A VISION OF GREENWAYS

For the Greater Riverfront East District of Detroit

January 2012

The Villages · Detroit

January 2012

Dear Friend and Reader,

With this report we present to you a vision and a realistic plan for creating a network of greenways on Detroit's Greater Riverfront East District. Just as greenways serve many functions – from recreational venues to economic linkages between neighborhoods – this report also aims at many goals.

This plan serves as a catalyst for economic development, as a tool for bringing communities together, and as a way of defining a new future for Detroit's greater riverfront east. Based on more than a year of fact-finding and visioning, this outline for future greenways emerged from a well-founded process that listened to the community and multiple stakeholders across a broad spectrum of Detroit; that is rooted in a systematic analysis of data, particularly the unique characteristics of the area; that has been benchmarked to successful national precedents for walkable urban communities; and that was developed with the assistance of a respected national design firm based in southeast Michigan.

Our plan was not designed to sit on a shelf. This is an action plan, one created to build support for funding for design and construction; for establishing land control where greenways may be built; and for creating a sustainable operational entity, one with the capacity and funding to not only build new greenways but to maintain them in future years.

We believe this report paints a picture of greenways that will belong not to the privileged few but to everyone in this great diverse city. To that end, our effort has provided not only a framework for understanding and moving forward with physical improvements, but a vision of hope. This hope lies in a framework to support sustainable neighborhoods: urban places that bring people together, that encourage healthy lifestyles, that are catalysts for community and economic development, and that foster environmental stewardship.

This is our vision. This is our hope. This is our act of faith in ourselves and our city. We hope you will join us in creating this future together.

Kirsten Ussery
President and Chair, Board of Directors
The Villages Community Development Corporation

Brian V. Hurttienne
Executive Director

Acknowledgements

Project Funding

This study was generously funded by a Detroit Neighborhood Fund Grant from the Community Foundation for Southeast Michigan.

GREEN Task Force

The project was conducted by the Greater Riverfront East Environmental Network (GREEN) Task Force, a coalition of non-profit organizations and greenways stake holders.

The organizations of the GREEN Task Force are:

- Community Residents
- Detroit Eastside Community Collaborative
- Detroit Greenways Coalition
- Detroit RiverFront Conservancy
- East Jefferson Corridor Collaborative
- Gleaners Community Food Bank
- Jefferson East Business Association
- Mt. Elliott Business and Community Association
- West Village Association

The GREEN Task Force was facilitated by the Villages Community Development Corporation.

Special Thanks

Many thanks to the members of the community who participated in this planning process. Without your efforts, this plan would not have been possible. Additional thanks go out to the public agencies that provided input during the project. These agencies include:

- City of Detroit
  - Office of the Mayor
  - City Planning Commission
  - Department of Public Works
  - Department of Traffic and Engineering
  - Planning and Development
  - Recreation Department
  - Detroit Economic Growth Corporation
- Wayne County
- Michigan Department of Transportation
- Office of Michigan Senator Carl Levin

Consultant Team

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Executive Summary

(Source: The Greenway Collaborative)

Background

The vision for a new network of greenways in the Greater Riverfront East District of Detroit emerged from the desire to use greenways to connect the diverse neighborhoods of the area to each other and to the city's magnificent natural asset, the Detroit River.

The project area boundaries are St. Aubin to the west, Alter Road to the east, the Detroit River to the south, and Mack Avenue to the north. A defining feature of the project area is the Detroit River that forms the southern border. The river was Detroit's reason for being, the watery highway that first attracted the French colonizers here more than 300 years ago. Since then, the riverfront has played many roles – as farmland, as the terminus for shipping, as the site of heavy industry, and, in spots, as a millionaire's row of magnificent but now vanished mansions. Only in the 1920s and later did the riverfront attain its current identity as the site of parks, marinas, and high-rise residential buildings.

The project area offers many notable attributes. There is its proximity to Downtown; to the recreational jewel that is Belle Isle, and to the commercial and residential corridor that is East Jefferson Avenue, a venue rich with opportunities for new growth. Within the project area one can find an eclectic and disparate mix of neighborhoods -- some longstanding and historic, others that are more recent developments; some that are stable, and others losing population and suffering from disinvestment. The neighborhoods found here include Berry Subdivision, Indian Village, Gold Coast, Islandview Village, Jefferson-Chalmers, Lafayette Park, and West Village.

From the outset, the planning process proclaimed an overarching goal of creating a plan for greenways that would unify the multiple and diverse neighborhoods of the Greater Riverfront East District. We wished to show how to link the existing greenways of the RiverWalk, Dequindre Cut, and the Conner Creek Greenway to each other and to the main thoroughfare, East Jefferson Avenue, as well as to new greenways yet to be built. We also wished to study how to extend the Detroit RiverWalk from its current terminus at Gabriel Richard Park toward the city limit at Alter Road. Finally, we hoped our planning exercise would show how this network of existing and yet-to-come greenways could give residents and visitors alike better access to the Detroit riverfront.

The planning process was a multi-part effort that was 1) spearheaded by a group of local community organizations called the GREEN Task Force, 2) shaped significantly by community input, and 3) aided by a professional landscape architect and greenway consultant team. This master plan was created through a series of steps that included:

- Inventory and analysis of current conditions in the project area.
- Review and coordination with other projects and recent studies of relevance to the planning effort.
- Community input through surveys and workshops
- Identification of possible new greenways in the district
- Creating concepts that show the design of the new greenways
- Crafting an implementation strategy that identifies a list of priority routes
- Estimating project costs for the priority routes

Belle Isle during Tour De Troit 2010 (Source: JJR)

The GREEN Task Force is a group of Detroit-based organizations that formed specifically for this planning effort to collectively lead and supervise the creation of the master plan. The members of the GREEN Task Force consist of local non-profit organizations and individual stakeholders with interests and/or expertise in greenways development. The Task Force met regularly during the planning process to direct the work. The project was funded by a grant from the Detroit Neighborhood Fund of the Community Foundation for Southeast Michigan. The grant was awarded to The Villages Community Development Corporation, who served as the facilitator of the GREEN Task Force. A professional consulting team led by JJR LLC, based in Ann Arbor, Michigan, did the technical development of the plan.

Defining the Greenway Network

The overall greenway network will consist of ten distinct greenways that connect the district to the riverfront and to adjacent neighborhoods. Collectively, the ten routes comprise 16 miles of new on-street and off-street routes that increase non-motorized access to and along the riverfront, through the residential neighborhoods, commercial areas and to special destinations such as Belle Isle, the Villages and the Marina District.

Three greenways, the Elmwood Connector, Kercheval Greenway, and the Far East Connector will form the primary east-west connection through the heart of the residential neighborhoods. Access south to the riverfront will be improved with the Belt Line Greenway, Burns Connector, Fox Creek Greenway and enhancements to the existing Conner Creek Greenway. Two secondary greenways, Sweet Loop and Carstens Spur, will

increase access to the north. The Riverfront Extension will connect to the existing RiverWalk at Gabriel Richard Park and run east through the Villages Riverfront, Marina District, and River Parks to the shared city boundary with Grosse Pointe Park.

Each of the greenway routes are intended to be developed to a level comparable to the existing greenways in the district (i.e. Dequindre Cut, RiverWalk, and Conner Creek Greenway). Improvements along the routes will address pedestrian and bicycling comfort and safety. Traffic calming techniques, intersection improvements, lighting and security measures, landscape, street furnishings and signage will be integrated along each route and at special gateways and trailheads.

In addition to the greenway routes, the system also identifies four signature corridors, which the community highlighted as a priority for non-motorized improvements. These signature corridors include: East Jefferson Avenue, Lafayette Street, East Grand Boulevard, and Freud Street.

While the greenways will fundamentally provide paths for walking and biking, they are also envisioned to provide opportunities for accommodating new places for parks and play, gathering places, and activity. Dubbed the 5 P's -- Places, Parks, Pubs, Plazas, Play Spaces -- these areas of activity would be located at major intersections between two or more greenways, at significant destinations and high visibility "gateways" or "windows" (i.e., along East Jefferson Avenue) and along the riverfront.

Arbor Day Parade on the Conner Creek Greenway (Source: Detroit Eastside Community Collaborative)

Setting Priorities

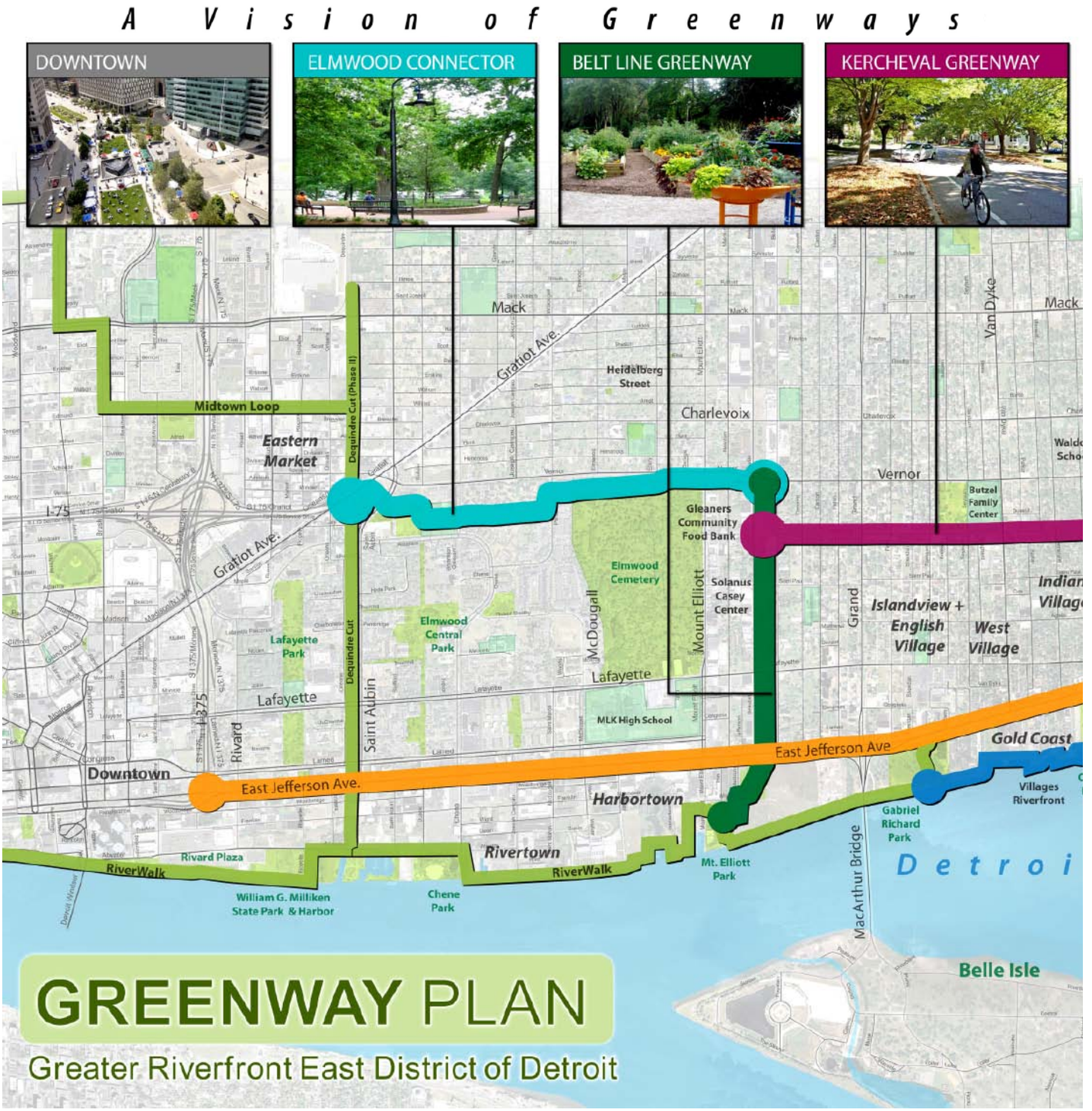
Not everything can be built at once. Through community engagement and evaluation of options, the GREEN Task Force, the public, and stakeholders identified six priority routes for implementation. These priority routes are the ones that the immediate implementation efforts will be focused on. East Jefferson is one of the six priority routes. Although its streetscape concept was developed in a separate study, it's included here as a priority because of its importance as a main commercial and residential corridor in the East District

The GREEN Task Force recognizes that while we may desire to build only the most elegant greenways, funding may not always permit this. Therefore, the Task Force outlines a menu of three levels of possible development, keyed to the amount of funding available. The highest level of funding would permit the most enhanced design with a greater number of features and modifications. Fewer dollars would mean fewer enhancements, but even building the most basic level of development would positively enhance the district. The cost for the highest level of development is included below. The costs for the other levels of development may be found in the report.

Each of the priority routes are summarized below and are shown on the map on the following page:

Riverfront Extension

The Riverfront Extension, when fully built, will be 7.4 miles in length and will link Downtown to Grosse Pointe Park, and will improve connections to the Detroit River throughout the entire study area. Divided into three sections (the Villages Riverfront, the Marina District, and River Parks) because of their unique characteristics and adjacent land use, the Riverfront Extension is envisioned to provide a variety of user experiences along the river, through historic neighborhoods, and through existing marinas and park spaces. The total project costs are $59.6 million for the Villages Riverfront section, $45.0 million for the Marina District section, and $41.7 million for the River Parks section.



The priority routes and their alignment in the Greater Riverfront East District of Detroit.


Priority Routes
EAST JEFFERSON
CONNER CREEK ENHANCEMENTS
RIVERFRONT
GROSSE POINTE
Mack
Cadillac
McClellan
Charlevoix
Vernor
Kercheval
Southeastern High School
Conner Creek Greenway
Saint Jean
Chrysler
Northeast Guidance Center
Conner
Kercheval Ave.
Dickerson
Chalmers
Mack/Alter Commercial District
East Village
Pewabic Pottery
East Jefferson Ave
Jefferson East Business District
Alter
Hurlbut Memorial Gate
Meadowbrook
Berry Subdivision
Gregory Marina
Marquette
Marina District
Sinbad's Marina
Fiske
Riverbend Plaza Shopping Center
Freud
Victoria Park
Lakewood
Owen Park
Erma Henderson Park
Manoogian Mansion
Waterworks Park / DWSD
Kean's Detroit Yacht Harbor
Harbor Hill Marina
Robinson Middle School
Creekside / Jefferson-Chalmers
Engel Memorial Park
DTE
Grayhaven Marina
Fisher Mansion
Korte
t River
Detroit Yacht Club
Reid Memorial Park
Maheras Gentry Playfield
Lenox
Edison Boat Club / Marina
Bayview Yacht Club
Canal District
Alfred Brush Ford Park
Mariner Park
Windmill Pointe Park
North
300' 600' 1200'
JJR

East Jefferson Streetscape

East Jefferson Avenue, a significant gateway corridor (5.9 miles) into downtown Detroit, will be transformed into a "complete street" that will meet the needs of all users, both vehicular and pedestrian oriented. Enhancements will improve safety and comfort and provide traffic calming benefits, and will include lane reductions, the creation of bike lanes, center medians, landscaped zones, and other streetscape improvements (East Jefferson Corridor Study, 2010). The total project cost is $77.8 million.

Kercheval Greenway

The Kercheval Greenway is a 2.3 mile route that will transform Kercheval into a signature greenway connecting east/west across a substantial portion of the project area. Currently, Kercheval is a four-lane roadway that is far below traffic capacity. This excess pavement provides ample opportunity to incorporate new landscaping, stormwater management features, bike lanes, and pedestrian amenities. In conjunction with the Elmwood Connector, this route will provide a strong connection for neighborhoods to the Eastern Market and downtown areas, paralleling the Riverfront Extension. It will also connect the Beltline to the Conner Creek Greenway via the Villages. The total project cost is $20.4 million.

Belt Line Greenway

Envisioned as a 2 mile linear park, the Belt Line Greenway utilizes an unused historic railroad corridor to create a connection from the existing RiverWalk to Mack Avenue. It will provide an opportunity to create a "food corridor" that focuses on the production and transportation of locally grown goods, and is expected to include a series of neighborhood pocket parks, trailhead access and parking, storm water management systems, and restored natural areas. The total project cost is $7.5 million.

Elmwood Connector

The 1.5 mile Elmwood Connector will provide a vital link in the greenway system, connecting neighborhoods of the East District towards the Eastern Market and downtown districts. By connecting to the Dequindre Cut, and as a consequence, the existing RiverWalk, it will expand non-motorized options that serve the adjacent high density areas of multifamily housing. The connection primarily utilizes existing pedestrian paths that traverse through the multifamily housing developments. The total project cost is $5.2 million.

Conner Creek Greenway Enhancements (St Jean)

Although a short segment of the overall network, the 0.2 mile Conner Creek Greenway at St Jean is needed to strengthen the north-south greenway from Kercheval to East Jefferson. Improvements to St Jean, including bike lanes, have already been completed. Continued enhancement to the Conner Creek Greenway from Kercheval to East Jefferson will include traffic calming, a wider shared-use path, landscaping, and safety elements such as lighting and intersection improvements. The total project cost is $1.5 million.

Youth ride using bike lanes (Source: Southwest Detroit Business Association)

Implementation

Developing urban greenways takes determination, organization, and an unflagging commitment. Even with such commitment, creating the miles of new greenways envisioned in the East District will take many years. This plan is a road map that identifies key strategies that can be used to see the vision come to life. These strategies include:

Design Completion

1. Conduct preliminary design of greenway (including additional outreach to stakeholders).
2. Prepare final design and construction documents.
3. Secure required permits.

Second Stage Project Support

1. Secure permanent easements and/or land control.
2. Raise long-term funding (for acquisition, design, and construction).
3. Hold groundbreaking event to celebrate.

Construction

1. Construct Priority routes (multiple phases).

Manage On-Going Operations and Maintenance

1. Security
2. Maintenance
3. Programming

Community Workshop (Source: GREEN Task Force)

Next Steps

Developing strategic partnerships with city departments, county/regional agencies, advocacy and support organizations, institutions and local businesses is necessary for all aspects of greenway development—funding, planning, land control, construction, and operations. There are many possible ways to structure the implementation effort. One possible structure for the future effort suggests a collaborative framework in which local organizations would each take responsibility for creating one or more greenways, with the multiple efforts linked through a City-Wide Champion. A single City-Wide Champion could help coordinate fundraising, political approvals, and other steps common to all greenway efforts, as well as serving as institutional memory and database of expertise. As one possibility, the existing Detroit Greenways Coalition, now reorganizing itself as a 501c3, could be one candidate for this coordinating role. And to offer technical assistance as needed to the various local sponsors of greenways, the Detroit Eastside Community Collaborative, the sponsor of the Conner Creek Greenway, could serve as implementation resource. The guiding philosophy behind this structure is to tap into existing expertise and neighborhood-level commitment as much as possible, so that the Detroiters already engaged in greenways planning and creation would continue their work in a broader, more coordinated citywide effort.

Chapter 1
Greenways Vision

(Source: The Greenway Collaborative)

1.0 Introduction

A greenway is a path reserved for pedestrians, joggers, bicyclists, and anyone else getting from one location to another without the use of a car. In urban places, greenways also serve as recreational venues, safe haven from vehicular traffic, and linkages that connect communities to each other. In Detroit, enthusiasm and support for greenways has grown tremendously in recent years. Within the past decade alone, several major greenways have been built or at least begun, including the RiverWalk, Dequindre Cut, Conner Creek Greenway, Lyndon Avenue Greenway, and Midtown Loop.

The vision for a new network of greenways in the Greater Riverfront East District of Detroit emerged from the desire to use greenways to connect the diverse neighborhoods of the area to each other and to the city's magnificent natural asset, the Detroit River. This chapter identifies the purpose of the plan and sets out the overarching goals of the greenways network and its key objectives. It also provides an overview of the planning and community engagement process.

1.1 Purpose of the Plan

A Vision of Greenways for the Greater Riverfront East District of Detroit is a master plan that serves three primary purposes. It represents (1) a vision, (2) an implementation guide, and (3) a menu of priority projects. The vision that is reflected here is one that emerged from a year-long process of listening to the community and its multiple stakeholders, a process that included participatory planning exercises and was informed by fact-finding and the professional expertise of a landscape design and greenways planning team.

As an implementation guide, this is an action-oriented plan that recommends a phased approach to the implementation of the network over a 15- to 20-year time frame. This plan recommends a menu of priority projects, with the intent to incrementally achieve the vision for the network without building more than can be effectively managed and maintained.

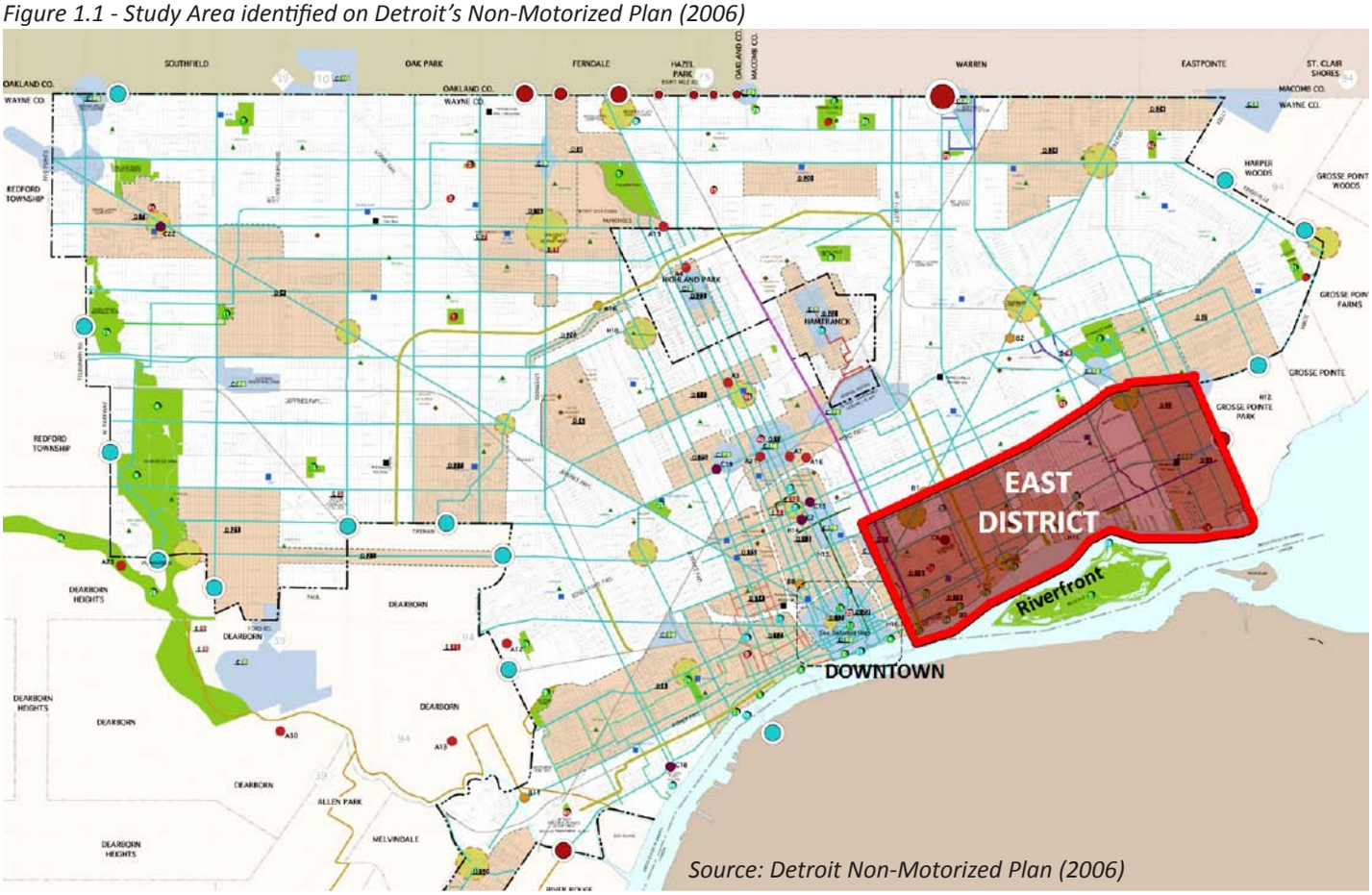
Project Area

The project area is known as the Greater Riverfront East District of Detroit, bounded by St. Aubin Street to the west, Alter Road to the east, the Detroit River to the south, and Mack Avenue to the north (Figure 1.1).

A defining feature of the project area is the Detroit River that forms the southern border. The river was Detroit's reason for being, the watery highway that first attracted the French colonists more than 300 years ago. Since then, the riverfront has played many roles—as farmland, as the terminus for shipping, as the site of heavy industry, and, in spots, as a millionaire's row of magnificent but now vanished mansions. Only in the 1920s and later did the riverfront attain its current identity as the site of parks, marinas, and high-rise residential buildings.

The project area offers many notable attributes. There is its proximity to downtown, to the recreational jewel that is Belle Isle, and to the commercial and residential corridor that is

Figure 1.1 - Study Area identified on Detroit's Non-Motorized Plan (2006)



Source: Detroit Non-Motorized Plan (2006)

East Jefferson Avenue, a venue rich with opportunities for new growth. The project area is within easy reach of most of Detroit's important districts, such as the Midtown area, the Coleman A. Young International Airport (better known simply as City Airport); major expressways; and the leafy suburbs of the Grosse Pointe immediately to the east.

Within the project area one can find an eclectic and disparate mix of neighborhoods—some longstanding and historic, others that are more recent developments; some that are stable, and others losing population and suffering from disinvestment.

Finally, the project area is within an easy walk or bicycle ride to the Detroit RiverWalk, Dequindre Cut, and Conner Creek Greenway— pioneering projects in the city and showcase examples of welcoming outdoor spaces. It is anticipated that the network of new greenways to be built in the project area will one day link with these current greenways to form part of a much larger framework of greenways and trails throughout the Detroit metropolitan area.

1.2 Goals

From the outset, the planning process proclaimed an overarching goal of creating a plan for greenways that would unify the multiple and diverse neighborhoods of the Greater Riverfront East District. The objectives of the plan were to: a) link the existing greenways of the Detroit RiverWalk, Dequindre Cut, and Conner Creek Greenway to each other and to the main thoroughfare, East Jefferson Avenue, as well as to new greenways yet to be built; b) extend the RiverWalk from its current terminus at Gabriel Richard Park toward the city limit at Alter Road; and c) show how this network of existing and yet-to-come greenways could give residents and visitors alike better access to the Detroit riverfront.

Achieving these goals will foster the type of urban places that strengthen social connections and encourage healthy lifestyles, that are catalysts for community and economic development, and that foster environmental stewardship.

GOAL #1 - STRENGTHEN SOCIAL CONNECTIONS AND ENCOURAGE HEALTHY LIFESTYLES

Greenways create important social benefits that go beyond providing alternative transportation options. Greenways make good gathering places for neighbors and visitors, and they offer seniors and those of limited mobility a place to enjoy the outdoors. Greenways can forge safe, convenient links between diverse communities, setting up a new and shared common ground. By encouraging an active lifestyle that includes bicycling and walking, greenways can reduce the incidence of obesity, high blood pressure, and other health concerns. Greenways also connect people to important destinations within and outside the community, including schools, parks, employment centers, stores, and cultural and entertainment venues.

The planning process revealed key strategies that can help us achieve this goal. These strategies include:

- Extending the RiverWalk eastward to the city limits to bring the benefit of the RiverWalk to more neighborhoods and provide an opportunity to connect to Grosse Pointe.
- Using greenways to connect neighborhoods to each other.
- Using greenways to improve bike and pedestrian safety, and to create a comfortable environment for persons of all mobility levels.
- Increasing exercise options—with more miles, looped routes, and links to other recreational uses such as parks, marinas, schools, and playgrounds.
- Routing greenways to connect unique cultural and historic destinations.
- Providing interpretive and educational opportunities along the greenways to help enrich the appreciation of our culture and heritage.

Benefits of Greenways

A recent study, Cost-Benefit Analysis of Physical Activity Using Bike/Pedestrian Trails, concludes that for every $1 spent on trails, nearly $3 of public health costs are avoided.

Source: Health & Fitness, American Trails. Lincoln Nebraska 2004 Cost-Benefit Analysis of Physical Activity Using Bike/Pedestrian Trails by Guijing Wang, PhD

Public spaces along the Detroit Riverfront invite residents and visitors (Source: JJR).

Benefits of Greenways

The greenway network in Chattanooga, Tennessee, has attracted more than $1 billion in private sector investment.

Source: Economic Benefits of Greenways for Greenville County, SC, Upstate Forever and the Riley Institute, November 28, 2006, Charles A. Flink, FASLA

GOAL #2 - SERVE AS A CATALYST FOR COMMUNITY AND ECONOMIC DEVELOPMENT

By creating a valuable public amenity, greenways foster increased property values. That in turn creates incentives for new businesses to locate along a well-traveled greenway route, creating both direct and spin-off jobs and tax base. Greenways also provide a venue for special events such as parades, picnics, and fun races, all of which bring in new dollars to a greenway community. The greenway network in the Greater Riverfront East District will improve existing neighborhoods and businesses, and stimulate economic development through these strategies:

- Routing new greenways through viable commercial nodes.
- Using greenways to revitalize transitional areas.
- Aligning greenways through unused vacant land.
- Improving access to notable destinations, i.e., marinas, parks, and entertainment venues.
- Encouraging job creation through the use of local workforce for greenway construction, operation, and maintenance.

Milliken State Park Along the Detroit River (Source: JJR)

Benefits of Greenways

Trees in Grand Rapids reduce stormwater runoff by 67 million gallons per year. As a result, the city avoids over $365 million in stormwater infrastructure costs that would otherwise be required to manage urban runoff.

Source: Grand Valley State University Water Resources

Goal #3 - FOSTER ENVIRONMENTAL STEWARDSHIP

Greenways symbolize a growing appreciation and respect for its natural resources and the desire to restore what has been for decades mistreated. By allowing people to take many of their shorter trips by bicycle or walking, greenways can reduce driving and congestion, thus reducing pollution from motor vehicles. The greenway network will improve air and water quality, protect existing natural resources, and provide venues for significant resource restoration, since.

- Greenways increase open space and help to restore wetlands, woodlands, and riparian corridors.
- Greenways are venues for natural stormwater management.
- Greenways bring back a more natural landscape that increases tree canopy for comfort, stormwater management, heat island moderation, and carbon sequestration.
- Greenways along the riverfront soften what is often the hard edge of infrastructure and provide new shoreline habitats for wildlife.

1.3 Planning Process

The planning process was a multi-phase process that was (1) spearheaded by a group of local community organizations called the GREEN Task Force, (2) shaped significantly by community input, and (3) aided by a professional landscape architect and greenway consultant team.

This master plan was created through a series of steps that included:

- Inventory and analysis of the current conditions in the project area.
- Review and coordination with other projects and recent studies of relevance to the planning effort.
- Community input through surveys and workshops (see below).
- Identification of possible new greenways in the district.
- Creation of concepts that show the design of the new greenways.
- Implementation strategy that identifies a list of priority routes.
- Estimating project costs for the priority routes.

The GREEN Task Force is a group of Detroit-based non-profit organizations that formed specifically for this planning effort to collectively lead the creation of the master plan. The members of the GREEN Task Force consist of local non-profit organizations and individual stakeholders with interests and/or expertise in greenways development. The GREEN Task Force met regularly during the planning process to direct the planning work and evaluate progress. The technical development and documentation of the plan was performed by a professional consulting team led by JJR, LLC, based in Ann Arbor, Michigan.

Community Engagement

The GREEN Task Force insisted that the greenways master plan reflected a shared vision supported by the community at large and its key stakeholders. This planning effort fostered community engagement through surveying, community workshops, and targeted meetings with different stakeholder groups.

Community Survey Responses

Seventy percent of survey respondents feel comfortable using existing greenways, AND seventy-four percent of survey respondents in the district report walking, running, or bicycling daily or weekly along local roads (fifty-six percent on major roads).

Community Meeting - Key Findings

Top issues included dangerous street crossings, safety/visibility, and awareness of biking "rules of the road." For greenway routing, improvements to major street corridors for improved bike safety was greatly in demand.

Participants Share Their Ideas During Community Workshops (Source: GREEN Task Force)

Feedback from surveys and community workshops showed that residents and stakeholders from the community overwhelmingly supported the idea of a new network of greenways. Respondents cited the benefits of using greenways for walking, biking, and social gatherings. Many indicated that the existing pedestrian and bicycling options within the project area were unsafe or in poor condition. Many people expressed concerns that safety and maintenance of new greenways need to be part of any implementation strategy.

A report detailing the community engagement process is provided in Appendix A. Community Engagement Report.

Chapter 2
District Analysis


(Source: Detroit Eastside Community Collaborative)

2.0 Introduction

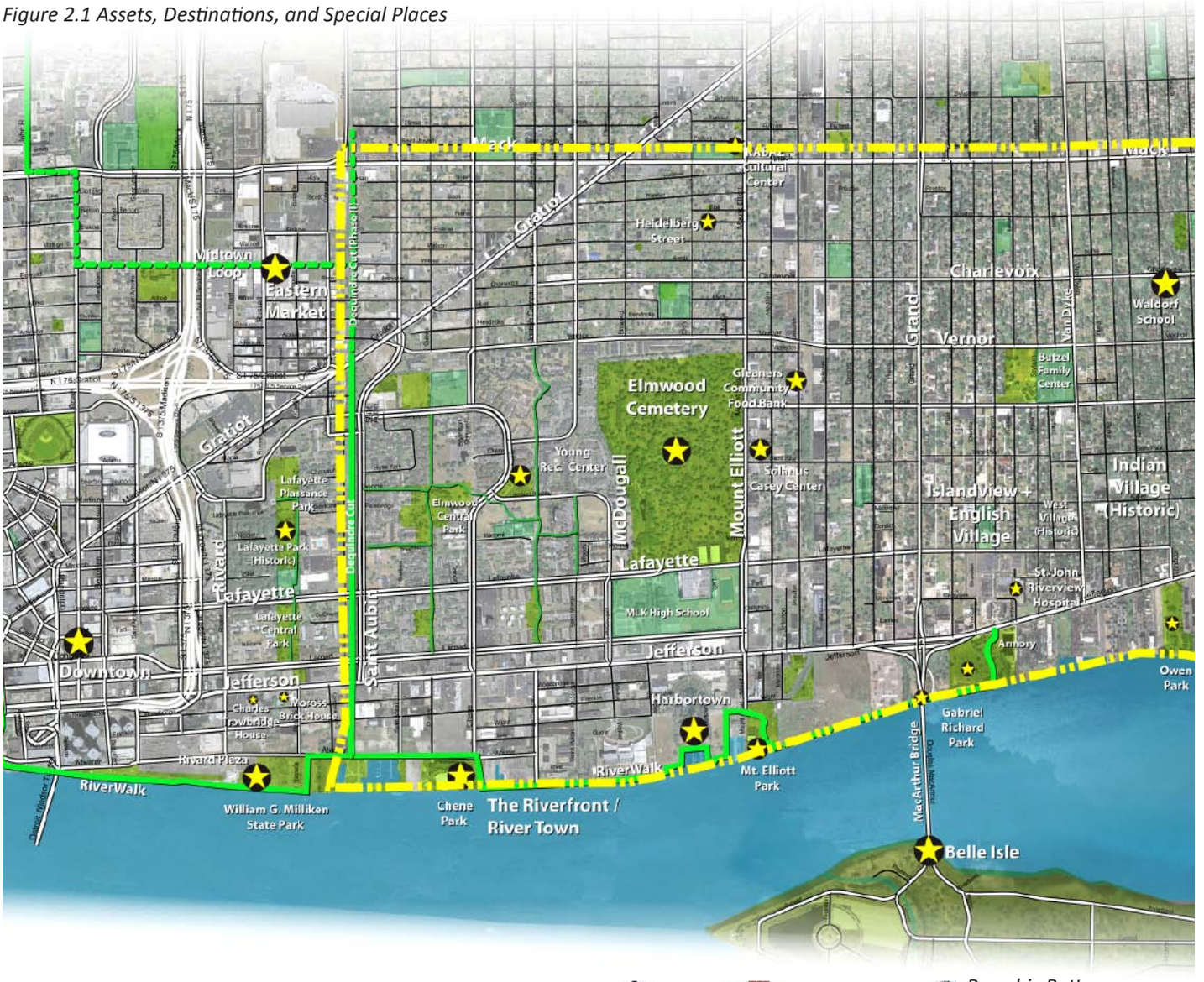
The Greater Riverfront East District of Detroit (East District) is characterized by a diversity of land uses. It is a district comprised of some of Detroit's strongest residential neighborhoods, but it also contains some of the most concentrated pockets of vacancy and abandonment in the city. Thriving industrial and commercial operations sit adjacent to significant brownfield sites. Large and significant parks and open spaces along the river, such as the Detroit RiverWalk and Belle Isle, provide an excellent amenity for the district and city as a whole. Yet poor access to these open spaces is a significant concern. Last, but not least, the district has many special places, assets, and destinations that are a draw for local residents and visitors from throughout the region.

This chapter provides an analysis of key existing conditions that relate to the routing and design decisions for future greenways.

The analysis includes:

- Assets and Destinations
- Planning Context and Existing Greenways
- On-Road Conditions
- Open Space Opportunities

Figure 2.1 Assets, Destinations, and Special Places



2.1 Assets and Destinations

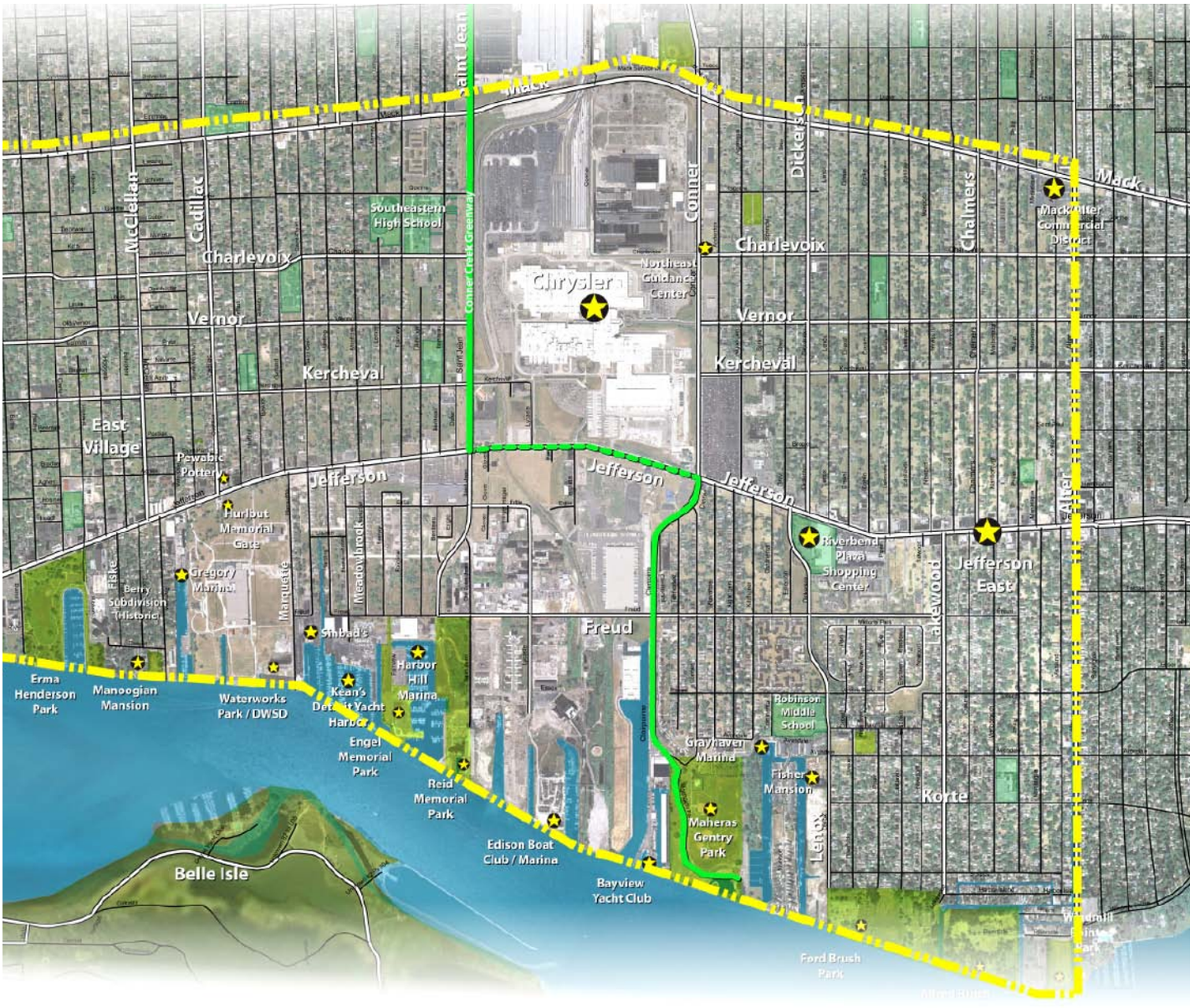
The East District contains many assets of cultural and historical significance to the district, the city, and the region. Building connections to these assets can strengthen the impact of potential new greenways by linking neighborhoods and adjacent districts to these assets, increasing usership, and having destinations along the greenway route.

The map above and associated images list many of the key assets and destinations that have been identified in the district and its vicinity. These assets have been identified by the community, the GREEN Task Force, and map review.

Pewabic Pottery

Solanus Casey Center

Hurlbut Memorial Gate at Waterworks Park



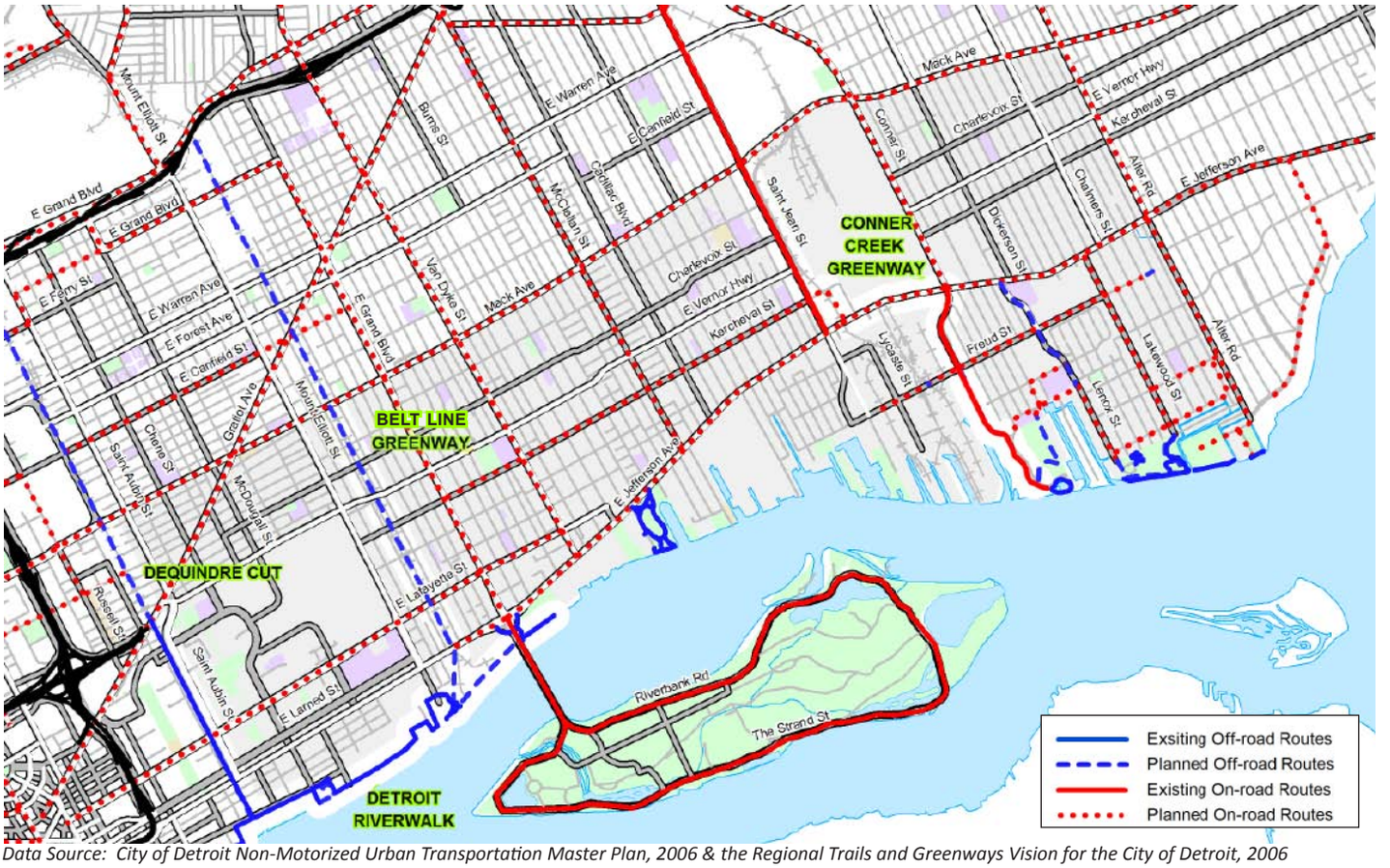
Indian Village, Burns Street

Fisher Mansion

- Existing Greenways
- Planned / Under-Development Greenways
- Study Area
- Special Destinations / Assets

Maheras Gentry Park

Figure 2.2 Detroit Non-Motorized Plan Composite Map



Data Source: City of Detroit Non-Motorized Urban Transportation Master Plan, 2006 & the Regional Trails and Greenways Vision for the City of Detroit, 2006

2.2 Planning Context and Existing Greenways

There are multiple recently completed greenway and non-motorized plans related to the project area that have informed the direction and nature of this planning effort. These include:

- *East Jefferson Avenue Corridor Study* (2010) - Identified roadway and non-motorized improvements as well as future land use recommendations for the corridor.
- *Dequindre Cut Master Plan* (2009) - Outlined a phased approach for the implementation of the Dequindre Cut Greenway - a rails-to-trails program.
- *Inner Circle Greenway* (2008) - Identified a potential looping off-road greenway using primarily rail corridors around the inner portion of the Detroit.
- *City of Detroit Non-Motorized Urban Transportation Master Plan* (2006) - Identified preferred on-road and off-road improvements across the entire city.
- *Conner Creek Greenway Master Plan* (2003) - Greenway and trail creation along the historic Conner Creek drainage corridor.
- *Trails and Greenway Vision for the Detroit Region* (2006) - Consolidated many prior recommendations into a guiding vision for greenway development across the city.
- *GreenWays Initiative* (2002) - Identified greenways and rails-to-trails opportunities in the greater Detroit area.
- *Southeast Michigan Greenways Plan* (1999) - Regional planning study examining greenway opportunities in the Detroit Metropolitan region.

In addition, there are a number of planning efforts within or in close proximity to the project area that are currently underway:

- *Lower Eastside Action Plan (LEAP)* - Identifying vacant property reuse and revitalization strategies for the East District (Mount Elliott Street to Alter Road, the riverfront to Warren Avenue).

- *Detroit Works* - A city-wide visioning and comprehensive planning study aimed at redefining Detroit and resolving pressing concerns and issues in the city.
- *Belt Line Greenway Feasibility Study* - Exploring design concepts, project goals, and construction feasibility for a potential Belt Line Greenway (note that Belt Line Greenway is a revised name for the Gleaners Greenway).
- *Eastern Market Master Plan* - Examining market expansion and district enhancement opportunities.
- *Gleaners Community Food Bank Master Plan* - Recommendations for the development and enhancement of the Gleaners Community Food Bank property, including development of new public spaces and plaza areas.
- *Bloody Run* - Planning process exploring options for "daylighting" (uncovering) the long buried Bloody Run Creek, which flows through portions of Elmwood Cemetery. Plan also considers environmental restoration in conjunction with economic development ideas.

Stemming from prior planning efforts, a number of greenways have been implemented in the East District, including:

- Detroit East Riverfront from Joe Louis Arena to Gabriel Richard Park. More than 75 percent of the East Riverfront is complete and open to the public. The Detroit Riverfront Conservancy continues to work hard toward completing their 5 ½-mile mission.
- Dequindre Cut Greenway - Phase I has been constructed from the Riverfront north to Gratiot Avenue. Phase II is in the design stages for implementation in the near future.
- Conner Creek Greenway - Portions of the greenway have been built along St. Jean Street and Clairpointe Street.

2.3 On-Road Conditions

Opportunities exist for creating future off-road greenways (similar to the Dequindre Cut). However, creating a network of greenways in the East District will invariably rely on developing on-road greenways as well. A number of road characteristics (such as the size of right-of-ways, traffic volumes, street edge conditions, etc.) affect the suitability and attractiveness of establishing on-road greenways. These characteristics were inventoried for primary roadways in the district (primary roads being all roads other than the smallest local roads and alleys).

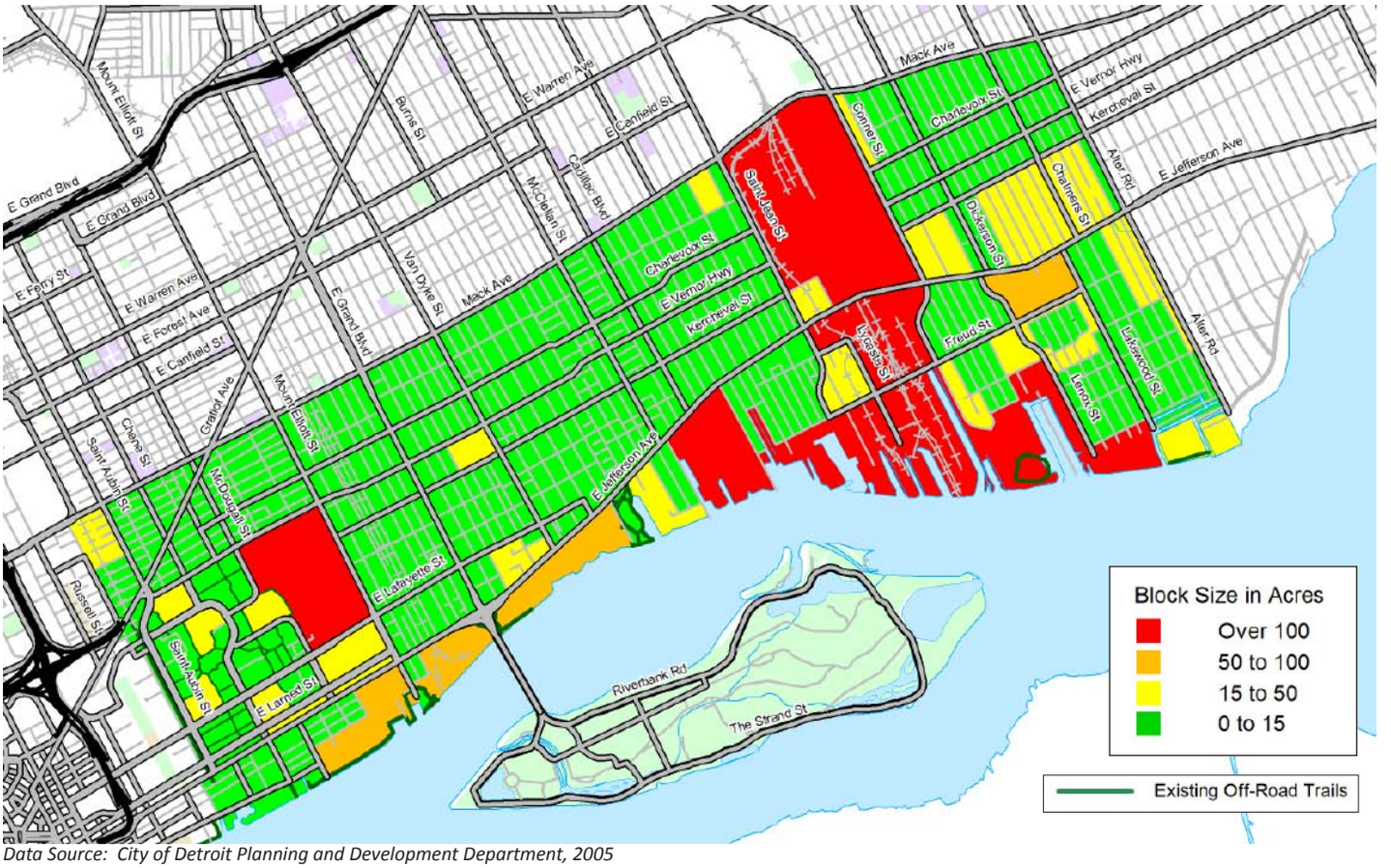
One characteristic, block size (Figure 2.3 on the following page), is a good measurement for how easily non-motorized travelers (pedestrians and cyclists) can navigate through the district and efficiently get to their destination. A block is defined as an area that a person cannot pass through as a pedestrian or cyclist on a publicly accessible route. These areas do not have walkways, roadways, or bike paths.

Large blocks present barriers to pedestrians and cyclists, requiring traveling long distances around the blocks. Smaller blocks provide opportunities for people to weave and move fluidly between blocks and easily reach their destination. In general, areas with smaller blocks are more conducive to non-motorized travel and support more walking and biking activity.

The majority of the project area contains blocks that are 15 acres or less, which allows for relatively fluid movement through the district and is supportive of non-motorized travel. There are a few areas, such as the cemeteries, private waterfront property, and industrial plants, that contain large blocks that are difficult for cyclists and pedestrians to pass through. Finding ways to create more direct cyclist and pedestrian travel ways through or around these large blocks is key to making a cyclist and pedestrian friendly community.

Street with No Bike Facilities and Few Pedestrian Amenities (Source: JJR)

Figure 2.3 Block Size Analysis



Data Source: City of Detroit Planning and Development Department, 2005

Current Bicycling Environment

Bicycling in the East District has its challenges. While a number of projects have expanded off-road facilities (e.g. RiverWalk and Dequindre Cut), on-road bike facilities, such as bike lanes, are generally lacking across the district. The only streets with bike lanes in the project area are St. Jean and Clairpointe Streets. While off-road trails can provide great open space resources for recreation, bicycle commuters rely heavily on the street network for daily trips. Additionally, the existing on- and off-road facilities do not make for a complete system, and connections between on- and off-road facilities are absent.

The quality of on-road bike facilities is based on speed limit and average daily traffic (ADT), and the type of bike facility (i.e., bike lanes, shared paths) provided. Quality is assessed based on an A to E scale, with A being the best quality (Figure 2.4). Conditions on many of the primary roads in the district can be intimidating and difficult to navigate for bike riders. East Jefferson Avenue, Conner Street, and Mack Avenue present the most difficult environment for bicycling on the road. In a recent 5-year period, there were 35 bicycle/vehicle crashes within the project area. Kercheval and Mack, East Jefferson, and Van Dyke Avenues had the most reported crashes.

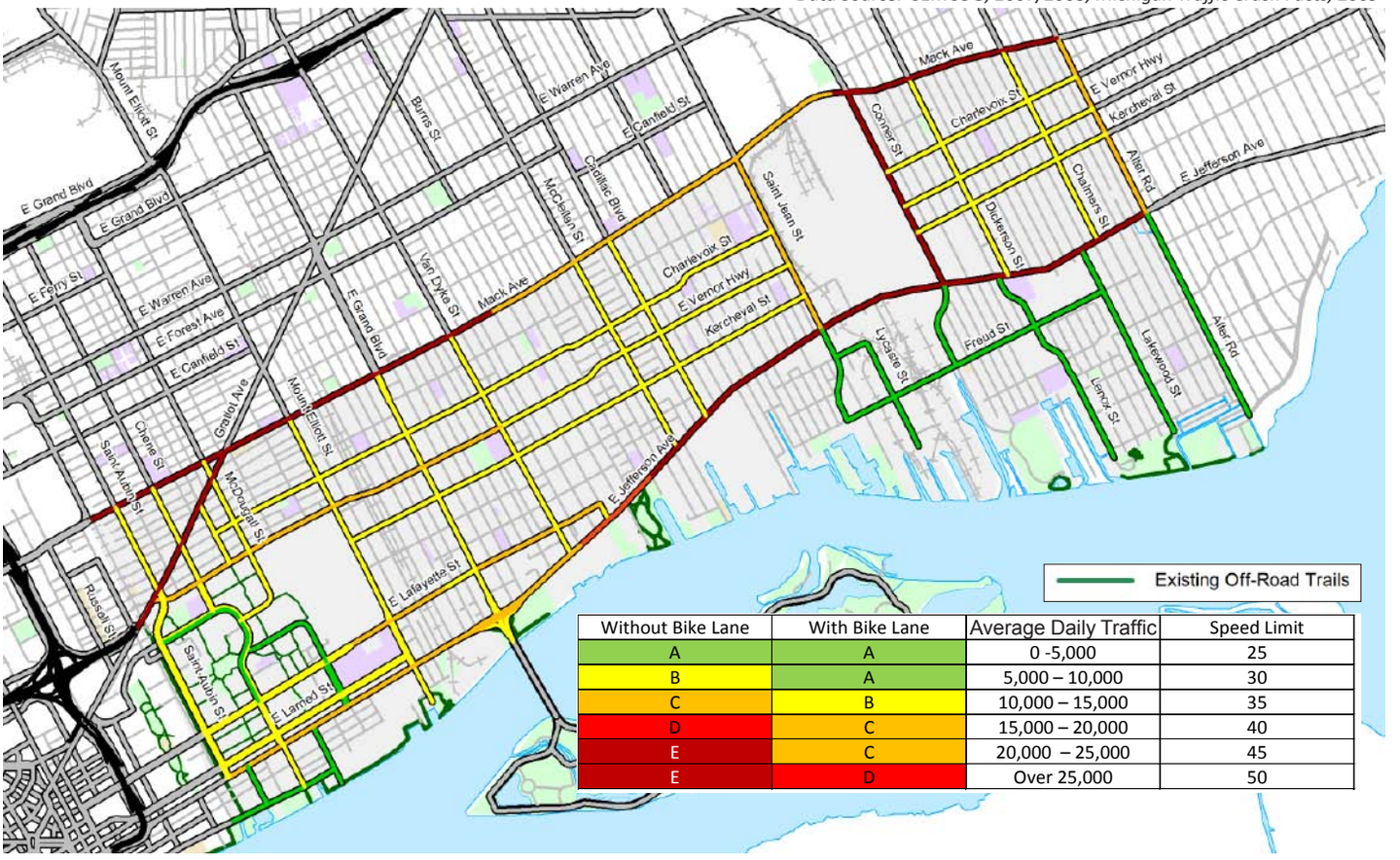
Despite these issues, there is unparalleled potential to create a complete on-street bicycle system in the near term. Based on existing road widths, number of lanes, and ADT, there are opportunities to integrate or add bike lanes on 92 percent (52 miles) of primary streets. Of that number, 37 percent (21 miles) can be converted through restriping, and 55 percent (31 miles) can be converted through the removal of excess on-street parking or traffic lanes (Figure 2.5).

Pedestrian Environment

Sidewalks exist nearly everywhere along the primary roadways in the project area. The gaps in the sidewalk system that are of most concern are along Freud Street, which is an important east/west link between neighborhoods. In addition, the condition of sidewalks varies substantially, and in many areas (such as portions of Kercheval), sidewalks need to be replaced entirely to effectively serve pedestrians.

Figure 2.4 On-Road Bicycling Quality

Data Source: SEMCOG, 2007/2008, Michigan Traffic Crash Facts, 2009



Without Bike Lane	With Bike Lane	Average Daily Traffic	Speed Limit
A	A	0 -5,000	25
B	A	5,000 – 10,000	30
C	B	10,000 – 15,000	35
D	C	15,000 – 20,000	40
E	C	20,000 – 25,000	45
E	D	Over 25,000	50

Figure 2.5 Potential Road Modifications to Add Bike Lanes

Data Source: Google Earth and Google Street View, 2009.

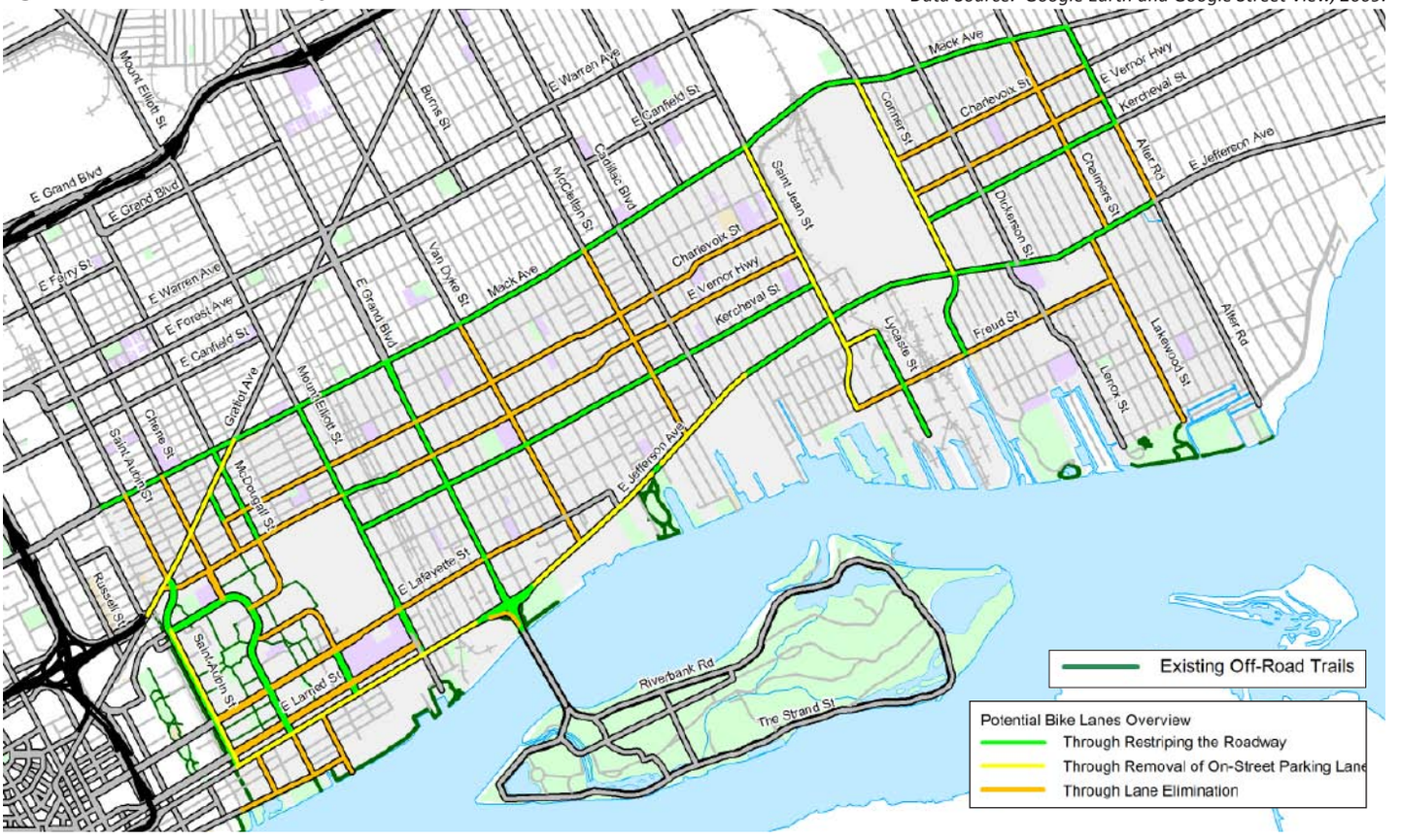
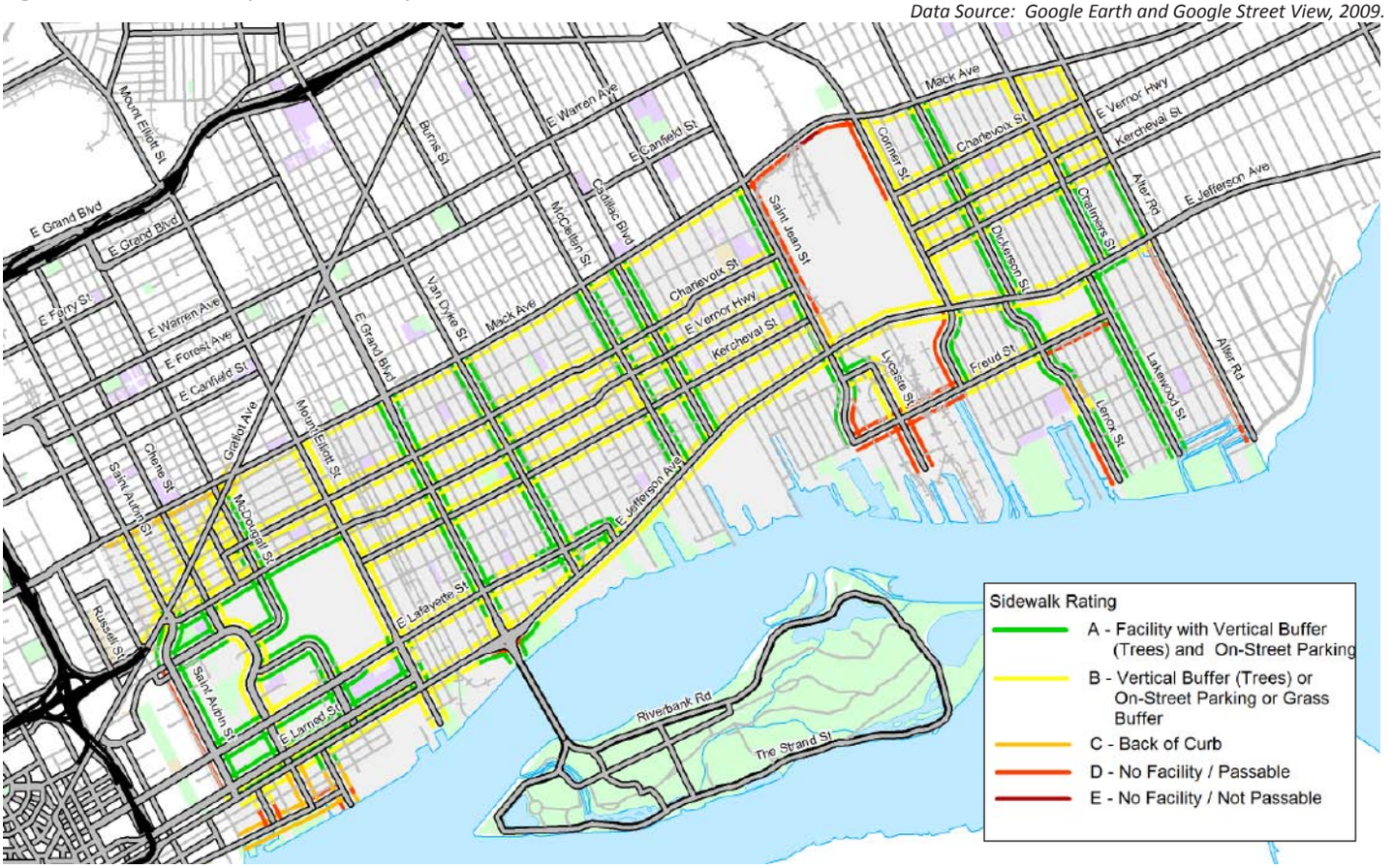


Figure 2.6 Pedestrian Experience Quality

Data Source: Google Earth and Google Street View, 2009.



Regardless of the presence or condition of sidewalks, the quality of the pedestrian experience varies considerably throughout the project area. In general, the quality of the pedestrian experience depends on how safe and comfortable pedestrians feel when walking. Having adequately wide sidewalks, separation or buffers from vehicle traffic, and street trees to provide shade positively affect the pedestrian experience. The quality of the pedestrian experience is graded from A to E based on these criteria, with A providing the highest quality (Figure 2.6).

A number of sidewalks in the district have little if any buffer between the sidewalk and the roadway. Buffers can include lawn extensions, rows of street trees, parked cars, or other hard barriers. The lack of buffers has been shown to have a significant adverse impact on the quality of the walking experience.

Most of the east/west primary roads have a buffer, such as on-street parking, street trees, or a grass buffer, but rarely a combination of buffers, thereby diminishing the pedestrian experience. Often the buffer is on-street parking, but in many cases the on-street parking is sparsely used and provides limited benefit. The north/south roads provide a higher quality pedestrian experience than the east/west primary roads, with trees typically planted in lawn extensions.

Another major concern in the district pertains to road crossings. Even when there are marked crosswalks, they are often inadequate given the size, speeds, and traffic volumes of the primary streets. Existing crossings often lack key safety features, such as appropriate vehicle signage indicating crosswalk

No Buffer Between Sidewalk and Street (Source: JJR)

locations, refuge islands (safe landings partway across the road), or signalization, making such roads difficult for pedestrians to cross. Within a 5-year period, there were 152 pedestrian/ vehicle crashes with five fatalities. Mack Avenue, East Jefferson Avenue, Kercheval, and Van Dyke Avenue had the most crashes.

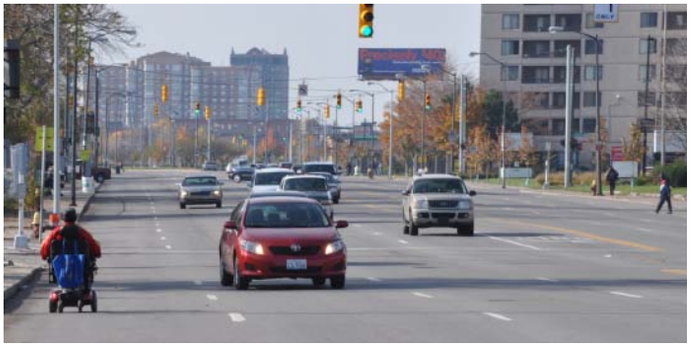
East Jefferson poses significant pedestrian challenges. Because of the density of senior housing, there is a large number of older adults with limited mobility, some of who use motorized wheelchairs. The poor quality if sidewalks forces them at times to use the street. In addition, crossing East Jefferson is more difficult than other streets in the district because of its width and limited number of crosswalks.

Community Survey

58% of survey respondents who currently do not walk regularly said they would be more inclined to do so if that had easy access to a greenway

Based on the on-line survey, the top issues that prevent people from walking more are distance from home to stores, condition of lighting, and personal safety

46% of survey respondents felt very uncomfortable walking through an area with numerous vacant buildings



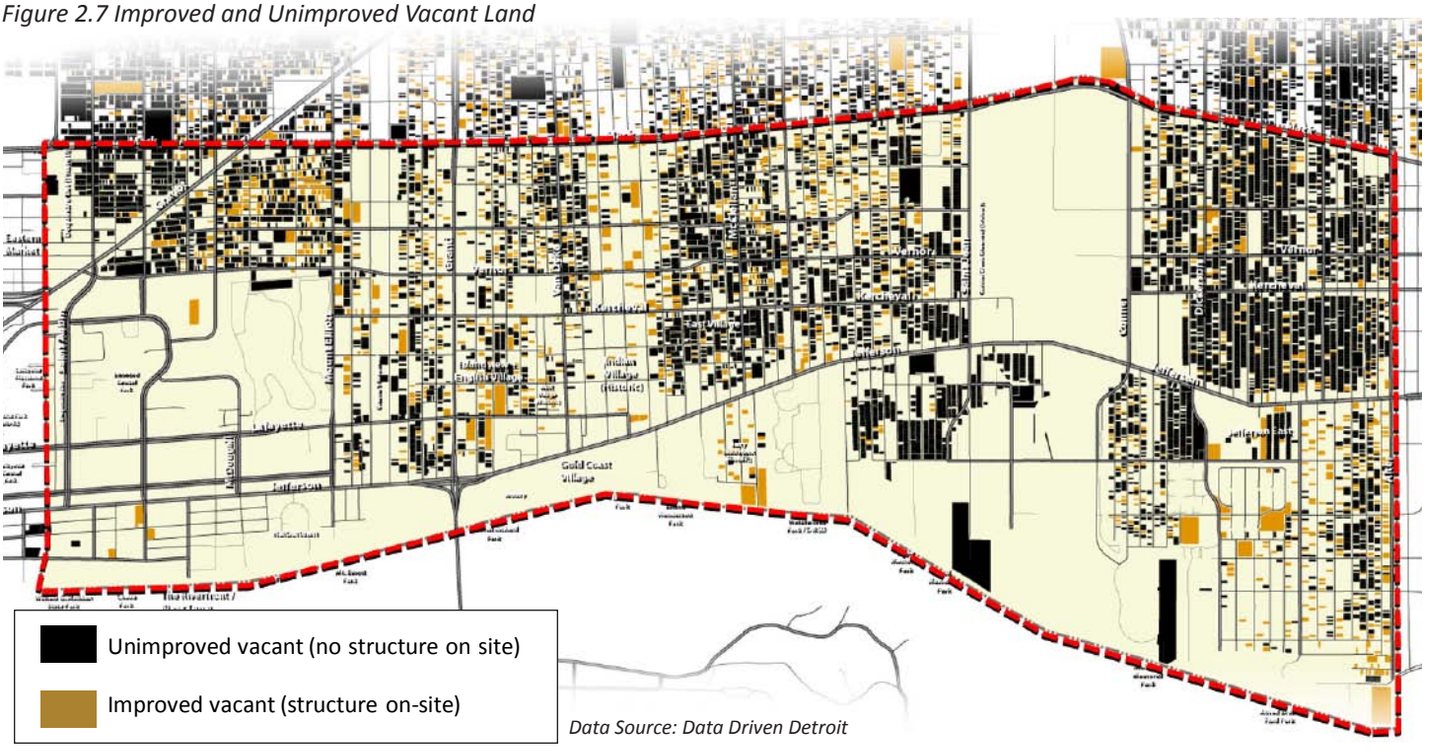
East Jefferson poses challenges (Source: GREEN Task Force)

Examples of Vacant Parcels in the East District (Source: Google)

2.4 Open Space Opportunities

The East District possesses some of the most concentrated areas of vacant land in the city (Figure 2.7). Vacant land has been indicative of historic disinvestment and population decline. The abundance of vacant land provides an opportunity to radically transform the character and fabric of the district.

Figure 2.7 Improved and Unimproved Vacant Land



Data Source: Data Driven Detroit

Three repurposing strategies were identified for vacant land along potential future greenway routes:

- Stormwater Management Systems
- Wildlife Habitat and Natural Areas Restoration
- Public Open Space and Recreational Access

An analysis examined specific opportunities in the district relative to these three strategies and served as sources of input for establishing greenway routes.

Stormwater Management

Stormwater runoff in urban areas impacts water quality by increasing the quantity of water entering streams and carrying excess sediment and pollutants into water bodies. Incorporating stormwater management systems, such as bioswales, rain gardens, and wetlands, into the greenways can protect and improve local water quality.

The design of stormwater systems should work with topography, landforms, and historic stream channels to manage urban runoff.

Highly impervious areas are typically those with more paved surface and less natural vegetation and soils, and typically generate more runoff during rain events. Figure 2.8 depicts the percentage of imperviousness across the project area, with darker red areas reflecting more impervious areas. Areas outlined in orange are the largest areas of high imperviousness that likely generate the greatest volumes of runoff.

Stormwater Wetlands at Milliken State Park which Clean Water, and Provide Aesthetic Benefits and Habitat Value (Source: JJR)

Figure 2.8 Impervious Map

Data Source: USGS Seamless National Dataset (Impervious Cover), Michigan Geographic Framework, Data Driven Detroit – Vacant Land Survey

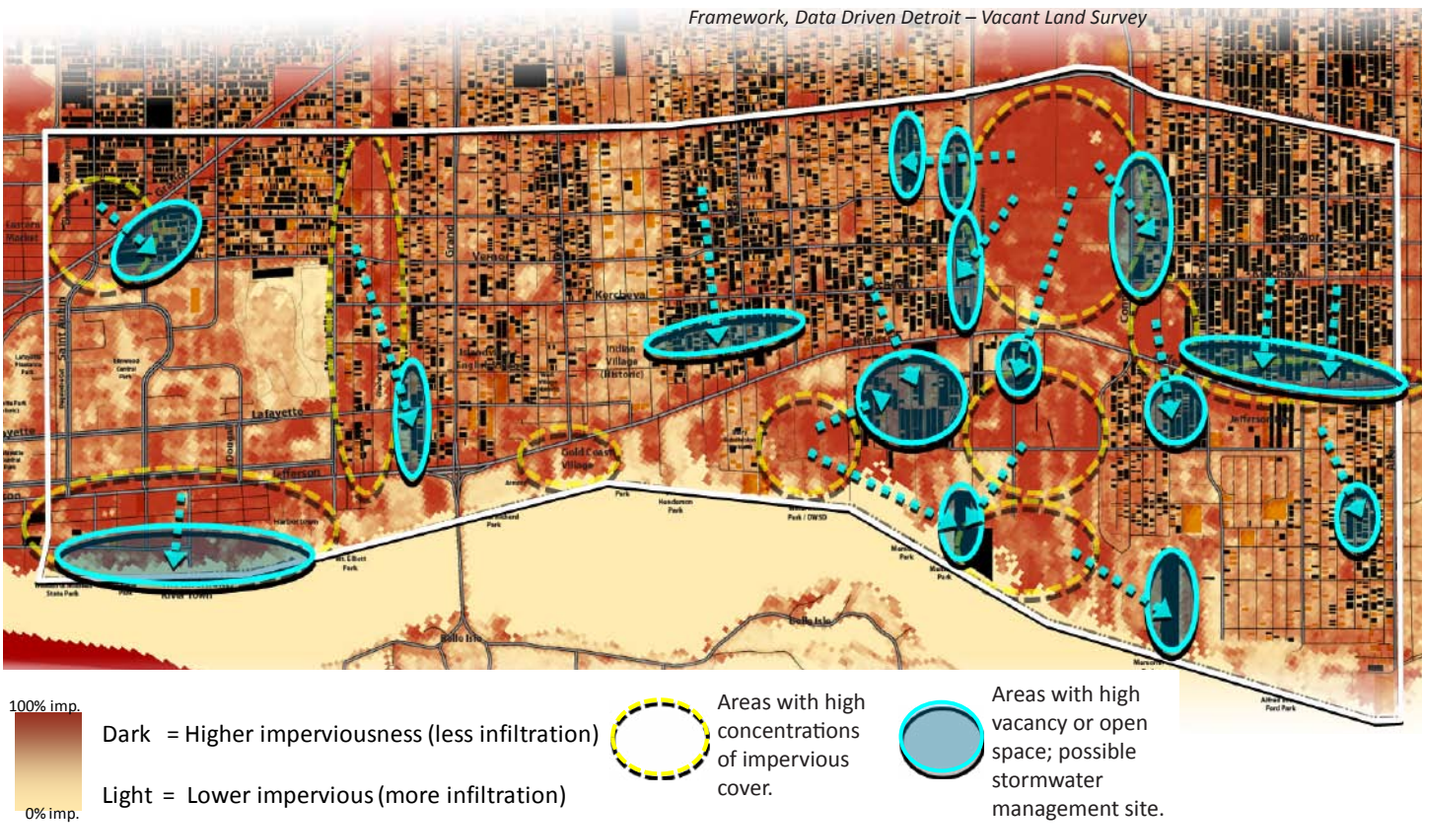


Figure 2.9 Wildlife Habitat and Natural Area Restoration Opportunities

Data Source: USGS Seamless National Dataset , Michigan Geographic Framework

Vacant land can provide opportunities to site large-scale stormwater management projects. Areas outlined in blue represent significant vacant or open land that is generally downstream from the high impervious areas. Incorporating approximately 100 acres of stormwater management areas (at an average depth of 4 feet) could manage the majority of rainfall events, protecting water quality across the project area and in the Detroit River.

Wildlife Habitat and Natural Area Restoration

Wildlife Habitat and Natural Area restoration provides an opportunity to improve the ecological health of the district, intersperse visual and interpretative elements along the greenways, and strengthen the identity of the district.

Restoration should be informed by historic vegetation patterns and the site's natural history. Historically, Detroit is part of a glacial lake plane, which has generally flat landscapes with gentle high and low points that create diverse vegetation patterns. In the East District, this created an abundance of beech/maple forest at slightly higher points. In depressed areas, primarily in the eastern most areas of the district, shrub/emergent marsh wetlands occur. Historically, this marshy area was referred to as the Grand Marais. Restoration potential for wetlands is based on hydrology, soil conditions, potential for dormant seed banks, and topography. Restoration work would require detailed site surveying and assessment to implement.

Historic stream channels can be restored through daylighting projects. These projects uncover streams that had been buried or placed in large underground pipes. Opportunities to restore buried stream channels in the district include Melochis/ Bloody Run Creek and Trambly's/Conner Creek. In addition, improvements to the condition and quality of existing creek

Habitat Restoration Plantings of Coneflowers, Bergamot, and Native Grasses (Source: JJR)

Special Public Gatherings at the Detroit River (Source: JJR)

channels (e.g. Fox Creek) can be pursued through stream cleanup and restoration.

The Wildlife Habitat and Natural Area Restoration Opportunities Map (Figure 2.9) depicts areas with significant concentrations or aggregations of tree cover (brighter green colors). Primary concentrations of trees occur in the Mt. Elliott Cemetery, The Villages, neighborhoods south of East Jefferson Avenue, Lafayette Park, and Belle Isle.

Vacant land often coincides with lower levels of tree cover across the study area, and locations with high levels of vacancy could be an opportunity for large-scale habitat restoration or reforestation efforts.

Public Open Space and Recreational Access

Access to open space provides a long-lasting benefit to communities by preserving property values, protecting environmental quality, and providing recreational spaces.

The Trust for Public Land recommends that cities provide 10 acres of accessible park space for every 1,000 residents. The project area (East District), approximately 6,100 acres, contains 619 acres of park space (5.23 percent total area). With 59,611 residents, the total acres per 1,000 residents is 5.35, approximately half of the recommended amount of accessible open space.

Public open space refers to publicly accessible open space (i.e., parks) used for recreation purposes. It does not include

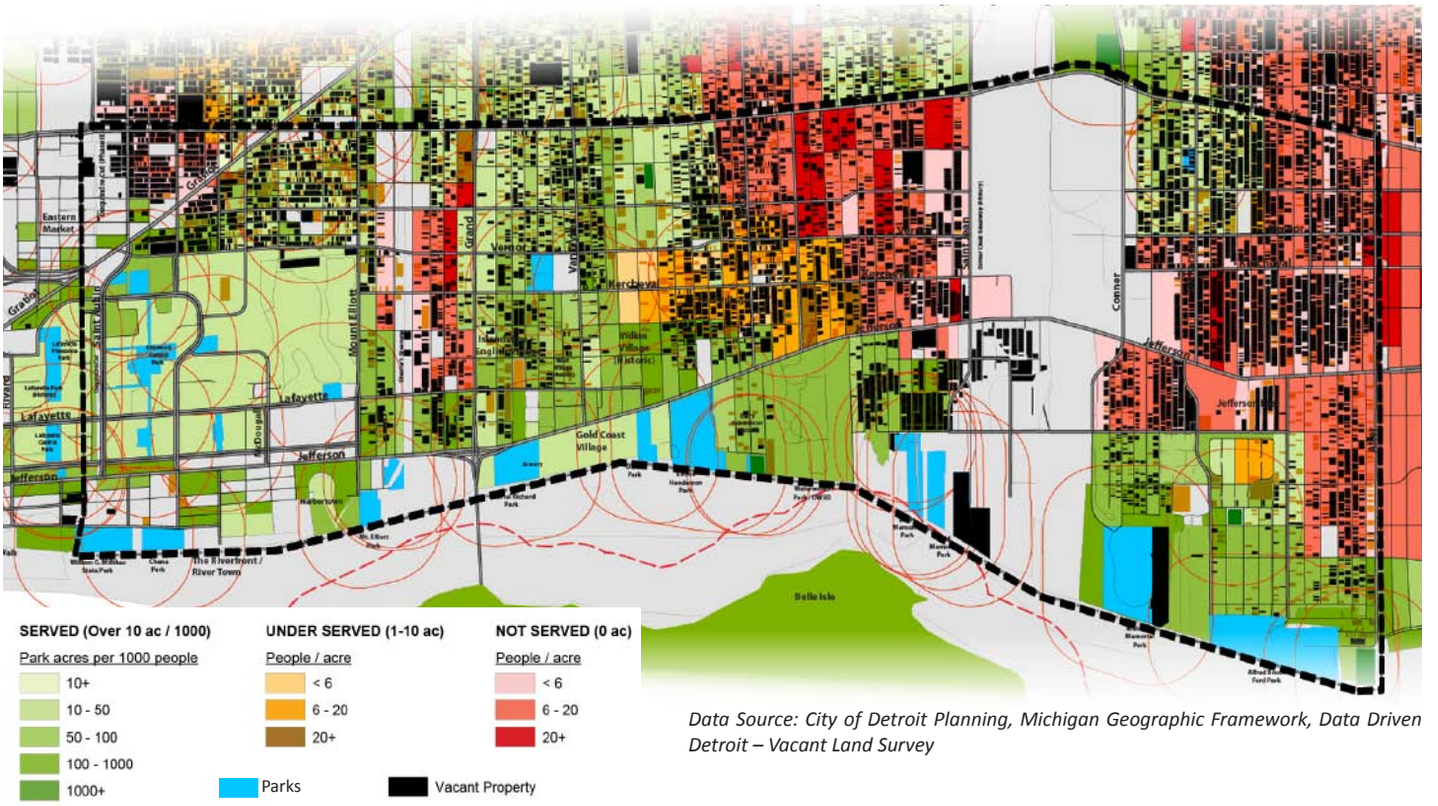
Figure 2.10 Comparable U.S. Cities' Open Space Accessibility

City	Area (acres)	Park Area (acres)	% Park Space	Population	Park Acres/ 1,000 People
St. Paul	33,920	4,976	14.70%	268,962	18.50
San Jose	111,910	16,303	14.60%	916,715	17.78
Minneapolis	35,130	5,864	16.70%	360,914	16.25
Oakland	35,875	5,217	14.50%	365,875	14.26
Seattle	53,677	6,170	11.50%	582,490	10.59
Pittsburgh	35,573	3,122	8.80%	297,187	10.51
St. Louis	39,630	3,381	8.50%	354,361	9.54
Buffalo	26,240	2,140	8.20%	263,366	8.13
Cleveland	49,650	3,127	6.30%	408,101	7.66
Detroit	88,810	5,890	6.60%	777,493	7.58
Detroit East District	***6,099***	***319***	***5.23%***	***59,611***	***5.35***
Anaheim	31,360	864	2.80%	330,795	2.61
Stockton	35,200	665	1.90%	275,885	2.41*

* This excluded nearby Belle Isle's 1,000 acres because the island is beyond the 5- to 10-minute walk radius.

Data Source: Trust for Public Land, American Fact Finder

Figure 2.11 Open Space Accessibility Analysis



Data Source: City of Detroit Planning, Michigan Geographic Framework, Data Driven Detroit – Vacant Land Survey

cemeteries or public school property, or privately-owned open space. Accessible parks refer to the "close to home" parks that are within a 5- to 10-minute walk from where people live.

The district does contain a number of large significant parks that are important for the city as a whole, including Belle Isle, Maheras Gentry Park, Erma Henderson Park, and the RiverWalk. However, for day-to-day park access, many of these parks are further away from where people live or there are major barriers to accessing the parks, such as poor road connectivity or significant road crossing obstacles. These barriers limit the use and access of these significant park spaces.

Open Space Accessibility Analysis

The Public Open Space Accessibility Analysis (Figure 2.11) examined each census block and determined how many acres of "accessible open space" (public parks only in this assessment) are within a ¼-mile walk of the census block. Publicly accessible open spaces are shown in blue with a ¼-mile walk radius around them (thin red lines).

Areas with no open space within a 5- to 10-minute (¼ mile) walk are considered "not-served" (red tones in map), and areas with less than 10 acres per 1,000 residents are considered "underserved" (orange tones). Green areas have more than 10 acres of open space per 1,000 people. The different shades of each color indicates the relative density of people living in that census block, with lighter areas having lower density than darker areas. Belle Isle, while a significant regional open space amenity, is not factored into this assessment, as it is more than ¼ mile away from neighborhood areas.

Vacant land (black tones) can be an opportunity to locate future open space amenities in relationship to areas of highest need. Future public open space can be located where there are concentrations of vacant parcels within highly underserved districts.

Based on the analysis, an additional 275 acres of public open space is needed to meet the 10 acres per 1,000 people Trust for Public Land recommendation. This additional open space should be located in areas of highest need.

Chapter 3
The Greenway System

(Source: JJR)

3.0 Introduction

This chapter provides an overview of the greenway system that emerged from the public engagement and planning process. It responds to a desire to connect to all major neighborhoods, tie into existing greenways and major destinations, and establish a looped system.

The overall greenway system consists of multiple greenways that form a network across the district and connect into adjacent parts of the city. The system as a whole can provide more benefits to the community as it becomes more interconnected with neighborhoods, businesses, assets, and destinations.

Major proposed greenways as a well as signature corridors in the district are presented and associated with typical cross-sections and levels of improvement. This chapter also discusses designing for safety, accessibility and wayfinding opportunities across the entire greenway system.

Figure 3.1 Greenway System Map

3.1 Greenway Routes

The greenway system consists of ten routes, as indicated in the greenway system map (Figure 3.1) above. Collectively, these routes comprise approximately 16 miles of new greenway facilities and includes a combination of both on-road and off-road routes. These routes emerged from the public engagement process through numerous rounds of route identification, preference voting, and refinement over the course of the planning project.

The ten recommended greenway routes are:

1. Elmwood Connector
2. Belt Line Greenway
3. Kercheval Greenway
4. Burns Connector
5. Conner Creek Greenway Enhancements
6. Sweet Loop
7. Fox Creek Greenway
8. Far East Connector
9. Carstens Spur
10. Riverfront Extension (includes Villages, Marina District, and River Parks segments)

3.2 Signature Corridors

In addition to the greenway routes, the system also identifies four signature corridors, which the community highlighted as a priority for improvements. The signature corridors include:

- East Jefferson Avenue, from I-375 to Alter Road - High priority for non-motorized enhancements as it provides a direct east/west link across the district and into downtown. East Jefferson was the subject of a study completed in 2010 (Hamilton Anderson Associates).
- Lafayette Street, from Iroquois Street into downtown - Provides ample opportunities for creating bike lanes into downtown.
- East Grand Boulevard - Provides a non-motorized opportunity to connect to multifamily housing and provides a link south to Belle Isle.
- Freud Street - Opportunity to connect the Creekside Neighborhood to the Marina District.

3.3 Greenway Characteristics

The greenway system will be comprised of both on-road and off-road greenways. The greenways, intended for use by all ages and abilities, will be designed with the principles of Universal Design and American Association of State Highway and Transportation Officials (AASHTO) design standards.

Proposed improvements for the on-road greenways have been coordinated with anticipated road improvement efforts and are part of a "Complete Streets" approach. Complete streets are roadways planned, designed and constructed to accommodate safe access for all users. On these streets, pedestrians, bicyclists, motorists and public transit riders of all ages and abilities are able to safely move along and across streets which may include sidewalks, crosswalks, and bike lanes. The City of Detroit is already starting to build some Complete Streets and is in the process of adopting a Complete Streets policy.

Complete Streets are important because they:

- Increase the physical activity levels and health of residents
- Give transportation options for those individuals who are unable to drive
- Improve pedestrian and bicycle safety
- Improve the environment so more students can safely walk and bike to school daily.
- Help build stronger communities
- Increase potential road funding from MDOT.

The greenway routes are intended to be developed to a level of improvement comparable to the Dequindre Cut, RiverWalk and Conner Creek Greenway that already exist within the district. The potential range of improvements for on-road and off-road greenways includes:

- Pavement repairs and/or roadway changes: striping bike lanes with or without special paving, pavement removals/ lane reduction, and sidewalk repair and/or widening.
- Crossing and intersection improvements: markings, traffic signals, signage, and refuge islands/medians.
- Roadway improvements and traffic calming: landscaped medians, bump-outs, roundabouts, and traffic circles.
- Special nodes, gateways, and trailheads.
- Landscaping: street trees, perennial/ground-cover beds, stormwater bioswales, and restoration landscaping outside the right-of-way.
- Site furnishings: benches, waste receptacles, etc.
- Improved lighting and security: pedestrian lighting, security cameras, and call boxes.
- Signage: regulatory signage, route and destination markers, entry signage/kiosks, and interpretive displays/ panels.
- Selected greenway design elements will be durable in an urban environment and be made of materials that minimize maintenance demands.

Chapter 6 provides steps for the implementation of the proposed greenway routes and addresses operations, maintenance and land control.

Dequindre Cut Showing Benches, Site Lighting, Security Call Boxes, Landscaping, and a Multi-Use Asphalt Trail (Source: JJR)

Example of a Crossing Island

Typical Cross-Sections

Cross-sections show relationships at eye level between design elements along a corridor. Major cross-section types were developed for on-road and off-road greenways. The following section provides an overview of the cross-section types with brief descriptions of their changes. The applications of these cross-section types are described fully in Chapter 4 on a route-by-route basis.

- Neighborhood Connector Type 1 (Figure 3.2) - This cross-section is used on primary roads of moderate size (Kercheval, Clairpointe Street, etc.). In general, this cross-section entails removal of one travel and/or parking lane to create new bike lanes and wider landscape zones between the road and sidewalk. This landscape zone can incorporate street trees, lawn areas, and bioswales and will create a safe comfortable place for pedestrians to walk.
- Neighborhood Connector Type 2 (Figure 3.3) - On-street cross-section used on small local roads. Accommodations for bike traffic are provided through proper "share-the-road" type signage and pavement markings due to low automobile traffic volumes.

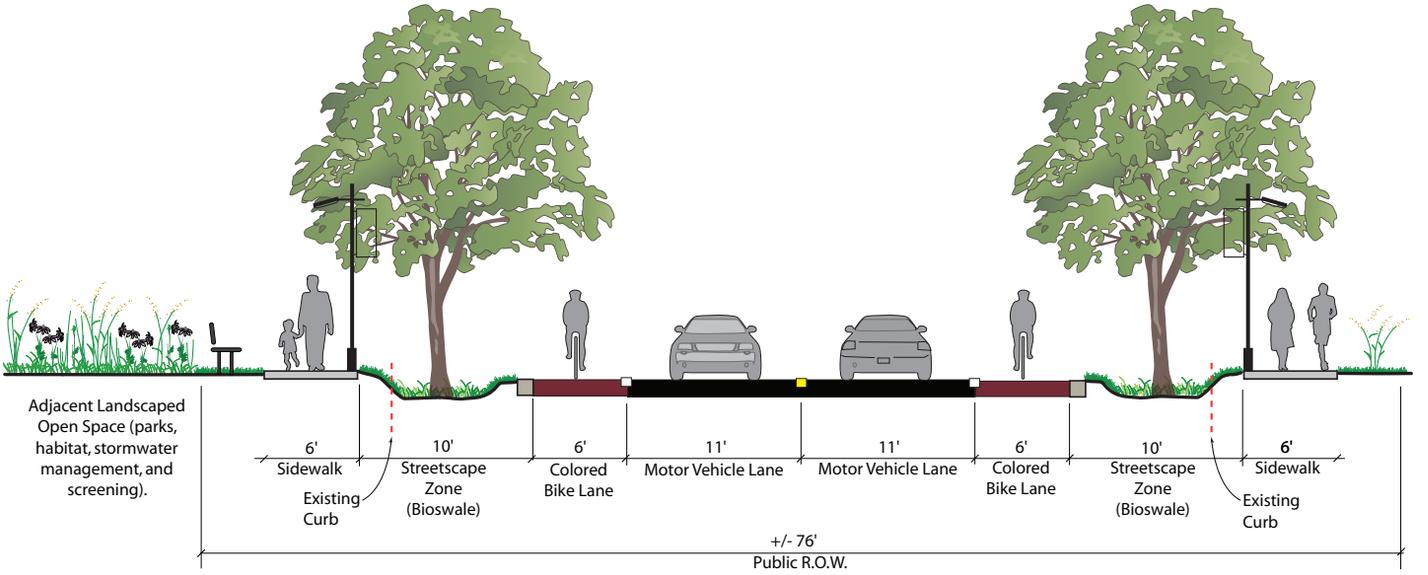


Figure 3.2 Neighborhood Connector Type 1 Cross-Section

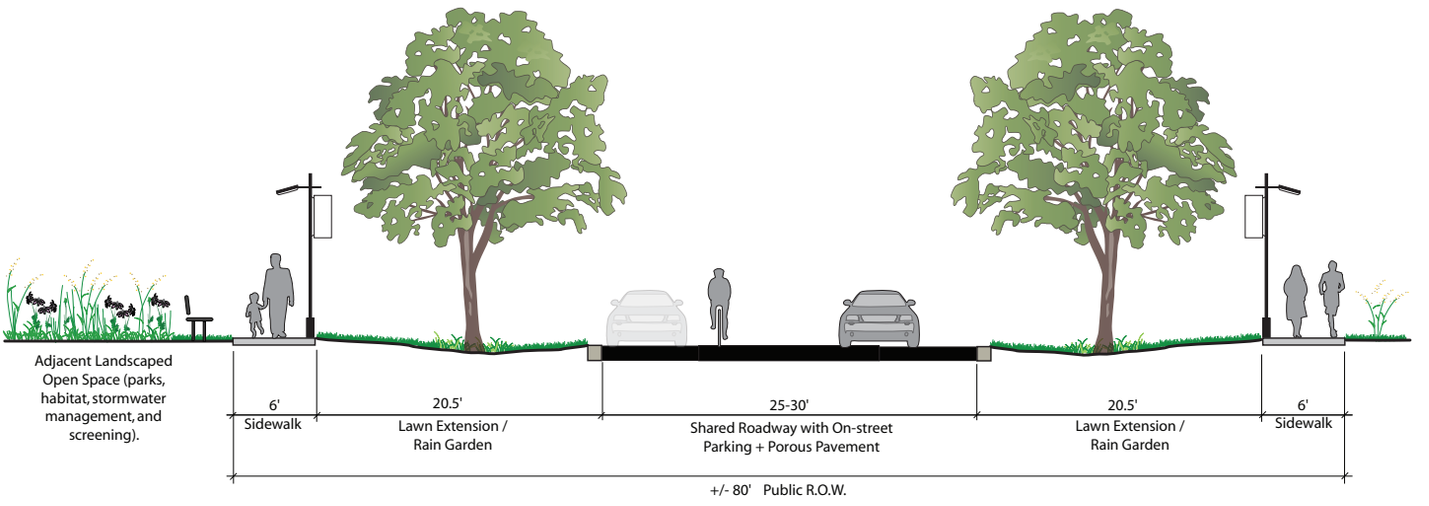


Figure 3.3 Neighborhood Connector Type 2 Cross-Section

- Principal Route (Figure 3.4) - On-street cross-section used for larger roads with many lanes (i.e., East Jefferson Avenue, St. Jean Street, Mack Avenue) and higher traffic volumes than neighborhood connector roads. This cross-section also calls for lane reduction in most cases to accommodate bike lanes and enhancements to the streetscape edge and sidewalk areas.
- Principal Route Alternative Cross-Section (Figure 3.5) - For roads where more lane reductions may be possible, this cross-section removes lanes for a wider center median as well as for wider streetscape areas adjacent to the road.

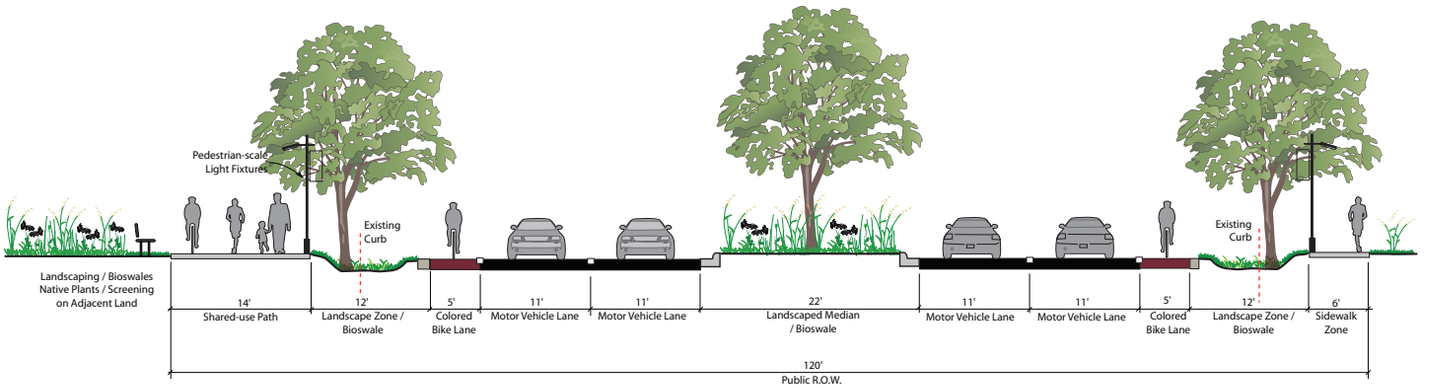


Figure 3.4 Principal Route Cross-Section

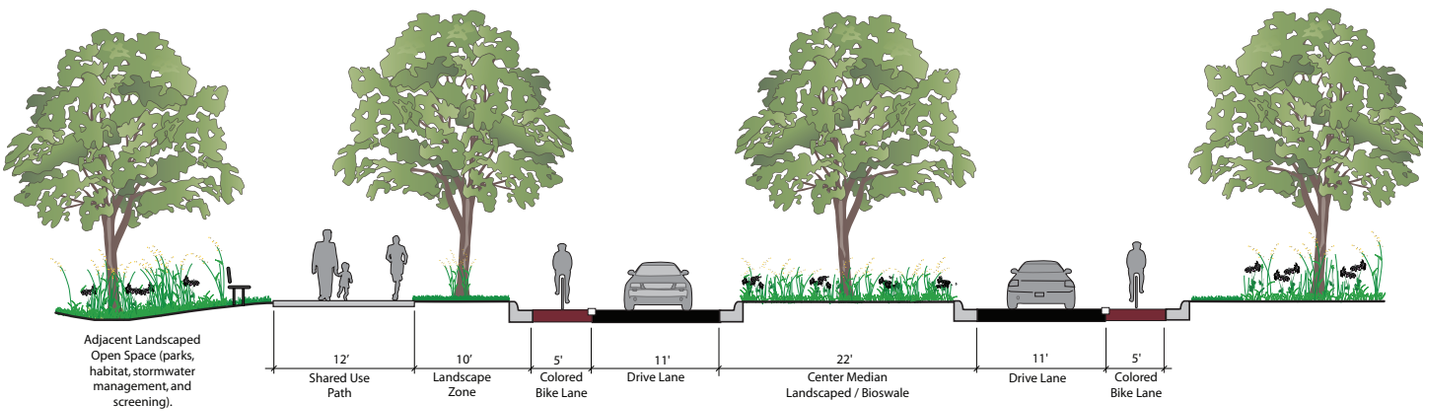


Figure 3.5 Principal Route Alternate Cross-Section

- Shared Use Parallel Trail (Figure 3.6) - Cross-section occurs on primary roads of moderate size where there is an opportunity and/or desire to create a wider shared use trail adjacent to the road, as well as bike lanes within the roadway. This approach may be well-suited for roads where accommodating different levels of bike riders in separate facilities may be desired.
- Off-Road Trail (Figure 3.7) - Cross-section assumes a 50-foot-wide zone for off-road greenways. This zone includes a shared use pathway up to 20 feet wide (width of Dequindre Cut) as well as landscaping improvements, site amenities, and trail counters.

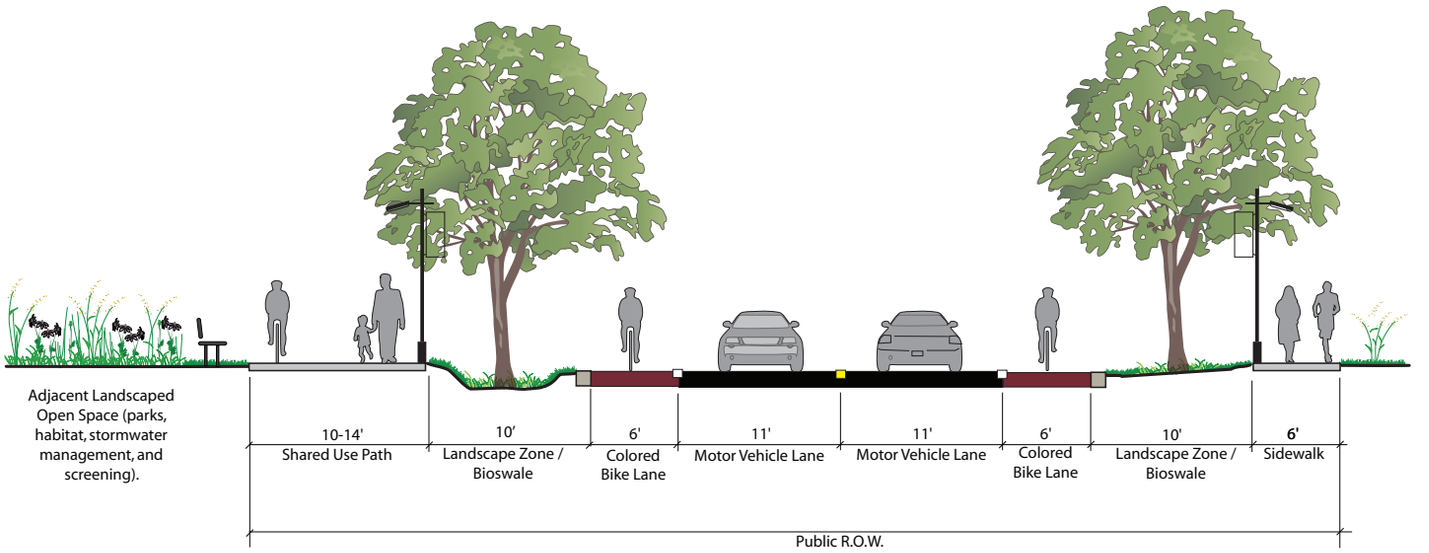


Figure 3.6 Shared Use Parallel Trail

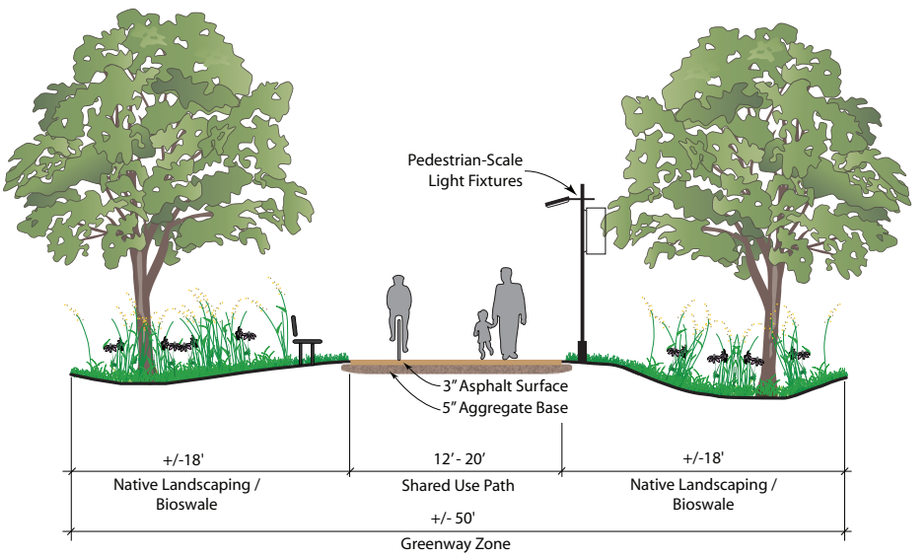
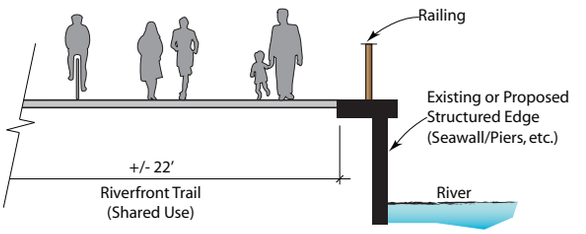


Figure 3.7 Off-Road Trail

- Riverfront Trail - A number of different trail cross-sections are anticipated along the Riverfront. The main cross-section (Figure 3.8) includes a 22-foot-wide paved trail zone that accommodates pedestrian and bike traffic. The river edge condition can either be a soft edge, relying on bank stabilization techniques, or a hard edge using a seawall. The marina edge section (Figure 3.9) is used where secure access to marinas is desired. In addition to the main Riverfront trail, a smaller, separate walkway is located immediately adjacent to a marina behind security fencing, providing boat access for marina users.

Each of these typical cross-sections may have one or more variations, as presented on the following pages. In general, these cross-sections indicate the typical width of the greenway right-of-way, pavement widths, uses, landscaping improvements, anticipated site furnishings and lighting, and physical restoration (such as bank stabilization). Chapter 4 details each greenway and its related cross-section.

River Edge Condition with Trail at Structured Edge



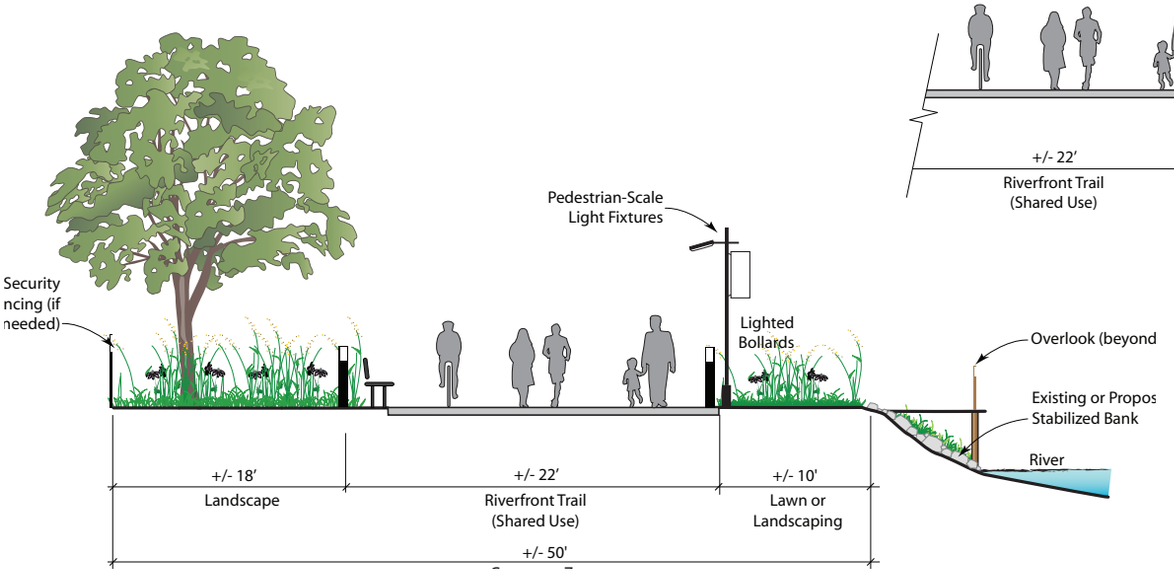


Figure 3.8 Riverfront Extension Section with Soft Edge

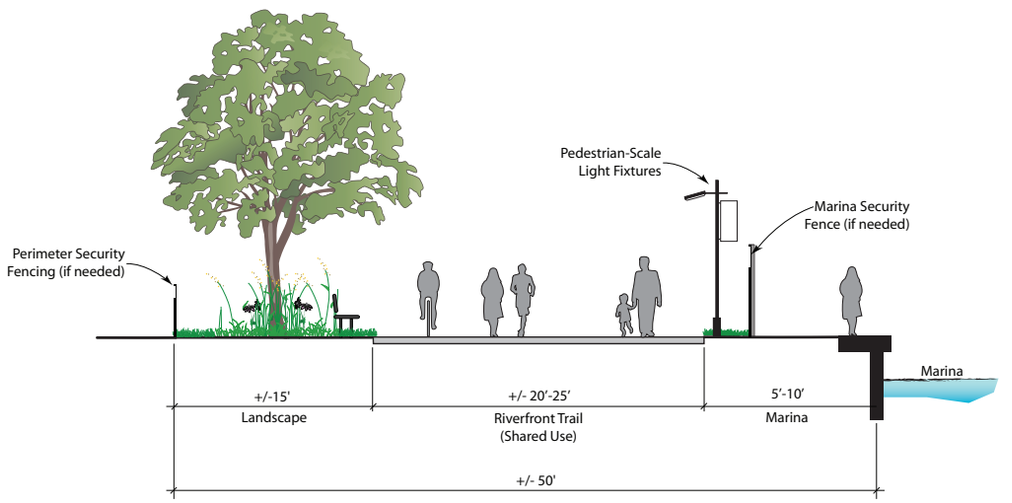


Figure 3.9 Riverfront Extension Section Marina Edge

The Five P's

Places, Pocket Parks, Pubs, Plazas, Play Spaces. While greenways fundamentally provide pedestrian and bicycling trails, they can also provide opportunities for accommodating new places for parks and play, gathering places, and activity. The Five P's enhance activity, provide identity and create new destinations. The individual greenway routes, described in the next chapter, will identify some potential locations for these activity nodes at key points along the routes. A deeper examination of these opportunities will need to occur as individual routes move into a feasibility or design planning stage on the road to implementation.

Pocket parks can provide an opportunity for new open space "close to home." However, they should not be located in highly vacant areas with few people living nearby. Instead, they can be used as an infill strategy for vacant parcels in areas with more intact housing to support the neighborhood's stability.

Overlooks should primarily occur along the Riverfront Extension, and should be located as close to the water's edge as possible to provide views along the Detroit River.

3.4 Safety and Crime Prevention

Personal safety, both from the intentional threat of criminals and the accidental threat from traffic is a top concern of the community and is a major impediment to walking and bicycling more in the study area. Solutions to both threats are addressed in the design of the greenways and in planned operations and maintenance activities.

Crime Prevention

The most effective way to increase the safety of pedestrians and bicyclists is to have "more eyes on the street." Higher visibility increases community ownership and deters criminal activity. Introducing new greenways along existing road corridors will increase the numbers of pedestrians and bicyclists on the street. The design of the greenways reflect the crime prevention theories of Crime Prevention through Environmental Design (CPTED). "CPTED theories contend that law enforcement officers, architects, city planners, landscape and interior designers, and resident volunteers can create a climate of safety in a community right from the start. CPTED's goal is to prevent crime by designing a physical environment that positively influences human behavior" (Source: National Crime Prevention Council). The theory is based on four principles:

Example of lighting and emergency call boxes (Source: Greenway Collaborative)

1. Natural Access Control – This principle uses walkways, fences, lighting, signage and landscape to clearly guide people to and from the proper entrances. The goal with this principle is not necessarily to keep intruders out, but to direct the flow of people while decreasing the opportunity for crime.
2. Natural Surveillance – "Being seen" is the goal when it comes to natural surveillance. A person is less likely to commit a crime if they think someone will see them do it. Sufficient lighting and landscape that maintains clear lines of sight increase visibility along the greenway routes.
3. Territoriality - Creating or extending a "sphere of influence" by utilizing physical elements such as pavement treatments, landscaping and signage that enable users of an area to develop a sense of ownership. Greenway areas are clearly distinguished from adjacent private property. Potential trespassers perceive this control and are discouraged to enter.
4. Maintenance – this principle reflects the "Broken Window Theory" which suggests that one "broken window" or nuisance, if allowed to exist, will lead to others and ultimately to the decline of an entire neighborhood. Neglected and poorly maintained spaces encourage criminal activity. Operations and maintenance of the greenway system (Chapter 6) will utilize best practices for greenway upkeep.

Designing for Traffic Safety

Traffic safety is a primary concern where greenway routes run adjacent to or cross major road-ways. A number of techniques will be used, appropriate to the type of the roadway, to enhance traffic safety. At a minimum, ADA curb ramps, pavement markings, and appropriate signage should be used. In addition, safety can be enhanced with pedestrian activated crossing signals, hawk signals, and special pavings. In other instances, modifications to the road way should be considered to improve safety:

On major roadways (i.e. East Jefferson), providing crossing islands partway across the street can provide safer refuge for walkers and bikers, while also creating a physical presence in the roadway that alerts drivers and generally slows down traffic.

Bump-outs can be used at road intersections where on-street parking normally exists. These bump outs perceptually narrow the road width for drivers and encourage lower overall speeds while providing an additional buffer between the roadway and pedestrian or bicycle circulation. Bump-outs can also incorporate additional landscaping improvements such as infiltration planters or tree planters.

Roundabouts or traffic circles (Figure 3.10) may be appropriate at key road intersections as a means of slowing auto traffic and facilitating more fluid bike traffic at the same time. Traffic circles are generally used at the intersection between two local streets, while larger roundabouts are more appropriate to use at larger road intersections.

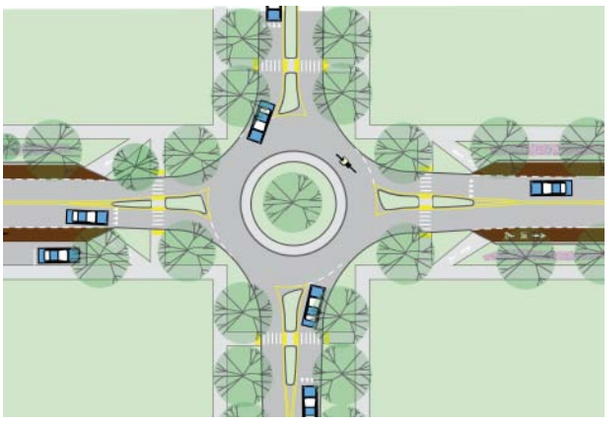


Figure 3.10 Example of a Roundabout at an Intersection of Two Primary Roads

3.5 Wayfinding

Wayfinding includes signage, displays, banners and markings that help orient and guide people through the greenway system. Signage can take many forms, from standard directional signage to elaborate kiosks and interactive displays. The key attribute however, is that signage should be easy to read and understand, help guide people towards major destinations or assets, and facilitate recreational or interpretive uses along the greenways.

The Detroit RiverWalk sections and the Dequindre Cut have an extensive signage system in place, unique to each route. The existing wayfinding and identification signage (Figure 3.11) should be continued consistently across the Riverfront extension for continuity of design and feel. Signage for other new greenways should be designed in a style and character that is compatible with existing signage, where feasible.

Major Traffic Corridor Signage

Signature corridors in the project area include roads such as East Jefferson Avenue. Even though signature corridors are highly automobile oriented, they are key corridors for all types of transportation and are highly visible. There may be potential to enhance the corridors so they reflect the character of the community and highlight entrances into the greenway system.

Figure 3.11 RiverWalk Signage Examples (Source: The Greenway Collaborative)

When greenways intersect major corridors, pedestrian lighting, decorative plantings, and banners can be placed at these locations to highlight the intersection point.

Greenway Routes

Greenway route guide signs (Figure 3.12) are used on designated greenway routes to inform bicyclists and pedestrians of changes in direction and the distance to the next destination. At each decision point, signs, about the size of a street sign, indicate the route direction, destination, and distance.

In addition to greenway route guide signs, greenway route identification signs (Figure 3.13) establish a unique identification for each greenway route. These signs are typically used with auxiliary plaques that indicate the direction of travel and any changes in direction of the route.

Orientation Kiosks

Orientation kiosks (Figure 3.14) should be placed where a greenway intersects with another greenway. The orientation kiosk contains a map of the greenway system noting the current location and additional information about the route. Key locations for kiosks and wayfinding are indicated on the Wayfinding and Signage Location Map (Figure 3.15).

Figure 3.12 Greenway Route Guide Signs

Figure 3.13 Greenway Route Identification Signs

Figure 3.14 Orientation kiosks could be placed on East Jefferson Avenue where the Dequindre Cut and the Conner Creek Greenway intersect. (Source: The Greenway Collaborative)

Figure 3.15 Wayfinding and Signage Location Map

Chapter 4
Individual Greenway Routes

(Source: JJR)

4.0 Introduction

The previous chapter describes how the ten recommended greenway routes form a complete system and presents general greenway characteristics and improvements. This chapter examines the specific route, trail types, opportunities, and special design circumstances for each of the ten greenway routes.

The following lists the routes discussed in this chapter:

1. Elmwood Connector
2. Belt Line Greenway
3. Kercheval Greenway
4. Burns Connector
5. Conner Creek Greenway Enhancements
6. Sweet Loop
7. Fox Creek Greenway
8. Far East Connector
9. Carstens Spur
10. Riverfront Extension

4.1 Elmwood Connector

At-a-Glance Information

- Approximate Length: 1.5 Miles
- Endpoints: Dequindre Cut and the Belt Line Greenway
- Primary Greenway Type: Off-Road Trail (Figure 4.2)
- Destinations: Dues Playground, Gleaners Community Food Bank, Elmwood Cemetery, Multifamily Housing Developments, Dequindre Cut, Midtown Loop, Eastern Market, Heidelberg Project

Route Description

The Elmwood Connector will link the proposed greenway system to destinations west of the Greater Riverfront East District. By tying into the Dequindre Cut, and as a consequence, the Riverfront, it will expand non-motorized options that serve the adjacent high density areas of multifamily housing. The connection primarily utilizes existing pedestrian paths that traverse through the multifamily housing developments.

Overall, the Elmwood Connector is proposed as a 12-foot-wide paved trail. In many locations, construction will require removing and replacing existing walkways and sidewalks that are too narrow. Landscaping and lighting will be incorporated along the entire route.

A highly visible gateway into the greenway system can be created at the connection to the Dequindre Cut by utilizing the existing vacant property.

The Dues Playground and closed Sydney Miller Middle School provide excellent opportunities for concentrating open space amenities and/or repurposing the middle school building in the future. There is ample room for aligning a pathway through this area, and some portions of the alignment already have asphalt pathways. A connection to the Elmwood Connector from Elmwood-Central Park will increase access from the south.

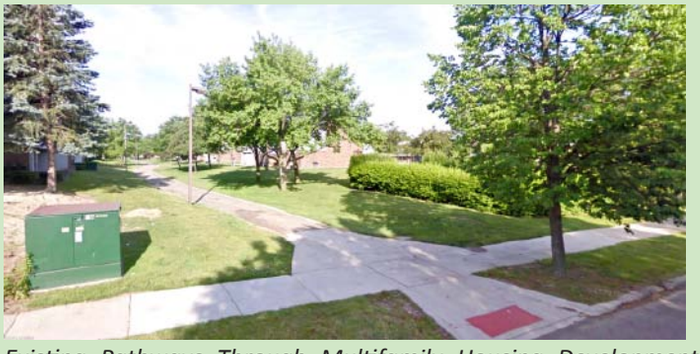
The middle portion of the route passes through multifamily housing developments, taking advantage of existing pathways. In many cases, the pathways need to be widened to properly accommodate shared use requirements, and other areas need pavement repair. Landscaping adjacent to the pathways should establish a consistent shade tree canopy while providing

Route Location

Existing Conditions Photos

Dequindre Cut (Source: JJR)

Dues Playground (Source: Google)



Existing Pathways Through Multifamily Housing Development (Source: Google)

Figure 4.1 Elmwood Connector Route Plan

1. Trail goes down in grade to connect to the Dequindre Cut
2. Passes through existing open space, Dues Playground, and a closed middle school
3. Expand existing pathways through multifamily housing developments
4. Crossing at Prince Hall Drive
5. Connect to cemetery paths when possible
6. New paths needed in vacant space along Vernor Highway
7. Utilize vacant property/streets to connect from Mount Elliott Street to Beaufait Street
8. Connect to Elmwood-Central Park

important screening or security buffers for adjacent buildings.

The third segment of the Elmwood Connector is directly north of the Elmwood Cemetery (Figure 4.1, Item 6). Portions of this section can utilize an existing (but narrow) sidewalk behind the buildings. To the east, the route moves into areas of vacant land where new pathways would need to be created.

The final segment crosses Mount Elliott Street at Vernor Highway, and weaves through an area of high vacancy to the west of the Gleaners Community Food Bank (Figure 4.1, Item 7). There is an opportunity to bring the trail alongside the urban agriculture projects occurring at Gleaners Community Food Bank. In addition, implementation of the Elmwood Connector will need to be coordinated with site improvement projects underway at the Gleaners Community Food Bank.

Existing Pathways Through Multifamily Housing Development (Source: Google)

Vacant Property at Vernor Highway and Mount Elliott Street (Source: Google)

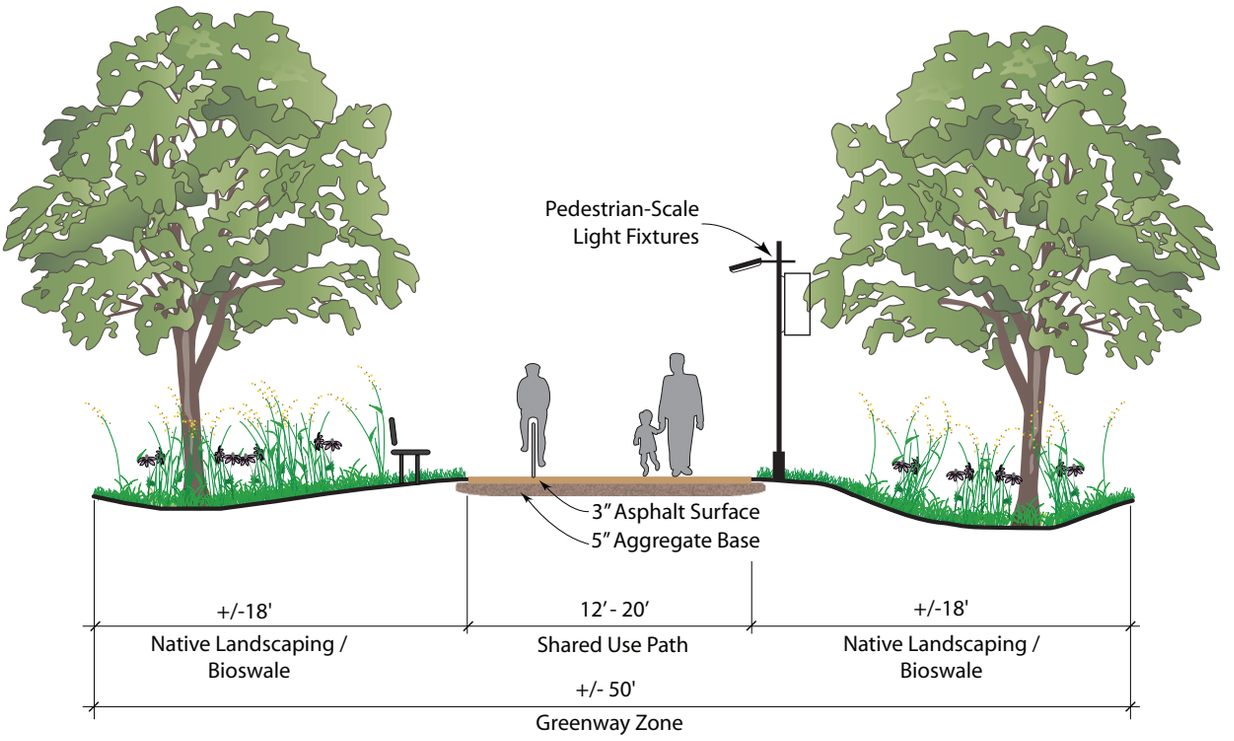


Figure 4.2 Elmwood Connector Primary Section

Special Conditions

Crossing at Prince Hall

- The greenway runs along a portion of Prince Hall Drive. Bike traffic is directed onto the road, linking to future bike lanes.
- Pedestrian traffic remains on wider sidewalks on either side of the road.

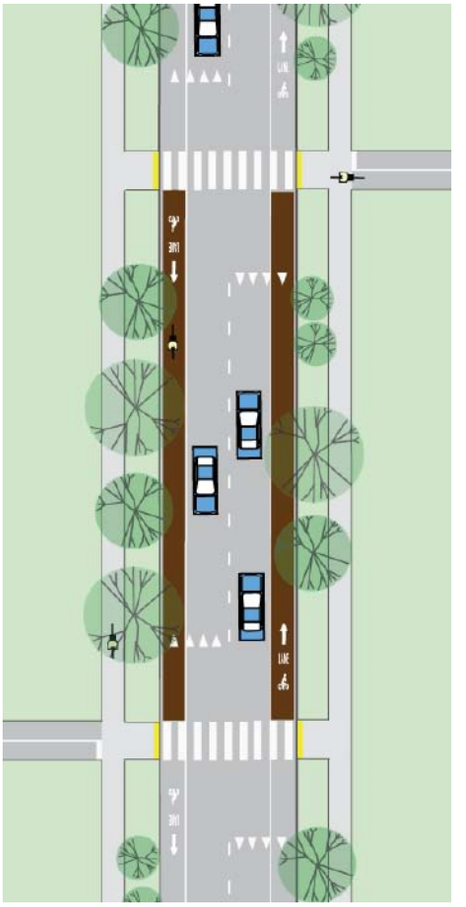


Figure 4.3 Potential Crossing at Prince Hall

Alternative Alignments

An alternative alignment has been discussed, which connects from the Gleaners Community Food Bank area directly west into the Elmwood Cemetery. The trail would connect through the cemetery and into a different section of the multifamily housing pathway system than the proposed greenway alignment.

4.2 Belt Line Greenway

At-a-Glance Information

- Approximate Length: 2.0 Miles
- Endpoints: RiverWalk at Mount Elliott Park to Mack Avenue
- Primary Greenway Type: Off-Road Trail (Figure 4.5)
- Destinations: Gleaners Community Food Bank, Solanus Casey Center, Harbortown, RiverWalk, Mount Elliott Park, East Jefferson Avenue, Capuchin Soup Kitchen, Kabaz Cultural Center

Route Description

The Belt Line Greenway is a proposed off-road connection that will utilize an un-used historic railroad corridor to connect from the RiverWalk to Mack Avenue. This route will be similar to the Dequindre Cut, except that the majority of the route will be at grade (street level) rather than below grade. The paved trail area will be 12 to 20 feet wide. A preliminary feasibility study has been completed for the Belt Line Greenway, identifying issues and concepts relative to implementation as well as an initial public outreach and an ownership survey.

Land uses along the route are primarily industrial, with a mixture of vacant and occupied warehouses and other large footprint buildings. Many of these buildings have significant architectural appeal. In some portions of the site, fragments of rail infrastructure still remain, such as larger concrete coal tender structures on the block between Kercheval and Saint Paul Street. The industrial legacy of the corridor is ripe with opportunity for historic interpretation.

The main railroad right-of-way varies in width across the corridor, which is the block between Beaufait and Bellevue Streets. At a minimum, the right-of-way parcels are about 50 feet in width; in other areas it is up to 120 feet wide. Typically, the west side of the blocks are devoid of structures and major obstructions, particularly in the southern portion of the site.

Community input during the feasibility study suggests taking a broad look at the Belt Line Greenway and strongly exploring opportunities for utilizing vacant land immediately adjacent and nearby the greenway corridor for open space improvements,

Route Location

Existing Conditions Photos

Former Rail Line Passing Under East Jefferson Avenue (Source: JJR)

Dense Woody Vegetation (Source: JJR)

Historic Coal Tenders and Railroad Infrastructure (Source: JJR)

Figure 4.4 Belt Line Greenway Route Plan

1. Begin at Mount Elliott Park adjacent to vacant Uniroyal brownfield waterfront property
2. Crosses under East Jefferson Avenue – potential for streetscape enhancements
3. Intersects Kercheval Greenway and Elmwood Connector
4. Continue to run between Beaufait and Concord
5. Existing buildings in corridor may effect route alignment
6. Ends at Gratiot Avenue, but could extend north outside of the district

- Principal Route 1
- NBH Connector 1
- NBH Connector 2
- Existing Trails
- Off-Road Trail
- Signature Corridor
- Special Node/Gateway
- Other Pedestrian Crossing

treating the entire greenway corridor as a linear park. Other ideas for repurposing land include creating a "food corridor" focused on production and transportation of locally grown goods, strings of neighborhood pocket parks, trailhead access and parking, stormwater management systems, and restored natural areas.

Alternative Alignments

The exact routing of the Belt Line Greenway should be kept relatively loose at the planning stage, based on the ability to acquire land or easements for trail access. The feasibility study explored partial alternative alignments that utilized other vacant land nearby to site the trail where significant barriers may exist on the primary alignment.

Concept sketch of the proposed Belt Line Greenway showing the trail aligned along the former rail corridor. Enhancements include plantings, lighting, gateways, and crossing improvements.

Concept sketch of the proposed Belt Line Greenway with the trail adjacent to the street. Adjacent , open land areas restored as a natural area for stormwater management, native vegetation, wildlife, and interpretation.

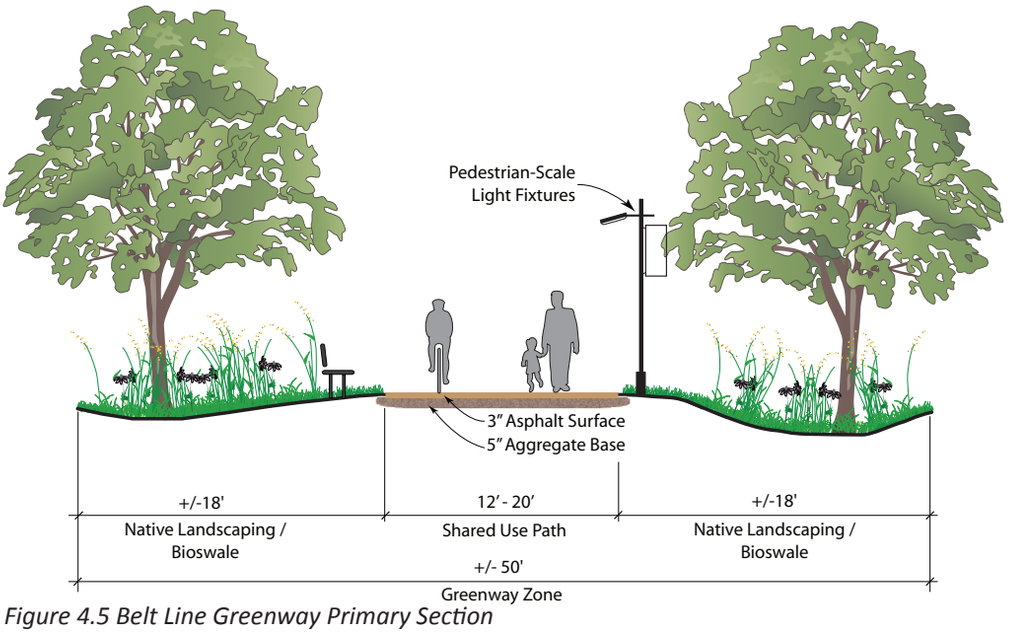


Figure 4.5 Belt Line Greenway Primary Section

4.3 Kercheval Greenway

At-a-Glance Information

- Approximate Length: 2.3 Miles
- Endpoints: Belt Line Greenway (west) to Conner Creek Greenway (east)
- Primary Greenway Type: Neighborhood Connector Type 1 (On-Road) (Figure 4.7)
- Destinations: Gleaners Community Food Bank, The Villages, Butzel Playground and Family Center, Chrysler Plant, East Grand Boulevard (connection to Belle Isle), Burns Connector

Route Description

The Kercheval Greenway is a route that will transform Kercheval into a greenway connecting east/west across a substantial portion of the project site. Currently, Kercheval is a four-lane roadway that is far below traffic capacity. This excess pavement area provides ample opportunity to incorporate new landscaping, stormwater management features, bike lanes, and pedestrian amenities while also enhancing the visual quality of the corridor for adjacent neighborhoods. In conjunction with the Elmwood Connector, this route will provide a strong connection for neighborhoods to the Eastern Market and downtown areas, paralleling the RiverWalk.

Kercheval's transformation will rely primarily on a lane reduction, removing one of the travel lanes to add additional landscaping and bike lanes. The lane reductions and other corridor improvements will slow down car and truck traffic on Kercheval. This traffic calming effect will make the street more pedestrian friendly, increase the safety of pedestrians crossing the street and discourage criminal traffic. In locations with commercial uses along the road, on-street parking can still be accommodated to provide convenient access to businesses. The landscaping areas adjacent to the roadway can incorporate bioswales to provide treatment for stormwater.

Route Location

Existing Conditions Photos

Kercheval at Concord Street (Source: Google)

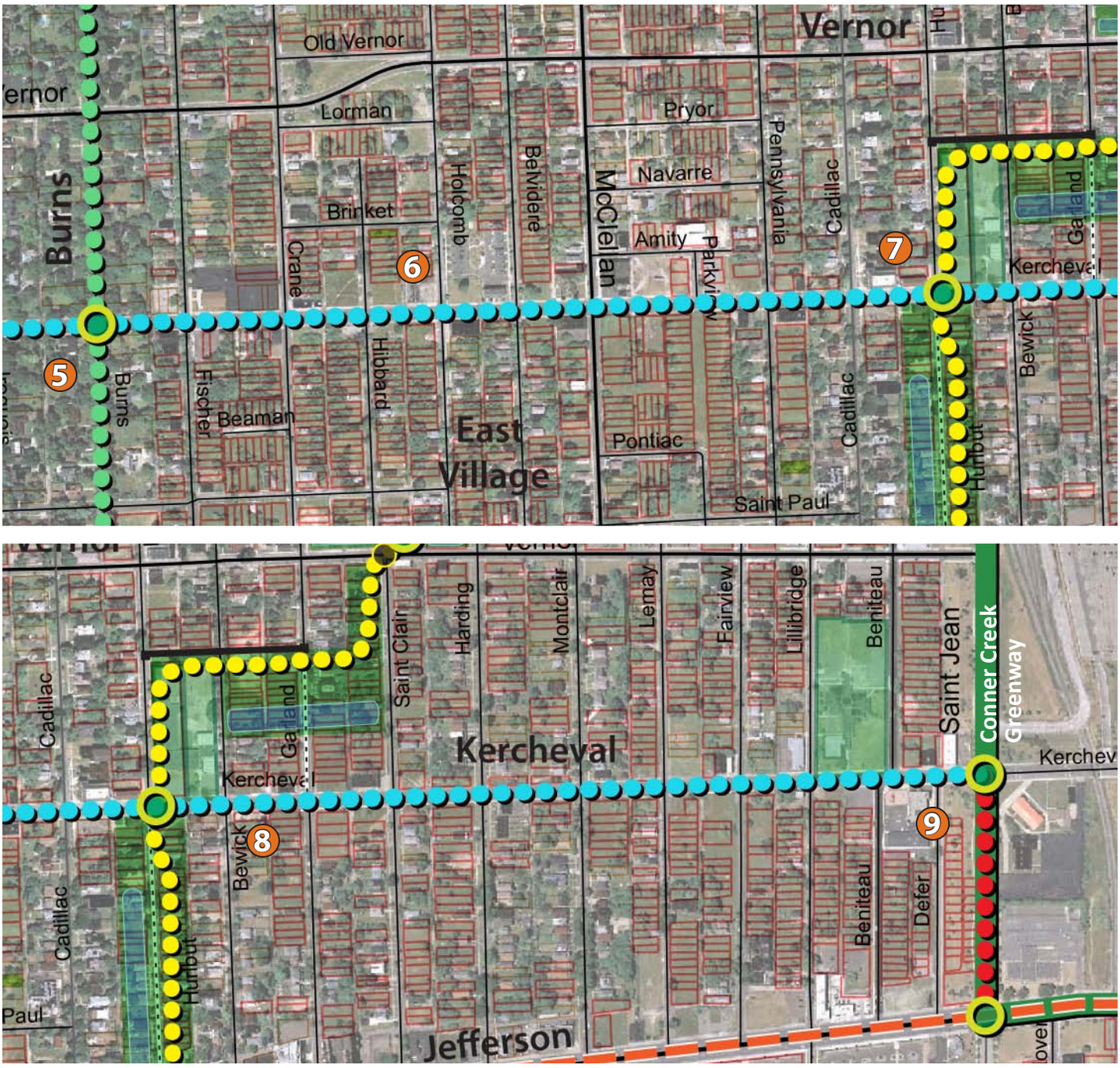
Kercheval Passing Through the Villages (Source: Google)

Kercheval at Holcomb Street (Source: Google)

Figure 4.6 Kercheval Greenway Route Plan

1. Begins at Belt Line Greenway
2. East Grand Boulevard intersection – significant connection to Belle Isle
   Assisted living housing in vicinity
3. Butzel Family Center connection
4. Intersection with the Burns Connector potential roundabout location

Kercheval Greenway Route Plan (cont'd)



5 Continues past the Burns Connector

6 Encourage infill development at neighborhood nodes and intersections

7 Sweet Loop trail intersection

8 Utilize adjacent vacant areas for open space improvements – pocket parks, community gardens, and stormwater features where feasible

9 Connection to the Conner Creek Greenway

- Principal Route 1
- NBH Connector 1
- NBH Connector 2
- Existing Trails
- Off-Road Trail
- Signature Corridor
- Special Node/Gateway
- Other Pedestrian Crossing

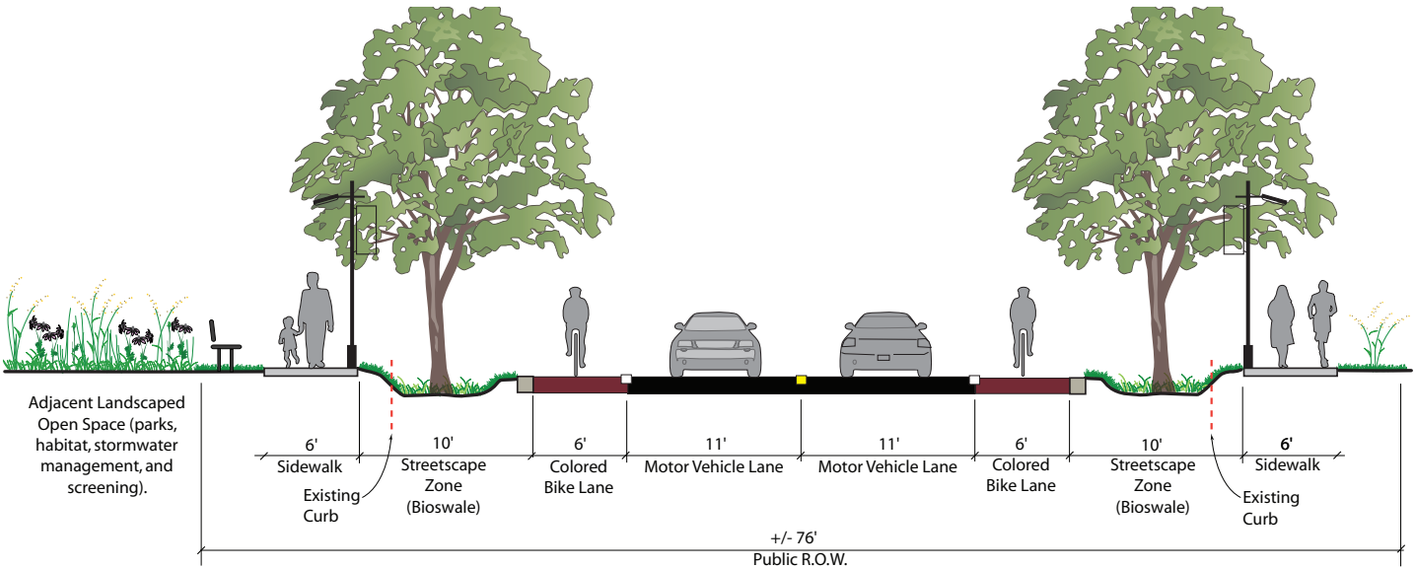
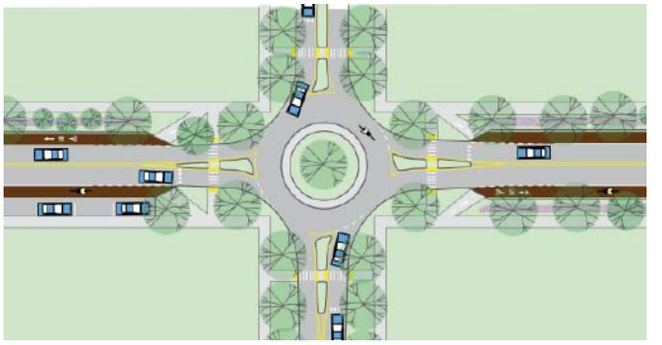


Figure 4.7 - Kercheval Greenway Primary Section

Special Conditions

Roundabout at Burns Connector Intersection

- Roundabout intersection maintains traffic flow for vehicles and cyclists while simultaneously calming traffic and improving safety. Provides visual interest and opportunities for special district landmarks or visual enhancements.



Roundabout at Burns Connector Intersection

Off-Street Trail Connection at the Sweet Loop

- Example indicating connection between the Kercheval Greenway (on-street) and the Sweet Loop (off-street).

Off-Street Trail Connection at the Sweet Loop

4.4 Burns Connector

At-a-Glance Information

- Approximate Length: 1.1 Miles
- Endpoints: Future Riverfront Extension at Erma Henderon Park to Mack Avenue
- Primary Greenway Type: Neighborhood Connector Type 2 (On-Road) (Figure 4.9)
- Destinations: The Villages, Waldorf School, Erma Henderson Park and Marina

Route Description

The proposed Burns Connector runs north/south from the riverfront at Erma Henderson Park to Mack Avenue. This connection goes through the heart of the historic Indian Village district.

The paved area of Burns Street is approximately 26 feet wide and functions as a small local street. The proposed greenway improvements maintain parking on either side of the street and incorporate share-the-road bike route signage, allowing cyclists and motorists to safely share the travel lanes. Porous pavement can be incorporated in the parking lanes. In addition, the side lawn extensions (between curb and sidewalk) are well suited for conversion into rain gardens.

At the south end of the route, the crossing at East Jefferson Avenue should be enhanced to provide safe crossing, and the high visibility location can be utilized to signify an entrance into the greenway system.

The character of Burns Street is primarily residential with mostly intact lines of large stately street trees. The paved area of the road is relatively narrow, with two-direction travel and on-street parking. The greenway would add appropriate signage and pavement markings to allow cyclists to safely share the road. Pedestrians would be accommodated on the existing sidewalks.

One unique aspect of Burns Street is the very wide landscape zone between the street and sidewalk. In most cases, this zone should be preserved to allow adequate room for the existing street trees. In cases where trees do not exist, there is an opportunity to create smaller scale rain gardens or infiltration planters to manage local water runoff. Large setbacks between

Route Location

Existing Conditions Photos

Burns Street Crossing at East Jefferson Avenue (Source: Google)

Typical Condition Along Burns Street (Source: Google)

Burns Street at Kercheval (Source: Google)

Figure 4.8 Burns Connector Route Plan

1. Enhance street crossing at East Jefferson Avenue and into Erma Henderson Park
2. Potential roundabouts at local street intersections such as Agnes Street
3. Roundabout at Kercheval Greenway intersection.
4. Connection to the Waldorf School
5. Connection to Mack Avenue

- Principal Route 1
- NBH Connector 1
- NBH Connector 2
- Existing Trails
- Off-Road Trail
- Signature Corridor
- Special Node/Gateway
- Other Pedestrian Crossing

the sidewalk and individual residences can also be used for rain gardens or other landscaping improvements by working with property owners.

Small traffic circles or bump-outs can be incorporated into the intersections of Burns Street and other local roads (Agnes Street, Saint Paul Street, etc.) to slow and direct traffic through the intersections while providing unique aesthetic opportunities and additional cyclist and pedestrian safety enhancements.

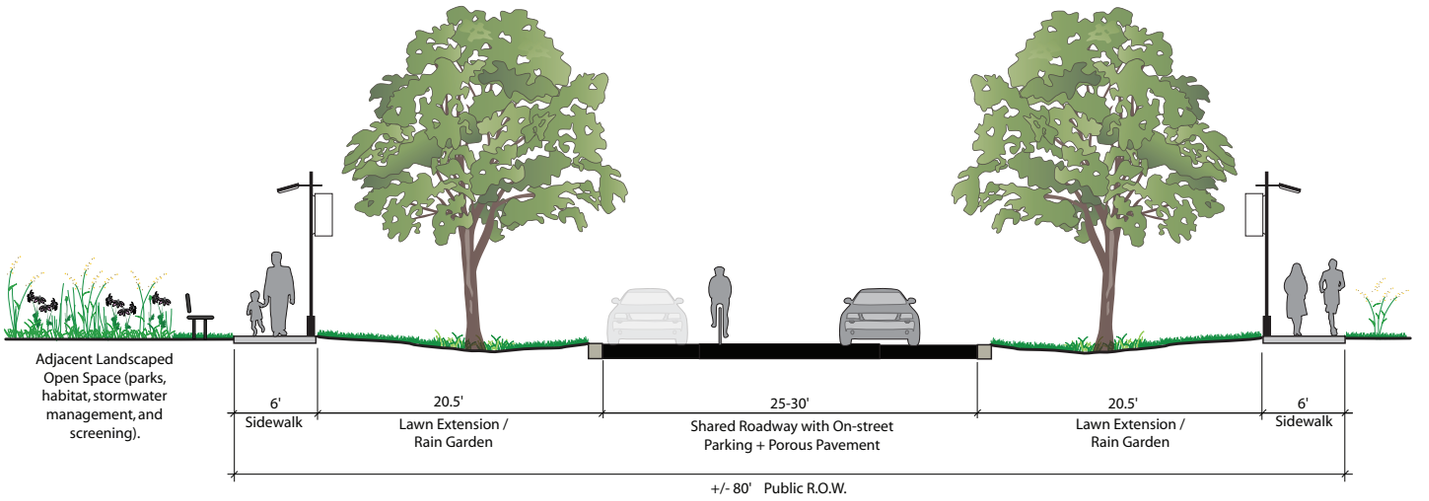
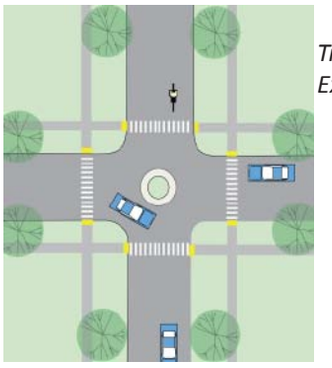


Figure 4.9 Burns Connector Primary Section



Traffic Circle Example

Special Conditions

Traffic Circles

- Function as “mini roundabouts” to slow traffic at road intersections. Typically implemented as small landscaped or paved areas in the middle of the intersection.

East Jefferson Avenue Crossing

- Use crossing islands to provide safe street crossings and aesthetic enhancements.

East Jefferson Avenue Crossing

4.5 Conner Creek Greenway Enhancements

At-a-Glance Information

- Approximate Length: 1.5 Miles
- Endpoints: St. Jean Street/Kercheval and Maheras Gentry Park
- Primary Greenway Type: Principal Routes (Figures 4.11 and 4.12)
- Destinations: Chrysler Plant, Marina District, Maheras Gentry Park

Route Description

The Conner Creek Greenway has undergone detailed planning and partial implementation to date. Improvements to St. Jean Street, including a shared use side path and bike lanes, have already been completed as well as a bike lane striping on Clairpointe Street south of East Jefferson Avenue. However, the connection between these two segments along East Jefferson Avenue has not been constructed and as a consequence, is a significant barrier to east/west movement across the district.

In addition, there are opportunities for continued enhancement to the already constructed portions of the Conner Creek Greenway, in particular, stormwater improvements and landscaping. St. Jean Street was recently resurfaced with bike lanes created, so significant changes are not anticipated in the near future. When significant changes are warranted, the street could be reduced down to two travel lanes with a center landscaped median.

Proposed changes to East Jefferson Avenue include a lane reduction down to four travel lanes (two in both directions), freeing up space in the right-of-way for a landscaped median and additional landscaping and trail space adjacent to the roadway. East Jefferson Avenue was built with seven lanes at a time when significantly higher traffic volumes existed, and there is now an opportunity to take advantage of excess capacity for greenway improvements. The *East Jefferson Corridor Study* (2010) identified this segment of East Jefferson Avenue (between Conner and St. Jean Streets) as a candidate for lane reduction.

Route Location

Existing Conditions Photos

East Jefferson Avenue at the Chrysler Plant (Source: Google)

St. Jean Street showing the recent bike land additions as part of the Conner Creek Greenway (Source: Detroit Eastside Community Collaborative)

Figure 4.10 Conner Creek Greenway Enhancement Route Plan

1. Additional improvements from East Jefferson Avenue to Kercheval to reinforce the greenway route
2. Enhanced pedestrian crossings at St. Jean Street and Conner Street
3. Opportunity for gateway treatment, stormwater, and habitat creation on Chrysler property north of East Jefferson Avenue
4. In addition to bike lanes already installed, infill with street trees, lighting, and consistent sidewalks
5. This segment runs concurrently with the Riverfront. Where feasible, increase views to water with overlooks
6. Connect to Riverfront Extension at Freud Street

Alternative Alignments

During the greenway planning process, the community felt that a route through the Chrysler plant property would be an exciting opportunity. Given that the plant is still in operation, implementation for such a scenario appears unlikely. If conditions change, a route alignment through the Chrysler property can be considered.

Clairpointe Street with recent bike land additions (Source: Detroit Eastside Community Collaborative)

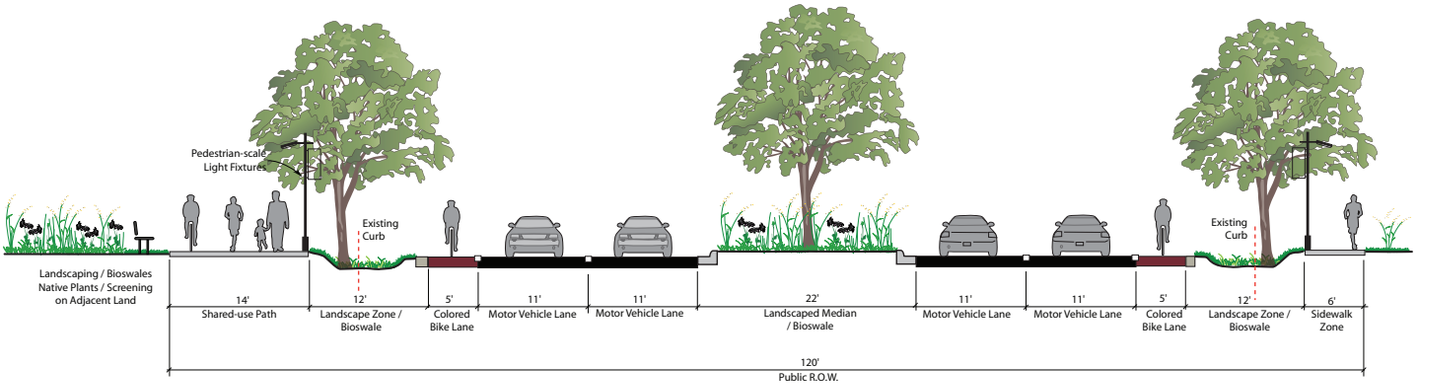


Figure 4.11 Conner Creek (East Jefferson) Primary Section

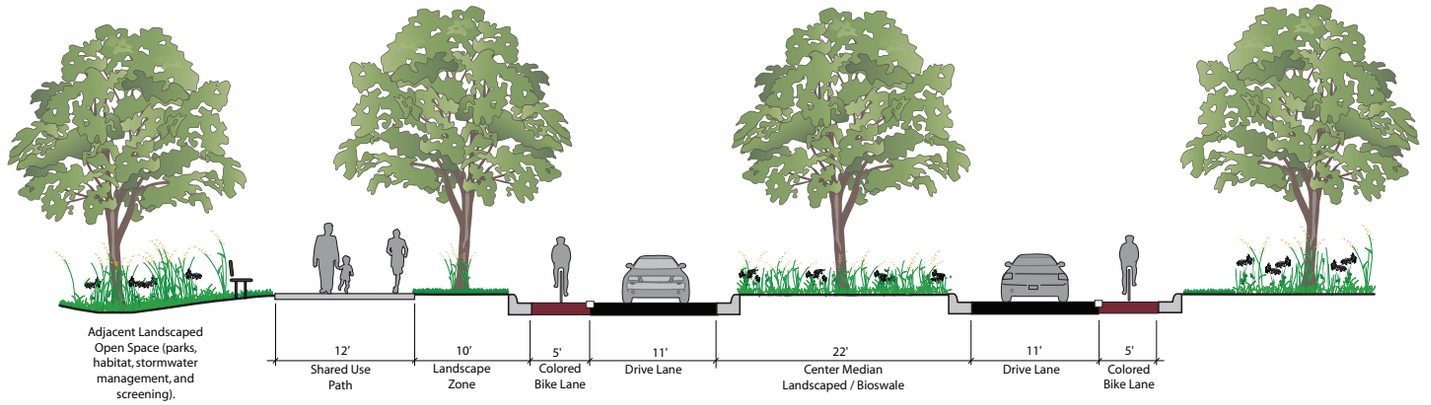


Figure 4.12 Conner Creek (St. Jean) Primary Section

4.6 Sweet Loop

At-a-Glance Information

- Approximate Length: 2.0 Miles
- Endpoints: Mack Avenue/St. Jean Street (north end) and Waterworks Park/RiverWalk (south end)
- Primary Greenway Type: Off-Road Trail (Figure 4.14)
- Destinations: Waterworks Park, Hurlbut Memorial Gate, Southeastern High School, Pewabic Pottery, Riverfront Extension, Kercheval Greenway

Route Description

The proposed Sweet Loop is a unique greenway that connects from the Riverfront north to Mack Avenue. The greenway is primarily off-street, utilizing vacant property in the neighborhood west of the Chrysler plant to align a new off-street route. The route as indicated is highly conceptual and portrays one of many possible pathways through the vacant property. Determining a detailed alignment would require community input. In addition, this route could be developed alongside neighborhood redevelopment or revitalization projects.

The southern part of the Sweet Loop passes though Waterworks Park. Existing access drives could be repurposed to provide a relatively easy connection. Fencing and security measures would need to be adjusted to accommodate general public access through Waterworks Park.

The trail will connect across East Jefferson Avenue at Pewabic Pottery and the Hurlbut Memorial Gate. This crossing is another opportunity for a high visibility opening onto the greenway system, given its location crossing East Jefferson Avenue at the Pewabic Pottery, which is a major attraction in the district.

Vacant property can be utilized in conjunction with selective road closures for the trail segment between East Jefferson Avenue and Kercheval to provide a wider gateway opening into the greenway system and the adjoined neighborhoods.

Named after Ossian Sweet, the Sweet Loop passes close to the Ossian Sweet House, a historic landmark and an important part of Detroit's history.

Route Location

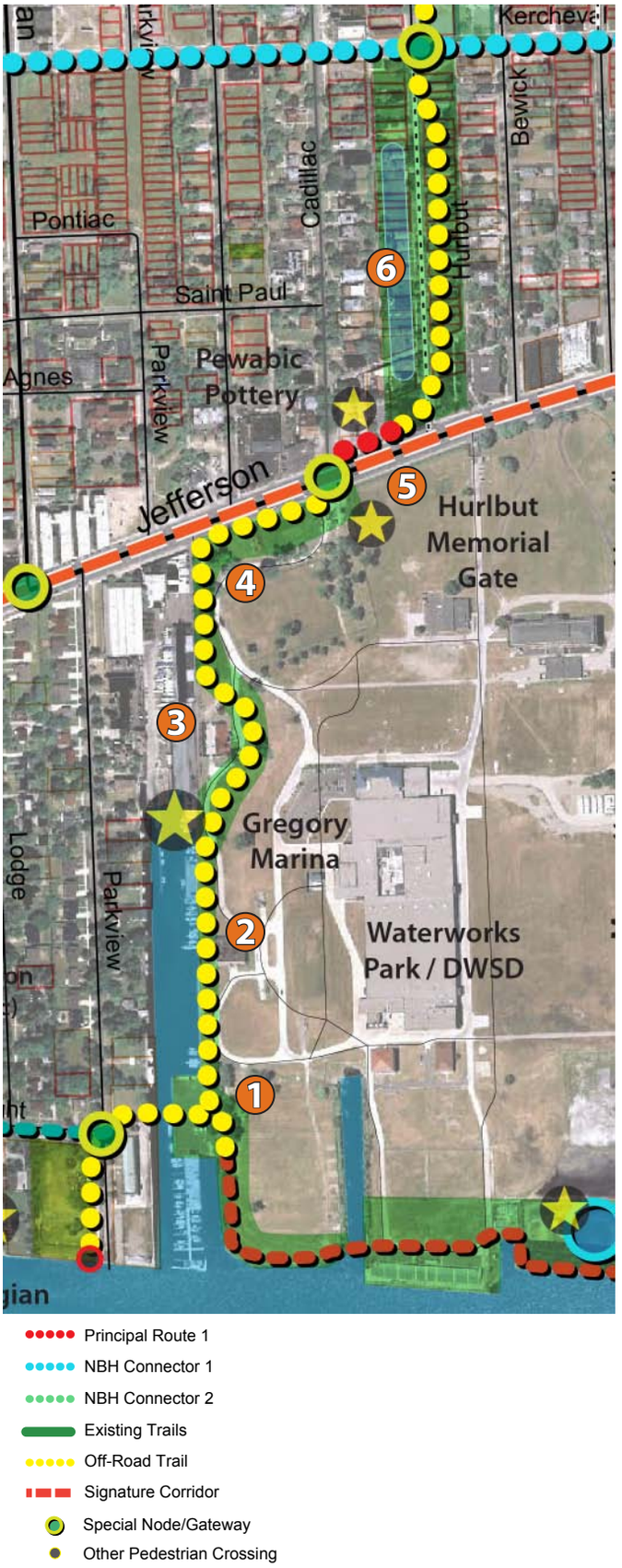
Existing Conditions Photos

Aerial View of Waterworks Park (Source: Bing)

East Jefferson Avenue Crossing Near Pewabic Pottery (Source: Google)

View Down Hurlbut Street, Just North of East Jefferson Avenue (Source: Google)

Figure 4.13 Sweet Loop Route Plan



1. Connect to the Riverfront at the edge of Gregory Marina
2. Relocate security fencing as needed in Waterworks Park
3. Wind path around old stable building
4. Realign entry drives to accommodate trail
5. Widen walk along East Jefferson Avenue, cross at Cadillac Boulevard, and head east along the north side of East Jefferson Avenue
6. Convert Hurlbut Street to greenway corridor (close to vehicular traffic)

Sweet Loop Route Plan (cont'd)

Aerial View of the High School Track Area and New Multifamily Housing Projects South of Mack Avenue

7 Develop an 8- to 10-acre park near school

8 Greenway adjacent to Southeastern High School track

9 Convert Lemay Street and create small stormwater management areas

10 Transition to a principal route at Fairview to Conner Creek Greenway

11 Opportunity to connect to the Ossian Sweet House

- Principal Route 1
- NBH Connector 1
- NBH Connector 2
- Existing Trails
- Off-Road Trail
- Signature Corridor
- Special Node/Gateway
- Other Pedestrian Crossing

Lemay Street and Charlevoix – Route Continues Towards High School Track Fields (Source: Google)

Mack Avenue Near Lemay Street (Source: Google)

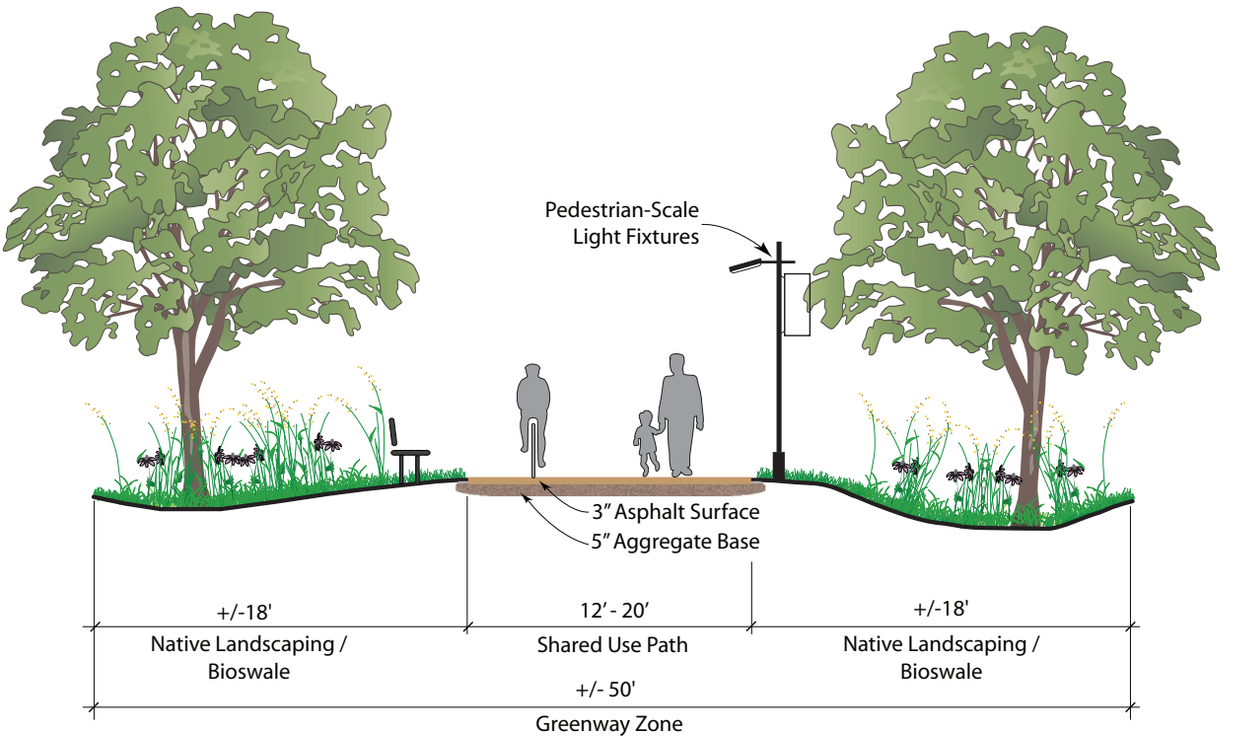


Figure 4.14 Sweet Loop Primary Section

4.7 Fox Creek Greenway

At-a-Glance Information

- Approximate Length: 1.8 Miles
- Endpoints: Future Riverfront Extension at Mariner Park (south end) and the Far East Connector (Greenway Route 8) at Kercheval
- Primary Greenway Type: Off-Road Trail (Figure 4.15)
- Destinations: Mariner Park, Alfred Brush Ford/Ford Brush Parks, Canal District, Jefferson East Business District

4.7.2 Route Description

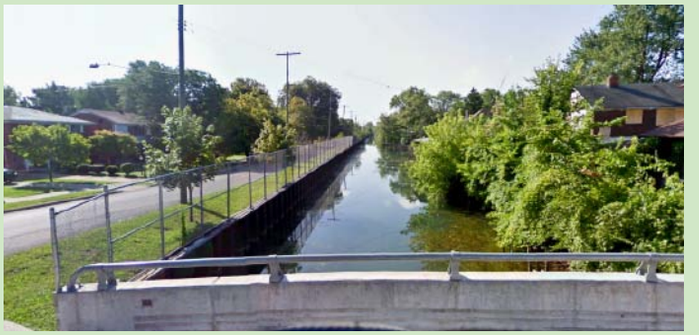
The Fox Creek Greenway is proposed as an off-road greenway that runs parallel to and west of Fox Creek. Significant areas of vacancy are utilized for this greenway route to create a new large-scale open space that is designed to capture and manage stormwater to minimize the floodplain extent in the Creek Side neighborhood. Such a large-scale feature would provide aesthetic, habitat, educational, and recreational benefits to the surrounding neighborhood as well as the broader district. New development could be oriented around this new green space, taking advantage of its connection to the riverfront and future Riverfront Extension. Concepts for such a greenway have been explored in previous studies.

A key consideration in the design and implementation of the Fox Creek Greenway is how to maintain the access and character of the canal district close to the water, which will require accommodating boat access while increasing connectivity for non-boaters. The riverfront parks are highly underutilized, in part due to difficult access from nearby neighborhoods.

The Fox Creek Greenway will connect to the Jefferson East Business District, to provide a safe and attractive linkage for residents to access local businesses. North of East Jefferson Avenue, the Fox Creek Greenway weaves through an area of high vacancy to connect to the Far East Connector. This route is exciting and transformative, but represents a significant undertaking to implement.

Route Location

Existing Conditions Photos



Fox Creek Channel Adjacent to Alter Road (Source: Google)

Philip Street (Source: Google)

Aerial View of Canals in Fox Creek Area (Source: Bing)

1. Re-envision parts of the existing public parks to provide stormwater management, water quality improvements, and blueway opportunities
2. Proposed trail bridge to accommodate sailboat access (i.e., swing bridge)
3. Repurpose Manistique
   Aggregate vacant land to create a wide natural corridor
   Could mitigate flood storage issues
4. Create openings onto existing canal, which will remain to retain unique character of the area and encourage residential infill
5. Add new bridges across canal to improve east/west connections

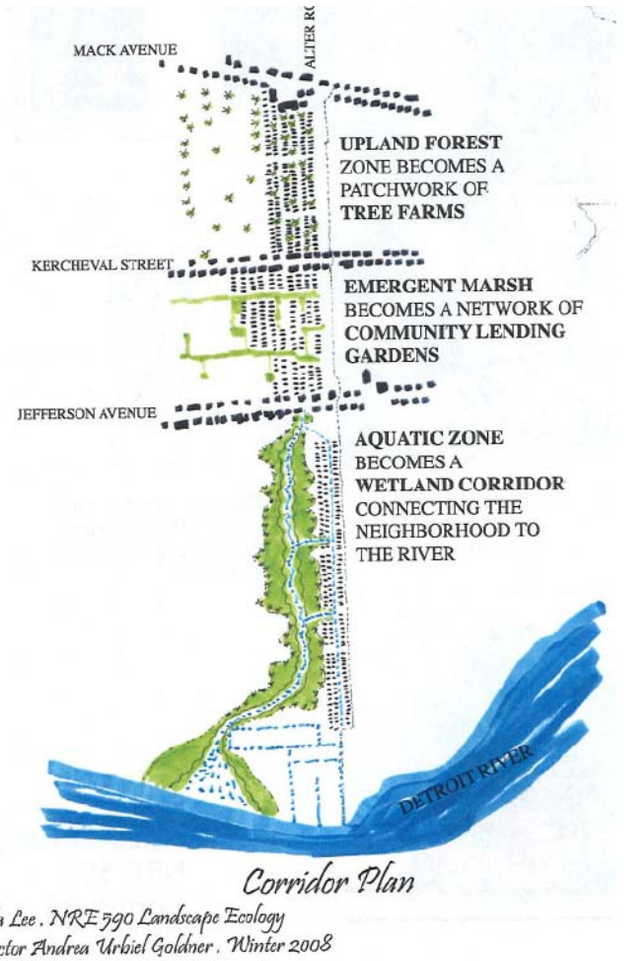
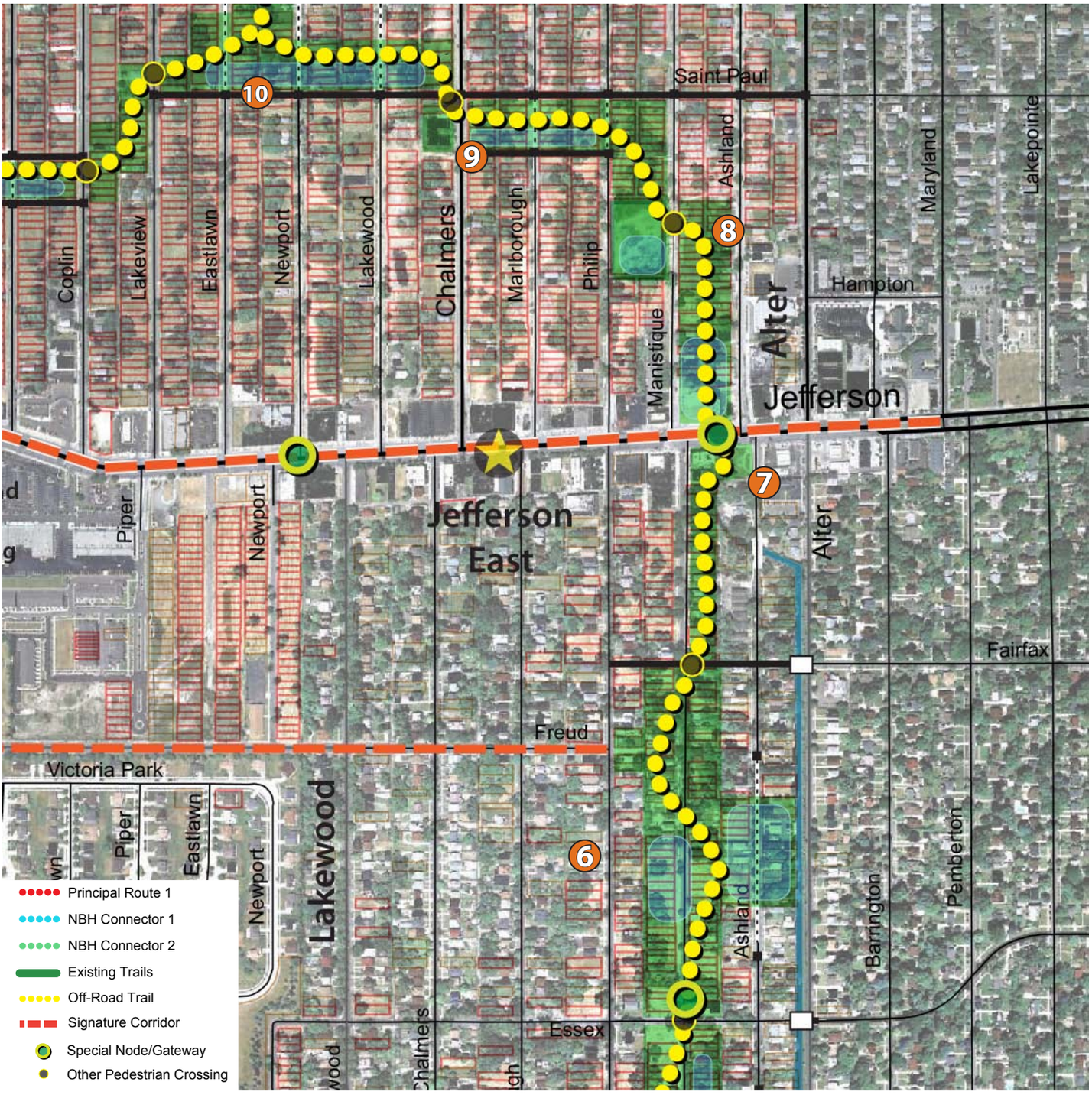


Figure 4.15 Fox Creek Greenway Route Plan

Concept from the University of Michigan Fox Creek Study, exploring the opportunity for creating a parallel wetland system that reuses vacant land for environmental and flood benefits.

Figure 4.15 Fox Creek Greenway Route Plan (cont'd)



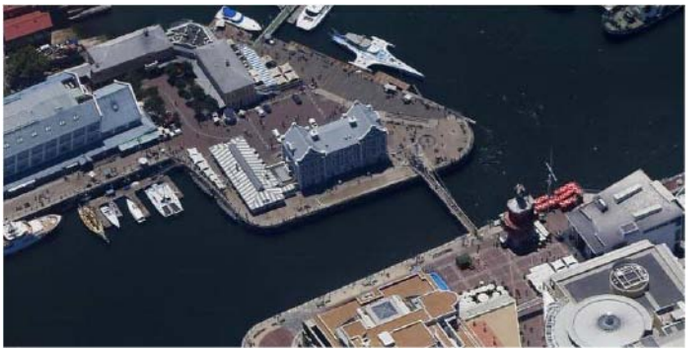
6 Maintain and strengthen existing residential neighborhood adjacent to canal (north of Fairfax Avenue)

7 Enhance pedestrian crossing at East Jefferson Avenue

8 Realign local street grid to accommodate trail route (i.e., Brooks)

9 Primary streets such as Chalmers Street continue to move vehicular traffic through the neighborhood

10 Connect trail to Far East Connector
Confluence of two trails provides an opportunity for recreational open space



Example of a Potential Large Pedestrian-Activated Swing Bridge (Source: Bing)

Example of Large Off-Channel Stormwater Wetlands, from Milliken State Park (Source: JJR)

Alternative Alignments

The exact alignment of Fox Creek Greenway would need to be determined via a more detailed planning study and community engagement effort. One alternative that can be considered is to avoid going through the Canal District by adjusting the greenway route to cross at the Korte Street Bridge and use Alter Road to connect south to the riverfront parks.

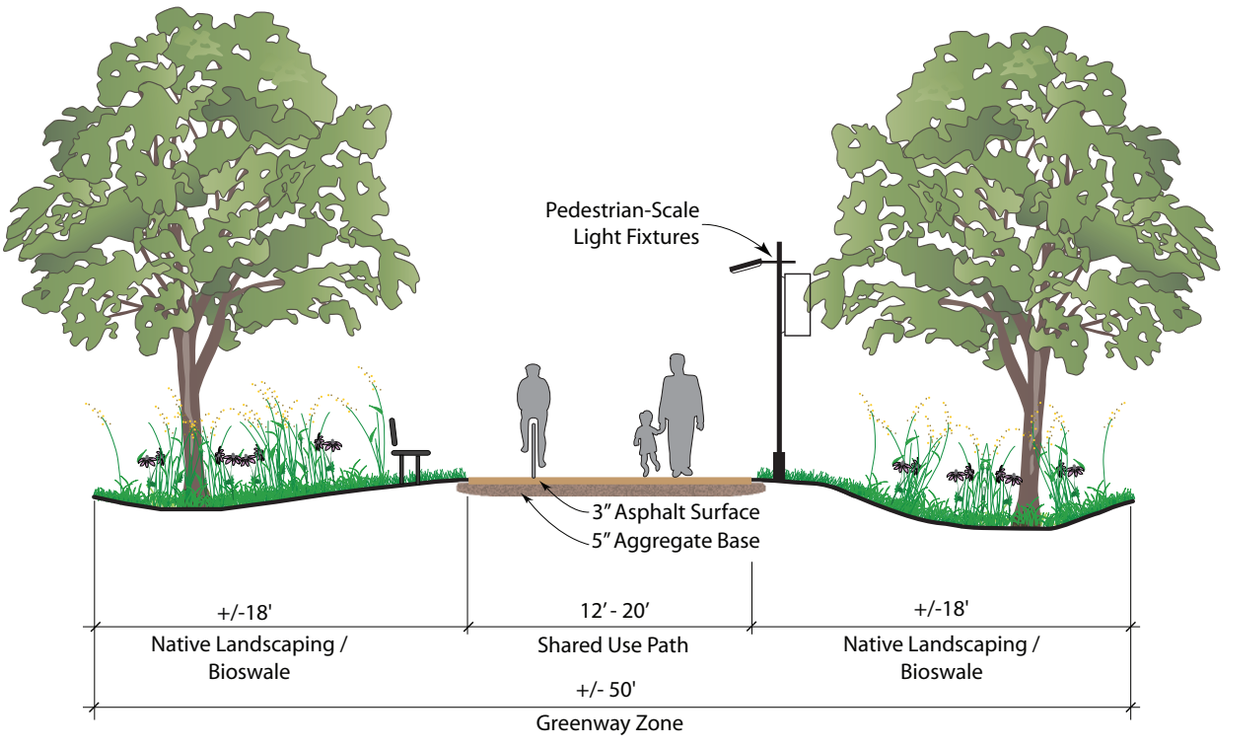


Figure 4.16 Fox Creek Greenway Primary Section

4.8 Far East Connector

At-a-Glance Information

- Approximate Length: 1.5 Miles
- Endpoints: East Jefferson Avenue/Conner Street (southwest end) to Mack Avenue/Alter Road (northeast end)
- Primary Greenway Type: Off-Road Trail (Figure 4.18)
- Destinations: Kercheval, Mack-Alter Square Shopping Center, Fox Creek Greenway, Conner Creek Greenway, Carstens Elementary

Route Description

The proposed Far East Connector is an off-road greenway route that traverses the Far East Side neighborhood north of East Jefferson Avenue. The route utilizes significant areas of vacant land and creates a series of linked green spaces. Selective road closures create contiguous stretches of open space and delineate distinct zones for future redevelopment efforts. The implementation of the Far East Connector may be tied to larger scale redevelopment efforts in the neighborhood.

The route begins at the East Jefferson Avenue and Conner Street intersection, potentially repurposing the large parking lot at the corner as a new gateway park and open space into the district. Such an open space could accommodate large stormwater wetlands or other stormwater features to manage high volumes of runoff generated from the nearby parking lots and Chrysler plant.

The mid portion of the greenway connects east and north across the neighborhood, intersecting Kercheval around Newport Street at the Detroit Public Library. This is another high visibility location that would function well as a gateway node into the district.

The route passes Carstens Elementary, repurposing adjacent vacant land into a neighborhood habitat zone or other open space. The Far East Connector continues to wind north and east, opening up onto Mack Avenue near the Mack-Alter Square Shopping center, providing an attractive connection to local retail.

Route Location

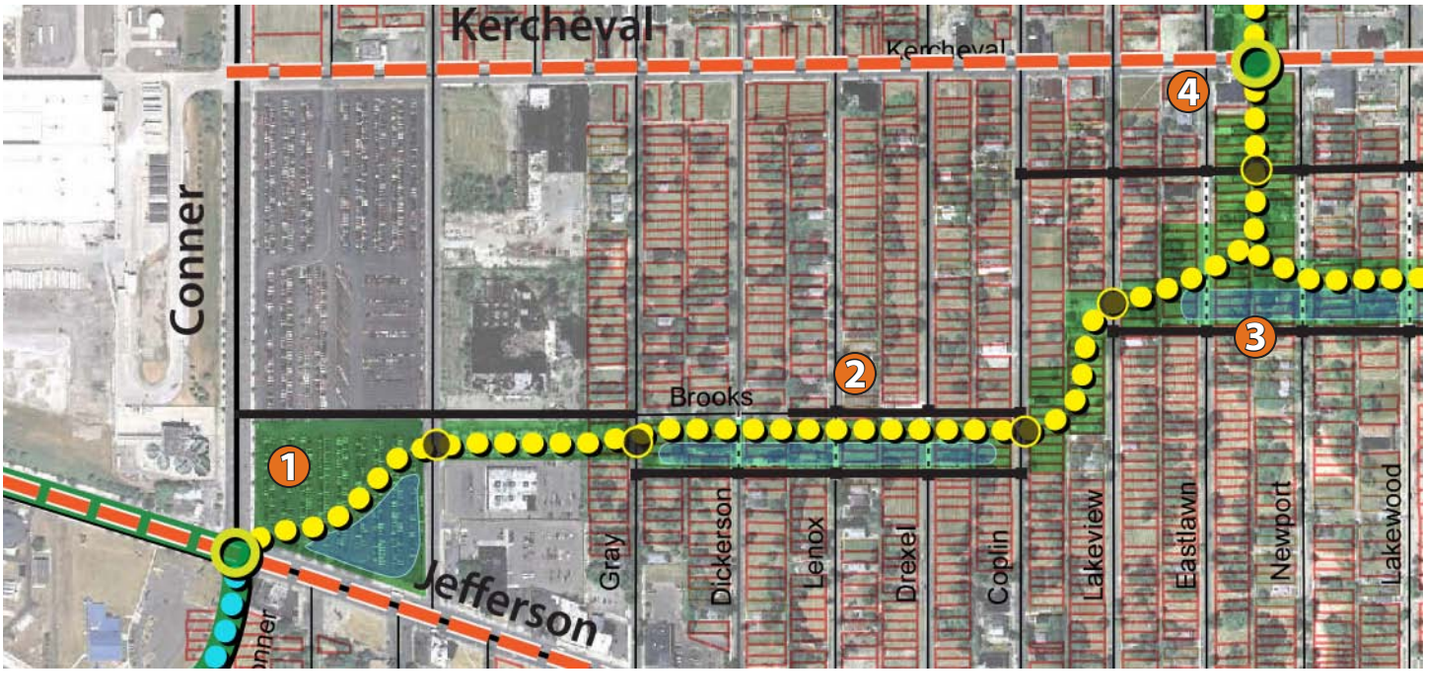
Existing Conditions Photos

Conner Street and East Jefferson Avenue Intersection – Large Parking Lot at Corner May Be Opportunity for a Gateway Open Space (Source: Google)

Kercheval at Newport Street (Source: Google)

High-Vacancy Blocks in the Far East Side Neighborhood (Source: Bing)

Figure 4.17 Far East Connector Route Plan



1. Partnering opportunity with Chrysler to develop a green parking lot demonstration project combined with diagonal greenway connection
2. Realign street grid to accommodate greenway and increase east/west connections
3. Connect to Fox Creek Greenway
4. Greenway to incorporate library at Kercheval and Eastlawn Streets

- Principal Route 1
- NBH Connector 1
- NBH Connector 2
- Existing Trails
- Off-Road Trail
- Signature Corridor
- Special Node/Gateway
- Other Pedestrian Crossing

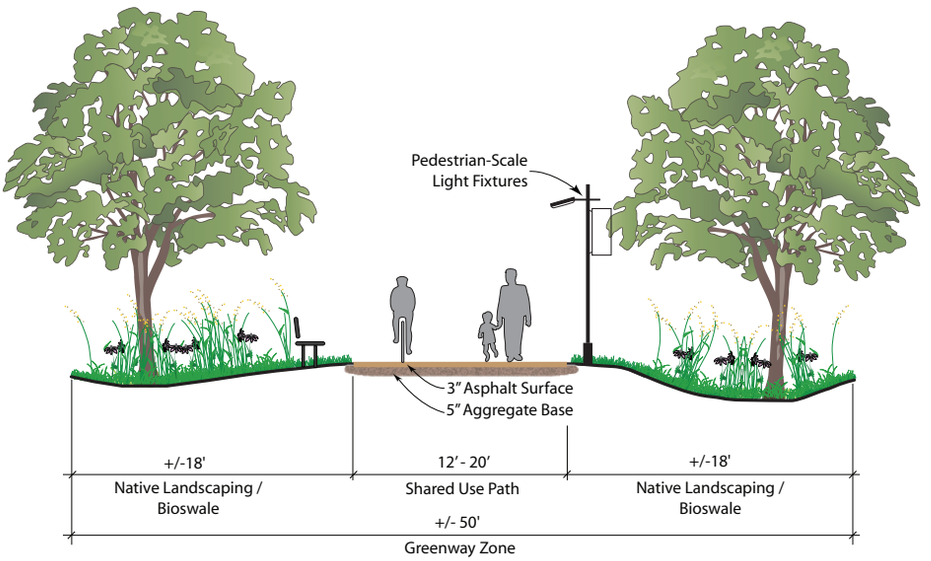


Figure 4.18 Far East Connector Primary Section

Far East Connector Route Plan (cont'd)

5 Potential community park adjacent to school
Could be utilized for neighborhood garden efforts and stormwater management

6 Repurpose Philip Street corridor into a greenway

7 End at Mack Avenue and Philip Street to strengthen existing land use at Mack Avenue
Future connections north at Philip Street

8 Reconnect street grid behind shopping center to improve access to neighborhood and greenway

Mack Avenue and Philip Street (small road on right); Alter-Mack Square Shopping Center (Source: Google)

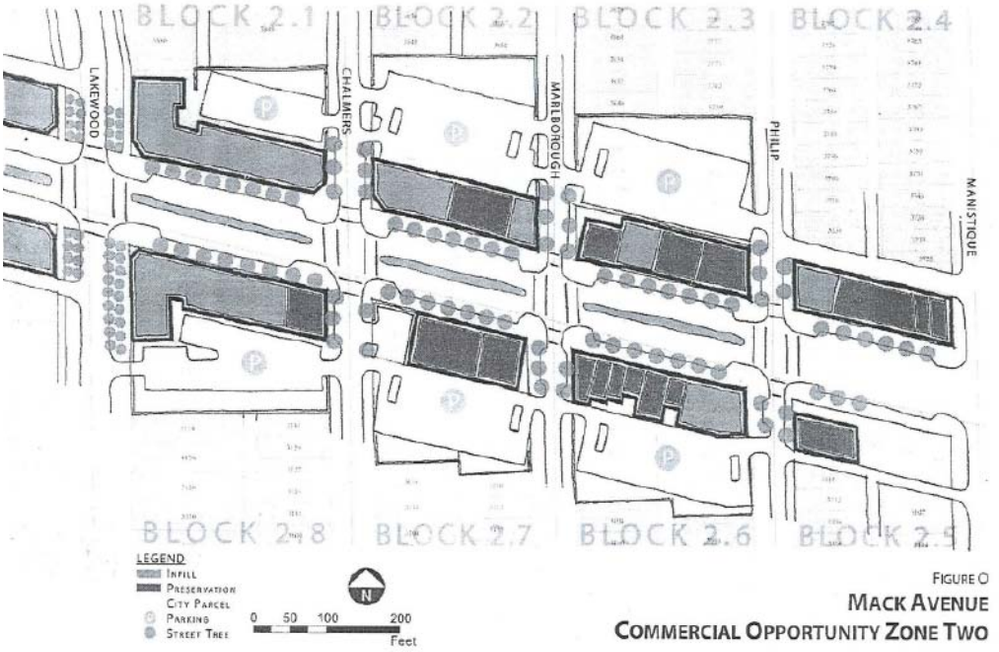


FIGURE O
MACK AVENUE
COMMERCIAL OPPORTUNITY ZONE TWO

Development plan for expansion of commercial district at Mack Avenue between Lakewood and Manistique Streets. Integrate Far East Connector into the redevelopment as possible.

Alternative Alignments

The exact alignment of the Far East Connector would need to be determined via a more detailed planning study and community engagement effort. Property ownership, access, and redevelopment efforts may all influence the eventual alignment of the route.

4.9 Carstens Spur

At-a-Glance Information

- Approximate Length: 0.9 Miles
- Endpoints: Conner Street/Mack Avenue (northwest end) and Carstens Elementary (southeast end)
- Primary Greenway Type: Off-Road Trail (Figure 4.18)
- Destinations: Carstens Elementary, Algonquin-Goethe Playground, Far East Connector

Route Description

The Carstens Spur is an off-road trail that connects through the northwest portion of the Far East Side neighborhood. For this connection, vacant property in the district is utilized as well as road realignment to suggest a new linear park and greenway system that connects through the district. The Carstens Spur can provide safe access to Carstens Elementary and the Algonquin-Goethe Playground, and tie into the larger greenway system.

Route Location

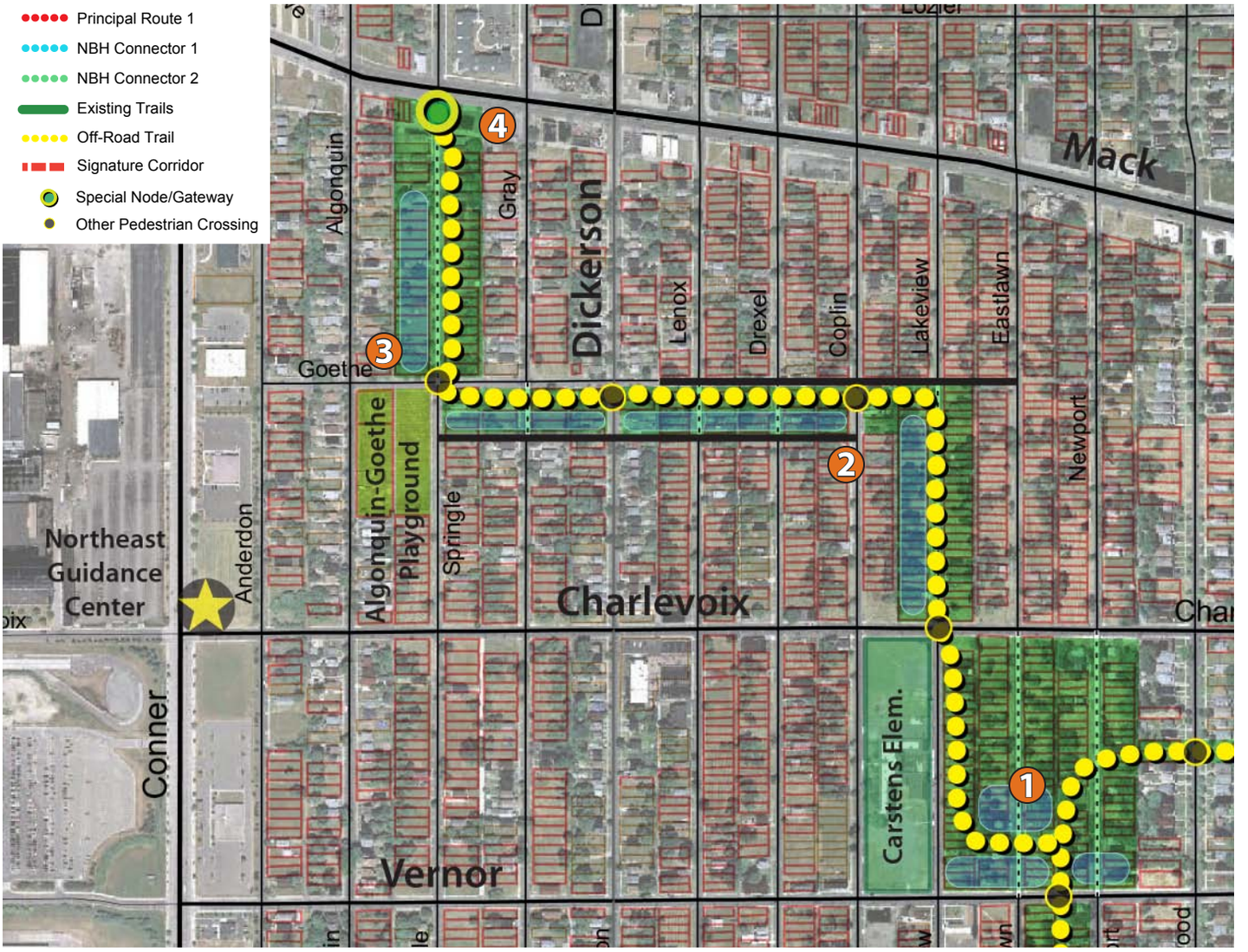
Existing Conditions Photos

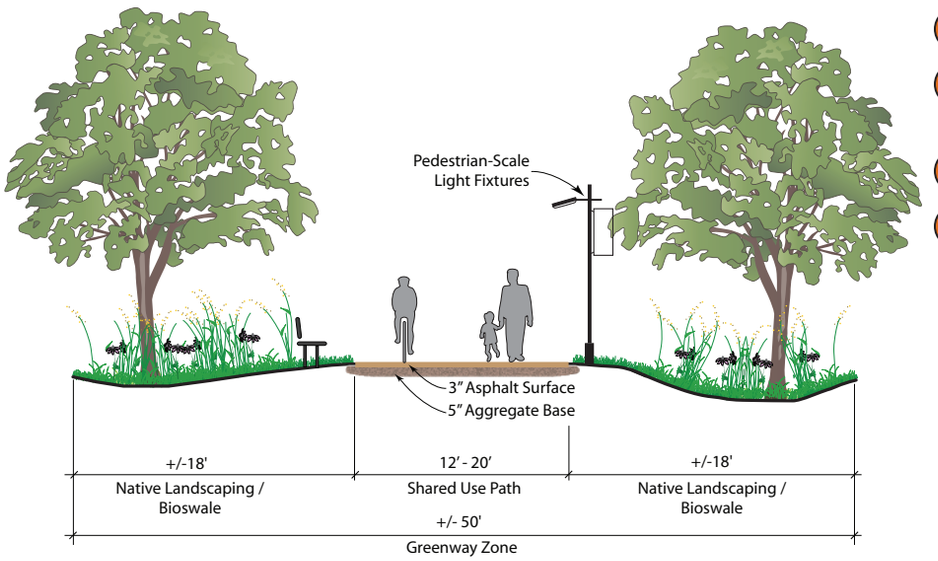
Repurpose Vacant Land Near Carstens Elementary (Source: Google)

Typical Conditions Through District (Source: Google)

Playground at Goethe and Springle Streets (Source: Google)

Figure 4.18 Carstens Spur Route Plan





1. Connect to Far East Connector
2. Reconfigure local streets to accommodate greenway
3. Route past existing parks
4. Enhance the intersection at Mack Avenue
   Connect to future bike lanes along Mack Avenue

Figure 4.19 Carstens Spur Primary Section

4.10 Riverfront Extension - Villages

The goal of the proposed Riverfront Extension is to continue the Detroit Riverfront to the eastern border of the city with the opportunity to go further east. Described in three segments, the Villages, the Marina and the River Parks, the master plan envisions the extension to be compatible and of comparable quality with the current East Riverfront (terminating at Gabriel Richard Park).

The master plan strived to locate the riverfront improvements as close to the water's edge as practical. It is recognized that there may be sites where locating along the water's edge is not practical. In those cases, the plan strives to provide continuity of access (east-to-west) with common elements of design.

At-a-Glance Information

- Approximate Length: 2.0 Miles
- Endpoints: Gabriel Richard Park (west end) to Marquette Drive at Waterworks Park (east end)
- Primary Greenway Type: Riverfront Trail (Figure 4.20)
- Destinations: Gabriel Richard Park, Gold Coast Towers, Owen Park, Erma Henderson Park, Berry Subdivision, Manoogian Mansion, Waterworks Park, Roostertail, Marina District, Burns Connector and Sweet Loop

Route Description

The Villages portion of the Riverfront Extension extends the river edge experience from Gabriel Richard Park through Waterworks Park. Connections north/south from the Burns Connector and Sweet Loop provide excellent connections from neighborhoods north of East Jefferson Avenue south to the Riverfront.

The first segment of this route passes in front of the Gold Coast high rise residential buildings. In many places, existing walks and pathways already exist at the waters edge and can be enhanced and adjusted to accommodate public traffic. In some cases, security may need to be enhanced to protect adjacent properties. Along this segment, opportunities should be pursued for adding additional riverfront park space, such as the land between Owen and Erma Henderson Parks.

Route Location

Existing Conditions Photos

Gold Coast Towers (Source: Bing)

Erma Henderson Park (Source: Bing)

Dwight Street (Source: Google)

Figure 4.20 Riverfront Village Route Plan

1. Connect to Gabriel Richard Park
2. Accommodate boathouse as needed
3. Enhance existing pathways at the river edge
4. Potential for open space to link parks and increase shoreline habitat opportunities
5. Marina edge modifications
6. Reconstruct/align existing path from Erma Henderson Marina to Dwight Street
7. New bridge (to accommodate sailboats) over canal into Waterworks Park and Connect with the Sweet Loop
8. Safe, secure access along Waterworks Park river edge

- Principal Route 1
- NBH Connector 1
- NBH Connector 2
- Existing Trails
- Off-Road Trail
- Signature Corridor
- Special Node/Gateway
- Other Pedestrian Crossing
- Riverfront Section 1: River Edge
- RiverWalk Section 2: Marina
- RiverWalk Section 3: Shared Use Parallel Trail
- Riverfront Overlook
- Riverfront Major Plaza
- Riverfront Minor Plaza

The second segment of the Villages route passes through Erma Henderson Park, running around the edge of the public marina. The trail cross-section or this segment must accommodate security and safety requirements for operating at the edge of the marina. Typically, as seen in the Harbortown section of the existing RiverWalk, the security is provided by fencing and a second access walk at the marina side of the RiverWalk, allowing boaters safe and secure access to slips.

The third segment transitions to an on-road greenway on Dwight Street as the RiverWalk passes through the Berry Subdivision and past the Manoogian Mansion. The public park east of the Manoogian Mansion provides an excellent location for an overlook and access to the river edge. This on-street section of the RiverWalk would provide a wider shared use pathway adjacent to the local road for pedestrians, as well as on-street bike lanes for managing bike traffic.

A bridge is needed to connect from the Berry Subdivision across a canal into Waterworks Park. Much of the riverfront at Waterworks Park is already accessible and used for public events (such as watching hydroplane races). The Detroit Waterworks Park is one of the main sources of fresh drinking water for the metropolitan region. This site therefore presents important homeland-security concerns, and design of the greenway in this area will need to respond to these concerns and may require additional fencing or other security measures. This final segment ends on Marquette near the Roostertail Restaurant, again, at a key node and overlook opportunity.

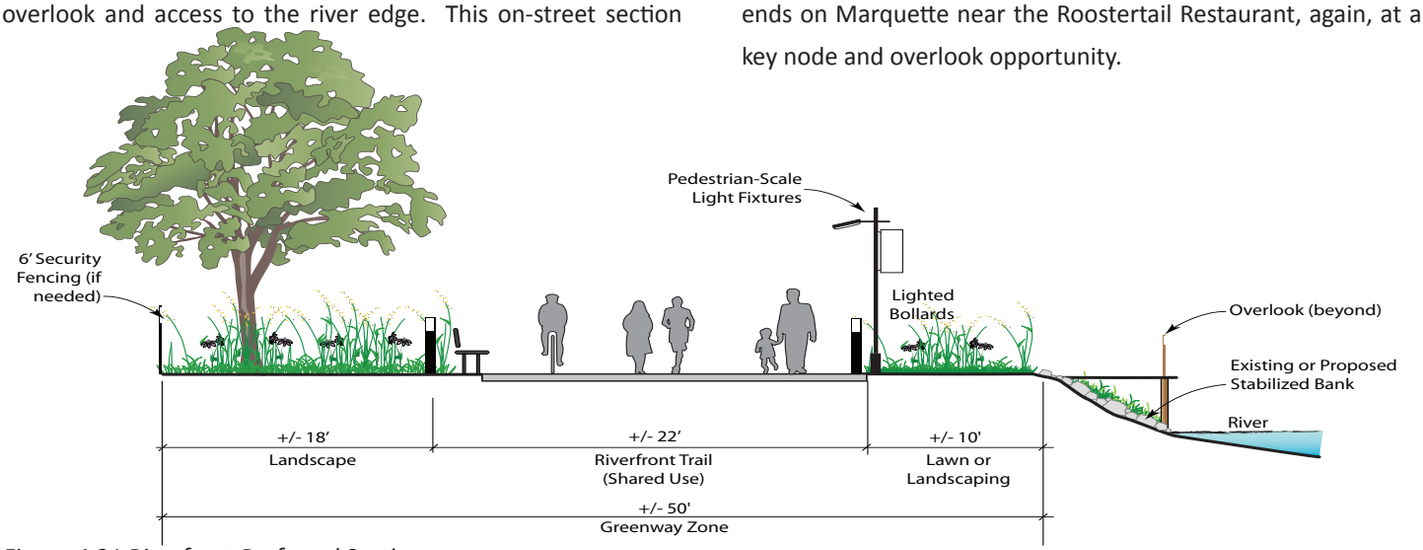


Figure 4.21 Riverfront Preferred Section

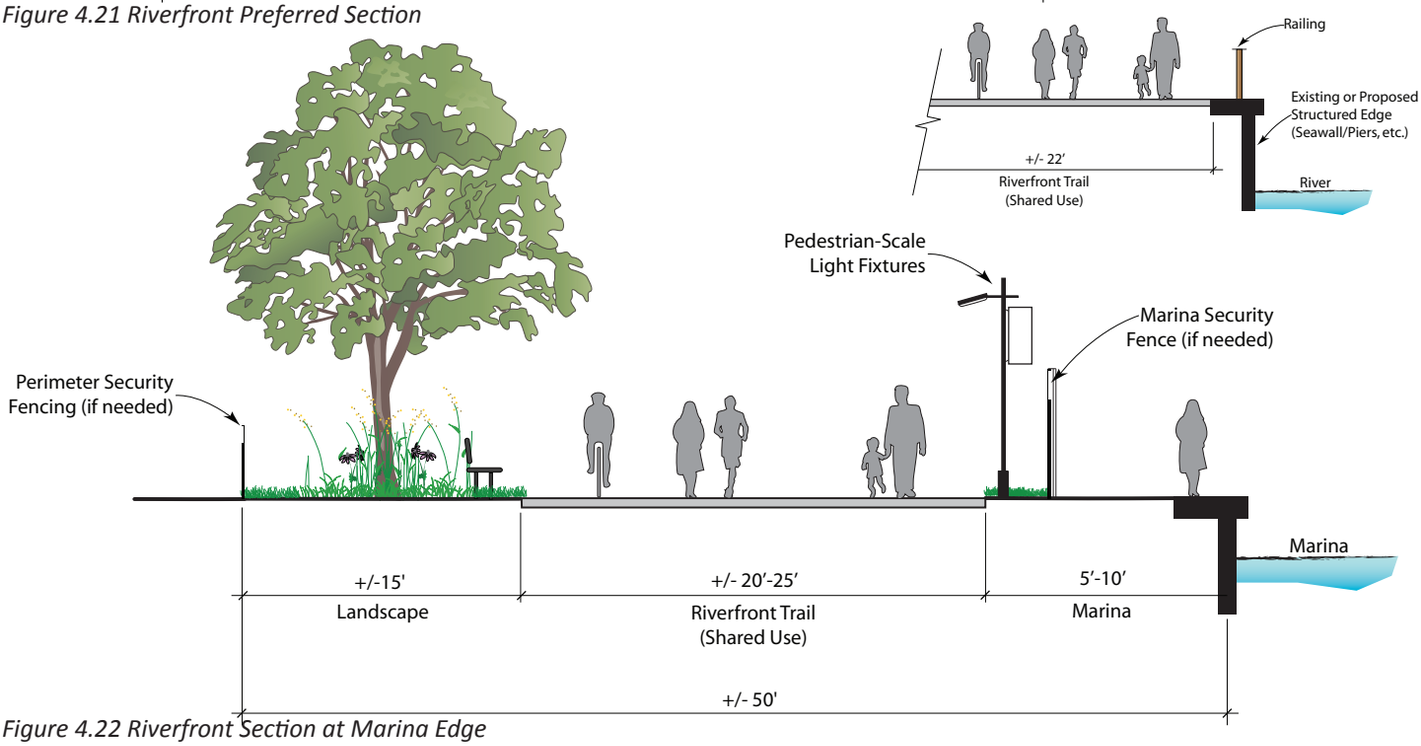


Figure 4.22 Riverfront Section at Marina Edge

Figure 4.23 Erma Henderson Concept at Marina Edge

Concept sketch of the Riverfront marina edge section as applied to Erma Henderson Park. The section provides for the main Riverfront pathway and a secure inner pathway that maintains secured access to the boat docks. Outside of the main path, plantings, screening, and/or fencing secures adjacent property and provides aesthetic benefits.

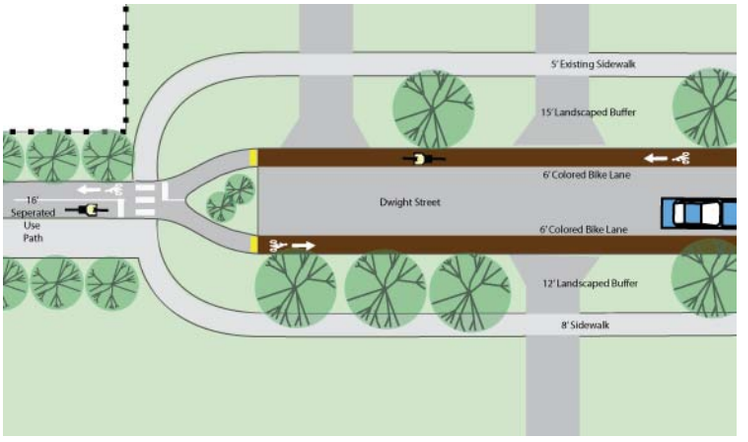


Figure 4.24 Concept for Riverfront Transition to On-Street Route

This diagram shows a concept for transitioning from the main Riverfront path to an on-street connection through the Berry Subdivision on Dwight Street. Wider shared use paths are provided as well as on-street bike lanes.

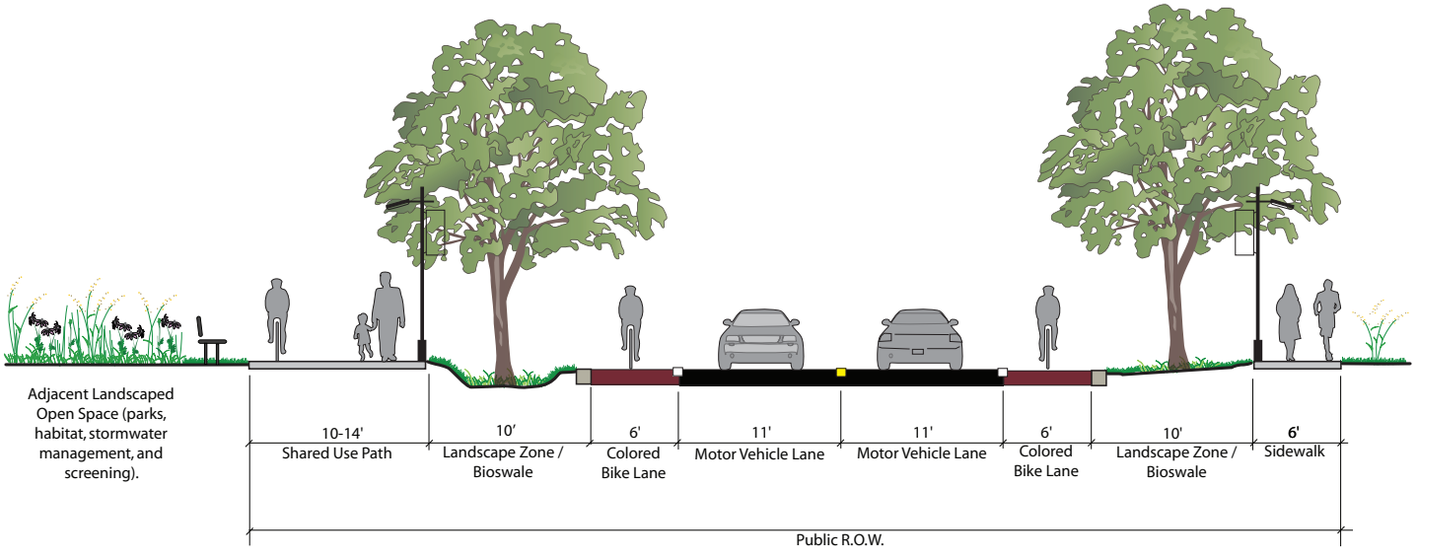


Figure 4.25 Riverfront Shared Use Trail

4.11 Riverfront Extension - Marina District

At-a-Glance Information

- Approximate Length: 1.5 Miles
- Endpoints: Waterworks at Marquette Drive (west end) to Maheras Gentry Park (east end)
- Primary Greenway Type: Riverfront Trail Types and (Figure 4.26)
- Destinations: Roostertail Restaurant, Waterworks Park, Sindbads, Marinas, Engel Memorial Park, Reid Memorial Park, Various Boat Clubs and Docks

Route Description

This proposed Riverfront Extension route passes through the heart of the Marina District, providing marina users an excellent means for accessing the district's greenway system, as well as providing the public access to the marinas and the amenities they provide. The overall concept is to provide access as close to the water and "working edge" of the river as possible while maintaining a streamlined and secure route. Additional spurs are proposed at key points (i.e., Engel Memorial Park) that provide access down to the river edge at potential overlook points.

The route begins at Waterworks Park, with an opportunity to create a new trailhead by reconfiguring the parking layout and street alignment at the southeast corner of Waterworks Park. From here, the trail weaves along the working edge of the marinas, across Reid Memorial Park, and to St. Jean Street.

Nautical Way, the street in a new housing development along St. Jean Street, can be reconfigured to accommodate the Riverfront via an on-street route (Neighborhood Connector Type 2). From there, it moves away from the river, heading north on Lycaste Street to Freud Street and east along Freud street to Clairpointe (Conner Creek Greenway). According to DTE Energy, the Conners Creek Power Plant is currently an electrical generating site and will remain so into the foreseeable future. The facility presents its own homeland-security and public safety concerns, and is a certified wildlife site designated by the Wildlife Habitat Council.

Route Location

Existing Conditions Photos

Marquette Near Waterworks Park and the Roostertail (Source: Google)

East End of the Marina District, Showing Industrial Land Uses (Source: Bing)

New Housing Along Old St. Jean Street (Source: Google)

Figure 4.26 Riverfront Marina District Route Plan

1. Marquette Street/parking area improvements
2. New bridge (appears that sailboat access is not needed)
3. Expand and enhance existing walks at Kean's Detroit Yacht Harbor and Harbor Hill Marina
   Provide secure marina access

Potential Trailhead and Parking Lot Reconfiguration at Waterworks Park

RiverWalk Extension Marina District Route Plan (cont'd)

4 Create a new on-road connection through residential neighborhood (adjust gates as needed)

5 Riverfront trail will be routed west and north of DTE Energy's Conner Creek Power Plant

6 Connect to and enhance Conner Creek Greenway as part of the Riverfront Extension.

- Principal Route 1
- NBH Connector 1
- NBH Connector 2
- Existing Trails
- Off-Road Trail
- Signature Corridor
- Special Node/Gateway
- Other Pedestrian Crossing
- Riverfront Section 1: River Edge
- RiverWalk Section 2: Marina
- RiverWalk Section 3: Shared Use Parallel Trail
- Riverfront Overlook
- Riverfront Major Plaza
- Riverfront Minor Plaza

The plant grounds are known to be home to, or at least visited by, red fox, pheasants, and even a beaver that built its lodge on a tributary canal leading to the power plant.

As such, it is currently not possible to chart a path that the public could take through the site that will not impinge on current or future placement of power plant building. Security concerns and the desire to limit access to the wildlife site also led to the Riverfront trail being routed around the facility and away from the river.

DTE Energy Conner Creek Power Plant at Essex Ave and Lycaste Street.(Source: Google)

Alternate Alignments

Routing the RiverWalk through the heart of marinas and the DTE Energy properties represents significant technical challenges. The community's preferred route was to align the Riverfront trail by continuing east on Essex Ave through the DTE Energy Conner Creek Power Plant. A large pedestrian bridge would cross over the canal and carry the Riverfront trail directly into Maheras Gentry Park at Clairpointe. Property owner, safety, and homeland security concerns make this route less feasible today, however the option exists to explore this route in the future, which would increase access to the river edge and waterfront.

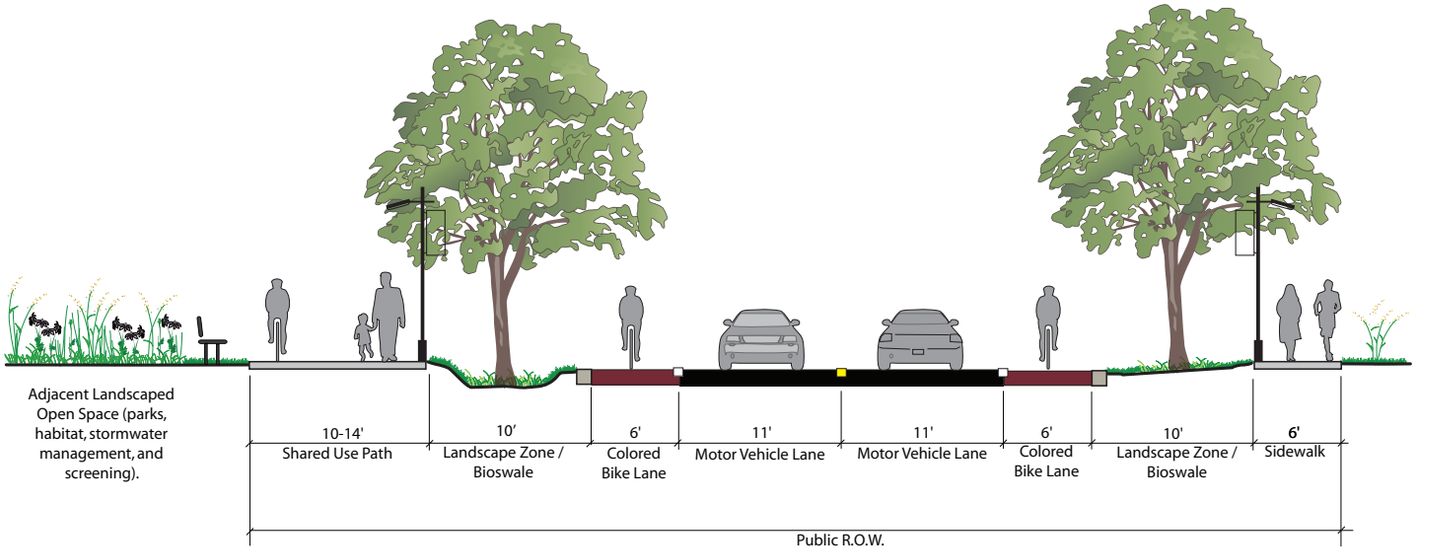


Figure 4.27 Riverfront Shared Use Trail

4.12 Riverfront Extension - River Parks

At-a-Glance Information

- Approximate Length: 1.8 Miles
- Endpoints: Maheras Gentry Park (west end) to Windmill Point Park (east end)
- Primary Greenway Type: Riverfront Trail Types (Figure 4.28)
- Destinations: Maheras Gentry Park, Grayhaven Marina, Robinson Middle School (closed), Fisher Mansion, Alfred Brush Ford/Ford Brush Parks, Mariner Park, Windmill Pointe Park, Fox Creek Greenway, Canal District

Route Description

The proposed River Parks portion of the Riverfront extends and expands the trails in Maheras Gentry Park east to Grosse Pointe at Windmill Pointe Park. This route is primarily comprised of off-street trails, except for a portion along Lenox Street, which would function as a shared use parallel path by utilizing a divider median on the west side of the road.

The connection from Maheras Gentry Park to Lenox Street can be completed by reopening a closed connection to the Grayhaven Marina and utilizing the existing pathway system. Security enhancements may be required along this segment as it runs along a marina and close to private properties.

The segment running through the Alfred Brush Ford/Ford Brush Parks presents a significant opportunity to reconnect these park spaces to create a dramatic new riverfront experience. New bridges (possibly swing bridges) can be utilized to provide access across the canal and accommodate motorboats and sailboats needing access through the canals. The park spaces themselves provide an opportunity to create large off-channel wetland systems to capture stormwater and accommodate additional flood waters, reducing impacts to adjacent neighborhoods. Portions of these parks, given their underused condition, already exhibit natural landscape characteristics, which would be further enhanced and refined.

In addition to landscape restoration in the parks, a longer

Route Location

Existing Conditions Photos

Clairpointe (Source: Google)

Maheras Gentry Park along the Riverfront (Source: Google)

Opportunity to Reopen a Connection on Avondale (Source: Google)

Figure 4.28 Riverfront River Parks Route Plan

1. Create a looped trail through Maheras Gentry Park
2. Enhance existing pathways at Grayhaven Marina edge
3. Utilize “alley” adjacent to Fisher Mansion to connect to Lenox Street
4. Utilize land between Lenox Street and the private street for greenway route

Connection Along Lenox (Source: Google)

Figure 4.28 Riverfront River Parks Route Plan (cont'd)

5 New wetlands to capture and treat stormwater

6 RiverWalk at river edge with overlooks

7 New bridges across canals (accommodate sailboats)

8 Expand road network to enhance neighborhood connectivity to parks and provide new development opportunities

9 Connect to Windmill Pointe Park and continue the Riverfront

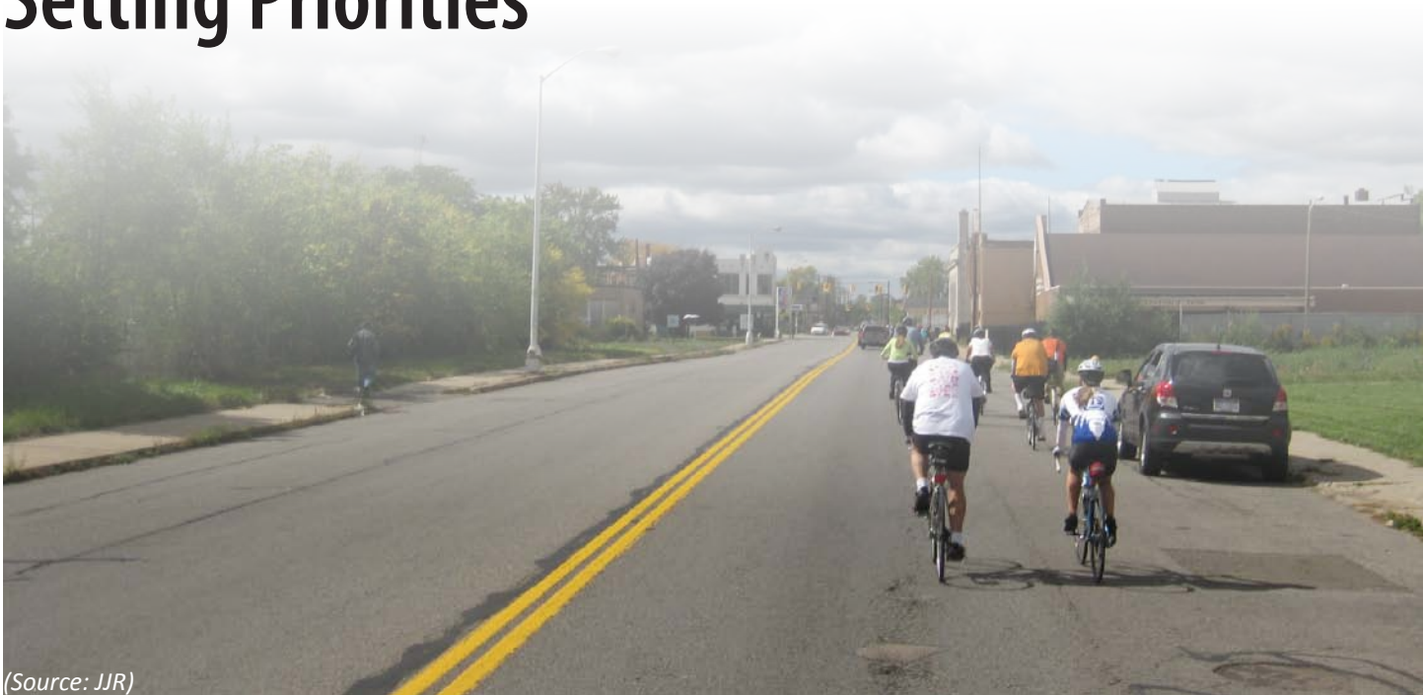
- Principal Route 1
- NBH Connector 1
- NBH Connector 2
- Existing Trails
- Off-Road Trail
- Signature Corridor
- Special Node/Gateway
- Other Pedestrian Crossing
- Riverfront Section 1: River Edge
- RiverWalk Section 2: Marina
- RiverWalk Section 3: Shared Use Parallel Trail
- Riverfront Overlook
- Riverfront Major Plaza
- Riverfront Minor Plaza

term effort may explore options for expanding the street grid into portions of the parks and encourage new riverfront redevelopment. The road grid terminates abruptly in the parks, limiting access and traffic flow, and creating difficult-to-navigate dead-ends.

Entry Into Ford Brush Park (Source: Google)

Lakewood East Park (Source: Google)

Chapter 5
Setting Priorities



(Source: JJR)

5.0 Introduction

Not everything can be built at once. Through community engagement and evaluation of options, the GREEN Task Force, the public, and stakeholders identified six priority routes for implementation. These priority routes are the ones that the immediate implementation efforts will be focused on. The cost to construct each of the priority routes was estimated, providing an important tool for implementation.

This chapter presents the priority setting and costing processes. It describes how the six routes were identified as priorities, and includes a route-by-route costing narrative.

Figure 5.1 - Priority Projects Map

5.1 Priority Setting Process

A number of activities were used during the planning process to help identify priorities for greenway implementation (See Appendix B).

In the March 2011 Community Open House, workshop participants where asked to cast two votes for the routes that they preferred the most.

The GREEN Task Force went through a priority setting activity evaluating each of the proposed greenway routes with a number of criteria. Major assessment categories and selected criteria include:

Greenway Experience + Network

- Attraction for different user groups (bikers, walkers, etc.)
- Connectivity to other greenways / non-motorized facilities

Social Interaction + Neighborhood Improvement

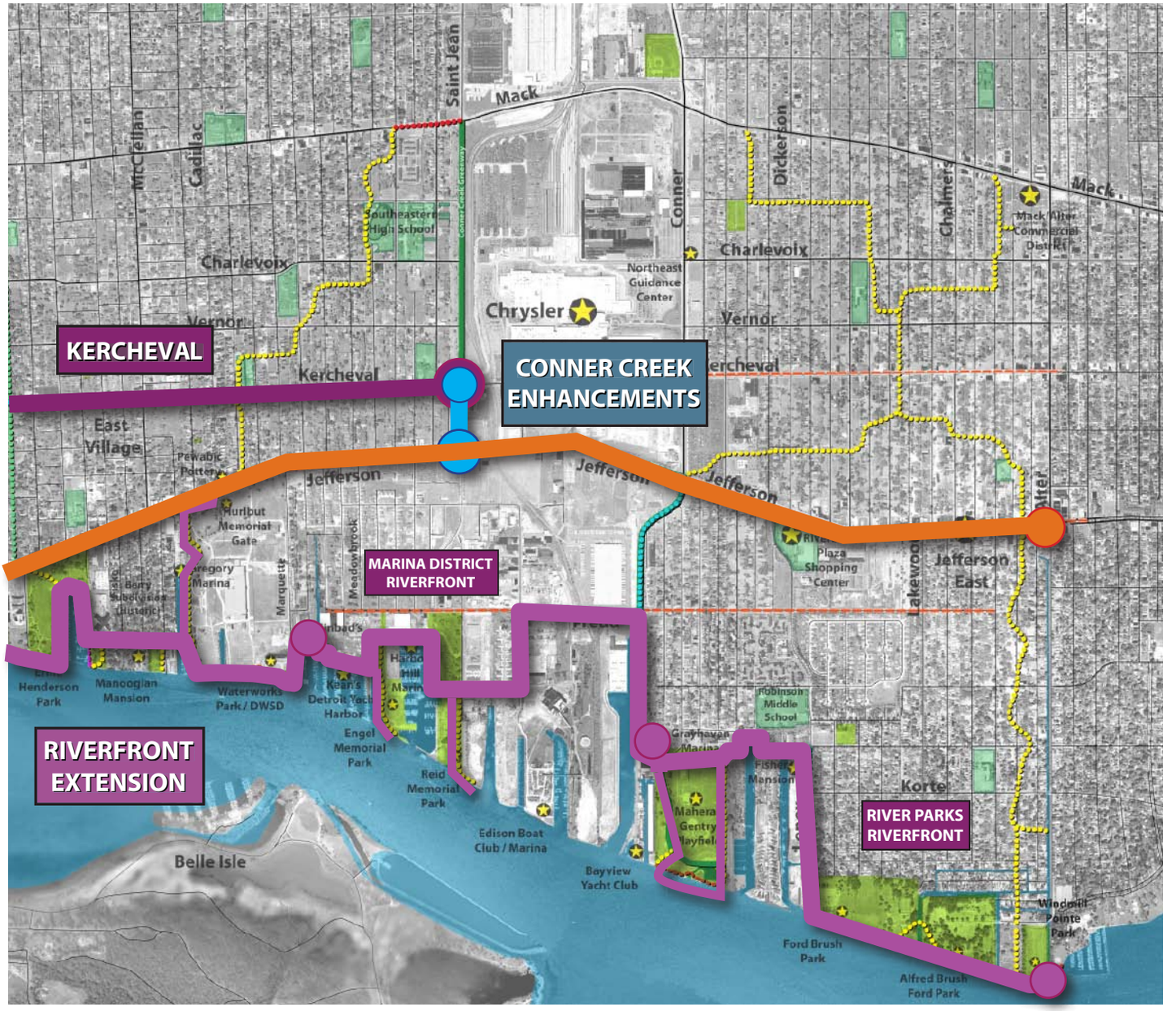
- Increase neighborhood security and traffic safety
- Connectivity to parks, schools, and community facilities
- Providing assets to underserved neighborhoods

Economic Development + Land Re-Use

- Diversity of land uses along the route
- District image improvement, visibility
- Connections to significant destinations and assets
- Potential for encouraging redevelopment

Environmental Stewardship + Green Infrastructure

- Connection and creation of natural areas and open spaces
- Potential to improve stormwater management
- Support community gardening and urban agriculture.
- Improve health and visual quality of adjacent land areas.



5.2 Priority Routes

The GREEN Task Force rankings and the community open house votes were evaluated to come up with a list of six routes deemed as the highest priority. These priority routes are the ones that the immediate implementation efforts will be focused on. East Jefferson is one of the six priority routes. Although its streetscape concept was developed in a separate study, it's included here as a priority because of its importance as a main commercial and residential corridor in the East District.

Implementation Factors

- Relative cost of greenways per lineal foot
- Potential to garner outside funding
- Land availability or access
- Coordination and partnerships with potential funders, city departments, and other groups

Riverfront Extension

The Riverfront Extension was the most preferred route for the GREEN Task Force and the community as a whole. The route provides a unique Detroit experience that takes advantage of the river and its environs. However, implementing the Riverfront will be the most challenging of the priority routes, as implementation requires significant coordination with property owners, agencies, and technical design considerations.

Within the three Riverfront segments, the River Parks section, furthest to the east, was most preferred. The majority of this greenway route goes through difficult to access and consequently under-utilized public parks and may be easier to implement due to less complicated land ownership issues.

East Jefferson Streetscape

During the priority setting process, enhancements to East Jefferson were identified as a priority for implementation. Potential enhancements (as identified by prior planning studies) include the creation of bike lanes, center medians, landscaped zones, and other streetscape improvements.

Kercheval Greenway

The Kercheval Greenway offers a significant opportunity to transform an under capacity road into a landmark greenway connecting west to east across the majority of the study area. This connection would provide greenway access to many neighborhoods and enhance the visual quality and non-motorized connectivity through the heart of the East District.

When paired with the Belt Line Greenway, enhancements to the Conner Creek Greenway at St. Jean, and the Riverfront Extension, a looped route is created in the heart of the East District.

Belt Line Greenway

The Belt Line Greenway converts a former railroad right-of-way into a new greenway space. A key benefit of this greenway is its connection to the existing RiverWalk to the south and to the proposed Elmwood Connector to the north. In combination, Belt Line and Elmwood Connector would complete a looped route connecting the north end of the Dequindre Cut back to the RiverWalk at Mount Elliott.

A feasibility study has been completed for the Belt Line Greenway, which inventoried site conditions and conducted a number of stakeholder and community meetings to discuss design and implementation ideas.

Elmwood Connector

The Elmwood Connector, connects the Dequindre Cut (at Gratiot) to the Belt Line Greenway by taking advantage of public land and existing off-road pathways. The Elmwood Connector provides a vital link in the greenway system, connecting neighborhoods of the East District to the Eastern Market and Downtown. In combination with the Belt Line Greenway, the Elmwood Connector completes a loop to the RiverWalk and Dequindre Cut.

Conner Creek Greenway Enhancements (St. Jean)

The Conner Creek Greenway effort has resulted in improvements to St. Jean and Clairpointe, namely through bike lane creation, a shared use path (on St. Jean) and landscaping. Additional enhancements on Saint Jean are proposed to create a seamless greenway experience between the East Jefferson improvements and the Kercheval Greenway. Enhancements include a center median, stormwater and landscaping improvements, and additional greenway amenities and furnishings.

RiverWalk at Gabriel Richard Park (Source: JJR)

5.3 Route Costing

Cost opinions for each of the six priority routes were developed to provide order of magnitude costs for implementation. This section reviews major costing elements and how the cost estimates for each route were derived. Supplemental information and additional details can be found in Appendix D and E.

What is included in the cost estimates?

The costing information in this section reflects a conceptual level project cost opinion. The project cost for each of the priority routes includes two principal parts:

1. Design Development - Includes costs for conceptual design, construction documentation, survey, environmental assessments, traffic studies, SHPO reviews, project management, and design contingencies.
2. Construction Implementation - Includes constriction costs (labor, materials, overheads), general conditions, construction contingencies, engineering, administration, and project management.

Levels of Development

The GREEN Task Force recognizes that while we may desire to build only the most elegant greenway, funding may not always permit this. Therefore, the Task Force outlines a menu of three levels of possible development, keyed to the amount of funding available. The highest level of funding would permit the most enhanced design with a greater number of features and modifications. Fewer dollars would mean fewer enhancements, but even building the most basic level of development would positively enhance the district. For illustrative purposes, the greenway routes described in Chapter 4 (including the cross-sections) show the fullest level of greenway design and implementation.

The following section provides a summary for each of the six priority routes, including an overall description, levels of development, and costs.

The Dequindre Cut (Source: JJR)

5.4 Elmwood Connector

Existing Pathways Through Multifamily Residences of Lafayette Park (Source: Google)

At-a-Glance Information

- Approximate Length: 1.5 Miles
- Endpoints: Dequindre Cut and the Belt Line Greenway
- Primary Greenway Type: Off-Road Trail
- Destinations: Dues Playground, Gleaners Community Food Bank, Elmwood Cemetery, Multifamily Housing Developments, Dequindre Cut, Midtown Loop, Eastern Market, Heidelberg Project

Project Cost Summary

Level of Development	Total Project Cost	Cost Per Lineal Feet (LF)
Base	$ 2.2 million	$ 310 / LF
Moderate	$ 4.2 million	$ 600 / LF
Full	$ 5.2 million	$ 730 / LF

Route Description

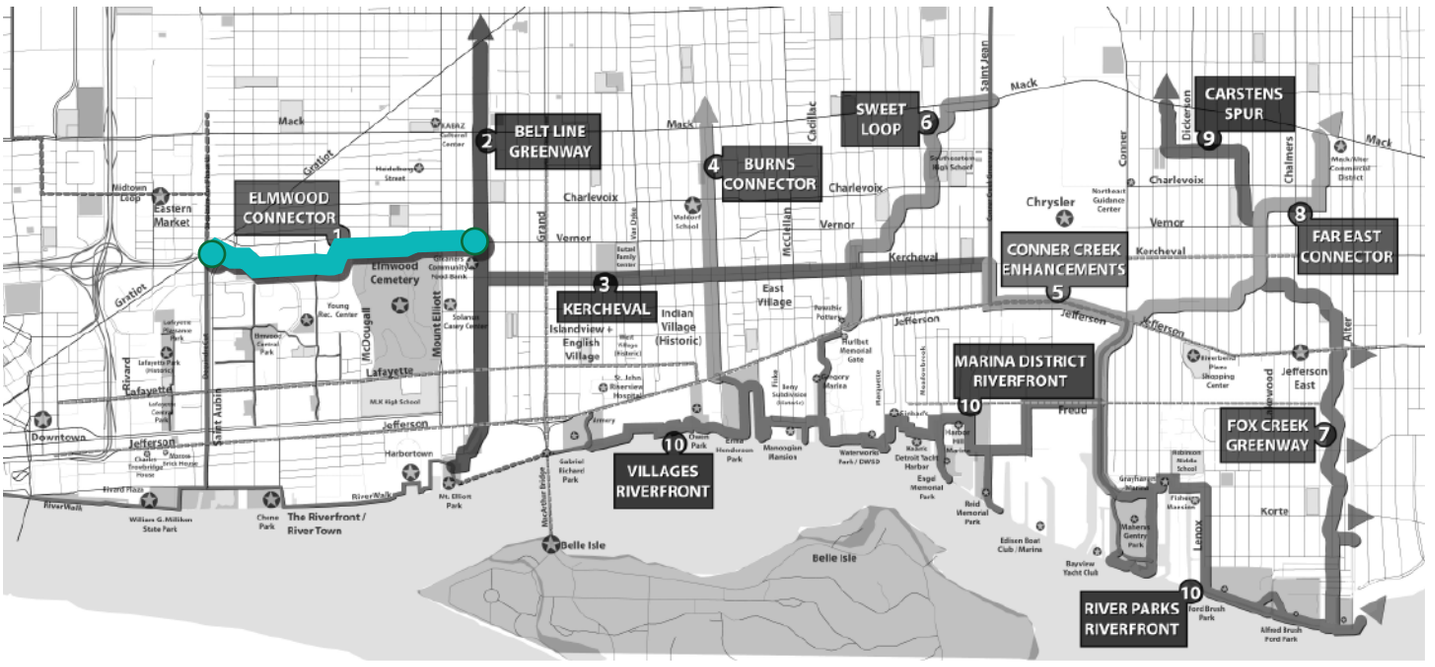
The Elmwood Connector will link the proposed greenway system to destinations west of the Greater Riverfront East District. By tying into the Dequindre Cut, and as a consequence, the RiverWalk, it will expand non-motorized options that serve the adjacent high density areas of multifamily housing. The connection primarily utilizes existing pedestrian paths that traverse through the multifamily housing developments. As land is already in use as a non-motorized connection, implementation may be relatively straightforward.

Levels of Development

Development of the Elmwood Connector will focus on upgrades to the existing trails and the installation of new trails where they are needed. Safety and comfort will be increased with improvements, including signalization at four intersection and five mid-block crossings. Visibility and wayfinding will be enhanced at two proposed "green gateways" located at Dequindre Cut and the Belt Line Greenway intersections.

Base Level

Providing a continuous 12' wide off-road trail with improved crossings is the focus of the base level of improvements. Regulatory signage and route markers will be provided and street trees will be planted along the trail.



The "green gateways" will include a small paved area and additional signage. A 1/4 acre pocket park will provide a gathering area for trail users and minor landscape restoration will occur along the trail corridor as needed.

Moderate Level

At the moderate level of development, enhancements over the base level include additional cross-walk signalization, basic site furnishings, basic pedestrian lighting, and landscaping/planting beds at key points along the route.

Full Level

Full development (as illustrated in Figure 5.2 and 5.3) expands the quantity of landscaping in the landscape zones (10% of area) and adds irrigation. Mid-block crossings will be further enhanced with bumpouts, landscape, signage and furnishings. The "green gateways" will be further improved to include furnishings, landscape and a special focal element (i.e. light wand, art or kiosk). Four wireless security cameras will be installed at appropriate locations along the route. Landscape restoration will be increased to 6 acres rather than 3 at the moderate level.

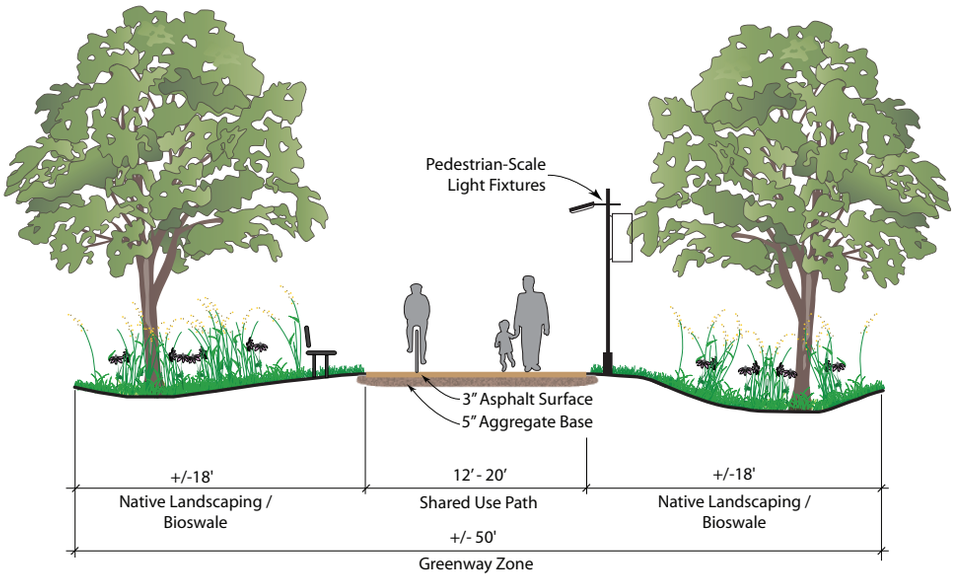
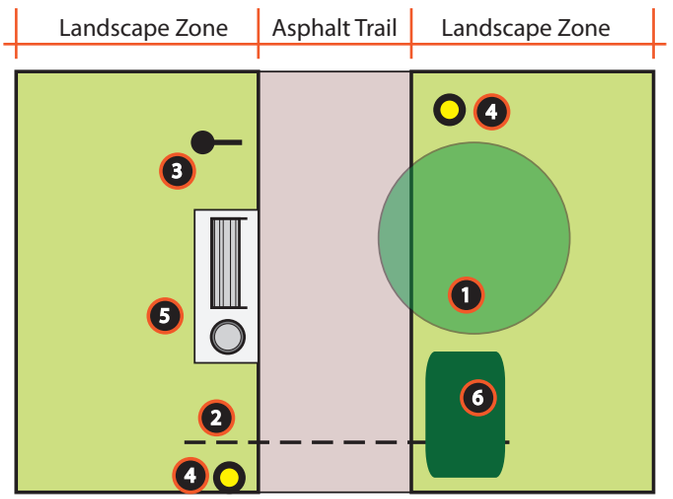


Figure 5.2 - Elmwood Connector at Full Level of Development



1. Trees, 40' spacing along route, alternating sides of the trail
2. Utility allowance for surface drainage
3. Allowance for signage including: regulatory, route markers, wayfinding
4. Pedestrian lighting (50' spacing) along entire length
5. Allowance for site furnishings (benches and trash receptacles every 150')
6. Landscaping allowance 10% of route and allowance for irrigation

Figure 5.3 - Elmwood Connector Plan-Section: Full Level of Development

5.5 Belt Line Greenway

Typical existing conditions along the Belt Line (Source: JJR)

At-a-Glance Information

- Approximate Length: 1.1 Miles
- Endpoints: RiverWalk at Mount Elliott Park to Vernor (note that only the southern portion of the Belt Line Greenway is included as one of the priority routes).
- Primary Greenway Type: Off-Road Trail
- Destinations: Gleaners Community Food Bank, Solanus Casey Center, Harbortown, RiverWalk, Mount Elliott Park, East Jefferson Avenue, Capuchin Soup Kitchen, Kabaz Cultural Center

Project Cost Summary

Level of Development	Total Project Cost	Cost Per Lineal Feet (LF)
Base	$ 3.3 million	$ 590 / LF
Moderate	$ 4.8 million	$ 850 / LF
Full	$ 7.5 million	$ 1,320 / LF

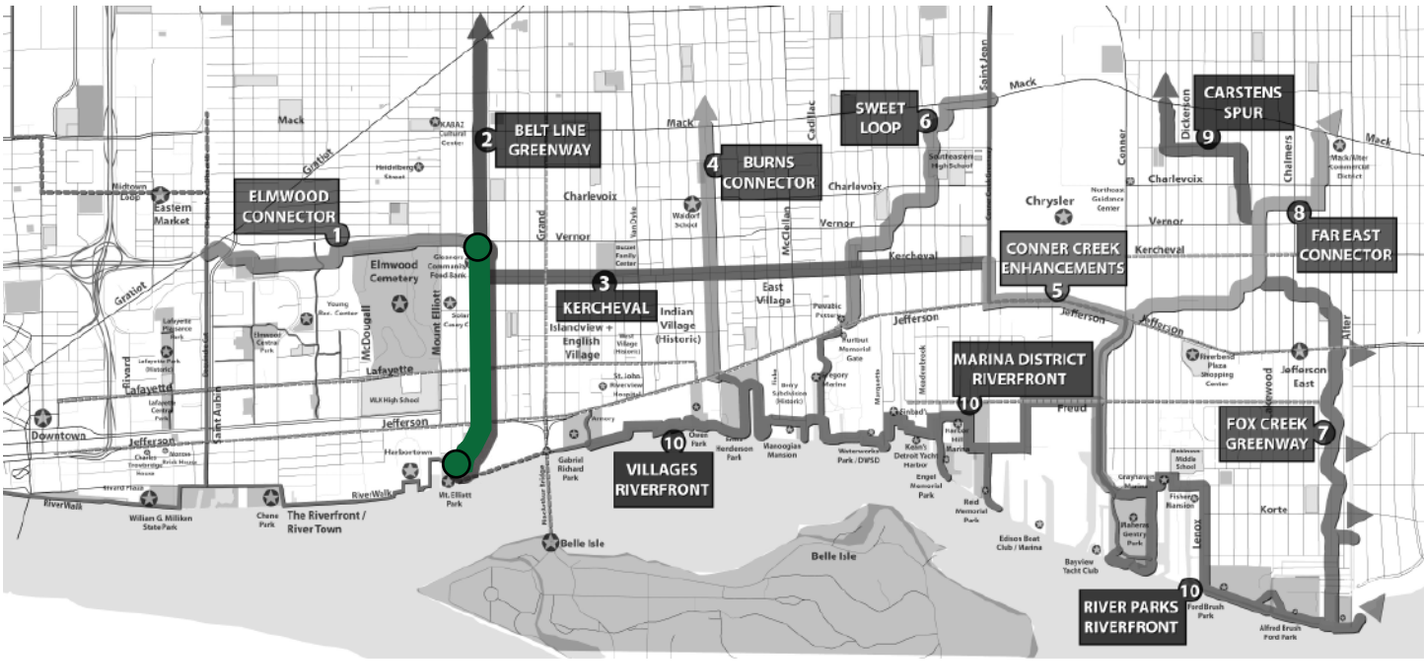
Route Description

Envisioned as a linear park, the Belt Line Greenway utilizes an unused historic railroad corridor that will create a connection from the existing RiverWalk to Mack Avenue. It will provide an opportunity to create a "food corridor" that focuses on the production and transportation of locally grown goods, and is expected to include a series of neighborhood pocket parks, trailhead access and parking, storm water management systems, and restored natural areas.

Land uses along the route are primarily industrial, with a mixture of vacant and occupied warehouses, many of which have significant architectural appeal. In some portions of the route, fragments of rail infrastructure still remain, such as larger concrete coal tender structures on the block between Kercheval and Saint Paul Street. This industrial legacy provides an opportunity for historic interpretation.

Levels of Development

The development of the greenway will focus on the installation of an off-road trail that will vary in width between 12 and 20 feet wide. Safety and comfort will be increased with improvements at four intersections and three mid-block crossings. Visibility and wayfinding will be enhanced at four proposed "green gateways" located at greenway intersections and trailheads.



Base Level

Providing a continuous off-road trail with improved crossings is the focus of the base level of improvements. Regulatory signage and route markers will be provided, and street trees will be planted along the trail. The "green gateways" will include a small paved area and additional signage.

Moderate Level

The moderate level will enhance the route by adding plant materials in the landscape zone (5% of area), new pedestrian lighting along the entire length, site furnishings and security cameras at key nodes. Mid-block crossings will be further enhanced with bumpouts, landscape, signage and furnishings. A ¾ acre pocket park located at Kercheval will provide a gathering area for trail users and 8 ½ acres of landscape restoration will occur along the trail corridor.

Full Level

Full development (as illustrated in Figure 5.4 and 5.5) expands the quantity of landscaping in the landscape zones (10% of area) and adds irrigation. The Kercheval mid-block crossing will also include a refuge island. The pocket park will be increased to 3 acres, and 15 acres of landscape restoration will occur along the trail corridor. The "green gateways" will be further improved to include furnishings, landscape and a special focal element (i.e. light wand, art or kiosk).

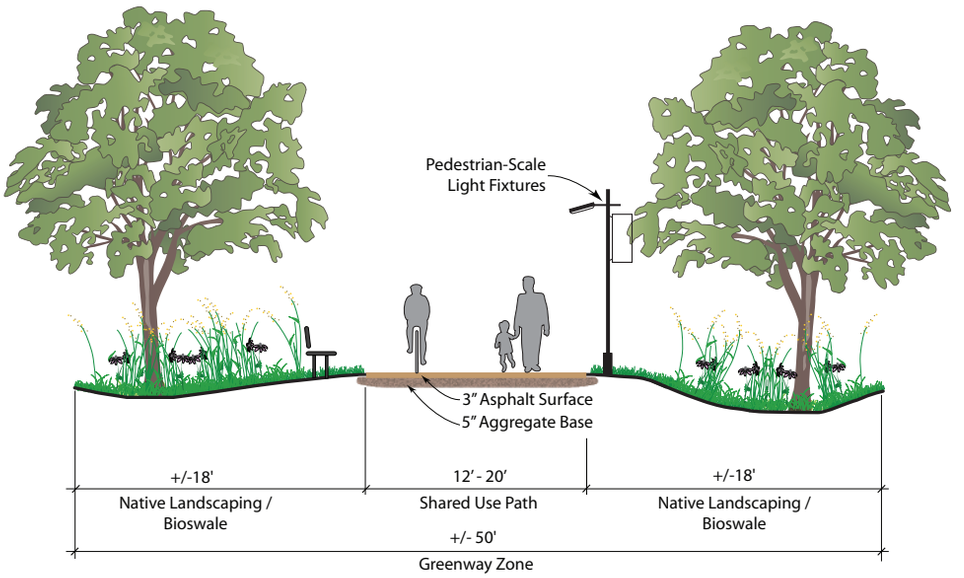
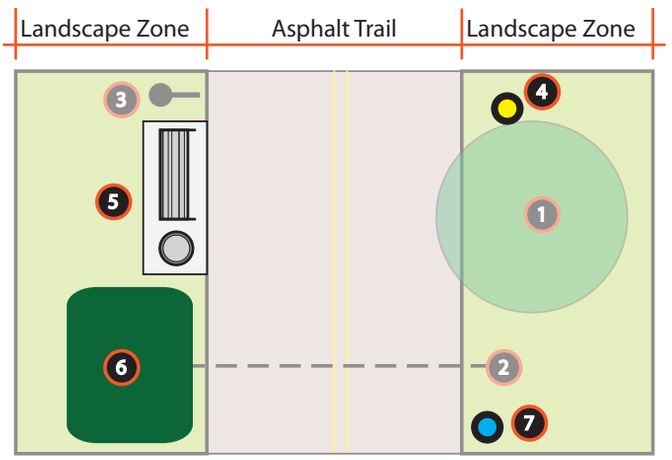


Figure 5.4 - Belt Line Greenway at Full Level of Development



1. Trees, 40' spacing along route, alternating sides of the trail
2. Utility allowance for surface drainage
3. Allowance for signage including: regulatory, route markers, wayfinding
4. Pedestrian lighting (50' spacing) along entire length
5. Allowance for site furnishings (benches and trash receptacles every 150')
6. Landscaping allowance 10% of route and allowance for irrigation
7. Cameras along entire route with call boxes.

Figure 5.5 - Belt Line Greenway Plan-Section: Full Level of Development

5.6 Kercheval Greenway

Kercheval at Concord Street (Source: Google)

At-a-Glance Information

- Approximate Length: 2.3 Miles
- Endpoints: Belt Line Greenway (west) to Conner Creek Greenway (east)
- Primary Greenway Type: On-Road; Neighborhood Connector Type 1
- Destinations: Gleaners Community Food Bank, The Villages, Butzel Playground and Family Center, Chrysler Plant, East Grand Boulevard (connection to Belle Isle), Burns Connector

Project Cost Summary

Level of Development	Total Project Cost	Cost Per Lineal Feet (LF)
Base 1	$ 5.3 million	$ 440 / LF
Base 2	$ 3.5 million	$ 290 / LF
Moderate	$ 9.1 million	$ 750 / LF
Full	$ 20.4 million	$ 1,690 / LF

Route Description

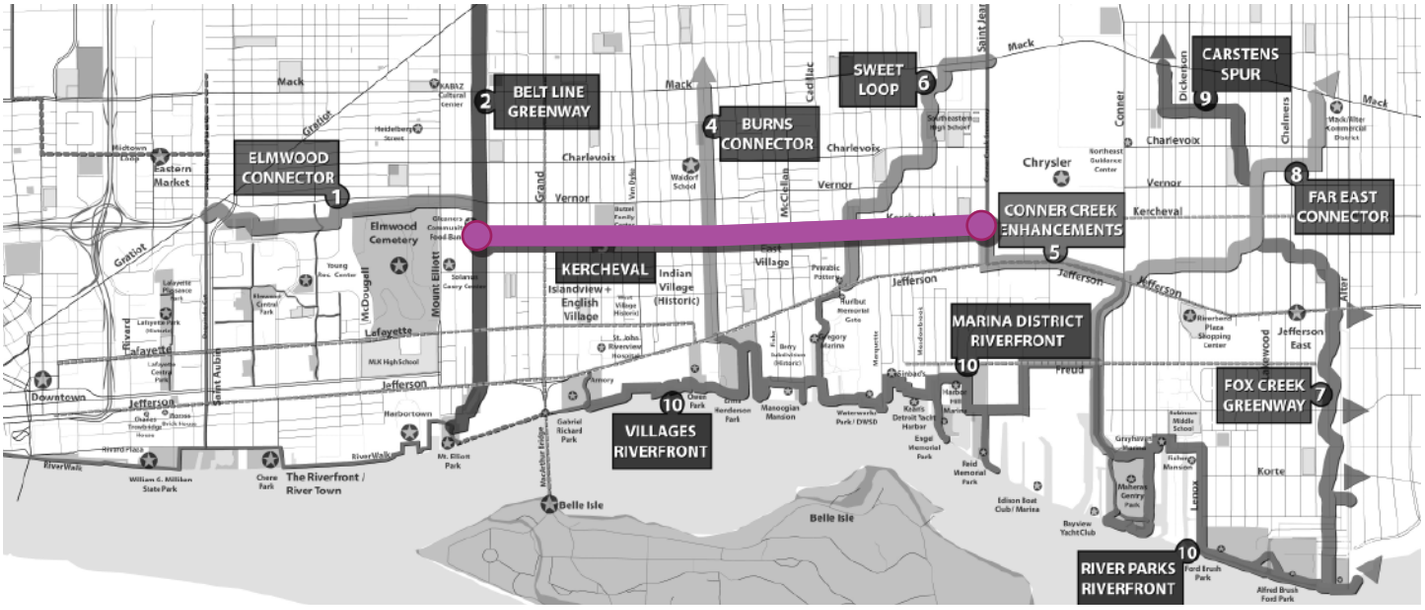
The Kercheval Greenway is a route that will transform Kercheval into a signature greenway connecting east/west across a substantial portion of the project site. The greenway will help calm traffic and promote economic development in the commercial area (West Village). Currently, Kercheval is a four-lane roadway that is far below traffic capacity. This excess pavement area provides ample opportunity to incorporate new landscaping, stormwater management features, bike lanes, and pedestrian amenities while also enhancing the visual quality of the corridor for adjacent neighborhoods. In conjunction with the Elmwood Connector, this route will provide a strong connection for neighborhoods to the Eastern Market and downtown areas, paralleling the Riverfront Extension.

Levels of Development

Kercheval's transformation will rely primarily on a lane reduction, removing one of the travel lanes to add additional landscaping and bike lanes. A new round-a-about at the intersection of Kercheval and Burns will be one of the 34 road intersections that will be improved on this route.

Base Level 1

The lane reduction will allow for bike lanes and lawn area at the base level of development. It is anticipated that 50% of the sidewalks will be replaced, regulatory signage added and street trees planted along both sides of the road.



Base Level 2

Base Level 2 limits the base level of improvements on Kercheval to between Baldwin and Seminole. Along the remainder of the Kercheval Greenway improvements would only include stripped bike lanes, sidewalk repairs and basic road intersection improvements

Moderate Level

The moderate level will enhance the route by adding a grass bioswale for stormwater, planting and irrigation in the streetscape zone (10% of area), new street and pedestrian lighting at key nodes and commercial areas (along 20% of route), site furnishings, and security cameras at key nodes.

Full Level

Full development (as illustrated in Figure 5.6 and 5.7) expands the quantity of landscaping in the bioswale, streetscape zones (20% of area), combined pedestrian and street lighting along the entire route, colored pavement bike lanes, and more site furnishings along the route. Because of the level of improvement and disturbance within the road corridor, this level also includes milling and resurfacing of the existing street pavement.

In locations with commercial uses along the road, on-street parking can still be accommodated to provide convenient access to businesses (approximately 20% of route length). In these instances, the base and moderate levels would be the same as the Kercheval section, except that the existing edge of pavement would not be modified and street trees would not be planted to maintain pavement for a parking lane. At the full level, parking lanes would be replaced with porous pavement.

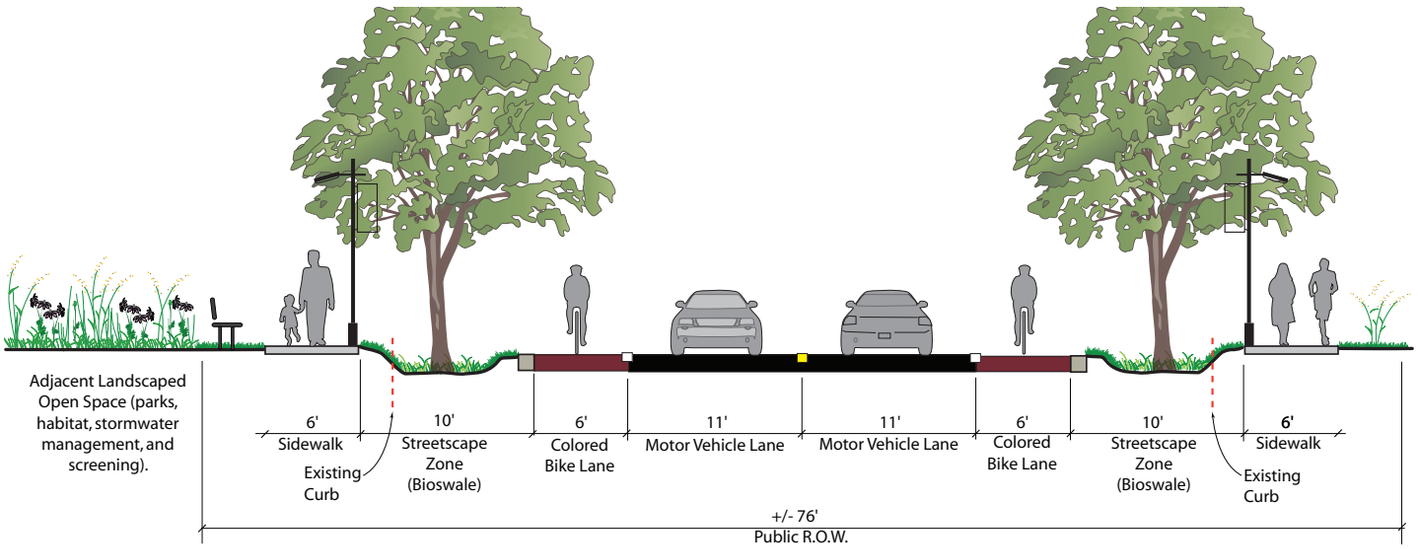


Figure 5.6 - Kercheval Greenway at Full Level of Development

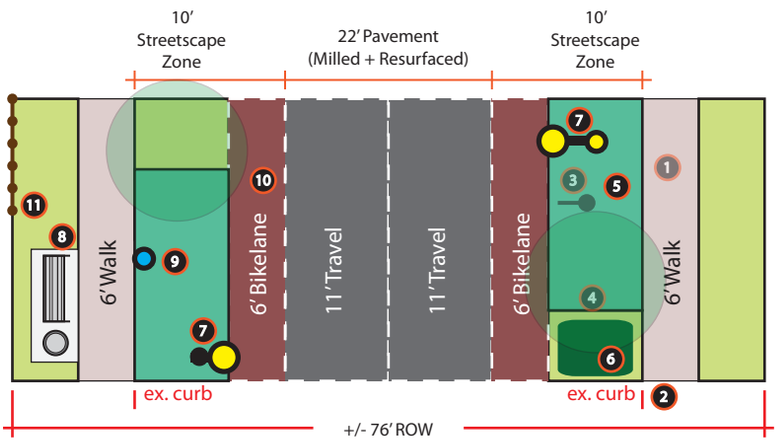


Figure 5.7 - Kercheval Greenway Plan-Section: Full Level of Development

1. Replace/repair approx. 50% of existing sidewalk
2. Remove existing curb and approx. 9' of pavement for streetscape zone
3. Allowance for signage including: regulatory, route markers, wayfinding
4. New lawn area
5. Streetscape zone landscaped with bioswales
6. 20% of streetscape zone includes additional landscaping (perennials, shrubs, ornamental trees) with irrigation
7. Allowance for street lighting along approx. 20% of route. New combined light fixtures along entire route
8. Allowance for site furnishings (benches and trash receptacles every 150')
9. Security cameras at key nodes
10. Colored bike lanes
11. Fencing along 20% of route

5.7 Conner Creek Greenway Enhancements

St. Jean Street Near Kercheval (after bike lanes installed) (Source: Detroit Eastside Community Collaborative)

At-a-Glance Information

- Approximate Length: 0.2 Miles
- Endpoints: St. Jean Street/Kercheval and St. Jean Street/ E. Jefferson
- Primary Greenway Type: On-Road; Principal Routes
- Destinations: Chrysler Plant, E. Jefferson Corridor, Marina District, Maheras Gentry Park

Project Cost Summary

Level of Development	Total Project Cost	Cost Per Lineal Feet (LF)
Base	$ 0.4 million	$ 360 / LF
Moderate	$ 0.7 million	$ 720 / LF
Full	$ 1.5 million	$ 1,450 / LF

Route Description

The Conner Creek Greenway has undergone detailed planning and partial implementation to date. Improvements to St. Jean Street, including a shared use side path and bike lanes, have already been completed as well as a bike lane striping on Clairpointe Street south of East Jefferson Avenue. Continued enhancement to the Conner Creek Greenway from Kercheval to East Jefferson will strengthen the east – west greenway connections through the study area.

Levels of Development

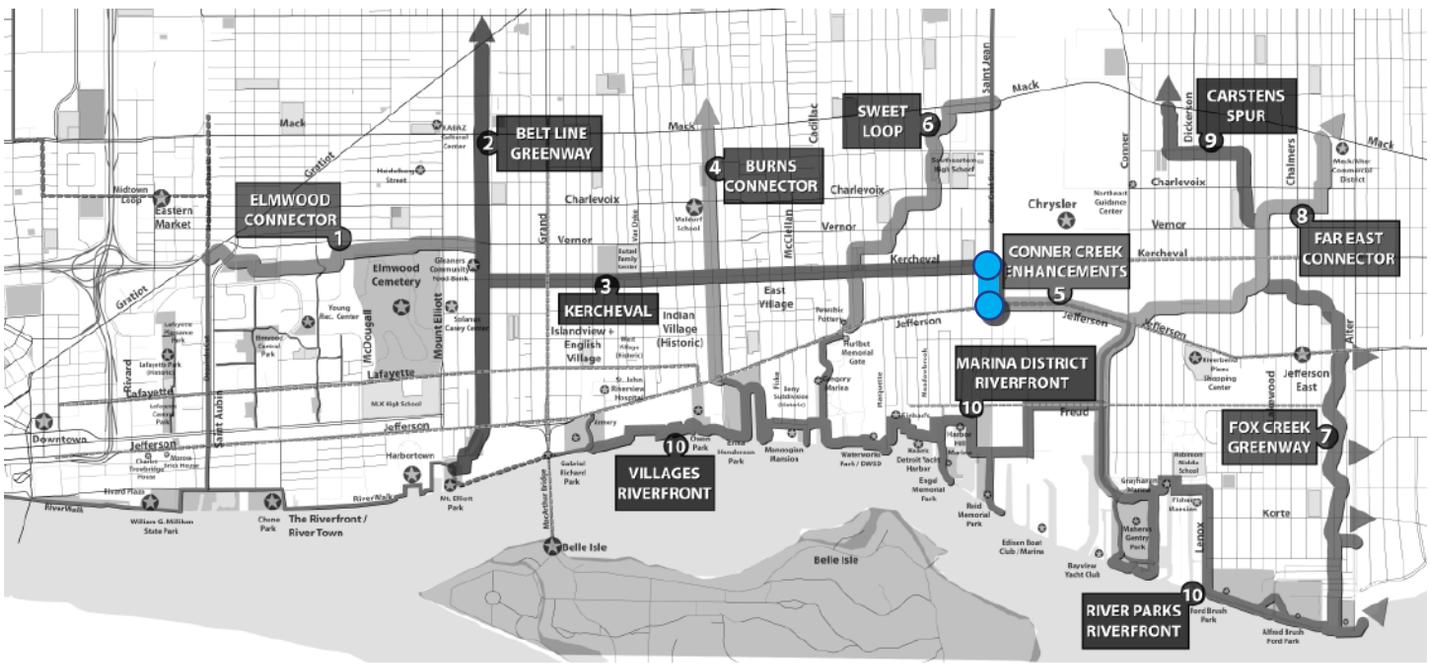
The development of St. Jean will focus on the improvement of the non-motorized environment with a shared use path and landscape improvements.

Base Level

Providing a wider continuous off-road trail with improved crossings is the focus of the base level of improvements. Regulatory signage and route markers will be provided, and street trees will be planted along the trail where needed.

Moderate Level

The moderate level will enhance the route by adding plant materials in the streetscape zone (50% of area), new combined pedestrian/vehicular lighting at 80 foot spacing along the entire length, site furnishings and security cameras at key nodes.



Full Level

Two lanes of traffic will be removed to accommodate a center landscape median (with 50% of area as storm water management). Full development (as illustrated in Figure 5.8 and 5.9) expands the quantity of landscaping in the streetscape zones (100% of area) and adds irrigation. Lighting will be increased to include pedestrian lighting in between the combined lights.

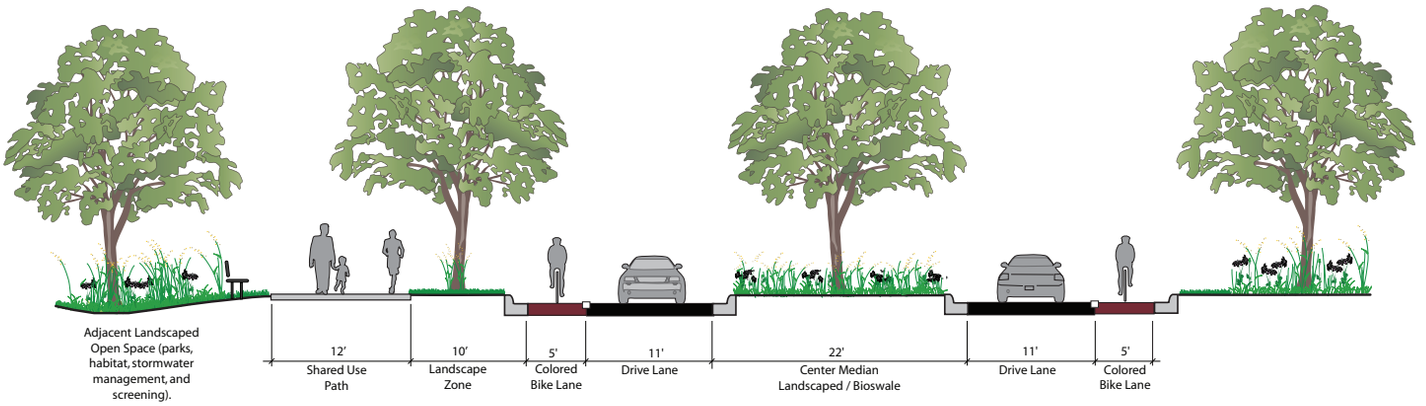


Figure 5.8 - Conner Creek Greenway (St. Jean) at Full Level of Development

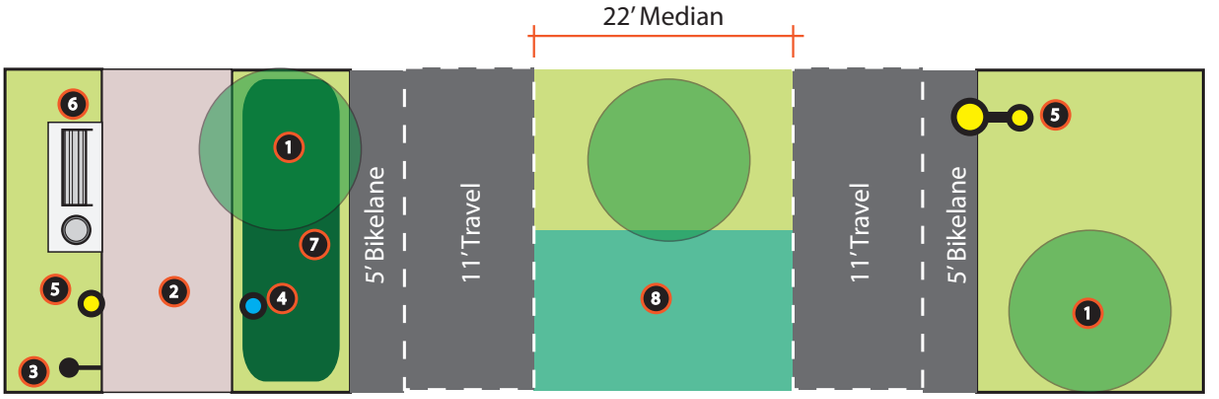


Figure 5.9 - Conner Creek Greenway (St. Jean) Plan-Section: Full Level of Development

1. Additional/replacement of trees along 30% of route
2. Remove existing 8' asphalt trail and replace with a 12' concrete trail
3. Allowance for signage including: regulatory, route markers, wayfinding
4. Security cameras at nodes
5. New combined vehicular and pedestrian lighting (80' spacing); additional pedestrian lighting spaced in-between.
6. Allowance for site furnishings (benches and trash receptacles every 150')
7. Additional landscaping + irrigation along entire route
8. Removal of two travel lanes to accommodate center median with street trees. Median half bioswale/stormwater system and half lawn

5.8 Riverfront Extension

Detroit Riverfront at Parkview Drive (Source: Greenway Collaborative)

At-a-Glance Information

- Approximate Length: 7.4 Miles (includes primary Riverfront alignment and connector/feeder routes)
- Endpoints: Gabriel Richard Park to Windmill Point Park
- Primary Greenway Type: RiverWalk Trail Types, On-Street Neighborhood Connector Routes
- Destinations: Gabriel Richard Park, Gold Coast, Erma Henderson Park, Berry Subdivision, Manoogian Mansion, Waterworks Park, Marina District, Engel Memorial Park, Reid Memorial Park, Maheras Gentry Park, Fisher Mansion, Alfred Brush Ford/Ford Brush Parks, Windmill Pointe Park

Project Cost Summary

Broken down by riverfront section.

Level of Development	Total Project Cost	Cost Per Lineal Feet (LF)
Villages	$ 59.6 million	$ 1,420 / LF
Marina District	$ 45.0 million	$ 1,070 / LF
River Parks	$ 41.7 million	$ 990 / LF

Route Description

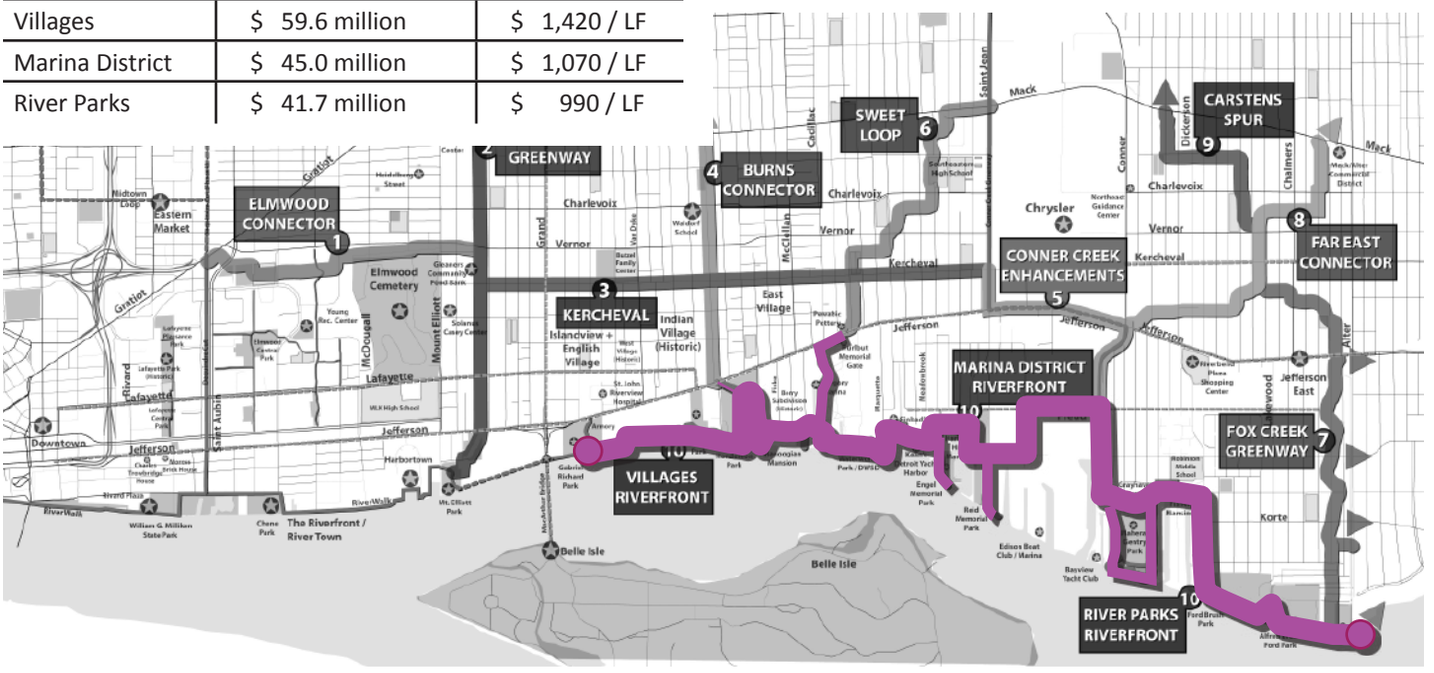
The Riverfront Extension, when fully installed, will link downtown to Grosse Pointe Park and will improve connections to the Detroit River throughout the entire study area. Divided into three segments (the Villages, The Marina District and River Parks), because of their unique characteristics and adjacent land use, the Riverfront Extension is envisioned to provide a variety of user experiences, along the river, through historic neighborhoods and existing marinas and park spaces. The following summary identifies the unique aspects of each riverfront segment:

The Villages

The Villages portion of the Riverfront extends the river edge experience from Gabriel Richard Park through Waterworks Park. Connections north/south from the Burns Connector and Sweet Loop provide excellent connections from neighborhoods north of East Jefferson Avenue south to the Riverfront. This segment is primarily residential, with the Gold Coast residential towers and the Berry Subdivision. It is also within close proximity to Belle Isle.

Marina District

This segment passes through the heart of the Marina District, providing marina users an excellent means for accessing the district's greenway system, as well as providing the public access to the marinas and the amenities they provide. The overall



concept is to provide access as close to the water and working edge of the river as possible, while maintaining a streamlined and secure route. Additional spurs are proposed at key points (i.e., Engel Memorial Park) that provide access down to the river edge at potential overlook points.

River Parks

Primarily traversing publicly owned land, this segment extends and expands the trails in Maheras Gentry Park east to Grosse Pointe at Windmill Pointe Park. There is a significant opportunity to reconnect these park spaces to create a dramatic new riverfront experience. New bridges (possibly swing bridges) can be utilized to provide access across the canal and accommodate motorboats and sailboats needing access through the canals. The park spaces themselves provide an opportunity to create large off-channel wetland systems to capture storm water and accommodate additional flood waters, reducing impacts to adjacent neighborhoods.

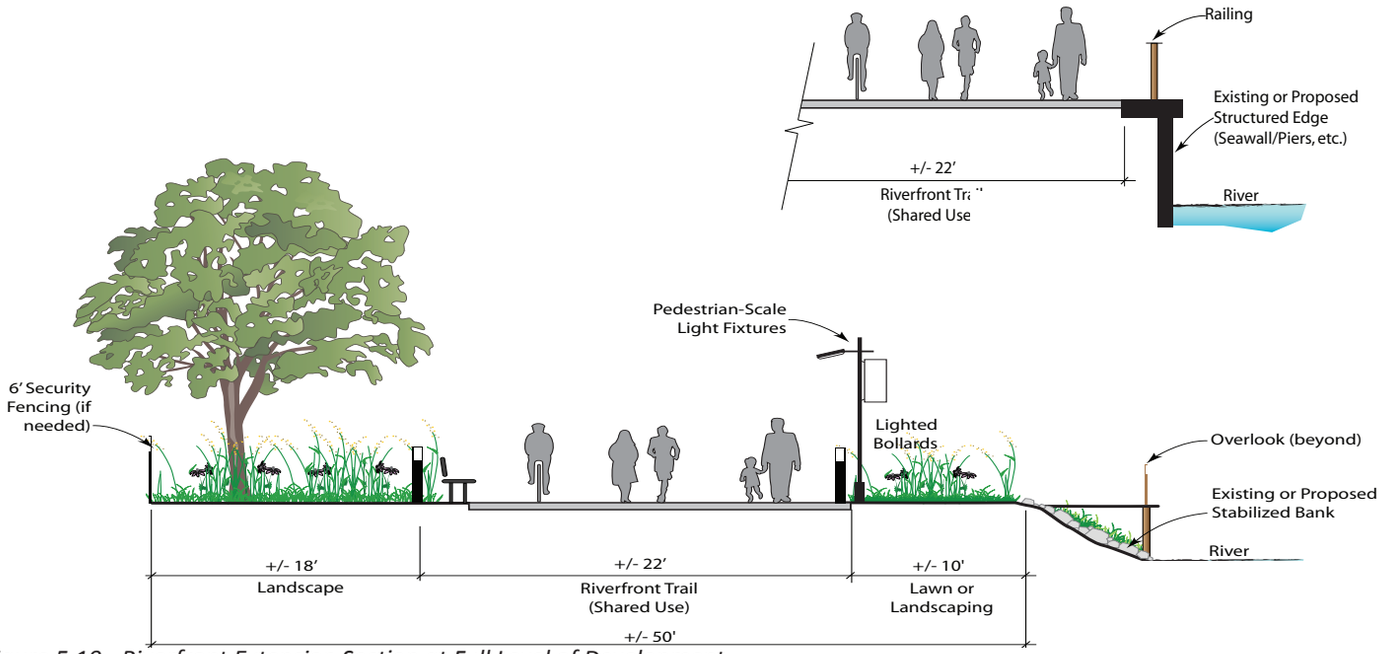


Figure 5.10 - Riverfront Extension Section at Full Level of Development

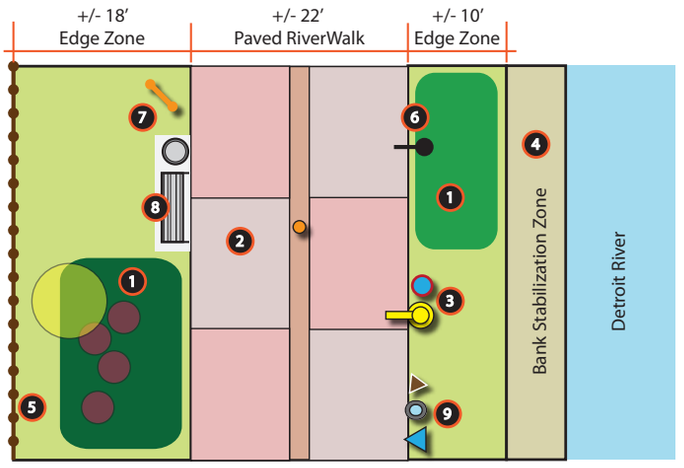


Figure 5.11 - Riverfront Extension Plan-Section: Full Level of Development

1. Landscaping along entire route (50% ornamental landscaping; 50% basic landscaping)
2. Riverfront paving (50% colored concrete, 10% paver units)
3. New pedestrian lighting, security cameras and callboxes, lighted bollards, and specialty lighting along entire route
4. Bank stabilization zone (rip-rap and bioengineering)
5. 6' security fencing along entire route. Vehicle gates every 1000' and pedestrian gates every 500'
6. Regulatory signage, route markers, destination markers
7. Special signage (interpretive, gateway, and map displays)
8. Site furnishings, including benches (75' spacing), trash receptacles (75' spacing), bike loops (100' spacing), and dog waste stations (500' spacing)
9. Wayfinding kiosks and drinking fountains every 500'

Levels of Development

The development of the Riverfront Extension is anticipated to occur at a full level of development to maintain consistency and continuity with the existing RiverWalk to the west. The length and variety of the Riverfront Extension resulted in seven different cross-sections to respond to changing conditions along the route. The primary cross-section, Riverfront Extension Section (Figure 5.10 and 5.11), is a shared use path approximately 22 feet in width and may be located on or slightly away from the river's edge. The Riverfront Section at Marina Edge (Figure 5.12 and 5.13) is another significant cross-section that will be used where the Riverfront Extension will run along marinas, providing a 20 – 25 foot shared use path as well as additional security measures (i.e. fencing) at the marina edges.

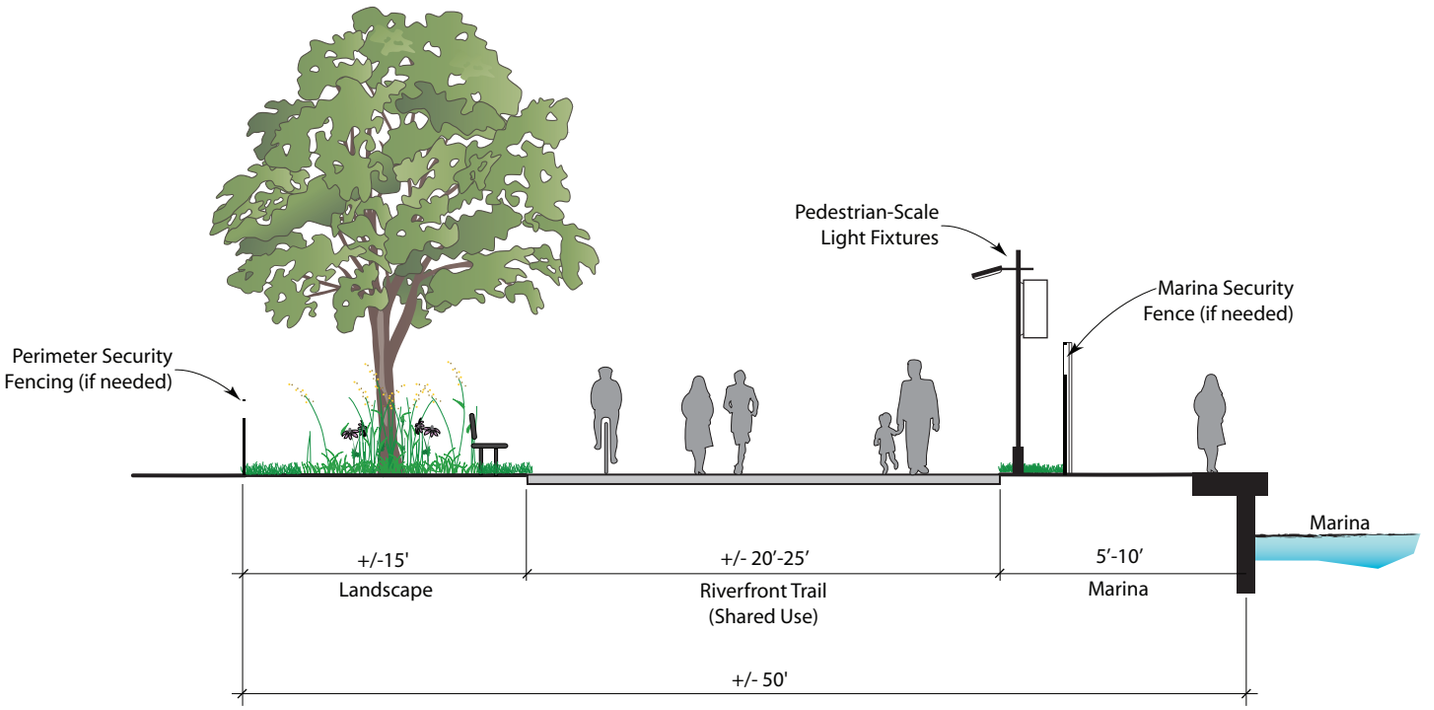


Figure 5.12 Riverfront Section at Marina Edge at Full Level of Development

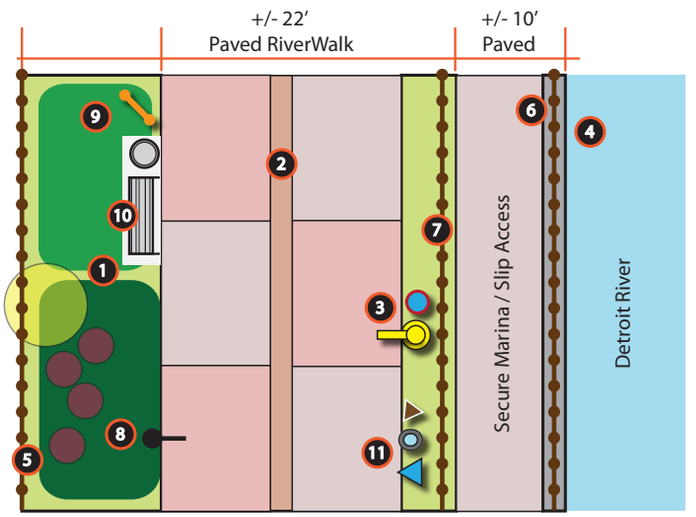


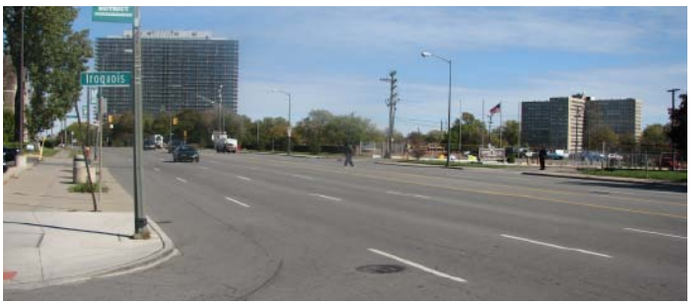
Figure 5.13 - Riverfront Extension at Marina Edge Plan-Section: Full Level of Development

1. Landscaping along entire route (50% ornamental landscaping; 50% basic landscaping)
2. Riverfront paving (50% colored concrete, 10% paver units)
3. New pedestrian lighting, security cameras and callboxes, lighted bollards, and specialty lighting along entire route
4. Sea wall / sheet pile repair and installation where needed. Includes egress ladders every 150' and sea wall cap
5. 6' security fencing along entire route. Vehicle gates every 1000' and pedestrian gates every 500'
6. 42" ornamental railing
7. 8' high ornamental steel security fencing to provide marina security. Includes secure gates
8. Regulatory signage, route markers, destination markers
9. Special signage (interpretive, gateway, and map displays)
10. Site furnishings, including high quality benches and trash receptacles, bike loops, and dog stations.
11. Site furnishings, including benches (75' spacing), trash receptacles (75' spacing), bike loops (100' spacing), and dog waste stations (500' spacing)
12. Wayfinding kiosks and drinking fountains every 500'

In addition to the improvements that will be consistent along all sections (i.e. landscaping, lighting, special paving at nodes, signage, furnishings etc.), the Riverfront Extension will include:

- Full security coverage along the entire length of the Riverfront Extension, including any side loops or spurs connecting from the main trail to the river edge or entry points.
- Fifteen overlook sites that include river stabilization, paving materials (including pavers and colored concrete), special signage and lighting, supplemental landscaping, and benches and waste receptacles.
- Five plaza areas (2 minor and 3 major) are located along the route. Minor plazas are approximately 15,000 SF in size and major plazas are approximately 30,000 SF in size. Both major and minor plazas include: clearing/ earthwork, paving with colored concrete and pavers, ornamental railings, additional site furnishings, bollards, landscaping (canopy trees, ornamental trees, evergreens, shrubs, and ground covers) and specialty lighting. Minor plazas include enclosures for portable restrooms. Major plazas include a pavilion structure with bathrooms, shade canopies, and water features.
- Four pedestrian bridges and two vehicle supporting bridges are proposed along the Riverfront Extension.

5.9 East Jefferson



East Jefferson at Iroquois (Source: Greenway Collaborative)

At-a-Glance Information

- Approximate Length: 5.9 Miles
- Endpoints: Downtown at I-375 to Alter Road
- Primary Greenway Type: Principal Route
- Destinations: Lafayette Park, Elmwood, Access to Milliken State Park + Chene Park, Harbortown, Belle Isle, Gabriel Richard Park, Gold Coast, Erma Henderson Park, Berry Subdivision, Indian Village, Waterworks, Pewabic Pottery, Chrysler Plant, Riverbend Plaza Shopping Center, Jefferson East Business Association

Project Cost Summary

Level of Development	Total Project Cost	Cost Per Lineal Feet (LF)
Base	$ 27.1 million	$ 870 / LF
Moderate	$ 46.4 million	$ 1,500 / LF
Full	$ 77.8 million	$ 2,510 / LF

Route Description

East Jefferson, as a significant gateway corridor into downtown Detroit, will be transformed into a Complete Street that will meet the needs of all users, both vehicular and pedestrian oriented. Enhancements will improve safety and comfort and provide traffic calming benefits, and will include lane reductions, the creation of bike lanes, center medians, landscaped zones, transit stop improvements and other streetscape improvements (East Jefferson Corridor Study, 2010).

Levels of Development

The development of East Jefferson will focus on the improvement of the non-motorized environment by utilizing two primary cross-sections that were developed as a part of the East Jefferson Corridor Study in 2010. The primary cross-section, 1B/2 (Figure 5.15 and 5.16) proposes a landscaped median and will be used along the majority of the route. The second cross-section, 1A (Figure 5.17 and 5.18) does not include a landscape median and is intended for areas where there is more commercial activity. Figure 5.14 provides the location of the cross-sections along East Jefferson.

Improvements along the corridor will also occur at all intersections and 20 intersections will receive traffic signalization improvements and refuge islands. "Green gateways' will be installed at 27 locations.

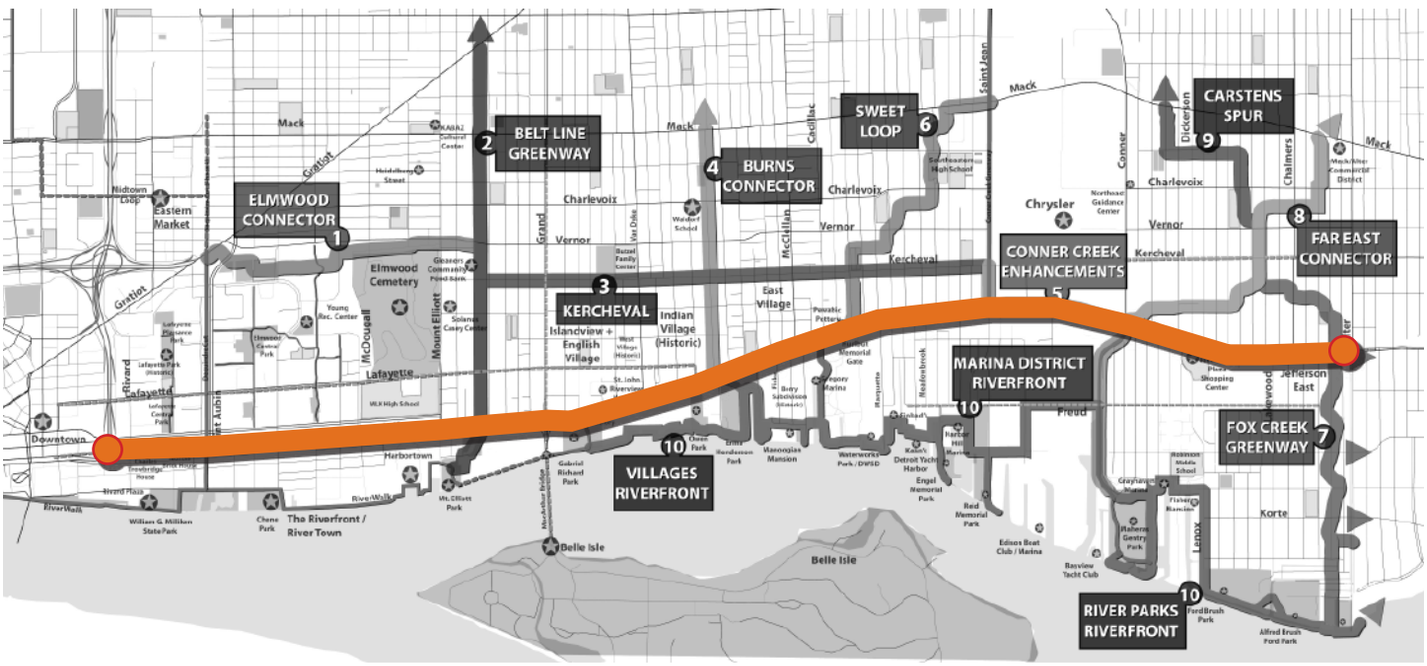


Figure 5.14 - East Jefferson Cross-Section Locations

Cross-Section	Locations
1A	*Chene to McDougall;* *Baldwin to McClellan;* *Coplin to Alter*
1B/2	*I-375 to Chene;* *McDougall to Baldwin;* *McClellan to St. Jean;* *Conner to Coplin*

Cross-Section 1B/2

Base Level

The Base Level includes eliminating two lanes of traffic and removing pavement to provide a streetscape zone on both sides of street, a 20 foot wide (approx.) center landscape median, and bike lanes on both sides. New sidewalks, regulatory signage, route markers will be provided and street trees planted along the corridor where needed. The "green gateways" will include a small paved area and additional signage.

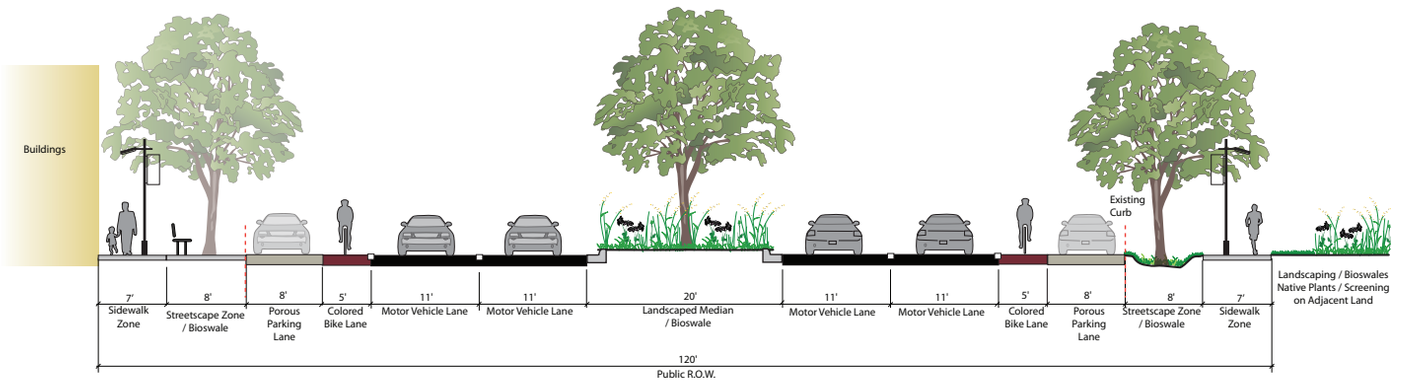


Figure 5.15 - East Jefferson 1B/2 Type Section at Full Level of Development

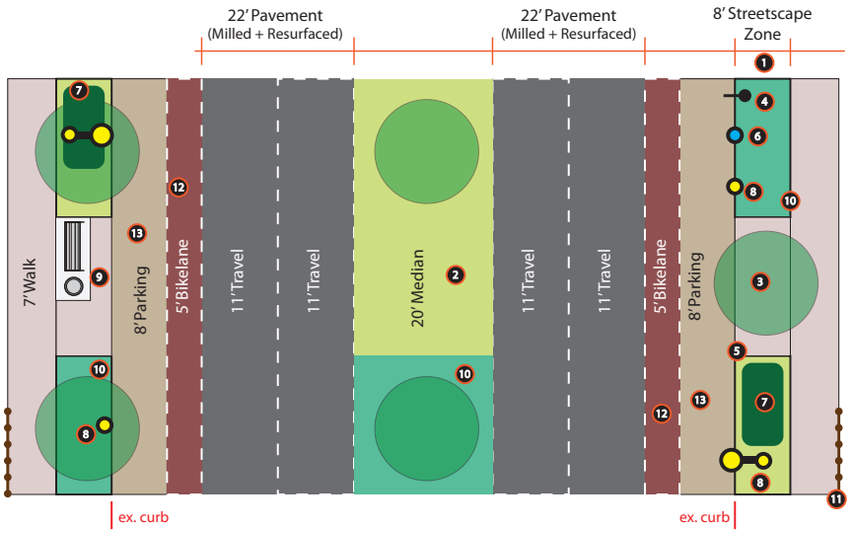


Figure 5.16 - East Jefferson 1B/2 Type Plan-Section: Full Level of Development

1. Removal of existing pavement for 8' Streetscape zone (33% paved, 33% lawn, 33% bioswale)
2. Remove pavement to construct new 20' wide median with street trees.
3. Tree replacements along 30% route (half in tree pits, half in lawn)
4. Allowance for signage including: regulatory, route markers, wayfinding
5. 50% of curbs to be replaced (avg.)
6. Security cameras (500' spacing at nodes)
7. Landscaping + irrigation along 20% of route
8. New combined lighting (80' spacing) and additional pedestrian lighting
9. Allowance for site furnishings (benches and trash receptacles every 150')
10. 33% of center median and streetscape zone designed as a stormwater system
11. Fencing (20% of length)
12. Colored bike lanes (5')
13. Parking lanes with porous pavement

Moderate Level

The moderate level will enhance the route by adding plant materials in the streetscape zone (10% of area), new combined pedestrian/vehicular lighting at 80 foot spacing along the entire length, site furnishings, and security cameras at key nodes. The "green gateways" will be further improved to include furnishings, landscape and a special focal element (i.e. light wand, art or kiosk). Landscape restoration will occur along the corridor where possible (i.e. Chrysler plant).

Full Level

Full development (as illustrated in Figure 5.15 and 5.16) expands the quantity of landscaping in the streetscape zones (20% of area) and adds irrigation. Lighting will be increased to include pedestrian lighting in between the combined lights. Security will be enhanced with cameras located at 500 ft intervals along the route.

Additional elements like fencing, storm water management and porous pavement in parking areas are also proposed, as well as the construction of a large roundabout at East Grand Boulevard.

Because of the level of improvement and disturbance within the road corridor, this level also includes milling and resurfacing of the existing street pavement.

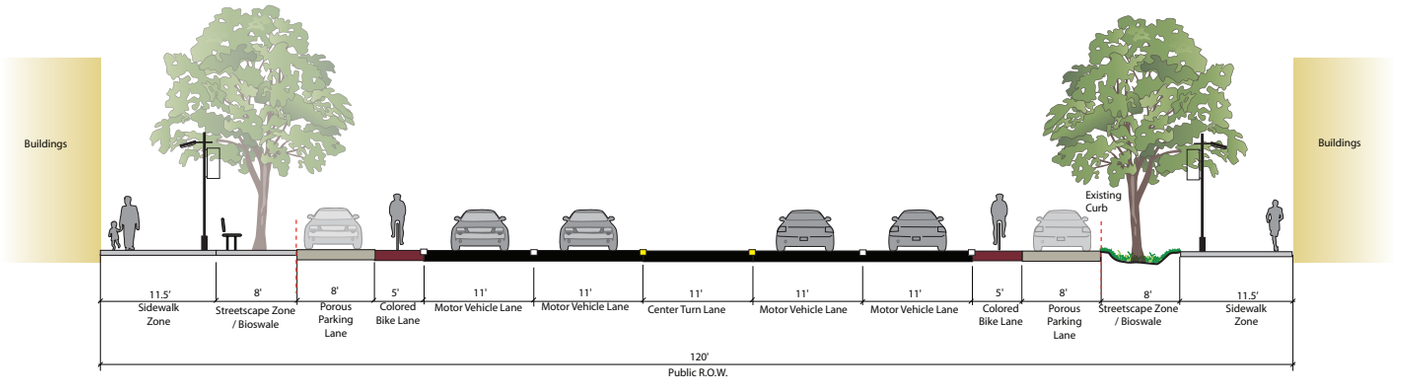


Figure 5.17 - East Jefferson 1A Type Section at Full Level of Development

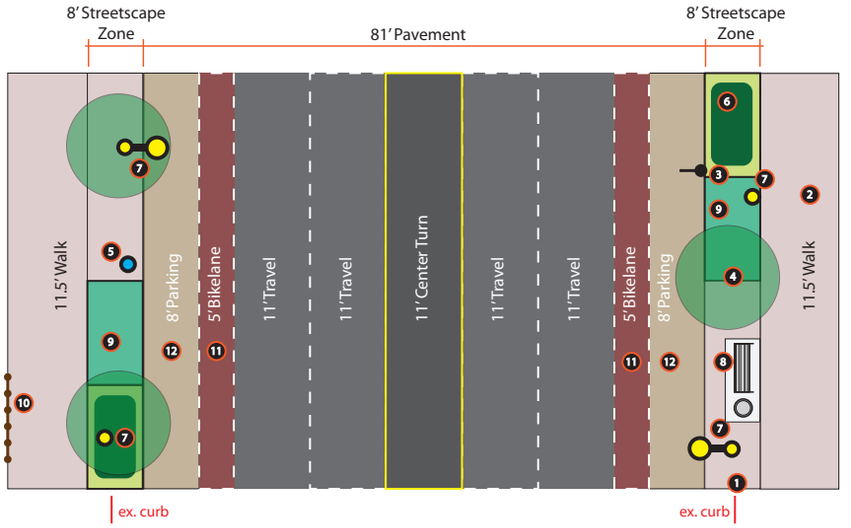


Figure 5.18 - East Jefferson 1A Type Plan-Section: Full Level of Development

1. Removal of curb, 4.5' of pavement and 3.5' of existing sidewalk for lawn streetscape zone. New curb/gutter
2. Replacement/repair of 25% of existing sidewalk area
3. Allowance for signage including: regulatory, route markers, wayfinding
4. Tree replacements along 30% route (half in tree pits, half in lawn)
5. Security cameras (500' spacing at nodes)
6. Landscaping + irrigation along 20% of route
7. New combined lighting (80' spacing) and additional pedestrian lighting
8. Allowance for site furnishings (benches and trash receptacles every 150')
9. Bioswales along 33% of streetscape zone
10. Fencing (20% of length)
11. Colored Bike Lanes (5')
12. Porous pavement for parking

Cross-Section 1A

Base Level

The Base Level includes eliminating two lanes of traffic and removing pavement to provide an 8 ft. wide streetscape zone and bike lanes on both sides of the street. Sidewalk repair, regulatory signage, route markers will be provided, and street trees will be planted along the corridor where needed. The "green gateways" will include a small paved area and additional signage.

Moderate Level

The moderate level will enhance the route by adding plant materials in the streetscape zone (10% of area), new combined pedestrian/vehicular lighting at 80 ft spacing along the entire length, site furnishings, and security cameras at key nodes. The "green gateways" will be further improved to include furnishings, landscape and a special focal element (i.e. light wand, art or kiosk). Landscape restoration will occur along the corridor where possible (i.e. Chrysler plant).

Full Level

Full development (as illustrated in Figure 5.17 and 5.18) expands the quantity of landscaping in the streetscape zones (20% of area) and adds irrigation. Lighting will be increased to include pedestrian lighting in between the combined lights. Security will be enhanced with cameras located at 500 ft intervals along the route.

Additional elements like fencing, storm water management and porous pavement in parking areas are also proposed.

Chapter 6 Implementation

(Source: JJR)

6.0 Introduction

Developing urban greenways takes determination, organization, and an unflagging commitment. Even with such commitment, creating the 16 miles of new greenways envisioned in this report in the East District will take many years. Yet this plan is a road map and action plan. It recognizes that there are clear steps that can be taken to hasten the day when the goal is met.

The process is a complicated one. Implementing this master plan will require greenways champions to forge many strategic partnerships and to draw on expertise across many fields, from finance and management to urban planning and landscape architecture. Perhaps the most critical components will be patience and perseverance. But the longest journey begins with a single step. With that in mind, this final chapter offers some thoughts on turning this master plan into actual built greenways.

Tour Detroit event to get people out bike riding in Detroit and to raise awareness of bicycling activities. (Source: JJR)

6.1 Implementation Overview

Planning and developing any greenway will typically take at least 3 years and may take longer depending on the size and scope of the project. A typical process for greenway implementation includes:

Initial Project Support

1. Foster and establish public-private partnerships.
2. Raise start-up funding (for acquisition, design, and construction).
3. Conduct a feasibility study to engage stakeholder groups, confirm segment start and end points, validate trail types and level of improvements, and establish project cost opinions.
4. Hold city and agency coordination meetings.
5. Integrate into public initiatives such as Detroit Works.
6. Obtain property owner letters of intent (indicating their willingness to grant access).

Design Completion

1. Conduct preliminary design of greenway (including additional outreach to stakeholders).
2. Prepare final design and construction documents.
3. Secure required permits.

Second Stage Project Support

1. Secure permanent easements and/or land control.
2. Raise long-term funding (for acquisition, design, and construction).
3. Hold ground breaking events to celebrate.

Construction

1. Construct Priority routes (multiple phases).

Manage On-Going Operations and Maintenance

1. Security
2. Maintenance
3. Programming

The implementation of our greenway system can start with the planning and development of one or more of the priority greenway routes suggested in Chapter 5. To accomplish that, and to lay the groundwork for future implantation of the entire master plan, we now examine in detail some key strategies for success.

6.2 Strategic Partnerships

Developing strategic partnerships is necessary for all aspects of greenway development—funding, planning, land control, construction, and operations. The following list identifies some of the possible partners and their roles (funding partners are explored in section 6.4). These strategic partnerships demonstrate the nature of greenways implementation. This master plan will be achieved not through a single overarching organization but through a broad and deep collaborative process that reaches across neighborhoods and civic organizations and private citizens.

Urban pocket park in the Jefferson East Business District (Source: JJR)

City Departments

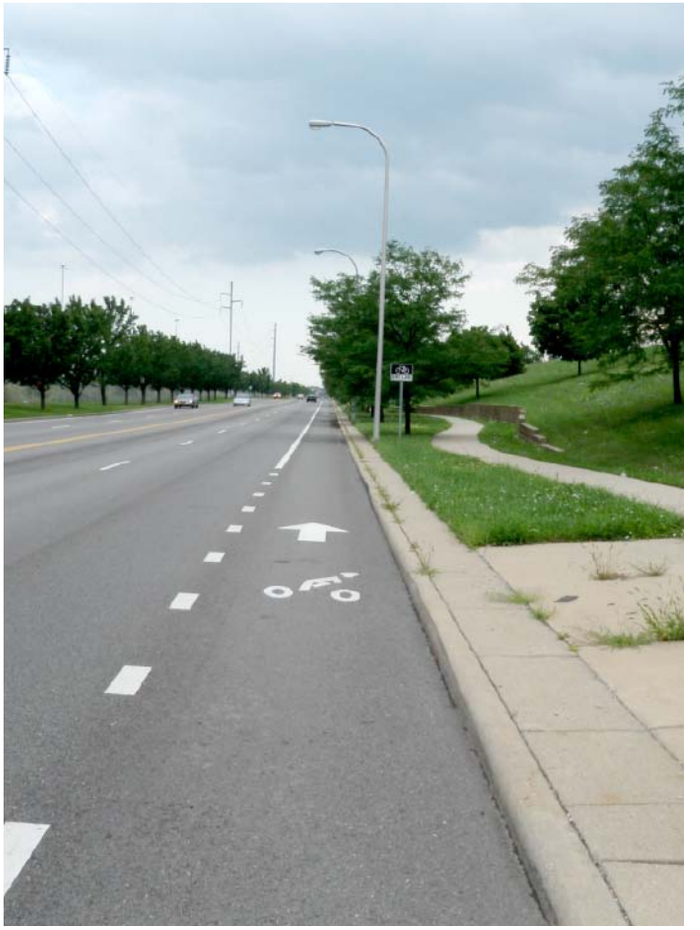
- Detroit Parks and Recreation Department - (1) Provide support for grant writing, programming, operations, and maintenance. (2) Explore how recreation centers and programs can be integrated into greenway programming. (3) Allow access on city-owned park property.
- Detroit Water and Sewerage Department (DWSD) - (1) Develop policies that encourage innovative stormwater management strategies, including combined sewer overflow projects. (2) Provide technical background and documentation for stormwater infrastructure issues. (3) Integrate greenway stormwater efforts in city-wide budgets and funding.
- Detroit Public Lighting Department - (1) Work with the department to set policy and develop strategy for greenway lighting solutions. (2) Establish maintenance and replacement standards to assure greenways remain lit.
- Detroit Police Department - (1) Establish patrolling and safety policy that may include greenway ambassadors. (2) Consider mini-stations along active greenway segments.
- Detroit Traffic Engineering Department - (1) Support the installation of non-motorized facilities. (2) Remove regulatory barriers for parking removal, striping, pavement modifications, and walk enhancements.
- Detroit Public Schools - (1) Programming coordination. (2) Provide student volunteers. (3) Safe Routes to Schools.

County/Region/State Agencies

- Wayne County Parks - Potential partner for construction, operations, and maintenance.
- Huron-Clinton Metropolitan Authority - Potential partner for construction, operations, and maintenance.
- Michigan Department of Natural Resources.

Advocacy and Support Organizations

- Michigan Trails and Greenways Alliance (MTGA) - Provide coordination and alignment with other greenway efforts in the city and region.



Recent improvements to St. Jean as part of the Conner Creek Greenway implementation (Source: JJR)

- The Greening of Detroit - (1) Potential partner for maintenance and operations. (2) Support street tree planting efforts. (3) Explore additional community garden opportunities adjacent to greenways.
- Detroit Greenways Coalition - Meets monthly and is a network of Detroit's non-motorized public and private stakeholders. Participating in this group ensures collaboration with essential funding and operational partners.

Institutions

- Hospitals and health organizations - In an effort to promote wellness, local hospitals and health-oriented groups have been promoting walking on the greenways. Partnering with these groups to further promote trail use throughout the greenway system will increase users.

Image from a greenway planning public workshop. Continued outreach and community engagement is critical to success. (Source: GREEN Task Force)

- Detroit Historical Society - Develop and implement historic marker display and historic tours.
- Charles H. Wright Museum of African American History - Develop and implement historic marker display and historic tours.
- Detroit Institute of Arts - Develop and implement temporary and permanent art installations.

Businesses that Support Bikes and Walking

- The Hub of Detroit - A full-service bicycle shop located in the Cass Corridor. All profits support youth education through Back Alley Bikes programs and educational partnerships in the community. Any efforts to develop and/or promote a greenway ambassador program should be in tandem with the Hub of Detroit's existing work.
- Wheelhouse Detroit - A bike shop that rents bikes at the Detroit riverfront and sets up bike tours. Coordinating resources with this well-located entity will help promote biking in the project area.
- Fitness and Bike Shops in the Detroit Area - They have a vested interest in supporting bike facilities in their region. Working directly with these businesses to promote and cosponsor greenways events will help increase ridership and interest.
- Other Businesses in the Project Area - Working with local businesses to assist them in understanding how foot and bike traffic help their bottom line can be done via Chamber of Commerce and direct outreach. Local businesses that lose business to big box chain stores outside of the project area can be taught to recognize that local bike traffic and foot traffic are necessary to succeed.

6.3 Key Strategies

The preceding implementation overview may give the impression that implementation is a straightforward step-by-step procedure. That is not the case. Implementation involves a complex array of processes and partnerships all working toward a common goal. For example, just the steps of securing easements and/or land involves dealing with city, county, state, or federal officials; private property owners, and a range of planning, zoning, and other regulatory boards. Since all of the implementation steps will no doubt prove to be equally complex, it is worthwhile to consider a number of strategic considerations as we move toward and through implementation. These include:

Win official endorsement for the greenway plan.

An important first step in the implementation of the greenway system is to gain recognition of the plan by critical stakeholders, especially the City of Detroit. This can be achieved by advocating for adding the plan as an amendment to the City's non-motorized master plan. This will need to be done by engaging the City's Departments of Planning and Development and Public Works, as well as the City Council and its City Planning Commission advisory board.

Develop programming and outreach strategy.

Providing programming and conducting outreach early on helps to build public awareness and support. When getting ready to move forward with a new project in the greenway system, develop an outreach strategy that includes events, educational activities, and awareness programs. Among the possible activities:

- Leverage the programs of the existing greenways such as the walking clubs, yoga on the greenways, and bike tours to build excitement and demand for the new greenway project.

Existing pathways through the multi-family housing developments near Elmwood Cemetery provide opportunities for greenway expansion. (Source: The Greenway Collaborative)

- Implement the greenway ambassador program to promote safety and increase use of the greenways. Greenway ambassadors are trained individuals who can perform education, monitoring, and stewardship support for the greenway system (see Appendix C for details).
- Promote and support local, state, and federal programs such as Safe Routes to Schools, car-sharing, etc.

Develop operations and maintenance strategy.

Responsibility for a greenway is not over when the construction is done. This responsibility continues with the long-term operations and maintenance to ensure that the greenways are well cared for and used frequently by the public. Prior to the implementation of the new projects in the greenway system, determine the strategy to operate and maintain each of the greenways after they are built.

- Develop maintenance standards for the network.
- Identify costs for maintenance and operations for each type of greenway.
- Determine who will maintain and operate the greenway.
- Research the creation of an endowment or other perpetual mechanism that could fund operations and maintenance.

It is best to consider and, if possible, resolve these operational issues in advance so that the transition from construction to operation runs as smoothly as possible.

Advocate for policy, ordinance, and standards modifications

This master plan stands a better chance of being implemented if its values and strategies become part of the city's DNA. To that end, an implementation plan should involve advocating for policies that support the construction of greenway projects and the creation of pedestrian- and bike-friendly environments. This will involve having regular conversations with the City of Detroit and other regulatory agencies to encourage the following:

- Promote the adoption of a Complete Streets ordinance.
- Review and facilitate needed amendments to current city ordinances regarding visibility, landscaping, street trees, snow removal, sidewalks, and bike parking.
- Work with the City of Detroit to modify standards (within the rights-of-way) as needed to support the development of the greenway system (i.e., lane and sidewalk widths, bike lane standards, and sustainable construction materials).
- Work with the City of Detroit to review the appropriateness of one-way streets, speed limits, on-street parking area, and truck routes.
- Identify code enforcement challenges and work with the City of Detroit to explore solutions.

Leverage and integrate city/regional capital improvement projects and maintenance policies.

Given limited resources, a successful greenways strategy will optimize the use of allocated public funds by looking for ways to implement the city's non-motorized plan and this master plan as part of proposed capital improvement and maintenance projects that will be happening anyway.

- Coordinate the installation of proposed bike lanes, sidewalks, and pedestrian crossings with the City of Detroit's 5-year capital improvement plan.
- Work with the City of Detroit to review and adjust traffic signal timing and traffic light sensors to improve non-motorized mobility.

- Coordinate proposed stormwater management strategies with ongoing or proposed City of Detroit Water And Sewerage Department efforts to maximize environmental benefits and minimize costs.
- Coordinate with the transit agencies to add more bike racks to buses.
- Integrate the installation or improvement of lighting along the greenways with city lighting programs/policies.

Secure and commit project funding.

In an era of limited government resources, implementing this master plan means exploring funding sources from federal, state, and local sources, including private entities that not only support greenway development but also natural resource restoration, healthy lifestyles, and economic development. (See section 6.4 for more information on funding opportunities.)

Focus on Land Control/Easement Access

Given how long it takes to assemble the land on which to build greenways, land control and easement acquisition should start as soon as this plan is endorsed. Access to greenway corridors can be achieved through governmental regulation, easements, acquisition, or by a combination of methods. Some of the methods that are available include the following:

- Governmental Regulation - Typically applies to new or infill development and can include: impact fees, zoning (incentives, overlays), and negotiated dedications.
- Easements - Often a strategy that can be used over private property and allows property owners to retain their rights to the property other than what is described in the terms of the easement.
- Acquisition - This can apply to either public or privately held land and requires that the greenway corridor be purchased or donated to a public entity and/or an oversight organization. Acquisition methods include: donation (tax incentive), fee simple purchase, easement purchase, option or first right of refusal, and land banking.
- Leases.

6.4 Funding Opportunities

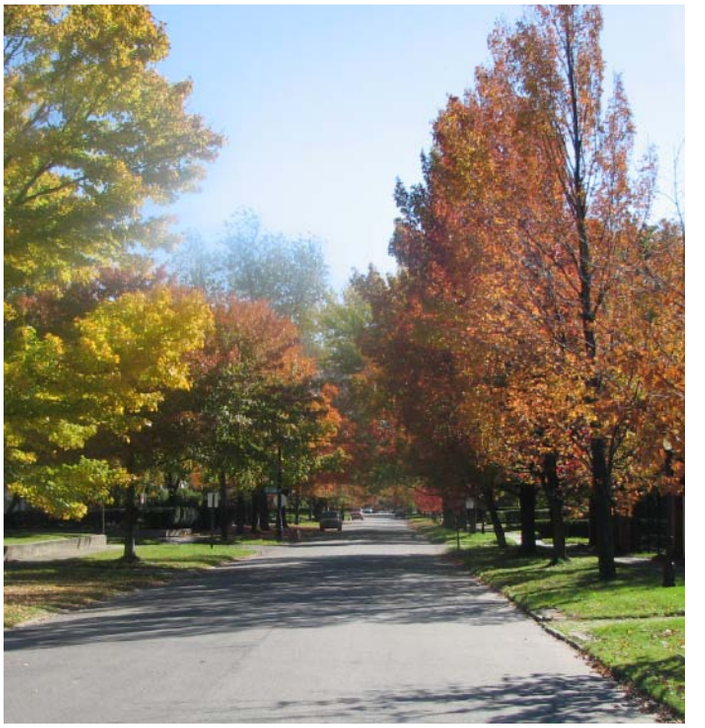
The following is a list of some of the public funding opportunities related to greenway development.

Federal Transportation Funding

Figure 6.1 summarizes federal transportation programs under SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users) legislation. Please note that some of the programs below are restricted by state DOT requirements, so coordination with MDOT and SEMCOG is an important step in developing a funding strategy. Details about these various programs can be found at http://www.fhwa.dot.gov/environment/bikeped/bp-guid.htm#bp4.

State and Federal Natural Resource Funding

In addition to transportation-related funding for the greenways, there is an opportunity to leverage additional funding from natural resources and environmental fund sources. Elements of the greenway that support native vegetation restoration, stormwater management, water quality protection, urban forest expansion, and habitat creation may be eligible for a wide variety of federal and state funding.



View along Burns Street (Source: Greenway Collaborative)

Figure 6.1 Funding Table

	NHS	STP	HSIP	SRTS	TEA	CMAQ	RTP	FTA	TE	BRI	402
Bicycle and pedestrian plan		*				*					
Bicycle lanes on roadway	*	*	*	*	*	*		*	*	*	
Paved Shoulders	*	*	*	*	*	*				*	
Signed bike route	*	*		*	*	*					
Shared use path/trail	*	*		*	*	*	*			*	
Single track hike/bike trail							*				
Spot improvement program		*	*	*	*	*					
Maps		*		*		*					*
Bike racks on buses		*			*	*		*	*		
Bicycle parking facilities		*		*	*	*		*	*		
Trail/highway intersection	*	*	*	*	*	*	*				
Bicycle storage/service center		*		*	*	*		*	*		
Sidewalks, new or retrofit	*	*	*	*	*	*		*	*	*	
Crosswalks, new or retrofit	*	*	*	*	*	*		*	*		
Signal improvements	*	*	*	*	*	*					
Curb cuts and ramps	*	*	*	*	*	*					
Traffic calming		*	*	*							
Coordinator position		*		*		*					
Safety/education position		*		*		*					*
Police patrol		*		*							*
Helmet promotion		*		*	*						*
Safety brochure/book		*		*	*	*	*				*
Training		*		*	*	*	*				*

NHS National Highway System
STP Surface Transportation Program
HSIP Highway Safety Improvement Program
SRTS Safe Routes to School Program
TEA Transportation Enhancement Activities
CMAQ Congestion Mitigation/Air Quality Program
RTP Recreational Trails Program
FTA Federal Transit Capital, Urban & Rural Funds
TE Transit Enhancements
BRI Bridge
402 State and Community Traffic Safety Program

6.5 Toward a Model for Implementing this Master Plan

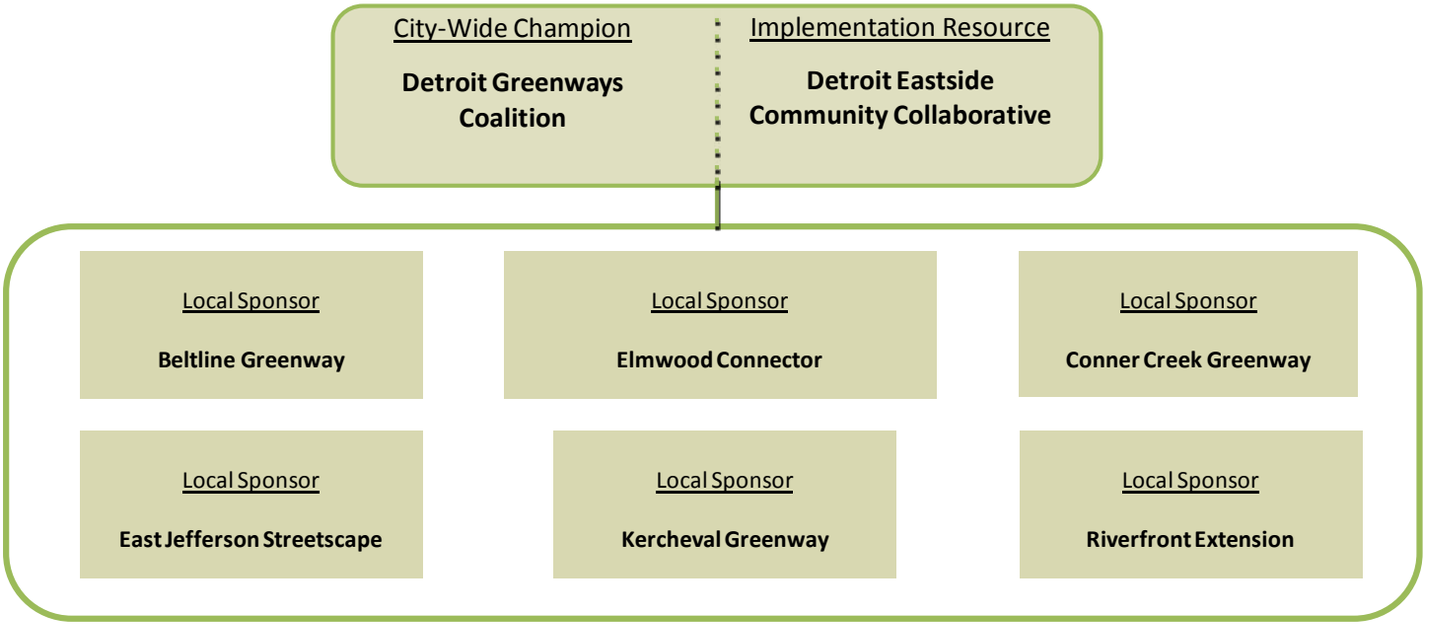
Many hands make light work, and the effort to create new greenways on Detroit's east side will succeed sooner with the involvement of many people and organizations engaged in strategic partnerships toward a common goal. There are many possible ways to structure the implementation effort, but common to all such possibilities is the notion of hearts and minds joined in a mission to improve the quality of city-life.

One possible structure for the future effort is illustrated in Figure 6.2. It suggests a collaborative framework in which local organizations would each take responsibility for creating one or more greenways, with the multiple efforts linked through a City-Wide Champion. A single City-Wide Champion could serve a useful role. It could help coordinate fundraising, political approvals, and other steps common to all greenway efforts, as well as serving as institutional memory and database of expertise. As one possibility, the existing Detroit Greenways Coalition, now reorganizing itself as a 501c3, could be one candidate for this coordinating role. And to offer technical assistance as needed to the various local sponsors of greenways, a group like the Detroit Eastside Community Collaborative, with a background of creating greenways, could serve as implementation resource as needed. The guiding philosophy behind Figure 6.2 is to tap into existing expertise and neighborhood-level commitment as much as possible, so that the Detroiters already engaged in greenways planning and creation would continue their work in a broader, more coordinated city-wide effort.

A structure like that suggested in Figure 6.2 offers many advantages. It spreads the workload; taps into a wide range of backgrounds and expertise; allows for a flexible sequencing of greenways construction; and can be scaled to a city-wide effort merely by recruiting appropriate local sponsors for each desired greenway.

Amid concrete and traffic, greenways offer a place to recreate, to reflect, and to connect to our neighbors and friends. Clearly they are worth the effort to create, a task which this master plan hopes to make just a little easier.

Figure 6.2 Concept of a Collaborative Framework for Implementing the Master Plan



Appendices

(Source: The Greenway Collaborative)

Appendix A

Community Engagement Report

Community Engagement Report

INTRODUCTION

One of the vital components of creating a successful greenway master plan is an integrated community engagement process. The priority is to build a shared vision that is transparent, inclusive, respectful and meaningful to the community. The community engagement strategy included engagement at multiple levels including: (1) electronic web-based survey, (2) a series of public workshops, and (3) targeted stakeholder group meetings.

Greenway Candidate Routes

During the Inventory and Analysis stage of the planning process, greenway "candidate" routes were identified. These routes were selected because of their suitability and/or their potential to be transformed into a greenway. Quantitative assessment occurred on all of the primary roads in the district to suggest where and what kind of greenway they could be – i.e. principal route, a neighborhood connector or an off road trail. The quantitative factors that led to the identification of these routes are illustrated in Chapter 2 District Analysis and include such metrics as:

- Road conditions - widths, traffic volumes and speeds, crashes
- Transit routes and stops
- Land use diversity, population and vacant land
- Destinations and community assets
- Open space access, habitat restoration and stormwater opportunities

Public Feedback

The greenway candidate routes were presented in the two initial public workshops in September 2011 and an additional community open house was held in March 2011. District residents and stakeholders shared their perspective about issues and opportunities related to a new greenway network and the greenway candidates. The idea of the greenway network was overwhelmingly supported by district residents and stakeholders involved in the public engagement activities. The experience along new trails, the ability to improve traffic safety and provide personal safety as well as how you maintain and fund the network were all raised as important issues. Opportunities to connect to significant community assets and to improve the non-motorized conditions of the district were also discussed in the public engagement process. The community open house gave residents and stakeholders the opportunity to vote on their favorite routes. Combined with the quantitative assessment, this qualitative input was used to guide the recommendations for the greenway network and help establish a shared vision for a greenway network in the Greater Riverfront East District of Detroit.

The following sections provide a summary of each of the three public engagement activities:

SECTION ONE – WEB SURVEY

A web survey for the Greater Riverfront East Environment Network (GREEN) was conducted over three weeks from the middle of August 2010 to the beginning of September 2010. The purpose of the survey was to collect information about current walking and bicycling patterns, comfort level using different non-motorized facility types as well as hopes and concerns for a greenway network in the project area. A total of 449 people took the survey with 365 people completing the entire survey. 194 people who took the survey lived in the project area.

The survey was separated into six categories which focused on recreation, walking, biking, favorite places, challenges and visions. The following summary provides key findings from the survey.

Recreation Survey:

Participants were asked questions regarding the frequency and location of their recreational trips.

- Most of the survey respondent's daily recreation trips occur on residential roads.
- Most of the survey respondent's recreation trips that occurred on a weekly or monthly basis took place on Belle Isle, within local parks or on local greenways.
- 54% of respondents recreate regularly.

- 90% of the respondents who do NOT recreate regularly said they would be more inclined to do so if they had easy access to a greenway.

Walking Survey:
Participants were asked questions regarding the walking trips that they make.

- 20% of respondents who live in the area walk for errands and shopping on a daily basis and most of the trips are less than one mile.
- 12% of respondents who live in the project area walk to work on a daily basis, and most of the trips are under a mile. This is significantly higher percentage than national averages. According to the U.S. Census Bureau in 2000, 2.68% of the population (entire US population) walked to work. The City of Detroit's average is generally consistent with the national average at 2.68%.
- Majority of respondents felt uncomfortable walking through areas with numerous vacant buildings and crossing between signals on roads like East Jefferson Ave.
- Significant issues that prevent people from walking more:
    - Distance from home to work
    - Distance from home to stores
    - Condition of lighting
    - Personal safety
- 32% of respondents walk regularly.
- 85% of the respondents who do NOT walk regularly said they would be more inclined to do so if they had easy access to a greenway.

Biking Survey:
Participants were asked questions regarding the bicycle trips that they make.

- 20% of respondents who live in the project area ride a bike for errands and shopping on a weekly basis, with the majority of the trips between one and four miles long.
- 7% of respondents who live in the project area ride a bike to work on a daily basis. This is significantly higher than the national average.
- Majority of respondents felt uncomfortable riding a bike on a major road without bike lanes and through areas with numerous vacant buildings.
- Issues that prevent people from walking more:
    - Busy roadway along route
    - Busy intersection along route
    - Weather
    - Personal Safety
    - Time it take to bike vs. drive
- 40% of respondents ride a bicycle regularly.
- 80% of the respondents who do NOT ride a bicycle regularly said they would be more inclined to do so if they had easy access to a greenway.
- 37% of respondents would be comfortable bicycling on a major roadway if a bike lane was present.

Favorite Places Survey:
Participants were asked to identify places in the project area that a greenway should connect to. The following is a list of the top ten locations.

- Belle Isle
- RiverWalk
- Eastern Market
- Harbortown Market
- Midtown/Cultural Center/Detroit Institute of Arts
- Downtown Detroit
- Wayne State University
- Martin Luther King High School
- Indian Village

Challenges Survey:
Participants were asked to identify the locations of the most challenging streets and sidewalks that they use in the project area. The following is a list of the top three places of concern.

- East Jefferson Avenue is a major place of concern. It is not bicycle or pedestrian friendly. Traffic is too fast, making it difficult to walk or bike along the street, and to cross the street.
- There are personal safety concerns with Mack Avenue due to vacant buildings, poorly maintained sidewalks, poor lighting, crime, and traffic.
- There is not a safe way to access Belle Isle by bicycle or walking, including connections from neighborhoods to the north and from the RiverWalk and Downtown. There are no sidewalks on the island. Also, reckless drivers are a concern.

SECTION TWO – PUBLIC WORKSHOPS

Two public workshops were conducted on September 22 at the Northeast Guidance Center on Conner and Charlevoix and September 23 at the Gleaners Food Bank on Beaufait and Kercheval. 18 people attended the workshop on September 22 and 41 people attended on September 23 (see Appendix A for a map of where many of the participants live or work). The purpose of the workshops was to gather input from the public regarding the candidate greenway routes, general characteristics of those routes and identification of priority routes.

The workshops were open to all residents, businesses, and stakeholders in the Greater Riverfront East District of Detroit. Each workshop was two hours in duration and was separated into four parts:

1. Presentation
    i. Introduction: Purpose, Partners, Schedule & Funding
    ii. Greenway Considerations
    iii. Greenway Types
    iv. Potential Routes (Candidates)

2. Small Group Exercises
    i. Identifying issues & opportunities
    ii. Exploring Riverfront routes
    iii. East/West routes
    iv. North/South routes

3. Reporting Out - Table Summary of Feedback

4. Next steps/wrap up

Small Group Exercises Summary

Workshop participants were divided into smaller groups to encourage discussion about the Greenway Network. Each table had a facilitator to explain the exercises and to keep the conversation moving forward. There were typically between 5 and 8 people per table. The following summary provides key findings from the small group exercises (from both workshops).

Exercise One - Identifying Issues & Opportunities

The first exercise was the brainstorming of issues and opportunities related to the implementation of a greenway network. Workshop participants were asked to share their thoughts, which were then listed on a large notepad. The following issues and opportunities were identified, with the number in parenthesis indicating how times an issue or opportunity was mentioned:

Table 1 - Greenway Issues

Land Use/Zoning Changes (2)	Civic Support
Land ownership & assemblage – holdouts (2)	Dangerous crossings – E. Jefferson, the canals, E. Jeff & Grand, Chrysler plant, I-75 expressway entrance (7)
Policing needs to be proactive - cops on bikes, special patrol area	Truck traffic on Kercheval
Lack of Mass transit	Enforcement
Working with City Departments & Agencies (3) Too focused on cars.	Gaining access to Waterworks park
Condition of streets and sidewalks	Aesthetic - Balance natural look/feel & developed, use natural elements, make attractive & fit into neighborhoods (3)
Not enough grocery stores	Funding (2)
Need a certain mileage (maybe quality vs. quantity)	Lack of Awareness/Bike Culture & Rules of Road (5)
Safety/visibility (8)	Sustainability
Trucks, particularly on Kercheval	Population decline
Buy-in from business	Lack of bicycle shops, repair
Maintenance (5) Who will maintain if the city can't?	No precedence
Lighting (5)	Having all activities accessible (i.e. ADA compliant) (2)
Signage	Only one place to launch a boat
Lack of amenities, food, along the route	Balancing recreation and commuter uses (2)

Table 2 - Greenway Opportunities

Depressed land value - easier land assemblage	Safe routes to school (2)
Marina District - more than boats, restaurants to water taxi to downtown	Urban Gardens/Agriculture (3) Bring goods to eastern market, Farmers Markets/stands
Self-sustainable design	vacant land reuse - on every corner (stand on Jefferson is one idea)
Create a native habitat	Improve area quality with less autos
Strong residential communities (2)	Railroads
Existing parks incl. Belle Isle - destination	Economic Development (7) New businesses, create jobs, redevelopment
River (2)	Special events and programs
Stormwater management into greenways	Community engagement
Daylighting	Acting with current initiatives
Connect suburbs to the city	Ped cabs - jitney
Stabilize community	Big skateboards, rollerblades
Greenways are a way to get kids active and moving	User fees (2)
Roads do not reach capacity (2)	System - greenway could support itself
Greenways plan could be amendment to non-motorized plan	Funding through community foundation
Provide enhanced health benefits	Clean-up
Provide enhanced character/beautification (2)	Ownership and pride with funding by neighbors
Traffic calming. Roundabouts	Local "adopt a greenway" idea
Fit in Detroit Works	Tax millage
Enhanced community	Bird sanctuary
Connections to existing parks without driving	Bike lanes
Bicycle business - stores and factories	Security of permits, nighttime, 24 hour use, police
Potential other areas to launch	Something for elderly and kids
Recreational	Bike taxi - could be cheaper than regular taxi or bus
Strategic change in planning	Walking promenade on weekends
Environment/lower use of fossil fuels	Mini stands along route
Provide services	Existing commercial
Source of income for Greening of Detroit	Strengthening family and relationships and neighborhood
Improve Safety	Improve housing values, quality of life, health
Alternative energy from land along greenway	Kids getting to school - connect to schools
Promotes activity, healthy living (2)	Places to stop, eat, rest along greenway
Handicap accessibility	Art
Better connection to Belle Isle	Use greenways to support development and to define NBHs/districts

Exercise Two - Exploring River Walk Routes

The second exercise involved a group exploration of possible routes (see Appendix B for Riverfront Extension Route Options) for a Riverfront extension from Gabriel Richard Park to Alter Road. The route was divided into four segments. A total of nine groups were asked to work together to identify their table's preferred route for each of the four segments. Their comments are summarized below.

Segment 1 – Gabriel Richard to Erma Henderson

Two options were illustrated in this segment. Option 1A routes the Riverfront extension along East Jefferson from the Armory to Own Park where it then runs at the river's edge and directly adjacent to the Henderson Marina. Option 1B proposes that the Riverfront runs directly adjacent to the river for the entire route.

- There were feelings that the Riverfront experience would be better if the trail was located adjacent to the river edge rather than deviating onto or along a road. Eight out of the nine tables preferred the route that stayed along the river (1B).
- Several groups acknowledged that easement acquisition through the residential properties could be a challenge and if not successful, could lead to the need to move the Riverfront extension closer to East Jefferson.

Segment 2 – Erma Henderson to Marquette St.

This segment travels through the Berry Subdivision, past the Manoogian Mansion and Waterworks Park (currently not open to the public for security reasons). Three options were presented in this segment.

- Eight of the nine groups wanted to see Waterworks Park opened back up enough to allow the Riverfront extension to run along the river.
- It was acknowledged that security along the Waterworks segment would be very important and would need to be worked out with the City of Detroit.
- Three of the groups wanted to explore the possibility of aligning the Riverfront extension behind (waterside) the Manoogian Mansion. Six of the groups felt that these single family residences would not benefit or agree to a Riverfront extension in their backyards.

Segment Three – The Marina District

The longest and most diverse of the four segments is the Marina District, which runs from Marquette to Lenox. Four options were developed that varied in proximity to the river and the use of roads vs. potential off road trails.

- Five out of the nine groups supported the idea that the Riverfront extension becomes integrated into the Marina District (Option 3C), which would provide access to amenities, restaurants, boat slips, etc. The opinion was that it would be a more interesting route than along Freud, and that it would be more feasible to build it in this area than directly at the river's edge (like in Option 3B)
- Two groups, however, felt that the Riverfront extension should stay on the river and therefore supported Option 3B.
- Several groups were intrigued with the idea of "bringing the river to the people" by constructing a new canal (as part of the marinas) along Freud (Option 3D). However, only one team identified this as their preferred option.

Segment Four – Riverfront Parks

This segment from Lenox to Alter, which travels primary through public land, had three options for attendee review.

- While all three options provided access to the river edge, five of the groups preferred Option 4A that proposes two new bridges – one at each canal.

- Seven of the nine groups preferred routes (Options 4A and 4B) that did not extend into the private property on the east side of the segment

Exercise Three - Identifying East/West Routes

The third exercise provided workshop attendees the opportunity to review and respond to the proposed east/west route candidates that had been developed by the consultant team. The routes were a combination of principal route, neighborhood collector and off road trails. Attendees were asked to map two routes, generally from Dequindre Cut (St. Aubin) to Alter Road, that they or others would enjoy using. They were encouraged to think about both pedestrians and cyclists as well as to stay focused on connecting destinations. The following summary provides key findings from the exercise (also shown graphically in Appendix C). 48 individual maps were completed. For more detailed information please refer to the exercise results in Table 3.

- While there were 12 east/west routes identified in the small group exercises, none of them extended from St. Aubin all the way to Alter Road on one street or a single off road trail. Instead, 24 different segments were highlighted with East Jefferson and Kercheval each being divided into six separate segments.
- Four of the potential east/west routes are Principal Route candidates including East Jefferson, East Lafayette, Gratiot and Mack. Of these four routes, East Jefferson and East Lafayette were identified more often than Mack and Gratiot.
- East Jefferson was clearly seen as an important east to west link in the district. East Jefferson segments were identified by 27.1% to 70.8% of attendees. The highest percentage (70.8%) of attendees identified the need to get around the Chrysler plant by highlighting East Jefferson from St. Jean to Conner segment as a potential greenway connection.
- Road width/capacity, a calmer street environment, and the ability to cross over the expressway were some of the reasons that led 70.8% of the attendees to choose East Lafayette (St. Aubin to Iroquois) over the parallel East Jefferson segment (70.8% compared to 27.1%).
- Seven of the potential east/west routes are Neighborhood Connector candidates. With road capacity, adjacent residential population, a two-way street condition, the clear preference of attendees on these seven routes/segments was Kercheval, with percentages ranging from 14.6% to 54.2% from Iroquois to St. Jean.
- The off road trails near Kercheval; St. Jean, and Cadillac were highlighted 23 times as support routes for either a Kercheval and/or East Jefferson Greenway. Support for off-road trails were mentioned for their ability to add a unique, more “green” experience along a greenway route. Some of the off-road trails were sited on vacant land, which could be easier to gain control over than occupied properties and could also serve to support redevelopment efforts.

Identifying North/South Routes

The fourth exercise provided workshop attendees the opportunity to review and respond to the potential north/south routes that had been developed by the consultant team. The routes were a combination of principal route, neighborhood collector and off road trails. Similar to the third exercise, attendees were asked to identify two routes, this time from the river north to Mack. The following summary provides key findings from the exercise (also shown graphically in Appendix C).

- Workshop attendees seem to prefer the quieter routes from north to south. Of the 17 routes/segments identified, eight were Neighborhood Connectors, six were Off Road trail candidates and only three were Principal Route candidates
- The two routes that were identified the most often included East Grand Blvd from Belle Isle to Mack (56.3%) because it was such a direct connection to Belle Isle, and Off Road Trail #3 (Gleaners) from East Jefferson to Mack (54.2%) because it could provide the needed link north and south around the cemetery.
- Other than East Grand Blvd and Off Road Trail #3 (Gleaners), attendees did not feel as strongly about the specific north/south routes except to insist that they provided the needed connections to the Riverfront extension from the neighborhoods. This is reflected by the disbursed preferences of the other routes (20% to 33% of attendees identified Conner (E. Jefferson to Mack), Iroquois (E. Jefferson to Mack) and Off-Road Trail #7 (Triangle – St. Jean, Cadillac, Mack)).

Table 3- Candidate Route Workshop Results

PRINCIPAL ROUTE CANDIDATES

	East/West		North/South		
Route /Segment	**Quantity***	**%**	**Quantity***	**%**	**Comments**
East Jefferson					
St. Aubin to E. Grand	13	27.1%			11 also identified Lafayette
E. Grand to iroquous	16	33.3%			11 also identified Lafayette
Iroquois to Cadillac	30	62.5%			
Cadillac to St. Jean	27	56.3%			
St. Jean to Conner	34	70.8%			
Conner to Alter	30	62.5%			
East Lafayette					
St. Aubin to Iroquious	34	70.8%			
Gratiot					
St. Aubin to Mack	3	6.3%			
Mack					
St. Aubin to Alter	12	25.0%			Incl. 5 partial segments
East Grand					
Belle Isle to Mack			27	56.3%	Incl. 2 partial segments
Conner					
East Jefferson to Mack			10	20.8%	
Alter					
East Jefferson to Mack			8	16.7%	

NEIGHBORHOOD CONNECTOR CANDIDATES

Kercheval					
St. Aubin to Gleaners/Beaufait	15	31.3%			
Gleaners/Beaufait to Iroquois	27	56.3%			
Iroquois to Cadillac	26	54.2%			
Cadillac to St. Jean	26	54.2%			18 off road
St. Jean to Conner (thru Chrysler)	7	14.6%			Kercheval or Charlevoix
Conner to Alter	24	50.0%			Incl 5 partial segment
Freud					
	6	12.5%			
Korte					
Lenox to Alter	3	6.3%			
Vernor					
Grand to McClellan	5	10.4%			
Conner to Alter	3	6.3%			
Charlevoix					
Grand to Conner	5	10.4%			
Conner to Alter	4	8.3%			
Freud					
St. Jean to Alter	6	12.5%			
Larned					
E. Grand to St. Aubin	1	2.1%			
Iroquois					
E. Jefferson to Mack			13	27.1%	Incl 5 partial segments
Cadillac					
East Jefferson to Mack			5	10.4%	
Lakewood					
River to E. Jefferson			8	16.7%	
E. Jefferson to Mack			4	8.3%	
Chalmers					
E. Jefferson to Mack			1	2.1%	
Lenox					
River to E. Jefferson			2	4.2%	
Elmwood					
River to E. Jefferson			5	10.4%	
Van Dyke					
E. Jefferson to Mack			1	2.1%	
Mt. Elliot					
E. Jefferson to Mack			1	2.1%	

OFF ROAD TRAIL CANDIDATES

1. Far East Jefferson "X"					
SW to NE			7	14.6%	
SE to NW			4	8.3%	
2. Alter/Fox Creek					
River to E. Jefferson			6	12.5%	
3. Gleaners Greenway					
E. Jefferson to Mack			26	54.2%	Incl 14 partial segments
4. Joseph Campau					
E. Jefferson to Charlevoix			3	6.3%	
5. East Village					
E. Jefferson to Mack			7	14.6%	
6. North of Charlevoix					
East Village to St. Aubin	5	10.4%			
7. Triangle - St. Jean/Cadillac/Mack					
Diagonal Off Road trails			16	33.3%	

*Workshop Results (48 individual maps completed)

A third public meeting was held in the form of a Community Open House on March 5, 2011 at Northeast Guidance Center.

Eighty people attended the open house (see Appendix A for a map of where they live/work). Many who attended the open house also had attended the hands-on workshops in September.

The purpose of the open house was to share the results of the previous workshops, to view illustrations of the planned greenway routes, and to vote on which ones were their favorites. A short presentation provided an overview of the entire greenway planning project and the Greenway Ambassador Program. Following the presentation, participants were free to visit the separate route stations around the room. Space was provided next to each route for written comments. Additionally, each route station had a representative from JJR, The Greenway Collaborative, Active Transportation Alliance or the GREEN Task Force was present to help answer questions and offer additional information. The following are the comments of the open house attendees .

GREENWAY ADVOCACY IDEAS

The idea of a Greenway Ambassador Program was well received.

Some of the supportive comments regarding the program included:

- Helps build support and will help with safety concerns. Safety patrols tied to police response would help establish comfort levels and draw more users. (3 people agree)
- Encourage clean routes and entrance fines for littering. (2 people agree)
- Ideas for other winter use (Snow showing/snow gliding) on the greenways that an ambassador program could address. (1 person agrees)
- Check out Philadelphia/University of Pennsylvania bike security efforts (citizen patrol and safety escort). Also San Diego ambassador program. (2 people agree)
- Would like to see the shut-in elderly enjoy the outdoors, as well as low- income youth. Great effort. (2 people agree)
- There are so many areas in the Fox Creek area that can easily use this program. Plenty of areas, children, parks, land use. (1 person agrees)
- Build a sense of community ownership and pride about greenways. (2 people agree)
- Could address populating with disabilities and special needs. (2 people agree)
- When children learn safety and environmental responsibility at an early age, they will carry it with them the rest of their lives and pass it along to their friends and children. Wonderful idea! (1 person agrees)
- "Empty Nesters" are also potential volunteers/assisters/trainers as ambassadors.
- Need programs for youth and adults built into these greenway ideas. (1 person agrees)

ELMWOOD CONNECTOR

- The semi-traffic for Gleaners runs north of their building. May be better to drop the connection to the Beaufait Greenway further south. (1 person agrees)
- Need a safe connection to Eastern Market. What about a pedestrian/bike bridge (3 people agree)
- Caution: Very important to make the trails that run through existing housing/development areas feel public, not private (like they currently do). (2 people agree)
- Pedestrian traffic is very important. (1 person agrees)
- Bunche is closed – trying to sell to charter school. Duffield Elementary School may be renamed Bunche.
- Prefer the alternative going through the cemetery using Lafayette, Plaiste and Elmwood Greenway.

BEAUFAIT GREENWAY

- Like this location. Vacant land available should be easy to develop. Seniors in the area can walk. Children and families can visit safely. (3 people agree)
- Complete portion south of Elmwood Connector first. (1 person agrees)
- Prefer the first listed greenway concept. (?)
- Create greenway opening south at Mount Elliot to River way or an alternative. (1 person agrees)
- Really nice wooded areas in here. Preserve these! (wind through trail through) (1 person agrees)
- Thank you! (1 person agrees)

KERCHEVAL GREENWAY

- Like the idea of the turn-arounds (3 people agree)
- Roundabout preferred at (what location?) (2 people agree, 2 people disagree)
- Not as an important route as Jefferson. Good that it could add vitality to Kercheval though. (1 person agree)
- Adding roundabouts and medians wherever possible along Kercheval would be great. (1 person agrees)
- Create "pods" for performance artists – help raise activity level plus vendor areas.
- Reserve and make spaces for groups. Could be scheduled.
- Make sure there are safe and well lit restrooms along the route. Sync with activity pods.
- There is no "there". There is not enough activity until other sections come on line.
- Partner with recycle here (sp) to have drop-off stations.
- Partner with Eastern Market to have little mini-markets for fresh produce during operation days of the week
- Community meeting space along the route.
- Mini police station could be put in existing structure. Could coordinate with restrooms and community group space.

BURNS CONNECTOR

- I think this should be one of the first projects to complete to open the Gem-Indian Village. (3 people agree)
- A roundabout at Burns and Kercheval is a great idea which would also serve to calm car traffic along both streets. Please make this a high priority and coordinate with the Indian Village Association traffic committee. (4 people agree)
- Roundabouts at small intersections like Agnes would be very helpful. (3 people agree, 3 people disagree)
- Agee with "A" this is already used heavily by students at Detroit Waldorf and especially neighborhood residents. Would be inexpensive to implement. (2 people agree)
- What interpretive opportunities (historic, etc) exist for students on all of the greenways?

CONNER CREEK ENHANCEMENTS

- New development activity. Mixed-use route greenway to development. (1 person agrees)
- Love the proposed principal route for streetscape! Will fit on St. Jean as well. (2 people agree)
- Clean and safe.
- Keep in mind Jefferson is a major arterial connector to downtown. Narrowing roadway would be difficult unless secondary routes become upgraded. (1 person disagrees)
- Keep as close to riverfront as possible for Riverfront extension.
- Most important section especially for north/south travel.
- Freud should be primary east/west corridor and add spurs through Freud for walk/bike destination parking north side of Freud between Harding and St. Jean. (1 person agrees)
- Sweet Way – Charlevoix from GPP to downtown.

SWEET LOOP

- Good that it's near school. Hopefully encourage young people to use greenways and be healthier. (2 people agree)
- Love the idea of creating a user-population for these parks by structuring the off-road path as a link. Not as efficient so possibly should be secondary to more direct connections.
- How safe is it? (1 person agrees, 2 people disagree)
- Like this one but only if incorporated with programs to address neighborhood pride, community spirit, and safety initiatives. Good way to tie large segment of eastern community. (1 person agrees)
- Ossian Sweet House should be marked! What other historic markers exist? (Interpretive opportunities). (2 people agree)
- Safety will be key issue with this plan. (1 person agrees)
- Great idea but might be harder to implement than other sections (need a clear winner first).
- Sweet Way biking along Charlevoix.

FOX CREEK

- Be aware of all public health implications and drainage going far beyond district.
- Wonderful – perfect – use vacant land Manistique/Ashland.
- Please don't go to the expense of building any bridges. Dumb idea. You can go over the Korte Bridge or go up to Jefferson and back down. Thank You! (2 people agree)
- Be careful about Scripps. Don't like walking/biking because people drive so fast. Also people turning onto Scripps from north/south streets rarely stop on Scripps.
- Repurpose Manistique to gain access and remove blight.
- Proposed plan would involve two bridges, not one. Who will maintain/operate? At least three canal front homes would have to be purchased and two homes on Harbor Island. Why not simply connect to Alter and improve that and Brush Park east? (2 people agree)
- Replace broken vents under Jefferson Bridge to keep water from smelling from being stagnant. Great Idea! Lots of land available already. Include fishing area along Ashland where people already go. Who would operate the swing bridge? (3 people agree)
- We need to focus on preventing vehicles from driving on the grass in the riverfront parks. Install devices that Avis and Hertz use at their lots to prevent theft, at least a strong fence
- Open access canals are a rarity and should not be closed to boat/sail boat traffic. Preserve the boating culture by using ferries to cross canals not bridges. They can be on demand activated and cable guided by ground cable and stopped by proximity switches when boats are detected at 100' or so. (3 people agree)

FAR EAST CONNECTOR/CASTEN SPUR

- Consensus with undesirables yes, but new housing in progress. Now how will it affect(s) the route?
- More housing. Major grocery store and other retail shops
- Love the connections to Jefferson and Mack. Great use of vacant land!

RIVERFRONT EXTENSION: MARINA DISTRICT TO RIVER PARKS

- Like the alternate route. More feasible than base alignment. (1 person disagrees)
- Do not connect road at Harbor Island into park. Would be too much traffic.
- Not a lot of traffic there because of dead end and private roads. (2 people disagree)
- Take advantage of beautiful oak trees lining Avondale between Lenox and Manistique.
- Possible connect to Dwight through parks, use Jefferson.
- No! Want route along river. Freud is played out. The point is to ride along the river.
- Freud St. natural east/west corridor as Riverfront extension destination parking north side Freud from Harding to St. Jean. Add bike/walk paths off Freud.
- There are several planning studies dealing with the same areas funded by foundation without coordination or leadership from the City of Detroit. Implementation will be a problem. The property around Detroit tunnel/shoreline is not in good condition for Riverfront extension along river. Alternatives should be presented. (1 person disagrees)
- Vents in water need to be fixed to keep water from being stagnant and smelling. Will help creek all the way down pass Korte. Love ideas. Parks underutilized because hard to get there. More people would utilize if park taken care of and easier to get to. Lovely area, would love to have over hang to walk on with my son instead of just rocks. Would be able to be completed fairly quickly because of existing parks. (1 person agrees)
- Alter Road is very narrow and has lots of auto traffic. Trees were just planted on Beasm by Greening of Michigan. There is very little room to bike or walk.
- About the bridge – there is much controversy and more detail would be needed to accommodate boaters, sailors, and property owners on Harbor Island, Scripps, Ashland and other canal front properties. (3 people agree)
- More about bridges preserve the boating culture by using ferries, not bridges open access canals are a rarity and should be preserved. The ferries can be automated by underwater cable and collision protected by simple proximity detector to delay ferry operation. (2 people agree)

- Please no new bridges. As a sail boater I would appreciate maintaining the open canal system we have now. Don't trust the mechanical nature of the swing bridge. What if people don't remember to open it back up? Or what is it gets stuck in the closed position? Also a high bridge (we're talking at least 40' high) would be impractical for bikers, prams and wheelchairs. (1 person agrees)

GREENWAY PREFERENCE RESULTS

Participants were each given two tickets to vote for their two favorite routes. Ballot boxes were marked with the name of each route and placed at the back of the room.

The Riverfront extension was clearly the favored greenway. It received 72 votes (45.3%).

The other greenway preferences were relatively similar:

1. Riverfront extension 72 votes
2. Fox Creek 17 votes
3. Beaufait 14 Votes
4. Kercheval 13 Votes
5. Elmwood 12 Votes
6. FarEast/Carsten 11 Votes
7. Burns 9 Votes
8. Conner Creek 8 Votes
9. Sweet Loop 3 Votes

*A total of 159 tickets were put in the boxes.

SECTION THREE – KEY STAKEHOLDER OUTREACH

Overview

In order to gain knowledge from key stakeholders, a targeted outreach component was included as an integral part of planning for Greenways in the Greater Riverfront East District of Detroit Master Plan.

Several meetings with key stakeholders were held over the course of the planning process. Prior to meeting with the stakeholders, a Greenways Primer, an information piece designed to familiarize and to provide information pertaining to greenways was provided to them. Nearly 50 stakeholders participated in either one-on one discussions or small group forums. Stakeholder input was also gathered in the form of a questionnaire with both multiple choice and open-ended questions and through discussion with members of the GREEN (Greater Riverfront East Environmental Network) Task Force.

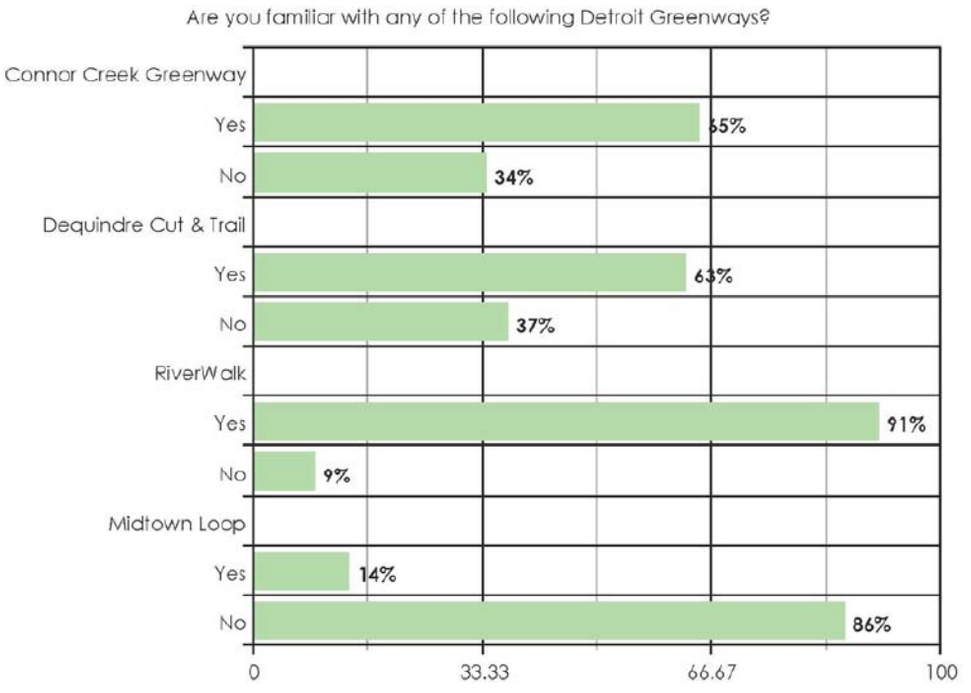
Results from the Stakeholder Questionnaire

The results on the following pages are based on thirty-five responses.

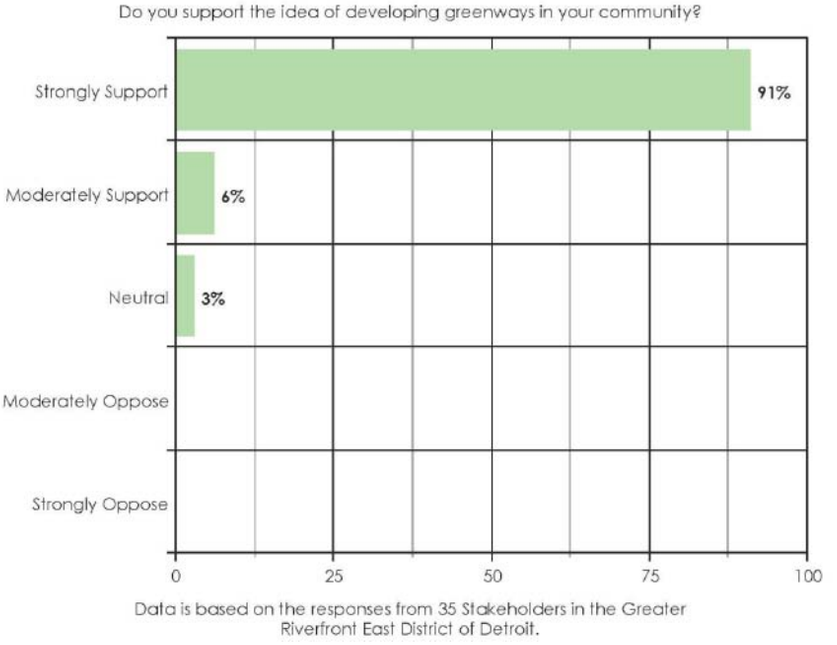
- Of those responding, 91% strongly support developing greenways in the community
- When asked if they currently visit or use a greenway in the Detroit area 71% responded yes.
- When asked to rank what they felt are the top three benefits of greenways, 46% ranked pedestrian friendly environment the number one benefit.
- Respondents noted they felt other key benefits of greenways as:
    - Improve health
    - Create jobs and attract businesses
    - Reduce driving and congestion
    - Foster a more sustainable community
    - Create a more natural landscape
    - Increases property values
    - Place for special events to be held
- Of the 71% who responded yes, to currently using a greenway in the Detroit area, sighted the following locations and purposes:
    - Belle Isle – for walking, boating running and meeting friends
    - RiverWalk – to show visitors, festivals and viewing nature
    - Downriver Metro Parks
    - Conner Creek Greenway
    - Bridge to Bay Trail
    - Dequindre Cut – photography and biking
    - A.B. Ford Park
    - Novi, Wixom and Livingston - for biking

The questionnaire results shown on the following tables have been tabulated to provide insight into key stakeholder opinions and values.

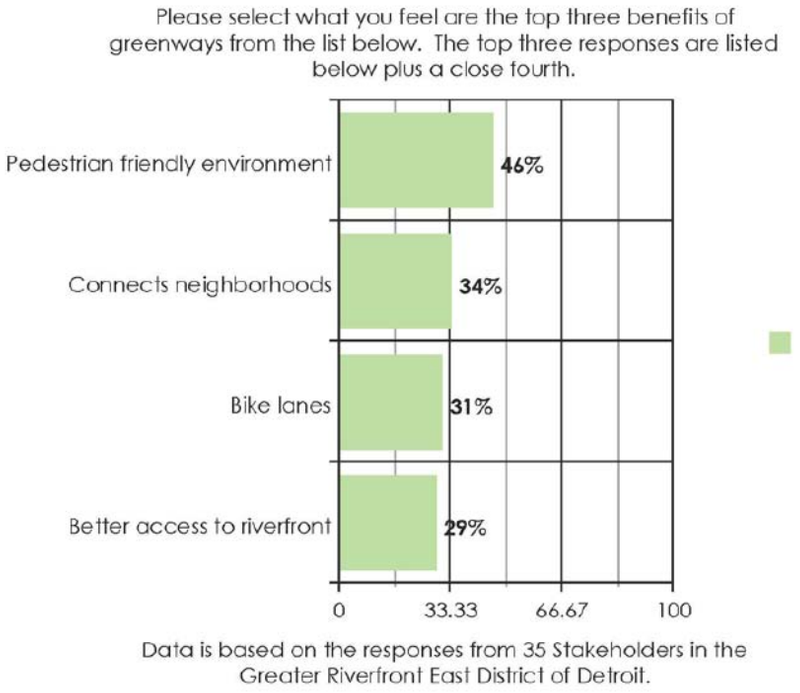
Greenway Familiarity



Greenway Support



Greenway Benefits



Outreach Partners

A series of individual, small group, and telephone conversations with key stakeholders were held by the following members of the GREEN Task Force: Jefferson East Business Association (JEBA), Detroit Eastside Community Collaborative (DECC), Detroit RiverFront Conservancy, and the Villages CDC. The outreach partners met with the various individuals, community organizations and businesses in the project area to share information about the project and receive feedback.

The outreach partners met with the following key stakeholders:

- Alter Book Club
- Ashland Block Club
- Chrysler Group LLC
- Detroit Heritage Academies
- DTE Energy
- Eastside Seniors Alliance
- Lakewood Block Club
- LDRP Block Club
- Lutheran Social Services of Michigan
- Marina District representatives
- Marlborough Block Club
- Navaho Block Club
- Phillip Block Club
- Riverfront property owners
- Remus Robinson Middle School
- Riverbend Homeowners Association
- Samaritan Center
- Sierra Club
- Southeastern Waterfront Neighborhood Association
- Think Detroit PAL

The outreach partners also met with representatives from civic agencies, including

City of Detroit

- Office of the Mayer
- City Planning Commission
- Department of Public Works
- Department of Traffic and Engineering
- Planning and Development
- Recreation Department
- Detroit Economic Growth Corporation

Wayne County
Michigan Department of Transportation (MDOT)
Federal Government

Appendix A
Participant Location Map

Appendix B

Riverfront Extension Route Options

Riverfront Options: Set A

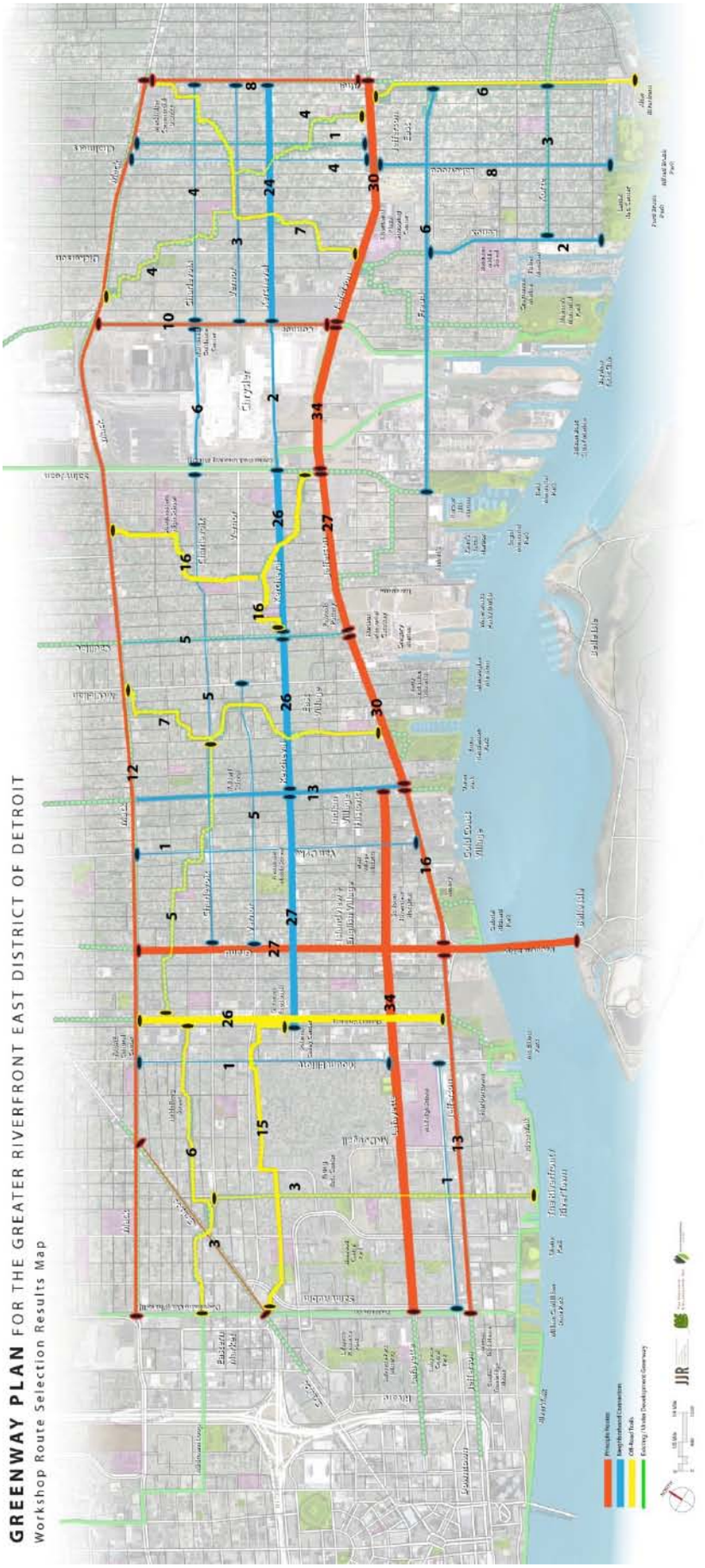
Riverfront Options: Set B

Riverfront Options: Set C

Riverfront Options: Set D

Appendix C

Candidate Route Selections Results



Appendix B

Priority Setting Results

Priority Setting Results

To determine higher priority routes for implementation, the GREEN Task Force utilized a priority setting exercise to score each of the proposed routes across a number of criteria.

Criteria were broken into five categories: (1) Greenway Experience and Network; (2) Social Interaction and Neighborhoods; (3) Economic Development and Reuse; (4) Environmental Stewardship and Green Infrastructure; and (5) Implementation Considerations. Each category of criteria had between 5-7 specific criteria (see following pages).

GREEN Task Force members were first asked to rate the relative importance of each criteria within a category. They were then asked to weigh the relative importance of the first four categories (collectively considered Route Preference and Impacts) against each other. Then, they were asked to balance these four categories against implementation considerations. These steps were used to determine which factors in assessing the routes were most and least important to the GREEN Task Force.

After rating the importance of all criteria, each GREEN Task Force member scored how well they felt each route met each of the criteria across all the categories. These scores were compiled into a collective score for each route across all criteria, and used as a basis for determining which routes should be prioritized for implementation.

The category and criteria ratings can be seen on the following tables.

DRAFT ROUTE CRITERIA - TAKE 2

Route Preferences + Impact Criteria			Elmwood Connector	Elmwood - Alternate A	Beaufait Greenway	Kercheval Greenway	Burns Connector	Sweet Loop	Conner Creek Enhance.	Conner - Alternate A	Conner - Alternate B	Fox Creek Greenway	Far East Connector	Carsten Spur	RiverWalk: Gold Coast	RiverWalk: Marinas	RiverWalk: River Parks	Freud (Non-Motorized)	Lafayette (Non-Motorized)	Jefferson (Non-Motorized)	East Grand (Non-Motorized)	Van Dyke
			1	1a	2	3	4	6	5	5a	5b	7	8	9	10	11	12	-	-	-	-	-
C	0.36 weight	GREENWAY EXPERIENCE + NETWORK	**Individual Route Scoring.** TIP: for each criteria, identify the lowest scoring route(s), then the highest scoring route(s), and then fill in the between values. Use 1 -5 range to extent possible.																			B
A	(1 - 5)	Importance of Criteria (1 = least important, 5 = most important)																				
	4.67	**Attraction for Walkers (**diversity of experience, plantings/trees, adjacent land uses)	2.22	4.33	3.22	3.22	3.44	2.67	2.44	1.67	1.56	3.78	2.22	1.67	5.00	4.56	4.78	2.33	2.78	2.67	2.33	3.11
	3.33	**Attraction for Runners**	3.11	4.22	3.22	3.22	3.11	2.67	2.22	1.67	1.89	3.44	2.56	1.67	5.00	4.44	4.67	2.00	2.44	2.22	2.33	2.78
	2.33	**Attraction for Skaters/Rollerbladers**	2.78	4.00	2.89	2.89	2.67	2.33	2.00	1.44	1.67	3.33	1.78	1.56	4.33	4.00	4.22	1.89	2.11	1.67	1.78	1.78
	3.00	**Attraction for "Commute" Bikers** (getting places quickly)	3.22	1.89	2.22	3.78	2.11	2.00	3.67	2.89	2.78	2.11	2.33	1.33	2.67	2.33	2.44	2.44	3.67	3.89	2.89	3.22
	4.22	**Attraction for "Casual" Bikers** (i.e. families with children)	3.11	4.33	3.11	3.33	3.44	2.89	2.56	2.00	2.22	3.67	2.22	2.33	4.56	4.56	4.56	2.78	2.67	1.56	2.11	2.56
	2.78	**Attraction for "Sport" Bikers** (recreational distance rides)	3.00	2.89	2.44	3.56	2.11	2.33	3.44	2.67	2.89	2.89	2.22	1.78	3.00	3.22	3.22	2.44	2.89	3.78	2.67	1.78
	4.67	**Connections to other existing (or proposed) greenways or non-motorized faculties**	3.33	3.78	3.78	3.78	2.89	2.44	4.44	2.78	2.78	3.56	2.44	1.56	5.00	4.56	4.67	2.44	3.33	3.89	2.67	3.11
		Subtotal	2.96	3.73	3.07	3.42	2.92	2.51	3.02	2.17	2.25	3.33	2.28	1.72	4.36	4.07	4.20	2.37	2.88	2.82	2.41	2.71
C	0.16 weight	SOCIAL INTERACTION + NEIGHBORHOODS	**Individual Route Scoring.** TIP: for each criteria, identify the lowest scoring route(s), then the highest scoring route(s), and then fill in the between values. Use 1 -5 range to extent possible.																			B
A	(1 - 5)	Importance of Criteria (1 = least important, 5 = most important)																				
	4.11	**Potential to increase neighborhood safety / security** (especially in areas of high concern)	3.11	3.22	3.11	3.89	2.89	2.89	3.00	1.44	1.56	3.56	3.56	3.00	3.11	3.44	4.00	3.33	3.00	3.11	2.89	3.56
	4.11	**Improvements to traffic safety and street crossings** (especially in areas with high incidents of traffic accidents and conflicts)	3.11	2.33	2.00	4.22	3.22	2.33	3.89	1.89	2.00	2.56	1.78	1.67	1.78	1.89	1.89	2.67	2.67	4.00	3.22	3.78
	4.56	**Connections to existing parks or recreational assets**	3.44	4.22	3.22	2.44	3.56	2.22	3.56	1.56	1.67	4.67	2.33	1.67	4.78	4.56	4.78	2.44	2.78	3.44	3.67	2.78
	3.56	**Connections to neighborhoods underserved or disconnected from parks and recreational facilities.**	2.56	1.89	3.33	2.78	2.89	3.11	2.89	1.78	1.56	3.11	3.78	3.67	1.78	2.44	2.44	2.22	1.44	2.11	2.56	2.44
	2.56	**Potential to support new recreational amenities** (i.e. parks on adjacent land or vacant parcels).	2.56	2.44	3.56	2.67	2.00	3.56	2.11	1.33	1.44	3.89	3.78	3.78	4.00	4.22	4.44	2.44	1.67	1.78	1.67	2.22
	3.00	**Connections to schools, churches and other institutions**	3.67	4.00	3.44	3.67	3.44	3.00	2.33	1.78	2.11	2.00	2.89	3.11	2.22	2.00	2.67	1.89	3.33	3.89	3.00	3.11
	3.11	**Potential educational, historic, or interpretive opportunities**	2.44	3.78	3.89	2.56	3.11	3.44	2.67	3.11	3.00	3.22	2.00	2.00	3.56	3.56	3.67	1.44	2.00	2.44	2.22	2.44
		Subtotal	3.02	3.15	3.16	3.20	3.07	2.86	3.02	1.82	1.88	3.34	2.82	2.60	3.05	3.17	3.42	2.40	2.46	3.05	2.84	2.96

Route Preferences + Impact Criteria (Continued)		Elmwood Connector 1	Elmwood - Alternate A 1a	Beaufait Greenway 2	Kercheval Greenway 3	Burns Connector 4	Sweet Loop 6	Conner Creek Enhance. 5	Conner - Alternate A 5a	Conner - Alternate B 5b	Fox Creek Greenway 7	Far East Connector 8	Carsten Spur 9	RiverWalk: Gold Coast 10	RiverWalk: Marinas 11	RiverWalk: River Parks 12	Freud (Non-Motorized) -	Lafayette (Non-Motorized) -	Jefferson (Non-Motorized) -	East Grand (Non-Motorized) -
0.32 weight	**ECONOMIC DEVELOPMENT + REUSE** (1 - 5) Importance of Criteria (1 = least important, 5 = most important)	**Individual Route Scoring.** TIP: for each criteria, identify the lowest scoring route(s), then the highest scoring route(s), and then fill in the between values. Use 1 -5 range to extent possible.																			
1.89	**Diversity of land uses along the route segment**	2.33	2.89	3.33	3.78	2.00	3.00	2.22	1.67	1.44	3.11	2.22	2.11	3.11	3.89	3.67	2.67	3.00	3.33	2.56	2.33
3.89	**Greenway visibility and impact on district image** (including visitors, commuters, other city residents)	3.67	3.67	4.00	3.56	2.78	2.44	2.33	1.56	1.44	3.56	2.00	2.44	4.89	4.67	4.89	2.56	3.44	4.00	3.33	3.44
4.22	**Connections to significant destinations outside the district** (i.e. downtown, Eastern Market, Belle Isle, Grosse Pointe Park)	4.22	3.56	2.78	2.78	2.22	2.33	3.33	2.44	1.78	3.44	2.22	2.11	4.44	4.22	4.44	1.89	3.67	4.11	3.22	2.67
4.67	**Connections to existing commercial or business areas**	3.22	2.67	3.44	3.44	2.44	2.11	3.11	2.11	1.89	3.00	3.00	1.78	3.00	4.00	2.67	2.56	3.22	4.22	2.78	4.00
4.11	**Potential for supporting commercial/business redevelopment** (on adjacent land or vacant parcels for example)	2.44	1.67	3.56	4.11	1.78	2.22	2.22	1.33	1.56	2.56	2.33	2.00	3.67	4.44	3.44	2.67	3.44	4.44	3.33	4.11
3.00	**Potential to support residential redevelopment**	2.67	2.78	2.56	3.22	2.89	3.00	2.11	1.00	1.11	3.78	3.33	3.44	4.44	4.00	4.44	3.00	3.22	2.78	2.89	3.56
	Subtotal	3.20	2.86	3.30	3.46	2.36	2.43	2.63	1.74	1.58	3.22	2.52	2.26	3.95	4.24	3.89	2.52	3.37	3.93	3.06	3.46
0.16 weight	**ENVIRONMENTAL STEWARDSHIP AND GREEN INFRASTRUCTURE** (1 - 5) Importance of Criteria (1 = least important, 5 = most important)	**Individual Route Scoring.** TIP: for each criteria, identify the lowest scoring route(s), then the highest scoring route(s), and then fill in the between values. Use 1 -5 range to extent possible.																			
4.56	**Potential to connect to or enhance existing natural features adjacent to the route** (i.e.. rivers, creeks, woodlands)	2.78	3.67	2.67	2.00	2.67	1.78	2.33	1.22	1.22	4.67	3.11	2.33	4.89	5.00	5.00	2.00	1.78	2.78	2.56	2.22
3.00	**Potential for encouraging/supporting new natural areas along the route or on adjacent vacant land** (i.e. woodlands, wetlands, meadows)	2.33	2.00	3.56	2.44	1.56	3.56	2.22	1.11	1.22	4.33	4.00	4.11	3.56	4.11	4.67	1.78	1.11	1.44	1.11	1.44
3.67	**Potential to improve water quality by incorporating stormwater features** (i.e. rain gardens, bioswales, pervious paving)	2.56	2.67	3.33	3.67	2.56	3.33	3.44	2.33	2.44	4.44	3.44	3.33	4.44	4.56	4.89	2.78	2.33	2.78	2.33	2.56
1.89	**Potential to connect to or support local food initiatives** (i.e. community gardens, markets, commercial plots)	2.56	1.67	4.11	2.33	1.89	2.78	1.56	1.22	1.22	2.00	2.89	2.67	1.56	1.44	1.67	1.44	1.78	1.78	1.67	2.56
3.89	**Potential for route to improve streetscapes or lands adjacent trials** (consider existing conditions and range of potential improvements)	4.00	3.78	3.67	4.56	3.11	2.56	3.67	2.11	2.78	4.33	3.33	3.11	4.22	3.89	4.22	3.22	3.78	4.11	3.56	3.44
	Subtotal	2.91	2.96	3.36	3.06	2.46	2.72	2.77	1.65	1.84	4.19	3.37	3.08	4.03	4.10	4.37	2.35	2.24	2.74	2.38	2.47
	Route Preferences Composite Score	**3.03**	**3.24**	**3.21**	**3.34**	**2.69**	**2.58**	**2.86**	**1.89**	**1.91**	**3.43**	**2.62**	**2.25**	**3.97**	**3.99**	**4.00**	**2.42**	**2.87**	**3.20**	**2.68**	**2.95**

Route Implementation Criteria	Elmwood Connector 1	Elmwood - Alternate A 1a	Beaufait Greenway 2	Kercheval Greenway 3	Burns Connector 4	Loop 6	Conner Creek Enhance. 5	Conner - Alternate A 5a	Conner - Alternate B 5b	Fox Creek Greenway 7	Far East Connector 8	Carsten Spur 9	RiverWalk: Gold Coast 10	RiverWalk: Marinas 11	RiverWalk: River Parks 12	Freud (Non-Motorized) -	Lafayette (Non-Motorized) -	Jefferson (Non-Motorized) -	East Grand (Non-Motorized) -
D																			
59 **Percentage of final route score that should be based on PREFERENCE criteria (versus implmentation criteria)**																			
For example, a "0%" means implementation criteria is not at all important, "50%" means implementation criteria is equally important to preference criteria (from above sections), and "100%" means implementation criteria is all that matters and preference criteria will not be considered at all.																			
41 **IMPLEMENTATION CONSIDERATIONS**																			
(1 - 5) Importance of Criteria (1 = least important, 5 = most important)	**Individual Route Scoring.** TIP: for each criteria, identify the lowest scoring route(s), then the highest scoring route(s), and then fill in the between values. Use 1 -5 range to extent possible.																		B
3.00 **Relative cost PER LINEAL FOOT at full level of improvement** (excludes land/easement acquisition. Values have been filled in by consultants based on cost comparrisons.)	5.00	5.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	5.00	5.00	1.00	2.00	2.00	5.00	5.00	5.00	5.00	5.00
4.67 **Potential to garner outside funding** (i.e. state or federal grants for trails, habitat, water management) (1= low potential; 5= high potential)	3.00	3.22	3.33	3.11	3.11	2.11	3.78	1.44	1.67	3.11	1.78	1.56	4.11	4.00	4.11	2.11	2.78	4.00	2.22	3.11
A 3.22 **Ease of land availability, site access, or acquisition** (1= difficult; 5= easy)	3.44	3.44	2.11	3.56	3.67	2.22	3.89	1.22	1.44	2.33	2.56	2.44	1.22	1.11	2.44	3.33	3.67	3.56	3.11	3.67
3.78 **Potential for champion groups or routes advocates to support implementation** (1= low potential; 5=high potential)	3.22	3.22	4.00	3.11	3.44	2.56	4.33	2.67	2.44	3.56	2.22	1.78	4.00	3.78	4.33	2.67	2.67	3.78	2.44	3.89
2.78 **Ease of coordination with city departments and/or ease of permit approval processes** (1 = more difficult; 5 = easier)	3.56	3.11	3.22	3.22	4.00	2.78	4.22	1.78	1.89	2.56	2.67	2.56	2.78	2.78	3.11	3.44	3.44	3.22	3.44	3.33
Subtotal	3.56	3.55	3.35	3.36	3.58	2.66	4.03	2.16	2.23	2.96	2.71	2.52	2.81	2.88	3.33	3.17	3.41	3.92	3.11	3.74
Total Route Score	**3.25**	**3.37**	**3.26**	**3.35**	**3.05**	**2.61**	**3.34**	**2.00**	**2.04**	**3.24**	**2.66**	**2.36**	**3.49**	**3.53**	**3.73**	**2.73**	**3.09**	**3.49**	**2.86**	**3.28**

Appendix C

Greenway Ambassador Program Strategy

Detroit Greenway Ambassador Program Strategy

Greenway ambassadors are trained to educate and encourage the public to ride safely and ride more often, in one-on-one, outreach and group settings. They are typically deployed in teams of two community-wide to popular cycling destinations, community festivals and events from May to September. Ambassador training is comprehensive and includes traffic cycling/urban cycling skills, teaching skills, media outreach & interview skills, and conflict resolution.

The program and policy manager, one of the three employees on the construction management team should manage the greenways ambassadors program. For more information on operations of the greenway ambassadors, please reference the *Detroit Greenway Ambassador Staff Training Manual*, which provides a model for the greenway ambassador program (contact the Villages CDC to obtain a copy).

The goals of the greenway ambassador program include:

- Increase trips by foot and by bike
- Reduce bike and pedestrian crashes
- Foster improved road sharing
- Enhance community safety overall w/ additional eyes on the street

The basic components of a greenway ambassador program:

- The ambassadors are trained about active transportation, bike and pedestrian safety, bike repair and maintenance
- The ambassadors promote bike and pedestrian safety to the public at events, public spaces, summer camps, and schools
- The ambassadors learn basic job skills and ideally there is room for promotion within the program

Who MANAGES the program? Typical managers/sponsors include:

- Municipalities. Typical departments include Transportation, Public Works, Parks and Recreation
- Non-profits
- Advocacy organizations
- (A place for the program to operate in implicit in this question. Ambassadors need a space to meet, learn how to fix bikes, etc.)

How are these programs FUNDED? Funding can come from any of the following sources

- Federal 402 funds
- Federal Transportation Enhancement funds
- Federal CMAQ funds
- Bicycle industry
- Individual donation or foundation grants

WHO are the ambassadors? Ambassadors can be any of the following:

- Paid employees who are well trained and educated in bike and/or ped safety
- High school students who are either paid or unpaid. They work with the public but a big part of their participation is job skills training and education on bicycle maintenance and repair
- Volunteers from the community who are committed to bike and/or bike safety and education

Potential Program costs

- Program Manager (full time, year round)
- Team Leader (20-40 hours a week, 6-8 months a year, approximately March - October)
- Four Ambassadors (20-40 hours a week, 6-8 months a year, approximately March - October)
- Meeting space
- Desk Space/computer/phone
- Development of web site plus content
- Stationery/envelopes/office supplies
- Bikes
- Helmet, lock, bag, lights
- Uniforms (three shirts per)
- Rain slicker
- Two Trailers
- Two Stands
- Four smaller stands
- Miscellaneous
- Map
- Safe Cycling guide
- Stickers
- Blinky lights
- Patch kits

Potential program partners

- Greening of Detroit
- The Hub
- City of Detroit
- Riverfront Conservancy

Appendix D

Greenway Costing Details

The following section includes additional notes and details relative to route costing.

Construction Cost Estimate Disclaimers

- Costs are based on 2011 dollars without escalation to future years.
- The project costs are based upon the conceptual greenway alignments and reflects a conceptual level of design detail. As such, the cost estimates reflect a general magnitude of cost.
- Construction cost unit prices include contractors general conditions, overheads, and profit.
- Costs do not reflect city review/inspection costs, testing costs, and permitting fees.
- The costs for utility improvements are included for greenway specific improvements. Off-site utility extensions, utility upgrades, and maintenance have not been included.
- A design contingency is included to account for design elements and construction costs that are unknown at this time.
- The costs associated with land acquisition, easement / lease procurement, and other land rights have not been included.
- The environmental conditions of the proposed greenway routes are unknown and costs associated with investigating the environmental conditions and of any remediation activities have not been included.
- The removal of contaminated/hazardous soils and materials, underground obstructions, and other unknown conditions are not included.
- The costs associated with addressing any flood mitigation needs have not been included.

Kit-of-Parts Costing Descriptions

The "Kit-of-parts" refers to groups of unit costs that define a major element in the greenway design and identify relevant construction costs.

Primary Cross-Section

Diagrams showing the primary cross-sections appear in the individual priority route descriptions in the following sections. These kit-of-park items are applied on a per linear foot basis along the routes.

- **Off-Road 10' Trail Paving:** Used for off-road greenways. The cross-section assumes a typical 50' wide greenway corridor with a 10' wide asphalt trail. Line items include grading, sub-grade materials, asphalt surface, lawn restoration, trail striping/markings, and signage (regulatory, route, and basic wayfinding).
- **Off-Road 12' Trail Paving:** Same as above except with a 12' wide paved trail.
- **Off-Road 20' Trail Paving:** Same as above except with a 20' wide paved trail.
- **Neighborhood Connector 1 Paving Section (Base):** Applies to the Kercheval Greenway. Costs include pavement resurfacing, grading/earthwork, lane reduction to create a streetscape zone and bike lanes, sidewalk repair, signage, pavement markings, and restoration.
- **Neighborhood Connector 1 Paving Section (Moderate):** Same as above, with the addition of basic grass bioswales in the streetscape zone.
- **Neighborhood Connector 1 Paving Section (Full):**Same as above with the addition of enhanced bioswales (perennials and other plantings), and colored asphalt bikelanes.
- **Neighborhood Connector - Parking (Base):** Minor pavement removal and curb relocation to expand streetscape / sidewalk zone, road resurfacing, sidewalk repair, bike lane striping, signage, pavement markings.
- **Neighborhood Connector - Parking (Full):** Same as above, except additional pavement is removed to create colored bike lanes and a porous paving surface in the parking lane.
- **Principal Route Variant A (Full):** Used for the Saint Jean

segment of the Conner Creek Greenway. Includes lane reduction and addition of a new median in the roadway.

- **East Jefferson Cross Sections 1A (Base):** Lane reduction and curb relocation, sidewalk repair/expansion, pavement resurfacing, and lawn installation in streetscape edge. Includes pavement markings and signage.
- **East Jefferson Cross Sections 1A (Full):** Same as above except for porous pavement in the parking lanes, colored bike lanes, and bioswales installed in the streetscape zone.
- **East Jefferson Cross Sections 1B/2 (Base):** Creation of center median with trees and landscaping, lane reduction and curb relocation, sidewalk repair/expansion, pavement resurfacing, and lawn installation in streetscape edge. Includes pavement markings and signage.
- **East Jefferson Cross Sections 1B/2 (Full):** Same as above except for porous pavement in the parking lanes, colored bike lanes, and bioswales installed in the streetscape zone and a portion of the center median.
- **East Jefferson Cross Sections 3 (Base):** Creation of center median with trees and landscaping, lane reduction and curb relocation, new shared use trails on both sides of the road, pavement resurfacing, and lawn installation in streetscape edge. Includes pavement markings and signage.
- **East Jefferson Cross Sections 1B/2 (Full):** Same as above except for colored bike lanes and bioswales installed in the streetscape zone and a portion of the center median.

Site amenity add-ons and utilities

This group of kit-of-part items are generally applied on a per linear foot basis along the route. The locations and extents of these items are described in the individual priority route descriptions in the following sections.

- **Security Operations:** An allowance per greenway segment for security operations equipment/connectivity. Used in each segment whenever security cameras are called for.
- **Security: Moderate (at node/point):** Cost for a single security camera, mount, and electrical hookup. Security camera uses a wireless system.
- **Security: High (Full Coverage):** Security cameras and call boxes placed every 300’ along the route, using a wired system.
- **Street Lighting: (Moderate)** Cost for light pole and electrical connections for street lighting. Assumes a moderate level light fixture with LED lighting spaced every 100’.
- **Street Lighting: (High)** As above but with higher quality and/or more ornamental light fixtures (also LED).
- **Pedestrian Lighting: (Moderate)** Cost for light pole and electrical connections for pedestrian scaled lighting. Assumes a moderate level light fixture with LED lighting spaced every 50’.
- **Pedestrian Lighting: (High)** As above except for higher quality and/or more ornamental light fixtures (also LED).
- **Pedestrian Lighting: Combined Pedestrian/Vehicle (Moderate)** Combined light fixtures that mount a higher vehicle light fixture and lower pedestrian light fixture on a single pole. Spaced every 80’.
- **Special Lighting: (Bollards/Wands)** Costs for lighted bollards spaced every 10’ and light wands spaced every 100’ along with electricity connections.
- **Furnishings (Moderate):** Costs for clearing areas adjacent to the trail, installing a 72” bench and waste receptacle on a concrete pad. Includes allowance for grading and lawn restoration/repair. Spaced 200’.
- **Furnishings (Full):** As above except for higher quality benches/furnishings spaced every 150’.
- **Trees, Landscaped Areas:** Costs for installing new street trees, assuming a 40’ spacing.
- **Trees in Pits, Hardscaped Areas:** Costs for installing new street trees in 6’ by 6’ tree pits with use of structural soils. Assumes a spacing of 40’.
- **Landscape Beds (10 ft wide):** A 10-foot wide band of landscaping. Includes cost for clearing and removing vegetation/debris, new planting mix, ground covers, shrubs, and ornamental trees.

- **Irrigation (10 ft wide):** Costs for installing an irrigation system across a 10-foot wide area. Includes costs for water taps, backflow preventers, meters, and other mechanical needs.
- **Fencing - 6ft Decorative:** Cost for installing a 6' tall ornamental steel fence. Includes costs for clearing existing vegetation/debris along the fence line and installing pedestrian gates every 750' and vehicular gates every 1000'.
- **Utility/Erosion Control - Off-Road:** Allowances for miscellaneous utility adjustments/connections and erosion control measures.
- **Utility/Erosion Control - On-Road (Minor):** Allowances for miscellaneous utility adjustments/connections and erosion control measures for on-road greenways.
- **Utility/Erosion Control - On-Road (Major):** Allowances for miscellaneous utility adjustments/connections and erosion control measures for on-road greenways on major roadways (i.e. E. Jefferson).

Intersections / Crossings / Nodes

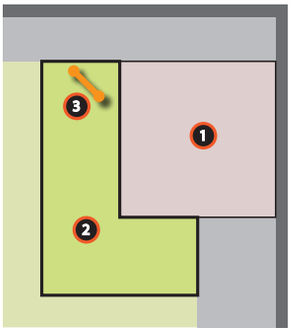
The intersection/crossings/nodes kits are used at specific locations identified during the costing workshops and are applied on a per instance basis and not as a per linear foot item.

- **Mid-Block Crossing for Off-Road Trail (Minor):** Additional pavement area for pedestrian/bike traffic at intersections. Includes line items for grading, lawn restoration, signage and pavement markings, a new surb ramps.
- **Mid-Block Crossing for Off-Road Trail (Major):** Same as above plus extra pavement area, a bench and trash receptacle, special light wand, additional ornamental plants, pavement markings, and signage.
- **Road Intersection - 4-way:** New/repaired curb ramps on all four corners, new regulatory signage and route markers, and pavement zebra striping for crosswalks.
- **Refuge Island (Street Crossing):** Approximately a 12' x 24' crossing island. Includes pavement removal, new pavement and curb, and allowance for ground cover plants.
- **Bump Out (1 corner):** A single bump out, approximately 10' x 24' in size. Includes pavement/curb removal, new curbing, pavement, and ground cover plants.
- **Signalization - Low (Flashers):** A flashing and illuminated crosswalk signal.
- **Signalization - Low (Hawk):** Pedestrian activated crossing signal. Includes lights to stop traffic for pedestrians.
- **Signalization - Full Traffic Signals:** Kit for installing new intersection signals for all on-road and sidewalk traffic at a four-way intersection.
- **Pocket Park - Small (1/4 acre):** Includes costs for clearing existing pavement, vegetation, debris, paving approximately 20% of the area, lawn over 65%, and special landscaping on 15%, additional canopy and ornamental trees, site furnishings, and special signage.
- **Pocket Park - Large (1 acre):** As above but increased in size to 1 acre. Also provides for additional specialty lighting.
- **Landscape Restoration / Open Space (100'x200'):** Costs for selective clearing of vegetation and pavement, minor grading or drainage work, and planting 50% with prairie plugs/sees and 50% with woodland plants (seeding, bare-root trees and small caliper trees).
- **Green Gateway (Minor):** Small paved "plaza" at key entries into the greenway. Includes entry signage and additional paving.
- **Green Gateway (Major):** As above except for additional landscaping, site furnishings, special lighting, and a wayfinding kiosk. See diagram below:

RiverWalk Kit-of-Parts

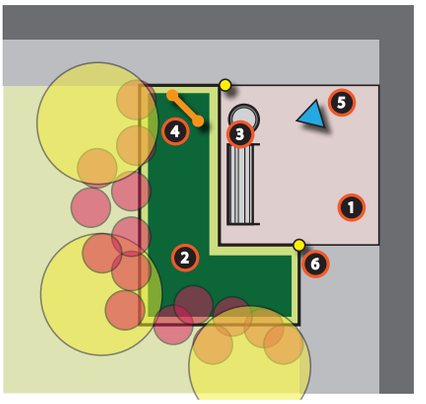
Refer to the RiverWalk section below for a detailed description of each Kit.

Green Gateway Minor Diagram



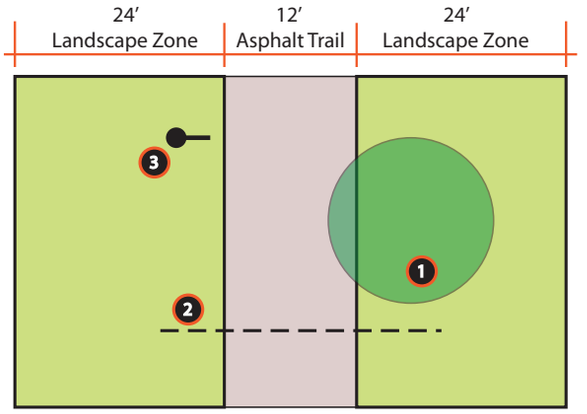
1. +/- 200 SF of paved space
2. +/- 200 SF of lawn area
3. Greenway Entry Signage

Green Gateway Major Diagram



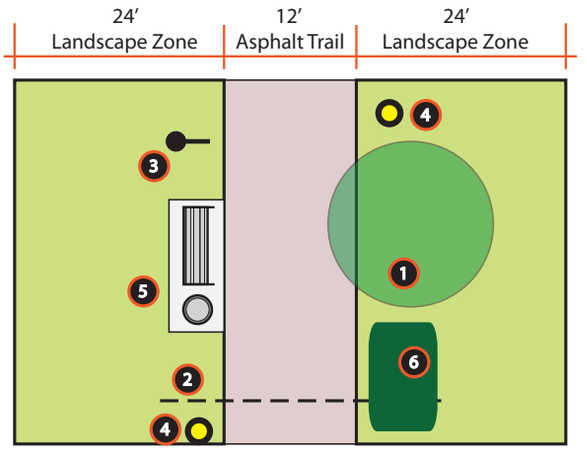
1. +/- 200 SF of paved space
2. +/- 200 SF of landscaped area, including ~15 shrubs and 3 ornamental trees
3. Site furnishings, bench and trash receptacle
4. Greenway Entry Signage
5. Special Wayfinding Kiosk/Column with route information or interpretive signage
6. Two special light fixtures (i.e. light wands)

Elmwood Connector Details



Base Level Development

1. Trees, 40' spacing along route, alternating sides of the trail
2. Utility allowance for surface drainage
3. Allowance for signage including: regulatory, route markers, wayfinding

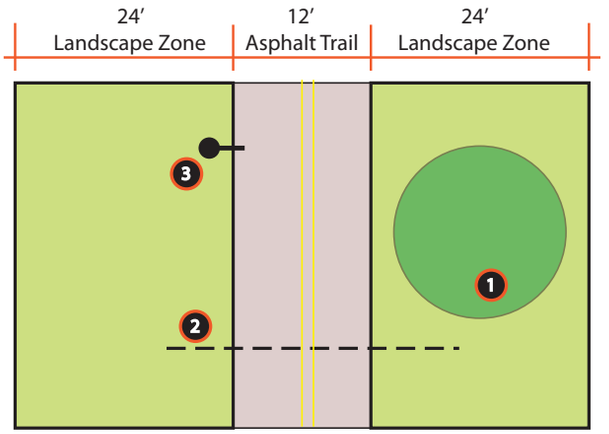


Full/Moderate Level Development

In addition to 1-3 from the base level:

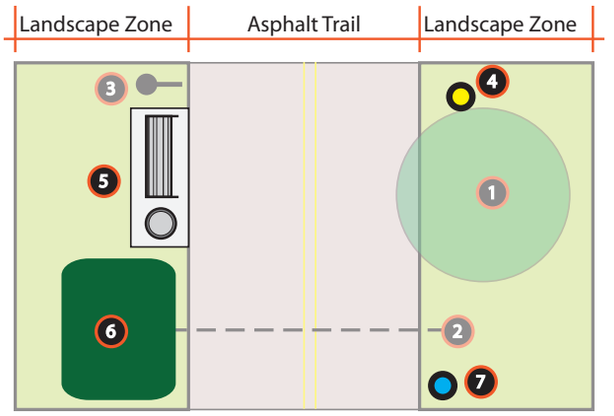
4. Pedestrian lighting (50' spacing) along entire length
5. Allowance for site furnishings along entire length
6. Landscaping allowance along entire route. 5% of length at Moderate, 10% at Full. Allowance for irrigation at Full level of development.

Belt Line Greenway Details



Base Level Development

1. Trees, 40' spacing along route, alternating sides of the trail
2. Utility allowance for surface drainage
3. Allowance for signage including: regulatory, route markers, wayfinding

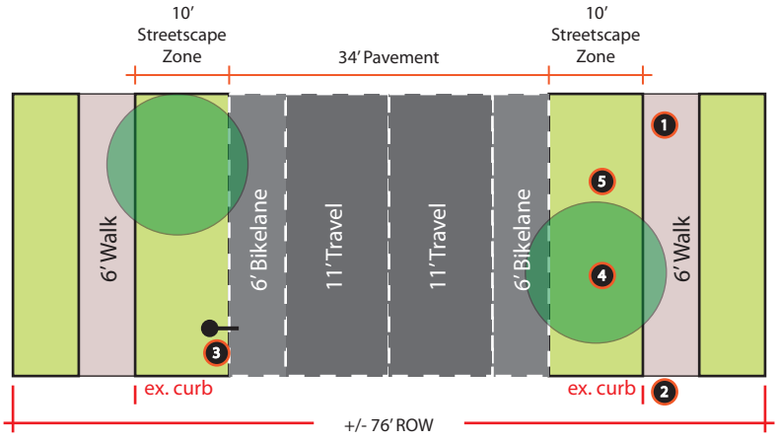


Full/Moderate Level Development

In addition to 1-3 from the base level:

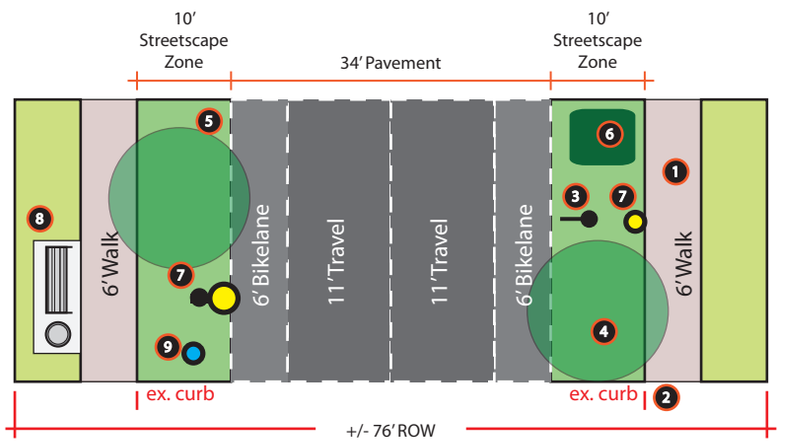
4. Pedestrian lighting (50' spacing) along entire length
5. Allowance for site furnishings along entire length
6. Landscaping allowance along entire route. 5% of length at Moderate, 10% at Full. Allowance for irrigation at Full level of development.
7. Moderate level: Security cameras at nodes. Full level: cameras along entire route with call boxes.

Kercheval Greenway Details



Base Level Development

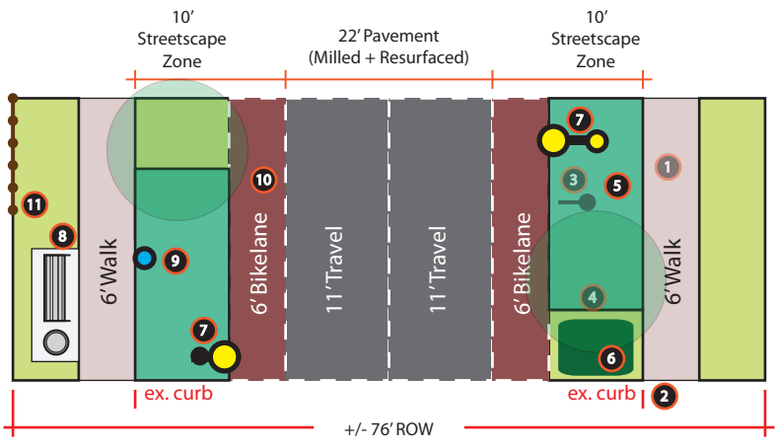
1. Replace/repair approx. 50% of existing sidewalk
2. Remove existing curb and approx. 9' of pavement for new streetscape zone
3. Allowance for signage including: regulatory, route markers, wayfinding
4. New lawn area
5. Allowance for new street trees along both sides of the road.



Moderate Level Development

In addition to 1-4 from the base level:

5. Streetscape zone designed a grass swale
6. 10% of streetscape zone to include additional landscaping with irrigation
7. Allowance for new street + ped. lighting along approx. 20% of segment for use at key nodes or commercial areas
8. Allowance for moderate level site furnishings
9. Security cameras at key nodes



Full Level Development

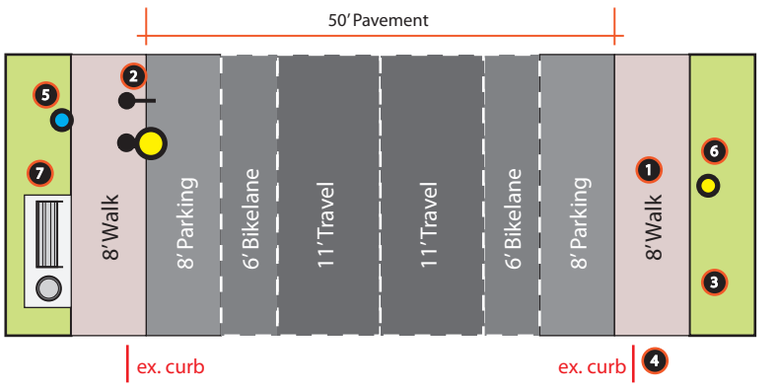
In addition to 1-4 from the base level:

5. Streetscape zone designed high quality bioswale
6. 20% of streetscape zone to include additional landscaping with irrigation
7. Allowance for new street lighting along approx. 20% of route. Also add new combined light fixtures along entire route.
8. Allowance for high level site furnishings
9. Security cameras at key nodes
10. Bike lanes use colored pavement
11. Fencing along 20% of route

Kercheval Greenway Parking Details (cont.)

Parking / Base Level Development

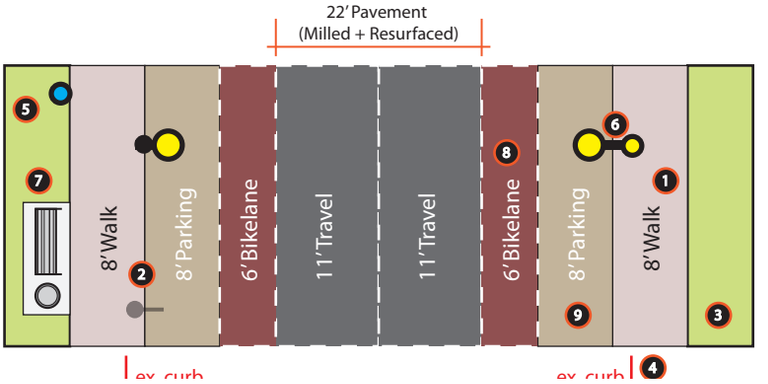
1. Replace/repair approx. 50% of existing sidewall and expand by 2' (8' wide total)
2. Allowance for signage including: regulatory, route markers, wayfinding
3. Zone outside of sidewalk remains unchanged
4. Replace existing curb and remove approx. 2' of pavement



Parking / Moderate Level Development

In addition to 1-4 from the base level:

5. Security cameras at commercial nodes
6. 10% of streetscape zone to include additional landscaping with irrigation
7. Allowance for street + ped lighting at key nodes (20% of segment length)
8. Allowance for moderate level site furnishings

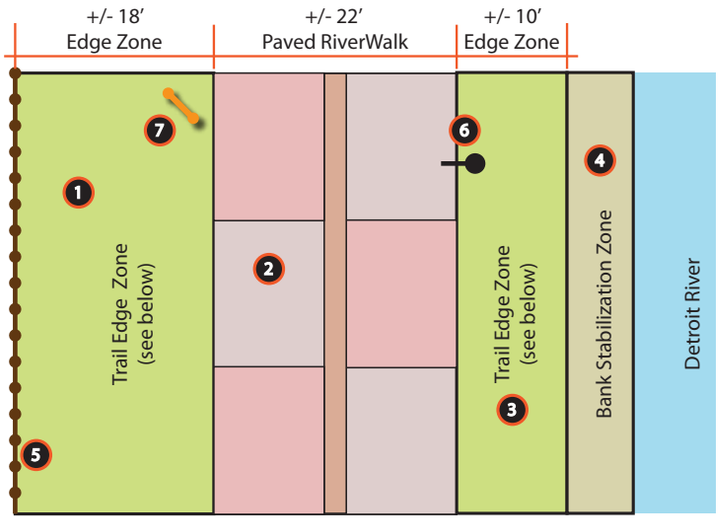


Parking / Full Level Development

In addition to 1-4 from the base level:

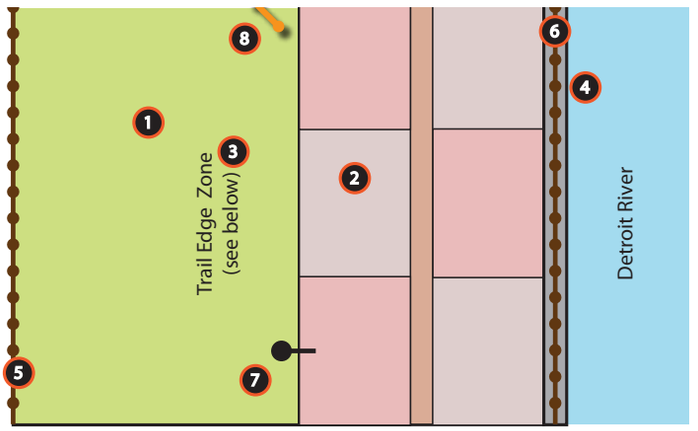
5. Security cameras at commercial nodes
6. Allowance for new street lighting along approx. 20% of route. Also add new combined light fixtures along entire route.
7. Allowance for higher level site furnishings
8. Bike lanes use colored pavement
9. Parking lanes use porous pavement

Riverfront Extension Details



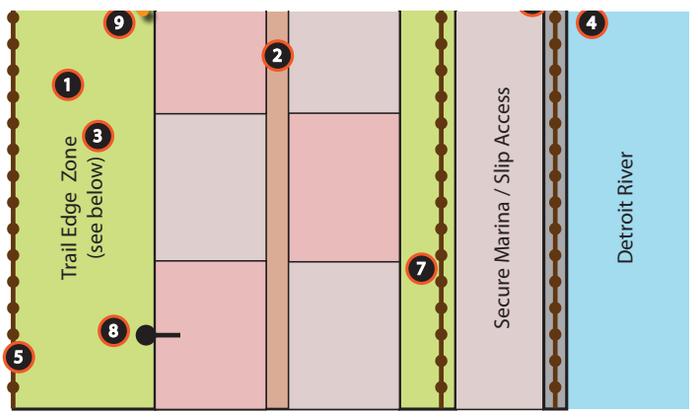
Soft-Shore Section

1. Clearing, misc. removals, grading/earthwork
2. RiverWalk paving: 50% with colored concrete, 10% with paver units.
3. Trail edge zones; 50% with moderate level landscaping and furnishings and 50% with high levels landscaping/furnishings (see below)
4. Bank stabilization zone, rip-rap and other techniques
5. Fencing along entire route. Vehicle gates every 1000-feet; pedestrian gates every 500-feet.
6. Regulatory signage, route markers, destination markers
7. Special signage (interpretive and/or entry and map displays) every 500-feet.



Seawall Section

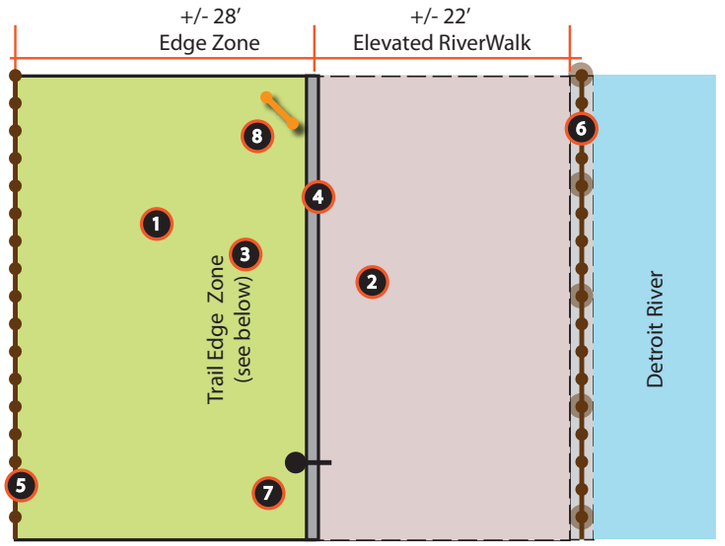
1. Clearing, misc. removals, grading/earthwork
2. RiverWalk paving: 50% with colored concrete, 10% with paver units.
3. Trail edge zones; 50% with moderate level landscaping and furnishings and 50% with high levels landscaping/furnishings (see below)
4. Sea wall / sheet pile repair and installation where needed. Includes egress ladders every 150' and sea wall cap.
5. 6' security fencing along entire route. Vehicle gates every 1000-feet; pedestrian gates every 500-feet.
6. 42" ornamental railing (moderate level design)
7. Regulatory signage, route markers, destination markers
8. Special signage (interpretive and/or entry and map displays) every 500-feet.



Marina Edge Section

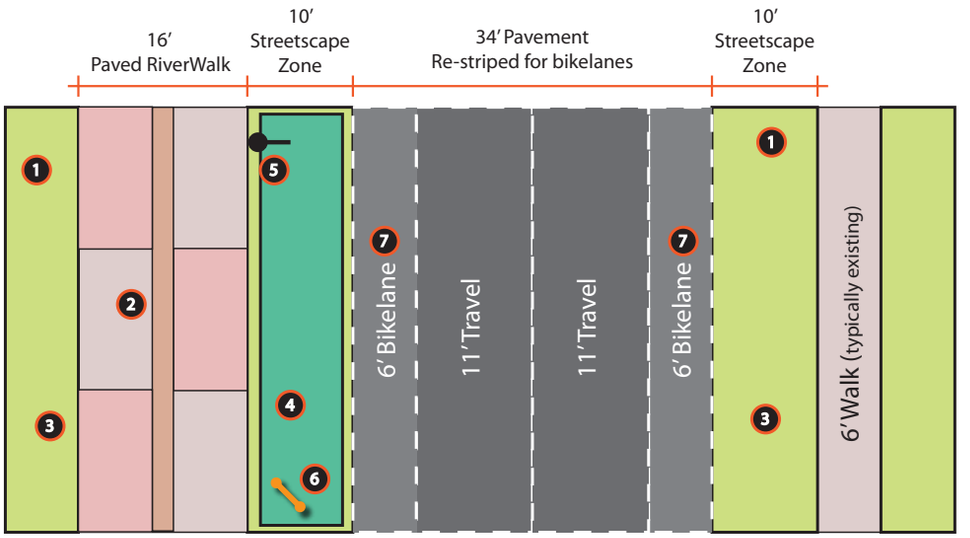
1. Clearing, misc. removals, grading/earthwork
2. RiverWalk paving: 50% with colored concrete, 10% with paver units.
3. Trail edge zones; 50% with moderate level landscaping and furnishings and 50% with high levels landscaping/furnishings (see below)
4. Sea wall / sheet pile repair and installation where needed. Includes egress ladders every 150' and sea wall cap.
5. 6' security fencing along entire route. Vehicle gates every 1000-feet; pedestrian gates every 500-feet.
6. 42" ornamental railing (moderate level design)
7. 8' high ornamental steel security fencing, to provide marina security and separation from RiverWalk trail. Includes secure gates.
8. Regulatory signage, route markers, destination markers
9. Special signage (interpretive and/or entry and map displays) every 500-feet.

Riverfront Extension Details (cont.)



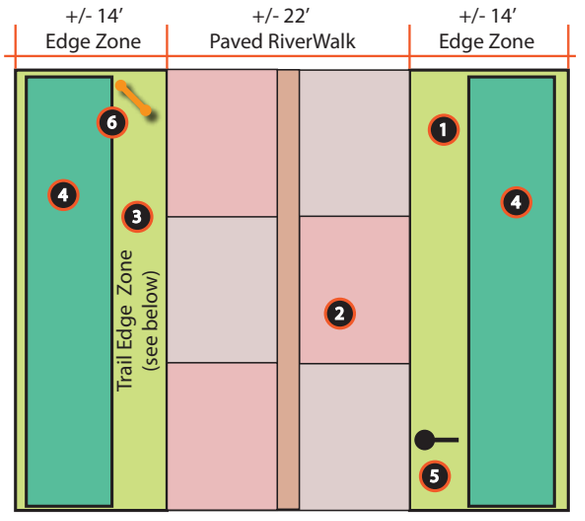
Elevated Section

1. Clearing, misc. removals, grading/earthwork
2. Elevated concrete walkway with integral colored concrete
3. Trail edge zones; 50% with moderate level landscaping and furnishings and 50% with high levels landscaping/furnishings (see below)
4. Sea wall / sheet pile repair and installation where needed. Includes egress ladders every 150' and sea wall cap.
5. 6' security fencing along entire route. Vehicle gates every 1000-feet; pedestrian gates every 500-feet.
6. 42" ornamental railing (moderate level design)
7. Regulatory signage, route markers, destination markers
8. Special signage (interpretive and/or entry and map displays) every 500-feet.



Off-River / Adjacent to Road

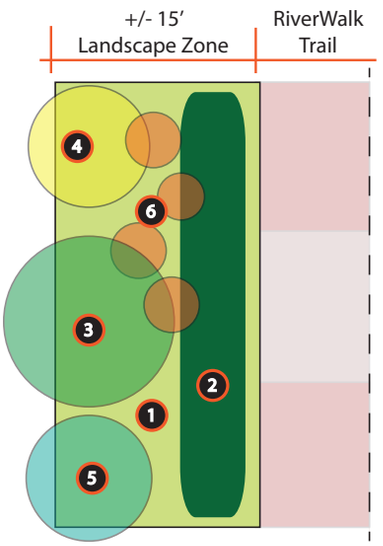
1. Clearing, misc. removals, grading/ earthwork
2. RiverWalk paving: 50% with colored concrete, 10% with paver units.
3. Trail edge zones; 50% with moderate level landscaping and furnishings and 50% with high levels landscaping/ furnishings (see below)
4. Basic bioswales along trail
5. Regulatory signage, route markers, destination markers
6. Special signage (interpretive and/or entry and map displays) every 500-feet.
7. On-street bike lane striping and marking



Off-River / Off-Road

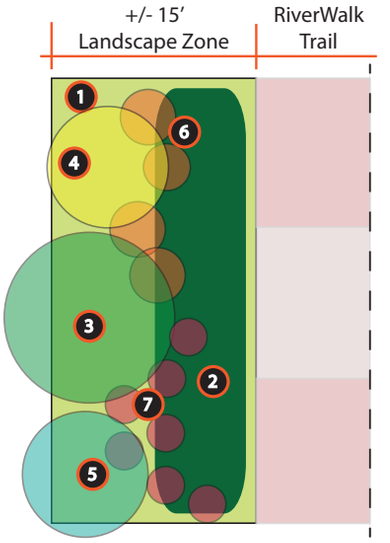
1. Clearing, misc. removals, grading/earthwork
2. RiverWalk paving: 50% with colored concrete, 10% with paver units.
3. Trail edge zones; 50% with moderate level landscaping and furnishings and 50% with high levels landscaping/furnishings (see below)
4. Basic bioswales along trail
5. Regulatory signage, route markers, destination markers
6. Special signage (interpretive and/or entry and map displays) every 500-feet.

Riverfront Extension Details (cont.)



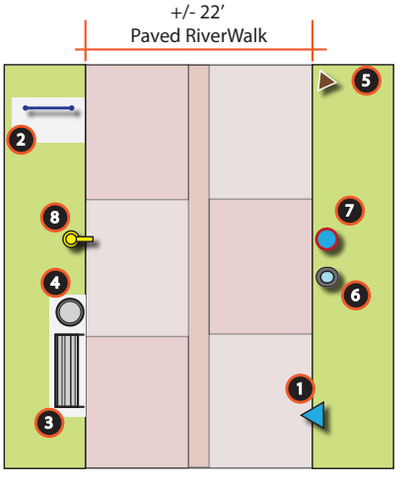
Moderate Level Landscaping

1. New topsoil, surface grading for landscape zone
2. 5' wide perennial / ground cover beds with planting mix/ mulch/fertilizer
3. Canoy tree; 40' spacing
4. Ornamental tree; 50' spacing
5. Evergreen (8' HT); 50' spacing
6. Large shrubs; 10' spacing
7. Irrigation



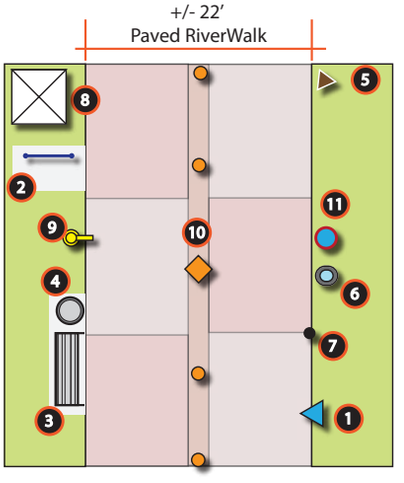
High Level Landscaping

1. New topsoil, surface grading for landscape zone
2. 10' wide perennial / ground cover beds with planting mix/ mulch/fertilizer
3. Canoy tree; 30' spacing
4. Ornamental tree; 40' spacing
5. Evergreen (8' HT); 50' spacing
6. Evergreen (10' HT); 50' spacing
7. Large shrubs; 8' spacing
8. Small shrubs; 6' spacing
9. Irrigation



Moderate Level Amenities

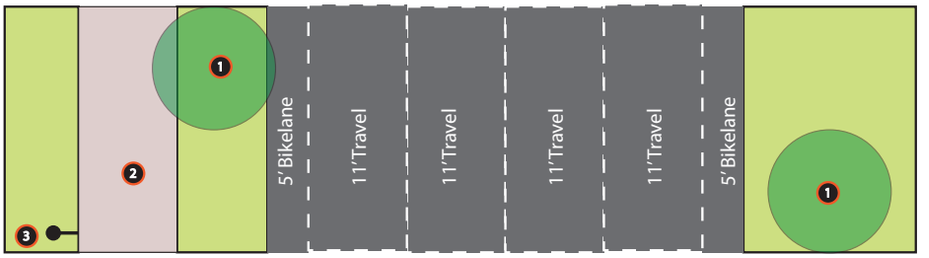
1. Wayfinding Kiosk (500' spacing)
2. Bike Loop, Single (100' spacing)
3. 96" Bench (150' spacing)
4. Trash/Recycling Receptacle (100' spacing)
5. Dog Waste Station (500' spacing)
6. Drinking Fountain (1000' spacing)
7. Security Cameras + Call Boxes (300' spacing)
8. High level pedestrian lighting; LED (50' spacing)



High Level Amenities

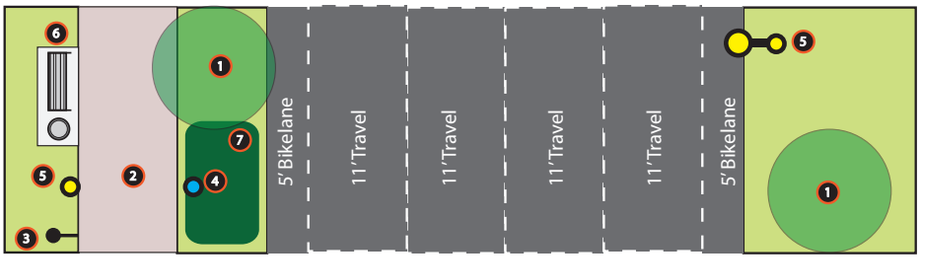
1. Wayfinding Kiosk (500' spacing)
2. Bike Loop, Single (100' spacing)
3. 96" Bench (75' spacing)
4. Trash/Recycling Receptacle (75' spacing)
5. Dog Waste Station (500' spacing)
6. Drinking Fountain (500' spacing)
7. Bollards, stationary (350' spacing)
8. Portable restroom + enclosures
9. High level pedestrian lighting; LED (50' spacing)
10. Special Lighting; lit bollards every 10'; light wands every 100'
11. Security Cameras + Call Boxes (300' spacing)

Conner Creek / Saint Jean Enhancement Details



Base Level Development

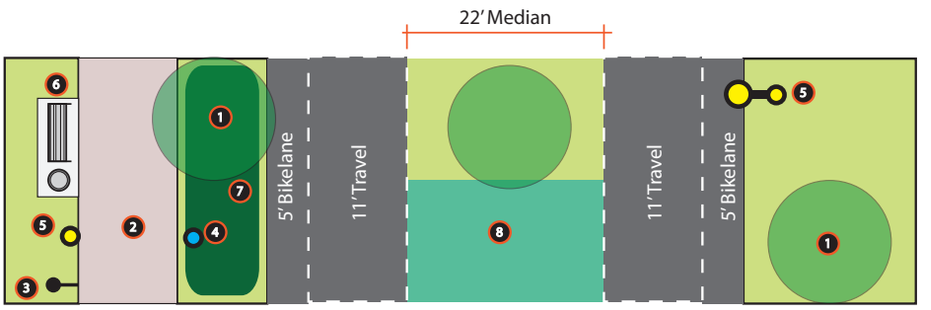
1. Addition/Replacement of trees along 30% of route length as needed.
2. Remove existing 8' asphalt trail and replace with a 12' concrete sidepath.
3. Allowance for signage including: regulatory, route markers, wayfinding



Moderate Level Development

In addition to 1-3 from base level:

4. Security camera at nodes
5. New combined vehicular and pedestrian lighting
6. Moderate level furnishings, including benches and trash receptacles
7. 50% with additional landscaping



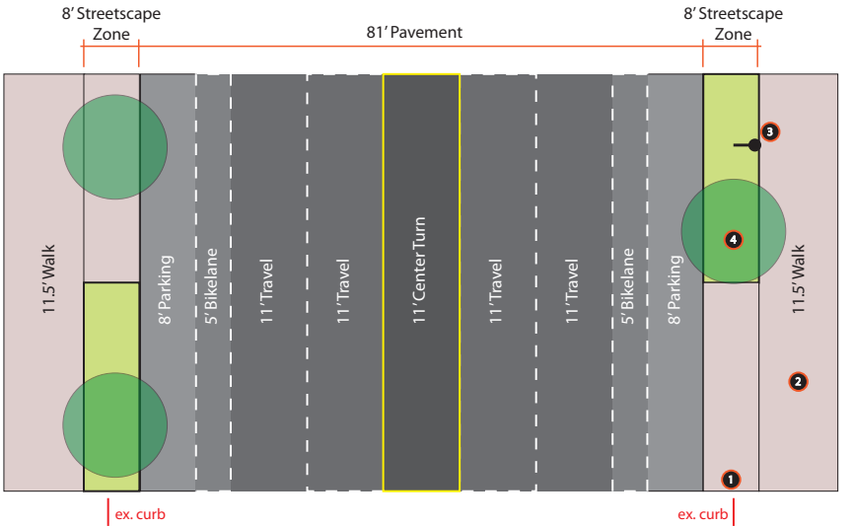
Full Level Development

In addition to 1-3 from base level:

4. Security camera at nodes
5. New combined vehicular and pedestrian lighting (80' spacing) with additional pedestrian lighting in-between.
6. Higher level furnishings
7. 100% with additional landscaping + irrigation

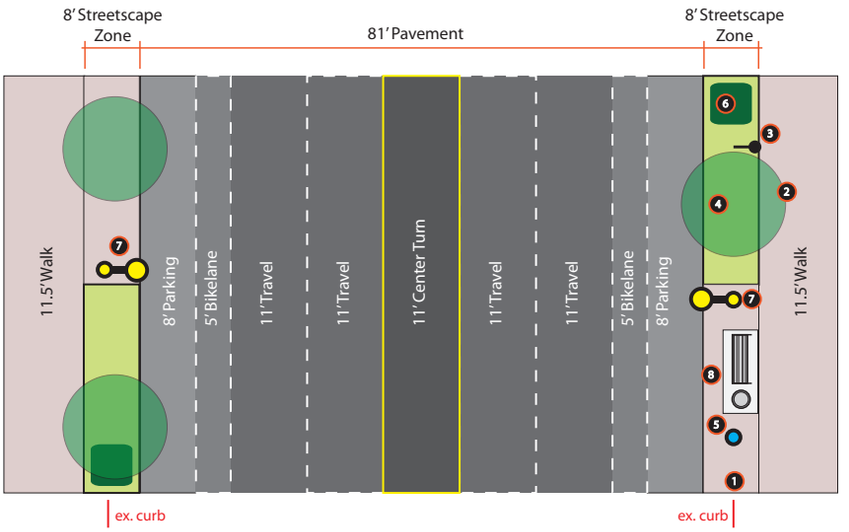
8. Removal of two travel lanes to accommodate center median with street trees. 50% of median as bioswale/stormwater system.

East Jefferson Details



Section 1A Base Level Development

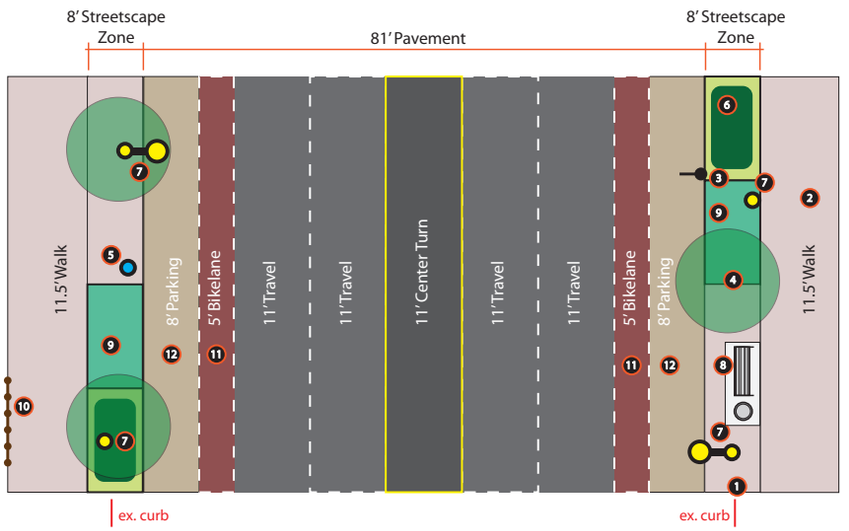
1. Removal of curb, 4.5' of pavement and 3.5' of existing sidewalk for lawn streetscape zone. New curb/gutter.
2. Replacement/repair of 25% of existing 11.5' wide sidewalk area.asdfsadfasdf
3. Allowance for signage including: regulatory, route markers, wayfinding
4. 30% Tree Replacement. 1/2 in tree pit, 1/2 in lawn



Section 1A Moderate Level Development

In addition to 1-4 from the base level:

1. Security cameras (at specified nodes and intersections only)
2. 10% of Streetscape zone with extra landscaping
3. All new combined lighting (80' spacing)
4. Allowance for moderate level site furnishings along the entire route

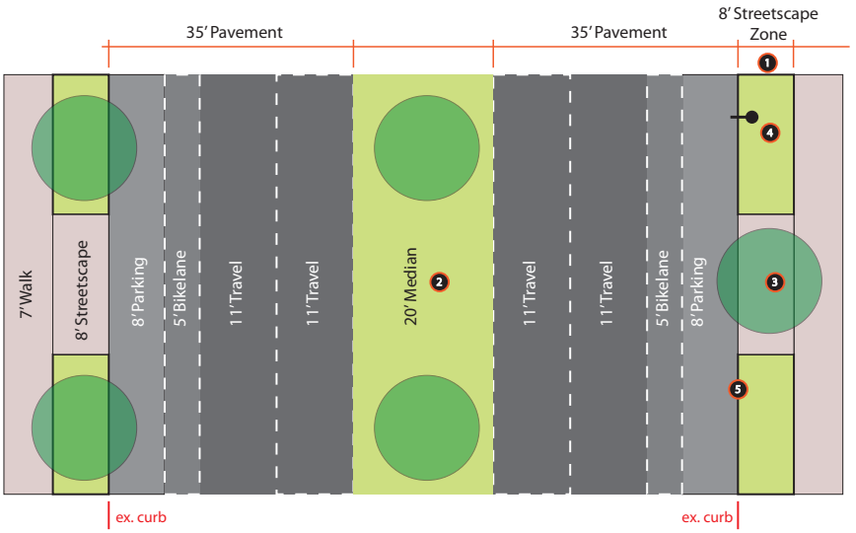


Section 1A Full Level Development

In addition to 1-4 from the base level:

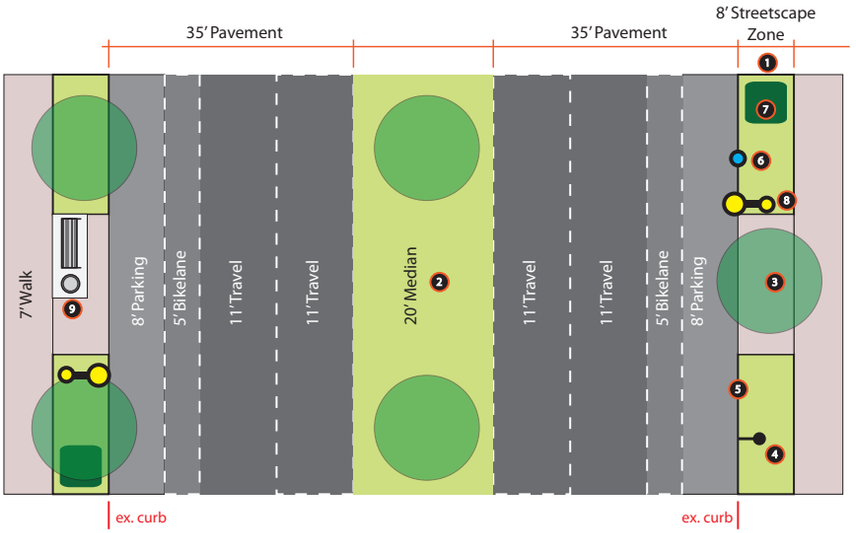
1. Security cameras (500' spacing at nodes)
2. 20% of Streetscape zone with extra landscaping and irrigation
3. All new combined lighting (80' spacing) and new pedestrian lighting in between
4. Allowance for higher level site furnishings along the entire route
5. 33% of center median and streetscape zone designed as a stormwater system
6. Fencing (20% of length)
7. Colored Bike Lanes (5')
8. Porous pavement for parking

East Jefferson Details (cont.)



Section 1B/2 Base Level Development

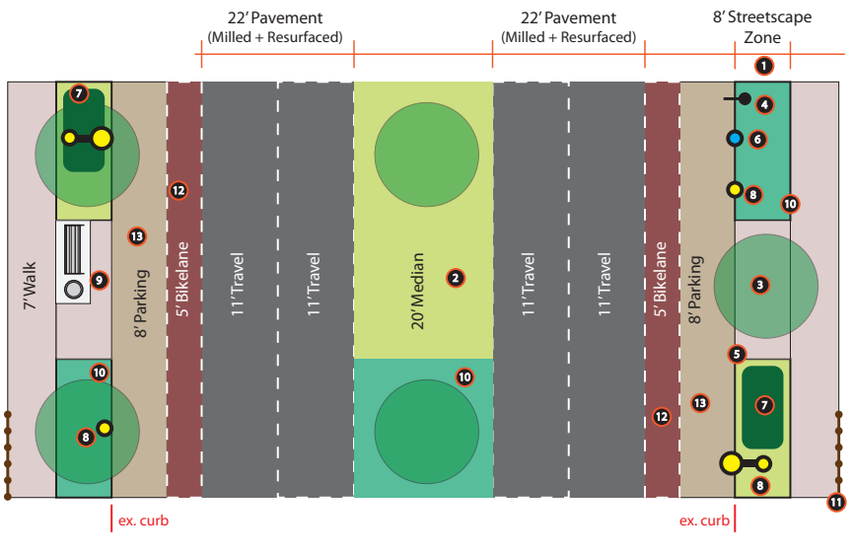
1. Removal of existing pavement for 8' Streetscape zone. 2/3 becomes unpaved
2. Pavement removal to construct new 20' wide median with street trees.
3. 33% Tree Replacement. 1/2 in tree pit, 1/2 in lawn
4. Allowance for signage including: regulatory, route markers, wayfinding
5. 50% of curbs to be replaced (avg.)



Section 1B/2 Moderate Level Development

In addition to 1-5 from the base level:

6. Security cameras (at specified nodes and intersections only)
7. 10% of Streetscape zone with extra landscaping
8. All new combined lighting (80' spacing)
9. Allowance for moderate level site furnishings along the entire route

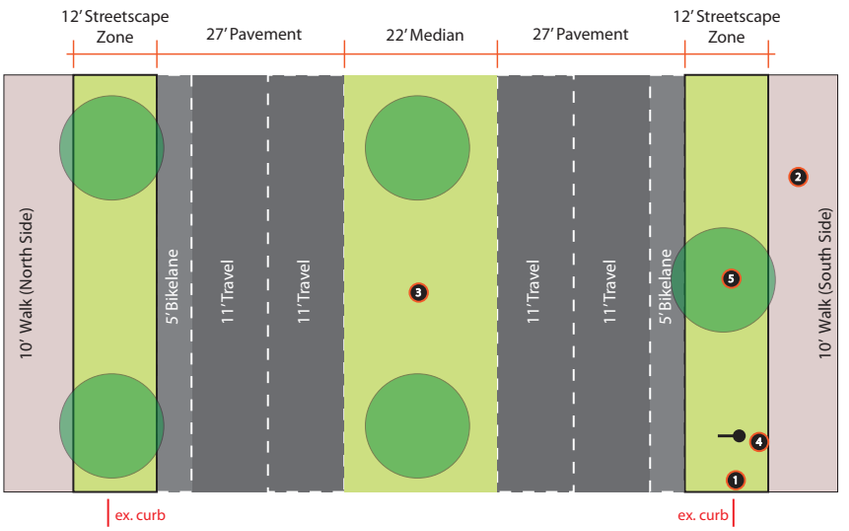


Section 1B/2 Full Level Development

In addition to 1-5 from the base level:

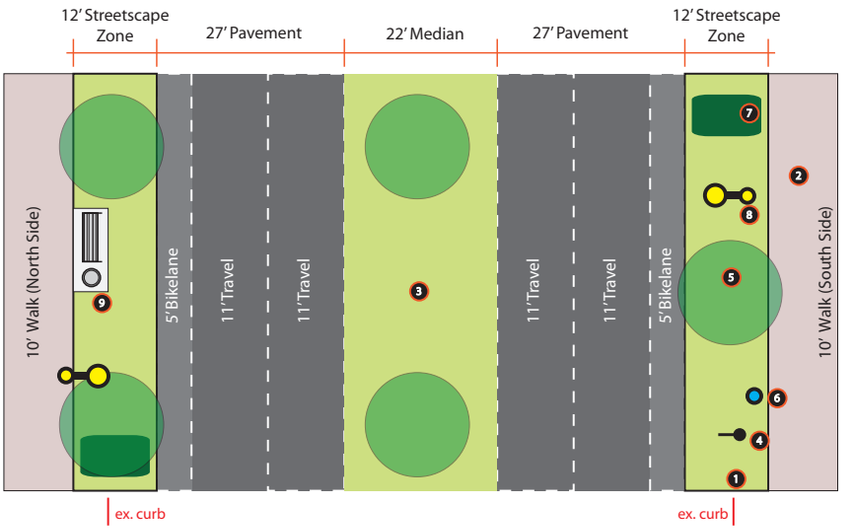
6. Security cameras (500' spacing at nodes)
7. 20% of Streetscape zone with extra landscaping + irrigation
8. All new combined lighting (80' spacing) and new pedestrian lighting in between.
9. Allowance for higher level site furnishings along the entire route
10. 33% of center median and streetscape zone designed as a stormwater system
11. Fencing (20% of length)
12. Colored Bike Lanes (5')
13. Porous pavement for parking

East Jefferson Details (cont.)



Section 3 Base Level Development

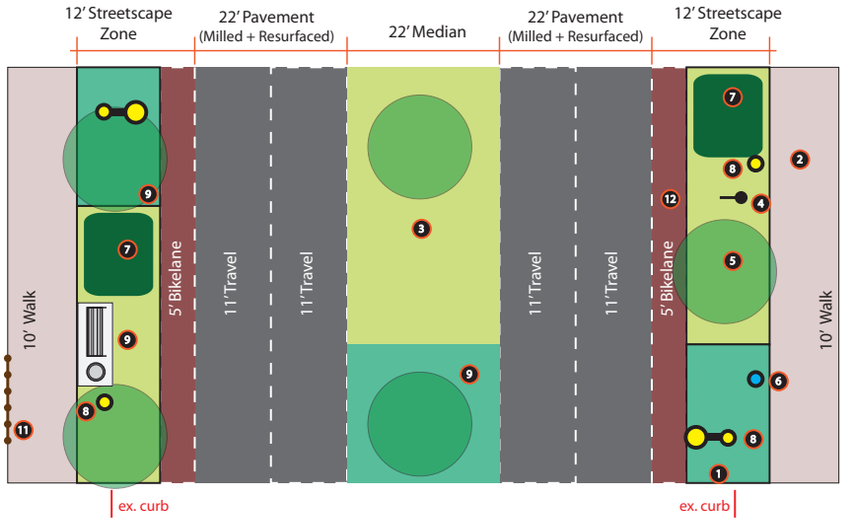
1. Removel of curb + 7' of pavement for streetscape zone
2. Remove existing sidewalk and replace with a new 10' wide (average) shared use path
3. Pavement removal to construct new 22' wide median with street trees
4. Allowance for signage including: regulatory, route markers, wayfinding
5. 30% Tree Replacement. 1/2 in tree pit, 1/2 in lawn



Section 3 Moderate Level Development

In addition to 1-5 from the base level:

6. Security cameras (at specified nodes and intersections only)
7. 10% of Streetscape zone with extra landscaping
8. All new combined lighting (80' spacing)
9. Allowance for moderate level site furnishings along the entire route



Section 3 Full Level Development

In addition to 1-5 from the base level:

6. Security cameras (500' spacing at nodes)
7. 20% of Streetscape zone with extra landscaping + irrigation
8. All new combined lighting (80' spacing) and new pedestrian lighting in between.
9. Allowance for higher level site furnishings along the entire route
10. 33% of center median and streetscape zone designed as a stormwater system
11. Fencing (20% of length)
12. Colored Bike Lanes (5')

Appendix E

Greenway Costing Tables

Greenway Costing Tables

The GREEN Task Force conducted a comprehensive costing exercise to determine total route costs for each of the priority routes. Costs were determined by developing a per unit cost for primary greenway construction activities and improvements, and then applying these costs on a measured basis across the routes. This cost reflects each routes "construction costs."

On top of the construction, project "soft costs" were estimated to cover the design and engineering fees, project management, contingencies, and other non-constructed related expenses that are anticipated as part of the greenways full implementation.

The following cost tables are included as part of this appendix:

- Total Greenway Project Cost Details
- Construction Cost Summary by Route Segment
- Construction Cost Summary by Category of Construction Activities
- Construction Cost Route Breakdowns (detailed)

Greenways Cost Estimate Definitions

- **Design** – The design of the greenways will be necessary to provide an in-depth knowledge of the existing conditions with the proposed changes to the landscape to accomplish the Greenway. This service is provided by a consultant with experience in landscape architecture and civil engineering.
- **Survey** – A survey of the existing conditions is required in order to accomplish the design, and to provide knowledge of the constraints or conditions the design must accommodate. A survey is performed by a licensed surveyor.
- **Environmental** – An environmental assessment is performed determine if any hazardous materials are found on the proposed site. Generally, there are two phases of environmental assessments that are performed. The first is an overall detection of potential hazardous conditions across the site. The second is an in-depth analysis of hazardous areas and remediation needs, occurring prior to design and construction.
- **SHPO** – This acronym stands for the State Historic Preservation Office. It will be necessary to review the impact of the proposed greenway on the historic fabric, districts, and landscape along the greenways. This is also a placeholder cost for other such agencies which may require review.
- **Consultant Fees** – These fees are for consultant services required to accomplish the project by acquiring, leasing, or attaching an easement to properties along the greenways. The consultants would be legal, accounting, real estate taxes, filing fees, and other such required coordination of professional efforts.
- **Construction Documents** – Documentation of the design, once approved, will be transformed into buildable plans and specifications. The construction documents will be bid to general contractors and sub-contractors in a competitive bid process.
- **Project Management** – Managing the work from concept design through opening of the greenway to users will require the expertise of people to coordinate many tasks. The management of the process is crucial to the success of the implementation and final use of the greenway. The Project Management will also include financial overseeing of the process, as well as public outreach to allow citizens to review and comment and alter the proposal to fit the community and surrounding neighborhoods.
- **Estimate Contingency** – An estimate contingency is based on the way in which the project costs have been assembled. The contingency for this Master Plan have been based on conceptual plans and ideas by the stakeholders. Therefore an estimate contingency allows for the wide variations the project may take as it moves through the process of design, construction documents and construction implementation.
- **General Conditions** – These conditions are the elements necessary to do the workings of construction. They generally deal with water, electricity, debris removal, as well as office items and communication systems, to miscellaneous rental items and services.

- **Permit Fee** – This fee is required as an approval by the City of Detroit, as well as other agencies that may be involved, to proceed with the construction implementation.
- **Construction Contingency** – This contingency is for the variances in construction materials and labor costs which may present a problem at any time. These conditions could be based on material arrival times, a shortage in plywood or other material necessary to continue work in a steady and efficient manner.
- **Construction Engineering** – The engineering required to perform this work is due to State of Michigan requirements of site engineering and site control measures. The consultants are required to report to the State of Michigan with the technically measured checks and balances of implementing safety codes and standards.
- **Construction Administration** – This administration is for a constant review of construction procedures by the design and documentation team. The consultant will be required to review the progress of the construction as documented, then reporting any discrepancies. Or the consultant will be required to adapt the design and documentation to meet unforeseen conditions during construction.
- **Project Contingency** – As an overall safeguard in determining the cost of any project, this contingency is for many miscellaneous extraneous conditions that may arise from the aforementioned tasks.
- **Escalation** – Escalation is an additional cost based on the rate of inflation. Should a project take more than one year to implement, the costs shown in this estimate may need to be brought up to date given cyclical financial increases. Our recommendation of 3% per year is based on the past four years of inflation rates, which have typically been below 3%.
- **Qualifications** – This Master Plan estimate does not take into account the following conditions: Purchase of property, easement costs, hazardous materials abatement, infrastructure or utility reconstruction.
- **Maintenance** – The maintenance of the greenways is anticipated to be performed by the Greenways Coalition. We did not include the cost of maintenance of the greenways Master Plan. We believe an overall City of Detroit maintenance program for the greenways is a necessary element to the use and continuance of greenways.

Greater Riverfront East District Greenway Plan **December 8th, 2011**

Total Greenway Project Cost Details

Disclaimers

Costs are based on 2011 dollars without escalation to future years. 3% escalation added per year cumulatively.

The costs for utility improvements are included for greenway specific improvements. Off-site utility extensions, utility upgrades, and maintenance have not been included.

The costs associated with land acquisition, easement / lease procurement, and other land rights have not been included.

The environmental conditions of the proposed greenway routes are unknown and costs associated with investigating the environmental conditions and of any remediation activities have not been included.

The removal of contaminated/hazardous soils and materials, underground obstructions, and other unknown conditions are not included.

The costs associated with addressing any flood mitigation needs have not been included.

Greenway maintenance costs are not included.

Items marked "Allowance" use a percentage of construction costs at all levels of development based on the "base" level of construction

Elmwood Connector	unit	Base	Moderate	Full
Phase 1 - Design Development				
Design	3.00%	$ 34,933.03	$ 75,126.70	$ 92,783.98
Survey	allowance (2%)	$ 23,300.00	$ 23,300.00	$ 23,300.00
Environ	allowance (1%)	$ 11,600.00	$ 11,600.00	$ 11,600.00
Traffic	allowance (1%)	$ 11,600.00	$ 11,600.00	$ 11,600.00
SHPO	allowance (1%)	$ 11,600.00	$ 11,600.00	$ 11,600.00
Construction Fees	allowance (2%)	$ 23,300.00	$ 23,300.00	$ 23,300.00
Construction Documents	4.00%	$ 46,577.37	$ 100,168.93	$ 123,711.97
PM	allowance (12%)	$ 139,700.00	$ 139,700.00	$ 139,700.00
Design Development Sub-Total		*$ 302,610.40*	*$ 396,395.63*	*$ 437,595.94*
Design Contingency	*5.00%*	*$ 15,130.52*	*$ 19,819.78*	*$ 21,879.80*
Phase 1 - Total		**$ 317,740.92**	**$ 416,215.41**	**$ 459,475.74**
Phase 2 - Construction Implementation				
Construction Cost Estimate		**$ 1,164,434.30**	**$ 2,504,223.31**	**$ 3,092,799.17**
Estimate Contingency	20.00%	$ 232,886.86	$ 500,844.66	$ 618,559.83
Permit Fee	5.00%	$ 58,221.72	$ 125,211.17	$ 154,639.96
Construction Contingency	5.00%	$ 58,221.72	$ 125,211.17	$ 154,639.96
Construction Engineering	7.00%	$ 81,510.40	$ 175,295.63	$ 216,495.94
Construction Administation	4.00%	$ 46,577.37	$ 100,168.93	$ 123,711.97
PM	allowance (10%)	$ 116,400.00	$ 116,400.00	$ 116,400.00
Construction Implementation Sub-Total		*$ 1,758,252.37*	*$ 3,647,354.87*	*$ 4,477,246.83*
Implementation Contingency	*5.00%*	*$ 87,912.62*	*$ 182,367.74*	*$ 223,862.34*
Phase 2 - Total		**$ 1,846,164.99**	**$ 3,829,722.61**	**$ 4,701,109.17**
Total Project Cost		**$ 2,163,905.91**	**$ 4,245,938.03**	**$ 5,160,584.91**
Cost per linear foot	7,074	$ 305.90	$ 600.22	$ 729.51

Belt Line Greenway	unit	Base	Moderate	Full
Phase 1 - Design Development				
Design	3.00%	$ 53,881.77	$ 82,305.77	$ 133,290.15
Survey	allowance (2%)	$ 35,900.00	$ 35,900.00	$ 35,900.00
Environ	allowance (1%)	$ 18,000.00	$ 18,000.00	$ 18,000.00
Traffic	allowance (1%)	$ 18,000.00	$ 18,000.00	$ 18,000.00
SHPO	allowance (1%)	$ 18,000.00	$ 18,000.00	$ 18,000.00
Construction Fees	allowance (2%)	$ 35,900.00	$ 35,900.00	$ 35,900.00
Construction Documents	4.00%	$ 71,842.36	$ 109,741.03	$ 177,720.20
PM	allowance (12%)	$ 215,500.00	$ 215,500.00	$ 215,500.00
Design Development Sub-Total		*$ 467,024.13*	*$ 533,346.80*	*$ 652,310.35*
Design Contingency	*5.00%*	*$ 23,351.21*	*$ 26,667.34*	*$ 32,615.52*
Phase 1 - Total		**$ 490,375.33**	**$ 560,014.14**	**$ 684,925.87**
Phase 2 - Construction Implementation				
Construction Cost Estimate		**$ 1,796,058.95**	**$ 2,743,525.76**	**$ 4,443,004.98**
Estimate Contingency	20.00%	$ 359,211.79	$ 548,705.15	$ 888,601.00
Permit Fee	5.00%	$ 89,802.95	$ 137,176.29	$ 222,150.25
Construction Contingency	5.00%	$ 89,802.95	$ 137,176.29	$ 222,150.25
Construction Engineering	7.00%	$ 125,724.13	$ 192,046.80	$ 311,010.35
Construction Administation	4.00%	$ 71,842.36	$ 109,741.03	$ 177,720.20
PM	allowance (10%)	$ 179,600.00	$ 179,600.00	$ 179,600.00
Construction Implementation Sub-Total		*$ 2,712,043.11*	*$ 4,047,971.32*	*$ 6,444,237.02*
Implementation Contingency	*5.00%*	*$ 135,602.16*	*$ 202,398.57*	*$ 322,211.85*
Phase 2 - Total		**$ 2,847,645.27**	**$ 4,250,369.89**	**$ 6,766,448.87**
Total Project Cost		**$ 3,338,020.60**	**$ 4,810,384.03**	**$ 7,451,374.74**
Cost per linear foot	5,650	$ 590.80	$ 851.40	$ 1,318.83

Kercheval Greenway	unit	Base (Alternate)	Base	Moderate	Full
Phase 1 - Design Development					
Design	3.00%	$ 55,456.53	$ 89,288.96	$ 163,152.87	$ 380,551.54
Survey	allowance (2%)	$ 59,500.00	$ 59,500.00	$ 59,500.00	$ 59,500.00
Environ	allowance (1%)	$ 29,800.00	$ 29,800.00	$ 29,800.00	$ 29,800.00
Traffic	allowance (1%)	$ 29,800.00	$ 29,800.00	$ 29,800.00	$ 29,800.00
SHPO	allowance (1%)	$ 29,800.00	$ 29,800.00	$ 29,800.00	$ 29,800.00
Construction Fees	allowance (2%)	$ 59,500.00	$ 59,500.00	$ 59,500.00	$ 59,500.00
Construction Documents	4.00%	$ 73,942.04	$ 119,051.95	$ 217,537.17	$ 507,402.05
PM	allowance (12%)	$ 221,800.00	$ 221,800.00	$ 221,800.00	$ 221,800.00
Design Development Sub-Total		*$ 559,598.57*	*$ 638,540.90*	*$ 810,890.04*	*$ 1,318,153.59*
Design Contingency	*5.00%*	*$ 27,979.93*	*$ 31,927.05*	*$ 40,544.50*	*$ 65,907.68*
Phase 1 - Total		**$ 587,578.49**	**$ 670,467.95**	**$ 851,434.54**	**$ 1,384,061.27**
Phase 2 - Construction Implementation					
Construction Cost Estimate		**$ 1,848,550.94**	**$ 2,976,298.63**	**$ 5,438,429.13**	**$ 12,685,051.25**
Estimate Contingency	20.00%	$ 369,710.19	$ 595,259.73	$ 1,087,685.83	$ 2,537,010.25
Permit Fee	5.00%	$ 92,427.55	$ 148,814.93	$ 271,921.46	$ 634,252.56
Construction Contingency	5.00%	$ 92,427.55	$ 148,814.93	$ 271,921.46	$ 634,252.56
Construction Engineering	7.00%	$ 129,398.57	$ 208,340.90	$ 380,690.04	$ 887,953.59
Construction Administation	4.00%	$ 73,942.04	$ 119,051.95	$ 217,537.17	$ 507,402.05
PM	allowance (10%)	$ 184,900.00	$ 184,900.00	$ 184,900.00	$ 184,900.00
Construction Implementation Sub-Total		*$ 2,791,356.83*	*$ 4,381,481.06*	*$ 7,853,085.08*	*$ 18,070,822.27*
Implementation Contingency	*5.00%*	*$ 139,567.84*	*$ 219,074.05*	*$ 392,654.25*	*$ 903,541.11*
Phase 2 - Total		**$ 2,930,924.67**	**$ 4,600,555.11**	**$ 8,245,739.33**	**$ 18,974,363.38**
Total Project Cost		**$ 3,518,503.16**	**$ 5,271,023.06**	**$ 9,097,173.88**	**$ 20,358,424.65**
Cost per linear foot	12,080	$ 291.27	$ 436.34	$ 753.08	$ 1,685.30

Conner Creek	unit	Base	Moderate	Full
Phase 1 - Design Development				
Design	3.00%	$ 5,579.36	$ 12,642.63	$ 27,000.65
Survey	allowance (6%)	$ 11,200.00	$ 11,200.00	$ 11,200.00
Environ	allowance (3%)	$ 5,600.00	$ 5,600.00	$ 5,600.00
Traffic	allowance (3%)	$ 5,600.00	$ 5,600.00	$ 5,600.00
SHPO	allowance (3%)	$ 5,600.00	$ 5,600.00	$ 5,600.00
Construction Fees	allowance (6%)	$ 11,200.00	$ 11,200.00	$ 11,200.00
Construction Documents	4.00%	$ 7,439.15	$ 16,856.84	$ 36,000.87
PM	allowance (12%)	$ 22,300.00	$ 22,300.00	$ 22,300.00
Design Development Sub-Total		*$ 74,518.52*	*$ 90,999.47*	*$ 124,501.52*
Design Contingency	*5.00%*	*$ 3,725.93*	*$ 4,549.97*	*$ 6,225.08*
Phase 1 - Total		**$ 78,244.44**	**$ 95,549.44**	**$ 130,726.60**
Phase 2 - Construction Implementation				
Construction Cost Estimate		**$ 185,978.80**	**$ 421,420.95**	**$ 900,021.71**
Estimate Contingency	20.00%	$ 37,195.76	$ 84,284.19	$ 180,004.34
Permit Fee	5.00%	$ 9,298.94	$ 21,071.05	$ 45,001.09
Construction Contingency	5.00%	$ 9,298.94	$ 21,071.05	$ 45,001.09
Construction Engineering	7.00%	$ 13,018.52	$ 29,499.47	$ 63,001.52
Construction Administation	4.00%	$ 7,439.15	$ 16,856.84	$ 36,000.87
PM	allowance (10%)	$ 18,600.00	$ 18,600.00	$ 18,600.00
Construction Implementation Sub-Total		*$ 280,830.10*	*$ 612,803.54*	*$ 1,287,630.61*
Implementation Contingency	*5.00%*	*$ 14,041.51*	*$ 30,640.18*	*$ 64,381.53*
Phase 2 - Total		**$ 294,871.61**	**$ 643,443.71**	**$ 1,352,012.14**
Total Project Cost		**$ 373,116.05**	**$ 738,993.15**	**$ 1,482,738.74**
Cost per linear foot	1,025	$ 364.02	$ 720.97	$ 1,446.57

Riverfront	unit	Villages Riverfront District	Marina District Riverfront	River Parks District
Phase 1 - Design Development				
Design	3.00%	$ 1,057,693.79	$ 788,048.65	$ 728,107.84
Survey	2.00%	$ 705,129.19	$ 525,365.77	$ 485,405.23
Environ	1.00%	$ 352,564.60	$ 262,682.88	$ 242,702.61
Traffic	1.00%	$ 352,564.60	$ 262,682.88	$ 242,702.61
SHPO	1.00%	$ 352,564.60	$ 262,682.88	$ 242,702.61
Construction Fees	2.00%	$ 705,129.19	$ 525,365.77	$ 485,405.23
Construction Documents	4.00%	$ 1,410,258.38	$ 1,050,731.53	$ 970,810.46
PM	allowance (2%)	$ 705,100.00	$ 705,100.00	$ 705,100.00
Design Development Sub-Total		*$ 5,641,004.34*	*$ 4,382,660.37*	*$ 4,102,936.61*
Design Contingency	*5.00%*	*$ 282,050.22*	*$ 219,133.02*	*$ 205,146.83*
Phase 1 - Total		**$ 5,923,054.56**	**$ 4,601,793.39**	**$ 4,308,083.44**
Phase 2 - Construction Implementation				
Construction Cost Estimate		**$ 35,256,459.57**	**$ 26,268,288.36**	**$ 24,270,261.49**
Estimate Contingency	20.00%	$ 7,051,291.91	$ 5,253,657.67	$ 4,854,052.30
Permit Fee	5.00%	$ 1,762,822.98	$ 1,313,414.42	$ 1,213,513.07
Construction Contingency	5.00%	$ 1,762,822.98	$ 1,313,414.42	$ 1,213,513.07
Construction Engineering	7.00%	$ 2,467,952.17	$ 1,838,780.19	$ 1,698,918.30
Construction Administation	4.00%	$ 1,410,258.38	$ 1,050,731.53	$ 970,810.46
PM	allowance (4%)	$ 1,410,300.00	$ 1,410,300.00	$ 1,410,300.00
Construction Implementation Sub-Total		*$ 51,121,908.00*	*$ 38,448,586.59*	*$ 35,631,368.70*
Implementation Contingency	*5.00%*	*$ 2,556,095.40*	*$ 1,922,429.33*	*$ 1,781,568.44*
Phase 2 - Total		**$ 53,678,003.40**	**$ 40,371,015.92**	**$ 37,412,937.14**
Total Project Cost		**$ 59,601,057.96**	**$ 44,972,809.31**	**$ 41,721,020.58**
Cost per linear foot	42,118	$ 1,415.10	$ 1,067.78	$ 990.57

Jefferson	unit	Base	Moderate	Full
Phase 1 - Design Development				
Design	3.00%	$ 480,576.20	$ 853,162.15	$ 1,459,843.09
Survey	allowance (2%)	$ 320,400.00	$ 320,400.00	$ 320,400.00
Environ	allowance (1%)	$ 160,200.00	$ 160,200.00	$ 160,200.00
Traffic	allowance (1%)	$ 160,200.00	$ 160,200.00	$ 160,200.00
SHPO	allowance (1%)	$ 160,200.00	$ 160,200.00	$ 160,200.00
Construction Fees	allowance (2%)	$ 320,400.00	$ 320,400.00	$ 320,400.00
Construction Documents	4.00%	$ 640,768.27	$ 1,137,549.53	$ 1,946,457.46
PM	allowance (2%)	$ 320,400.00	$ 320,400.00	$ 320,400.00
Design Development Sub-Total		*$ 2,563,144.47*	*$ 3,432,511.68*	*$ 4,848,100.55*
Design Contingency	*5.00%*	*$ 128,157.22*	*$ 171,625.58*	*$ 242,405.03*
Phase 1 - Total		**$ 2,691,301.70**	**$ 3,604,137.27**	**$ 5,090,505.57**
Phase 2 - Construction Implementation				
Construction Cost Estimate		**$ 16,019,206.78**	**$ 28,438,738.32**	**$ 48,661,436.39**
Estimate Contingency	20.00%	$ 3,203,841.36	$ 5,687,747.66	$ 9,732,287.28
Permit Fee	5.00%	$ 800,960.34	$ 1,421,936.92	$ 2,433,071.82
Construction Contingency	5.00%	$ 800,960.34	$ 1,421,936.92	$ 2,433,071.82
Construction Engineering	7.00%	$ 1,121,344.47	$ 1,990,711.68	$ 3,406,300.55
Construction Administation	4.00%	$ 640,768.27	$ 1,137,549.53	$ 1,946,457.46
PM	allowance (4%)	$ 640,800.00	$ 640,800.00	$ 640,800.00
Construction Implementation Sub-Total		*$ 23,227,881.56*	*$ 40,739,421.03*	*$ 69,253,425.31*
Implementation Contingency	*5.00%*	*$ 1,161,394.08*	*$ 2,036,971.05*	*$ 3,462,671.27*
Phase 2 - Total		**$ 24,389,275.63**	**$ 42,776,392.09**	**$ 72,716,096.57**
Total Project Cost		**$ 27,080,577.33**	**$ 46,380,529.35**	**$ 77,806,602.15**
Cost per linear foot	31,014	$ 873.17	$ 1,495.47	$ 2,508.76

Greater Riverfront East District Greenway Plan **December 8th, 2011**

Construction Cost Summary by Route Segement

Elmwood Connector — 1.34 miles

	Total Cost			LF/Cost			
Segment	Base	Mod	Full	Base	Mod	Full	Length
E-1 (Dequindre to Chene)	$ 311,637.21	$ 711,910.40	$ 857,378.35	$ 151.72	$ 346.60	$ 417.42	2,054
E-2 (Chene to Prince Hall)	$ 288,353.06	$ 627,881.74	$ 742,080.49	$ 173.71	$ 378.24	$ 447.04	1,660
E-3 (Prince Hall to Ellery)	$ 268,206.36	$ 523,518.34	$ 625,889.83	$ 161.96	$ 316.13	$ 377.95	1,656
E-4 (Ellergy to BeltLine)	$ 296,237.68	$ 640,912.84	$ 867,450.50	$ 173.85	$ 376.12	$ 509.07	1,704
Construction Cost	$ 1,164,434.30	$ 2,504,223.31	$ 3,092,799.17	$ 164.61	$ 354.00	$ 437.21	**7,074**

Belt Line Greenway — 1.07 miles

	Total Cost			LF/Cost			
Segment	Base	Mod	Full	Base	Mod	Full	Length
B-1 (Vernor to Kercheval)	$ 365,630.78	$ 518,007.81	$ 791,288.35	$ 399.60	$ 566.13	$ 864.80	915
B-2 (Kercheval to Lafayette)	$ 585,481.80	$ 902,705.61	$ 1,446,865.48	$ 274.87	$ 423.81	$ 679.28	2,130
B-3 (Lafayette to Jefferson)	$ 387,174.53	$ 625,507.89	$ 1,089,909.76	$ 319.98	$ 516.95	$ 900.75	1,210
B-4 (Jefferon to RiverWalk)	$ 457,771.83	$ 697,304.45	$ 1,114,941.39	$ 328.15	$ 499.86	$ 799.24	1,395
Construction Cost	$ 1,796,058.95	$ 2,743,525.76	$ 4,443,004.98	$ 317.89	$ 485.58	$ 786.37	**5,650**

Kercheval Greenway — 2.29 miles

	Total Cost			LF/Cost			
Segment	Base	Mod	Full	Base	Mod	Full	Length
K-1 (BeltLine to Grand)	$ 368,685.90	$ 687,595.64	$ 1,591,609.08	$ 249.96	$ 466.17	$ 1,079.06	1,475
K-2 (Grand to Van Dyk)	$ 522,756.14	$ 975,352.77	$ 2,145,329.10	$ 237.62	$ 443.34	$ 975.15	2,200
K-3 (Van Dyk to Burns)	$ 414,857.53	$ 764,192.57	$ 1,660,853.14	$ 252.96	$ 465.97	$ 1,012.72	1,640
K-4 (Burns to Hurlbut)	$ 819,795.67	$ 1,491,823.19	$ 3,758,637.73	$ 241.83	$ 440.07	$ 1,108.74	3,390
K-5 (Hurlbut to Saint Jean)	$ 850,203.38	$ 1,519,464.96	$ 3,528,622.21	$ 251.91	$ 450.21	$ 1,045.52	3,375
Construction Cost	$ 2,976,298.63	$ 5,438,429.13	$ 12,685,051.25	$ 246.38	$ 450.20	$ 1,050.09	**12,080**

Conner Creek Enhancement — 0.19 miles

	Total Cost			LF/Cost			
Segment	Base	Mod	Full	Base	Mod	Full	Length
C-1 (Kercheval to Jefferson)	$ 185,978.80	$ 421,420.95	$ 900,021.71	$ 181.44	$ 411.14	$ 878.07	1,025
Construction Cost	$ 185,978.80	$ 421,420.95	$ 900,021.71	$ 181.44	$ 411.14	$ 878.07	**1,025**

Riverfront

7.98 miles

	Total Cost			LF/Cost			
Segment	Base	Mod	Full	Base	Mod	Full	Length
R-1 (Gabriel Richard to Erma Hend.)	$ -	$ -	$ 11,578,058.97	$ -	$ -	$ 2,646.41	4,375
R-2 (Erma Henderson Marina)	$ -	$ -	$ 8,662,962.20	$ -	$ -	$ 2,544.19	3,405
R-3 Erma Hend. thru Berry Sub.)	$ -	$ -	$ 2,896,744.13	$ -	$ -	$ 1,307.79	2,215
R-4 (Berry Sub. To Marquette)	$ -	$ -	$ 12,118,694.28	$ -	$ -	$ 2,357.72	5,140
R-5 (Marquette to Saint Jean)	$ -	$ -	$ 13,261,377.39	$ -	$ -	$ 2,471.83	5,365
R-6 (Saint Jean to CSO Canal)	$ -	$ -	$ 13,006,910.98	$ -	$ -	$ 1,616.17	8,048
R-7 (CSO Canal thru Maheras)	$ -	$ -	$ 7,187,570.98	$ -	$ -	$ 1,481.97	4,850
R-8 (Maheras to Lenox)	$ -	$ -	$ 3,973,756.54	$ -	$ -	$ 2,614.31	1,520
R-9 (Lenox to Ford Brush)	$ -	$ -	$ 2,810,495.87	$ -	$ -	$ 1,124.20	2,500
R-10 (Ford Brush to Windmill Point)	$ -	$ -	$ 10,298,438.10	$ -	$ -	$ 2,191.16	4,700
Construction Cost	$ -	$ -	$ 85,795,009.43	$ -	$ -	$ 2,037.02	**42,118**

Jefferson

5.87 miles

	Total Cost			LF/Cost			
Segment	Base	Mod	Full	Base	Mod	Full	Length
J-1 (I-375 to Saint Aubin)	$ 1,133,324.52	$ 2,051,779.84	$ 4,322,392.25	$ 438.25	$ 793.42	$ 1,671.46	2,586
J-2 (Saint Aubin to Chene)	$ 767,751.01	$ 1,304,808.56	$ 2,698,572.10	$ 482.86	$ 820.63	$ 1,697.22	1,590
J-3 (Chene to McDougal)	$ 861,796.07	$ 1,621,394.40	$ 3,072,700.69	$ 433.50	$ 815.59	$ 1,545.62	1,988
J-4 (McDougal to Mount Elliott)	$ 909,558.51	$ 1,655,002.43	$ 3,329,678.08	$ 468.36	$ 852.22	$ 1,714.56	1,942
J-5 (Mount Elliott to Canton)	$ 959,748.70	$ 1,563,394.63	$ 2,798,627.68	$ 493.70	$ 804.22	$ 1,439.62	1,944
J-6 (Canton to Baldwin)	$ 992,321.40	$ 1,777,068.48	$ 4,043,561.91	$ 483.12	$ 865.17	$ 1,968.63	2,054
J-7 (Baldwin to Parker)	$ 761,858.89	$ 1,703,208.78	$ 2,116,543.10	$ 536.52	$ 1,199.44	$ 1,490.52	1,420
J-8 (Parker to Burns)	$ 779,225.76	$ 1,375,923.61	$ 2,275,929.56	$ 491.32	$ 867.54	$ 1,435.01	1,586
J-9 (Burns to McClellan)	$ 1,003,403.98	$ 2,377,939.20	$ 2,866,502.94	$ 469.76	$ 1,113.27	$ 1,342.00	2,136
J-10 (McClellen to Garfield)	$ 945,837.09	$ 1,657,096.10	$ 3,051,556.33	$ 484.05	$ 848.05	$ 1,561.70	1,954
J-11 (Garfield to Saint Jean)	$ 1,535,535.30	$ 2,484,498.75	$ 4,206,685.80	$ 572.11	$ 925.67	$ 1,567.32	2,684
J-12 (Saint Jean to Conner)	$ 1,714,242.30	$ 3,109,281.60	$ 4,647,112.01	$ 514.79	$ 933.72	$ 1,395.53	3,330
J-13 (Conner to Coplin)	$ 1,500,106.97	$ 2,441,599.05	$ 4,149,188.25	$ 563.95	$ 917.89	$ 1,559.85	2,660
J-14 (Coplin to Alter)	$ 2,154,496.29	$ 3,315,742.88	$ 5,082,385.68	$ 686.15	$ 1,055.97	$ 1,618.59	3,140
Construction Cost	$ 16,019,206.78	$ 28,438,738.32	$ 48,661,436.39	$ 516.52	$ 916.96	$ 1,569.02	**31,014**

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Construction Cost Summary by Category

Elmwood	Base	%	Moderate	%	Full	%
Base Section	$711,251.40	61.08%	$711,251.40	28.40%	$723,251.40	23.39%
Intersections	$182,617.00	15.68%	$421,050.33	16.81%	$559,958.17	18.11%
Security	$0.00	0.00%	$0.00	0.00%	$90,533.33	2.93%
Lighting	$0.00	0.00%	$884,250.00	35.31%	$1,061,100.00	34.31%
Furnishings + Landscaping	$79,886.00	6.86%	$239,297.41	9.56%	$384,236.73	12.42%
Utility + Cons. Allowances	$190,679.90	16.38%	$248,374.17	9.92%	$273,719.54	8.85%
Construction Cost	**$1,164,434.30**		**$2,504,223.31**		**$3,092,799.17**	

BeltLine	Base	%	Moderate	%	Full	%
Base Section	$591,922.86	32.96%	$664,659.72	24.23%	$676,659.72	15.23%
Intersections	$219,827.00	12.24%	$812,730.11	29.62%	$1,636,891.20	36.84%
Security	$30,266.67	1.69%	$121,066.67	4.41%	$625,000.00	14.07%
Lighting	$706,250.00	39.32%	$706,250.00	25.74%	$847,500.00	19.07%
Furnishings + Landscaping	$58,203.50	3.24%	$208,430.34	7.60%	$353,381.82	7.95%
Utility + Cons. Allowances	$189,588.92	10.56%	$230,388.92	8.40%	$303,572.24	6.83%
Construction Cost	**$1,796,058.95**		**$2,743,525.76**		**$4,443,004.98**	

Kercheval	Base	%	Moderate	%	Full	%
Base Section	$1,729,627.82	58.11%	$2,226,357.42	40.94%	$4,402,610.22	34.71%
Intersections	$394,107.50	13.24%	$505,467.50	9.29%	$1,284,189.39	10.12%
Security	$0.00	0.00%	$113,166.67	2.08%	$151,333.33	1.19%
Lighting	$0.00	0.00%	$965,594.67	17.76%	$3,654,200.00	28.81%
Furnishings + Landscaping	$285,088.00	9.58%	$954,342.82	17.55%	$2,207,162.75	17.40%
Utility + Cons. Allowances	$567,475.30	19.07%	$673,500.06	12.38%	$985,555.56	7.77%
Construction Cost	**$2,976,298.63**		**$5,438,429.13**		**$12,685,051.25**	

Conner Crk / St. Jean	Base	%	Moderate	%	Full	%
Base Section	$84,080.18	45.21%	$84,080.18	19.95%	$336,320.72	37.37%
Intersections	$21,021.00	11.30%	$21,021.00	4.99%	$64,018.00	7.11%
Security	$0.00	0.00%	$30,266.67	7.18%	$30,266.67	3.36%
Lighting	$0.00	0.00%	$124,281.25	29.49%	$201,156.25	22.35%
Furnishings + Landscaping	$4,535.63	2.44%	$75,291.20	17.87%	$161,169.82	17.91%
Utility + Cons. Allowances	$76,341.99	41.05%	$86,480.65	20.52%	$107,090.25	11.90%
Construction Cost	**$185,978.80**		**$421,420.95**		**$900,021.71**	

RiverWalk	Base	%	Moderate	%	Full	%
Base Section	$0.00		$0.00		$41,479,160.06	48.35%
Intersections	$0.00		$0.00		$15,498,435.72	18.06%
Security	$0.00		$0.00		$4,361,800.00	5.08%
Lighting	$0.00		$0.00		$11,020,105.75	12.84%
Furnishings + Landscaping	$0.00		$0.00		$8,867,694.20	10.34%
Utility + Cons. Allowances	$0.00		$0.00		$4,567,813.70	5.32%
Construction Cost	**$0.00**		**$0.00**		**$85,795,009.43**	

E. Jefferson Totals	Base	%	Moderate	%	Full	%
Base Section	$6,773,746.83	42.29%	$7,953,505.04	27.97%	$18,235,689.51	37.47%
Intersections	$6,136,804.10	38.31%	$6,858,302.56	24.12%	$7,945,712.28	16.33%
Security	$0.00	0.00%	$744,333.33	2.62%	$1,156,533.33	2.38%
Lighting	$0.00	0.00%	$7,520,895.00	26.45%	$11,874,495.00	24.40%
Furnishings + Landscaping	$351,233.55	2.19%	$2,069,467.73	7.28%	$5,285,937.71	10.86%
Utility + Cons. Allowances	$2,757,422.30	17.21%	$3,292,234.66	11.58%	$4,163,068.55	8.56%
Construction Cost	**$16,019,206.78**		**$28,438,738.32**		**$48,661,436.39**	

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Construction Costs Route Breakdown

	Kit-of-Parts	Unit		Cost/Unit	Elmwood Length: 7,074 Base	Mod.	Full	Costs Base	Mod.	Full
PRIMARY CROSS-SECTIONS	Off-Road 10' Trail Paving	LF	$	78.56	0	0	0	$0.00	$0.00	$0.00
	Off-Road 12' Trail Paving	LF	$	100.54	7074	7,074	7074	$711,251.40	$711,251.40	$711,251.40
	Off-Road 20' Trail Paving	LF	$	117.64	0	0	0	$0.00	$0.00	$0.00
	Trail counters (installed price)	EA	$	6,000.00			2	$0.00	$0.00	$12,000.00
	Neighborhood Connector 1 Paving Section (Base)	LF	$	144.98	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector 1 Paving Section (Moderate)	LF	$	196.38	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector 1 Paving Section (Full)	LF	$	368.46	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector - Parking (Base)	LF	$	135.97	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector - Parking (High)	LF	$	343.47	0	0	0	$0.00	$0.00	$0.00
	Principal Route Variant A (Full)	LF	$	328.12	0	0	0	$0.00	$0.00	$0.00
	*** Bus Stops added for E. Jefferson (10k moderate, 30k full, @ 1/4 mile)									
	East Jefferson Cross Section 1A - Base	LF	$	184.60	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1A - Full	LF	$	451.69	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1B/2 - Base	LF	$	213.95	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1B/2 - Full	LF	$	617.30	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 3 - Base	LF	$	345.98	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 3 - Full	LF	$	647.84	0	0	0	$0.00	$0.00	$0.00
INTERSECTIONS / CROSSINGS / NODES	Mid-Block Crossing for Off-Road Trail (Minor)	EA	$	5,043.00	5	5	5	$25,215.00	$25,215.00	$25,215.00
	Mid-Block Crossing for Off-Road Trail (Major)	EA	$	24,119.11	0	0	0	$0.00	$0.00	$0.00
	Road Intersection - 4-way	EA	$	10,664.00	4	4	4	$42,656.00	$42,656.00	$42,656.00
	Refuge Island (Street Crossing)	EA	$	5,431.20	0	0	0	$0.00	$0.00	$0.00
	Bump Out (1 corner)	EA	$	2,784.00	0	0	14	$0.00	$0.00	$38,976.00
	Signalization - Low (Flashers)	EA	$	40,000.00	1	5	5	$40,000.00	$200,000.00	$200,000.00
	Signalization - Moderate (Hawk)	EA	$	90,000.00	0	0	0	$0.00	$0.00	$0.00
	Signalization - Full Traffic Signals	EA	$	200,000.00	0	0	0	$0.00	$0.00	$0.00
	Green Gateways (Minor)	EA	$	10,510.50	2	2	1	$21,021.00	$21,021.00	$10,510.50
	Green Gateways (Major)	EA	$	32,009.00	0	0	1	$0.00	$0.00	$32,009.00
	Pocket Park - Small (1/4 acre)	EA	$	53,725.00	1	1	1	$53,725.00	$53,725.00	$53,725.00
	Pocket Park - Large (1 acre)	EA	$	183,900.00	0	0	0	$0.00	$0.00	$0.00
	Landscape Restoration / Open Space (100' x 200')	EA	$	13,072.22	0	6	12	$0.00	$78,433.33	$156,866.67
	Roundabouts	EA	$	217,481.94	0	0	0	$0.00	$0.00	$0.00
SITE AMENITY ADDONS + UTILITIES	Security: Operations (Required for any Security)	EA	$	15,000.00	0	0	4	$0.00	$0.00	$60,000.00
	Security: Moderate (at Node/Point)	EA	$	7,633.33	0	0	4	$0.00	$0.00	$30,533.33
	Security: High (Full Coverage)	LF	$	100.00	0	0	0	$0.00	$0.00	$0.00
	Street Lighting: Moderate	LF	$	74.83	0	0	0	$0.00	$0.00	$0.00
	Street Lighting: High	LF	$	114.83	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Lighting: Moderate	LF	$	125.00	0	7,074	0	$0.00	$884,250.00	$0.00
	Pedestrian Lighting: High	LF	$	150.00	0	0	7074	$0.00	$0.00	$1,061,100.00
	Pedestrian Lighting: Combined Ped/Vehicle (Moderate)	LF	$	121.25	0	0	0	$0.00	$0.00	$0.00
	Special Lighting - Addition - Bollards + Extras	LF	$	235.00	0	0	0	$0.00	$0.00	$0.00
	Furnishings: Moderate	LF	$	17.37	0	7,074	0	$0.00	$122,866.34	$0.00
	Furnishings: High	LF	$	28.49	0	0	7,074	$0.00	$0.00	$201,549.79
	Trees, landscaped area	LF	$	14.75	5,416	5416	5416	$79,886.00	$79,886.00	$79,886.00
	Street Trees in Tree Pit, hardscaped area	LF	$	23.00	0	0	0	$0.00	$0.00	$0.00
	Landscape beds (10 ft wide)	LF	$	103.32	0	354	707	$0.00	$36,545.07	$73,090.14
	Irrigation (10ft wide area)	LF	$	21.00	0	0	1,415	$0.00	$0.00	$29,710.80
	Fencing - 6ft Decorative	LF	$	131.00	0	0	0	$0.00	$0.00	$0.00
	Utility/Erosion Control - Off-Road	LF	$	19.87	7074	7074	7074	$140,536.80	$140,536.80	$140,536.80
	Utility/Erosion Control - On-Road (Minor)	LF	$	36.37	0	0	0	$0.00	$0.00	$0.00
	Utility/Erosion Control - On-Road (Major)	LF	$	66.67	0	0	0	$0.00	$0.00	$0.00
RIVERWALK KITS	RiverWalk - Section 1 - (Soft Shore Stabilization)	LF	$	660.61	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 1 - (Existing Sheet Pile w/ Repairs)	LF	$	1,321.44	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 1 - (New Sheet Pile)	LF	$	1,923.94	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 2 - (Marina Edge)	LF	$	2,061.69	0	0	0	$0.00	$0.00	$0.00
	RiverWalk (Elevated)	LF	$	3,636.69	0	0	0	$0.00	$0.00	$0.00
	RiverWalk Edge - Section 3 - (Shared Use Off-River - Adj. Road)	LF	$	484.78	0	0	0	$0.00	$0.00	$0.00
	RiverWalk Edge - Section 3 - (Shared Use Off-River)	LF	$	494.53	0	0	0	$0.00	$0.00	$0.00
	Overlook	EA	$	143,588.89	0	0	0	$0.00	$0.00	$0.00
	Riverwalk Plaza - Minor	EA	$	970,008.33	0	0	0	$0.00	$0.00	$0.00
	Riverwalk Plaza - Major	EA	$	3,311,979.17	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Landscaping (Mod)	LF	$	81.69	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Landscaping (High)	LF	$	149.01	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Furnishings (Mod)	LF	$	57.18	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Furnishings (High)	LF	$	91.20	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Bridge	EA	$	500,000.00	0	0	0	$0.00	$0.00	$0.00
	Vehicle/Pedestrian Bridge	LF	$	20,000.00	0	0	0	$0.00	$0.00	$0.00
	Elevated Concrete Walkway	LF	$	2,250.00	0	0	0	$0.00	$0.00	$0.00
	Boardwalk (Wood)	LF	$	750.00	0	0	0	$0.00	$0.00	$0.00
	Sub-Total							$1,114,291.20	$2,396,385.94	$2,959,616.43
	Construction Allowances									
	Mobilization / Staking / Fencing	%		0.015				$16,714.37	$35,945.79	$44,394.25
	Traffic Control	%		0.01				$11,142.91	$23,963.86	$29,596.16
	Allowance for miscellaneous utility work	%		0.020				$22,285.82	$47,927.72	$59,192.33
	Construction Costs							$1,164,434.30	$2,504,223.31	$3,092,799.17
	LF/Costs							$164.61	$354.00	$437.21

Greater Riverfront East District Greenway Plan **December 8th, 2011**

Construction Costs Route Breakdown

	Kit-of-Parts	Unit		Cost/Unit	Beltline Length: 5,650 Base	Mod.	Full	Costs Base	Mod.	Full
PRIMARY CROSS-SECTIONS	Off-Road 10' Trail Paving	LF	$	78.56	0	0	0	$0.00	$0.00	$0.00
	Off-Road 12' Trail Paving	LF	$	100.54	4255	0	0	$427,816.61	$0.00	$0.00
	Off-Road 20' Trail Paving	LF	$	117.64	1395	5650	5,650	$164,106.25	$664,659.72	$664,659.72
	Trail counters (installed price)	EA	$	6,000.00			2	$0.00	$0.00	$12,000.00
	Neighborhood Connector 1 Paving Section (Base)	LF	$	144.98	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector 1 Paving Section (Moderate)	LF	$	196.38	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector 1 Paving Section (Full)	LF	$	368.46	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector - Parking (Base)	LF	$	135.97	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector - Parking (High)	LF	$	343.47	0	0	0	$0.00	$0.00	$0.00
	Principal Route Variant A (Full)	LF	$	328.12	0	0	0	$0.00	$0.00	$0.00
	*** Bus Stops added for E. Jefferson (10k moderate, 30k full, @ 1/4 mile)									
	East Jefferson Cross Section 1A - Base	LF	$	184.60	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1A - Full	LF	$	451.69	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1B/2 - Base	LF	$	213.95	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1B/2 - Full	LF	$	617.30	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 3 - Base	LF	$	345.98	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 3 - Full	LF	$	647.84	0	0	0	$0.00	$0.00	$0.00
INTERSECTIONS / CROSSINGS / NODES	Mid-Block Crossing for Off-Road Trail (Minor)	EA	$	5,043.00	3	0	0	$15,129.00	$0.00	$0.00
	Mid-Block Crossing for Off-Road Trail (Major)	EA	$	24,119.11	0	3	3	$0.00	$72,357.33	$72,357.33
	Road Intersection - 4-way	EA	$	10,664.00	4	4	4	$42,656.00	$42,656.00	$42,656.00
	Refuge Island (Street Crossing)	EA	$	5,431.20	0	0	1	$0.00	$0.00	$5,431.20
	Bump Out (1 corner)	EA	$	2,784.00	0	8	16	$0.00	$22,272.00	$44,544.00
	Signalization - Low (Flashers)	EA	$	40,000.00	3	4	1	$120,000.00	$160,000.00	$40,000.00
	Signalization - Moderate (Hawk)	EA	$	90,000.00	0	1	4	$0.00	$90,000.00	$360,000.00
	Signalization - Full Traffic Signals	EA	$	200,000.00	0	0	0	$0.00	$0.00	$0.00
	Green Gateways (Minor)	EA	$	10,510.50	4	4	0	$42,042.00	$42,042.00	$0.00
	Green Gateways (Major)	EA	$	32,009.00	0	0	4	$0.00	$0.00	$128,036.00
	Pocket Park - Small (1/4 acre)	EA	$	53,725.00	0	3	0	$0.00	$161,175.00	$0.00
	Pocket Park - Large (1 acre)	EA	$	183,900.00	0	0	3	$0.00	$0.00	$551,700.00
	Landscape Restoration / Open Space (100' x 200')	EA	$	13,072.22	0	17	30	$0.00	$222,227.78	$392,166.67
	Roundabouts	EA	$	217,481.94	0	0	0	$0.00	$0.00	$0.00
SITE AMENITY ADDONS + UTILITIES	Security: Operations (Required for any Security)	EA	$	15,000.00	1	4	4	$15,000.00	$60,000.00	$60,000.00
	Security: Moderate (at Node/Point)	EA	$	7,633.33	2	8	0	$15,266.67	$61,066.67	$0.00
	Security: High (Full Coverage)	LF	$	100.00	0	0	5,650	$0.00	$0.00	$565,000.00
	Street Lighting: Moderate	LF	$	74.83	0	0	0	$0.00	$0.00	$0.00
	Street Lighting: High	LF	$	114.83	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Lighting: Moderate	LF	$	125.00	5650	5,650	0	$706,250.00	$706,250.00	$0.00
	Pedestrian Lighting: High	LF	$	150.00	0	0	5650	$0.00	$0.00	$847,500.00
	Pedestrian Lighting: Combined Ped/Vehicle (Moderate)	LF	$	121.25	0	0	0	$0.00	$0.00	$0.00
	Special Lighting - Addition - Bollards + Extras	LF	$	235.00	0	0	0	$0.00	$0.00	$0.00
	Furnishings: Moderate	LF	$	17.37	0	5,650	0	$0.00	$98,133.28	$0.00
	Furnishings: High	LF	$	28.49	0	0	5,650	$0.00	$0.00	$160,977.71
	Trees, landscaped area	LF	$	14.75	3,946	3520	3520	$58,203.50	$51,920.00	$51,920.00
	Street Trees in Tree Pit, hardscaped area	LF	$	23.00	0	0	0	$0.00	$0.00	$0.00
	Landscape beds (10 ft wide)	LF	$	103.32	0	565	1,130	$0.00	$58,377.06	$116,754.11
	Irrigation (10ft wide area)	LF	$	21.00	0	0	1,130	$0.00	$0.00	$23,730.00
	Fencing - 6ft Decorative	LF	$	131.00	0	0	0	$0.00	$0.00	$0.00
	Utility/Erosion Control - Off-Road	LF	$	19.87	5650	5650	5650	$112,246.67	$112,246.67	$112,246.67
	Utility/Erosion Control - On-Road (Minor)	LF	$	36.37	0	0	0	$0.00	$0.00	$0.00
	Utility/Erosion Control - On-Road (Major)	LF	$	66.67	0	0	0	$0.00	$0.00	$0.00
RIVERWALK KITS	RiverWalk - Section 1 - (Soft Shore Stabilization)	LF	$	660.61	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 1 - (Existing Sheet Pile w/ Repairs)	LF	$	1,321.44	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 1 - (New Sheet Pile)	LF	$	1,923.94	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 2 - (Marina Edge)	LF	$	2,061.69	0	0	0	$0.00	$0.00	$0.00
	RiverWalk (Elevated)	LF	$	3,636.69	0	0	0	$0.00	$0.00	$0.00
	RiverWalk Edge - Section 3 - (Shared Use Off-River - Adj. Road)	LF	$	484.78	0	0	0	$0.00	$0.00	$0.00
	RiverWalk Edge - Section 3 - (Shared Use Off-River)	LF	$	494.53	0	0	0	$0.00	$0.00	$0.00
	Overlook	EA	$	143,588.89	0	0	0	$0.00	$0.00	$0.00
	Riverwalk Plaza - Minor	EA	$	970,008.33	0	0	0	$0.00	$0.00	$0.00
	Riverwalk Plaza - Major	EA	$	3,311,979.17	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Landscaping (Mod)	LF	$	81.69	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Landscaping (High)	LF	$	149.01	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Furnishings (Mod)	LF	$	57.18	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Furnishings (High)	LF	$	91.20	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Bridge	EA	$	500,000.00	0	0	0	$0.00	$0.00	$0.00
	Vehicle/Pedestrian Bridge	LF	$	20,000.00	0	0	0	$0.00	$0.00	$0.00
	Elevated Concrete Walkway	LF	$	2,250.00	0	0	0	$0.00	$0.00	$0.00
	Boardwalk (Wood)	LF	$	750.00	0	0	0	$0.00	$0.00	$0.00
	Sub-Total							$1,718,716.69	$2,625,383.50	$4,251,679.41
	Construction Allowances									
	Mobilization / Staking / Fencing	%		0.015				$25,780.75	$39,380.75	$63,775.19
	Traffic Control	%		0.01				$17,187.17	$26,253.84	$42,516.79
	Allowance for miscellaneous utility work	%		0.020				$34,374.33	$52,507.67	$85,033.59
	Construction Costs							$1,796,058.95	$2,743,525.76	$4,443,004.98
	LF/Costs							$317.89	$485.58	$786.37

Greater Riverfront East District Greenway Plan **December 8th, 2011**

Construction Costs Route Breakdown

	Kit-of-Parts	Unit		Cost/Unit	Beltline Length: 5,650 Base	Mod.	Full	Costs Base	Mod.	Full
PRIMARY CROSS-SECTIONS	Off-Road 10' Trail Paving	LF	$	78.56	0	0	0	$0.00	$0.00	$0.00
	Off-Road 12' Trail Paving	LF	$	100.54	4255	0	0	$427,816.61	$0.00	$0.00
	Off-Road 20' Trail Paving	LF	$	117.64	1395	5650	5,650	$164,106.25	$664,659.72	$664,659.72
	Trail counters (installed price)	EA	$	6,000.00			2	$0.00	$0.00	$12,000.00
	Neighborhood Connector 1 Paving Section (Base)	LF	$	144.98	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector 1 Paving Section (Moderate)	LF	$	196.38	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector 1 Paving Section (Full)	LF	$	368.46	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector - Parking (Base)	LF	$	135.97	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector - Parking (High)	LF	$	343.47	0	0	0	$0.00	$0.00	$0.00
	Principal Route Variant A (Full)	LF	$	328.12	0	0	0	$0.00	$0.00	$0.00
	*** Bus Stops added for E. Jefferson (10k moderate, 30k full, @ 1/4 mile)									
	East Jefferson Cross Section 1A - Base	LF	$	184.60	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1A - Full	LF	$	451.69	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1B/2 - Base	LF	$	213.95	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1B/2 - Full	LF	$	617.30	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 3 - Base	LF	$	345.98	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 3 - Full	LF	$	647.84	0	0	0	$0.00	$0.00	$0.00
INTERSECTIONS / CROSSINGS / NODES	Mid-Block Crossing for Off-Road Trail (Minor)	EA	$	5,043.00	3	0	0	$15,129.00	$0.00	$0.00
	Mid-Block Crossing for Off-Road Trail (Major)	EA	$	24,119.11	0	3	3	$0.00	$72,357.33	$72,357.33
	Road Intersection - 4-way	EA	$	10,664.00	4	4	4	$42,656.00	$42,656.00	$42,656.00
	Refuge Island (Street Crossing)	EA	$	5,431.20	0	0	1	$0.00	$0.00	$5,431.20
	Bump Out (1 corner)	EA	$	2,784.00	0	8	16	$0.00	$22,272.00	$44,544.00
	Signalization - Low (Flashers)	EA	$	40,000.00	3	4	1	$120,000.00	$160,000.00	$40,000.00
	Signalization - Moderate (Hawk)	EA	$	90,000.00	0	1	4	$0.00	$90,000.00	$360,000.00
	Signalization - Full Traffic Signals	EA	$	200,000.00	0	0	0	$0.00	$0.00	$0.00
	Green Gateways (Minor)	EA	$	10,510.50	4	4	0	$42,042.00	$42,042.00	$0.00
	Green Gateways (Major)	EA	$	32,009.00	0	0	4	$0.00	$0.00	$128,036.00
	Pocket Park - Small (1/4 acre)	EA	$	53,725.00	0	3	0	$0.00	$161,175.00	$0.00
	Pocket Park - Large (1 acre)	EA	$	183,900.00	0	0	3	$0.00	$0.00	$551,700.00
	Landscape Restoration / Open Space (100' x 200')	EA	$	13,072.22	0	17	30	$0.00	$222,227.78	$392,166.67
	Roundabouts	EA	$	217,481.94	0	0	0	$0.00	$0.00	$0.00
SITE AMENITY ADDONS + UTILITIES	Security: Operations (Required for any Security)	EA	$	15,000.00	1	4	4	$15,000.00	$60,000.00	$60,000.00
	Security: Moderate (at Node/Point)	EA	$	7,633.33	2	8	0	$15,266.67	$61,066.67	$0.00
	Security: High (Full Coverage)	LF	$	100.00	0	0	5,650	$0.00	$0.00	$565,000.00
	Street Lighting: Moderate	LF	$	74.83	0	0	0	$0.00	$0.00	$0.00
	Street Lighting: High	LF	$	114.83	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Lighting: Moderate	LF	$	125.00	5650	5,650	0	$706,250.00	$706,250.00	$0.00
	Pedestrian Lighting: High	LF	$	150.00	0	0	5650	$0.00	$0.00	$847,500.00
	Pedestrian Lighting: Combined Ped/Vehicle (Moderate)	LF	$	121.25	0	0	0	$0.00	$0.00	$0.00
	Special Lighting - Addition - Bollards + Extras	LF	$	235.00	0	0	0	$0.00	$0.00	$0.00
	Furnishings: Moderate	LF	$	17.37	0	5,650	0	$0.00	$98,133.28	$0.00
	Furnishings: High	LF	$	28.49	0	0	5,650	$0.00	$0.00	$160,977.71
	Trees, landscaped area	LF	$	14.75	3,946	3520	3520	$58,203.50	$51,920.00	$51,920.00
	Street Trees in Tree Pit, hardscaped area	LF	$	23.00	0	0	0	$0.00	$0.00	$0.00
	Landscape beds (10 ft wide)	LF	$	103.32	0	565	1,130	$0.00	$58,377.06	$116,754.11
	Irrigation (10ft wide area)	LF	$	21.00	0	0	1,130	$0.00	$0.00	$23,730.00
	Fencing - 6ft Decorative	LF	$	131.00	0	0	0	$0.00	$0.00	$0.00
	Utility/Erosion Control - Off-Road	LF	$	19.87	5650	5650	5650	$112,246.67	$112,246.67	$112,246.67
	Utility/Erosion Control - On-Road (Minor)	LF	$	36.37	0	0	0	$0.00	$0.00	$0.00
	Utility/Erosion Control - On-Road (Major)	LF	$	66.67	0	0	0	$0.00	$0.00	$0.00
RIVERWALK KITS	RiverWalk - Section 1 - (Soft Shore Stabilization)	LF	$	660.61	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 1 - (Existing Sheet Pile w/ Repairs)	LF	$	1,321.44	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 1 - (New Sheet Pile)	LF	$	1,923.94	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 2 - (Marina Edge)	LF	$	2,061.69	0	0	0	$0.00	$0.00	$0.00
	RiverWalk (Elevated)	LF	$	3,636.69	0	0	0	$0.00	$0.00	$0.00
	RiverWalk Edge - Section 3 - (Shared Use Off-River - Adj. Road)	LF	$	484.78	0	0	0	$0.00	$0.00	$0.00
	RiverWalk Edge - Section 3 - (Shared Use Off-River)	LF	$	494.53	0	0	0	$0.00	$0.00	$0.00
	Overlook	EA	$	143,588.89	0	0	0	$0.00	$0.00	$0.00
	Riverwalk Plaza - Minor	EA	$	970,008.33	0	0	0	$0.00	$0.00	$0.00
	Riverwalk Plaza - Major	EA	$	3,311,979.17	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Landscaping (Mod)	LF	$	81.69	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Landscaping (High)	LF	$	149.01	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Furnishings (Mod)	LF	$	57.18	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Furnishings (High)	LF	$	91.20	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Bridge	EA	$	500,000.00	0	0	0	$0.00	$0.00	$0.00
	Vehicle/Pedestrian Bridge	LF	$	20,000.00	0	0	0	$0.00	$0.00	$0.00
	Elevated Concrete Walkway	LF	$	2,250.00	0	0	0	$0.00	$0.00	$0.00
	Boardwalk (Wood)	LF	$	750.00	0	0	0	$0.00	$0.00	$0.00
	Sub-Total							$1,718,716.69	$2,625,383.50	$4,251,679.41
	Construction Allowances									
	Mobilization / Staking / Fencing	%		0.015				$25,780.75	$39,380.75	$63,775.19
	Traffic Control	%		0.01				$17,187.17	$26,253.84	$42,516.79
	Allowance for miscellaneous utility work	%		0.020				$34,374.33	$52,507.67	$85,033.59
	Construction Costs							$1,796,058.95	$2,743,525.76	$4,443,004.98
	LF/Costs							$317.89	$485.58	$786.37

Greater Riverfront East District Greenway Plan **December 8th, 2011**

Construction Costs Route Breakdown

	Kit-of-Parts	Unit		Cost/Unit	Kercheval Length: 12,080 Base	Mod.	Full	Costs Base	Mod.	Full
PRIMARY CROSS-SECTIONS	Off-Road 10' Trail Paving	LF	$	78.56	0	0	0	$0.00	$0.00	$0.00
	Off-Road 12' Trail Paving	LF	$	100.54	0	0	0	$0.00	$0.00	$0.00
	Off-Road 20' Trail Paving	LF	$	117.64	0	0	0	$0.00	$0.00	$0.00
	Trail counters (installed price)	EA	$	6,000.00			2	$0.00	$0.00	$12,000.00
	Neighborhood Connector 1 Paving Section (Base)	LF	$	144.98	9664	0	0	$1,401,118.93	$0.00	$0.00
	Neighborhood Connector 1 Paving Section (Moderate)	LF	$	196.38	0	9664	0	$0.00	$1,897,848.53	$0.00
	Neighborhood Connector 1 Paving Section (Full)	LF	$	368.46	0	0	9664	$0.00	$0.00	$3,560,781.33
	Neighborhood Connector - Parking (Base)	LF	$	135.97	2416	2416	0	$328,508.89	$328,508.89	$0.00
	Neighborhood Connector - Parking (High)	LF	$	343.47	0	0	2416	$0.00	$0.00	$829,828.89
	Principal Route Variant A (Full)	LF	$	328.12	0	0	0	$0.00	$0.00	$0.00
	*** Bus Stops added for E. Jefferson (10k moderate, 30k full, @ 1/4 mile)									
	East Jefferson Cross Section 1A - Base	LF	$	184.60	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1A - Full	LF	$	451.69	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1B/2 - Base	LF	$	213.95	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1B/2 - Full	LF	$	617.30	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 3 - Base	LF	$	345.98	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 3 - Full	LF	$	647.84	0	0	0	$0.00	$0.00	$0.00
INTERSECTIONS / CROSSINGS / NODES	Mid-Block Crossing for Off-Road Trail (Minor)	EA	$	5,043.00	0	0	0	$0.00	$0.00	$0.00
	Mid-Block Crossing for Off-Road Trail (Major)	EA	$	24,119.11	0	0	0	$0.00	$0.00	$0.00
	Road Intersection - 4-way	EA	$	10,664.00	34	34	34	$362,576.00	$362,576.00	$362,576.00
	Refuge Island (Street Crossing)	EA	$	5,431.20	0	0	0	$0.00	$0.00	$0.00
	Bump Out (1 corner)	EA	$	2,784.00	0	40	40	$0.00	$111,360.00	$111,360.00
	Signalization - Low (Flashers)	EA	$	40,000.00	0	0	0	$0.00	$0.00	$0.00
	Signalization - Moderate (Hawk)	EA	$	90,000.00	0	0	0	$0.00	$0.00	$0.00
	Signalization - Full Traffic Signals	EA	$	200,000.00	0	0	0	$0.00	$0.00	$0.00
	Green Gateways (Minor)	EA	$	10,510.50	3	3	0	$31,531.50	$31,531.50	$0.00
	Green Gateways (Major)	EA	$	32,009.00	0	0	3	$0.00	$0.00	$96,027.00
	Pocket Park - Small (1/4 acre)	EA	$	53,725.00	0	0	0	$0.00	$0.00	$0.00
	Pocket Park - Large (1 acre)	EA	$	183,900.00	0	0	0	$0.00	$0.00	$0.00
	Landscape Restoration / Open Space (100' x 200')	EA	$	13,072.22	0	0	38	$0.00	$0.00	$496,744.44
	Roundabouts	EA	$	217,481.94	0	0	1	$0.00	$0.00	$217,481.94
SITE AMENITY ADDONS + UTILITIES	Security: Operations (Required for any Security)	EA	$	15,000.00	0	5	5	$0.00	$75,000.00	$75,000.00
	Security: Moderate (at Node/Point)	EA	$	7,633.33	0	5	10	$0.00	$38,166.67	$76,333.33
	Security: High (Full Coverage)	LF	$	100.00	0	0	0	$0.00	$0.00	$0.00
	Street Lighting: Moderate	LF	$	74.83	0	4832	0	$0.00	$361,594.67	$0.00
	Street Lighting: High	LF	$	114.83	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Lighting: Moderate	LF	$	125.00	0	4,832	0	$0.00	$604,000.00	$0.00
	Pedestrian Lighting: High	LF	$	150.00	0	0	4832	$0.00	$0.00	$724,800.00
	Pedestrian Lighting: Combined Ped/Vehicle (Moderate)	LF	$	121.25	0	0	24,160	$0.00	$0.00	$2,929,400.00
	Special Lighting - Addition - Bollards + Extras	LF	$	235.00	0	0	0	$0.00	$0.00	$0.00
	Furnishings: Moderate	LF	$	17.37	0	24,160	0	$0.00	$419,628.33	$0.00
	Furnishings: High	LF	$	28.49	0	0	24,160	$0.00	$0.00	$688,357.77
	Trees, landscaped area	LF	$	14.75	19,328	19328	19328	$285,088.00	$285,088.00	$285,088.00
	Street Trees in Tree Pit, hardscaped area	LF	$	23.00	0	0	0	$0.00	$0.00	$0.00
	Landscape beds (10 ft wide)	LF	$	103.32	0	2,416	4,832	$0.00	$249,626.49	$499,252.98
	Irrigation (10ft wide area)	LF	$	21.00	0	0	4,832	$0.00	$0.00	$101,472.00
	Fencing - 6ft Decorative	LF	$	131.00	0	0	4,832	$0.00	$0.00	$632,992.00
	Utility/Erosion Control - Off-Road	LF	$	19.87	0	0	0	$0.00	$0.00	$0.00
	Utility/Erosion Control - On-Road (Minor)	LF	$	36.37	12080	12080	12080	$439,309.33	$439,309.33	$439,309.33
	Utility/Erosion Control - On-Road (Major)	LF	$	66.67	0	0	0	$0.00	$0.00	$0.00
RIVERWALK KITS	RiverWalk - Section 1 - (Soft Shore Stabilization)	LF	$	660.61	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 1 - (Existing Sheet Pile w/ Repairs)	LF	$	1,321.44	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 1 - (New Sheet Pile)	LF	$	1,923.94	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 2 - (Marina Edge)	LF	$	2,061.69	0	0	0	$0.00	$0.00	$0.00
	RiverWalk (Elevated)	LF	$	3,636.69	0	0	0	$0.00	$0.00	$0.00
	RiverWalk Edge - Section 3 - (Shared Use Off-River - Adj. Road)	LF	$	484.78	0	0	0	$0.00	$0.00	$0.00
	RiverWalk Edge - Section 3 - (Shared Use Off-River)	LF	$	494.53	0	0	0	$0.00	$0.00	$0.00
	Overlook	EA	$	143,588.89	0	0	0	$0.00	$0.00	$0.00
	Riverwalk Plaza - Minor	EA	$	970,008.33	0	0	0	$0.00	$0.00	$0.00
	Riverwalk Plaza - Major	EA	$	3,311,979.17	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Landscaping (Mod)	LF	$	81.69	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Landscaping (High)	LF	$	149.01	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Furnishings (Mod)	LF	$	57.18	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Furnishings (High)	LF	$	91.20	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Bridge	EA	$	500,000.00	0	0	0	$0.00	$0.00	$0.00
	Vehicle/Pedestrian Bridge	LF	$	20,000.00	0	0	0	$0.00	$0.00	$0.00
	Elevated Concrete Walkway	LF	$	2,250.00	0	0	0	$0.00	$0.00	$0.00
	Boardwalk (Wood)	LF	$	750.00	0	0	0	$0.00	$0.00	$0.00
	Construction Allowances						**Sub-Total**	$2,848,132.66	$5,204,238.41	$12,138,805.03
	Mobilization / Staking / Fencing	%		0.015				$42,721.99	$78,063.58	$182,082.08
	Traffic Control	%		0.01				$28,481.33	$52,042.38	$121,388.05
	Allowance for miscellaneous utility work	%		0.020				$56,962.65	$104,084.77	$242,776.10
							Construction Costs	$2,976,298.63	$5,438,429.13	$12,685,051.25
							LF/Costs	$246.38	$450.20	$1,050.09

Greater Riverfront East District Greenway Plan **December 8th, 2011**

Construction Costs Route Breakdown

Conner / St. Jean

Length: 1,025

Kit-of-Parts		Unit		Cost/Unit	Base	Mod.	Full	Costs Base	Costs Mod.	Costs Full
PRIMARY CROSS-SECTIONS	Off-Road 10' Trail Paving	LF	$	78.56	0	0	0	$0.00	$0.00	$0.00
	Off-Road 12' Trail Paving	LF	$	100.54	0	0	0	$0.00	$0.00	$0.00
	Off-Road 20' Trail Paving	LF	$	117.64	0	0	0	$0.00	$0.00	$0.00
	Trail counters (installed price)	EA	$	6,000.00						
	Neighborhood Connector 1 Paving Section (Base)	LF	$	144.98	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector 1 Paving Section (Moderate)	LF	$	196.38	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector 1 Paving Section (Full)	LF	$	368.46	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector - Parking (Base)	LF	$	135.97	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector - Parking (High)	LF	$	343.47	0	0	0	$0.00	$0.00	$0.00
	Principal Route Variant A (Full)	LF	$	328.12	256.25	256.25	1025	$84,080.18	$84,080.18	$336,320.72
	*** Bus Stops added for E. Jefferson (10k moderate, 30k full, @ 1/4 mile)									
	East Jefferson Cross Section 1A - Base	LF	$	184.60	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1A - Full	LF	$	451.69	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1B/2 - Base	LF	$	213.95	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1B/2 - Full	LF	$	617.30	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 3 - Base	LF	$	345.98	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 3 - Full	LF	$	647.84	0	0	0	$0.00	$0.00	$0.00
INTERSECTIONS / CROSSINGS / NODES	Mid-Block Crossing for Off-Road Trail (Minor)	EA	$	5,043.00	0	0	0	$0.00	$0.00	$0.00
	Mid-Block Crossing for Off-Road Trail (Major)	EA	$	24,119.11	0	0	0	$0.00	$0.00	$0.00
	Road Intersection - 4-way	EA	$	10,664.00	0	0	0	$0.00	$0.00	$0.00
	Refuge Island (Street Crossing)	EA	$	5,431.20	0	0	0	$0.00	$0.00	$0.00
	Bump Out (1 corner)	EA	$	2,784.00	0	0	0	$0.00	$0.00	$0.00
	Signalization - Low (Flashers)	EA	$	40,000.00	0	0	0	$0.00	$0.00	$0.00
	Signalization - Moderate (Hawk)	EA	$	90,000.00	0	0	0	$0.00	$0.00	$0.00
	Signalization - Full Traffic Signals	EA	$	200,000.00	0	0	0	$0.00	$0.00	$0.00
	Green Gateways (Minor)	EA	$	10,510.50	2	2	0	$21,021.00	$21,021.00	$0.00
	Green Gateways (Major)	EA	$	32,009.00	0	0	2	$0.00	$0.00	$64,018.00
	Pocket Park - Small (1/4 acre)	EA	$	53,725.00	0	0	0	$0.00	$0.00	$0.00
	Pocket Park - Large (1 acre)	EA	$	183,900.00	0	0	0	$0.00	$0.00	$0.00
	Landscape Restoration / Open Space (100' x 200')	EA	$	13,072.22	0	0	0	$0.00	$0.00	$0.00
	Roundabouts	EA	$	217,481.94	0	0	0	$0.00	$0.00	$0.00
SITE AMENITY ADDONS + UTILITIES	Security: Operations (Required for any Security)	EA	$	15,000.00	0	1	1	$0.00	$15,000.00	$15,000.00
	Security: Moderate (at Node/Point)	EA	$	7,633.33	0	2	2	$0.00	$15,266.67	$15,266.67
	Security: High (Full Coverage)	LF	$	100.00	0	0	0	$0.00	$0.00	$0.00
	Street Lighting: Moderate	LF	$	74.83	0	0	0	$0.00	$0.00	$0.00
	Street Lighting: High	LF	$	114.83	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Lighting: Moderate	LF	$	125.00	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Lighting: High	LF	$	150.00	0	0	512.5	$0.00	$0.00	$76,875.00
	Pedestrian Lighting: Combined Ped/Vehicle (Moderate)	LF	$	121.25	0	1,025	1,025	$0.00	$124,281.25	$124,281.25
	Special Lighting - Addition - Bollards + Extras	LF	$	235.00	0	0	0	$0.00	$0.00	$0.00
	Furnishings: Moderate	LF	$	17.37	0	1,025	0	$0.00	$17,802.94	$0.00
	Furnishings: High	LF	$	28.49	0	0	1,025	$0.00	$0.00	$29,203.92
	Trees, landscaped area	LF	$	14.75	308	307.5	307.5	$4,535.63	$4,535.63	$4,535.63
	Street Trees in Tree Pit, hardscaped area	LF	$	23.00	0	0	0	$0.00	$0.00	$0.00
	Landscape beds (10 ft wide)	LF	$	103.32	0	513	1,025	$0.00	$52,952.64	$105,905.28
	Irrigation (10ft wide area)	LF	$	21.00	0	0	1,025	$0.00	$0.00	$21,525.00
	Fencing - 6ft Decorative	LF	$	131.00	0	0	0	$0.00	$0.00	$0.00
	Utility/Erosion Control - Off-Road	LF	$	19.87	0	0	0	$0.00	$0.00	$0.00
	Utility/Erosion Control - On-Road (Minor)	LF	$	36.37	0	0	0	$0.00	$0.00	$0.00
	Utility/Erosion Control - On-Road (Major)	LF	$	66.67	1025	1025	1,025	$68,333.33	$68,333.33	$68,333.33
RIVERWALK KITS	RiverWalk - Section 1 - (Soft Shore Stabilization)	LF	$	660.61	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 1 - (Existing Sheet Pile w/ Repairs)	LF	$	1,321.44	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 1 - (New Sheet Pile)	LF	$	1,923.94	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 2 - (Marina Edge)	LF	$	2,061.69	0	0	0	$0.00	$0.00	$0.00
	RiverWalk (Elevated)	LF	$	3,636.69	0	0	0	$0.00	$0.00	$0.00
	RiverWalk Edge - Section 3 - (Shared Use Off-River - Adj. Road)	LF	$	484.78	0	0	0	$0.00	$0.00	$0.00
	RiverWalk Edge - Section 3 - (Shared Use Off-River)	LF	$	494.53	0	0	0	$0.00	$0.00	$0.00
	Overlook	EA	$	143,588.89	0	0	0	$0.00	$0.00	$0.00
	Riverwalk Plaza - Minor	EA	$	970,008.33	0	0	0	$0.00	$0.00	$0.00
	Riverwalk Plaza - Major	EA	$	3,311,979.17	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Landscaping (Mod)	LF	$	81.69	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Landscaping (High)	LF	$	149.01	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Furnishings (Mod)	LF	$	57.18	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Furnishings (High)	LF	$	91.20	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Bridge	EA	$	500,000.00	0	0	0	$0.00	$0.00	$0.00
	Vehicle/Pedestrian Bridge	LF	$	20,000.00	0	0	0	$0.00	$0.00	$0.00
	Elevated Concrete Walkway	LF	$	2,250.00	0	0	0	$0.00	$0.00	$0.00
	Boardwalk (Wood)	LF	$	750.00	0	0	0	$0.00	$0.00	$0.00
Construction Allowances							**Sub-Total**	$177,970.14	$403,273.63	$861,264.80
	Mobilization / Staking / Fencing	%		0.015				$2,669.55	$6,049.10	$12,918.97
	Traffic Control	%		0.01				$1,779.70	$4,032.74	$8,612.65
	Allowance for miscellaneous utility work	%		0.020				$3,559.40	$8,065.47	$17,225.30
							Construction Costs	$185,978.80	$421,420.95	$900,021.71
							LF/Costs	$181.44	$411.14	$878.07

Greater Riverfront East District Greenway Plan **December 8th, 2011**

Construction Costs Route Breakdown

RiverWalk Full

Length: 42,118

	Kit-of-Parts	Unit		Cost/Unit	Base	Mod.	Full	Costs Base	Costs Mod.	Costs Full
PRIMARY CROSS-SECTIONS	Off-Road 10' Trail Paving	LF	$	78.56	0	0	0	$0.00	$0.00	$0.00
	Off-Road 12' Trail Paving	LF	$	100.54	0	0	0	$0.00	$0.00	$0.00
	Off-Road 20' Trail Paving	LF	$	117.64	0	0	0	$0.00	$0.00	$0.00
	Trail counters (installed price)	EA	$	6,000.00			4	$0.00	$0.00	$24,000.00
	Neighborhood Connector 1 Paving Section (Base)	LF	$	144.98	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector 1 Paving Section (Moderate)	LF	$	196.38	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector 1 Paving Section (Full)	LF	$	368.46	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector - Parking (Base)	LF	$	135.97	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector - Parking (High)	LF	$	343.47	0	0	0	$0.00	$0.00	$0.00
	Principal Route Variant A (Full)	LF	$	328.12	0	0	0	$0.00	$0.00	$0.00
	*** Bus Stops added for E. Jefferson (10k moderate, 30k full, @ 1/4 mile)									
	East Jefferson Cross Section 1A - Base	LF	$	184.60	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1A - Full	LF	$	451.69	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1B/2 - Base	LF	$	213.95	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 1B/2 - Full	LF	$	617.30	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 3 - Base	LF	$	345.98	0	0	0	$0.00	$0.00	$0.00
	East Jefferson Cross Section 3 - Full	LF	$	647.84	0	0	0	$0.00	$0.00	$0.00
INTERSECTIONS / CROSSINGS / NODES	Mid-Block Crossing for Off-Road Trail (Minor)	EA	$	5,043.00	0	0	0	$0.00	$0.00	$0.00
	Mid-Block Crossing for Off-Road Trail (Major)	EA	$	24,119.11	0	0	0	$0.00	$0.00	$0.00
	Road Intersection - 4-way	EA	$	10,664.00	0	0	0	$0.00	$0.00	$0.00
	Refuge Island (Street Crossing)	EA	$	5,431.20	0	0	0	$0.00	$0.00	$0.00
	Bump Out (1 corner)	EA	$	2,784.00	0	0	0	$0.00	$0.00	$0.00
	Signalization - Low (Flashers)	EA	$	40,000.00	0	0	0	$0.00	$0.00	$0.00
	Signalization - Moderate (Hawk)	EA	$	90,000.00	0	0	0	$0.00	$0.00	$0.00
	Signalization - Full Traffic Signals	EA	$	200,000.00	0	0	0	$0.00	$0.00	$0.00
	Green Gateways (Minor)	EA	$	10,510.50	0	0	0	$0.00	$0.00	$0.00
	Green Gateways (Major)	EA	$	32,009.00	0	0	14	$0.00	$0.00	$448,126.00
	Pocket Park - Small (1/4 acre)	EA	$	53,725.00	0	0	0	$0.00	$0.00	$0.00
	Pocket Park - Large (1 acre)	EA	$	183,900.00	0	0	1	$0.00	$0.00	$183,900.00
	Landscape Restoration / Open Space (100' x 200')	EA	$	13,072.22	0	0	64	$0.00	$0.00	$836,622.22
	Roundabouts	EA	$	217,481.94	0	0	0	$0.00	$0.00	$0.00
SITE AMENITY ADDONS + UTILITIES	Security: Operations (Required for any Security)	EA	$	15,000.00	0	0	10	$0.00	$0.00	$150,000.00
	Security: Moderate (at Node/Point)	EA	$	7,633.33	0	0	0	$0.00	$0.00	$0.00
	Security: High (Full Coverage)	LF	$	100.00	0	0	42,118	$0.00	$0.00	$4,211,800.00
	Street Lighting: Moderate	LF	$	74.83	0	0	0	$0.00	$0.00	$0.00
	Street Lighting: High	LF	$	114.83	0	0	6850.5	$0.00	$0.00	$786,665.75
	Pedestrian Lighting: Moderate	LF	$	125.00	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Lighting: High	LF	$	150.00	0	0	35230.5	$0.00	$0.00	$5,284,575.00
	Pedestrian Lighting: Combined Ped/Vehicle (Moderate)	LF	$	121.25	0	0	0	$0.00	$0.00	$0.00
	Special Lighting - Addition - Bollards + Extras	LF	$	235.00	0	0	21,059	$0.00	$0.00	$4,948,865.00
	Furnishings: Moderate	LF	$	17.37	0	0	0	$0.00	$0.00	$0.00
	Furnishings: High	LF	$	28.49	0	0	0	$0.00	$0.00	$0.00
	Trees, landscaped area	LF	$	14.75	0	0	0	$0.00	$0.00	$0.00
	Street Trees in Tree Pit, hardscaped area	LF	$	23.00	0	0	0	$0.00	$0.00	$0.00
	Landscape beds (10 ft wide)	LF	$	103.32	0	0	0	$0.00	$0.00	$0.00
	Irrigation (10ft wide area)	LF	$	21.00	0	0	42,118	$0.00	$0.00	$884,478.00
	Fencing - 6ft Decorative	LF	$	131.00	0	0	0	$0.00	$0.00	$0.00
	Utility/Erosion Control - Off-Road	LF	$	19.87	0	0	39903	$0.00	$0.00	$792,739.60
	Utility/Erosion Control - On-Road (Minor)	LF	$	36.37	0	0	2215	$0.00	$0.00	$80,552.17
	Utility/Erosion Control - On-Road (Major)	LF	$	66.67	0	0	0	$0.00	$0.00	$0.00
RIVERWALK KITS	RiverWalk - Section 1 - (Soft Shore Stabilization)	LF	$	660.61	0	0	4044	$0.00	$0.00	$2,671,511.33
	RiverWalk - Section 1 - (Existing Sheet Pile w/ Repairs)	LF	$	1,321.44	0	0	2886	$0.00	$0.00	$3,813,688.67
	RiverWalk - Section 1 - (New Sheet Pile)	LF	$	1,923.94	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 2 - (Marina Edge)	LF	$	2,061.69	0	0	7738	$0.00	$0.00	$15,953,391.61
	RiverWalk (Elevated)	LF	$	3,636.69	0	0	1008	$0.00	$0.00	$3,665,788.00
	RiverWalk Edge - Section 3 - (Shared Use Off-River - Adj. Road)	LF	$	484.78	0	0	8888	$0.00	$0.00	$4,308,704.89
	RiverWalk Edge - Section 3 - (Shared Use Off-River)	LF	$	494.53	0	0	14240	$0.00	$0.00	$7,042,075.56
	Overlook	EA	$	143,588.89	0	0	15	$0.00	$0.00	$2,153,833.33
	Riverwalk Plaza - Minor	EA	$	970,008.33	0	0	2	$0.00	$0.00	$1,940,016.67
	Riverwalk Plaza - Major	EA	$	3,311,979.17	0	0	3	$0.00	$0.00	$9,935,937.50
	Riverwalk - Landscaping (Mod)	LF	$	81.69	0	0	21059	$0.00	$0.00	$1,720,403.31
	Riverwalk - Landscaping (High)	LF	$	149.01	0	0	21059	$0.00	$0.00	$3,138,083.49
	Riverwalk - Furnishings (Mod)	LF	$	57.18	0	0	21059	$0.00	$0.00	$1,204,048.33
	Riverwalk - Furnishings (High)	LF	$	91.20	0	0	21059	$0.00	$0.00	$1,920,681.08
	Pedestrian Bridge	EA	$	500,000.00	0	0	4	$0.00	$0.00	$2,000,000.00
	Vehicle/Pedestrian Bridge	LF	$	20,000.00	0	0	100	$0.00	$0.00	$2,000,000.00
	Elevated Concrete Walkway	LF	$	2,250.00	0	0	0	$0.00	$0.00	$0.00
	Boardwalk (Wood)	LF	$	750.00	0	0	0	$0.00	$0.00	$0.00
	Sub-Total							$0.00	$0.00	$82,100,487.49
Construction Allowances	Mobilization / Staking / Fencing	%		0.015				$0.00	$0.00	$1,231,507.31
	Traffic Control	%		0.01				$0.00	$0.00	$821,004.87
	Allowance for miscellaneous utility work	%		0.020				$0.00	$0.00	$1,642,009.75
	Construction Costs							$0.00	$0.00	$85,795,009.43
	LF/Costs							$0.00	$0.00	$2,037.02

Greater Riverfront East District Greenway Plan **December 8th, 2011**

Construction Costs Route Breakdown

	Kit-of-Parts	Unit		Cost/Unit	E. Jefferson Length: 31,014 Base	Mod.	Full	Costs Base	Mod.	Full
PRIMARY CROSS-SECTIONS	Off-Road 10' Trail Paving	LF	$	78.56	0	0	0	$0.00	$0.00	$0.00
	Off-Road 12' Trail Paving	LF	$	100.54	0	0	0	$0.00	$0.00	$0.00
	Off-Road 20' Trail Paving	LF	$	117.64	0	0	0	$0.00	$0.00	$0.00
	Trail counters (installed price)	EA	$	6,000.00	0	0	0			
	Neighborhood Connector 1 Paving Section (Base)	LF	$	144.98	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector 1 Paving Section (Moderate)	LF	$	196.38	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector 1 Paving Section (Full)	LF	$	368.46	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector - Parking (Base)	LF	$	135.97	0	0	0	$0.00	$0.00	$0.00
	Neighborhood Connector - Parking (High)	LF	$	343.47	0	0	0	$0.00	$0.00	$0.00
	Principal Route Variant A (Full)	LF	$	328.12	0	0	0	$0.00	$0.00	$0.00
	*** Bus Stops added for E. Jefferson (10k moderate, 30k full, @ 1/4 mile)				0	23	23		$230,000.00	$690,000.00
	East Jefferson Cross Section 1A - Base	LF	$	184.60	10270	6714	0	$1,895,842.00	$1,239,404.40	$0.00
	East Jefferson Cross Section 1A - Full	LF	$	451.69	0	3556	10270	$0.00	$1,606,195.81	$4,638,816.36
	East Jefferson Cross Section 1B/2 - Base	LF	$	213.95	17414	17414	0	$3,725,798.83	$3,725,798.83	$0.00
	East Jefferson Cross Section 1B/2 - Full	LF	$	617.30	0	0	17414	$0.00	$0.00	$10,749,580.93
	East Jefferson Cross Section 3 - Base	LF	$	345.98	3330	3330	0	$1,152,106.00	$1,152,106.00	$0.00
	East Jefferson Cross Section 3 - Full	LF	$	647.84	0	0	3330	$0.00	$0.00	$2,157,292.22
INTERSECTIONS / CROSSINGS / NODES					0	0	0			
	Mid-Block Crossing for Off-Road Trail (Minor)	EA	$	5,043.00	0	0	0	$0.00	$0.00	$0.00
	Mid-Block Crossing for Off-Road Trail (Major)	EA	$	24,119.11	0	0	0	$0.00	$0.00	$0.00
					0	0	0			
	Road Intersection - 4-way	EA	$	10,664.00	131	131	131	$1,396,984.00	$1,396,984.00	$1,396,984.00
	Refuge Island (Street Crossing)	EA	$	5,431.20	18	20	20	$97,761.60	$108,624.00	$108,624.00
	Bump Out (1 corner)	EA	$	2,784.00	244	244	244	$679,296.00	$679,296.00	$679,296.00
					0	0	0			
	Signalization - Low (Flashers)	EA	$	40,000.00	0	0	0	$0.00	$0.00	$0.00
	Signalization - Moderate (Hawk)	EA	$	90,000.00	0	0	0	$0.00	$0.00	$0.00
	Signalization - Full Traffic Signals	EA	$	200,000.00	18.5	18	18	$3,700,000.00	$3,600,000.00	$3,600,000.00
					0	0	0			
	Green Gateways (Minor)	EA	$	10,510.50	25	0	0	$262,762.50	$0.00	$0.00
	Green Gateways (Major)	EA	$	32,009.00	0	27	27	$0.00	$864,243.00	$864,243.00
					0	0	0			
	Pocket Park - Small (1/4 acre)	EA	$	53,725.00	0	0	0	$0.00	$0.00	$0.00
	Pocket Park - Large (1 acre)	EA	$	183,900.00	0	0	0	$0.00	$0.00	$0.00
					0	0	0			
	Landscape Restoration / Open Space (100' x 200')	EA	$	13,072.22	0	16	16	$0.00	$209,155.56	$209,155.56
					0	0	0			
	Roundabouts	EA	$	217,481.94	0	0	5	$0.00	$0.00	$1,087,409.72
SITE AMENITY ADDONS + UTILITIES					0	0	0			
	Security: Operations (Required for any Security)	EA	$	15,000.00	0	14	14	$0.00	$210,000.00	$210,000.00
	Security: Moderate (at Node/Point)	EA	$	7,633.33	0	70	124	$0.00	$534,333.33	$946,533.33
	Security: High (Full Coverage)	LF	$	100.00	0	0	0	$0.00	$0.00	$0.00
					0	0	0			
	Street Lighting: Moderate	LF	$	74.83	0	0	0	$0.00	$0.00	$0.00
	Street Lighting: High	LF	$	114.83	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Lighting: Moderate	LF	$	125.00	0	0	0	$0.00	$0.00	$0.00
	Pedestrian Lighting: High	LF	$	150.00	0	0	29024	$0.00	$0.00	$4,353,600.00
	Pedestrian Lighting: Combined Ped/Vehicle (Moderate)	LF	$	121.25	0	62,028	62,028	$0.00	$7,520,895.00	$7,520,895.00
	Special Lighting - Addition - Bollards + Extras	LF	$	235.00	0	0	0	$0.00	$0.00	$0.00
					0	0	0			
	Furnishings: Moderate	LF	$	17.37	0	62,028	0	$0.00	$1,077,347.10	$0.00
	Furnishings: High	LF	$	28.49	0	0	62,028	$0.00	$0.00	$1,767,278.80
					0	0	0			
	Trees, landscaped area	LF	$	14.75	9,304	9304.2	9304.2	$137,236.95	$137,236.95	$137,236.95
	Street Trees in Tree Pit, hardscaped area	LF	$	23.00	9,304	9304.2	9304.2	$213,996.60	$213,996.60	$213,996.60
	Landscape beds (10 ft wide)	LF	$	103.32	0	6,203	12,406	$0.00	$640,887.08	$1,281,774.16
	Irrigation (10ft wide area)	LF	$	21.00	0	0	12,406	$0.00	$0.00	$260,517.60
	Fencing - 6ft Decorative	LF	$	131.00	0	0	12,406	$0.00	$0.00	$1,625,133.60
					0	0	0			
	Utility/Erosion Control - Off-Road	LF	$	19.87	0	0	0	$0.00	$0.00	$0.00
	Utility/Erosion Control - On-Road (Minor)	LF	$	36.37	0	0	0	$0.00	$0.00	$0.00
	Utility/Erosion Control - On-Road (Major)	LF	$	66.67	31014	31014	31,014	$2,067,600.00	$2,067,600.00	$2,067,600.00
RIVERWALK KITS					0	0	0			
	RiverWalk - Section 1 - (Soft Shore Stabilization)	LF	$	660.61	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 1 - (Existing Sheet Pile w/ Repairs)	LF	$	1,321.44	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 1 - (New Sheet Pile)	LF	$	1,923.94	0	0	0	$0.00	$0.00	$0.00
	RiverWalk - Section 2 - (Marina Edge)	LF	$	2,061.69	0	0	0	$0.00	$0.00	$0.00
	RiverWalk (Elevated)	LF	$	3,636.69	0	0	0	$0.00	$0.00	$0.00
	RiverWalk Edge - Section 3 - (Shared Use Off-River - Adj. Road)	LF	$	484.78	0	0	0	$0.00	$0.00	$0.00
	RiverWalk Edge - Section 3 - (Shared Use Off-River)	LF	$	494.53	0	0	0	$0.00	$0.00	$0.00
					0	0	0			
	Overlook	EA	$	143,588.89	0	0	0	$0.00	$0.00	$0.00
	Riverwalk Plaza - Minor	EA	$	970,008.33	0	0	0	$0.00	$0.00	$0.00
	Riverwalk Plaza - Major	EA	$	3,311,979.17	0	0	0	$0.00	$0.00	$0.00
					0	0	0			
	Riverwalk - Landscaping (Mod)	LF	$	81.69	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Landscaping (High)	LF	$	149.01	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Furnishings (Mod)	LF	$	57.18	0	0	0	$0.00	$0.00	$0.00
	Riverwalk - Furnishings (High)	LF	$	91.20	0	0	0	$0.00	$0.00	$0.00
					0	0	0			
	Pedestrian Bridge	EA	$	500,000.00	0	0	0	$0.00	$0.00	$0.00
	Vehicle/Pedestrian Bridge	LF	$	20,000.00	0	0	0	$0.00	$0.00	$0.00
	Elevated Concrete Walkway	LF	$	2,250.00	0	0	0	$0.00	$0.00	$0.00
	Boardwalk (Wood)	LF	$	750.00	0	0	0	$0.00	$0.00	$0.00
	Construction Allowances						**Sub-Total**	$15,329,384.48	$27,214,103.66	$46,565,967.83
	Mobilization / Staking / Fencing	%		0.015				$229,940.77	$408,211.55	$698,489.52
	Traffic Control	%		0.01				$153,293.84	$272,141.04	$465,659.68
	Allowance for miscellaneous utility work	%		0.020				$306,587.69	$544,282.07	$931,319.36
							Construction Costs	$16,019,206.78	$28,438,738.32	$48,661,436.39
							LF/Costs	$516.52	$916.96	$1,569.02

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