Roosevelt Avenue. This is part of their Keepspace Communities initiative and made possible by it's local project host, the Pawtucket Citizens Development Corporation, who is included on the PDDP Technical Advisory Committee.

This extension of the Exchange project will look into developing a boulevard concept that safely offers multi-transit possibilities for downtown Pawtucket in anticipation of a future commuter rail stop and the RIPTA Rapid Buss #99. This work will plan access for pedestrians and bicyclists from downtown to the river, for RIPTA buses through downtown Pawtucket, and for automobiles to the interstate highway. It will also enhance greenspace and environmentally-sustainable landscape.

Pawtucket Avenue, Pleasant Street and Division Street Intersection
As part of the Bridge 550 project, the intersection of Pawtucket Avenue, Pleasant Street, and Division Street has bene modified. The modification has occurred at a location that is key to the functionality of the Turnpike System. Rhode Island State-wide Planning will provide funding for the PDDP team to analyze and design an alternative plan for this intersection that reconnects Pawtucket Avenue to Pleasant Street and encourages improved traffic patterns based on the historic logic of the streets.

When this work is complete, this report will be reissued with this work in addendum.

NEXT STEPS AND IMPLEMENTATION PRIORITIES

The next steps can be read more directly in the project lists on the previous pages, but the following are more general directions for immediate projects that can begin.

STREET IMPROVEMENTS

East Avenue Extension is the low-hanging fruit with the biggest impact of the three proposed street improvement projects. The portion of Exchange Street will also be accomplished shortly as it is currently funded. Of the medium-term projects, Main Street is the biggest priority for moving in downtown and Pleasant Street connecting to Pawtucket and East Avenues has the biggest potential for impacting how people get to downtown. These are both critical conversions. Main Street between Church and Mineral Spring Avenue is a short and simple segment that could be accomplished easily as well. Broadway will be the most difficult as it is a state maintained segment. The most important goal of all of the turnpike segments is opening one way to two way traffic. Any segments that can be modified will have am important impact on the functionality and thus the perception of downtown Pawtucket.

PARKING

The low-hanging fruit for the “P”arking project are the signage and tree planting strategies, as these are inexpensive, can be organized by the city, and incremental. Making the parking zone change on Roosevelt Avenue is also simple and does not require funding along with the proposed regulatory change of decreasing parking requirements for commercial use development. The parking enforcement will take greater city coordination, but could be begun in small designated areas, specifically on Main Street and near Tolman High School and can later be expanded with greater infrastructure. The permeable paving replacement will happen more slowly and through attrition.

TRANSIT

The most immediate project that can help begin the bicycle network was developed prior to the PDDP-- the temporary bike striping between the end of the Blackstone Valley Bikeway and the Blackstone Boulevard bike network. The bicycle lanes included as part of the Exchange Street improvement will add to this network and can be further extended by striping the bike circulators. The city may be able to find supportive private partners show can help fund these amenities, such as local child or sport-oriented businesses. THe next steps will involve coordinating with RIPTA and RIDOT n the upcoming transit initiative so the MBTA stop and Rapid Bus line. Their integration will be key to the longer-term success of the downtown systems.

STREETSCAPE AND PEDESTRIAN SYSTEMS

The current streetscaping project organized by PADS and the Pawtucket Foundation can have an immediate visual impact on Main Street by replacing banners and providing planters with plantings and a few of benches. The larger pedestrians systems will come through the upcoming street improvement projects, Exchange Street in the Armory District and East Avenue Extension being the first two in the pipeline.

LANDSCAPE

The most immediate potential for the landscape plan for the PDDP is the opening of public space in the Bridge Park East, as it already has funding,

along with the potential of an East Park West presumably to be at the Town Landing. Another short-term project is developing a tree ordinance for downtown which can have lasting effects on the development of the tree canopy even if it will take a set of initiatives to increase it dramatically. While aspects of the Riverway will take long-term planning, developing a detailed plan can put this project in the pipeline along with the completing of the Blackstone Valley Bikeway and help as private development grows near the river.

ZONING

The regulatory work involved should be well on its way through the process by the completion of the PDDP report. The three categories: 1) Remove obvious impediments to redevelopment; 2) Improve upon some of the existing tools within the ordinance today; and 3) Anticipate future opportunities for incentives. As all of the regulatory initiates do not require funding and already have obtained key local political support, these should be fulfilled in the short-term.

CONCLUSIONS

The goals for this phase of Pawtucket's downtown development is to establish the priorities, quality of design, and level of ambition with the support of the community and stakeholders so that the city can get funding and implement each project that, added together, becomes the Pawtucket Downtown Design Plan. The PDDP team hopes that the city will use this report as a manual for initiating projects and fulfilling goals. In the short-term, the projects build on current work underway in the city, including the effects of the 550 bridge construction. In the longer-term, the city will need to work with the existing and evolving funding strategies of the Rhode Island and Federal Departments of Transportation. The PDDP was developed with current best practices to support the types of projects that these agencies encourage, including coordinating with public transportation and bicycle transportation.

Coordination
The first key step for all of the projects is to establish who within the city is responsible for directing and managing the work in the Pawtucket Downtown Design Plan. While this may not rest with one position and projects may be delegated to different people within the Planning and Public Works departments, it is still important that there be a clear centralized point or person to oversee the components to encourage coordination between departments and state agencies and keep the city's leadership involved.

Funding
The second key step for all of the projects is to source the available grants, federal and state funding, and funding partners. Each project has been designed with specific sources of funding in mind so that they can fit their descriptions and goals. This is the fundamental step in the future process and takes significant expertise and effort.

Political Leadership
While specific public officials will be organizing the implementation efforts, they will need strong support by elected city officials to establish this work at a state level as a priority as Pawtucket will be competing for resources with other municipalities. The city is well-poised for this effort, as has been shown during the PDDP process. The PDDP team was encouraged by the strong support for the plan by both the current and former Mayors and their staffs, all of the involved members of the City Council, and additional appointed commission members. This support is vital to the plan's success both in drafting and passing local legislation and lobbying state leaders.

Community Leadership
While the PDDP addresses public streets and property, unelected community leadership have and will continue to significantly help to encourage the PDDP process locally by acting as stakeholders and encouraging local property owners to participate to get the most impact between public works and private development, and statewide to encourage state leaders to facilitate funding. Three important groups of this community include: the Pawtucket Foundation and local business leaders; the non-profit community linked to local neighborhoods, including specifically the Pawtucket Citizens Development Corporation, the Pawtucket YMCA and the public library; and the cultural arts community, including the Armory Arts District board, who have also been committed partners with the city. The PDDP team hopes that this process can continue to be strong, inclusive, and open to new partners.

Opportunities
The City of Pawtucket has expressed a powerful renewed effort to reshape its downtown through the support of this plan. With four important investments in progress: the Blackstone Valley Bikeway, the MBTA Commuter Rail stop, the Interstate 95 Bridge 550 project and the RIPTA Rapid Bus 99, this plan will help to knit and leverage current efforts underway to support the existing businesses, cultural institutions, residents, and public efforts to revitalize the parts of downtown than have not yet re-emerged.

Once a vital and dense area full of retail, cable car and pedestrian activity, downtown Pawtucket may have declined, but it still retains committed citizens, public servants, and state level partners who are already working together to foster cultural regrowth and sustainable economic development along its ecologically-renewed river. This plan is not a single movement that will recreate what is already here, but will grow incrementally and help the downtown infrastructure evolve to function in both standard and intuitive ways. As it builds on strengths already in progress or rooted in Pawtucket's history, the PDDP team's evaluation of the downtown plan would best be determined in 100 years, in that none of its residents would perceive that it had ever been any differently. We hope that the Pawtucket Downtown Design Plan of 2010 - 2011 bridges a continuity between the original foundation of the vibrant city's past, through the efforts of its current inhabitants, and to its active and engaging urban future.

APPENDIX

APPENDIX A
PROPOSED AMENDMENTS TO THE ZONING ORDINANCE

*The following text shows proposed amendments to the Table of Use Regulations provided within the Zoning Ordinance. The materials provided below show **only those uses** for which changes are not proposed. All other use allowances would be unchanged by this proposed amendment. The primary goal of these proposed amendments is to allow mixed use residential and mixed commercial by-right.*

ARTICLE II. Use Regulations (§410-12)

ZONING

410 Attachment 1

City of Pawtucket
TABLE OF USE REGULATIONS

[Amended 9-26-1996 by Ch. No. 2425; 10-23-1997 by Ch. No. 2470; 6-23-1999 by Ch. No. 2531; 3-22-2001 by Ch. No. 2592; 8-25-2004 by Ch. No. 2739; 9-21-2006 by Ch. No. 2825; 8-20-2009 by Ch. No. 2928; 2-25-2010 by Ch. No. 2934]

		RL	RS	RT	RM	RE	RD1	RD2	RD3	CL	CG	CD	MO	MB	PO	PC
1.	**Residential uses.**															
D.	Multifamily (5 dwelling units and over).	N	N	N	Y	Y	N	N	Y	Y	Y	~~S~~ Y	S	N	N	N
L.	Mixed residential/ commercial uses.	N	N	N	S	N	N	N	Y	N	N	~~S~~ Y	N	N	N	N
3.	**Transient residential.**															
A.	Bed-and-breakfast home (1 dwelling unit).*	N	N	S	S	Y	N	N	Y	Y	Y	~~N~~ Y	N	N	N	N
4.	**Gardening and raising of animals.**															
A.	Gardening/ Farming, not to include the raising of animals.*	Y	Y	Y	Y	Y	Y	~~N~~ Y	Y	Y	Y	Y	Y	Y	Y	Y
7.	**General commercial uses.**															
E.	Any commercial use with a drive-in window.	N	N	N	N	N	N	N	N	S	S	~~S~~ N	S	N	N	N
F.	Multitenant commercial structure.	N	N	N	N	N	N	N	~~S~~ Y	~~S~~ Y	~~S~~ Y	~~S~~ Y	N	N	N	N

The following text shows proposed amendments to the existing Development Plan Review Process. Highlights of the proposed changes include:

- *Adjustments to the thresholds for projects going to the Department of Planning and Redevelopment (Staff) versus the Planning Commission. This proposal slightly expands the review of the Staff and clarifies some confusing language in today's ordinance.*
- *Removing the procedural requirements associated with Development Plan Review and placing them in the Subdivision and Land Development Regulations.*

ARTICLE IIIA. Planned Land Development ~~plan review process~~

§ 410-15.1. Development Plan Review Process.

[Amended 3-22-2001 by Ch. No. 2592; 11-12-2004 by Ch. No. 2750]

A. Purpose. It is the purpose of this article to establish procedures pursuant to the permitting process which will enable the City to perform a comprehensive review of certain proposed developments. The development plan review (DPR) procedure shall not be used to deny an applicant a permitted use of the property as established by the Zoning Ordinance. The particular uses requiring development plan review are outlined. The development plan review requirements of this article are designed to assure safe, orderly and harmonious development of property in a manner that shall:

(1) Provide suitable safeguard and consideration for land use and site architectural design that is compatible with adjacent districts and uses;

(2) Permit development to an extent commensurate with the availability and capacity of public facilities and services and promote the safe circulation of traffic throughout the City;

(3) Preserve and protect natural resources and features and encourage consideration of environmental impacts and mitigative measures;

(4) Encourage the provision of open space and public access and give due consideration to the quality and design of landscaping;

(5) Encourage adequate consideration for the proper control of erosion, surface and subsurface drainage and pollution;

(6) Facilitate orderly harmonious site development including safe and convenient provision and design of egress and ingress, off-street parking, truck loading, internal circulation, emergency access, refuse disposal outdoor storage, signage and lighting;

(7) Preserve natural, historical, and cultural resources to the maximum extent feasible;

(8) Protect appropriate vistas and environmental qualities of the City;

(9) Assure consideration of the various elements of the comprehensive plan of the City.

B. Applicability.

(1) No permit to build, alter or expand any of the uses requiring development plan review as outlined below shall be issued by the Building Official until a written statement of final approval in accordance with this article has been received. The applicant is responsible for obtaining a building permit through the Zoning and Code Enforcement as required by City ordinances. The applicant must submit all plans and documents normally required for a building permit. The approved final plan shall be part of this submission. The development plan review process will not preclude the need to meet other City requirements as they may apply to a particular development. No alteration to any City ordinance requirements, or any necessity to gain approval by another legal jurisdiction shall be deemed to be authorized or granted by virtue of the development plan review under this article.

(2) Where the project is subject to development plan review and constitutes a subdivision, as defined in the ~~land~~Land Development and Subdivision Review Regulations adopted by the City Planning Commission, the two processes shall proceed concurrently. In the event that the development plan review decision is made prior to a final decision on the subdivision associated with the development, this decision shall be conditional on the subdivision approval.

(3) For any property located in the Riverfront Zoning District and therefore subject to design review by the Riverfront Commission, as defined by Article III of the Zoning Ordinance and where the project is subject to development plan review, the two processes shall proceed concurrently and Article III shall take precedence. In the event that the development plan review decision is made prior to a final decision on building design proposed in the development, this decision shall be conditional on Riverfront Commission approval.

(4) Projects subject to Development Plan Review as defined in Article IIIA, Section E shall not require review as a Major Land Development Project unless specifically required elsewhere in the Zoning Ordinance.

C. Coordination with Zoning Board of Review. The development plan review process (if applicable) must take place prior to the consideration of a dimensional variance, special use permit or appeal to the Zoning Board of Review.

D. Development ~~plan review process~~Plan Review Process. The development plan review shall be conducted by either the City Planning Commission or the staff of the Department of Planning and Redevelopment in accordance with those procedures and requirements listed in this Article and in Section V of the Land Development and Subdivision Review Regulations.

~~E. Projects requiring development plan approval.~~

E. Development Plan Review Thresholds. Applications for development shall be reviewed in accordance with the following thresholds. Any application for a subdivision or Land Development project as defined by the City of Pawtucket shall be subject to the review procedures provided for those activities and shall not require Development Plan Review.

(1) Development Plan Review required by the City Planning Commission:

(a) Construction of any new residential structure~~on a parcel~~, or ~~parcels~~combination of ~~land containing~~ structures, with three (3) or more units.

(b) Construction of any new commercial or industrial structure with a gross floor area of 10,000 square feet or more.

(c) Exterior addition with a gross floor area of ~~200~~1,000 square feet or more to an existing structure ~~on a parcel or parcels of land containing 10,000 square feet or more~~.

~~(d) The construction of any new residential structure with three or more units.~~

(d) Any application that would ordinarily be reviewed by staff pursuant to subsection (2) below, but requires a waiver of regulations or is referred to the Planning Commission by staff.

(2) Development Plan Review required by the staff of the Department of Planning and Redevelopment:

~~(a) Any infill development on lots of less than 10,000 square feet in established neighborhoods or commercial districts. "Infill development" is defined as any development or redevelopment on a lot in an established neighborhood or commercial district which is served by public facilities (sewer, water, utilities).~~

(a) Construction of any new one or two-family residential structure.

(b) Construction of any new commercial or industrial primary structure less than 10,000 square feet of gross floor area

(c) Accessory structures exceeding 1,000 square feet of gross floor area.

(d) Exterior addition with a gross floor area of 500 – 1,000 square feet.

(e) Any permitted use that is specifically referred in writing to the Department of Planning and Redevelopment by the Building Official or the Director of Zoning and Code Enforcement.

(f) Any other use for which the application for a variance or special use permit is specifically referred in writing to the Department of Planning and Redevelopment by the Zoning Board.

~~F. Procedure.~~

~~(1) Preapplication conference.~~

~~(a) Before submitting a development plan, the applicant may meet with Department of Planning and Redevelopment staff to review the proposal and determine the information the applicant must submit for consideration by the Department of Planning and Redevelopment staff or the City Planning Commission. The purpose of the preapplication conference is:~~

~~[1] To acquaint the applicant with the Comprehensive Plan and any specific plans that apply to the parcel as well as zoning and other ordinances that affect the proposed development;~~
~~[2] Suggest improvements to the proposed design on the basis of a review of the sketch plan;~~
~~[3] Advise the applicant to consult appropriate authorities on the character, adequacy and placement of public utility services; and~~
~~[4] Assist the applicant to understand the procedures as required by this chapter.~~

~~(b) Department of Planning and Redevelopment staff may waive certain development plan review submission requirements if it finds that the information will not be necessary for the staff or the City Planning Commission to render a decision. Further supporting information may also be required when necessary to render a decision.~~

~~(2) Application filing.~~

~~(a) Applications that require review before the City Planning Commission: Within 30 days of the receipt of a complete development plan application, the City Planning Commission shall hold a public hearing upon the plan. Owners of real property in or within 200 feet of the perimeter of the proposed project shall be notified by certified mail of the hearing.~~

~~(b) Applications that require review by the Staff of the Department of Planning and Redevelopment: Within 30 days of the receipt of a complete development plan application, staff of the Department of Planning and Redevelopment will meet and comment on the application.~~

F. ~~General standards for approval.~~Standards of Approval. The City Planning Commission or the Department of Planning and Redevelopment staff shall review the application and supporting documentation and shall issue development plan approval (including appropriate revisions and conditions), provided that the applicant has proved to the Commission/staff that the following standards will be met:

~~(a) The design of the proposed development will be consistent with the goals of the City Comprehensive Plan and will implement the purposes of development plan review;~~

~~(b) Erosion will be adequately controlled during and after construction and will not adversely affect adjacent or neighboring property or public facilities and services;~~

~~(c) Provisions have been made for stormwater and drainage facilities, and that increased runoff due to development on site will not be incurious to any nearby property owners or cause hazardous conditions on any streets;~~

~~(d) The movement of vehicular and pedestrian traffic within the site and in relation to access streets will be safe and convenient and adequate provision has been made for snow removal;~~

~~(e) All necessary utility, infrastructure, street, roadway, sidewalk, walkway and parking area improvements will be provided for the development by the applicant and will meet all applicable City requirements and standards;~~

~~(f) The location, arrangement, appearance, and sufficiency of off-street parking and loading comply in all respects with the Zoning Ordinance and are adequate to serve the development.~~

(1) The design of the proposed development will be consistent with the goals of the City Comprehensive Plan and will implement the purposes of development plan review;

(2) The proposal complies with all applicable provisions within the Zoning Ordinance;

(3) The proposal complies with all submittal requirements listed for Development Plan Review within the Land Development and Subdivision Regulations;

(4) The proposal is designed to meet all applicable Design Requirements and Performance Standards as provided in Section XV of the Land Development and Subdivision Regulations.

~~G. Development and landscaping design standards.~~

(1) Purpose and objectives. The purpose of this section is to promote and protect public health, safety, general welfare and amenity. Effective site planning, development design, and landscaping can accomplish the following objectives:

(a) Promote the most desirable use of land and arrangement of development in the City and thus conserve the value of land and buildings, and thereby protect the City's tax revenues;

(b) Improve the physical environment through the provision of amenities such as open space, street trees, sidewalks, and live vegetation;

(c) Preserve the character and scale of existing development and control new development in conformity of the existing character of the area;

(d) Provide a transition between and a reduction in the environmental, aesthetic and other impacts of one type of land use upon another;

(e) Provide safe and efficient pedestrian and traffic circulation patterns;

(f) Lessen the transmission of noise, dust, pollution, light, and glare from one lot to another;

(g) Improve air quality through the production of oxygen and reduction of dangerous carbon monoxide;

(h) Through shading, provide cooling of air and land to offset radiational heating;

(i) Minimize the negative impacts of stormwater runoff to enhance and protect surface and groundwater quality, and promote effective flood management;

(j) Control damaging impacts of sheet runoff and resultant surface water contamination;

(k) Stabilize groundwater tables through vegetative root systems, which play an important and effective part in soil conservation, erosion control, flood control, and absorption of pollutants.

(2) Development standards.

(a) Compatibility. Applicants shall be required to plan developments, the design of which (including proposed style and materials, the relationship between any proposed buildings and the site, and the overall physical appearance), will be consistent with the goals of the City Comprehensive Plan as listed below to the extent possible:

~~[1] Protect existing neighborhoods from increasing housing densities that lead to overcrowding, shortage of available off-street parking and traffic congestion.~~

~~[2] Encourage infill development on vacant parcels that reflects the built character of the neighborhood.~~

~~[3] Control strip commercial development by promoting neighborhood and regional shopping districts.~~

~~[4] Revitalize downtown with a variety of mixed uses including live-work space, offices, studios, galleries, restaurants and theaters.~~

~~[5] Promote and encourage appropriate development along Pawtucket's riverfront including well-designed commercial uses, the reuse of existing, vacant industrial buildings, the creation of public gathering places, and the provision of river access.~~

~~[6] Ensure that residential growth does not adversely affect environmental, recreational and cultural resources.~~

~~[7] Encourage the rehabilitation of underutilized commercial and industrial structures to residential units as appropriate.~~

~~[8] Protect the City's residential neighborhoods by preventing encroachment from other nonresidential land uses.~~

~~[9] Continue efforts to attract new, compatible economic development that is sensitive to Pawtucket's historic, cultural and environmental resources.~~

~~[10] Provide the adequate infrastructure including utilities, roadways, and parking facilities, at appropriate locations for economic development activities.~~

~~[11] Continue to promote Pawtucket as an artist-friendly community and as a tourist destination.~~

~~[12] Protect and improve ground and surface water quality by alleviating and where possible eliminating point and nonpoint sources of water pollution.~~

~~[13] Preserve biological diversity through the protection and management of state and federally listed rare species habitat areas and ecologically significant natural communities.~~

~~[14] Preserve and use, or adaptively reuse structures or sites in the National Register of Historic Places, in the Local Historic District, or other structures and sites of historic significance to the City.~~

~~[15] Preserve the integrity of historic neighborhoods where most of the residential structures are more than 70 years old.~~

~~[16] Manage stormwater runoff to prevent flooding, loss of life, and property damage, to protect ground and surface water quality and to preserve the integrity of natural watercourses and wetlands.~~

[17] Provide safe pedestrian and bicycle access along the City's streets and at intersections, recognizing the inherent value of these forms of movement to the preservation of neighborhoods.

[18] Maintain and improve the image of the City of Pawtucket by enhancing the visual character of the City's streets, roads and highways through carefully designed landscaping and street tree planting.

[19] Promote and encourage appropriate commercial development, re-use of vacant industrial buildings. the creation of public gathering places, and the provision of access to Pawtucket's riverfront.

[20] Provide linkages and means of access to existing and developing trails and walkways, either in conjunction with or separate from bikeways in Pawtucket, the Blackstone Valley and elsewhere in Rhode Island.

[21] Recognize pedestrian movement as a necessary and viable means of movement and provide residents with safe, secure, and pleasant pedestrian access to neighborhood activities such as schools, parks, playgrounds, libraries, commercial activities, employment and places of worship.

(b) General residential apartment building design. A "residential apartment building" is defined as a multiple-unit building with apartments vertically arranged and with parking located below or adjacent to the building. Units may be for rental or for sale as condominium units. The design residential apartment buildings should focus on a high quality of design and be compatible with the surrounding neighborhood by incorporating like materials, design details, and architectural features. Secondary hipped or gabled roofs covering the entire mass of the building are preferable to mansard roofs or segments of a pitch roof applied at the structures edge. Where possible, the provision of a courtyard or communal open space area should be incorporated into site design.

(c) Townhouse building design. A "townhouse building" is a building with two or more residential units that are located side by side with private entrances. Units may be for rental or for sale as condominium units. Townhouses should be oriented to the street to ensure pedestrian scale development. The design of the townhouses should focus on a high quality of design and be compatible with the surrounding neighborhood. Long, unbroken facades will be unacceptable. Building facades should be broken up to give the appearance of a collection of smaller structures. To the extent possible, each of the units should be individually recognizable. This can be accomplished with the use of balconies, setbacks, projections and by the pattern and rhythm of windows and doors. Secondary hipped or gabled roofs covering the entire mass of the building are preferable to mansard roofs or segments of a pitch roof applied at the structures edge. Where possible, the provision of a courtyard or communal open space area should be incorporated into site design.

(d) General commercial building design. Particularly in the Downtown, Arts and Entertainment District and riverfront districts, building design shall consider the compatibility of building design with the surrounding land uses, buildings and the physical environment. Rooflines, height, building mass, form, architectural character, exterior finish materials and outdoor spaces should complement adjacent commercial and other buildings. In the above-referenced districts, franchise architecture (a generic design that is repeated throughout different locations by a particular corporation, without consideration of a specific site or climate) will not be allowed. All new commercial construction must create buildings that blend in with the existing environment and are sensitive to their surroundings.

(e) Infill development design. Any development on a lot in an established residential neighborhood or commercial district that is served by public facilities (sewer. water, utilities) shall be considered infill development. The design of such developments shall take into consideration the prevailing street setbacks and reasonably reflect the facade height, massing, scale and style of abutting developments. "Building massing" is defined as the overall bulk of a building, as in its height, width and scale. Building scale is defined as the size of the building in relation to other buildings in close proximity.

(3) Landscaping standards; general requirements.

(a) Landscaping shall be provided as part of development plan design. It shall be conceived in a total pattern throughout the site, integrating the various elements of site design, preserving and enhancing the particular identity of the site where appropriate.

(b) Landscaping may include plant materials such as trees, shrubs, ground covers, perennials, and annuals, and other materials such as rocks, water, sculpture, art, walls, fences, and street furniture.

(c) Maximum effort should be made to save trees or other plant specimens that are large for their species, rare to the area, or of special horticultural or landscape value. In the event that any such free or plant specimens are to be removed, they are to be replaced elsewhere on the project site with specimens of a comparable size and type. Such requirements may be waived by Department of Planning and Redevelopment staff or the City Planning Commission where the applicant demonstrates to the satisfaction of staff/Commission that special site and design conditions so warrant.

(d) Landscaping of all cuts and fills and/or terraces shall be sufficient to prevent erosion, and all roadway slopes steeper than one foot vertically to three feet horizontally shall be planted with vegetative ground cover appropriate for the purpose and for soil conditions and environment.

(e) For residential developments, planting or landscaping elements may be required throughout the development to mitigate climatic extremes, to promote effective drainage control, to mitigate water and air quality impacts, provide privacy and enhance the property appearance.

(f) For nonresidential developments in CG, CL, CD Zones, all areas of the site not occupied by buildings and required improvements shall be landscaped by the planting of grass or other vegetative ground cover, shrubs, and trees.

(g) Every development shall provide sufficient buffering when topographical or other barriers do not provide reasonable screening and when Department of Planning and Redevelopment staff or City Planning Commission determines there is a need to shield neighboring properties from any adverse external effects of a development, shield the development from negative impacts of adjacent uses, or to minimize stormwater impacts on flood management and water quality.

(4) Parking standards.

(a) Refer to § 410-78F. Parking area landscaping requirements.

(b) Parking area design standards.

[1] All parking areas shall provide the minimum required widths for traffic aisles and driveways as described in § 410-78A.
[2] Pedestrian and vehicular circulation areas shall be designed so as to provide safe and efficient traffic flow patterns. Conflicts between pedestrians and vehicular traffic shall be minimized by providing physical and visual separation between pedestrianways and traffic lanes or at crossing of the two.
[3] The placement of all directional and street level signage shall be subject to review and approval by the City Traffic Engineer.

H. Final action.

(1) Department of Planning and Redevelopment staff or the City Planning Commission shall take final action within 60 days of the receipt of a complete application.

(a) Such final action shall be one of the following:

[1] A written statement of approval indicating that the staff or the Commission has determined that the applicant has demonstrated or proved to the satisfaction of staff or the Commission that each of the applicable standards of development plan review have been met.
[2] A written statement of conditional approval, subject to such conditions, modifications and restrictions as staff or the Commission may deem necessary so that the proposed activities meet each of the applicable standards of development plan review.
[3] A written statement of a denial of an application.

(b) In the event of a denial of an application or an approval where conditions, modifications or restrictions have been imposed, staff or the Commission shall issue written findings of fact, and, where applicable, conclusions of law, explaining the reason why any standard or standards have not been met and setting forth the basis for either the denial of the application or the imposition of any condition, modification, or restriction.

(2) Revisions to the plan.

(a) All construction, alteration or expansion shall be carried out only in conformity with any conditions, modifications and restrictions set by staff or the Commission, and only in conformity with the application and development plan on which the decision was based. Minor changes to the development plan must be approved by the Building Official in consultation with Department of Planning and Redevelopment staff. Minor changes are defined as changes that do not substantially alter the basic design and layout of the project, conditions required by the reviewing authority for development plan approval and that do not substantially impact neighboring properties. Minor changes must also meet the following criteria:

[1] There is no increase in the number of lots or dwelling units.
[2] There is no change to any dimension of the previously approved plan, including building envelopes, exceeding 20%.
[3] There is no change to any street or driveway.
[4] There is no change required to any public infrastructure.

(b) Changes that do not meet the above criteria will be considered major and shall be resubmitted for the review process. Any work carried out in violation of this provision shall be ordered halted and fully removed. The Building Official shall enforce the fulfillment of any conditions or revisions which staff or the Commission may impose.

(3) Time limit on approval. The approval of a development plan or modification or amendment thereof shall remain effective for a period of one year only from the date of such approval, unless, prior to the expiration of such one-year period, the applicant makes substantial efforts to build in accordance with the approved development plan, or unless staff or the Commission approves an extension for a period not to exceed one additional year. The initial period of one year shall not begin to run until the applicant has received all approvals from local, state, and federal agencies for the construction of the project envisioned by the approved site plan, provided the applicant demonstrates. to staff or the Commission that due diligence is being exercised in obtaining such approvals. The applicant shall provide letters of status to staff or the Commission at intervals of no more than six months, commencing at the date of development plan review. In the event of any appeal from development plan approval, the applicable time limit on approval shall commence only after all appellate rights are exhausted and a final determination is made to grant approval.

G. Appeals.

(1) Appeals to the Zoning Board of Review may be taken by a person aggrieved by any final action of staff or the Commission pursuant to the provisions of this section. Such appeal shall be taken within 20 days of such final action by filing with the Zoning Board of Review a written notice of appeal specifying the grounds for appeal and the specific finding or findings of staff or the Commission in its final actions which are challenged, if any. The lack of particularity of specific grounds for appeal shall constitute cause for dismissal of any appeal. Only the grounds for appeal so specified will be reviewed by the Zoning Board of Review on appeal. Such appeal shall be accompanied by copies of the original development plan submission and the written findings of staff or the Commission with respect to the final action appealed from. Copies of the development plan and the findings shall be made available by the Department of Planning and Redevelopment for review by any party.

(2) On such review, the Zoning Board of Review shall not substitute its judgment for that of staff or the Commission but must consider the findings and record of staff or the Commission. The Zoning Board of Review shall not reverse a decision of the Commission or staff except on a finding of prejudicial procedural error, clear error, or lack of support by the weight of the evidence in the record.

H. Interpretation, ~~conflict~~Conflict, and ~~severability~~Severability.

(1) In their interpretation and application, the provisions of this article shall be held to be the minimum requirements. More stringent requirements may be required if it is demonstrated that different standards are necessary to promote the public health, safety and welfare.

(2) Where staff or the Commission recognizes the design standards of this article cannot be fully met, staff or the Commission has the authority to approve development plans incorporating a balance of the design standards in a manner which maximizes the achievement of the stated objectives of this article. Compensating amenities and features exceeding standards and objectives must be identified within such a development plan. Staff or the Commission shall address these offsetting features in writing as part of its statement of final decision.

(3) Where the conditions imposed by any provisions of this article are either more restrictive or less restrictive than comparable conditions imposed by any other provisions of this article or of any other applicable law, ordinance resolution, rule or regulation of any kind, the regulations which are more restrictive and impose higher standards or requirements shall govern.

(4) The provisions of this article are severable. If a section, sentence, clause, or phrase of this article is adjudged by a court of competent jurisdiction to be invalid, the decision shall not affect the remaining portions of this article.

*The following text shows proposed amendments for the Dimensional Regulations. These amendments are specific to the CD District (Downtown). There are no proposed amendments to other districts at this time. Important recommendations include the slight reduction in some dimensional requirements and the reduction in allowable height from 100 feet to 65 feet. This height will comfortably accommodate a five to six-story building. Another important feature is a **maximum** setback requirement for the CD District of 40 feet, which may only be used for pedestrian amenities.*

ARTICLE VI. Dimensional Regulations. (§410-44 - §410-44.1)

§ 410-44. Enumeration.

[Amended 10-23-1997 by Ch. No. 2470; 6-23-1999 by Ch. No. 2531; 3-22-2001 by Ch. No. 2592; 12-19-2003 by Ch. No. 2709; 8-25-2004 by Ch. No. 2739; 9-21-2006 by Ch. No. 2825; 11-21-2007 by Ch. No. 2881; 8-20-2009 by Ch. No. 2928; 2-25-2010 by Ch. No. 2934]

Except as provided in Article VII, Supplementary Regulations, Article VIII, Nonconformance, and Article XI, Administration and Enforcement, the minimum and maximum dimensional regulations shown on the following tables shall be applied to each class of structure or use within each zone:

				Minimum Yard Setback Line			Maximum Height of Structures	
	Minimum Lot Size	Minimum Lot Frontage	Maximum Lot Coverage	Front	Side	Rear	Main*	Accessory
Zone and Use	(square feet)	(feet)	(percent)	(feet)	(feet)	(feet)	(feet)	(feet)
Commercial Downtown Zone	~~5,000~~ 2,500	~~50~~ 40	100%	0**	0	0	~~100~~ 65	15
~~Residential use~~	~~(Same dimensional regulations as for residential uses in Residential Multifamily Zones)~~							
~~Other permitted use~~	~~5,000~~	~~50~~	~~100%~~	~~0~~	~~0~~	~~0~~	~~100~~	~~15~~
NOTES:								
*Maximum height is measured from grade to the highest point of the structure **Maximum front yard setbacks apply within the Commercial Downtown Zone, as prescribed in Section 410-44.2								

§410-44.1 Lot width requirements

[Added 9-21-2006 by Ch. No. 2825]

Newly created buildable lots must conform to the following requirements for lot width: No part of the lot that lies between the street line and the minimum required rear yard setback for the district in which the lot is located shall be narrower in width than the lot's frontage.

§410-44.2 Maximum Front Yard Setbacks

The maximum front yard setback within the CD District is 40 feet. Design of the front yard setback shall preclude parking spaces and travel lanes and shall be dedicated exclusively for pedestrian and/or bicycle activity.

The following text shows proposed amendments to the existing Parking Requirements. Highlights of the proposed changes include:

- *Removing any requirements for parking associated with non-residential use in the CD District;*
- *Reducing the minimum parking requirements city-wide.*
- *Providing maximum allowances for retail and restaurant use to curb the typical oversupply that can come with large chain operations.*
- *Referencing more prescriptive landscaping standards for parking areas within the Planning Commission Regulations when proposals are subject to their review.*

ARTICLE IX. Parking and loading (§410-73 - §410-80)

§ 410-73. Intent.

[Amended 8-20-2009 by Ch. No. 2928]

~~No land shall be used~~In order to minimize traffic congestion, air pollution and ~~no structure shall be erected or used unless~~the risk of accidents and to promote other elements of sound community planning, off-street parking spaces ~~as required in this chapter are~~ shall be provided ~~with either accessory use or principal use parking facilities, as applicable.~~ and satisfactorily maintained for all permitted uses of buildings, structures or lots as specified in this section. The requirements of this section apply under the following circumstances:

A. All new buildings and structures erected for a use that requires off-street parking or loading;

B. Any new building and/or structure that is altered or enlarged; and

C. All new, additional or expanded uses of a property or any change in an existing use which generated additional off-street parking or loading.

Any structure or use existing prior to the effective date of ~~this chapter~~these provisions, or any amendment thereto, with parking ~~space~~areas that ~~does~~do not meet the requirements of this Article shall be subject to the requirements of Article VIII, Nonconformance. ~~While it is the intent of this section to require minimum off-street parking facilities, excessive paving of land that provides significantly more than the minimum number of spaces is discouraged. No land shall be used for temporary storage, except as provided below. The intent of this section is to allow for necessary temporary storage.~~

§ 410-74. Accessory parking.

Accessory parking required by this chapter shall be located on the same or contiguous lot as the principal structure or use the parking is intended to serve, unless the Board shall allow off-site parking as a special use permit under Article XIII.

§ 410-75. Parking as a permitted use.

Parking as a principal use may be located only in zones where permitted by right.

§ 410-76. Parking space requirements.

~~[Amended 8-25-2004 by Ch. No. 2739]~~
~~The following sections specify the minimum number of off-street parking spaces required for each use code as designated in Article II, Use Regulations:~~

~~A. Parking in the Commercial Downtown District. With the exception of places of worship, in the Downtown District, the requirements set forth below shall be reduced by 50% for structures or uses in a CD District, and parking may be located at a distance of not more than 400 feet from the structure or uses that are intended to serve. Parking requirements for eating and drinking establishments in the Commercial Downtown District shall be zero.~~

~~B. Parking in the Mill Building Reuse District (MBRD). With the exception of places of worship, the requirements set forth below shall be reduced by 50% for structures in a MBR District, and parking may be located at a distance of not more than 400 feet from the structure or uses that the parking is intended to serve.~~

~~[Added 8-20-2009 by Ch. No. 2928 *Editor's Note: This ordinance also redesignated former Subsection B as Subsection C.*]~~

A. ~~Parking requirements for all other zones.~~ The following table specifies the minimum and maximum number of off-street parking spaces required for ~~each use.~~ single uses as designated in Article II, Use Regulations.

B. Commercial Downtown (CD) District—The provision of off-street parking is not required for non-residential uses within the CD District. However, applicants choosing to have on-site parking must abide by the provisions of this Section. No provisions within the Zoning Ordinance shall be construed as providing exemptions from requirements under the Americans with Disabilities Act (ADA).

C. All parking facilities shall ~~conform~~comply with the Rhode Island State Building Code with respect to number of spaces designated for handicapped persons. ~~In determining parking requirements, all calculations shall be rounded up to the next whole number.~~

D. If a use is not specifically listed in the table of off street parking requirements, the requirements shall be the same as for the most similar use listed as determined by referencing the Institute of Traffic Engineers Parking Generation Report.

E. When the schedule requires the on-site number of spaces to be calculated per employee and employees are on the site in shifts, the off street parking requirement shall be based on the number of employees present during the largest shift (most employees).

F. A garage or carport may be used to meet the requirements of this section. A driveway may only be used to meet the requirements of this section where it serves a one-family or two-family dwelling.

G. Up to 50 percent of off-street parking requirements may be provided off-site provided that parking is located within 400 feet of the property boundary in a walkable route from one property boundary to another and safe, well lighted pedestrian access can be demonstrated by the applicant.

H. Delineated on-street parking located directly in front of a lot on which a business use operates may be counted towards fulfilling the off-street parking space requirements of that use.

I. Downtown commercial district—No off-street parking shall be located between the street line and the building face containing the principal entrance.

J. Personal service establishments, museums, libraries and art galleries, which are operated in store fronts or as home occupations, and which do not exceed 1,000 square feet of floor space, are exempt from off-street parking space requirements.

	Parking Spaces Required	
	Minimum	**Maximum**
Use	**Residential**	
One- and two-family dwelling units	~~2~~1 per dwelling unit	
Multifamily dwellings with 3 or more dwelling units	~~2~~1 per dwelling unit	
Community residence	1 per staff employee	
Nursing or convalescent home, orphanage	1 per 4 beds	

Convent or rectory	1 per 4 beds	
Family day-care home	1 per dwelling unit	
Manufactured home park	~~1 per manufactured home~~ N/A	
Boardinghouse	1 per rooming unit	
Rooming house		
Up to 6 rooming units	1 per rooming unit	
Over 6 rooming units	1 per dwelling unit and 1 per rooming unit	
Bed-and-breakfast, motor inn and hotel	1 per guest room	
	Public, Semipublic Education and Recreation	
Place of worship	1 per ~~5~~10 seats in assembly rooms	
Hospital	1 per 1 bed	
Day-care center	1 per ~~1~~2,000 square feet of gross floor area	
Public elementary school	1 per classroom	
Trade or professional school	1 per ~~5~~10 seats in classroom	
Not otherwise specified herein	1 per ~~5~~10 seats in assembly rooms or 1 per ~~400~~800 square feet of gross floor area, whichever is greater	
	Commercial	
~~Offices~~	~~1 per 300 square feet of leasable floor space~~	
Retail store, Personal ~~business~~ services	1 per 1,000 square feet of leasable floor space	1 per 300 square feet of leasable floor space

Retail store, Personal ~~business~~ services establishment, office, and ~~repair and~~ other commercial uses	1 per 1,000 square feet of leasable floor space	1 per 300 square feet of leasable floor space
~~Restaurants~~ Eating and drinking establishments	1 per 4 seats or 1 per 90 square feet of floor area	1 per 2 seats or 1 per 50 square feet of floor area
Amusement and recreation	1 per 5 seats in assembly rooms or 200 square feet of gross floor area, whichever is greater	
Wholesale commercial	1 per 2,000 square feet of floor area devoted to covered storage space	
Storage	1 per 10,000 square feet of covered	

§ 410-77. Parking requirements for multiple uses; shared parking.

A. When any lot contains two or more non-residential uses, the sum of the individual parking demand values shall serve as the baseline parking demand. Fractions shall be rounded down where any component of this calculation uses more than the minimum parking requirements listed in the parking table. An applicant may petition for fewer parking spaces than the aggregate baseline demand through Development Plan Review with the Planning Commission or Major Land Develop Review as applicable by submitting a peak demand analysis consistent with the guidance provided in the Institute of Traffic Engineers' (ITE's) *Shared Parking, 2nd Edition* as may be amended.

B. Up to 50 percent of on-site off-street shared parking requirements may be provided off-site provided that parking is located within 400 feet of the property boundary in a walkable route from one property boundary to another and safe, well lighted pedestrian access can be demonstrated by the applicant.

§ 410-78. Development standards for accessory parking in residence zones.

All accessory parking facilities for residence zones shall be developed in accordance with the following provisions:

A. Paving. Driveways and parking areas shall be paved with bituminous materials, concrete, brick or inlaid stone. No crushed stone is permitted. Permeable pavers may be permitted for use through the development plan review process. [Amended 8-20-2009 by Ch. No. 2928]

B. Paving limitations. Paving on lots in residence zones shall be limited to the following provisions:

(1) The front yard may be used for a driveway to access a garage or for a parking area. A driveway used to access a single-car garage, side yard parking area or rear yard parking area of four cars or less may be no more than 18 feet wide. A driveway used to access a two-car garage or larger or a parking area for more than four cars located in a side or rear yard may be no more than 25 feet wide. Nothing hereto shall prohibit a parking area in the front yard, provided that there is no other driveway located in the front yard and the paved area occupies no more than 36% of the front yard. [Amended 6-23-1999 by Ch. No. 2531; 3-22-2001 by Ch. No. 2592; 5-28-2003 by Ch. No. 2685; 9-21-2006 by Ch. No. 2825; 11-21-2007 by Ch. No. 2881]

(2) Only one side yard shall be permitted to be paved for parking, except in the case of a multiunit structure with two or more dwelling units on the ground floor. [Amended 6-23-1999 by Ch. No. 2531; 9-21-2006 by Ch. No. 2825]

(3) Only 50% of the rear yard area shall be permitted to be paved. [Amended 10-23-1997 by Ch. No. 2470]

C. Parking on nonpaved areas. Parking shall not be permitted on a nonpaved portion of the lot.

Every parcel of land which, after the effective date of this chapter or any amendment thereto, is developed as an accessory or principal use parking facility for more than four vehicles, including automobile or trailer sales area, automotive service station or garage, shall be developed as provided herein.

§ 410-79. Parking standards for more than ~~four~~six vehicles.

A. Minimum size of parking spaces.

(1) Parking areas for more than ~~four~~six cars shall have the following minimum dimensional requirements affecting the width and length of individual parking stalls and the width of aisles exclusive of necessary drives and other accessways: [Amended 9-21-2006 by Ch. No. 2825]

(a) Minimum width: nine feet.

(b) Minimum length: 18 feet.

(c) Minimum aisle width:

[1] Ninety-degree angle: 24 feet.

[2] Sixty-degree angle: 16 feet.

[3] Forty-five-degree angle: 12 feet.

[4] Thirty-degree angle: 11 feet.

[5] Zero-degree angle (parallel parking): 12 feet.

(2) All parking facilities shall comply with the Rhode Island State Building Code with respect to the size of spaces for handicapped persons.

B. Striping. For parking areas of more than four cars, each parking space shall be marked by pavement lines.

C. Entrance and exit. Each parking space shall be designed with adequate off-street area for approach, turning and exit with minimal use of any part of a public right-of-way.

D. Paving. Parking areas, where subject to wheeled traffic, shall be treated with bituminous, concrete or equivalent surfacing and shall have appropriate bumper or wheel guards where needed.

E. Lighting. Any light used to illuminate said parking area shall be so arranged as to reflect the light away from the adjoining premises in a residence zone and from adjoining streets.

F. Landscaping.

The following landscape standards for parking lots represent the minimum requirements for any parking area designed to accommodate more than six (6) vehicles. Where a proposal requires Development Plan Review with the Planning Commission or review as a Land Development Project, these applications shall be subject to the standards listed in Section XV, Article A of the Land Development and Subdivision Regulations of the City of Pawtucket.

(1) Outdoor parking areas shall be effectively landscaped with trees and shrubs to reduce the visual impact of glare, headlights and parking lot lights from the public right-of-way and from adjoining properties and to enhance the aesthetic quality of the area and to minimize/reduce stormwater and drainage impacts. All such parking areas shall be landscaped as follows:

(a) Industrial zones:

[1] A three-foot planted strip with one shade tree for every 40 feet of frontage.

[2] A three-foot planted strip with one shade tree for every 50 feet of interior lot lines. A hedge of compact evergreens or other suitable plantings may be substituted for the planted strip.

(b) Commercial:

[1] A three-foot planted strip with one shade tree for every 40 feet of frontage.

[2] A three-foot planted strip with one shade tree for every 50 feet of interior lot lines. A hedge of compact evergreens or other suitable plantings may be substituted for the planted strip.

(c) Residence zones:

[1] Along the street frontage, a three-foot planted strip with one shade tree for every 40 feet of frontage.

[2] Along interior lot lines, a three-foot planted strip with one shade tree for every 50 feet of interior lot lines. A hedge of compact evergreens or other suitable plantings may be substituted for the planted strip.

[3] Planted areas totaling 2% of the parking area must be provided. One interior shade tree may be substituted for every 200 square feet of required planted area.

(2) ~~Landscaping~~Landscape plan requirements.

(a) Proposed landscaping must be reviewed and approved by the Department of Planning and Redevelopment or the Planning Commission as applicable.

(b) For parking areas proposed for more than six vehicles, the landscaping plan submitted to comply with § 410-79 must be stamped and signed by a registered landscape architect registered in Rhode Island.

(c) Proposed shade trees must be from the list of Approved Pawtucket Street Trees, on file with the Department of Planning and Redevelopment. Shade trees must be a minimum of two inches to 2 1/2 inches in caliper.

(3) All landscaped areas shall be maintained. This shall include replacement of dead or damaged plant material, weeding, mowing of grass, cleaning of litter or any other action deemed necessary by the City of Pawtucket to ensure that the requirements of this section are met. Failure to maintain a landscaped area shall be deemed a violation of this chapter.

G. Screening in all zones. Where parking areas adjoin a lot in a residential district, they shall be screened by a solid wall, a uniformly painted tight board fence or a hedge of compact evergreens or other suitable plantings. Such screen shall be at least four feet in height and shall be erected and maintained between such parking area and the property in residential districts.

§ 410-80. Supplementary parking and temporary storage regulations.

[*Editor's Note: The title of this section was amended to add "and temporary storage" 8-20-2009 by Ch. No. 2928.*]

A. Continuation of facilities. The schedule of requirements for off-street parking space shall be a continuing obligation of the owner of the real estate on which any such structure is located as long as the structure is in existence and its use requiring vehicle parking facilities continues. It shall be a violation of this chapter for an owner of any building affected by this section to discontinue, change or dispense with or cause the discontinuance or change of required vehicle parking space, apart from the discontinuance, sale or transfer of such structure, without establishing alternative vehicle parking space which meets with the requirements of and is in compliance with this Article.

~~B. Mixed uses. If a lot or structure is subject to more than one use, the number of off-street parking spaces required for each use shall be determined, and off-street parking facilities for such total number of spaces shall be provided.~~

B. Parking not required. Where a lot abuts upon a street or place which, due to topographic conditions or excessive grades, is not accessible by vehicle and such lot is to be occupied by not more than a one-family dwelling, no parking space shall be required.

C. In residential zones, major recreation equipment, which includes travel trailers, pickup campers or coaches, motorized dwellings, tent trailers, boats, boat trailers and similar equipment, but does not include mobile homes or storage trailers, owned and registered to a person residing on the premises shall be either parked or temporarily stored in accordance with the following regulations, or shall be parked or stored in completely enclosed structures: [Amended 4-23-2008 by Ch. No. 2887]

(1) No more than one of any of the following shall be parked or stored on a lot in a residential zone: boat and boat trailer, item of mobile camping equipment or other noncommercial trailer.

(2) No boat or boat trailer or item of mobile camping equipment shall be parked between the primary structure and street frontage.

(3) No major recreation equipment shall be stored out-of-doors in residential districts unless it is in a condition for safe and effective performance of the function for which it was intended.

D. No boat, item of mobile camping equipment or other noncommercial trailer shall be used or occupied for living, sleeping or housekeeping purposes when parked or stored on a lot in a residential zone.

E. Boats and boat trailers, mobile camping equipment and other noncommercial trailers not owned and operated by a person residing on the premises shall not be parked or stored on a lot in a residential zone.

F. An unoccupied manufactured home shall not be parked or stored on a lot in a residential zone. A single manufactured home shall not be used or occupied for dwelling purposes, except in a manufactured home park.

G. No commercial or noncommercial manufactured home trailer, occupied or unoccupied, shall be allowed to be stored, parked or used for any purpose in a commercial or manufacturing zone, except any authorized manufactured home dealership.

H. Commercial-type trailers used as field offices for construction purposes shall be allowed for the duration of the project in all zones.

I. Mobile storage and refuse containers, any enclosed or partially enclosed unit, including, but not limited to, "POD" units that are intended for delivery to a customer's site for loading and unloading, may be stored on any property with a residential use for no more than 72 hours. Containers associated with construction activity may be stored for no more than 30 days. [Added 8-20-2009 by Ch. No. 2928]

J. Mobile storage and refuse containers, any enclosed or partially enclosed unit, including, but not limited to, truck trailers, may be stored on any property for no longer than 30 consecutive days, provided that they do not interfere with normal traffic and parking operations on any property within a commercial or industrial zone, unless that property has a residential use. [Added 8-20-2009 by Ch. No. 2928]

APPENDIX B
PROPOSED AMENDMENTS TO
THE PLANNING COMMISSION REGULATIONS

Land Development and Subdivision
Regulations of the City of Pawtucket

SECTION I. GENERAL

Article A. State Enabling Authority

In accordance with the Rhode Island Land Development and Subdivision Review Enabling Act of 1992, the City of Pawtucket is required to adopt land development and subdivision review regulations in conformity to the requirements of the Act.

Article B. City Council Authority

The City Council has empowered by Ordinance, Chapter 2318 on August 12, 1993 the City Planning Commission to adopt, modify and amend regulations and rules governing land development and subdivision projects within the municipality and to control land development and subdivision projects pursuant to those rules and regulations. The City Planning Commission approved these regulations on March 22, 1994.

Article C. Statement of Purpose and Consistency

The Land Development and Subdivision Review Regulations of the City of Pawtucket have been written to address the following purposes:

(1) Providing for the orderly, thorough and expeditious review and approval of land developments and subdivisions;
(2) Promoting high quality and appropriate design and construction of land developments and subdivisions;
(3) Promoting the protection of the existing natural and built environment and the mitigation of all significant negative impacts of any proposed development on the existing environment;
(4) Promoting design of land developments and subdivision which are well-integrated with the surrounding neighborhoods with regard to natural and built features, and which concentrate development in areas which can best support intensive use by reason of natural characteristics and existing infrastructure;
(5) Encouraging local design and improvements standards to reflect the intent of the community comprehensive plan and zoning ordinance with regard to the physical character of the various neighborhoods and districts of the city;
(6) Promoting thorough technical review of all proposed land developments and subdivision by appropriate local officials;
(7) Encouraging the establishment and consistent application of procedures for local record-keeping on all matters of land development and subdivision review, approval and construction.

Article D. Applicability

These regulations require that all persons intending the subdivision of land in the City of Pawtucket shall file with the City Planning Commission the preliminary and final plans and other related information to be reviewed and approved by the City Planning Commission or its agents. No subdivision plat, or portion thereof, shall be filed or recorded in the office of the City Clerk unless the following conditions are met:

(1) Certificate of approval by the City Planning Commission.
(2) Certificate that all taxes due on the land described in the plat have been paid for the two (2) years preceding the date of filing and that there are no outstanding municipal tax liens thereon.

Regulations developed by the City of Pawtucket shall be applicable in the following instances:

(1) In all cases of subdivision of land, including re-subdivision;
(2) In all cases of Land Development projects where such project is specifically defined in the local zoning ordinance;
(3) In all cases of Development Plan Review where such a process is provided for in the local Zoning Ordinance.

SECTION II. ADOPTION AND AMENDMENT OF LOCAL REGULATIONS

Article A. Authority

The Pawtucket City Council shall empower by ordinance the Pawtucket City Planning Commission to adopt, administer, and amend regulations and rules governing land development and subdivision projects within the corporate boundary of the city.

Article B. General Provisions

Land development and subdivision regulations adopted by the Pawtucket City Planning Commission on March 22, 1994 set forth in text and may incorporate other necessary technical and graphic material necessary for the proper use of the regulations.

Article C. Public Notice - Adoption Process

The City Planning Commission shall hold a public hearing prior to the adoption, repeal, or amendment of any land regulations. The City Planning Commission shall give notice of a public hearing by publication in a newspaper of general circulation; a notice at least once a week for three (3) successive weeks prior to the date of the hearing. At the hearing, all

interested persons shall be given an opportunity to be heard upon the matter of the proposed regulations. Copies of the proposed regulations or amendment shall be available prior to the public hearing.

Article D. Availability

Once adopted, printed copies of the local regulations shall be available to the general public and shall be revised to include all amendments. A reasonable charge may be made for copies.

Article E. Administration

The director of the Department of Planning and Redevelopment shall be appointed as Administrative Officer by the City Planning Commission. The powers and duties of the Administrative Officer shall be consistent with the Land Development and Subdivision Review Enabling Act of 1992.

A technical review committee of not fewer than three (3) members may be appointed by the City Planning Commission for the purposes of reviewing, commenting and making recommendations to the City Planning Commission on land development and subdivision.

The Administrative Officer shall serve as the chair of the technical review committee. Membership may include, but shall not be limited to, members of the City Planning Commission, Department of Planning and Redevelopment staff, and other municipal departments with responsibility for review or enforcement of the regulations. In no case, shall the opinions of the committee be binding upon the City Planning Commission in its activities.

The technical review committee shall adopt written procedures establishing the committee's responsibilities. Reports of the committee shall be in writing and be kept up as a part of the permanent documentation on all projects.

The City of Pawtucket may adopt reasonable fees, in an amount not to exceed actual costs, to be paid by the applicant for the review and hearing or applications, issuance of permits, and recording of decisions.

SECTION III. GENERAL PROVISIONS - PRE-APPLICATION MEETINGS AND CONCEPT REVIEW

Article A. Pre-application Meetings

One or more pre-application meetings shall be held for all major land development or subdivision applications. Pre-application meetings may be held for administrative and minor applications or Development Plan Review, upon request of either the municipality or the

applicant. Pre-application meetings shall allow the applicant to meet with appropriate officials, boards and/or commissions, planning staff, and, where appropriate, state agencies, for advice as to the required steps in the approval process, the pertinent local plans, ordinances, regulations, rules and procedures and standards which may bear upon the proposed development project.

Article B. Concept Plan Review

At the pre-application stage, the applicant may request the City Planning Commission or the technical review committee for an informal concept plan review for a development. The purpose of the concept plan review is also to provide City Planning Commission or technical review committee input in the formative stages of major subdivision and land development concept design.

Article C. Concept Plan Review - Submission of Materials

Applicants seeking a pre-application meeting or an informal concept review shall submit materials in advance of the meeting(s) as requested by the Administrative Officer.

Article D. Concept Plan Review - Purpose

Pre-application meetings shall aim to encourage information sharing and discussion of project concepts among the participants. Pre-application discussions are intended for the guidance of the applicant and shall not be considered approval of a project or its elements.

SECTION IV. GENERAL PROVISIONS - APPLICATION FOR DEVELOPMENT AND CERTIFICATION OF COMPLETENESS

Article A. Classification

The Administrative Officer shall advise the applicant as to which approvals are required and the appropriate procedure for hearing an application for a Development Plan Review, Land Development or subdivision project. The following types of applications, as defined in the regulations may be filed:

(1) Development Plan Review
(2) Administrative Subdivision
(3) Minor subdivision or Minor Land Development Plan
(4) Major subdivision or major Land Development Plan

Article B. Certification of a Complete Application

An application shall be complete for purposes of commencing the applicable time period for review and decision when certified by the Administrative Officer. In the event certification of the application is not made within the time specified in these regulations, or the Commission's adopted rules for the type of plan, the application shall be deemed complete for purposes of commencing the review period unless the application lacks information required for such applications as specified in the local regulations and the Administrative Officer has notified the applicant, in writing, of the deficiencies in the application. The granting of a certification of complete for any application does not presume compliance with local, state or federal requirements or imply approval of the application.

Article C. City Planning Commission Actions

Notwithstanding articles A and B above, the City Planning Commission may subsequently require correction of any information found to be in error and submission of additional information specified in the regulations but not required by the Administrative Officer prior to certification, as is necessary to make an informal decision.

Article D. Postponement with Consent

Where the review is postponed with the consent of the applicant, pending further information or revision of information, the time period for review shall be stayed and shall resume when the City Planning Commission determines that the required application information is complete.

SECTION V. GENERAL PROVISIONS – DEVELOPMENT PLAN REVIEW

Article A. Submission of Material

(1) Submittal and certification: An application for Development Plan Review shall be submitted to the Administrative Officer and certified as complete or incomplete by the Administrative Officer within a fifteen (15) day period from the date of its submission according to the provisions of Section IV, Article B.

(2) Applications that require review before the City Planning Commission: Within 30 days of the receipt of a complete development plan application, the City Planning Commission shall hold a public hearing upon the plan. Owners of real property in or within 200 feet of the perimeter of the proposed project shall be notified by certified mail of the hearing.

(3) Applications that require review by the Staff of the Department of Planning and Redevelopment: Within 30 days of the receipt of a complete development plan application, staff of the Department of Planning and Redevelopment will meet and comment on the application.

Article B. Contents of Application

Applications for Development Plan Review shall include the information listed in Appendix A

Article C. Final Action.

Department of Planning and Redevelopment staff or the City Planning Commission shall take final action within 60 days of the receipt of a complete application. Such final action shall be one of the following:

(1) A written statement of approval indicating that the staff or the Commission has determined that the applicant has demonstrated or proved to the satisfaction of staff or the Commission that each of the applicable standards of Development Plan Review have been met.
(2) A written statement of conditional approval, subject to such conditions, modifications and restrictions as staff or the Commission may deem necessary so that the proposed activities meet each of the applicable standards of Development Plan Review.
(3) A written statement of a denial of an application.

In the event of a denial of an application or an approval where conditions, modifications or restrictions have been imposed, staff or the Commission shall issue written findings of fact, and, where applicable, conclusions of law, explaining the reason why any standard or standards have not been met and setting forth the basis for either the denial of the application or the imposition of any condition, modification, or restriction.

Article D. Revisions to the Plan.

All construction, alteration or expansion shall be carried out only in conformity with any conditions, modifications and restrictions set by staff or the Commission, and only in conformity with the application and development plan on which the decision was based. Minor changes to the development plan must be approved by the Building Official in consultation with Department of Planning and Redevelopment staff. Minor changes are defined as changes that do not substantially alter the basic design and layout of the project, conditions required by the reviewing authority for development plan approval and that do not substantially impact neighboring properties. Minor changes must meet the following criteria:

(1) There is no increase in the number of lots or dwelling units.
(2) There is no change to any dimension of the previously approved plan, including building envelopes beyond what may be incidental to site-specific construction

conditions. Additions or movement of built features not shown on the development plans shall be considered

(3) Streets or driveways are not changed in a manner that alters circulation on the site or adjacent to the site from what was shown on the approved development plan.

(4) There is no change required to any public infrastructure.

Changes that do not meet the above criteria will be considered major and shall be resubmitted for the review process. Any work carried out in violation of this provision shall be ordered halted and fully removed. The Building Official shall enforce the fulfillment of any conditions or revisions which staff or the Commission may impose.

Article E. Time Limit on Approval.

The approval of a development plan or modification or amendment thereof shall remain effective for a period of one year only from the date of such approval, unless, prior to the expiration of such one-year period, the applicant makes substantial efforts to build in accordance with the approved development plan, or unless staff or the Commission approves an extension for a period not to exceed one additional year. The initial period of one year shall not begin to run until the applicant has received all approvals from local, state, and federal agencies for the construction of the project envisioned by the approved site plan, provided the applicant demonstrates to staff or the Commission that due diligence is being exercised in obtaining such approvals. The applicant shall provide letters of status to staff or the Commission at intervals of no more than six months, commencing at the date of Development Plan Review approval. In the event of any appeal from development plan approval, the applicable time limit on approval shall commence only after all appellate rights are exhausted and a final determination is made to grant approval.

SECTION VI. GENERAL PROVISIONS - ADMINISTRATIVE SUBDIVISIONS

Article A. Submission of Material

Any applicant requesting approval of a proposed administrative subdivision, as defined in this chapter, shall submit to the Administrative Officer the items required by the local regulations.

Article B. Certification Process

The application shall be certified as complete or incomplete by the Administrative Officer within a fifteen (15) day period from the date of its submission according to the provisions of Section IV, Article B.

Article C. Review Process

(1) Within fifteen (15 days) of certification of completeness, the Administrative Officer, or the technical review committee, shall review the application and approve, deny, or refer it to the City Planning Commission with recommendations. The officer or committee shall report its actions to the City Planning Commission at its next regular meeting, to be made part of the records.

(2) If no action is taken by the Administrative Officer or the technical review committee within the fifteen (15) days, the application shall be placed on the agenda of the next regular City Planning Commission meeting.

Article D. City Planning Commission Actions

If referred to the City Planning Commission, the commission shall consider the application and the recommendations of the Administrative Officer and/or the technical review committee and shall either approve, approve with conditions, or deny the application within sixty-five (65) days of the date of certification of completeness.

Failure of the City Planning Commission to act within the period prescribed shall constitute approval of the administrative subdivision plan and a certificate of the Administrative Officer as to the failure of the City Planning Commission or Technical Review Committee to act within the required time and the resulting approval shall be issued on request of the applicant.

Article E. Denial of the Application

Denial of an application by the Administrative Officer and/or the Technical Review Committee shall not be appealable and shall require the plan to be submitted as a minor subdivision application.

Article F. Approval Expiration

Approval of an administrative subdivision shall expire ninety (90) days from the date of approval unless within such period a plat in conformity with such approval is submitted for signature and recording as specified in Section VI, Article H.

SECTION VII. GENERAL PROVISIONS - MINOR LAND DEVELOPMENT AND MINOR SUBDIVISION REVIEW

Article A. Review Stages

Minor plan review shall consist of two stages, preliminary and final, provided, that if a street creation or extension is involved, a public hearing is required. The City Planning

Commission may combine the approval stages, providing requirements for both stages have been met by the applicant to the satisfaction of the Administrative Officer.

Article B. Submission Requirements

Any applicant requesting approval of a proposed minor subdivision or minor land development, as defined in this chapter, shall submit to the Administrative Officer the items required by the local regulations.

Article C. Certification

The application shall be certified complete or incomplete by the Administrative Officer within twenty five (25) days, according to the provisions of Section IV, Article B.

Article D. Technical Review Committee Action

The Technical Review Committee shall review the application and shall comment and make recommendations to the City Planning Commission. The application shall be referred to the City Planning Commission as a whole if there is no Technical Review Committee. When reviewed by a Technical Review Committee:

(1) If the land development or subdivision plan is approved by a majority of the Technical Review Committee members, the application shall be forwarded to the City Planning Commission with a recommendation for preliminary plan approval without further review.

(2) If the plan is not approved by a majority vote of the Technical Review Committee members, the minor land development and subdivision application shall be referred to the City Planning Commission.

Article E. Re-assignment to Major Review

The City Planning Commission may re-assign a proposed minor project to major review only when the City Planning Commission is unable to make the positive findings required.

Article F. Decisions by City Planning Commission

If no street creation or extension is required, the City Planning Commission shall approve, deny, or approve with conditions, the preliminary plan within sixty-five (65) days of certification of completeness, or within such further time as is agreed to by the applicant and the commission.

If a street extension or creation is required, the City Planning Commission shall hold a public hearing prior to approval. The commission shall approve, deny, or approve with conditions

the preliminary plan within ninety-five (95) days of certification of completeness, or within such further time as is agreed to by the applicant and the commission.

Article G. Failure to Act

Failure of the City Planning Commission to act within the period prescribed shall constitute approval of the preliminary plan and a certificate of the Administrative Officer as to the failure of the City Planning Commission to act within the required time and the resulting approval shall be issued on request of the applicant.

Article H. Final Plan

The City Planning Commission may delegate final plan review and approval to either the Administrative Officer or the technical review committee. The officer or committee shall report its actions to the City Planning Commission at its next regular meeting, to be made part of the record.

Article I. Vesting

Approval of a minor land development or subdivision plan shall expire ninety (90) days from the date of approval unless within such period a plat or plan, in conformity with such approval, and as defined in this act, is submitted for signature and recording as specified in these regulations. Validity may be extended for a longer period, for cause shown, if requested by the applicant in writing, and approved by the City Planning Commission.

SECTION VIII. GENERAL PROVISIONS - MAJOR LAND DEVELOPMENT AND MAJOR SUBDIVISION REVIEW STAGES

Article A. Required Review

Major plan review shall be required of all applications for land development and subdivision approval subject to these regulations, unless classified as an administrative subdivision or as a minor land development or a minor subdivision.

Article B. Stages of Major Plan Review

Major plan review shall consist of three stages of review: master plan, preliminary plan, and final plan, following the pre-application meeting(s) specified in Section 111, Article A. Also required is a public information meeting and a public hearing.

Article C. City Planning Commission Actions

The City Planning Commission may vote to combine review stages and to modify and/or waive requirements as specified in Section VII. Review stages may be combined only after the City Planning Commission determines that all necessary requirements have been met by the applicant.

SECTION IX. GENERAL PROVISIONS - MAJOR LAND DEVELOPMENT AND MAJOR SUBDIVISION - MASTER PLAN

Article A. Submission Requirements

(1) The applicant shall first submit to the Administrative Officer the items required by the local regulations for master plans.

(2) Requirements for the master plan and supporting material for this phase of review shall include, but not be limited to, information on the natural and built features of the surrounding neighborhood, existing natural and man-made conditions of the development site, including topographic features, the freshwater wetland and coastal zone boundaries, the floodplains, as well as the proposed design concept, proposed public improvements and dedications, tentative construction phasing, and potential neighborhood impacts.

(3) Initial comments shall be solicited from, a) local agencies including, but not limited to, the Planning Department, the Department of Public Works, Public Safety Department, the Law Department, Parks and Recreation commissions; b) adjacent communities; c) state agencies, as appropriate, including the Departments of Environmental Management and Transportation, and the Coastal Resources Management Council; and d) federal agencies, as appropriate. The Administrative Officer shall coordinate review and comments by local officials, adjacent communities, and state and federal agencies.

Article B. Certification

The application shall be certified complete or incomplete by the Administrative Officer within ninety (90) days, according to the provisions of Section ~~VIII, Article A, (2).~~IV, Article B.

Article C. Technical Review Committee

The Technical Review Committee, if established, shall review the application and shall comment and made recommendations to the City Planning Commission.

Article D. Informational Meetings

A public information meeting shall be held prior to the City Planning Commission decision on the master plan, unless the master plan and preliminary plan approvals are being combined, in which case the public informational meeting shall be optional, based upon City Planning Commission determination.

(1) Public notice for the informational meeting is required and shall be given at least seven (7) days prior to the date of the meeting in a newspaper of general circulation within the municipality. Postcard notice shall be mailed to the applicant and to all property owners within the notice area, 100 linear feet from the boundary of the subdivision.

(2) At the public information meeting the applicant shall present the proposed development project. The City Planning Commission shall allow oral and written comments from the general public. All public comments shall be made part of the public record of the project application.

Article E. Decisions by the City Planning Commission

The City Planning Commission shall, within one hundred twenty (120) days of certification of completeness, or within such further time as may be consented to by the applicant, approve of the master plan as submitted, approve with changes and/or conditions, or deny the application, according to the procedural rules of these regulations.

Article F. Failure to Act

Failure of the City Planning Commission to act within the period prescribed shall constitute approval of the master plan and a certificate of the Administrative Officer as to the failure of the City Planning Commission to act within the required time and the resulting approval shall be issued on request of the applicant.

Article G. Vesting

(1) The approved master plan shall be vested for a period of one year, with a one year extension upon written request by the applicant, who must appear before the City Planning Commission for the annual review. Vesting may be extended for a longer period, for good cause shown, if requested by the applicant in writing, and approved by the City Planning Commission. Master plan vesting shall include the zoning requirements, conceptual layout and all conditions shown on the approved master plan drawings and supporting materials.

(2) The initial two year vesting for the approved master plan shall constitute the vested rights for the development as required in R.I.G.L. Section 45-24-44.

SECTION X. GENERAL PROVISIONS - MAJOR LAND DEVELOPMENT AND MAJOR SUBDIVISION - PRELIMINARY PLAN

Article A. Submission Requirements

(1) The applicant shall first submit to the Administrative Officer the items required by the local regulations for preliminary plans.

(2) Requirements for the preliminary plan and supporting materials for this phase of the review shall include, but not be limited to, engineering plans depicting the existing site conditions, engineering plans depicting the proposed development project, a perimeter survey, all permits required by state or federal agencies prior to commencement of construction, including permits related to freshwater wetlands, the coastal zone, floodplains, public water systems, and connections to state roads. The subdivider shall provide the name and address of property owners within a one hundred foot radius of the property.

(3) Final written comments and/or approvals of the department of public works, the city or town engineer, the city or town solicitor, other local government departments, commissions, or authorities as appropriate.

(4) Prior to approval of the preliminary plan, copies of all legal documents describing the property, proposed easements and rights-of-way.

Article B. Certification

The application shall be certified as complete or incomplete by the Administrative Officer within sixty (60) days, according to the provisions of Section IV, Article ~~A~~B.

Article C. Technical Review Committee

The Technical Review Committee, if established, shall review the application and shall comment and make recommendations to the City Planning Commission.

Article D. Public Hearing

Prior to City Planning Commission decision on the preliminary plan, a public hearing, which adheres to the requirements for notice described in ~~Article~~ Section XI~~IX, Section B~~, must be held.

Article E. Public Improvement Guarantees

Proposed arrangements for completion of the required public improvements, including construction schedules and/or financial guarantees shall be reviewed and approved by the city Planning Commission at the preliminary plan approval stage.

Article F. Decisions by the City Planning Commission

A complete application for a major subdivision or development plan shall be approved, approved with conditions or denied within one hundred twenty (120) days of the date when it is certified complete or within such further time as may be consented to by the developer.

Article G. Failure to Act

Failure of the City Planning Commission to act within the period prescribed shall constitute approval of the preliminary plan and a certificate of the Administrative Officer as to the failure of the City Planning Commission to act within the required time and the resulting approval shall be issued on request of the applicant.

Article H. Vesting of Preliminary Plan

The approved preliminary plan shall be vested for a period of one (1) year and vesting may be extended for a longer period, for good cause shown, if requested in writing by the applicant, and approved by the City Planning Commission. The vesting for the preliminary plan approval shall include all general and specific conditions as shown on the approved preliminary plan drawings and supporting material.

SECTION XI. GENERAL PROVISIONS - MAJOR LAND DEVELOPMENT AND MAJOR SUBDIVISION - PUBLIC HEARING AND NOTICE

Article A. Public Hearing Required

A public hearing shall be required for a major land development project or a major subdivision, or where a street extension or creation requires a public hearing for a minor land development project or minor subdivision.

Article B. Notice Requirements

Public notice of the hearing shall be given using a legal advertisement at lease fourteen days prior to the date of the hearing in a newspaper of general circulation within the municipality. Notice shall be sent to the applicant and to each owner within the notice area, by certified mail, return receipt requested, of the time and place of the hearing not less than ten days prior to the date of the hearing. Said notice shall also include the street address of the subject property, or if no street address is available, the distance from the nearest existing intersection in tenths (1/10s) of a mile.

Article C. Notice Area

(1) The distance(s) for notice of the public hearing shall be 100 linear feet from the property boundary. At a minimum, all abutting property owners to the proposed development's property boundary, shall receive notice.
(2) Watersheds. Additional notice within watersheds shall also be sent as required in R.I.G.L. Section 45-23-53 (B) and (C).
(3) Adjacent municipalities. Notice of the public hearing shall be sent by the Administrative Officer to the Administrative Officer of an adjacent municipality if 1) the notice area extends into the adjacent municipality, or 2) the development site extends into the adjacent municipality, or 3) there is a potential for significant negative impact on the adjacent municipality.

Article D. Cost of Public Notice

The cost of all such notices shall be borne by the applicant.

SECTION XII. GENERAL PROVISIONS - MAJOR LAND DEVELOPMENT AND MAJOR SUBDIVISION - FINAL PLAN

Article A. Submission Requirements

(1) The applicant shall submit to the Administrative Officer the items required by the local regulations for final plan, as well as all material required by the City Planning Commission when the application was given preliminary approval.
(2) Arrangements for completion of the required public improvements, including construction schedule and/or financial guarantees.
(3) Certification by the Finance Department that all property taxes are current.
(4) For phased projects, the final plan for phases following the first phase, shall be accompanied by copies of as-built drawings not previously submitted of all existing public improvements for prior phases.

Article B. Certification

The application for final plan approval shall be certified complete or incomplete by the Administrative Officer within forty-five (45) days, according to the provisions of Section IV, Article B. If the Administrative Officer certifies the application as complete and does not require submission to the City Planning Commission as per Section XII, Article C below, the final plan shall be considered approved.

Article C. Referral to the City Planning Commission

If the Administrative Officer determines that an application for final approval does not meet the requirements set by local regulations or by the City Planning Commission at preliminary approval, the Administrative Officer shall refer the final plan to the City Planning Commission for review. The City Planning Commission shall, within forty-five (45) days after the certification of completeness, or within such further time as may be consented by the applicant, approve or deny the final plan as submitted.

Article D. Failure to Act

Failure of the City Planning Commission to act within the period prescribed shall constitute approval of the final plan and a certificate of the Administrative Officer as to the failure of the City Planning Commission to act within the required time and the resulting approval shall be issued on request of the applicant.

Article E. Recording

The final approval of a major subdivision or land development project shall expire one year from the date of approval unless, within that period, the plat or plan shall have been submitted for signature and recorded by the City Clerk of the City of Pawtucket. The City Planning Commission may, for good cause shown, extend the period for recording for an additional period.

Article F. Acceptance of Public Improvements

Signature and recording as specified in Section XVII, Article E (5) shall constitute the acceptance by the municipality of any street or other public improvement or other land intended for dedication. Final plan approval shall not impose any duty upon the municipality to maintain or improve those dedicated areas until the governing body of the municipality accepts the completed public improvements as constructed in compliance with the final plans.

Article G. Validity of Recorded Plans

The approved final plan, once recorded, shall remain valid as the approved plan for the site unless and until an amendment to the plan is approved under the procedure set forth in Section XVII, Article E (6), or a new plan is approved by the City Planning Commission.

SECTION XIII. GENERAL PROVISIONS - ~~physical design requirements~~POST APPLICATION APPROVAL DOCUMENTATION AND NOTICE

Article A. Construction Plans

(1) One complete set of all construction plans, profiles, cross-sections, or other working drawings of required improvements to the land shall be submitted to and approved by the City Engineer and the Chief Engineer of the Pawtucket Water Supply Board prior to any construction start.
(2) All lots shall be numbered to correspond with the tax assessor's plat and lot numbers.

Article B. Notification of City Officials

(1) No phase or step in the construction of required improvements shall commence until the City Engineer or their authorized representative has been notified at least twenty-four (24) hours prior thereto.
(2) The City Engineer or their authorized representative, upon proper notification of commencement of a phase or stage of construction shall not impede such construction by delaying inspection and approval without just cause.

Article C. As-built Drawings

On the completion of construction and installation of all required improvements to the land, the subdivider shall furnish two (2) complete sets of as-built drawings of such improvements to the City Engineer and one (1) complete set to the City Planning Commission.

SECTION XIV. IMPROVEMENTS TO THE LAND

Article A. Required Improvements

The subdivider shall, at their own expense, construct improvements to the land in accordance with the specifications of the subdivision and land development regulations, any rules and regulations adopted by the City Planning Commission, the Technical Review Committee, or otherwise designated city officials. Required improvements are as follows:

(1) Street rights-of-way shall be cleared, cleared and graded for their entire width in accordance with the specifications in the rules and regulations.
(2) Streets shall be graded, graveled and paved in accordance with specifications in the rules and regulations.
(3) Street signs shall be installed immediately after grading and preparation of sub base. Street signs shall be of the size, type and number specified by the Director of Public Works.

(4) Curbs shall be installed in conformance with the specifications in the rules and regulations.

(5) Sidewalks where required to serve the subdivision shall be installed in accordance with the specifications in the rules and regulations.

(6) Surface and subsurface storm drainage structures and facilities shall be installed in accordance with Best Management Practices and the approval of the City Engineer.

(7) The subdivider shall file, at the Pawtucket Water Supply Board (PWSB) Engineering Office, an application for all proposed water main and water service installations in accordance with the current "PWSB Rules and Regulations". All PWSB approvals are granted via this application process.

(8) Sanitary sewers shall be installed in accordance with the specifications recommended by the City Engineer.

(9) Street trees may be required, and if desired, shall be planted in accordance with City of Pawtucket Ordinance, Chapter 29, Trees and shrubs, Section 29-29.

(10) The subdivider may be required to install oversized improvement by the City Engineer in which case the subdivider may negotiate with the City for the reimbursement of the expense incurred over and above the cost of a normal size improvement.

Article B. Construction and/or Improvement Guarantees

(1) City Planning Commission responsibility. The City Planning Commission shall approve all agreements that concern the required public improvement in the following form: 1) completion of actual construction of all improvements, 2) improvement guarantees, or 3) a combination thereof.

(2) Construction before final approval. Where improvements are constructed without a financial guarantee, the work is to be completed prior to final approval. All construction shall be inspected and approved under the direction of the Administrative Officer.

(3) Surety Improvement Guarantees. Surety improvement guarantees shall be in an amount and with all necessary conditions to secure for the City the actual construction and complete installation of all required improvements within the period specified by the City Planning Commission in consultation with the City Solicitor's office.

(4) Maintenance Guarantees. The City Planning Commission may also require maintenance guarantees to be provided for a one (1) year period subsequent to completion, inspection, and acceptance of the improvement.

Article C. Requirements for Dedication of Public Land

(1) General provisions - to be left open for future completion.

Article D. Special Provisions - Phasing of Projects

(1) The City Planning Commission may provide for preliminary and final review stages and for the construction of major land developments and subdivisions to be divided into reasonable phases.

SECTION XV. DESIGN REQUIREMENTS AND PERFORMANCE STANDARDS

Article A. Landscaping Standards

(1) Purpose

(a) To improve the physical environment through the provision of open space, street trees and vegetation;
(b) To provide a transition between land uses through the use of well designed landscaping and/or buffers;
(c) To reduce noise, dust pollution and glare.
(d) To reduce impacts from impervious surfaces including heat island effect and disruption to the hydrologic cycle;
(e) To improve air quality;
(f) To provide shade for pedestrians and automobiles, and pavement;
(g) To provide privacy in residential settings;
(h) Provide for soil conservation, erosion control, flood control and pollutant mitigation; and
(i) To eliminate or reduce the need for irrigation by providing landscapes that are developed in accordance with best practices and are well-suited to the regional environment and climate.

(2) General Standards

(a) In residential developments, applicants shall provide plantings or landscaping elements throughout the development to promote the purposes of these regulations in addition to any screening and/or street trees required;
(b) In non-residential developments, all areas of the site not occupied by buildings and required improvements shall be retained in their natural state as part of the site design process or landscaped in accordance with these regulations. If the property was cleared in the past and the current state of the property does not serve as an adequate buffer or natural area, a planting plan shall be submitted for this area of the site;
(c) Plant varieties shall be selected for long term resistance to drought, moisture, salt, urban conditions, or insects and other pests depending on the location of landscaping and the specific stressors anticipated for

different areas of the site. Plants should be selected so that landscaping can be maintained with minimal care and the need for watering, pesticides, or fertilizers is minimized or eliminated;

(d) Landscape professionals are encouraged to reference *Sustainable Trees and Shrubs, 3rd ed.*, 1999, URI Cooperative Extension- Landscape Horticulture, Exhibit A in the *Subdivisions and Land Development Regulations* as well as other current standards for nursery stock/species when selecting plan varieties for landscaping;

(e) Under no circumstances shall any plant be selected that appears on the most recent listing of invasive species as published by the Rhode Island Invasive Species Council.

(3) Landscape Plan Required. A Landscape Plan prepared by a Rhode Island Registered Landscape Architect shall be submitted for all projects requiring Development Plan Review, Subdivision, or Land Development approval as specified in the Land Development and Subdivision Regulations. In addition to the requirements listed in any checklist attached to these regulations, a Landscape Plan shall contain the elements listed below.

(a) Proposed grading at two-foot contour intervals. The Director or Planning Commission may waive this requirement if the proposal will clearly not alter on site drainage patterns in a manner that affects adjacent properties or may compromise the performance of on-site stormwater or wastewater infrastructure;

(b) Proposed location of retained vegetation;

(c) Methods of protection for retained vegetation during the construction phase;

(d) List of proposed plantings and general locations;

(e) Identification of any landscaped areas that will be used for stormwater management including details and specifications for vegetated practices such as swales, constructed wetlands, rain gardens, etc;

(f) Specifications for cultivation, loaming, seeding, and fertilization that demonstrate compliance with Subsection 6 (below) as applicable.

(4) Site protection. Protection of the site shall be in accordance with the following:

(a) Sediment and erosion control shall be addressed as part of the Landscaping Plan unless a separate soil and erosion control plan is prepared;

(b) Topsoil suitable for landscaping shall be retained on site in an amount as determined as part of the required landscape plan. The developer shall minimize the areas of the site to be regraded or disturbed. Topsoil exposed during construction shall be protected through stabilization measures

consistent with the *Rhode Island Sediment Control Handbook* and approved by the Director of Planning and Development or the Planning Commission as applicable;

(c) All organic material, rubbish, potentially harmful materials or debris shall be removed from the site in a timely fashion. Disposal of cleared, grubbed and stripped materials shall be the responsibility of the developer. All roots, stumps, brush, foliage and other vegetation that have been cleared or excavated shall be removed and disposed of by the developer off the project site.

(d) No filling, excavation, or material storage shall occur within four (4) feet of any shrub or the dripline of any tree that will be retained. Protective barriers shall be installed to protect this area surrounding retained vegetation and shall be a minimum of three (3) feet high and constructed of durable material. Snow fences and silt fences are examples of acceptable barriers;

(e) Parking of construction vehicles, offices/trailers, stockpiling of equipment/materials, etc. shall take place in areas designated for permanent structures or other impervious surfaces;

(g) Landscaping of all cut and fill areas and/or terraces shall be sufficient to prevent erosion, and all roadway side slopes greater than 1:3 shall be planted with vegetated ground cover appropriate for the purpose of erosion control and for the soil conditions and environment. The use of erosion control fabric or mats shall be utilized when appropriate;

(h) Disturbed areas intended for natural re-growth should be, at a minimum, graded, loamed, and seeded with wildflowers, perennial rye grass, a meadow or "conservation" native grass mix or similar varieties.

(5) Plant Specifications

(a) Caliper measurements and root ball specifications for all trees and shrubs shall conform to the American Standard for Nursery Stock ANSI Z60.1-2004 as amended.

(b) Shade or canopy trees shall not be less than twelve (12) feet in planted height above grade;

(c) Small or minor shade trees shall not be less than ten (10) feet in planted height above grade;

(d) Ornamental or flowering fruit trees shall not be less than ten (10) feet in planted height above grade;

(e) Evergreen trees used for screening shall not be less than six (6) feet in planted height above grade;

(f) Lawn seed mixes shall be drought resistant. To achieve a high level of drought tolerance, lawn mixes may include, but shall not be limited to, a predominance of fine fescues.

(6) Planting and Cultivation

(a) Soil Restoration and Protection

(i) In all areas where landscaping is to be provided and topsoil is to be removed for the purposes of site development and/or grading, or where existing conditions require the restoration of topsoil, topsoil shall be restored and shall contain a minimum of 5% organic matter for turf areas and 10% for trees and shrubs. The minimum depth of any restored topsoil shall be six (6) inches;

(ii) Where pre-existing topsoil will be used for landscaping, such soil shall be cultivated to a depth of six (6) inches;

(iii) Cultivated areas shall be covered with not less than a two (2) inch deep layer of mulch after planting where weed control is required. Mulch should be natural, unpainted, unstained, and designed to retain moisture where applied. Mulching around plantings shall not cover the base of plants or the root zone in a manner that encourages damage from excessive moisture. Wood chip mulch shall not be allowed.

(b) Lawn and Turf

(i) Lawn area for ornamental purposes in commercial or industrial development shall be limited to yards with frontage and ornamental turf shall be limited to areas within the front yard setback. The use of turf in yards without frontage shall be limited to areas reserved for utilities, grass swales, or alternative parking surfaces.

(ii) Lawn or turf areas shall not be planted in strips that are less than six (6) feet in width.

(c) Trees

(i) Deciduous shade trees along streets are required as part of all development activity in accordance with the Zoning Ordinance.

(ii) Trees shall be spaced approximately 30 to 40 feet on center along streets, but shall not be located within 30 feet of intersecting right of way lines.

(iii) Pit cultivation for all trees shall be 2.5 times the diameter of the root ball and a depth equal to the same. Holes for trees shall be prepared in a manner that facilitates grow-in of new trees through the use of best practices.

(iv) Trees and other landscaping shall be staked as necessary and provisions shall be made by the developer for adequate watering and maintenance until the plantings are established.

(v) No street trees shall be located in a manner that interferes with overhead or underground utility lines.

(vi) When planted closer than seven (7) feet from the edge of any pavement, vertical barriers shall be installed to discourage the growth of tree roots into and immediately under the pavement area. Alternative tree planting methods such as the use of "CU-structural soil ™" to prevent damage to pavements and enhance tree growth are encouraged.

(7) Parking and Loading Area Landscaping

Parking lot and loading area landscaping shall be provided, in addition to any required buffer, to minimize direct views of parked vehicles from streets and public sidewalks, provide the parking area with a reasonable measure of shade and avoid spillover light, glare, noise or exhaust onto adjacent properties. The Planning Commission and Director of Planning and Redevelopment may modify any of the minimum standards associated with parking lot landscaping where deviating from these standards would facilitate an effective use of landscaping to manage stormwater runoff or where a waiver is requested. The following minimum standards shall apply:

(a) The minimum required amount of interior landscaping shall be 10% of the parking area, which includes driveways, borders, sidewalks, parking stalls and travel lanes. Parking lots with 20 or fewer spaces may not require interior landscaping if the Planning Commission or Director of Planning and Redevelopment determines that there is adequate perimeter landscaping and that the objectives of these regulations have been met.

(b) Each double row of parking spaces shall be terminated by landscaped islands which measure not less than ten (10) feet in width. For islands with a tapered design, the width shall be measured at the island's widest point. The island shall be designed to border the entire length of the adjacent parking stall.

(c) The interior of parking lots shall have, at a minimum, landscaped center islands at every other double row. Pedestrian paths may be incorporated within center islands provided a minimum width of four feet is maintained for vegetated areas.

(d) Interior islands and divider medians shall be appropriately lit to protect them from encroachment of motor vehicles in a manner approved by the Planning Commission or Director of Planning and Redevelopment.

(e) The interior of parking areas and all internal circulation areas to the site shall be shaded by deciduous trees. At maturity, each tree shall provide a canopy with a radius of at least 15 feet. There shall be a sufficient tree canopy to cover 30 percent of the parking area.

(f) Shade trees shall be located so that they are surrounded by at least 25 square feet of evenly distributed unpaved area, which may be counted towards calculating the required landscaped area. Trees located in sidewalks shall be located in a protected enclosure level with the sidewalk capable of allowing the trunk to grow to maturity.

Article B. Design Standards for the Commercial Downtown District

For the Commercial Downtown District (CD), the following design standards and guidelines are provided to maintain the CD District as a vibrant, pedestrian-friendly, mixed use neighborhood. The standards and guidelines recognize the importance of consistency in building materials, massing, scale and articulation, design elements and motifs that represent Pawtucket's architectural heritage while allowing the downtown to continue to evolve from a design perspective. It is not the intent of these standards and guidelines to create a homogenous district in which all buildings closely resemble one another in a unified design concept. Rather, these standards and guidelines provide a framework for development that will ensure a high quality of design that is consistent with the most appealing aspects of Pawtucket's community character and best practices in site design and architecture. Figures used to illustrate many of the design standards provided below are provided in Appendix B.

(1) Applicability

These standards and guidelines shall apply to any development proposal that requires Development Plan Review or Land Development approval within the CD District. Where Development Plan Review is triggered exclusively in relation to a proposed building addition or the construction of an accessory structure, compliance with these standards shall be limited to those standards that apply to the proposed activity. The Planning Commission may grant a waiver from any of these standards and guidelines if they find that an alternative proposal is consistent with the Comprehensive Plan, the Pawtucket Downtown Design Plan, and does not result in a zoning violation. The Planning Commission may also grant a waiver from any of these standards if they find that the imposition of a particular standard(s) would provide significant hardship and preclude implementation due to any of the following conditions:

(a) Constraints resulting from unique parcel shape, geometry, or topography make compliance with a particular standard impracticable;
(b) Constraints that result from the location or orientation of existing structures make compliance with a particular standard impracticable;
(c) The imposition of a particular standard(s) would result in the loss of a significant historic or cultural feature within the CD District; or
(d) The imposition of a particular standard(s) would result in a threat to public safety, health or welfare.

(2) Site Design (Appendix B, Figure 1)

(a) The location of buildings, parking areas, walkways, outdoor gathering places, landscaping, utilities, loading areas, dumpsters, automobile access, travel lanes, and signs shall reflect a thoughtful approach that focuses primarily on providing optimal access and mobility for pedestrians on and between sites;
(b) Parking areas shall allow for easy access between lots for automobiles and pedestrians. Where existing structures or topography do not preclude the possibility, parking lots shall be connected by a travel lane within the rear yard to provide an opportunity for pedestrians and motorists to pass from one site to another without using established rights of way;
(c) Within the front yard setback, clear pedestrian pathways shall be provided between buildings and across automobile travel lanes in the form of raised or distinct surfaces such as stamped concrete or grid pavers, arcades, colonnades or other similar features;
(d) In complexes with multiple principal buildings, landscaped areas with walkways, courtyards or other similar features shall be used in conjunction with compact site design to bring buildings closer together and enhance connectivity between them for residents and customers.

(3) Building Placement

(a) Building setbacks shall comply with the applicable provisions in Zoning Ordinance and shall design any proposed space within the front yard setback for pedestrian activity (Appendix B, Figure 2).
(b) On sites with multiple principal buildings, site design shall be compact and the need to have pedestrians cross parking areas to move from one building to another shall be minimized.

(4) Loading, Accessory Buildings, and Driveways (Appendix B, Figures 1 and 2)

(a) Loading docks, service areas and trash disposal facilities shall not face a public gathering space or a public street.
(b) Garages and other accessory buildings shall be subordinate in size, height and location to the overall building and shall be located with entrances behind the principal building(s);
(c) Common or shared driveways and parking lots are encouraged to reduce curb cuts and enhance pedestrian circulation.

(5) Building Size, Height & Scale (Appendix B, Figures 3 and 4)

(a) In order to modulate their scale, multi-story buildings shall clearly articulate the base, middle and top of the building through the use of cornices, borders of distinct material, or other articulating features.
(b) Larger buildings with long façades shall articulate the façade with varied rooflines, distinct signage for multiple tenants, awnings, columns, recessed spaces and/or entrances and any other features that serve to add texture to these longer façades. Unbroken façades in excess of thirty (30) horizontal feet shall not be allowed.
(c) Large, flat, unadorned, blank walls shall be avoided for any side or rear walls of buildings. Where windows are not feasible, raised or recessed vertical surfaces may be used in conjunction with awnings, window-shaped depressions and decorative lighting to make these surfaces more attractive. Where a side wall is located on an adjacent property line, these walls may be flat to allow for future development along the same property line.
(d) Awnings shall be made of canvas and/or weather-coated materials or glass. Each awning should be distinct from its neighbor and continuous awnings over distinct storefront façades are discouraged.

(6) Entranceways (Appendix B, Figure 3)

(a) All buildings shall have a principal façade and entry (with operable doors) facing a street or other area dedicated to pedestrian circulation. Buildings may have more than one principal façade and/or entry. Secondary entrances not facing a street shall open onto sidewalks or other pedestrian features at least ten (10) feet in width.
(b) Primary entrances shall incorporate architectural features that draw attention to the entrance. These features may include, but shall not be limited to, covered porches, recessed doorways and awnings.
(c) Street level frontage shall be primarily devoted to entrances, shop windows or other displays.

(7) Fenestration (Appendix B, Figures 3 and 5)

(a) Windows on the ground floor shall begin no lower than one (1) foot from street level and shall extend at a minimum height of seven (7) feet from street level.
(b) Where traditional architectural patterns are selected, mullion pattern and thickness shall be consistent with traditional treatments broad decorative surfaces between windows. For these traditional applications, any mullion finishes that are be highly reflective or industrial in nature shall not be used.
(c) Clear, non-reflective glass with minimal tinting shall be used at street level to allow maximum visual interaction between pedestrians and the interior of the building.
(d) Street level façades shall have a transparency of at least sixty (60) percent.
(e) All windows (with the possible exception of storefront windows) shall be operable.

(8) Dormers (Applicable to traditional architectural styles in new development)

(a) On pitched rooflines, dormers shall be used to break up roof surfaces and shall be provided at a minimum frequency of one per thirty (30) feet or fraction thereof.
(b) Dormer styles may include doghouse, eyebrow or shed dormers.
(c) Windows shall fill the face wall of the dormer and match the windows in the rest of the building (Appendix B, Figure 5).

(9) Roofline Articulation (Appendix B, Figure 3)

(a) The roof design shall provide a variety of building heights and varied roofline articulation. Where traditional New England architecture is used, applicable models include gables, gambrels, flat roofs, mansards and any jointed configuration of these styles. Decorative spires or towers may also be used to articulate rooflines and to provide focal points within a complex of principal buildings;
(b) Industrial style metal roofing visible from the street shall not be permitted. Metal roofing that uses decorative finishes and textures may be allowed.
(c) Where proposed, flat roofs shall have decorative cornices or parapets that shield all views of any mechanical systems located on the roof from the street or from windows at a lower elevation in adjacent buildings.
(d) Downspouts shall match gutters in material and finish.
(e) Utilities and protuberances through or on the front of roofs are shall not be used in new development and should generally be shielded from view.

(10) Building Materials

(a) Materials and building treatments shall be used that reduce the visibility of buildings from distant vantage points and shall be consistent and compatible with traditional New England design.

(b) Where more than one material is used, traditionally heavier materials (stone, brick, concrete with stucco, etc.) shall be located below lighter materials (wood, fiber cement board, siding, etc). For traditional architectural applications, the change in material shall occur along a horizontal line, preferably at the floor level.

(c) Natural materials, such as brick, stone, finished concrete, glass, high-quality metal or porcelain enamel panels, wood/concrete clapboards and shingles, and slate shall be used as visible exterior finish. Materials such as unfinished concrete, sheet metal, asphalt shingles, exterior insulation finish system (EIFS), vinyl and plastic synthetic siding and windows, and insulated steel doors shall not be used as visible exterior finish.

(11) Lighting (Appendix B, Figure 6)

(a) Light standards shall not exceed fifteen (15) feet in height; and

(b) Light posts and fixtures shall be designed in a manner that is complementary to adjacent streetscapes or to the architectural context provided by surrounding buildings. Standard industrial-finish poles or shades selected exclusively for their ability to provide adequate illumination, without regard for the aesthetic context of the site and/or neighborhood, are prohibited.

(12) Signage (Appendix B, Figure 7)

(a) Wall mounted or projected signs should typically be located above the ground floor storefront and just below the second floor windows. Signs should not obscure architectural features or windows and should be integrated with the design of the building.

(b) Sign colors should be selected to enhance sign legibility for both day and nighttime viewing. Contrasting colors can be used effectively to increase clarity. Sign colors and finishes should be compatible with the color of the building or development.

(c) Sign materials should be of high quality and compatible with the design of the building and façade on which they are placed.

(d) Externally illuminated signs should have downward-directed, wall mounted lights with fully-shielded decorative lamps that do not obscure the graphics of the sign.

(e) Internally illuminated plastic or fiberglass cabinet (can) signs are not allowed. Where internal illumination or back-lighting is proposed, solid letters (reverse channel) are a preferred alternative.

(f) Signage on awnings is permitted only on the apron portion of the awning for business identification or to advertise particular goods and/or services.

(g) Free-standing single pole (lollipop) signs are not allowed. Free-standing monument or structured signs are preferred. Free-standing signs should incorporate design details, materials and colors of the associated buildings. The base or support elements of freestanding signs should be integrated into the overall site design through the use of lighting, decorative surfaces or landscaped treatment.

SECTION XVI. SPECIAL PROVISIONS-LAND DEVELOPMENT PROJECTS

(1) To be left open for future completion

~~Section XV. Special provisions-development plan review~~

~~Article A. Authority - The City Planning Commission may provide for development plan or site plan review as defined in Section 45-24-7 of the Zoning Enabling Act of 1991.~~

~~Article B. Consistency - Development plan review regulations must include all requirements, procedures, and standards necessary for proper review and recommendations of projects subject to development plan review to insure consistency with the intent and purposes of the Subdivision and Zoning Enabling Act.~~

SECTION XVII. ADMINISTRATION

Article A. The Board of Review

The Pawtucket Board of Review shall act as the Board of Appeals to hear appeals of decisions of the City Planning Commission or the Administrative Officer on matters of review and approval of land development and subdivision projects.

Article B. Administrative Fees

Reasonable administrative fees may be established in an amount not to exceed actual costs incurred to be paid by the applicant. Costs shall be based upon review and hearing of applications, issuance of permits and the recording of the decisions.

Article C. Violations and Penalties

Any owner or agent of the owner, who transfers, sells, or negotiates to sell any land by reference to or exhibition of, or by other use, a plat of the subdivision before the plat has been approved by the City Planning Commission and recorded in the municipal land evidence records shall be subject to a fine of three hundred ($300.00) dollars for each violation and each day of existence of any violation shall be deemed to be a separate offense. Any such fine shall be the property of the City of Pawtucket.

The City of Pawtucket may also cause suit to be brought in the housing court or municipal court in the name of the City to restrain the violations of, or to compel compliance with, the provisions of the local regulations.

Article D. Procedures - Required Findings

The City Planning Commission and the technical review board shall make positive findings on the following provisions as a part of the project's record prior to approval:

(1) The proposed development is consistent with the comprehensive plan and/or satisfactorily addresses the issues where there may be inconsistencies.
(2) The proposed development is in compliance with the standards of the City of Pawtucket Zoning Ordinance or has received an appropriate dimensional variance from the Board of Review.
(3) There will be no significant negative environmental impacts from the proposed development as shown by the final plan, with all required conditions for approval.
(4) The subdivision, as proposed, will not result in the creation of individual lots with such physical constraints to development that building on those lots according to pertinent regulations and building standards would be impractical. Lots with such physical constraints to development may be created only if identified as permanent open space or permanently reserved for a public purpose on the approved recorded plans.
(5) All proposed land developments and all subdivision lots shall have adequate and permanent physical access to a public street. Lot frontage on a public street without physical access shall not be considered compliance with this requirement.

Article E. Precedence of Approvals between the City Planning Commission and Other Local Permitting Authorities

(1) Zoning Board of Review. Where an applicant requires both a variance from the local Zoning Ordinance and City Planning Commission approval, the applicant shall first obtain an advisory recommendation from the City Planning Commission, as well as conditional City Planning Commission approval for the first approval stage for the proposed project, which may be simultaneous, then

obtain conditional zoning board relief, and then return to the City Planning Commission for subsequent required approval(s).

Where an applicant requires both a special-use permit under the local Zoning Ordinance and City Planning Commission approval, the applicant shall first obtain an advisory recommendation from the City Planning Commission, as well as conditional City Planning Commission approval for the first approval stage for the proposed project, which may be simultaneous, then obtain a conditional special-use permit from the zoning board, and then return to the City Planning Commission for subsequent required approval(s).

(2) City Council Action. Where an applicant requires both City Planning Commission approval and City Council approval or a Zoning Ordinance or zoning map change, the applicant shall first obtain an advisory recommendation on the zoning change from the City Planning Commission, as well as conditional City Planning Commission approval for the first approval stage for the proposed project, which may be simultaneous, then obtain a conditional zoning change from the City Council, and then return to the City Planning Commission for subsequent required approvals.

(3) Waivers - Modifications and Reinstatement of Development Plans

(a) A City Planning Commission may waive requirements for ~~development plan approval~~ Development Plan Review where there is a change in use or occupancy and no extensive construction or improvements are sought. The waiver may be granted only by a finding by the City Planning Commission that the proposed or expanded use will not affect drainage, circulation, relationships of buildings to each other, landscaping buffering, lighting, and other considerations of development plan approval, and that the existing facilities do not require upgraded or additional site improvements.

(b) The application for a waiver of ~~development plan approval review~~Development Plan Review shall include documentation on the prior use of the site, the proposed use, and its impact.

(c) The City Planning Commission shall have the power to grant such waivers and/or modifications from the requirements for land development and subdivision approval as may be reasonable and within the general purposes and intents of the provisions for local regulations. The only grounds for such waivers and/or modifications shall be where the literal enforcement of one (1) or more provisions of the regulations is impracticable and will exact undue hardship because of peculiar conditions pertaining to the land in question or where such waiver and/or modification is in the best interest of good planning practice and/or design

as evidenced by consistency with the municipality's Comprehensive Plan and Zoning Ordinance.

(d) The administrative guidelines of the City Planning Commission shall include provisions for reinstatement of development applications in the case of missed deadlines and approved agreements are not met.

(e) The City Planning Commission shall approve, approve with conditions, or deny the request for either a waiver or modification according to the procedural practices of the Commission.

(4) Precedence meeting, votes, decisions of the City Planning Commission

(a) All records of City Planning Commission proceedings and decisions shall be written and kept permanently available for public review.

(b) Participation in a City Planning Commission meeting or other proceedings by any other party shall not be a cause for civil action or liability except for acts not in good faith, intentional misconduct, knowing violation of law, transactions where there is an improper personal benefit, or malicious, wanton, or willful misconduct.

(c) All final written comments to the City Planning Commission from the Administrative Officer, municipal departments, the Technical Review Committee, state and federal agencies, and local commissions shall be part of the permanent record of the development application.

(d) All votes of the City Planning Commission shall be made part of the permanent record and shall show the members present their votes. A decision by the City Planning Commission to approve any land development or subdivision application shall require a vote for approval by a majority of the current City Planning Commission membership.

(5) Signing and Recording of Plats and Plans

(a) All approved final plans and plats for land development and subdivision projects shall be signed by the appropriate City Planning Commission official with the date of approval, prior to submission to the City Clerk for recording. Plans and plats for major land developments and subdivisions shall be signed by the City Planning Commission Chairperson or the Secretary of the City Planning Commission attesting to the approval by the City Planning Commission. All minor land development or subdivision plans and plats and administrative plats shall be signed by the City Planning Commission Chairperson or Secretary or the Commission's designated agent.

(b) Upon signature, all plans and plats shall be submitted to the Administrative Officer prior to recording and filing in the appropriate municipal departments. The material to be recorded for all plans and plats

shall include all pertinent plans with notes thereon concerning all the essential aspects of the approved project design, the implementation schedule, special conditions placed on the development by the municipality, permits and agreements with state and federal reviewing agencies, and other information as required by the City Planning Commission.

(c) Other parts of the applications record for subdivisions and land development projects, including all meeting records, approved master plan and preliminary plans, site analyses, impact analyses, all legal agreements, records of the public hearing and the entire final approval set of drawings shall be kept permanently by the municipal departments responsible for implementation and enforcement.

(d) The Administrative Officer shall notify the statewide "911" emergency authority and the local police and fire authorities servicing the new plat with the information required by each of the authorities.

(6) Changes to Recorded Plats and Plans

(a) For all changes to the approved plans of land development projects or subdivisions subject to this act, an amendment of the final development plans is required prior to the issuance of any building permits. Any changes approved in the final plan shall be recorded as amendments to the final plan in accordance with the procedure established for recording of plats in Section XV, Article E, (5), (a) and (b).

(b) Minor changes, as defined in the local regulations, to a land development or subdivision plan may be approved administratively, by the Administrative Officer, whereupon a permit may be issued. Such changes may be authorized without additional public hearings, at the discretion of the Administrative Officer. All such changes shall be made part of the permanent record of the project application. This provision shall not prohibit the Administrative Officer from requesting a recommendation from either the Technical Review Committee or the City Planning Commission. Denial of the proposed change(s) shall be referred to the City Planning Commission for review as a major change.

(c) Major changes, as defined in the local regulations, to a land development or subdivision plan may be approved, only by the City Planning Commission and must follow the same review and public hearing process required for approval of preliminary plans.

Article F. Right of Appeal

(1) An appeal from a decision of the City Planning Commission; Administrative Officer changed with the enforcement of any provisions may be taken to the

Board of Review by an aggrieved party. Such an appeal must be made within twenty (20) days of the decision being recorded.

(2) An appeal from a decision of the Board of Review may be taken by an aggrieved party to the Rhode Island Superior Court.

SECTION XVIII. DEFINITIONS

For the purposes of these regulations, the following words and phrases shall have the meanings respectively ascribed to them by this Section. Where words or phrases used in these regulations are defined in the definitions section of either the "Rhode Island Comprehensive Planning and Land Use Regulation Act", section 45-22.2-4, or the "Zoning Enabling Act of 19911', section 45-24-31, they shall have the meanings stated therein. In addition, the following words and phrases shall have the following meanings.

(1) Administrative Officer. The Director of the Department of Planning and Redevelopment shall be designated to administer the land development and subdivision regulations and to coordinate with local boards and commissions, Department of Planning and Redevelopment staff and state agencies.

(2) Administrative Subdivision. Resubdivision of existing lots which yields no additional lots for development, and involves no creation or extension of streets. Such re-subdivision shall only involve divisions, mergers and division, or adjustments of boundaries of existing lots.

(3) Board of Appeal. The City of Pawtucket Board of Review shall be the local zoning board of review constituted as the Board of Appeal. See Section R.I.G.L. 45-23-57.

(4) Bond. See improvement guarantee.

(5) Buildable Lot. A lot where construction for the use(s) permitted on the site under the local Zoning Ordinance is considered practicable by the City Planning Commission, considering the physical constraints to development of the site as well as the requirements of the pertinent federal, state, and local requirements.

(6) Certificate of Completeness. A notice issued by the Administrative Officer informing an applicant that the application is complete and meets the requirements of the City of Pawtucket's regulations, and that the applicant may proceed with the approval process.

(7) Concept Plan. A drawing with accompanying information showing the basic elements of a proposed land development plan or subdivision as used for pre-application meetings and early discussions, and classification of the project within the approval process.

(8) Consistency with the Comprehensive Plan. A requirement of all local land use regulations which means that all such regulations and subsequent actions shall be in accordance with the public policies arrived at through detailed study and analysis and adopted by the City of Pawtucket as the Comprehensive Community Plan.

(9) Dedication, Fee-in-lieu of. Payments of cash which are authorized in the local regulations when requirements for mandatory dedication of land are not met because of physical conditions of the site or other reasons. The conditions under which such payments will be allowed and all formulas for calculating the amount shall be specified in advance in the local regulations.

(10) Development Regulation. Zoning, subdivision, land development plan, development plan review, historic district, official map, flood plain regulation, soil erosion control or any other governmental regulation of the use and development of land.

(11) Division of Land. A subdivision.

(12) Environmental Constraints. Natural features, resources, or land characteristics that are sensitive to change and may require conservation measures or the application of special development techniques to prevent degradation of the site, or may require limited development, or in certain instances, may preclude development. See also physical constraints to development.

(13) Final Plan. The final stage of land development and subdivision review.

(14) Final Plat. The final drawing(s) of all or a portion of a subdivision to be recorded after approval by the City Planning Commission and any accompanying material as described in the community's regulations and/or required by the City Planning Commission.

(15) Floor Area, Gross. See R. I. State Building Code.

(16) Governing Body. The City Council of the City of Pawtucket, having the power to adopt Ordinances, accept public dedications, release public improvement guarantees, and collect fees.

(17) Improvement. Any natural or built item which becomes part of, is placed upon, or is affixed to, real estate.

(18) Improvement Guarantee. A security instrument accepted by the City of Pawtucket to ensure that all improvements, facilities, or work required by the land development and subdivision regulations, or required by the City of Pawtucket as a condition of approval, will be completed in compliance with the approved plans and specifications of a development.

(19) Local Regulations. The land development and subdivision review regulations adopted under the provisions of this act. For purposes of clarification, throughout this act, where reference is made to local regulations, it shall be understood as the land development and subdivision review regulations and all related ordinances and rules properly adopted pursuant to this act.

(20) Maintenance Guarantees. Any security instrument which may be required and accepted by the City of Pawtucket to ensure that necessary improvements will function as required for a specific period of time.

(21) Major Land Development Plan. Any land development plan not classified as a minor land development plan.

(22) Major Subdivision. Any subdivision not classified as either an administrative subdivision or a minor subdivision.

(23) Master Plan. An overall plan for a proposed project site outlining general, rather than detailed, development intentions. It describes the basic parameters of a major development proposal, rather than giving full engineering details. A Master Plan is required in major land development or major subdivision review.

(24) Minor Land Development Plan. A development plan for a residential project as defined in these regulations, provided that such development does not require waivers or modifications as specified in this act. All nonresidential land development projects shall be considered as major land development plans.

(25) Minor Subdivision. A plan for a residential subdivision of land consisting of five (5) or fewer units or lots, provided that such subdivision does not require waivers or modifications as specified in this act. All nonresidential subdivisions shall be considered as major subdivisions.

(26) Modification of Requirements. See Section 45-23-62.

(27) Parcel. A lot, or contiguous group of lots in single ownership or under single control, and usually considered a unit for purposes of development. Also referred to as a tract.

(28) Permitting Authority. The Commission or Board specifically empowered by State enabling law and local Ordinance to hear and decide on specific matters pertaining to local land use.

(29) Phased Development. Development, usually for large-scale projects, where construction of public and/or private improvements proceeds by sections subsequent to approval of a Master Plan for the entire site.

(30) Physical Constraints to Development. Characteristics of a site or area, either natural or man-made, which present significant difficulties to construction of the uses permitted on that site, or would require extraordinary construction methods.

(31) City Planning Commission. The City Planning Commission of the City of Pawtucket, whether designated as the Plan Commission, Planning Commission, Plan Board, or as otherwise known.

(32) Plat. A drawing or drawings of a land development or subdivision plan showing the location, boundaries, and lot lines of individual properties, as well as other necessary information as specified in these regulations.

(33) Pre-application Conference. An initial meeting between developers and City of Pawtucket representatives which affords developers the opportunity to present their proposals informally and to receive comments and directions from the City of Pawtucket officials and others.

(34) Preliminary Plan. The required stage of land development and subdivision review which shall require detailed engineered drawings and all required state and federal permits.

(35) Public Improvement. Any street or other roadway, sidewalk, pedestrian way, tree, lawn, off-street parking area, drainage feature, or other facility for which the City of Pawtucket or other governmental entity either is presently responsible, or will ultimately assume the responsibility for maintenance and operation upon municipal acceptance.

(36) Public Informational Meeting. A meeting of the City Planning Commission preceded by a notice, open to the public and at which the public shall be heard.

(37) Re-subdivision. Any change of an approved or recorded subdivision plat or in a lot recorded in the City of Pawtucket land evidence records, or that affects the lot lines of any areas reserved for public use, or that affects any map or plan legally recorded prior to the adoption of the local land development and subdivision regulations. For the purposes of this act, any such action shall constitute a subdivision.

(38) Storm Water Detention. A provision for storage of storm water runoff and the controlled release of such runoff during and after a flood or storm.

(39) Storm Water Retention. A provision for storage of storm water runoff.

(40) Street. A public or private thoroughfare used, or intended to be used, for passage or travel by motor vehicles. Streets are further classified by the functions they perform.

(41) Street. Access to. An adequate and permanent way of entering a lot. All lots of record shall have access to a public street for all vehicles normally associated with the uses permitted for that lot.

(42) Street, Alley. A public or private thoroughfare primarily designed to serve as secondary access to the side or rear of those properties whose principal frontage is on some other street.

(43) Street, Cul-de-sac. A local street with only one outlet and having an appropriate vehicular turnaround, either temporary or permanent, at the closed end.

(44) Street, Limited Access Highway. A freeway or expressway providing for through traffic. Owners or occupants of abutting property on lands and other persons have no legal right to access, except at such points and in such manner as may be determined by the public authority having jurisdiction over the highway.

(45) Street, Private. A thoroughfare established as a separate tract for the benefit of multiple, adjacent properties and meeting specific, municipal improvement standards. This definition shall not apply to driveways.

(46) Street, Public. Public property reserved or dedicated for street traffic.

(47) Street, Stub. A portion of a street reserved to provide access to future development, which may provide for utility connections.

(48) Street classification. A method of roadway organization which identifies a street hierarchy according to function within a road system, that is, types of vehicles served and anticipated volumes, for the purposes of promoting safety, efficient land use and the design character of neighborhoods and district. Local classifications shall use the following as major categories:

(a) Arterial. A major street that serves as an avenue for the circulation of traffic into, out of, or around the City of Pawtucket and carries high volumes of traffic.

(b) Collector. A street whose principal function is to carry traffic between local streets and arterial streets but that may also provide direct access to abutting properties.
(c) Local. Streets whose primary function is to provide access to abutting properties.

(49) Subdivider. Any person who 1) having an interest in land, causes it, directly or indirectly, to be divided into a subdivision or who 2) directly or indirectly sells, leases, or develops, or offers to sell, lease, or develop, or advertises to sell, lease, or develop, any interest, lot, parcel, site, unit, or plat in a subdivision, or who 3) engages directly or through an agent in the business of selling, leasing, developing, or offering for sale, lease, or development a subdivision or any interest, lot, parcel, site, unit, or plat in a subdivision.

(50) Subdivision. The division or redivision, of a lot, tract or parcel of land into two or more lots, tracts, or parcels. Any adjustment to existing lot lines of a recorded lot by any means shall be considered a subdivision. All re-subdivision activity shall be considered a subdivision. The division of property for purposes of financing constitutes a subdivision.

(51) Technical Review Committee. A committee appointed by the City Planning Commission for the purpose of reviewing, commenting, and making recommendations to the City Planning Commission with respect to approval of land development and subdivision applications.

(52) Temporary Improvement. Improvements built and maintained by a developer during construction of a development project and prior to release of the improvement guarantee, but not intended to be permanent.

(53) Vested Rights. The right to initiate or continue the development of an approved project for a specified period of time, under the regulations that were in effect at the time of approval, even if, after the approval, the regulations change prior to the completion of the project.

SECTION XIX. SEVERABILITY

If any provision of this chapter or of any rule, regulation, or determination made thereunder, or the application thereof to any person, agency, or circumstances, is held invalid by a court of competent jurisdiction, the remainder of the chapter, rule, regulation, or determination and the application of such provisions to other, persons, agencies, or circumstances shall not be affected thereby. The invalidity of any section or sections of this chapter shall not affect the validity of the remainder of the chapter.

SECTION XX. EFFECTIVE DATE

The Ordinance will be effective following a public hearing on the date of approval on March 22, 1994 by the Pawtucket City Planning Commission.

APPENDIX A. DEVELOPMENT PLAN REVIEW CHECKLIST

The applicant shall submit eight (8) copies of plans on 24 x 36 inch sheets drawn to scale, not smaller than 1"=100', by a registered architect, landscape architect, engineer or land surveyor, as applicable and the City may require multiple drawings, including maps, plans, elevations, sections, and narrative documents along with a Development Plan Review application. Plans shall include as much of the following information as the City deems necessary to evaluate the proposed project. The project will not be scheduled for review unless the City is satisfied as to the content of the submission based upon the following checklist.

General/Legal Information:

(1) Name of development.
(2) Date(s) of plan and revisions (if any).
(3) Graphic scale, true north arrow, locus map at 1" = 2,000'.
(4) Property owner's name and address.
(5) Zoning District(s) and notation if located in any Town Zoning Overlay Districts.
(6) All building setbacks required by the zoning ordinance.
(7) Location and width of all existing rights of way, easements and reservations within and adjacent to the property.
(8) All boundary lines of the property and total acreage contained therein. Certification and signature (stamp) of Rhode Island Registered Land Surveyor that the plan is correct.
(9) Name, address and telephone number of any designers associated with the development of the plans.
(10) Plat and lot numbers of the parcel being subdivided.

Natural Resources:

(1) The location of floodways and all V and A flood zones.
(2) Accurate location of significant natural features and/or landscape features designated for preservation.

Existing Features:

(1) Location and dimensions of existing buildings, streets, sidewalks, driveways, and parking areas on and within two hundred (200) feet of the property.
(2) The location of any gravesites/cemeteries.
(3) Existing topographic contours in two-foot intervals.
(4) Location of any existing easements

Proposed Development:

(1) Area of subdivision or development and site boundaries.
(2) Location and dimensions of any proposed property lines, drawn so as to distinguish them from existing property lines.
(3) The location, bearing and length of all property lines and street lines. No plus or minus distances shall be submitted. All survey data shall be referenced to the U.S. Geological Survey, where appropriate.
(4) Location of any proposed utility connections.

Supporting Materials:

(1) Filing fees.
(2) Any available documentation from existing utility agencies providing consent to connect to existing utilities. Said documentation may not be required at the time of application however approval may be conditioned upon providing said documentation to the City where deemed appropriate.
(3) Parking calculations demonstrating compliance with Article IX of the Zoning Ordinance.
(4) Copies of drainage plans, site assessment documentation, environmental analyses, traffic data, or any other information that is required as part of permit applications to RIDEM, RICRMC, RIDOT or any other state or federal agency.
(5) Certificate of Good Standing from the City as provided for in Appendix C.
(6) Existing statements and conditions of easements, deed restrictions or covenants existing or proposed on land within the plat.

APPENDIX C
DOWNTOWN DESIGN GUIDELINES ASSOCIATED WITH THE PLANNING COMMISSION REGULATIONS

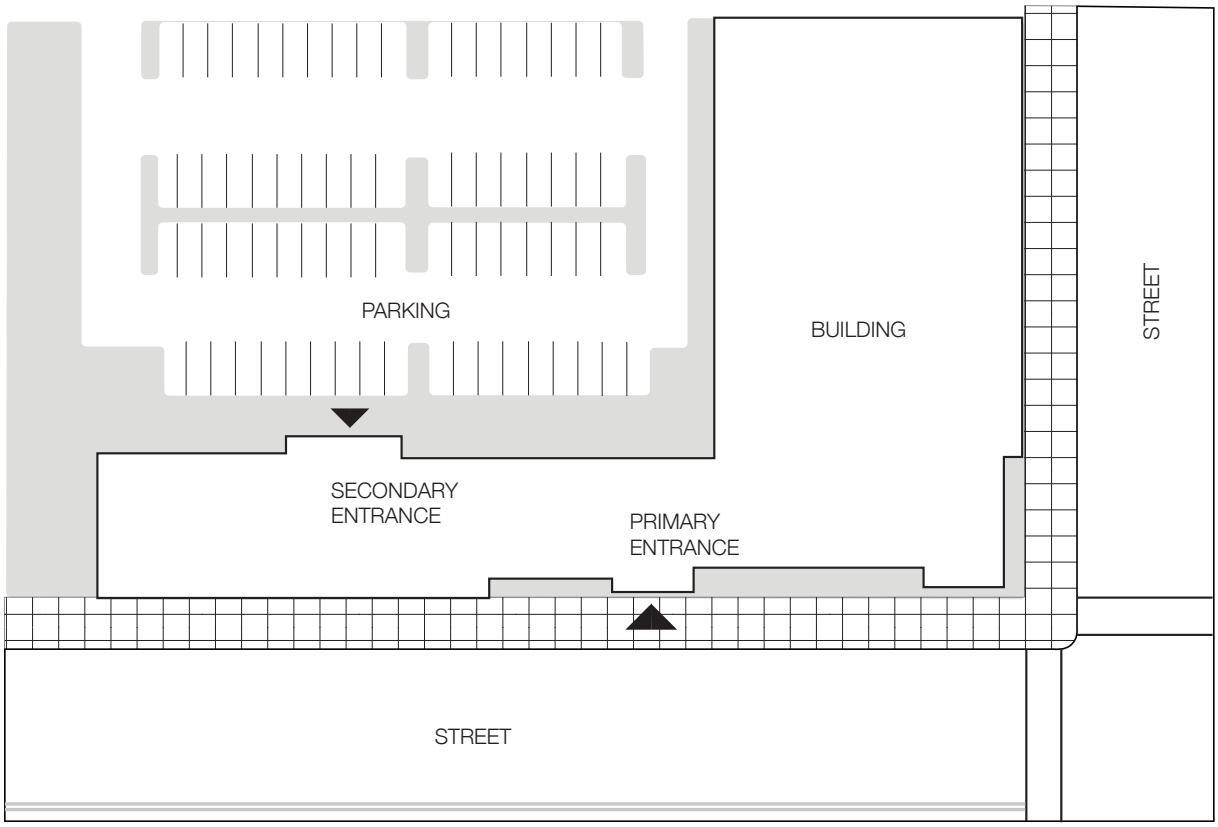


FIGURE 1: This image shows how parking is located in the inner part of the block to allow buildings to create a continuous sidewalk and street edge. Primary entrances are on the public sidewalk with alternative entrances adjacent to the parking.

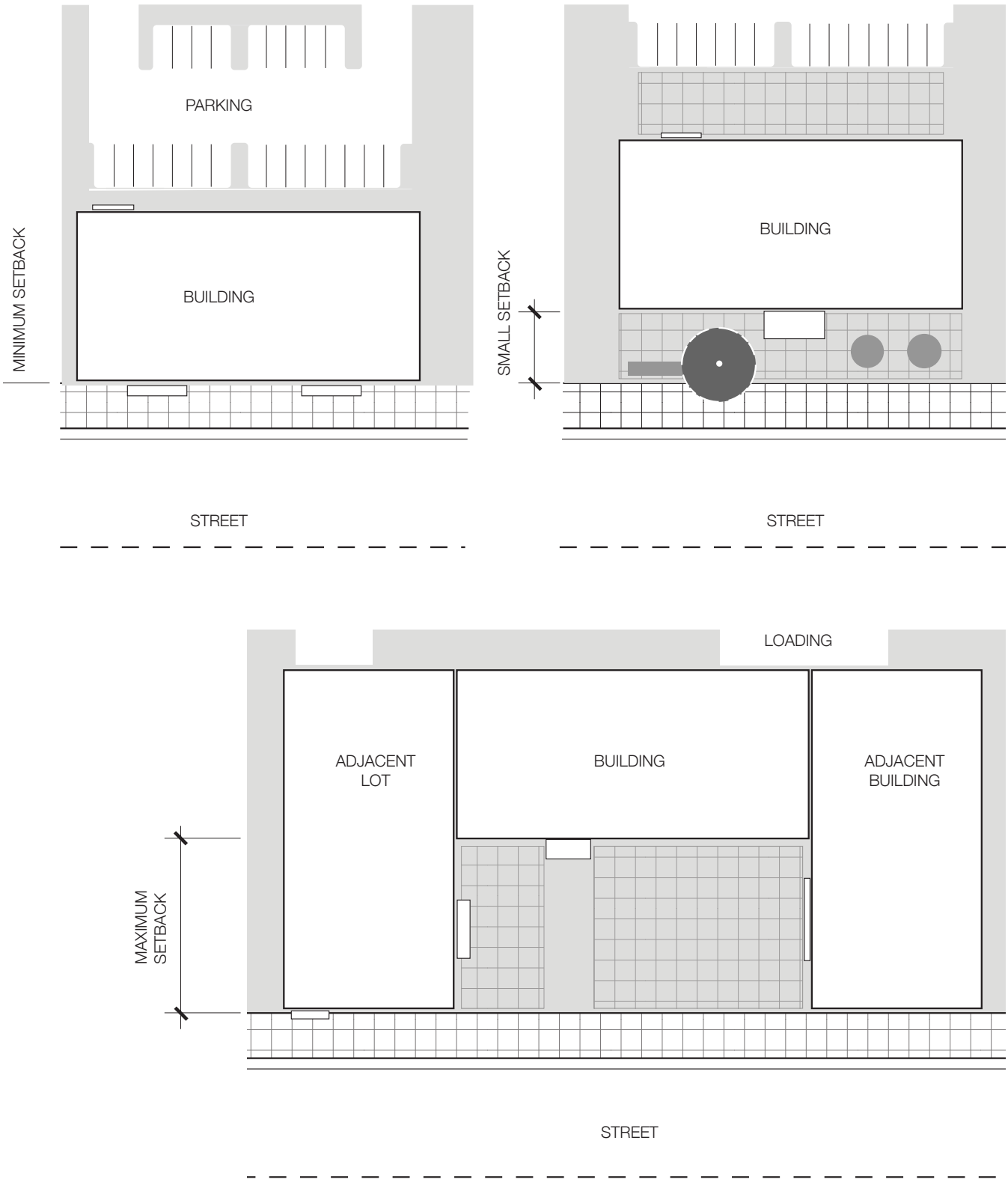


FIGURE 2: This image shows how three different setbacks can work between a minimum of zero to a maximum of 40 feet. Minimum setbacks support a continuous street edge along the public sidewalk. A small setback can offer pedestrian amenities including benches, trees, tables and seating. The maximum setback can be used to create plaza space defined by adjacent structures for activities, seating or outdoor program.

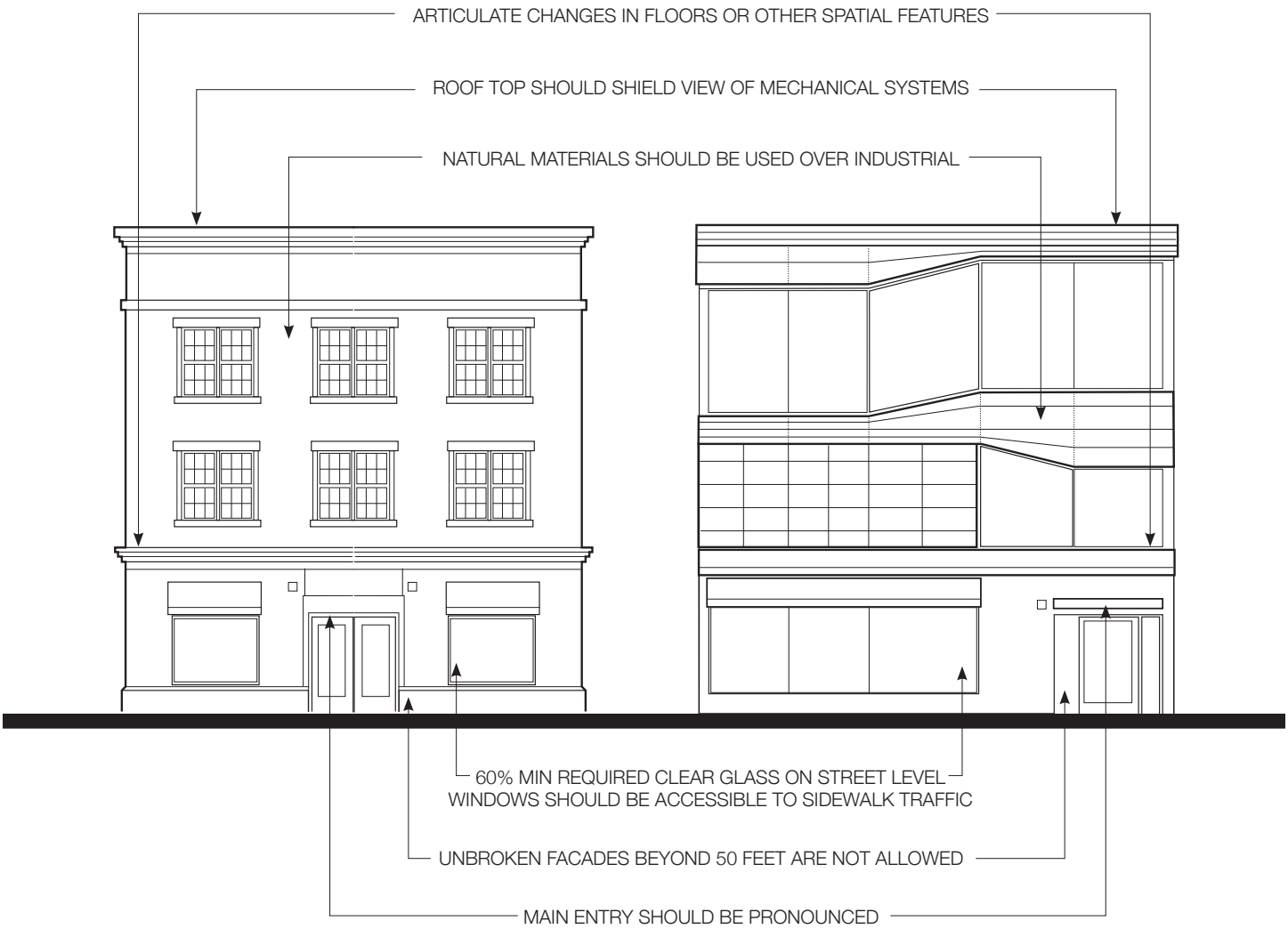


FIGURE 3: This image shows how different types of architectural languages can articulate the same goals. The overall goal is to avoid large unbroken facades or street level facades that disconnect pedestrian visual access into buildings.

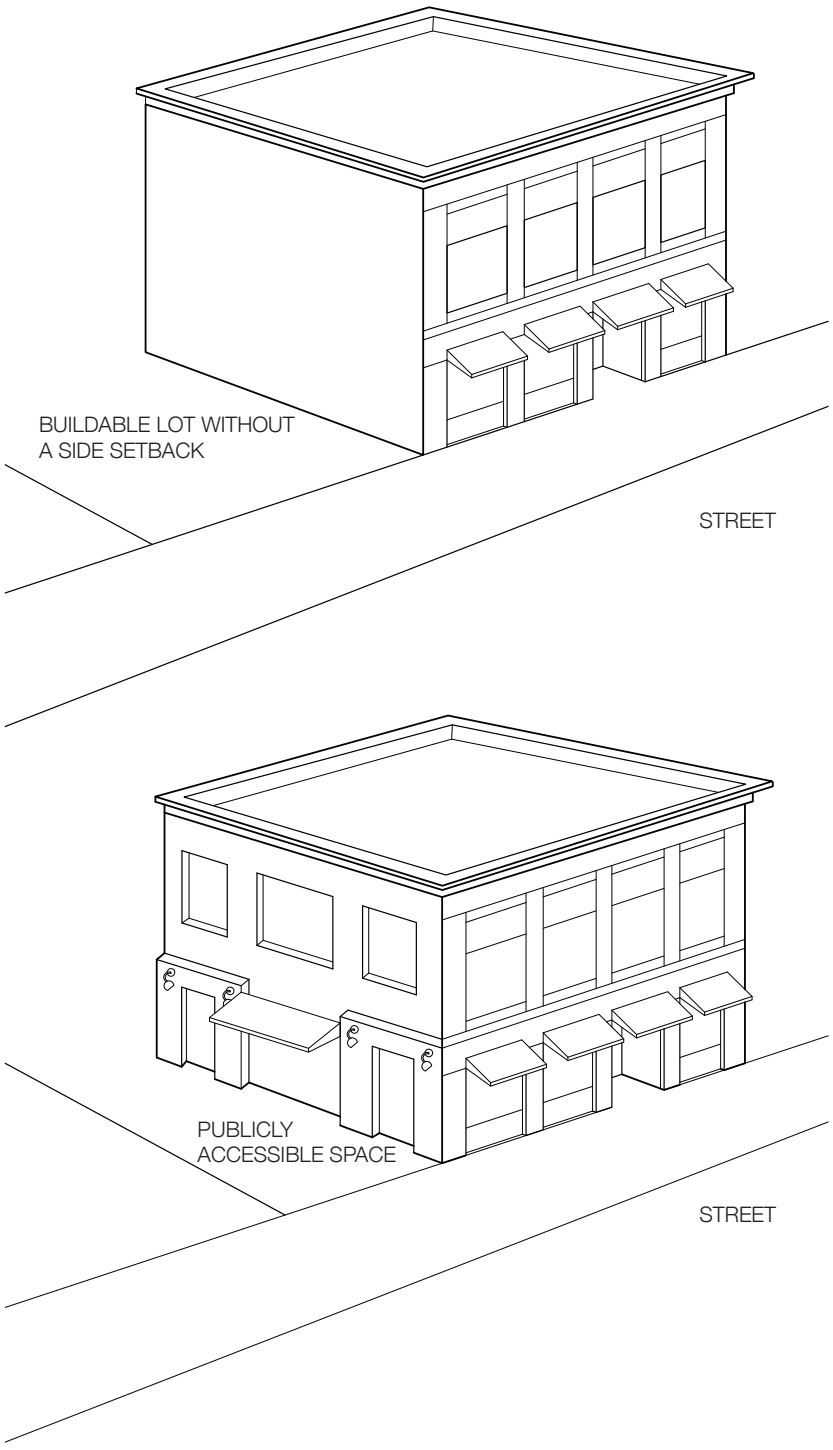
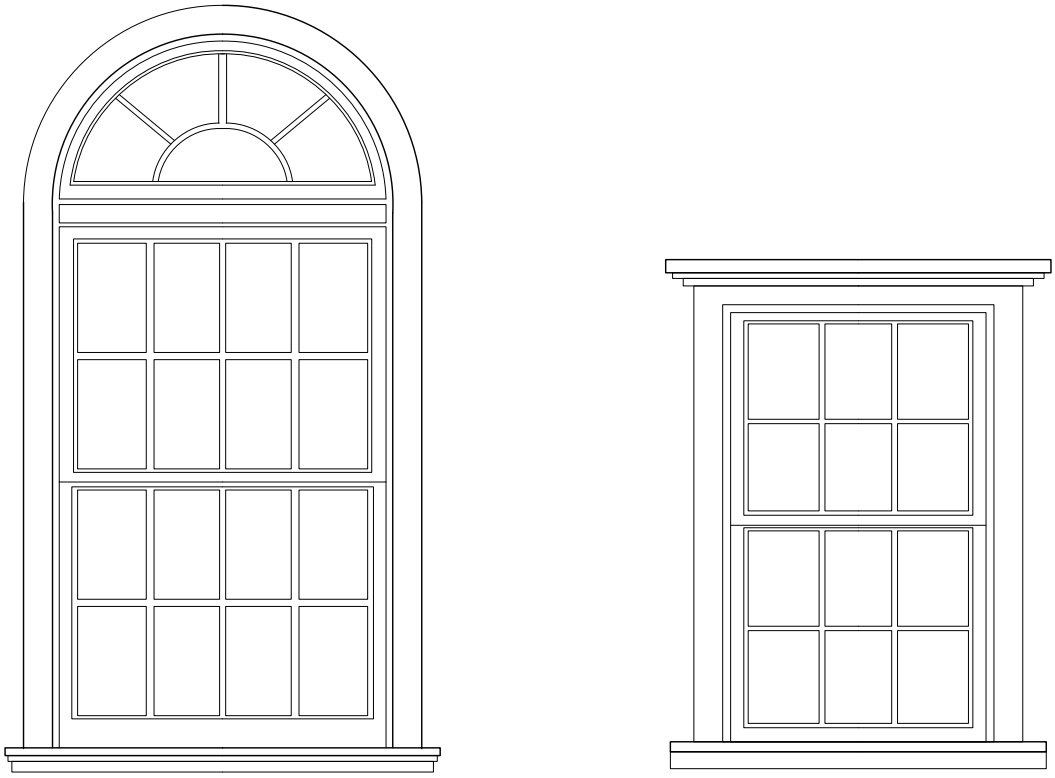
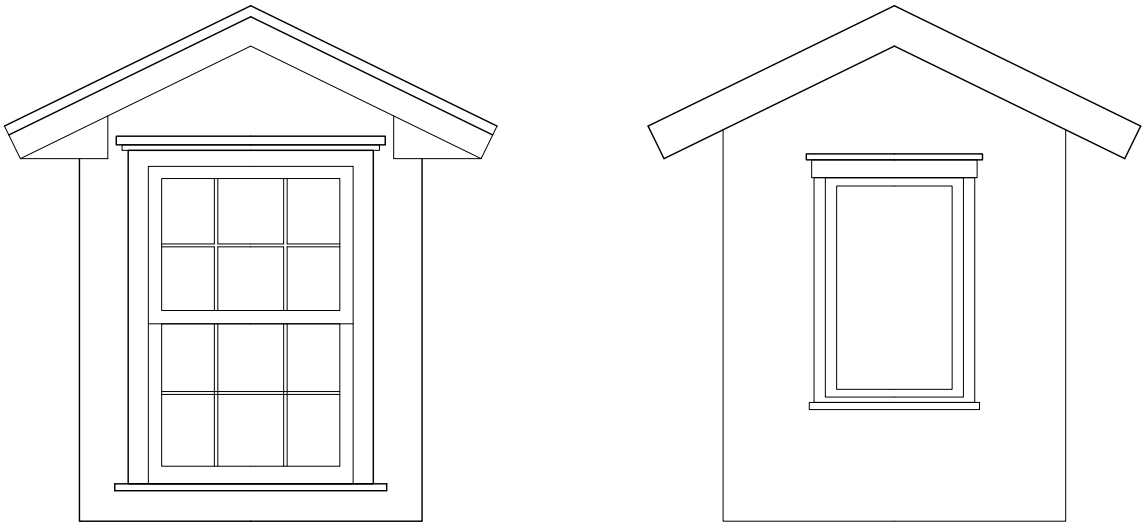


FIGURE 4: This image shows how building side walls should be treated depending on lot conditions. Buildings that have side walls that are adjacent to publicly accessible space should add detail, glazing or entrances to the side wall to avoid large blank surfaces. Buildings that are adjacent to buildable lots with no side setback may have blank walls in anticipation of future site development.



These windows illustrate potential styles that meet the dimensional, material and functional recommendations. Mullions or muntins should divide large areas of glass, especially for windows above the ground floor.



DESIRABLE UNDESIRABLE

These images illustrate how windows faces should be sized appropriately to the face of dormers.

FIGURE 5: These images illustrate how traditional windows should use details to provide attractive features.

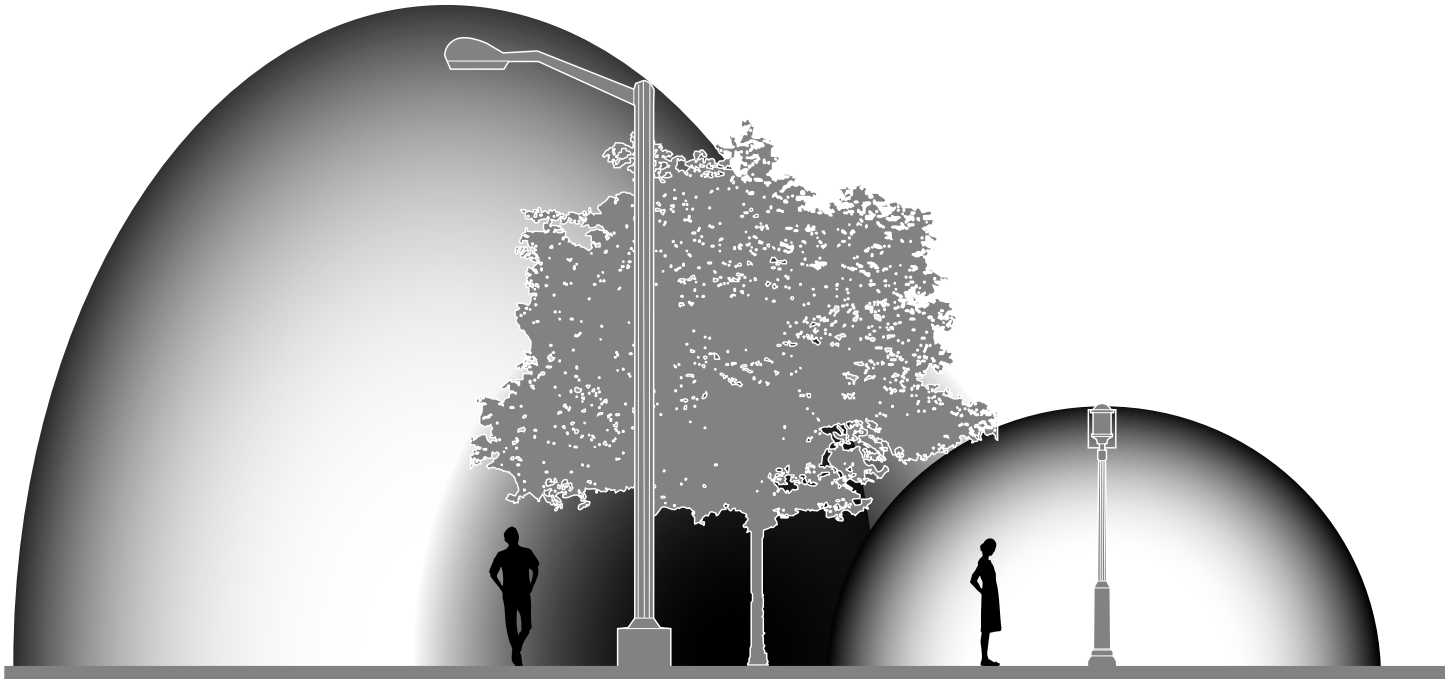
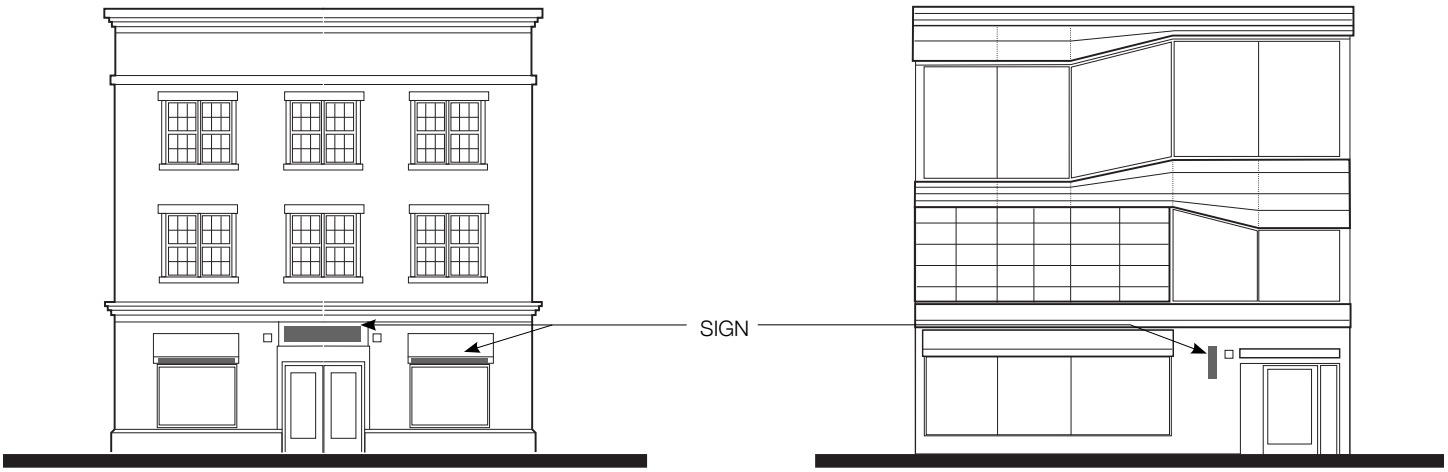


FIGURE 6: These images illustrate how human-scale decorative lighting creates a more inviting environment for pedestrians.

UNDESIRABLE

The poor placement of signs in this illustration shows how signage can detract from the architectural appeal of well designed buildings.

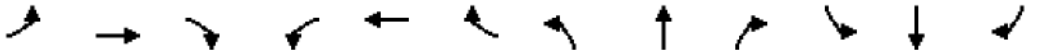


DESIRABLE

The same buildings shown above are provided here with better signage scale and placement.

FIGURE 7: These images show more desirable signage locations and scales.

APPENDIX D
RECIRCULATED 2010 TRAFFIC ANALYSIS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	304	72	84	340	32	36	84	104	100	148	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99						1.00			0.98	
Frt		0.973			0.990			0.937			0.957	
Flt Protected		0.997			0.991			0.992			0.986	
Satd. Flow (prot)	0	3081	0	0	1613	0	0	1514	0	0	1474	0
Flt Permitted		0.910			0.851			0.906			0.858	
Satd. Flow (perm)	0	2809	0	0	1385	0	0	1378	0	0	1282	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			7			67			36	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		756			234			448			455	
Travel Time (s)		17.2			5.3			10.2			10.3	
Confl. Peds. (#/hr)	24		24				24					24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	5%	5%	5%	7%	7%	7%
Adj. Flow (vph)	30	330	78	91	370	35	39	91	113	109	161	126
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	438	0	0	496	0	0	243	0	0	396	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	35.0	35.0	0.0	35.0	35.0	0.0	27.0	27.0	0.0	27.0	27.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%	38.6%	38.6%	0.0%	38.6%	38.6%	0.0%
Maximum Green (s)	31.0	31.0		31.0	31.0		23.0	23.0		23.0	23.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		24.5			24.5			23.3			23.3	
Actuated g/C Ratio		0.44			0.44			0.42			0.42	
v/c Ratio		0.35			0.81			0.40			0.71	
Control Delay		9.6			25.1			12.0			23.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.6			25.1			12.0			23.9	
LOS		A			C			B			C	

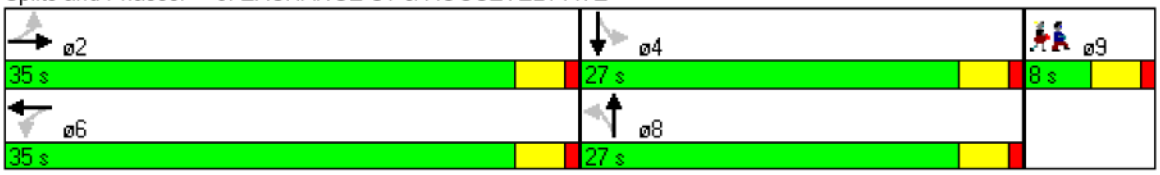
Lane Group	ø9
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	11%
Maximum Green (s)	4.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		9.6			25.1			12.0			23.9	
Approach LOS		A			C			B			C	
Queue Length 50th (ft)		41			132			39			98	
Queue Length 95th (ft)		67			#243			101			#260	
Internal Link Dist (ft)		676			154			368			375	
Turn Bay Length (ft)												
Base Capacity (vph)		1598			781			613			555	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.27			0.64			0.40			0.71	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 70			
Actuated Cycle Length: 55.9			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 18.4		Intersection LOS: B	
Intersection Capacity Utilization 89.0%		ICU Level of Service E	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: EXCHANGE ST & ROOSEVELT AVE



Lane Group	ø9
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

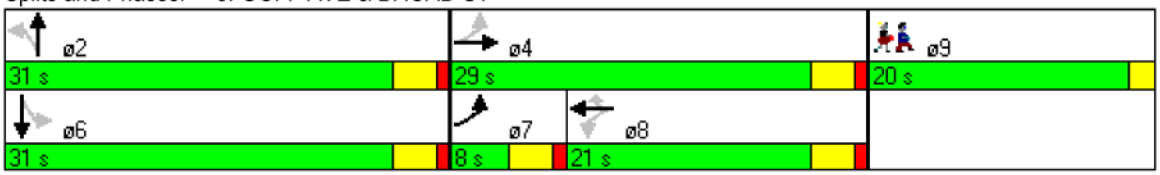
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	153	161	9	8	322	148	23	165	9	50	195	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.994			0.942	
Flt Protected	0.950				0.999			0.994			0.994	
Satd. Flow (prot)	1770	1848	0	0	1861	1583	0	1840	0	0	1744	0
Flt Permitted	0.272				0.992			0.938			0.942	
Satd. Flow (perm)	507	1848	0	0	1848	1583	0	1737	0	0	1653	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				161		3			52	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		325			211			120			606	
Travel Time (s)		7.4			4.8			2.7			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	166	175	10	9	350	161	25	179	10	54	212	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	185	0	0	359	161	0	214	0	0	468	0
Turn Type	pm+pt			Perm		Perm	Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Total Split (s)	8.0	29.0	0.0	21.0	21.0	21.0	31.0	31.0	0.0	31.0	31.0	0.0
Total Split (%)	10.0%	36.3%	0.0%	26.3%	26.3%	26.3%	38.8%	38.8%	0.0%	38.8%	38.8%	0.0%
Maximum Green (s)	4.0	25.0		17.0	17.0	17.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Min	Min		Min	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	25.1	25.1			16.6	16.6		20.0			20.0	
Actuated g/C Ratio	0.43	0.43			0.29	0.29		0.34			0.34	
v/c Ratio	0.54	0.23			0.68	0.28		0.36			0.78	
Control Delay	24.8	15.2			31.0	6.3		17.4			26.7	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	24.8	15.2			31.0	6.3		17.4			26.7	
LOS	C	B			C	A		B			C	
Approach Delay		19.7			23.4			17.4			26.7	
Approach LOS		B			C			B			C	
Queue Length 50th (ft)	27	29			90	0		45			106	

Lane Group	ø9
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	20.0
Total Split (s)	20.0
Total Split (%)	25%
Maximum Green (s)	18.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	4.0
Flash Dont Walk (s)	9.0
Pedestrian Calls (#/hr)	20
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	#127	110			#305	44		123			#293	
Internal Link Dist (ft)		245			131			40			526	
Turn Bay Length (ft)												
Base Capacity (vph)	310	845			573	602		856			840	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.54	0.22			0.63	0.27		0.25			0.56	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 58.2			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 22.7		Intersection LOS: C	
Intersection Capacity Utilization 68.8%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 8: GOFF AVE & BROAD ST



Lane Group	ø9
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	252	196	6	139	373	319	85	367	125	2	82	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt		0.995				0.850		0.967			0.974	
Flt Protected	0.950				0.987			0.993			0.999	
Satd. Flow (prot)	1593	3169	0	0	3144	1425	0	3059	0	0	1631	0
Flt Permitted	0.431				0.806			0.892			0.990	
Satd. Flow (perm)	723	3169	0	0	2567	1425	0	2748	0	0	1617	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				347		57			20	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		220			168			542			324	
Travel Time (s)		5.0			3.8			12.3			7.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	274	213	7	151	405	347	92	399	136	2	89	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	274	220	0	0	556	347	0	627	0	0	113	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8	6			2		
Detector Phase	4	4		8	8	8	6	6		2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	32.0	32.0	0.0	32.0	32.0	32.0	20.0	20.0	0.0	20.0	20.0	0.0
Total Split (%)	53.3%	53.3%	0.0%	53.3%	53.3%	53.3%	33.3%	33.3%	0.0%	33.3%	33.3%	0.0%
Maximum Green (s)	28.0	28.0		28.0	28.0	28.0	16.0	16.0		16.0	16.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	24.1	24.1			24.1	24.1		16.2			16.2	
Actuated g/C Ratio	0.50	0.50			0.50	0.50		0.33			0.33	
v/c Ratio	0.76	0.14			0.43	0.39		0.66			0.20	
Control Delay	26.5	6.2			8.7	2.4		17.5			12.4	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	26.5	6.2			8.7	2.4		17.5			12.4	
LOS	C	A			A	A		B			B	

Lane Group	ø9
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	13%
Maximum Green (s)	4.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Approach Delay		17.5			6.3			17.5			12.4	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)	55	15			46	0		79			21	
Queue Length 95th (ft)	#171	27			75	28		129			51	
Internal Link Dist (ft)		140			88			462			244	
Turn Bay Length (ft)						200						
Base Capacity (vph)	423	1857			1502	977		957			554	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.65	0.12			0.37	0.36		0.66			0.20	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 60			
Actuated Cycle Length: 48.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 63.2%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 14: GOFF AVE & DEXTER ST

Lane Group	ø9
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

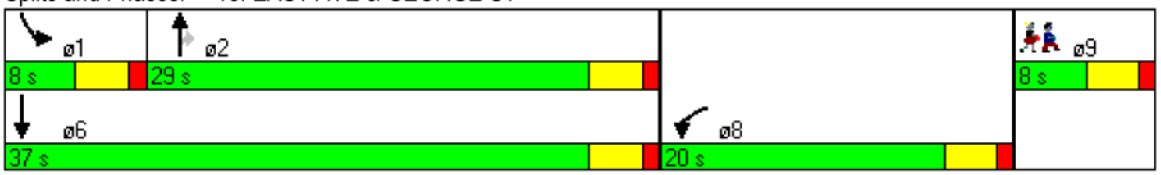
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø9
Lane Configurations							
Volume (vph)	134	33	202	145	149	528	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Frt	0.973			0.850			
Flt Protected	0.961					0.989	
Satd. Flow (prot)	1568	0	1676	1425	0	3150	
Flt Permitted	0.961					0.818	
Satd. Flow (perm)	1568	0	1676	1425	0	2606	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	18			159			
Link Speed (mph)	30		30			30	
Link Distance (ft)	664		400			401	
Travel Time (s)	15.1		9.1			9.1	
Peak Hour Factor	0.92	0.92	0.84	0.91	0.93	0.96	
Adj. Flow (vph)	146	36	240	159	160	550	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	182	0	240	159	0	710	
Turn Type				Perm	Prot		
Protected Phases	8		2		1	6	9
Permitted Phases				2			
Detector Phase	8		2	2	1	6	
Switch Phase							
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		20.0	20.0	8.0	20.0	8.0
Total Split (s)	20.0	0.0	29.0	29.0	8.0	37.0	8.0
Total Split (%)	30.8%	0.0%	44.6%	44.6%	12.3%	56.9%	12%
Maximum Green (s)	16.0		25.0	25.0	4.0	33.0	4.0
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lag	Lag	Lead		
Lead-Lag Optimize?			Yes	Yes	Yes		
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max	None
Walk Time (s)	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0		0	0		0	
Act Effct Green (s)	11.2		38.4	38.4		38.4	
Actuated g/C Ratio	0.19		0.67	0.67		0.67	
v/c Ratio	0.57		0.22	0.16		0.79	
Control Delay	24.8		5.1	1.5		17.7	
Queue Delay	0.0		0.0	0.0		0.0	
Total Delay	24.8		5.1	1.5		17.7	
LOS	C		A	A		B	
Approach Delay	24.8		3.6			17.7	
Approach LOS	C		A			B	
Queue Length 50th (ft)	49		25	0		71	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø9
Queue Length 95th (ft)	93		59	18		#215	
Internal Link Dist (ft)	584		320			321	
Turn Bay Length (ft)							
Base Capacity (vph)	449		1116	1002		899	
Starvation Cap Reductn	0		0	0		0	
Spillback Cap Reductn	0		0	0		0	
Storage Cap Reductn	0		0	0		0	
Reduced v/c Ratio	0.41		0.22	0.16		0.79	

Intersection Summary	
Area Type:	CBD
Cycle Length: 65	
Actuated Cycle Length: 57.7	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 14.3	Intersection LOS: B
Intersection Capacity Utilization 53.3%	ICU Level of Service A
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: EAST AVE & GEORGE ST



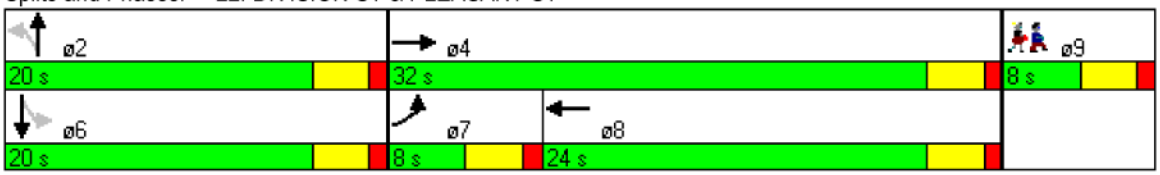
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	672	0	0	420	12	16	104	212	12	0	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.996			0.914			0.902	
Flt Protected	0.950							0.998			0.987	
Satd. Flow (prot)	1593	1676	0	0	1670	0	0	1529	0	0	1493	0
Flt Permitted	0.950							0.989			0.896	
Satd. Flow (perm)	1593	1676	0	0	1670	0	0	1515	0	0	1355	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					3			145			35	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		360			364			370			427	
Travel Time (s)		8.2			8.3			8.4			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	730	0	0	457	13	17	113	230	13	0	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	730	0	0	470	0	0	360	0	0	48	0
Turn Type	Prot						Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases							2			6		
Detector Phase	7	4			8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	20.0			20.0		20.0	20.0		20.0	20.0	
Total Split (s)	8.0	32.0	0.0	0.0	24.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Total Split (%)	13.3%	53.3%	0.0%	0.0%	40.0%	0.0%	33.3%	33.3%	0.0%	33.3%	33.3%	0.0%
Maximum Green (s)	4.0	28.0			20.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None			None		Max	Max		Max	Max	
Walk Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	4.0	26.5			23.4			16.1			16.1	
Actuated g/C Ratio	0.08	0.52			0.46			0.32			0.32	
v/c Ratio	0.28	0.83			0.61			0.62			0.11	
Control Delay	28.5	21.0			16.3			14.6			7.5	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	28.5	21.0			16.3			14.6			7.5	
LOS	C	C			B			B			A	
Approach Delay		21.3			16.3			14.6			7.5	
Approach LOS		C			B			B			A	
Queue Length 50th (ft)	10	162			81			52			3	

Lane Group	ø9
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	13%
Maximum Green (s)	4.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	32	#360			#246			127			21	
Internal Link Dist (ft)		280			284			290			347	
Turn Bay Length (ft)												
Base Capacity (vph)	127	930			774			580			454	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.28	0.78			0.61			0.62			0.11	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 60			
Actuated Cycle Length: 50.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 68.3%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 22: DIVISION ST & PLEASANT ST



Lane Group	ø9
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	419	47	175	349	58	21	129	282	3	56	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987				0.850		0.912			0.994	
Flt Protected		0.996			0.984			0.998			0.998	
Satd. Flow (prot)	0	1648	0	0	1650	1425	0	1526	0	0	1663	0
Flt Permitted		0.940			0.690			0.986			0.984	
Satd. Flow (perm)	0	1555	0	0	1157	1425	0	1508	0	0	1640	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				70		113			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		267			193			574			437	
Travel Time (s)		6.1			4.4			13.0			9.9	
Peak Hour Factor	0.96	0.93	0.92	0.92	0.92	0.83	0.92	0.92	0.93	0.92	0.92	0.92
Adj. Flow (vph)	40	451	51	190	379	70	23	140	303	3	61	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	542	0	0	569	70	0	466	0	0	67	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	47.0	47.0	0.0	47.0	47.0	47.0	25.0	25.0	0.0	25.0	25.0	0.0
Total Split (%)	58.8%	58.8%	0.0%	58.8%	58.8%	58.8%	31.3%	31.3%	0.0%	31.3%	31.3%	0.0%
Maximum Green (s)	43.0	43.0		43.0	43.0	43.0	21.0	21.0		21.0	21.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Min	Min	
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		41.9			41.9	41.9		21.0			21.0	
Actuated g/C Ratio		0.59			0.59	0.59		0.30			0.30	
v/c Ratio		0.59			0.83	0.08		0.88			0.14	
Control Delay		12.1			25.1	2.0		39.8			19.1	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		12.1			25.1	2.0		39.8			19.1	
LOS		B			C	A		D			B	
Approach Delay		12.1			22.6			39.8			19.1	
Approach LOS		B			C			D			B	
Queue Length 50th (ft)		130			179	0		153			21	

Lane Group	ø9
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	8.0
Total Split (s)	8.0
Total Split (%)	10%
Maximum Green (s)	4.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		217			#393	12		#327			49	
Internal Link Dist (ft)		187			113			494			357	
Turn Bay Length (ft)												
Base Capacity (vph)		949			703	893		527			488	
Starvation Cap Reductn		0			0	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.57			0.81	0.08		0.88			0.14	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 80			
Actuated Cycle Length: 70.9			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 23.8		Intersection LOS: C	
Intersection Capacity Utilization 105.9%		ICU Level of Service G	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 27: MAIN ST & EAST AVE

Lane Group	ø9
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

APPENDIX E
DETAILED COST ESTIMATES FOR
EXCHANGE STREET, EAST AVENUE EXTENSION & MAIN STREET
STREET IMPROVEMENT PROJECTS

COMBINED ESTIMATE:		
	Curb-to-curb	$ 230,000
	Landscape	$ 945,000
TOTAL	**Construction Estimate**	**$ 1,175,000**

SCOPE

CURB TO CURB

Main Street Improvements (Including Broad Street)

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
201.0403	700	SY	Remove and Dispose Sidewalks	$6.00	$4,200.00
202.03	240	CY	Unclassified Excavation	$30.00	$7,200.00
302.01	240	CY	Gravel Borrow Subbase Course	$12.00	$2,880.00
401.01	200	TON	Bituminous Base Course	$75.00	$15,000.00
401.02	95	TON	Bituminous Surface Course	$79.00	$7,505.00
403.03	700	SY	Asphalt Emulsion Tack Coat	$0.30	$210.00
707.09	4	EA	Adjust Manholes to Grade	$250.00	$1,000.00
906.0111	80	LF	Granite Curb, Quarry Split Straight, Standard 7.3.0	$40.00	$3,200.00
906.07	1240	LF	Remove, Handle, Haul, trim, Reset Curb Edging All Types	$20.00	$24,800.00
n/a	12	EA	Granite Curb Wheelchair Ramp	$2,500.00	$30,000.00
T08.1700	8	EA	Remove and Relocate Light Standard	$700.00	$5,600.00
n/a	1	LS	Traffic Signal Improvements (2 Intersections)	$60,000.00	$60,000.00
Sidewalk Items:					
202.03	30	CY	Unclassified Excavation	$30.00	$900.00
905.011	15	CY	Portland Cement Sidewalk Monolithic Standard 43.1.0	$275.00	$4,125.00
302.01	30	CY	Gravel Borrow Subbase Course	$12.00	$360.00

Subtotal=	$166,980.00
PM & Signage (10%)=	$16,698.00
Contingency (25%)=	$45,919.50
Total=	$229,597.50
SAY	$230,000.00

LANDSCAPE

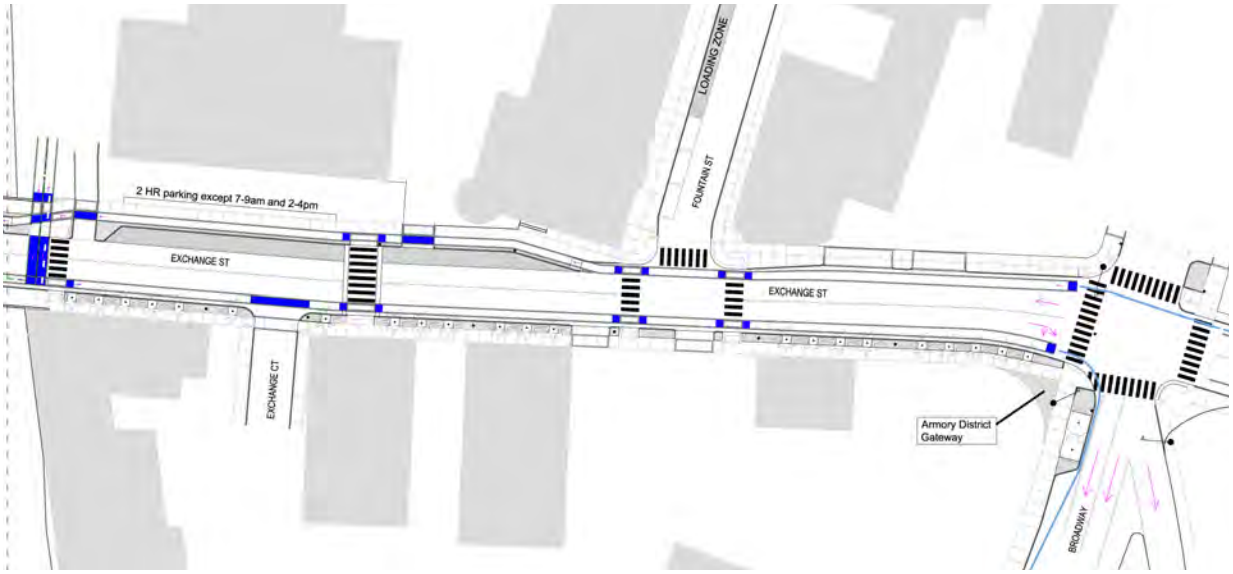
Description	Unit-of-Measure	Unit Cost	Quantity	Cost
R&D sidewalks	sy	5	25000	125,000
concrete sidewalks	sf	10	20000	200,000
granite transition bands	lf	40	2000	80,000
unit pavers assume cobbles from city stockpile	sf	20	9000	180,000
trees and struct. soil	each	1,000	60	60,000
furnishings planters, trash cans, bike racks	allow	1	30000	30,000
benches	allow	1	20000	20,000
lighting	each	10,000	25	250,000
			TOTAL	**$ 945,000**

EXCHANGE STREET ESTIMATE

COMBINED ESTIMATE:

	Curb-to-curb	$ 332,300
	Landscape	$ 370,000
TOTAL	**Construction Estimate**	**$ 702,300**

SCOPE



CURB TO CURB

RI WAUP Item #	Description	Unit-of-Measure	Unit Cost	Quantity	Cost
935.0500	Removal of bituminous surface- cold planing	sy	$3.00	5600	$16,800.00
401.0200	HMA Surface (assume 2.5" thk)	ton	$80.00	784	$62,720.00
T20.2014	4" epoxy pavement marking- yellow	lf	$0.30	1762.6	$528.78
T20.2004	4" epoxy pavement marking- white	lf	$0.75	2785	$2,088.75
T20.2012	12" epoxy pavement marking- white	lf	$1.90	3150	$5,994.45
834.0131	Vertical face granite curb- 7" reveal	lf	$40.00	300	$12,000.00
n/a	Granite wheelchair ramp	ea	$2,500.00	16	$40,000.00
n/a	Full depth pavement reconstruction (t=18")- price from previous estimates	sf	$10.50	765	$8,032.50
T11.1040	Price for 40' M.A. and foundation cut in half for estimate of R&R existing M.A.	ea	$5,750.00	3	$17,250.00
201.0401	R&R Granite curb	lf	$16.00	2700	$43,200.00
201.0407	R&D Pavement and base	sy	$10.00	405	$4,050.00
932.0210	Full depth sawcut	lf	$3.00	170	$510.00
201.0403	R&D Sidewalks (traffic island)	sy	$5.50	85	$467.50
702.0704	Catch Basin Type F- Square	ea	$2,400.00	12	$28,800.00
	Raised Crosswalk Items:	-	-	-	-
401.0100	HMA Base	ton	$80.00	4.4	$352.00
401.0200	HMA Surface	ton	$80.00	7.7	$616.00
834.0131	Vertical face granite curb- 7" reveal	lf	$40.00	68	$2,720.00

Sub-Total=	$246,129.98
Mobilization (10%)=	$24,613.00
Contingency (25%)=	$61,532.50
TOTAL=	$332,275.47
SAY	$332,300.00

Notes: 1. Cost estimate does not include relocation of existing utility poles.
2. Cost estimate does include bumpouts on Broadway.
3. Cost for items behind curb lines are being estimated by L+A Landscape

LANDSCAPE

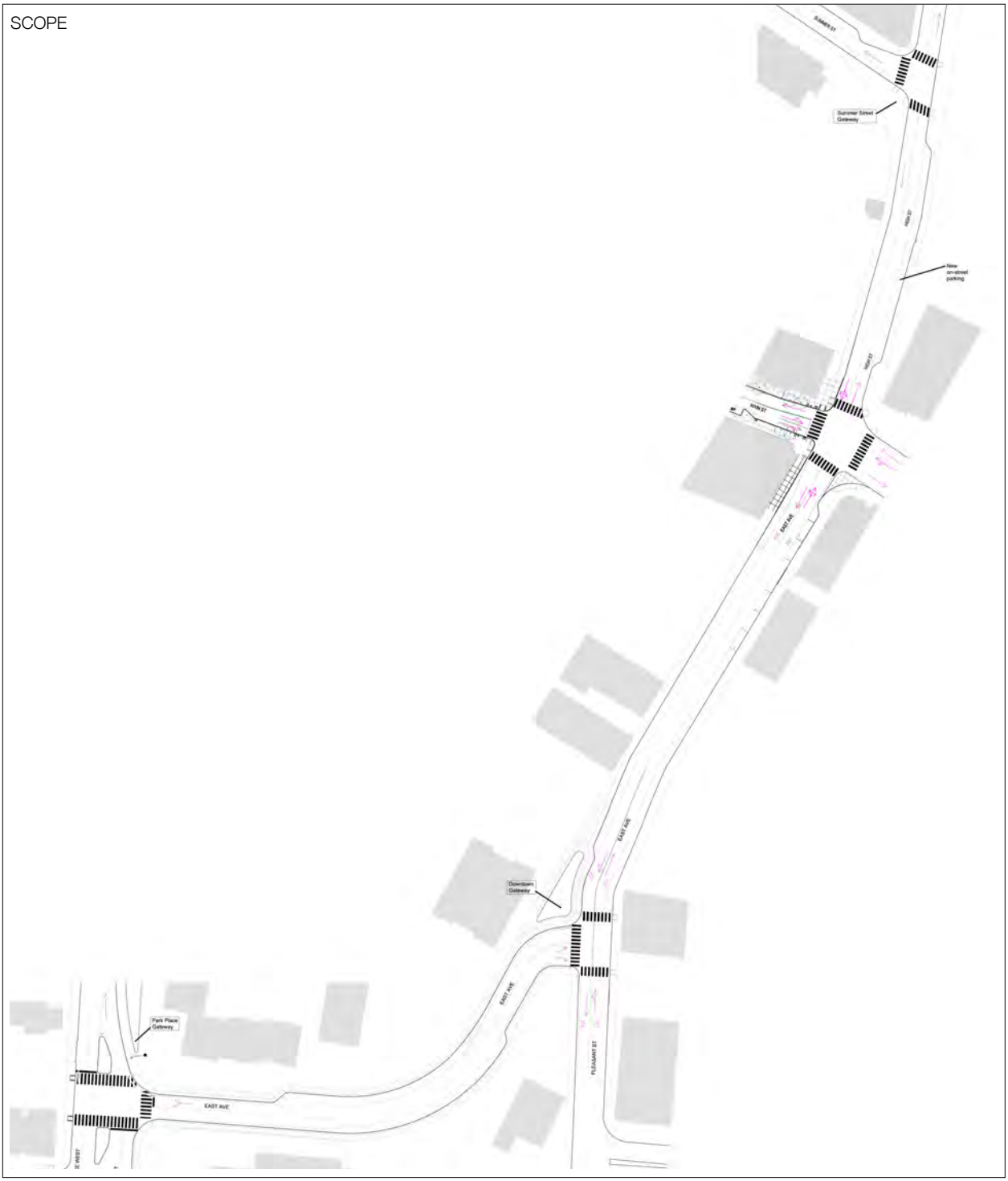
Description	Unit-of-Measure	Unit Cost	Quantity	Cost
NORTH SIDE ITEMS				
R&D sidewalks	sy	5	3000	$ 15,000
concrete sidewalks	sf	10	0	0
asphalt bike lanes	sf	10	2600	26,000
granite transition bands	lf	40	600	24,000
unit pavers	sf	25	3000	75,000
trees and struct. soil	each	1,000	5	5,000
Tolman Square	allow	80,000	1	80,000
				$ 225,000
SOUTH SIDE ITEMS				
R&D sidewalks	sy	10	3000	30,000
concrete sidewalks	sf	10	0	0
asphalt bike lanes	sf	0	0	0
granite transition bands	lf	30	600	18,000
unit pavers	sf	25	3000	75,000
trees and struct. soil	each	1,000	22	22,000
				$ 145,000
			TOTAL	**$ 370,000**

Notes:
1. Assume sidewalk ribbon to remain.
2. Bike lane estimate for on walk only.

EAST AVENUE EXTENSION - LONG-TERM

COMBINED ESTIMATE:		
	Curb-to-curb	$ 384,000
	Landscape	$ 422,000
TOTAL	**Construction Estimate**	**$ 806,000**

SCOPE



CURB TO CURB

High Street at Summer Street

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
201.0402	165	LF	Remove and Dispose of Concrete Curb	$4.50	$742.50
201.0403	100	SY	Remove and Dispose Sidewalks	$6.00	$600.00
201.061	3	EA	Remove and Dispose Street Signs	$25.00	$75.00
202.03	60	CY	Unclassified Excavation	$30.00	$1,800.00
302.01	40	CY	Gravel Borrow Subbase Course	$12.00	$480.00
401.01	35	TON	Bituminous Base Course	$75.00	$2,625.00
401.02	16	TON	Bituminous Surface Course	$79.00	$1,264.00
403.03	120	SY	Asphalt Emulsion Tack Coat	$0.30	$36.00
707.09	3	EA	Adjust Manholes to Grade	$250.00	$750.00
906.0111	20	LF	Granite Curb, Quarry Split Straight, Standard 7.3.0	$40.00	$800.00
906.07	400	LF	Remove, Handle, Haul, trim, Reset Curb Edging All Types	$20.00	$8,000.00
n/a	6	EA	Granite Curb Wheelchair Ramp	$2,500.00	$15,000.00
932.02	170	LF	Full-Depth Sawcut of Bituminous Pavement	$1.25	$212.50
T08.1700	2	EA	Remove and Relocate Light Standard	$700.00	$1,400.00
Sidewalk Items:					
202.03	75	CY	Unclassified Excavation	$30.00	$2,250.00
905.011	38	CY	Portland Cement Sidewalk Monolithic Standard 43.1.0	$275.00	$10,450.00
302.01	75	CY	Gravel Borrow Subbase Course	$12.00	$900.00
				Intersection Subtotal=	$47,385.00
				Contingency (25%)=	$11,846.25
				Intersection Total=	$59,231.25

East Avenue Extension at George Street/Park Place West

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
201.0402	160	LF	Remove and Dispose of Concrete Curb	$4.50	$720.00
201.0403	62	SY	Remove and Dispose Sidewalks	$6.00	$372.00
202.03	125	CY	Unclassified Excavation	$30.00	$3,750.00
302.01	70	CY	Gravel Borrow Subbase Course	$12.00	$840.00
401.01	60	TON	Bituminous Base Course	$75.00	$4,500.00
401.02	30	TON	Bituminous Surface Course	$79.00	$2,370.00
403.03	200	SY	Asphalt Emulsion Tack Coat	$0.30	$60.00
707.09	2	EA	Adjust Manholes to Grade	$250.00	$500.00
906.0111	30	LF	Granite Curb, Quarry Split Straight, Standard 7.3.0	$40.00	$1,200.00
906.023	132	LF	Cement Concrete Slope Face Curb Precast Straight	$30.00	$3,960.00
906.07	470	LF	Remove, Handle, Haul, trim, Reset Curb Edging All Types	$20.00	$9,400.00
n/a	12	EA	Granite Curb Wheelchair Ramp	$2,500.00	$30,000.00
932.02	410	LF	Full-Depth Sawcut of Bituminous Pavement	$1.25	$512.50
T05.1030	1	EA	Adjust Handhole to Grade	$200.00	$200.00
T08.1700	1	EA	Remove and Relocate Light Standard	$700.00	$700.00
T20.1000	160	LF	Remove Existing Pavement Markings	$0.50	$80.00
T20.2012	325	LF	12 Inch Epoxy Resin Pavement Markings- White	$2.25	$731.25
T20.2016	150	LF	6 Inch Epoxy Resin Pavement Markings- Yellow	$0.50	$75.00
Sidewalk Items:					
202.03	70	CY	Unclassified Excavation	$30.00	$2,100.00
905.011	32	CY	Portland Cement Sidewalk Monolithic Standard 43.1.0	$275.00	$8,800.00
302.01	60	CY	Gravel Borrow Subbase Course	$12.00	$720.00
				Intersection Subtotal=	$71,590.75
				Contingency (25%)=	$17,897.69
				Intersection Total=	$89,488.44

CURB TO CURB

East Avenue Extension at Main Street/High Street

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
201.0402	130	LF	Remove and Dispose of Concrete Curb	$4.50	$585.00
201.0403	200	SY	Remove and Dispose Sidewalks	$6.00	$1,200.00
201.061	4	EA	Remove and Dispose Street Signs	$25.00	$100.00
202.03	115	CY	Unclassified Excavation	$30.00	$3,450.00
302.01	93	CY	Gravel Borrow Subbase Course	$12.00	$1,116.00
401.01	80	TON	Bituminous Base Course	$75.00	$6,000.00
401.02	39	TON	Bituminous Surface Course	$79.00	$3,081.00
403.03	300	SY	Asphalt Emulsion Tack Coat	$0.30	$90.00
906.07	550	LF	Remove, Handle, Haul, trim, Reset Curb Edging All Types	$20.00	$11,000.00
n/a	8	EA	Granite Curb Wheelchair Ramp	$2,500.00	$20,000.00
932.02	140	LF	Full-Depth Sawcut of Bituminous Pavement	$1.25	$175.00
T05.1030	2	EA	Adjust Handhole to Grade	$200.00	$400.00
T20.1000	425	LF	Remove Existing Pavement Markings	$0.50	$212.50
T20.2004	75	LF	4 Inch Epoxy Resin Pavement Markings- White	$0.25	$18.75
T20.2012	490	LF	12 Inch Epoxy Resin Pavement Markings- White	$2.25	$1,102.50
Sidewalk Items:					
202.03	55	CY	Unclassified Excavation	$30.00	$1,650.00
905.011	30	CY	Portland Cement Sidewalk Monolithic Standard 43.1.0	$275.00	$8,250.00
302.01	55	CY	Gravel Borrow Subbase Course	$12.00	$660.00
				Intersection Subtotal=	$59,090.75
				Contingency (25%)=	$14,772.69
				Intersection Total=	$73,863.44

East Avenue Extension at Pleasant Street

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
201.0402	190	LF	Remove and Dispose of Concrete Curb	$4.50	$855.00
201.0403	120	SY	Remove and Dispose Sidewalks	$6.00	$720.00
201.061	2	EA	Remove and Dispose Street Signs	$25.00	$50.00
202.03	70	CY	Unclassified Excavation	$30.00	$2,100.00
302.01	62	CY	Gravel Borrow Subbase Course	$12.00	$744.00
401.01	53	TON	Bituminous Base Course	$75.00	$3,975.00
401.02	25	TON	Bituminous Surface Course	$79.00	$1,975.00
403.03	182	SY	Asphalt Emulsion Tack Coat	$0.30	$54.60
707.09	1	EA	Adjust Manholes to Grade	$250.00	$250.00
906.07	500	LF	Remove, Handle, Haul, trim, Reset Curb Edging All Types	$20.00	$10,000.00
n/a	6	EA	Granite Curb Wheelchair Ramp	$2,500.00	$15,000.00
932.02	190	LF	Full-Depth Sawcut of Bituminous Pavement	$1.25	$237.50
T08.1700	1	EA	Remove and Relocate Light Standard	$700.00	$700.00
Sidewalk Items:					
202.03	160	CY	Unclassified Excavation	$30.00	$4,800.00
905.011	80	CY	Portland Cement Sidewalk Monolithic Standard 43.1.0	$275.00	$22,000.00
302.01	160	CY	Gravel Borrow Subbase Course	$12.00	$1,920.00
				Intersection Subtotal=	$65,381.10
				Contingency (25%)=	$16,345.28
				Intersection Total=	$81,726.38

East Avenue Extension

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
201.061	8	EA	Remove and Dispose Street Signs	$25.00	$200.00
T20.1000	3000	LF	Remove Existing Pavement Markings	$0.50	$1,500.00
T20.2004	2200	LF	4 Inch Epoxy Resin Pavement Markings- White	$0.25	$550.00
T20.2012	130	LF	12 Inch Epoxy Resin Pavement Markings- White	$2.25	$292.50
T20.2014	4000	LF	4 Inch Epoxy Resin Pavement Markings- Yellow	$0.25	$1,000.00
				Roadway Subtotal=	$3,542.50
				Contingency (25%)=	$885.63
				Roadway Total=	$4,428.13
				TOTAL =	$308,737.63
				SAY	$309,000.00

CURB TO CURB

East Avenue Extension at George Street/Park Place West
Span Wire w/Steel Strain Poles

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
n/a	2	EA	Vacuum Probe	$1,000.00	$2,000.00
T06.5430	50	LF	3 Inch Schedule 80 PVC Conduit- Under Existing Pavement	$28.00	$1,400.00
T05.0100	1	EA	Precast Type A Handhole Standard 18.2.0	$1,000.00	$1,000.00
T11. 2500	2	EA	Traffic Signal Standard Galvanized Steel and Foundation Std. 19.3.0	$9,000.00	$18,000.00
T11.6006	130	LF	Span & Messenger Wires 6/16	$2.50	$325.00
T13.1000	625	LF	Traffic Detector-Loop, Standard 19.6.0	$6.50	$4,062.50
T14.3413	1	EA	1 Way 3 SectionSpan Mounted Signal Head 12 inch	$1,075.00	$1,075.00
T14.3423	2	EA	2 Way 3 SectionSpan Mounted Signal Head 12 inch	$2,300.00	$4,600.00
n/a	4	EA	R&R Signal Head (40% of cost of new signal head)	$430.00	$1,720.00
n/a	1	EA	R&S Existing Mast Arm and Foundation	$1,250.00	$1,250.00
n/a	1	LS	Reprogram existing traffic signal controller	$500.00	$500.00
				Intersection Subtotal=	$35,932.50
				Contingency (25%)=	$8,983.13
				Intersection Total=	$44,915.63

East Avenue Extension at Main Street/High Street
Signal Head on Steel Pole

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
n/a	2	EA	Vacuum Probe	$1,000.00	$2,000.00
T05.0100	1	EA	Precast Type A Handhole Standard 18.2.0	$1,000.00	$1,000.00
T06.5430	70	LF	3 Inch Schedule 80 PVC Conduit- Under Existing Pavement	$28.00	$1,960.00
T11.1025	1	EA	25 Foot Gal. Steel Mast Arm Traffic Signal Post and Foundation	$8,750.00	$8,750.00
T11.2010	1	EA	Traffic Signal Standard, 10 Foot Aluminum Pedestal Pole and Foundation	$2,000.00	$2,000.00
T13.1000	600	LF	Traffic Detector-Loop, Standard 19.6.0	$6.50	$3,900.00
T14.3513	2	EA	1 Way 3 Section Mast Arm Mounted Signal Head 12 Inch	$1,300.00	$2,600.00
n/a	2	EA	R&R Signal Head (40% of cost of new signal head)	$430.00	$860.00
n/a	1	LS	Reprogram existing traffic signal controller	$500.00	$500.00
				Intersection Subtotal=	$23,570.00
				Contingency (25%)=	$5,892.50
				Intersection Total=	$29,462.50

Notes:
1. All signal estimates assume existing signal controller is adequate for proposed operations.
2. Conduit item quantities are approximate lengths needed to tie into existing intersection handholes.
3. Cost estimate does not include utility work.

TOTAL = $74,378.13
SAY $75,000.00

East Avenue Extension, Pawtucket, RI
Long-Term Improvements Cost Estimate
March 2011

CONSTRUCTION TOTAL
Long-Term Roadway Improvements: $384,000

LANDSCAPE

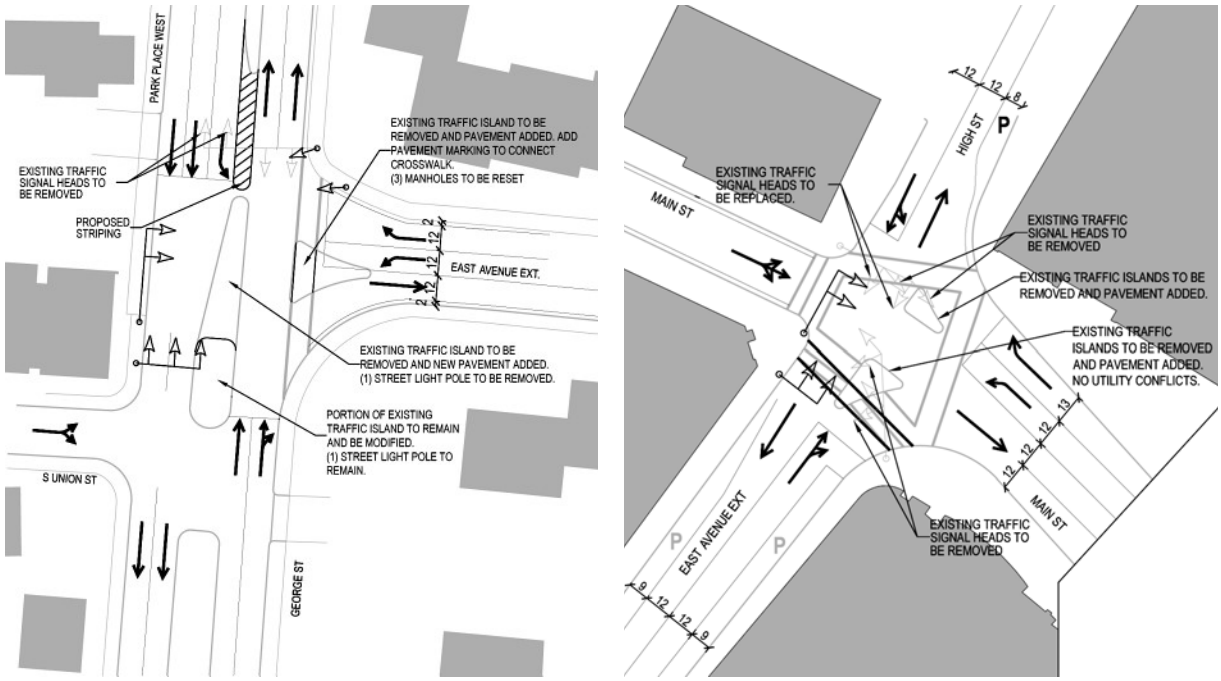
Description	Unit-of-Measure	Unit Cost	Quantity	Cost
R&D sidewalks	sy	5	8000	40,000
concrete sidewalks	sf	10	16000	160,000
granite transition bands	lf	40	800	32,000
unit pavers assume cobbles from city stockpile or new brick pavers	sf	20	8000	160,000
trees and struct. soil	each	1,000	0	0
furnishings planters, trash cans, bike racks	allow	1	0	30,000
benches	allow	1	0	0
lighting	each	10,000	0	0
downtown gateway public art not included	each	120,000	1	120,000
park place gateway public art not included	each	80,000	1	80,000
			TOTAL	**$ 422,000**

EAST AVENUE EXTENSION - SHORT-TERM

ESTIMATE OPTIONS:

TOTAL	**Wooden signal poles Curb-to-curb**	**$ 72,000**
TOTAL	**Steel signal poles Curb-to-curb**	**$ 88,000**

SCOPE



CURB TO CURB ONLY

East Avenue Extension at George Street/Park Place West

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
201.0402	160	LF	Remove and Dispose of Concrete Curb	$4.50	$720.00
201.0403	62	SY	Remove and Dispose Sidewalks	$6.00	$372.00
202.03	125	CY	Unclassified Excavation	$30.00	$3,750.00
302.01	70	CY	Gravel Borrow Subbase Course	$12.00	$840.00
401.01	60	TON	Bituminous Base Course	$75.00	$4,500.00
401.02	30	TON	Bituminous Surface Course	$79.00	$2,370.00
403.03	200	SY	Asphalt Emulsion Tack Coat	$0.30	$60.00
707.09	2	EA	Adjust Manholes to Grade	$250.00	$500.00
906.023	32	LF	Cement Concrete Slope Face Curb Precast Straight	$30.00	$960.00
932.02	300	LF	Full-Depth Sawcut of Bituminous Pavement	$1.25	$375.00
T05.1030	1	EA	Adjust Handhole to Grade	$200.00	$200.00
T08.1700	1	EA	Remove and Relocate Light Standard	$700.00	$700.00
T20.1000	160	LF	Remove Existing Pavement Markings	$0.50	$80.00
T20.2012	325	LF	12 Inch Epoxy Resin Pavement Markings- White	$2.25	$731.25
T20.2016	150	LF	6 Inch Epoxy Resin Pavement Markings- Yellow	$0.50	$75.00
				Intersection Subtotal=	$16,233.25
				Contingency (25%)=	$4,058.31
				Intersection Total=	$20,291.56

East Avenue Extension at Main Street/High Street

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
201.0402	130	LF	Remove and Dispose of Concrete Curb	$4.50	$585.00
201.0403	45	SY	Remove and Dispose Sidewalks	$6.00	$270.00
201.061	1	EA	Remove and Dispose Street Signs	$25.00	$25.00
202.03	45	CY	Unclassified Excavation	$30.00	$1,350.00
302.01	23	CY	Gravel Borrow Subbase Course	$12.00	$276.00
401.01	20	TON	Bituminous Base Course	$75.00	$1,500.00
401.02	9	TON	Bituminous Surface Course	$79.00	$711.00
403.03	65	SY	Asphalt Emulsion Tack Coat	$0.30	$19.50
932.02	140	LF	Full-Depth Sawcut of Bituminous Pavement	$1.25	$175.00
T05.1030	2	EA	Adjust Handhole to Grade	$200.00	$400.00
T20.1000	425	LF	Remove Existing Pavement Markings	$0.50	$212.50
T20.2004	75	LF	4 Inch Epoxy Resin Pavement Markings- White	$0.25	$18.75
T20.2012	490	LF	12 Inch Epoxy Resin Pavement Markings- White	$2.25	$1,102.50
				Intersection Subtotal=	$6,645.25
				Contingency (25%)=	$1,661.31
				Intersection Total=	$8,306.56

East Avenue Extension

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
201.061	4	EA	Remove and Dispose Street Signs	$25.00	$100.00
T20.1000	1700	LF	Remove Existing Pavement Markings	$0.50	$850.00
T20.2004	1200	LF	4 Inch Epoxy Resin Pavement Markings- White	$0.25	$300.00
T20.2012	70	LF	12 Inch Epoxy Resin Pavement Markings- White	$2.25	$157.50
T20.2014	2300	LF	4 Inch Epoxy Resin Pavement Markings- Yellow	$0.25	$575.00
				Roadway Subtotal=	$1,982.50
				Contingency (25%)=	$495.63
				Roadway Total=	$2,478.13
				TOTAL=	$31,076.25
				SAY	$32,000.00

CURB TO CURB ONLY

East Avenue Extension at George Street/Park Place West

Span Wire w/Wood Strain Poles

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
n/a	2	EA	Vacuum Probe	$1,000.00	$2,000.00
T06.5430	50	LF	3 Inch Schedule 80 PVC Conduit- Under Existing Pavement	$28.00	$1,400.00
T05.0100	1	EA	Precast Type A Handhole Standard 18.2.0	$1,000.00	$1,000.00
T11.0130	2	EA	Traffic Signal Standard, Wood, 30 FT. Class 3	$1,125.00	$2,250.00
T11.6006	130	LF	Span & Messenger Wires 6/16	$2.50	$325.00
T13.1000	625	LF	Traffic Detector-Loop, Standard 19.6.0	$6.50	$4,062.50
T14.3413	4	EA	1 Way 3 SectionSpan Mounted Signal Head 12 inch	$1,075.00	$4,300.00
T14.3423	2	EA	2 Way 3 SectionSpan Mounted Signal Head 12 inch	$2,300.00	$4,600.00
n/a	4	EA	R&R Signal Head (40% of cost of new signal head)	$430.00	$1,720.00
n/a	1	EA	R&S Existing Mast Arm and Foundation	$1,250.00	$1,250.00
n/a	1	LS	Reprogram existing traffic signal controller	$500.00	$500.00
				Intersection Subtotal=	$23,407.50
				Contingency (25%)=	$5,851.88
				Intersection Total=	$29,259.38

Span Wire w/Steel Strain Poles

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
n/a	2	EA	Vacuum Probe	$1,000.00	$2,000.00
T06.5430	50	LF	3 Inch Schedule 80 PVC Conduit- Under Existing Pavement	$28.00	$1,400.00
T05.0100	1	EA	Precast Type A Handhole Standard 18.2.0	$1,000.00	$1,000.00
T11. 2500	2	EA	Traffic Signal Standard Galvanized Steel and Foundation Std. 19.3.0	$9,000.00	$18,000.00
T11.6006	130	LF	Span & Messenger Wires 6/16	$2.50	$325.00
T13.1000	625	LF	Traffic Detector-Loop, Standard 19.6.0	$6.50	$4,062.50
T14.3413	1	EA	1 Way 3 SectionSpan Mounted Signal Head 12 inch	$1,075.00	$1,075.00
T14.3423	2	EA	2 Way 3 SectionSpan Mounted Signal Head 12 inch	$2,300.00	$4,600.00
n/a	4	EA	R&R Signal Head (40% of cost of new signal head)	$430.00	$1,720.00
n/a	1	EA	R&S Existing Mast Arm and Foundation	$1,250.00	$1,250.00
n/a	1	LS	Reprogram existing traffic signal controller	$500.00	$500.00
				Intersection Subtotal=	$35,932.50
				Contingency (25%)=	$8,983.13
				Intersection Total=	$44,915.63

East Avenue Extension at Main Street/High Street

Signal Head on Wood Pole

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
n/a	1	EA	Vacuum Probe	$1,000.00	$1,000.00
T05.0100	1	EA	Precast Type A Handhole Standard 18.2.0	$1,000.00	$1,000.00
T06.5430	50	LF	3 Inch Schedule 80 PVC Conduit- Under Existing Pavement	$28.00	$1,400.00
T11.0130	1	EA	Traffic Signal Standard, Wood, 30 FT. Class 3	$1,125.00	$1,125.00
T13.1000	315	LF	Traffic Detector-Loop, Standard 19.6.0	$6.50	$2,047.50
n/a	2	EA	R&R Signal Head (40% of cost of new signal head)	$430.00	$860.00
n/a	1	LS	Reprogram existing traffic signal controller	$500.00	$500.00
				Intersection Subtotal=	$7,932.50
				Contingency (25%)=	$1,983.13
				Intersection Total=	$9,915.63

Signal Head on Steel Pole

WAUP Item No.	Quantity	Unit	Item Description	Unit Price	Amount
n/a	1	EA	Vacuum Probe	$1,000.00	$1,000.00
T05.0100	1	EA	Precast Type A Handhole Standard 18.2.0	$1,000.00	$1,000.00
T06.5430	50	LF	3 Inch Schedule 80 PVC Conduit- Under Existing Pavement	$28.00	$1,400.00
T11.2010	1	EA	Traffic Signal Standard, 10 Foot Aluminum Pedestal Pole and Foundation	$2,000.00	$2,000.00
T13.1000	315	LF	Traffic Detector-Loop, Standard 19.6.0	$6.50	$2,047.50
n/a	2	EA	R&R Signal Head (40% of cost of new signal head)	$430.00	$860.00
n/a	1	LS	Reprogram existing traffic signal controller	$500.00	$500.00
				Intersection Subtotal=	$8,807.50
				Contingency (25%)=	$2,201.88
				Intersection Total=	$11,009.38

Notes:

1. All signal estimates assume existing signal controller is adequate for proposed operations.
2. Conduit item quantities are approximate lengths needed to tie into existing intersection handholes.
3. Cost estimate does not include utility work.

Wood Pole Design Sub-Total =	$39,175.00
SAY	$40,000.00
Steel Pole Design Sub-Total =	$55,925.00
SAY	$56,000.00

CONSTRUCTION TOTAL

Roadway Improvements with Wooden Signal Poles:	$72,000
Roadway Improvements with Steel Signal Poles:	$88,000

Thurlow Small Architecture
L + A Landscape Architecture
McMahon Associates
Horsley Witten Group
Highchair designhaus