THE DETROIT EAST RIVERWALK:
EXTEND • CONNECT • PROVIDE

by

KYLE WARD

A REPORT

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Department of Landscape Architecture, Regional and Community Planning
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Approved by:

Major Professor
KATIE KINGERY-PAGE

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2011

Abstract

Our water bodies have functioned as a critical transportation network, moving people, raw materials, products and goods across countries and continents. Starting as hubs of shipping, trade, and commerce, water bodies were the center of social and economic life of early cities. Technological advances in freight transport spelled the eventual demise of urban ports. This transformation has left vast swathes of vacant, urban waterfront property under-used, neglected, and disconnected from cities that once thrived along the water. This under-utilized land is now seen as a resource for revitalizing urban cores. Cities are looking to reclaim their once prosperous waterfronts (Fisher et al. 2004).

Detroit's riverfront has long been plagued by industry and pollution. For the past 25 years, Detroit has been striving to turn its dilapidated shoreline into a thriving public asset. Today, three and a half miles of the Detroit RiverWalk stretching from Joe Louis Arena east to Gabriel Richard Park have been completed and is open to the public (Brown 2007). Designs are currently being developed to extend the RiverWalk west to Ambassador Bridge, but no studies are planned for the east end toward Water Works Park and beyond (Brown 2007). The existing eastern terminus of Detroit's RiverWalk does not allow access to the riverfront from neighborhoods that lie to the north and east. Residents have expressed growing interest in extending the RiverWalk and greenway connections to promote use (The Villages Community Development Corporation 2010). How can the Detroit RiverWalk be configured to extend eastward in order to connect neighborhoods and communities to the waterfront, provide amenities in waterfront parks, and create pedestrian greenway linkages?

The Detroit riverfront will be accessible to surrounding neighborhoods with the east extension of the RiverWalk, redesign of waterfront parks, and greenway linkages which connect communities with the waterfront and amenities. Humans have a natural attraction to water; therefore "the public increasingly desires and expects access to the water's edge" (Brown 2007). Pedestrian access is fundamental, particularly linking outlying areas to the water's edge (Marshall 2001).

The RiverWalk extension consists of research of waterfront theory, greenway practices, and the existing riverfront. Critical theory principles and contextual information will be extruded and organized into key components: Extend, Connect, and Provide. These components will outline the analysis, programming, and design phases in order to create a coherent master plan. Detroit can be a precedent for greenway and waterfront development in residential neighborhoods. The Detroit riverfront can be transformed into a public amenity for residents and visitors to benefit, enjoy, and appreciate the power of our fundamental resource: water.

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Kyle Ward

Master's Project and Report

Spring 2011

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College of Architecture, Planning, and Design

Department of Landscape Architecture, Regional and Community Planning

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Committee Chair • Katie Kingery-Page

Committee Members • Howard Hahn and Stephanie Rolley

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I would like to thank all my co-workers at JJR who helped lead me to a path to become a better professional, landscape architect, and person. Special thanks to Brian Charlton, who provided me with important information along the way.

Dedication

To my fiancé Jacquie, Mom, Dad, my brother Brandon, and all my friends, each of whom helped me to achieve my goals.

ABSTRACT

Our water bodies have functioned as a critical transportation network, moving people, raw materials, products and goods across countries and continents. Starting as hubs of shipping, trade, and commerce, water bodies were the center of social and economic life of early cities. Technological advances in freight transport spelled the eventual demise of urban ports. This transformation has left vast swathes of vacant, urban waterfront property under-used, neglected, and disconnected from cities that once thrived along the water. This under-utilized land is now seen as a resource for revitalizing urban cores. Cities are looking to reclaim their once prosperous waterfronts (Fisher et al. 2004).

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01

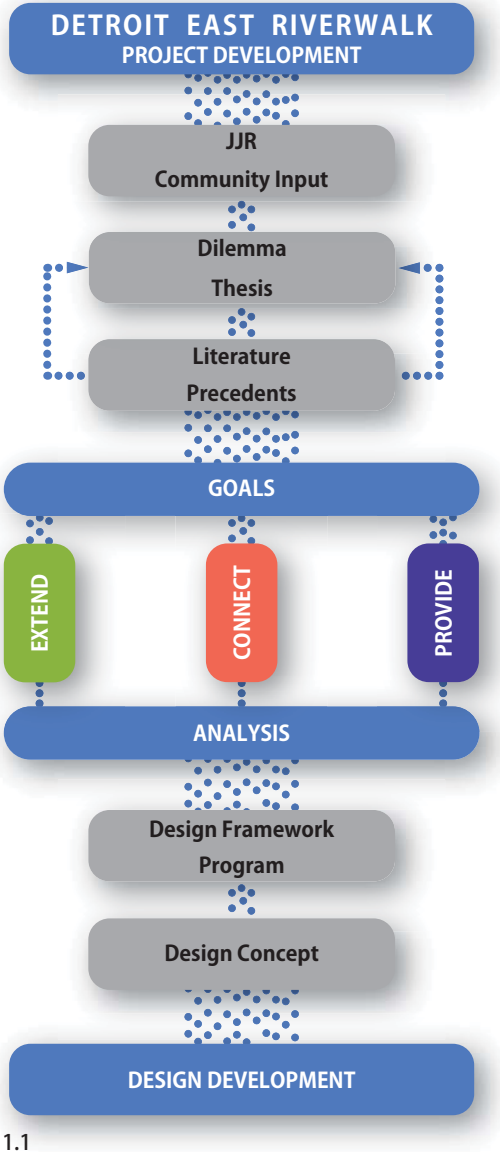
ESTABLISH

Project Development

The Detroit waterfront sparked my interest after visiting Detroit with colleagues while completing a professional internship with JJR, LLC in Ann Arbor, Michigan. The firm is recognized for their work in many different aspects of landscape architecture including campus planning, parks, and waterfronts. I learned about the work they had completed on phase one of the Detroit RiverWalk. I sat down with Brian Charlton, project manager for the RiverWalk, and discussed potential sites for a design of an extension which I could undertake.

We settled on the site east of phase one RiverWalk, a dynamic mix of properties with parks, neighborhoods, and historical places. The residents within the neighborhoods surrounding the proposed site have voiced high interest in gaining access to the RiverWalk and waterfront. Residents even sponsored a charrette with colleges and universities on the potential greenway opportunities within the neighborhoods.

I brought this acquired knowledge back to Kansas State University and begun molding the project, formulating my thesis from current literature and precedent studies and providing process for my research, analysis, and design solution (Figure 1.1).

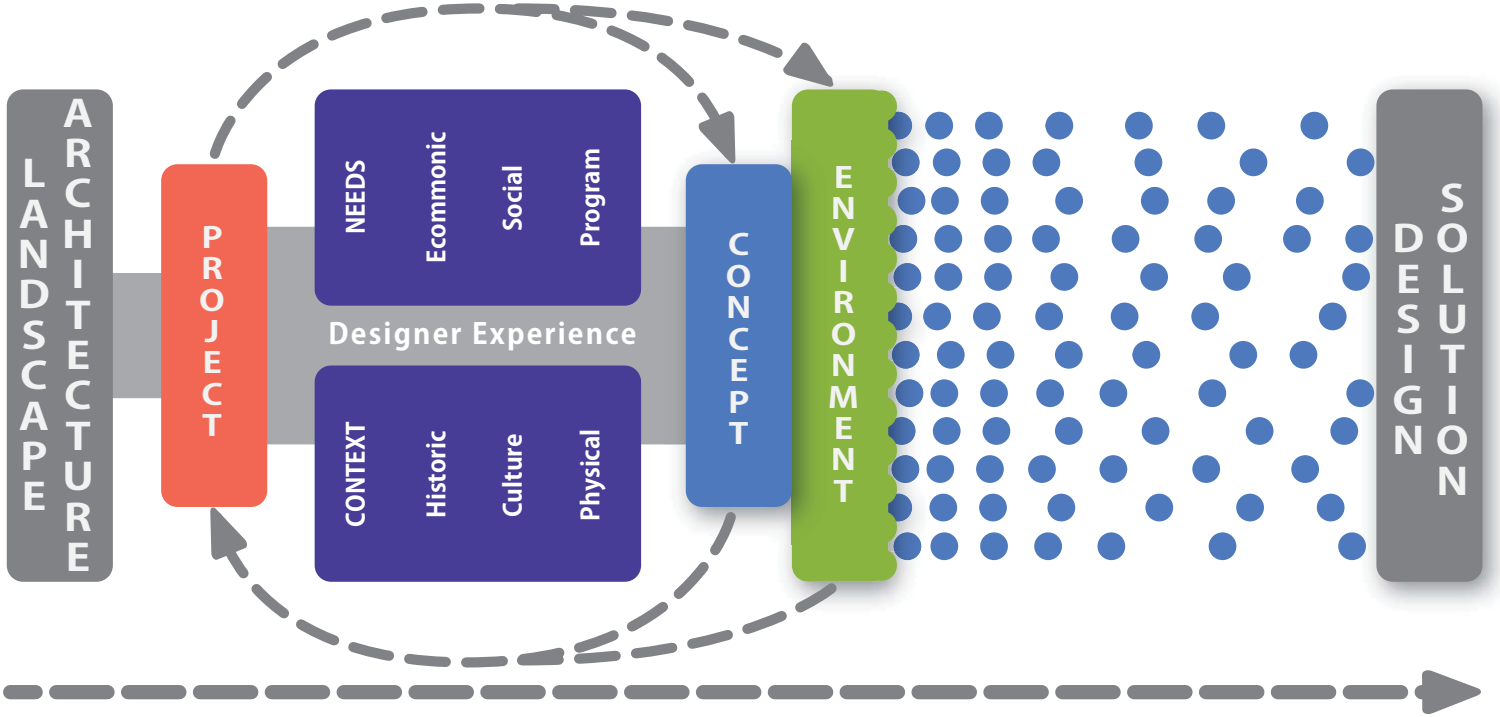


1.1

1.1: Project Development Diagram (by Author)

PERSONAL GOALS

- To understand the design principles of waterfront development
- To increase knowledge of waterfront planning and design strategies
- To improve comprehension of greenway theory and design
- To incorporate recreational amenities for pedestrians to use, educate, provide safety and aesthetic views
- To create a meaningful project that presents a clear design concept for Detroit's riverfront that can influence implementation
- To utilize data as a means of analysis that directs me toward a holistic program
- To enhance skills in graphic representation to present ideas with clarity
- To implement prior knowledge of research and design processes for an organized and smooth project

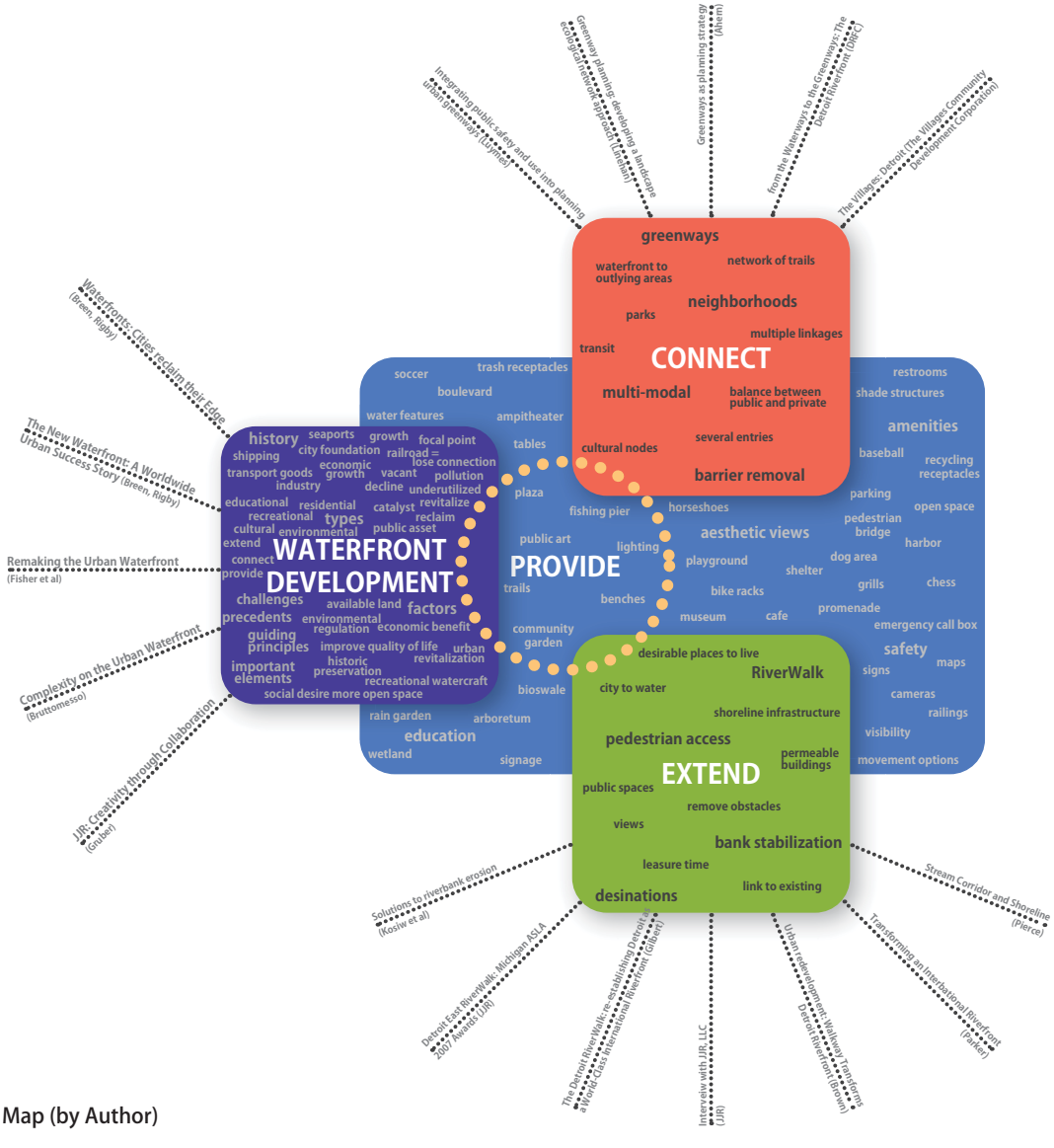


1.2: Personal Philosophy and Process Diagram
(by Author)

PERSONAL PHILOSOPHY

The project design process and personal philosophy coexist with one another (Figure 1.2). My personal design philosophy is:

"Landscape architecture consists of a complex process of gathering critical information and data of a project's historical, cultural, and physical context in conjunction with program, social, and economic needs all processed into a meaningful concept while providing environmental stewardship to create a suitable design solution."


Integrating public safety and use into planning urban greenways (Lynner)
Greenway planning: developing a landscape ecological network approach (Lindahl)
Greenways as planning strategy (Ahern)
from the Waterways to the Greenways: The Detroit Riverfront (DRC)
The Villages: Detroit's The Villages Community Development Corporation)
Waterfronts: Cities reclaim their Edge (Breen, Rigby)
The New Waterfront: A Worldwide Urban Success Story (Breen, Rigby)
Remaking the Urban Waterfront (Fisher et al)
Complexity on the Urban Waterfront (Bruttomesso)
JJR: Creativity through Collaboration (Gruber)
Solutions to riverbank erosion (Kosiw et al)
Detroit East RiverWalk: Michigan ASLA 2007 Awards (JJR)
The Detroit RiverWalk: re-establishing Detroit as a World Class International Riverfront (Gruber)
Interveiw with JJR, LLC (JJR)
Urban redevelopment: Walkway transforms Detroit Riverfront (Dorsey)
Transforming an International Riverfront (Parker)
Stream Corridor and Shoreline (Pierce)
WATERFRONT DEVELOPMENT
history
seaports
growth
focal point
shipping
city foundation
railroad
economic
lose connection
transport goods
growth
vacant
pollution
industry
decline
underutilized
educational
residential
catalyst
revitalize
recreational
types
reclaim
cultural
environmental
public asset
extend
connect
provide
challenges
available land
factors
precedents
environmental
regulation
economic benefit
guiding principles
improve quality of life
urban revitalization
important elements
historic preservation
recreational watercraft
social desire more open space
PROVIDE
soccer
trash receptacles
boulevard
water features
ampitheater
tables
plaza
fishing pier
horseshoes
public art
lighting
playground
trails
benches
bike racks
museum
cafe
community garden
bioswale
rain garden
arboretum
education
wetland
signage
restrooms
shade structures
amenities
baseball
recycling receptacles
parking
open space
pedestrian bridge
harbor
aesthetic views
dog area
shelter
grills
chess
promenade
emergency call box
safety
maps
signs
cameras
railings
visibility
movement options
CONNECT
greenways
waterfront to outlying areas
network of trails
neighborhoods
parks
multiple linkages
transit
multi-modal
balance between public and private
cultural nodes
several entries
barrier removal
EXTEND
desirable places to live
RiverWalk
city to water
shoreline infrastructure
pedestrian access
permeable buildings
public spaces
remove obstacles
views
bank stabilization
leasure time
link to existing
desinations

LITERATURE MAP

The literature map, as seen in Figure 1.3, gives a visual representation of research completed for this master's report. The map is divided into four underlying sections: waterfront development, extend, connect, and provide. The waterfront development section gives background information on the history of waterfronts.

Extend

The words and phrases within this section are extracted from the principles and approaches to waterfront development that relate to areas adjacent to the water's edge.

Connect

The words within the "connect" area are principles which correlate to connecting people to the waterfront.

Provide

The blue, "provide" area underlies the previous three areas because amenities can be applied to every part of the development.

The yellow circle touches every section, indicating the interconnectivity between all four sections. The major sources that apply to each section are attached to their appropriate section.

Relevance to Waterfront Landscape Architecture

Throughout our society's history, waterfronts have evolved and re-evolved from various different uses and activities for everyday life. We have lost connection to our most abundant resource, water, and are now attempting to take back the shorelines and turn them into inviting, successful public open spaces that act as a catalyst for city renewal. In order to achieve this we must look at why we lost our waterfronts in the first place and what changes led to redevelopment. Goal formation can then be made on ways to repurpose the land along the water's edge to achieve a successful public amenity.

The urban fabric on which major cities were founded is directly related to a body of water, which is the primary reason for their establishment (Breen and Rigby 1996). Waterways were the only means of transporting goods from one port to another; therefore economic prosperity came to those cities with a vibrant and active seaport (Fisher et al. 2004). Rivers also added to the growth of cities because shipping by water was faster and safer than covered wagon overland (Fisher et al. 2004). Cities along the Great Lakes followed the same developmental pattern as major seaports because the lakes were basically inland oceans (Fisher et al. 2004).

Shipping ports met their demise with the invention of the railroad. The railroad provided a cheaper, faster form of transportation between cities (Fisher et al. 2004). The railroad also bought up more land adjacent to the shoreline, creating disconnect between the city and the water (Fisher et al. 2004). Technology advances after World War II, such as improved shipping methods, caused old shipping ports to become abandoned and forgotten (Fisher et al. 2004). This land was then developed for automobile travel; large highways, often elevated, cut through cities and are aligned parallel to waterfronts further cutting of cities (Fisher et al. 2004).

Redevelopment of downtowns began almost half a century ago with changes in economic, social, environmental, and preservation issues and needs (Breen and Rigby 1996). These issues accumulated forming a desire for waterfront development.

Economic

- Massive deindustrialization of city centers as a result of changing technologies that cause ports to relocate away from traditional central sites.
- More waterfront lands were freed up for development by the decreased need for railroad holdings.

Social

- Our culture today desires more open space for recreation and physical activities.
- The rise in the number of public festivals.
- There is an increased emphasis on shopping as entertainment, a fact that is reflected in many mixed-use waterfront projects.

Environmental

- There is an emphasis on cleaning up bodies of water and water supplies.
- The demand for water cleanup is in the interest of health and to encourage new waterfront investment.

Preservation

- Receiving interest is historic preservation and the adaptive reuse of heritage buildings.
- The public's desire to be near a body of water.

Perhaps most influential are the principles and approaches to waterfront development that seize the opportunities that these derelict and forgotten areas give. The ideas are categorized into three groups which serve as a structure for Detroit's east RiverWalk: Extend, Connect, Provide.

EXTEND

- The city should be extended to the waterfront (Fisher et al. 2004).

- Underused or obsolete urban waterfronts come alive when they become desirable places to live, not just to visit (Fisher et al. 2004).

- Public increasingly desires and expects access to the water's edge. This usually requires overcoming historic barriers – physical, proprietary, and psychological (Fisher et al. 2004). Opening up the waterfront to the public, through a process that may entail successive phases of appropriation of the border zones between city and water (Breen and Rigby 1994).

- Improvements in infrastructure along shoreline should be designed to serve multiple purposes simultaneously (Fisher et al. 2004). Appropriate work on the embankments thus becomes of great relevance, as it does for the routes along the watersides, the piers, and the wharves (Bruttomesso 2001).

CONNECT

- Multiple linkages to the waterfront should be created (Fisher et al. 2004).

- Single purpose transportation systems should be redesigned to create multi-modal corridors at the water's edge (Fisher et al. 2004).

- The influences of the waterfront should extend inland to establish greater amenity and value (Fisher et al. 2004).

- Barriers to the waterfront need to be removed, but should not be replaced by new hindrances such as large, unattractive open spaces, and inward facing complexes (Fisher et al. 2004).

- Development of accessibility to the waterfront. Pedestrian access is essential, especially in relation to link routes with the city center and outlying zones (Bruttomesso 2001).

PROVIDE

- The transitional space between land and water should be designed with care and consideration, as a provocative environment that engages the land-bound urban dweller and provides a place to sit, view, and linger as well as a space to move through (Fisher et al. 2004).

- The success and appeal of waterfront development is intrinsically tied to the interrelationship between landside and adjacent waterside uses – and to the environmental quality of both the water and the shore (Fisher et al. 2004).

- Public areas along waterfronts offer an unusual opportunity to educate people of all ages about social, maritime, cultural, and environmental heritage of an area (Breen and Rigby 1994).

- Another area of opportunity lies in environmental education. Besides water itself, there is shoreline ecology and surrounding flora and fauna to discover (Breen and Rigby 1994).

- Special viewpoints must be chosen for enjoyment of the urban landscape and even modest elements salvaged to testify the past (Bruttomesso 2001).

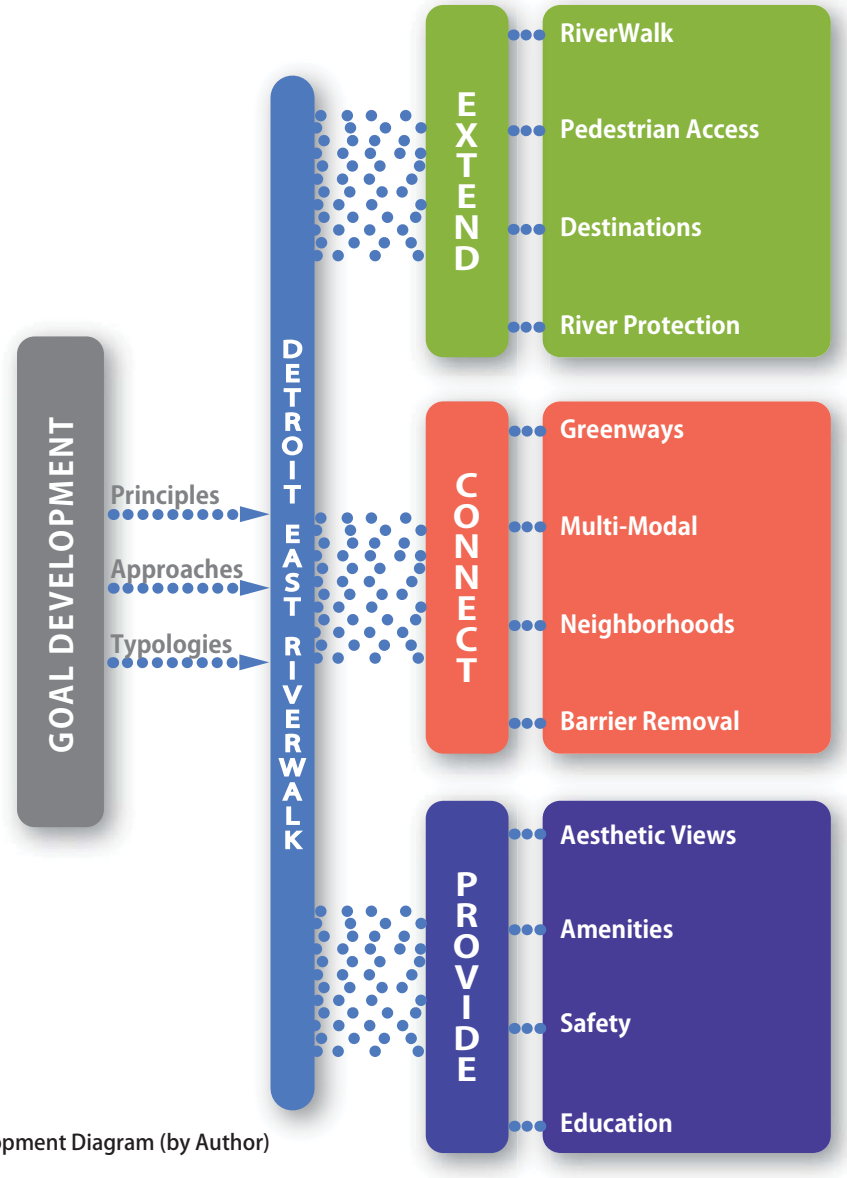
Another influential aspect of the literature covered, are the types of waterfront development. This project is unique because it does not just fall into one of these categories, but is compiled of three. Each is different in the way it applies and is organized in relation to the ideas extend, connect, and provide.

EXTEND

The RECREATIONAL waterfront is a place where visitors can spend "leisure time on the water, whether fishing, swimming or quiet contemplation". Efforts have been done in cities around the world to "add new waterfront parks, walkways, and promenades "to allow people to walk or bike for miles along waterfronts". The recreational waterfront gives public access to everyone without cutting off parts by private properties or businesses (Breen and Rigby 1996, 224).

CONNECT

RESIDENTIAL waterfronts have created tension between private residences and public access



1.4: Goal Development Diagram (by Author)

when the "public's desire to be near the water clashes with the individual property owner's desire for privacy and security". A project can be "thoughtfully planned and executed when private needs are incorporated with ample public access". The successful developments are those in which the space "along the water's edge is welcoming to visitors as well as to the immediate residential population". There can be a balance between public accessibility to both parties and security for residences (Breen and Rigby 1996, 224).

PROVIDE

The CULTURAL, EDUCATIONAL, and ENVIRONMENTAL waterfront can "provide beautiful settings for religious architecture, memorials, public art, and grand cultural institutions". Water cleanup has attracted "massive efforts and large sums of money to correct years of pollutive practices". "Many environmental installations can educate the public, especially the young, about the world water supply and its influence on our lives" (Breen and Rigby 1996, 224).

The literature provides a framework for the Detroit east RiverWalk extension by the extrapolation of project goals (Figure 1.4). The goals developed will serve as a basis for analysis, programming, and design. These goals are organized into the categories listed above as Extend, Connect, and Provide.

EXTEND

- Expand on current waterfront development along the Detroit River by applying contemporary design practices to extend to Detroit RIVERWALK.
- Create gateways for PEDESTRIAN ACCESS to the RiverWalk, parks, and recreational opportunities along the water's edge.
- Establish a system of recreational and cultural nodes which will function as DESTINATIONS for residents in the surrounding context to stimulate use of the waterfront.
- Develop a strategy to allocate safe, pedestrian enjoyment of the waterfront while still offering RIVER PROTECTION through trusted bank stabilization methods.

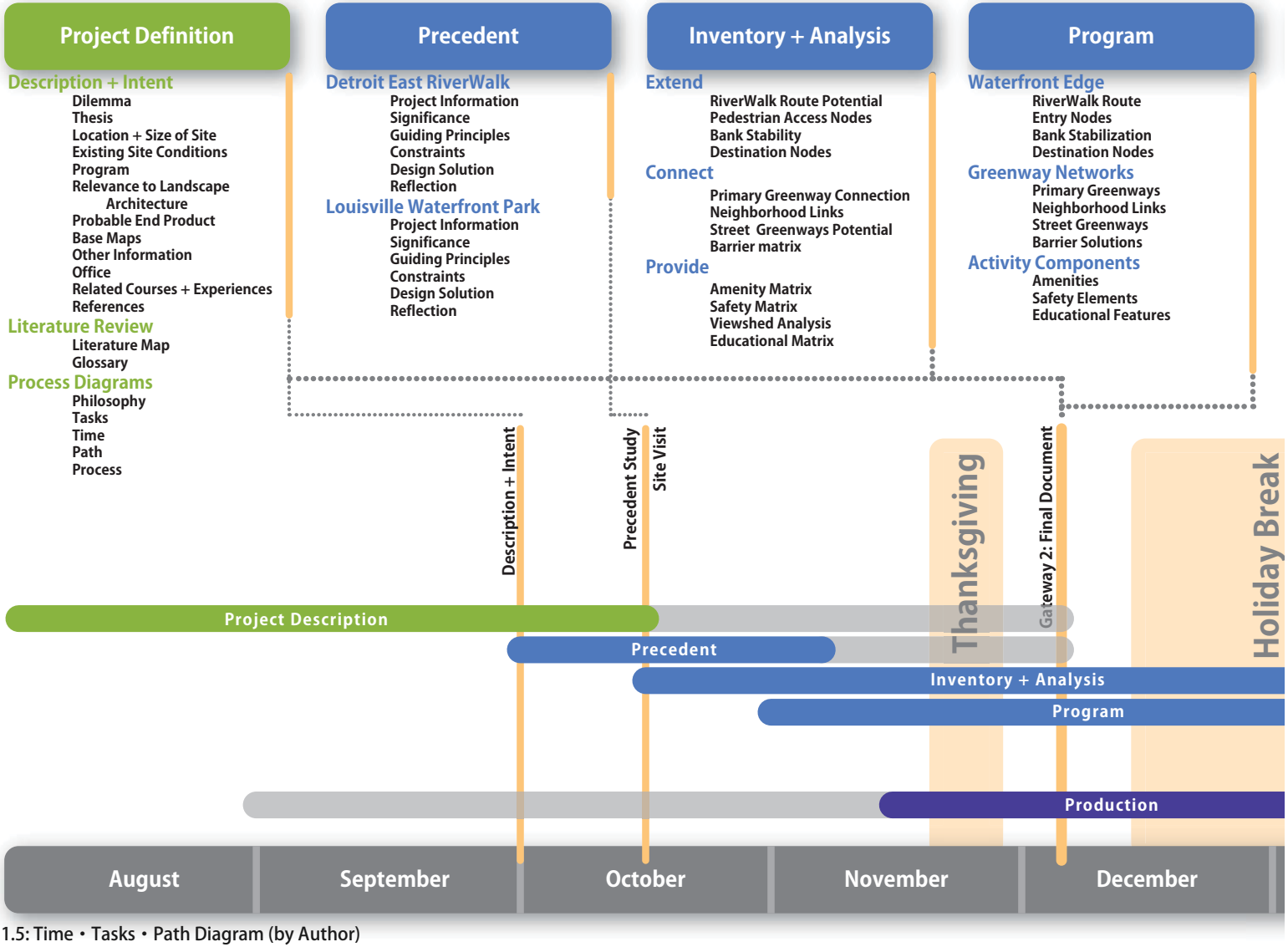
CONNECT

- Develop a network of primary GREENWAY routes to connect people and communities the waterfront and RiverWalk.
- Generate systems of secondary greenways that link primary networks and offer MULTI-MODAL transportation options to pedestrians.
- Create off-road linkages between NEIGHBORHOODS that allows residents to access cultural nodes within their communities.
- Identify and apply BARRIER REMOVAL techniques that will increase pedestrian movement along the waterfront, in turn, boosting use.

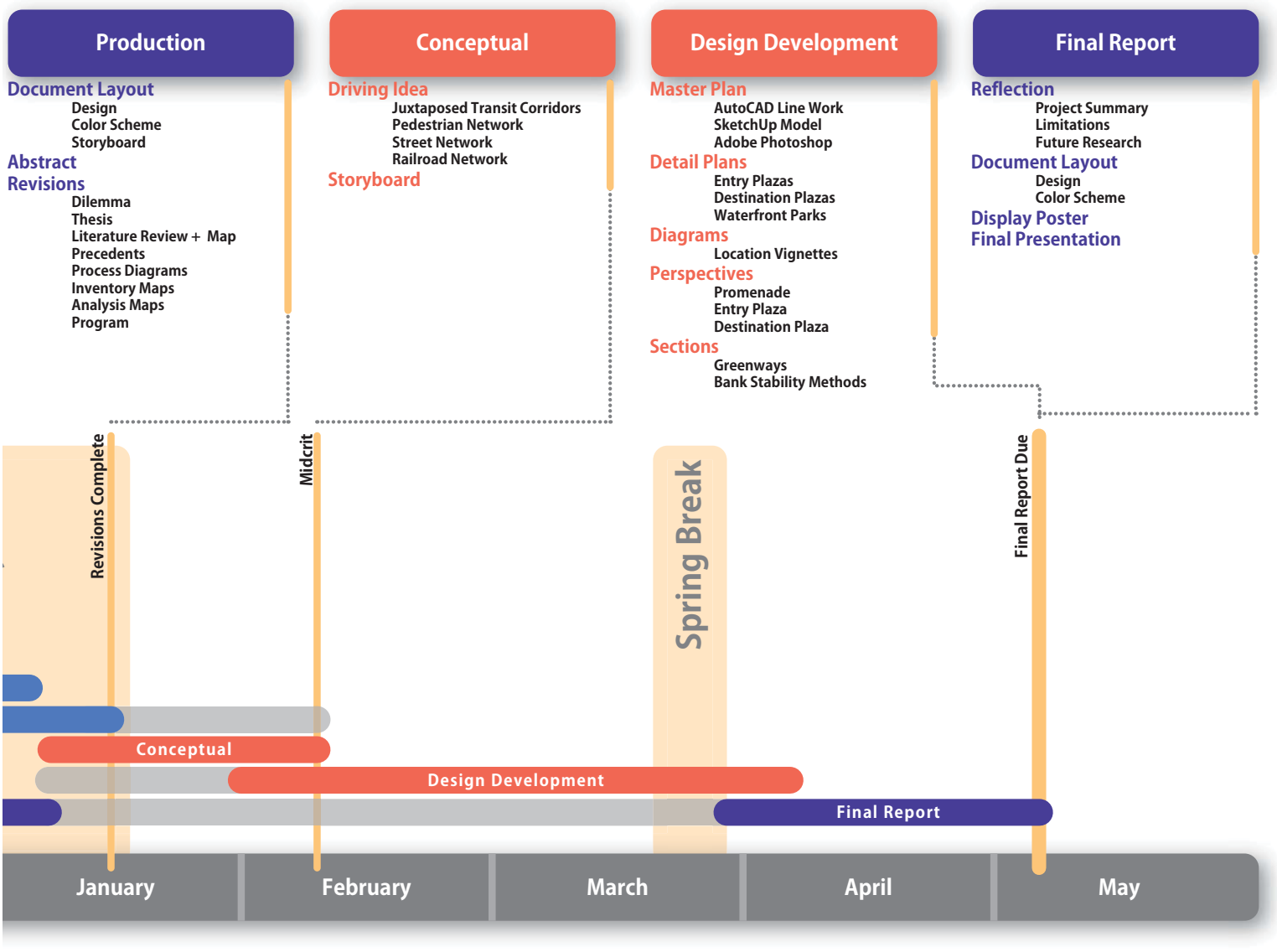
PROVIDE

- Locate key visual features within the surrounding environment to allocate important AESTHETIC VIEWS for users to value and treasure.
- Develop AMENITIES that will stimulate use and give visitors ample recreational opportunities to relax, exercise, and benefit from the waterfront.
- Protect users of the RiverWalk and greenways with appropriate SAFETY features.
- Create EDUCATIONAL elements and informative typologies that will teach users about different natural processes of water resources.

The project timeline and tasks, Figure 1.5, is important to show the time frame in which this project was completed and how each part of the process was combines to become a cohesive report.



1.5: Time • Tasks • Path Diagram (by Author)


Production
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Color Scheme
Storyboard
Abstract
Revisions
Dilemma
Thesis
Literature Review + Map
Precedents
Process Diagrams
Inventory Maps
Analysis Maps
Program
Conceptual
Driving Idea
Juxtaposed Transit Corridors
Pedestrian Network
Street Network
Railroad Network
Storyboard
Design Development
Master Plan
AutoCAD Line Work
SketchUp Model
Adobe Photoshop
Detail Plans
Entry Plazas
Destination Plazas
Waterfront Parks
Diagrams
Location Vignettes
Perspectives
Promenade
Entry Plaza
Destination Plaza
Sections
Greenways
Bank Stability Methods
Final Report
Reflection
Project Summary
Limitations
Future Research
Document Layout
Design
Color Scheme
Display Poster
Final Presentation
Revisions Complete
Midcrit
Spring Break
Final Report Due
Conceptual
Design Development
Final Report
January
February
March
April
May

02

DESCRIBE

DILEMMA

Our water bodies have functioned as a critical transportation network, moving people, raw materials, products and goods across countries and continents. Major cities have matured adjacent to significant sources of water (Gruber 2003). Waterfront development has progressed through time, parallel with the growth urban centers. Starting as hubs of shipping, trade, and commerce, water bodies were the center of social and economic life of early cities. The introduction of the railroad and technological advances in shipping spelled the eventual demise of urban ports. This transformation has left vast swatches of vacant, urban waterfront property under-used, neglected, and disconnected from cities that once thrived along the water. This under-utilized land is being seen as a catalyst for revitalizing urban cores. Cities are looking to reclaim their once prosperous waterfront (Fisher et al. 2004).

Detroit's riverfront has long been plagued by industry and pollution. For the past 25 years, Detroit has strived to turn its dilapidated shoreline into a thriving public asset. Today, three and a half miles of the Detroit RiverWalk stretching from Joe Louis Arena east to Gabriel Richard Park has been completed and open to the public (Brown 2007). This extent of the RiverWalk links a variety of plazas and parks together including Hart Plaza, GM Plaza, Rivard Plaza, Chene Park, Mt. Elliot Park, and Gabriel Richard Park (The Detroit Riverfront Conservancy 2010). Designs are currently being developed to extend the RiverWalk west to Ambassador Bridge, but no studies are planned for the east end of the RiverWalk toward Water Works Park and beyond (Brown 2007).

The existing eastern terminus of Detroit's RiverWalk, Gabriel Richard Park, does not allow access to the riverfront from neighborhoods that lie to the north and east. The Gold Coast neighborhood and Berry Subdivision sit along the riverfront directly to the east of the RiverWalk's end. People who reside there have no access to the RiverWalk, while living adjacent to the park. The Village's district lies north of Gold Coast and Gabriel Richard Park. Residents have expressed growing interest in extending the RiverWalk and greenway connections to the Riverfront to promote use (The Villages Community Development Corporation 2010).

Dilemma question– How can the Detroit RiverWalk be configured to extend eastward in order to connect neighborhoods and communities to the waterfront, provide amenities in waterfront parks, and create pedestrian greenway linkages?

THESIS

The Detroit riverfront will be accessible to surrounding neighborhoods with the east extension of the RiverWalk, redesign of waterfront parks, and greenway linkages which connect communities with the waterfront and amenities.

Humans have a natural attraction to water; therefore "the public increasingly desires and expects access to the water's edge" (Brown 2007, 20). Pedestrian access is fundamental, particularly linking outlying areas to the water's edge (Marshall 2001). In order to achieve public access, pedestrian barriers must be eliminated, be it physical, proprietary, or psychological. Several connections can then be created to the waterfront (Fisher et al. 2004).

2.1: Design Plaza Perspective (by Author). Further description will be discussed in chapter 6.

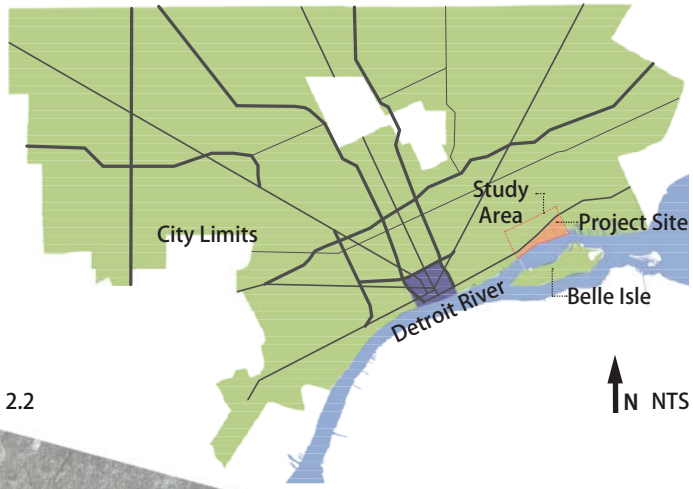
SITE LOCATION

The project is located within the State of Michigan and the City of Detroit, along the Detroit River (Figures 2.2 and 2.3). The site is situated between and including Gabriel Richard Park and Waterworks Park, bordered on the north by East Jefferson Avenue and the south by the Detroit River. Downtown Detroit is approximately 3 miles west, adjacent to the river and connected by the RiverWalk and multiple street corridors. The size of the project site is estimated to be 300 acres.

The study area for analysis includes the project site as well as neighborhoods to the north of Jefferson Avenue (Figure 2.4). The study area's boundaries include East Grand Boulevard, Kercheval Street, Garland Street, and the Detroit River.

The site and study area is directly across from Belle Isle, an island park designed by Frederick Law Olmsted. It is considered among the residents of Detroit to be the Central Park of Detroit. The only access to the Island is across the Belle Isle Bridge, which borders the site on the western edge.

The Detroit River is a 32-mile stretch between Lake St. Clair and Lake Erie located in the Great Lakes region. This region was created as ice sheets retreated during the last ice age, forming the largest fresh water lakes in the world. The river serves as a major shipping route between the upper and lower Great Lakes. The Detroit River is also the political boundary between the United States and Canada.



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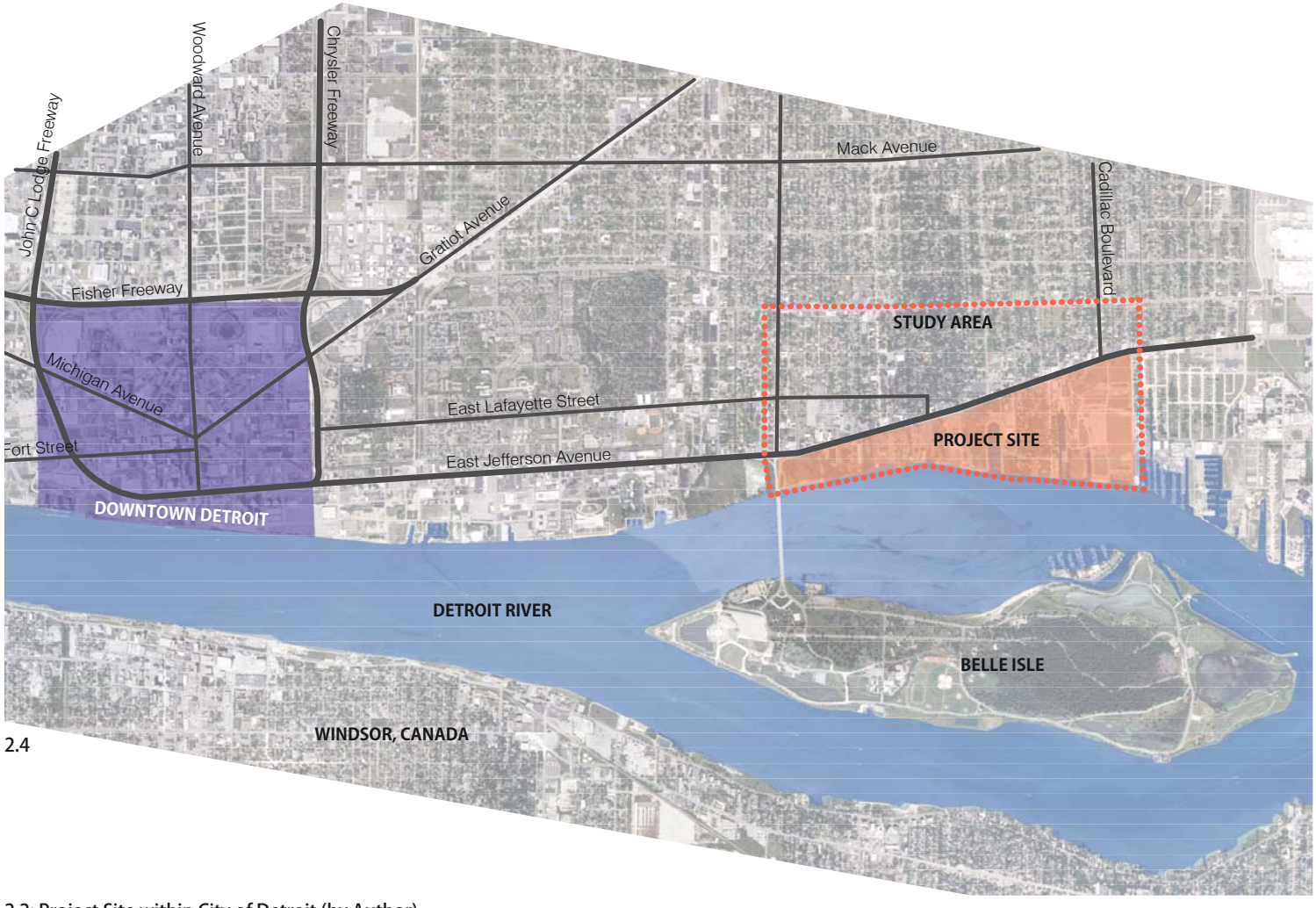
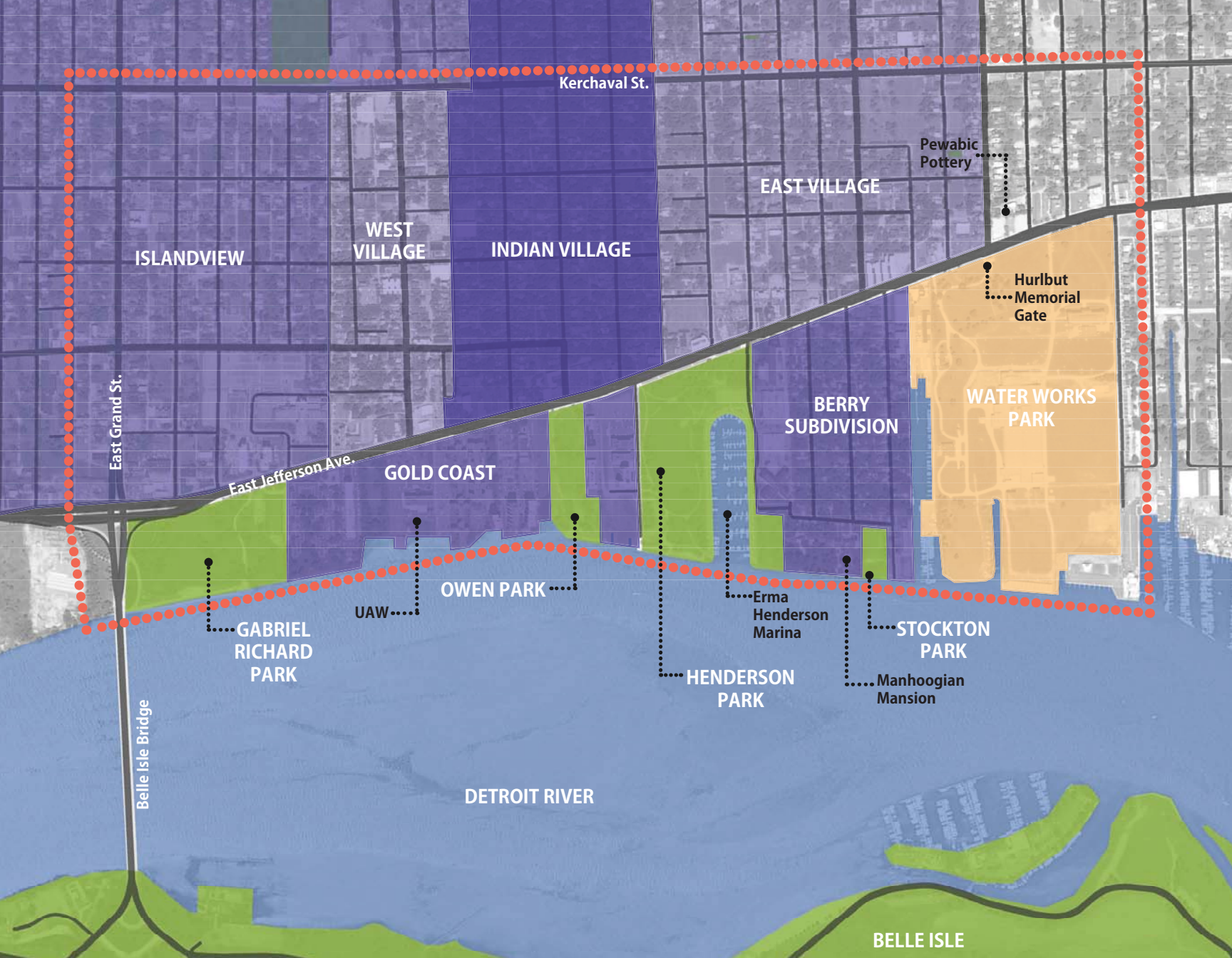


2.2: Project Site within City of Detroit (by Author)

2.3: Great Lakes Region (Google Earth)

2.4: Project Location Map (by Author)

N 0 2000 4000 feet


Kerchaval St.
Pewabic Pottery
EAST VILLAGE
WEST VILLAGE
INDIAN VILLAGE
ISLANDVIEW
Hurlbut Memorial Gate
BERRY SUBDIVISION
WATER WORKS PARK
East Grand St.
East Jefferson Ave.
GOLD COAST
OWEN PARK
UAW
GABRIEL RICHARD PARK
Erma Henderson Marina
STOCKTON PARK
HENDERSON PARK
Manhoogian Mansion
Belle Isle Bridge
DETROIT RIVER
BELLE ISLE

CRITICAL EXISTING SITE CONDITIONS

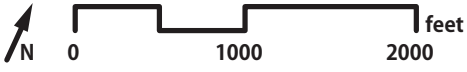
The project site contains a variety of unique spaces, residences, and opportunities. It contains a hodgepodge of parks and communities, all having one thing in common, the Detroit River in which each are located along (Figure 2.5).

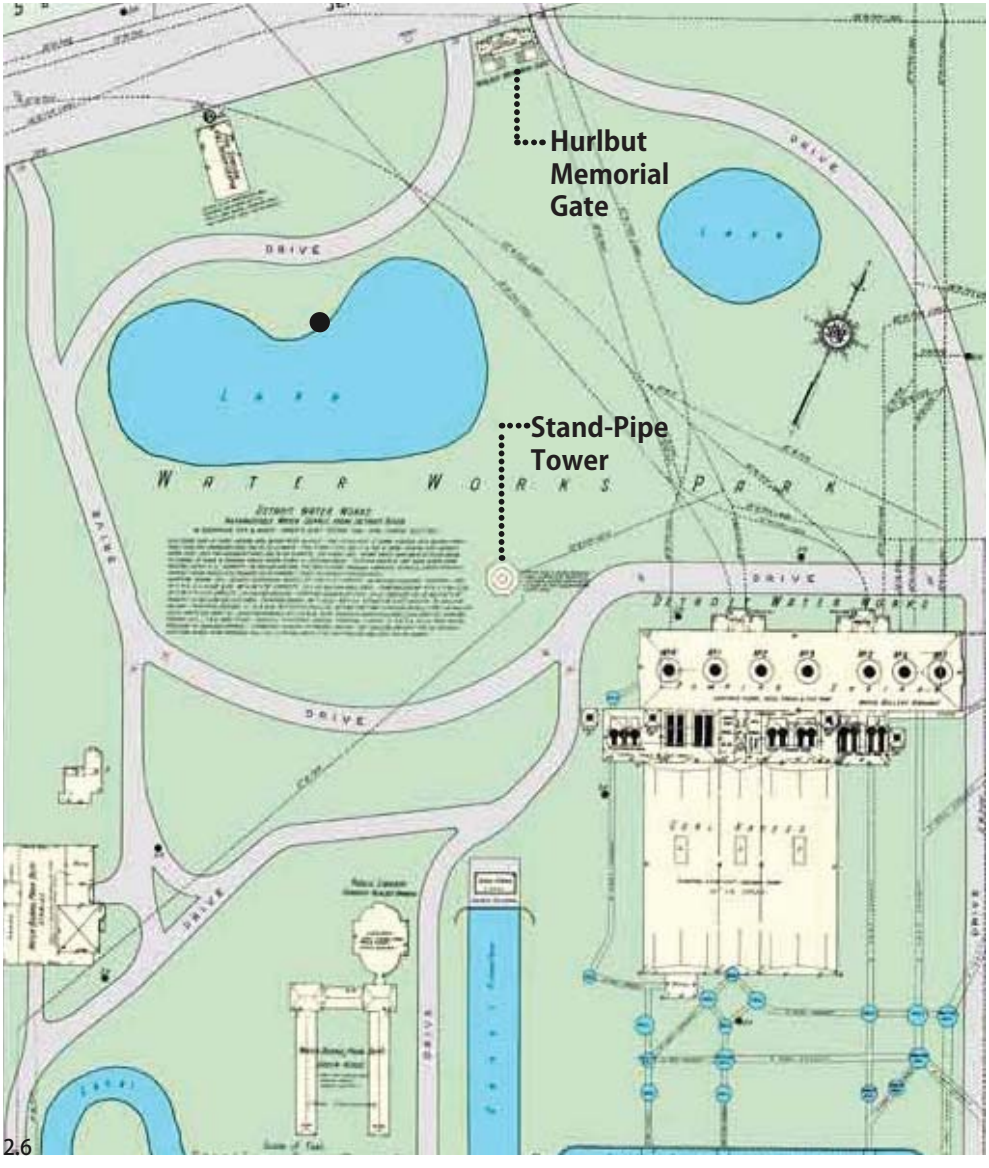
EXTEND

There are four public parks that extend to the river's edge, Gabriel Richard Park, Owen Park, Henderson Park, and Stockton Park. Gabriel Richard Park has a well designed and developed water's edge with the completion of phase one of the RiverWalk. The park's waterfront redesign was completed by JJR which includes the eastern most point of the RiverWalk, a riverfront plaza and pavilion complimented with fountains and The RiverWalk Cafe (The Detroit Riverfront Conservancy 2010). Gabriel Richard Park also offers a quiet and relaxing green space incorporating fishing outlooks, butterfly gardens, and labyrinth (The Detroit Riverfront Conservancy 2010). Owens Park consists of open, unmaintained green space with no footpaths. Henderson Park has an open green space with paths and walkways and vehicular access through Burns Drive. The park also incorporates the Erma Henderson Marina. The marina acts as a great node for water related recreational and leisure activities. The last public park is Stockton Park, a small yet quaint space which consists of a newly redone playground and green space.

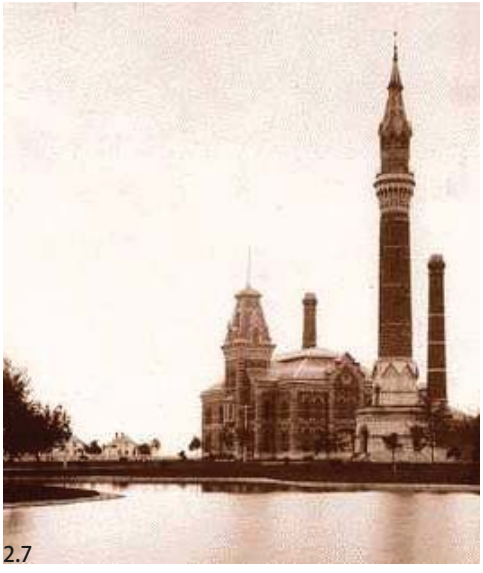
Water Works park is the primary drinking water facility plant for the City of Detroit and has been since 1880 (Marzejka 2000). Although it is a water facility, it also used to serve as a public park too. Several attractions to this park were the Stand-Pipe Tower, the Floral clock, and the Hurlbut Memorial Gateway (Figures 2.6, 2.7, 2.8, and 2.9). "Once called "an architectural exclamation point", the slender minaret-like tower stood 185 feet tall and was built to provide equal pressure for water being pumped into the water mains" (Marzejka 2000). It contained 202 winding steps that rewarded whoever climbed them with breathtaking views of the park, city, and surrounding countryside (Marzejka 2000). The tower was disassembled in 1945 after being found unsafe and too costly to repair (Marzejka 2000). The 18 foot high Floral Clock was built in 1893 and used an intricate water-driven system to run the mechanism (Marzejka 2000). The clock was saved by Henry Ford when the park closed for good but was returned the Water Works department in 1989 and currently resides at the entrance to Belle Isle (Marzejka 2000). The Hurlbut Memorial Gate is located along East Jefferson Avenue and was built in 1885 as the main entrance to Water Works Park. The gate stands 50 feet high and 132 feet wide with a dual stairway leading to a terrace 12 feet up (Marzejka 2000). This historic gate is not in use because the park has been completely fenced off from public access since the Korean War for security reasons. Restorations were taking place of historic structures while a newly constructed, state-of-the art water treatment plant was being constructed (Marzejka 2000). The Water Department says the public will soon be invited back (Marzejka 2000).

2.5: Existing Site Conditions (by Author)




Hurlbut
Memorial
Gate
Stand-Pipe
Tower
WATER WORKS PARK
DRIVE
LAKE

2.6



2.7

2.8

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2.6: Water Works Map, year 1900 (The Detroit News).

2.7: Stand-Pipe Tower and Pump House 1880 (The Detroit News).

2.8: Stand-Pipe Tower and Floral Clock (The Detroit News).

2.9: Hurlbut Memorial Gateway(The Detroit News).

2.10: Gabriel Richard Plaza with Rip Rap (by Author).

Pedestrian access to the water's edge varies between each park. Gabriel Richard Park has a gravel path on the east end and a concrete walk on the west, each leading from the sidewalk of East Jefferson Avenue. The park is under utilized because of its minimal pathways and separation between amenities along the waterfront and East Jefferson Avenue. Owens Park has no user access what so ever because there are no trails, paths, or walkways. A benefit of this park is the nearly clean slate to design the park. Henderson Park contains the best pedestrian access of all the parks within the project site, having numerous, yet deteriorating, concrete walkways. Stockton Park has a new path circumnavigating the park and is adjacent to Parkview Drive which terminates at the river's edge.

Conditions along the shoreline are stable with the river protection and bank stabilization techniques in place. Along the entire river's edge within the project site, only two methods are used: rip-rap and seawall. The newest installment of either bank stabilization method was done at Gabriel Richard Park when the RiverWalk was constructed (Figure 2.10).

Activity generators or destination nodes within the site are lacking. The only one being the Gabriel Richard Plaza. There are no other public points where people can gather along the waterfront.

CONNECT

Several communities that are within the study area have expressed interest in connections

to the waterfront and waterfront parks through greenway linkages. These communities make up what is known as the Villages of Detroit (The Villages Community Development Corporation 2010). These neighborhoods "each have an authentic personality and charm" including historic neighborhoods, high-rise condos, edgy lofts and apartments, and affordable rental properties and new construction homes (The Villages Community Development Corporation 2010, 1). The six communities that form the Villages are the Berry Subdivision, East Village, Gold Coast, Indian Village, Islandview, and West Village.

The two communities which are within the site boundary are Gold Coast and the Berry Subdivision. The Gold Coast community is a high density residential property located between Gabriel Richard Park and Owen Park. Gold Coast offers a luxurious urban life-style living in mid- and high-rise towers (The Villages Community Development Corporation 2010). The UAW, or United Auto Workers has its international headquarters located within Gold Coast. Residents access to waterfront is limited, which creates a disconnect between the parks on either side. The Berry Subdivision consists of large, single family residences that date back to the 1920's located to the east of Henderson Park. This subdivision is home to the Manhoogian Mansion (Figure 2.11), the residence for the mayor of Detroit (The Villages Community Development Corporation 2010). Pedestrian access is non-existent, except for parks, with all parcels adjacent to the waterfront being privately owned.

The other communities lie north of East Jefferson Avenue. Indian Village is a historic district with a diverse architecture style and was originally designed for automakers, attorneys, lumber barons and captains of finance and commerce (The Villages Community Development Corporation 2010). East Village lies just east of Indian Village and is home to the Pewabic Pottery's headquarters (Figure 2.12), which is a historic pottery and multifaceted institution with education, exhibition, museum, and design and fabrication programs (The Villages Community Development Corporation 2010). West Village is nestled west of Indian Village and is a designated historic district within close proximity to downtown, the RiverWalk and Belle Isle (The Villages Community Development Corporation 2010). Lastly, Islandview is located west of West Village and Indian Village and contains an array of stately turn-of-the century homes and mixed-use infill developments (The Villages Community Development Corporation 2010).

No greenways are present within the neighborhoods although every street has a sidewalk on either side. There are many vacant properties within the area. Indian Village has the least amount with only a handful while East Village contains the most.

Many hindrances or barriers lie between public access to the waterfront and their communities. A major one is East Jefferson Avenue, an eight lane arterial corridor which travels east-west, connecting downtown to outlying communities. Pedestrian access from the Village neighborhoods access to parks and project site is limited, with only eight

2.11: Manhoogian Mansion (The Villages Community Development Corporation, 2010)

2.12: Pewabic Pottery House built in 1907 (Pewabic Pottery)

2.13: Green Open Space at Henderson Park (by Author)

2.14: Gabriel Richard Park Labyrinth (by Author)

2.15: Gabriel Richard Plaza Fountain (Courtesy of JJR)

2.16: Gabriel Richard Park Butterfly Garden (Courtesy of JJR)

crosswalks along a one and one third mile stretch. Other barriers include fenced communities such as Gold Coast, traffic speed, and private property.

PROVIDE

Amenities within the project site are lacking with the exception to Gabriel Richard Park's waterfront edge (Figure 2.13, 2.14, 2.15, and 2.16). Owen and Henderson park each have an open green space both of which are under utilized. Stockton Park has the only playground along the water. An activity that many people participate in at the river is fishing. There is only one fishing pier in the project site in Gabriel Richard Park. Many people also fish at Henderson Park, but there is no formal pier. Lighting and other safety amenities are also nonexistent in Owen Park and Henderson Park. Safety of users is important to prevent criminal activity and keep residents coming back to use the parks. The lack of amenities is an opportunity the attract residents to the water's edge.

Views from the each park are breathtaking and vast. Each park offers a superb view of Belle Isle, the Belle Isle Bridge, and the Detroit River. Because of the position of Henderson Park, one can view the downtown skyline of Detroit and Windsor. These parks and views can help educate people about the history of the area. Currently there is no educational features within the project site.

03

ARCHETYPE

INTRODUCTION

Looking at completed projects provides crucial information about design strategies for waterfront development. Selecting which projects to study was difficult because of the quantity of waterfront projects that have been designed. Selection of projects was based upon two important criteria: scale and type of waterfront development. Scale was an important consideration because many projects involve smaller downtown spaces whereas the Detroit RiverWalk contains many, large open spaces. Type of development was a contributing factor because the RiverWalk involves parks and plaza spaces whereas many waterfront projects consist of one plaza or area of the waterfront. I chose the projects which involved long linear expanses of the water's edge.

Two completed waterfront projects meet these criteria: Detroit East RiverWalk and Louisville Waterfront Park. Detroit East RiverWalk is the first phase in redeveloping Detroit's waterfront. It suggests design details and ideas for this master's report. The Louisville Waterfront Park incorporates similar program elements to the Detroit RiverWalk, while integrating them into a cohesive design concept. The park stretches across a long area which connects residents to downtown. Each precedent is analyzed based on the goals previously established of Extend, Connect, and Provide.

DETROIT EAST RIVERWALK

Project Information

Context Information

Location - Detroit, Michigan

Size - 2.3 miles along the Detroit River downtown

Cost - $25 million

Design Firm

JJR, LLC

Client

Detroit Riverfront Conservancy

Significance

The Detroit East RiverWalk set out to accomplish want many other cities have done successfully, create a vibrant waterfront edge for citizens to enjoy and treasure. The waterfront had fallen into dilapidated area with defunct warehouses, towering silos, parking lots, and contaminated resources from past industrial and shipping use (Parker 2007).

The formation of The Detroit Riverfront Conservancy (DRFC), a non-profit organization, kick started the riverfront redevelopment with a mission to transform Detroit's "front-door" into a continuous public open space and spark new housing and retail (Parker 2007). The master plan for the East RiverWalk is a part of a larger economic reinvestment strategy for the downtown Detroit area. Over 600 new residential units have been planned on the waterfront since the RiverWalk construction began (JJR 2007).

The East RiverWalk serves as a primary precedent due in part to its direct connection with the extension of the RiverWalk. It shows that there can be successful waterfront development in Detroit. The design solution began with goals that relate to the RiverWalk extension currently being studied: extending the existing public riverfront, connecting people with the use of greenways, and providing programmed amenities to users.

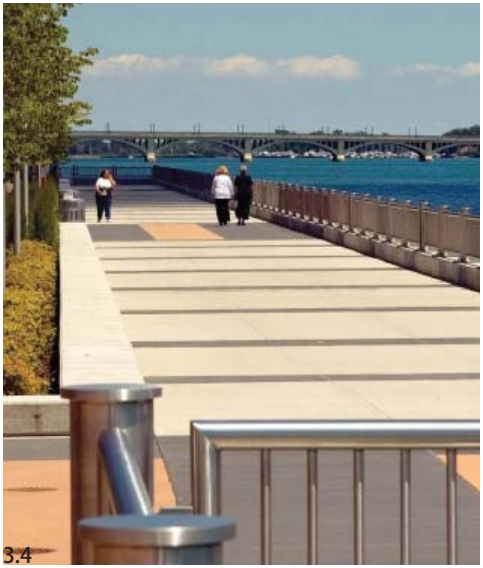
Guiding Principles

The project would link to the existing waterfront promenade which consists of GM Plaza and Hart Plaza with the primary goal being to provide continuous public access to the riverfront. The East RiverWalk would create a friendly and welcoming environment by incorporating multiple waterfront recreational activities. The waterfront development could provide citizens and visitors with a new reason to come downtown.

Design Process

The project started with a series of benchmarking, research, and interviews of other waterfront developments which were funded and maintained by non-profit organizations. Through this research JJR was able to make recommendations to the

3.1: Rivard Plaza on the Detroit RiverWalk (by Author).



3.2: Portion of the RiverWalk before construction (Courtesy of JJR)

3.3: Portion of the RiverWalk during construction (Courtesy of JJR)

3.4: Portion of the RiverWalk after construction (Courtesy of JJR)

client on the type, size, and location of public amenities and activities (Parker 2007). The projects studied were:

Mill Park, Minneapolis

Battery Park, New York City

Allegheny Riverfront Park, Pittsburgh

Willamette River, Portland

Harbor front, Toronto

Windsor Riverfront

Chicago Riverfront System

JJR then held several public meetings that led the client and it's executive planning committees through a planning, programming, and design process to establish the alignment, dimensions, and activities for the RiverWalk. Community involvement was important to the designers in order for citizens to gain civic pride in the project (Parker 2007).

The design team also coordinated geotechnical investigations and underwater dives to determine and resolve shoreline condition, stabilization and construction techniques in order to deal with technical and construction dilemmas during the design process (JJR 2007).

The project team was influential in working with the client and property owners to draft easement and access agreements as well as address technical concerns, obtain permits, and work with artists for custom features (JJR 2007).

Constraints

A derelict, forgotten urban edge dominated by parking lots, cement silos, industrial storage, and trash littered the waterfront prior to development.

Eroded pilings, decades of urban fill and underground debris and other brownfield issues made the design team focus on environmental education and cleanup.

Multiple private property owners make alignment of RiverWalk a challenge.

It was difficult to gauge the population that would use the RiverWalk because of little private development adjunct to the site and river.

Shoreline stabilization in certain areas along the river was a concern to provide safety to users and help establish wildlife habitat (Figures 3.2, 3.3, and 3.4).

Design Solution

Extend

The East RiverWalk extends the existing promenade, located adjacent to downtown and Gabriel Richard Park.

The promenade consists of an average 62 foot wide footpath and 12 foot wide bicycle path which connects pedestrians from downtown to waterfront parks and plazas along the 2.3 mile stretch between GM Plaza and MacArthur Bridge, also known as the Belle Isle Bridge (Figure 3.7) (Brown 2007). The paving layout follows the line of remnant pilings in the river, which are relics of nineteenth century piers that once serviced the ship building industries of the east riverfront (JJR 2007).

Pedestrian access points to the RiverWalk primarily occur at park entrances and street terminating points. Destination points along the promenade are in the form of plazas, which offer several amenities.

The extension allows public access and open space along the promenade to the water's edge for visitors to enjoy to views of the city and Detroit River.

Connect

The RiverWalk promenade connects four existing waterfront parks that provide users with open space and other park amenities.

Miliken State Park & Harbor is the first urban park in Michigan (Figure 3.9). The park includes a wetland demonstration project, which shows how wetlands act as nature's water filtration system. The park also incorporates a 52-slip harbor and offers several covered picnic areas, shoreline fishing, and a 63-foot light tower which marks the entrance to the harbor.

Chene Park, located just east of Miliken State Park, is home to the City of Detroit's entertainment venue (Figure 3.10). This 6,000 seat amphitheater

is located on the shores of the river and is a prime destination for legendary artists. The park also includes amenities such as the Chene Park Fountain and Lake Lounge bar.

Mt. Elliot Park is a small park adjacent to the U.S. Coast Guard, which has been updated to provide users with amenities such as a playground and plaza area (Figure 3.11).

Gabriel Richard Park lies east of MacArthur Bridge. The park has been enhanced with a plaza, pavilion, and RiverWalk, located along the river's edge (Figure 3.12).

Greenway access to the waterfront and RiverWalk is minimal. The only greenway that links is Dequindre Cut, formerly the Grand Trunk Railroad line, which is a below-street level greenway perpendicular to the river (Figure 3.8) (The Detroit Riverfront Conservancy 2010).

The RiverWalk is a multi-modal pedestrian promenade. A few of the multiple recreation opportunities the RiverWalk provides are walking, biking, in-line skating and fishing (JJR 2007). Barriers that inhibit pedestrians from accessing the waterfront, including parking lots, warehouses, and silos, were eliminated when designing the RiverWalk.

The RiverWalk has served as a catalyst for residential and commercial redevelopment in the historic industrial district. The RiverWalk will connect these future residences and businesses to the waterfront, parks, and downtown.

Provide

The RiverWalk redevelopment project has provided users with amenities to enjoy.

Programming of the project had to take into account the lack of commercial development adjacent to the site (JJR 2007). There are four plaza spaces designed, two of which are constructed. Those are the Rivard Plaza and Gabriel Richard Plaza.

These plazas provide concessions, rest rooms, outdoor seating and space for equipment and storage. Each plaza also incorporates a pavilion covered by a tensile canopy that provides shaded seating and acts as a major iconic element and beacon. In addition to the canopies, every plaza has a unique water feature for sound, reflectivity and interaction themed to represent different aspects of water and the river (JJR 2007).

Rivard Plaza, the largest of the plazas, is located closest to downtown and GM Plaza (Figures 3.5 and 3.6). It is designed with several unique attractions, including the River Carousel and reflecting pool, interpretative features, a donor-recognition sculpture, and moorings for cruise boats (Figures 3.13 and 3.16). The main pavilion provides users with concessions, rest rooms, offices for Conservancy staff and security personal, maintenance and storage areas, and space for a bike rental vendor.

Gabriel Richard Pavilion is located at the current eastern terminus of the RiverWalk. The plaza is home to the RiverWalk Cafe, self cleaning

3.5: Vast expanses of paved parking lots were scattered along the waterfront. Rivard Plaza before construction (Courtesy of JJR)

3.6: Rivard Plaza after construction (Courtesy of JJR)

3.7 **LEGEND**

- Parks
- Primary Promenade
- Secondary Walkway
- Built Plazas
- Unbuilt Plazas
- Pedestrian Access Nodes

3.7: The RiverWalk Master Plan (Courtesy of JJR).

3.8: Dequindre Cut Greenway (Courtesy of JJR)

3.9: Miliken State Park and Harbor (Courtesy of JJR).

3.10: Chene Park (by Author).

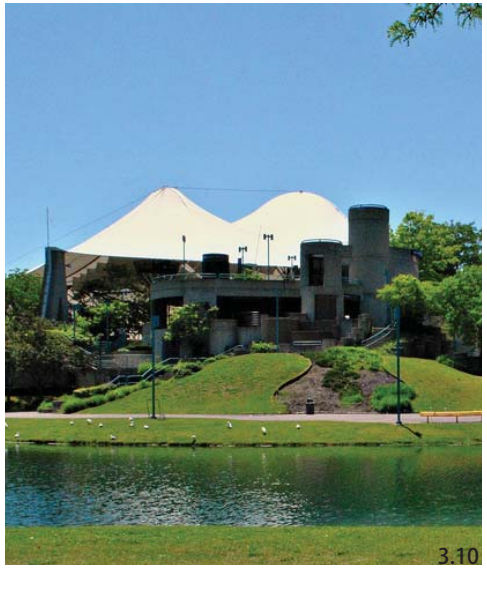
3.11: Mt. Elliot Park (Detroit Riverfront Conservancy).

3.12: Gabriel Richard Plaza (Flickr-burnlab).

3.8

3.9

Gabriel
Richard
Park
Gabriel
Richard
Plaza
Belle Isle Bridge
Mt. Elliot Park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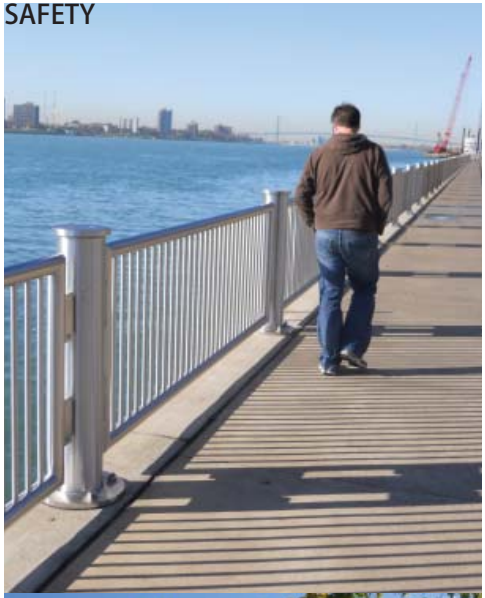
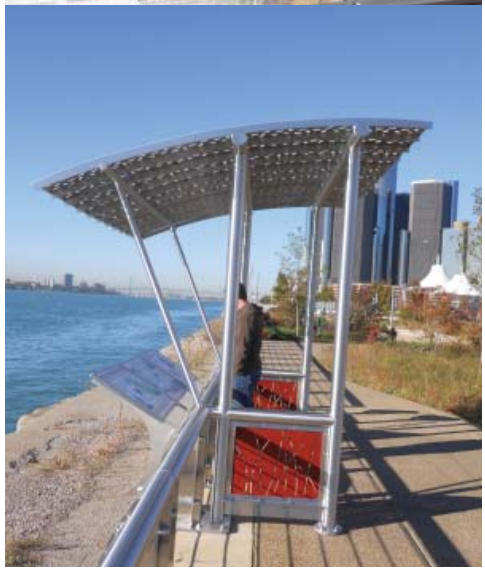
AMENITIES

SAFETY



EDUCATION



3.13: (Left) Rivard Plaza and Fountain (by Author).

3.14: (Middle) Safety railing along RiverWalk (by Author).

3.15: (Right) Signage at wetland demonstration (by Author).

3.16: (Left) Rivard Plaza tensile structure with seating (by Author).

3.17: (Middle) Emergency Call Box with Camera and Lighting (by Author).

3.18: (Right) Observational outlook with educational signage (by Author).

restrooms, a labyrinth, butterfly garden, and fountains.

The designers also built safety into the RiverWalk concept by including lighting, railings, security cameras, and emergency call box towers (Figures 3.14 and 3.17). These features encourage visitors to come during evening hours to relax along the waterfront.

The RiverWalk also gives breathe taking, panoramic views of Windsor, Canada across the river, Ambassador Bridge, Belle Isle, and the Detroit skyline.

Several educational elements are incorporated into the design concept. A wetland demonstration park located in Miliken State Park educates users on nature's natural filtration system. Signage tells the story of this process with text, diagrams, and pictures. Other educational features are subtle such as signage under small shade structures describes the river's history and processes (Figures 3.15 and 3.18).

Reflection

For this precedent study, the Detroit East RiverWalk's program elements and design solutions were structured in relation to the goals of this project: Extend, Connect, and Provide; which were developed through literature on waterfront development.

The primary difference between this precedent and the project being presented in this report is the surrounding property use. The existing RiverWalk is primarily adjacent to industrial and urban uses with little residential development, while this report focuses on an area surrounded by residential neighborhoods.

The design solution incorporated unique program elements unified by the goal of providing contiguous public access to the river, an amenity to the city of Detroit.

The RiverWalk has rejuvenated the Detroit waterfront into a successful, cultural development for residents and visitors to appreciate the open space, amenities, and river. The project offers essential strategies and program elements for the next extension of the RiverWalk.

LOUISVILLE WATERFRONT PARK

Project Information

Context Information

Location - Louisville, Kentucky

Size - 120 acres

Cost - $92 Million

Design Firm

Hargreaves Associates

Client

The Waterfront Development Corporation

Significance

"The Louisville Waterfront Park is the front door to Kentucky, a playground for people of all ages, and a gathering place for folks from all over the community" (Waterfront Development Corporation, 6). At the peak of urban decline, the City of Louisville constructed I-64, an elevated interstate, along the shores of the Ohio River which cut off pedestrian access to the river (Hargreaves et al. 2009). With the river completely cut off from downtown and the population returning to from the suburbs, the waterfront needed to return as a focus for Louisville (Hargreaves et al. 2009).

The public/private partnership of the Waterfront Development Corporation, envisioned the creation of the Louisville Waterfront Park to transform a postindustrial wasteland into an urban oriented park for the city, initiating a renaissance of public life in downtown Louisville (Hargreaves et al. 2009).

Guiding Principles

The team at Hargreaves developed an approach that was suited for the downfield site (Hargreaves et al. 2009). The designers looked to enhance the bond between human culture and the natural processes that shaped the river over time, and the dynamic processes that continue to act on the landscape (Hargreaves et al. 2009).

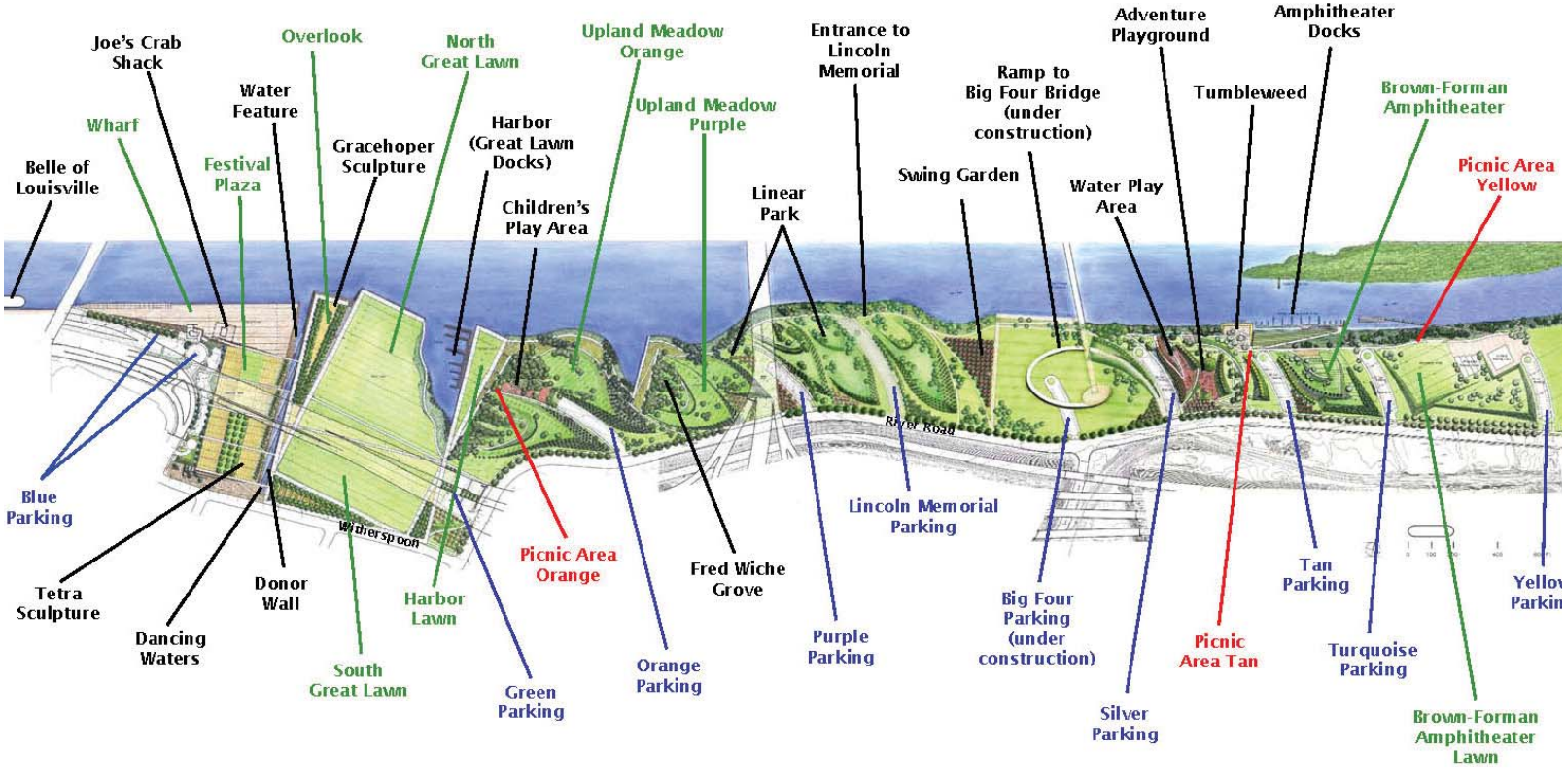
Design Process

Hargreaves worked closely with the public, holding over sixteen public meetings to develop the design for the park (Hargreaves et al. 2009, 300). In order to determine how this project could positively affect downtown, it was important to understand the needs of local residents, determining program, and provide a vision to the public of what the waterfront could become (Hargreaves et al. 2009).

Constraints

Several barriers that prohibited access were River Road, a collector street which cut off the sited at grade level, Interstate 64 that bisected the project site overhead, and a twenty foot floodwall, or seawall, located at the river's edge (Hargreaves et al. 2009).

3.19: Louisville Waterfront Park "Great Lawn" rendering without I-64 (Flickr-8664).



3.20: Louisville Waterfront Park Detailed Map (LouisvilleWaterfront.com)

Design Solution

Extend

The first objective for the Louisville waterfront was allowing direct pedestrian access to the Ohio River (Hargreaves et al. 2009). The solution called for the re-routing of River Road through downtown in order to remove the at grade obstacles (Hargreaves et al. 2009). The site was then re-graded to allow direct visual and pedestrian access to the river from the park entrance (Hargreaves et al. 2009). The psychological barrier of the elevated freeway is removed by the visibility of the river from the entrance (Hargreaves et al. 2009).

The entire park consists of a network of paths, trails, and waterfront promenade (Figure 3.20). These interconnected walkways form one, two, and three mile walking loops within the park. The pathway along the river's edge "periodically link the upper and lower banks, crafting a complexity of vision through the continuously shifting relationships between river, city and the individual" (Hargreaves et al. 2009, 300).

A riparian edge, planted with native, flood-tolerant species, is located at elevations up to the 10-year flood line (Hargreaves et al. 2009). "The lower banks, while appearing natural, are heavily reinforced with rock-filled gabion mattresses, geo-grid and geo-textile fabrics, inter-planted with native riparian species, and fortified with waterborne plants, creating a hybrid system integrating technologies with natural processes" (Hargreaves et al. 2009, 300).

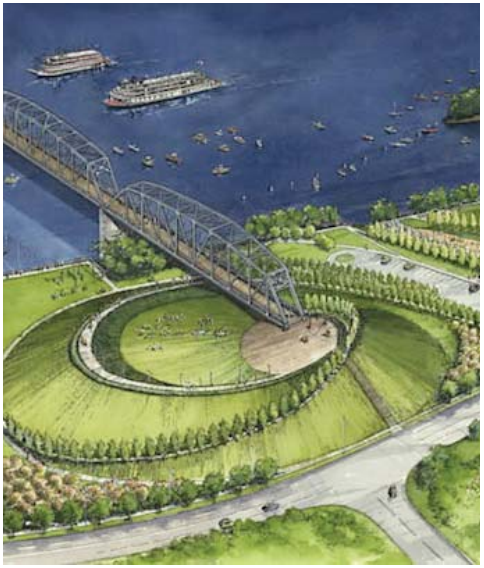
Several areas serve as key destination hubs for visitors and users. These nodes are The Festival Plaza, which supports organized city-wide events (Hargreaves et al. 2009). The next node is the Lincoln Memorial. This plaza commemorates Abraham Lincoln's lifelong connection to Kentucky (Waterfront Development Corporation). The final destination node is the Amphitheater Docks and Tumbleweed Southwest Grill, which is a plaza space suitable for picnics and other small gatherings adjacent to a quaint restaurant.

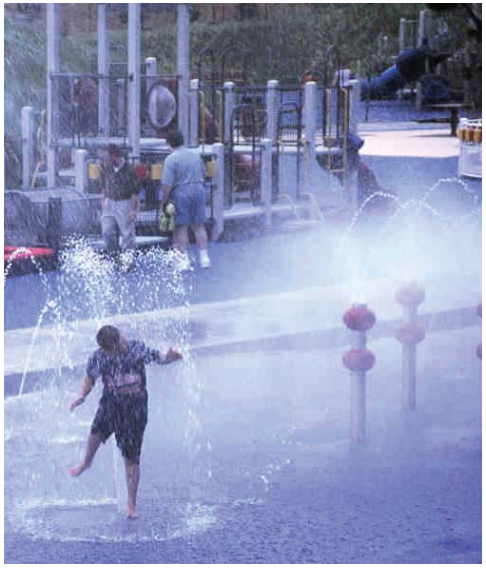
Connect

The Louisville Waterfront reconnects citizens back to the river. The areas of the park closest to downtown are programmed to hold large events. These areas are composed of grand spaces and gestures. As the park moves away from downtown toward more residential neighborhoods, the program emphasizes more private and relaxing areas for walking, running, and cycling, open meadows, playground, and picnic areas (Hargreaves et al. 2009).

An abandoned and unused railroad bridge that spans the Ohio River will be rejuvenated and reused as the Big 4 Pedestrian & Bicycle Bridge (Figure 3.21). The pedestrian bridge will serve as a connection between Louisville and Southern Indiana (Waterfront Development Corporation).

Parking throughout the park blends with the overall design concept. The lots are spaced to provide





3.21: (Left) Rendering of Big 4 Bridge (LouisvilleWaterfront.com).

3.22: (Middle) Water feature between the Plaza and "Great Lawn" (KentuckianaGreen.com).

3.23: (Right) The Tumbleweed Restaurant (LouisvilleWaterfront.com).

3.24: (Left) Aerial of the Brown-Forman Amphitheater (skyshotsblimpcam.com).

3.25: (Middle) Water Playground (LouisvilleWaterfront.com).

3.26: (Right) Thunder Over Louisville fireworks show (Attractions.Uptake.com).

access to the key destination spots and designed like fingers that stretch into the park, giving access directly to the promenade and amenities.

Provide

The Louisville Waterfront Park provides an array of amenities for users to enjoy. The Great Lawn is a large turf surface that stretches from the park entrance to the river (Figure 3.22). The space allows for multiple activities from informal gatherings, sports, to large events such as the Thunder Over Louisville, which draws 350,000 people (Figure 3.26) (Hargreaves et al. 2009; Waterfront Development Corporation).

The Overlook is a sculpture plaza with shaded seating at the water's edge for contemplation and provides dramatic, panoramic views of the Ohio River (Hargreaves et al. 2009).

Other amenities include two playgrounds and a water play area for children to be entertained, meadows, water features, two harbor docks, Swing Garden, amphitheater, picnic areas, and rest rooms (Figures 3.24 and 3.25) (Waterfront Development Corporation).

Reflection

The Louisville Waterfront Park has been a catalyst to the urban growth of the city (Hargreaves et al. 2009). "The park has spurred development along the waterfront with several corporate headquarters, a baseball stadium, the Louisville Slugger Museum, and a riverfront apartment tower" (Hargreaves et al. 2009, 300).

The park indirectly connects residential neighborhoods to downtown by linking them with a linear waterfront park. The connection has strengthened downtown with new development. The park has given the city a new identity in which to build upon.

This project offers many design solutions to constraints and problems which relate to the Detroit RiverWalk, from the unified design concept, amenity adjacencies, to pedestrian access and destination nodes. The park has transformed an industrial wasteland into an inviting and beautiful public amenity for the City of Louisville.

04

INVESTIGATE

INTRODUCTION

In order to achieve the goals set forth in chapter 01, Relevance to Landscape Architecture page 10, analyzing important issues is done. The analysis informs program elements to be implemented.

GOALS & OBJECTIVES

EXTEND

- Expand on current waterfront development along the Detroit River by applying contemporary design practices to extend to Detroit RIVERWALK.
- Create gateways for PEDESTRIAN ACCESS to the RiverWalk, parks, and recreational opportunities along the water's edge.
- Establish a system of recreational and cultural nodes which will function as DESTINATIONS for residents in the surrounding context to stimulate use of the waterfront.
- Develop a strategy to allocate safe, pedestrian enjoyment of the waterfront while still offering RIVER PROTECTION through trusted bank stabilization methods.

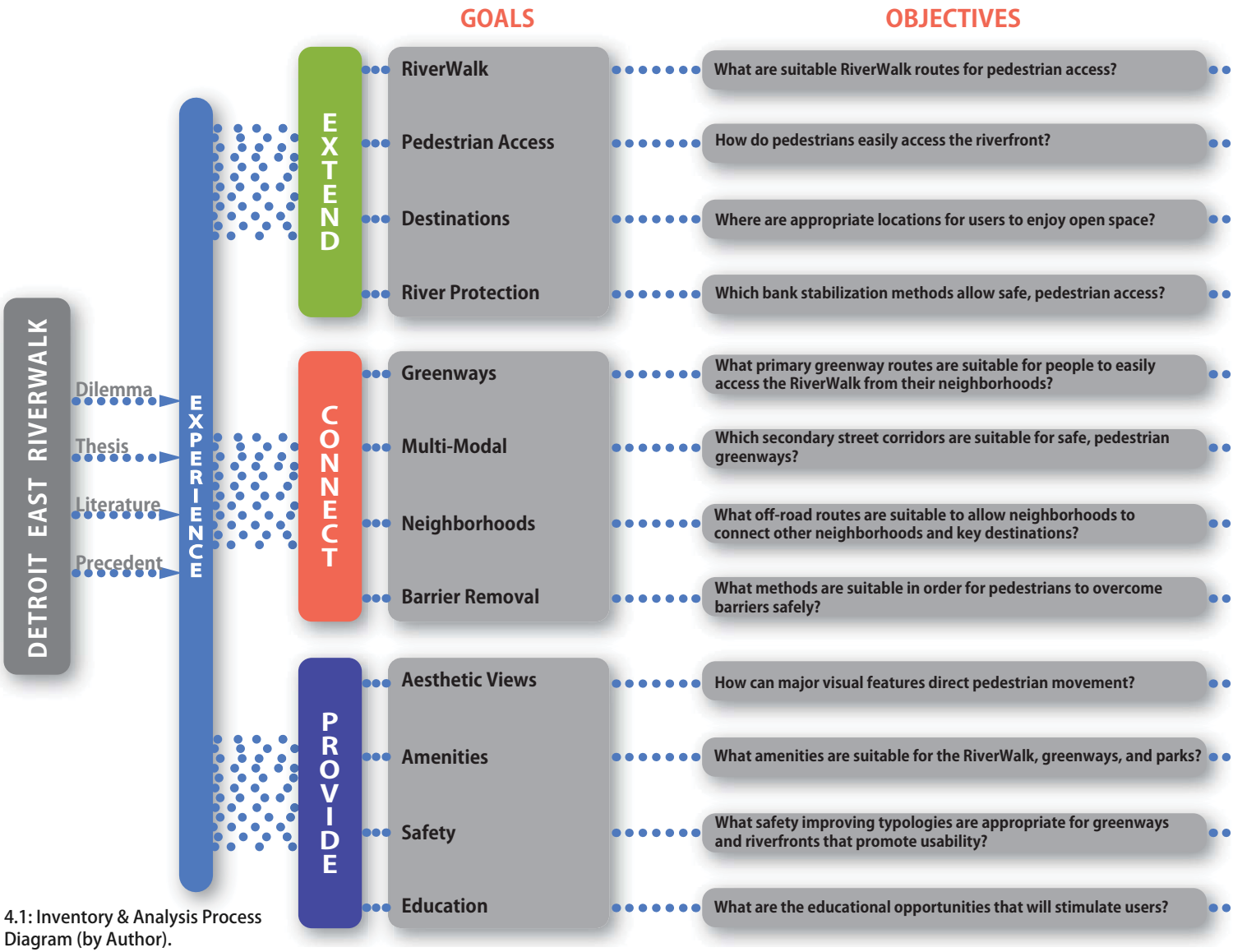
CONNECT

- Develop a network of primary GREENWAY routes to connect people and communities the waterfront and RiverWalk.
- Generate systems of secondary greenways that link primary networks and offer MULTI-MODAL transportation options to pedestrians.
- Create off-road linkages between NEIGHBORHOODS that allows residents to access cultural nodes within their communities.
- Identify and apply BARRIER REMOVAL techniques that will increase pedestrian movement along the waterfront, in turn, boosting use.

PROVIDE

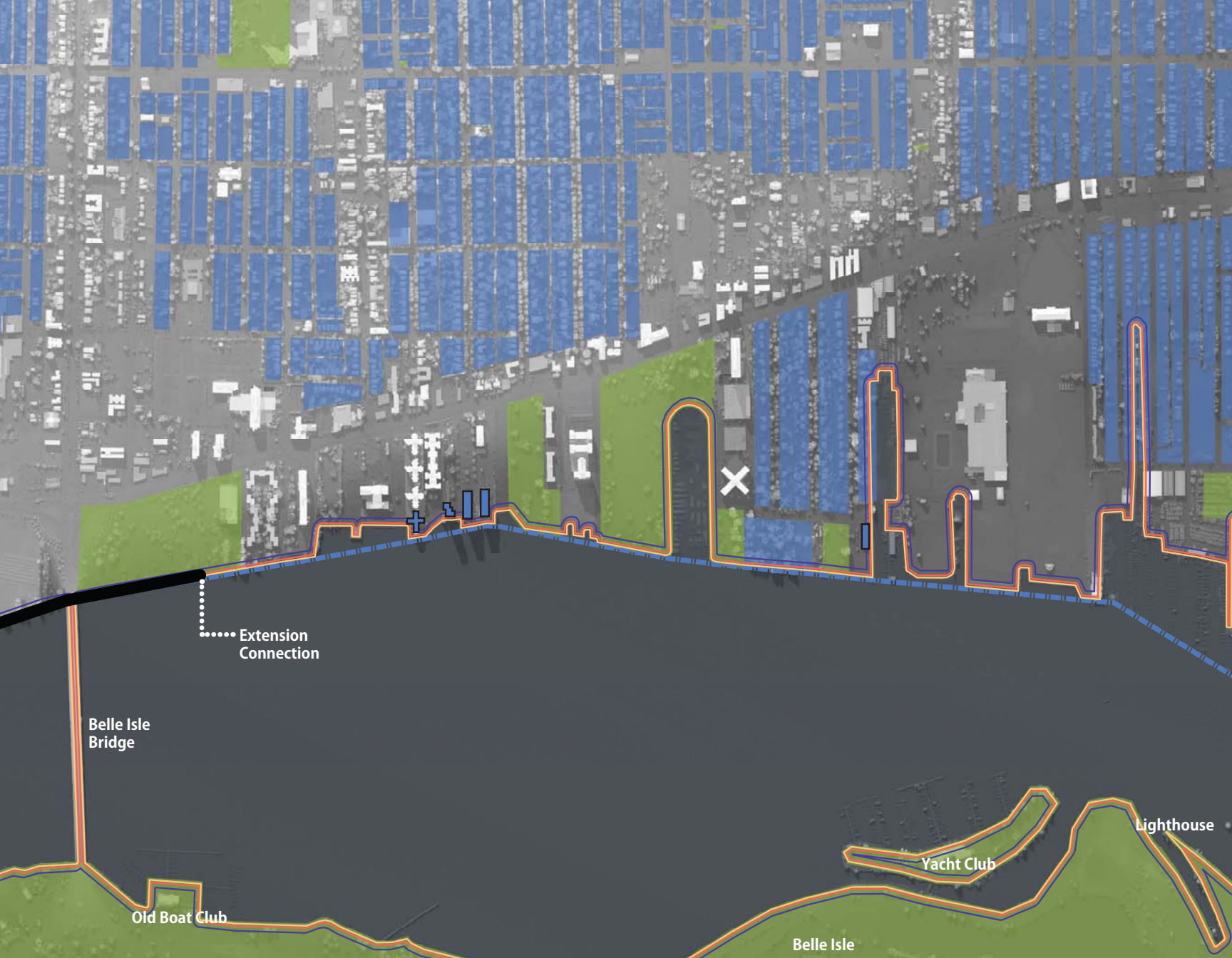
- Locate key visual features within the surrounding environment to allocate important AESTHETIC VIEWS for users to value and treasure.
- Develop AMENITIES that will stimulate use and give visitors ample recreational opportunities to relax, exercise, and benefit from the waterfront.
- Protect users of the RiverWalk and greenways with appropriate SAFETY features.
- Create EDUCATIONAL elements and informative typologies that will teach users about different natural processes of water resources.

The process through which site conditions need to be analyzed is presented in Figure 4.1. The method is linear reflecting a step by step process of thinking. Each goal leads to an objective question. These objectives are then broken down into the proper inventories needed to answering the objective question. Analysis maps are then produced, which will inform the conceptual model and program elements.

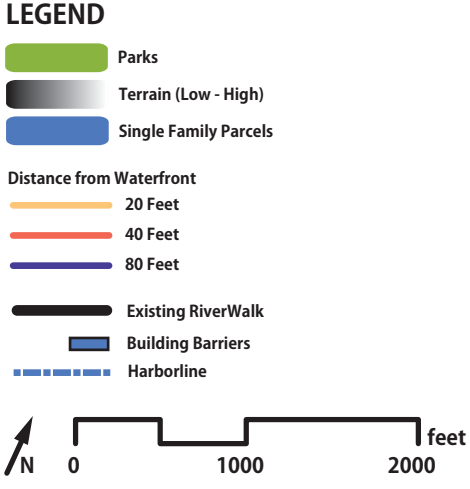


4.1: Inventory & Analysis Process Diagram (by Author).

INVENTORY		ANALYSIS
Where is the existing RiverWalk located? Where are public spaces along riverfront? How far can we build into the river? How close to the water can the RiverWalk be located? Are there single family residents along the edge of the river?	Existing RiverWalk Map Parks and Recreation Map Harborline Alignment Map Proximity to Riverfront Map Land Use Map	RiverWalk Route Potential
Where are the best pedestrian entrances to the RiverWalk? Where are public streets and parking areas? Where are the Pedestrian trails that connect to the riverfront?	Parks and Recreation Map Street Circulation Map Pathway Map	Pedestrian Access Nodes
How far are the neighborhoods away from the waterfront? Where are the key visual features within the surrounding context? Where are public parks along the riverfront? Where are the existing open spaces nodes?	Walking Distance Map Viewpoints and Vistas Map Parks and Recreation Map Landmarks Map	Destination Nodes
What are the existing bank conditions? What are the bank stabilization options? How far can we build into river?	Bank Stabilization Map Bank Stability Type Matrix Harborline Alignment Map	Bank Stability
Where are the arterial and collector streets? How wide are the major street corridors? Where are the major intersections? Where are the pedestrian access points to the RIverWalk?	Street Circulation Map Street Width Map Traffic Light Map Pedestrian Access Nodes Map	Primary Greenway Potential
Where are the local and minor street corridors? How many lanes does each street have? Are there any one-way streets? How fast does the traffic go?	Street Circulation Map Number of Lanes Map Street Directional Map Traffic Speed Map	Street Greenway Potential
Where are the neighborhoods? What are the vacant lots? Where are the city owned properties? Where are the neighborhood activity points?	Neighborhood Boundaries Map Vacant Properties Map Government Properties Map Activity Nodes Map	Neighborhood Links
What are potential barriers? Where are the barriers located? What are the methods to overcome a barrier?	Pedestrian Barriers Discussion Barriers Map Movement Improvement Discussion	Barrier Matrix
Where are the destinations nodes? What are the key visual elements? What are the high points?	Destination Map Viewpoints and Vistas Map Terrain Map	Viewshed Analysis
What are the existing amenities? What is the population and age ranges? What are the demographics and income levels? What are the potential amenities within parks?	Amenities Map Age Group Population Map Demographics and Income Map Amenity Typology Discussion	Amenity Matrix
What are the typologies for safety and security? Where should safety features be located?	Safety Typology Discussion Safety Location Matrix	Safety Matrix
Who are the users the will interact with the landscape? What landscape elements can educate users? How can users be educated?	Population Map Educational Elements Discussion Informative Typology Matrix	Education Matrix


Extension
Connection
Belle Isle
Bridge
Lighthouse
Yacht Club
Old Boat Club
Belle Isle

4.2: RiverWalk Route Potential Analysis Map (by Author).

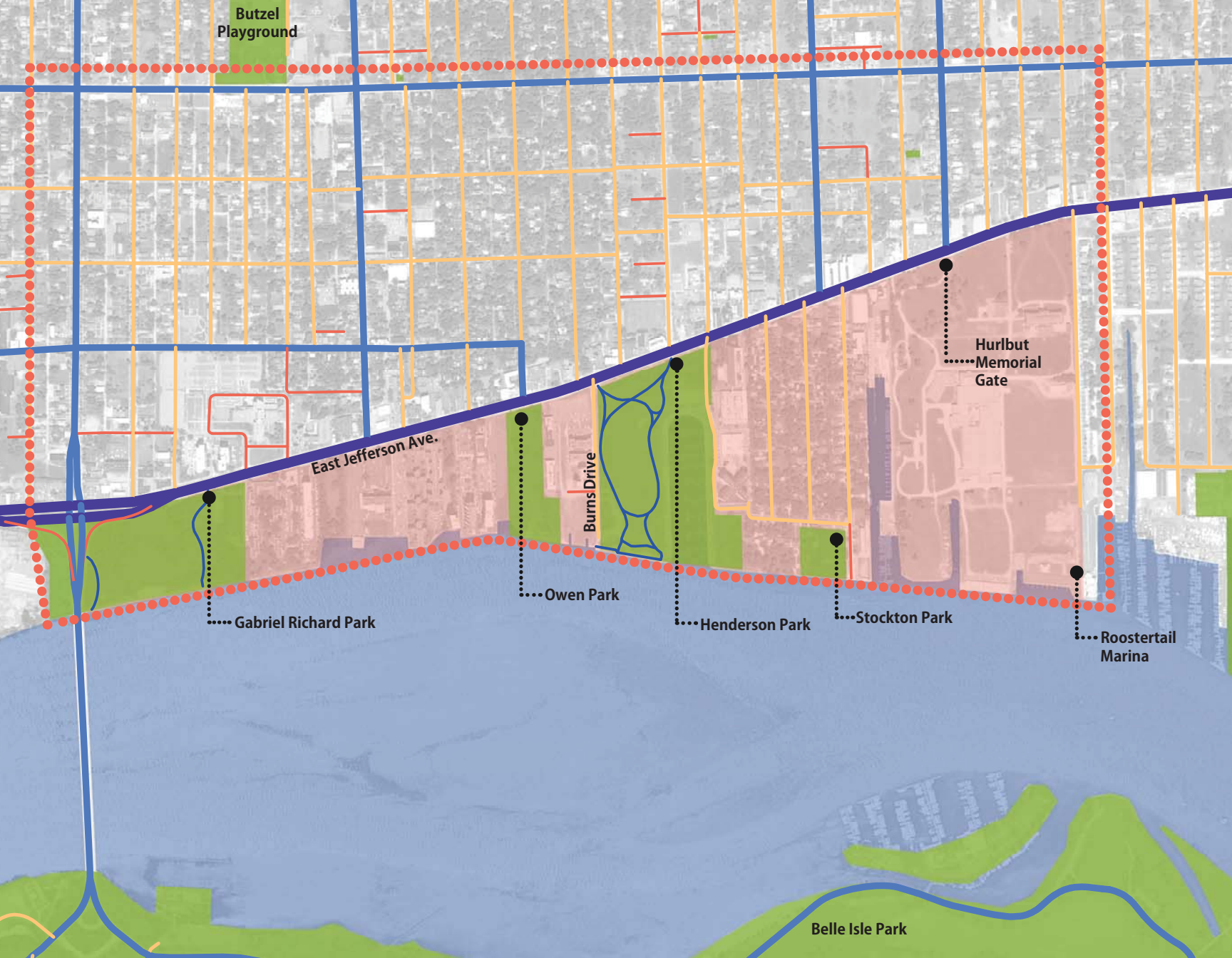


RIVERWALK ROUTE POTENTIAL

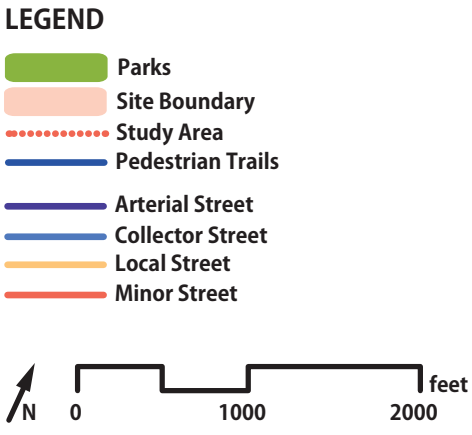
The extension of the RiverWalk in order to allow access of neighborhoods and users is the primary goal of the project. To achieve this, the alignment of the walkway is an important feature. The existing RiverWalk terminates in Gabriel Richard Park. Linking to the current location will permit access to features along the existing RiverWalk. The promenade is the most desirable as close in proximity to the water's edge as possible. The distances were derived from the existing RiverWalk promenade widths. A constraint to the promenade alignment is structures located near the shoreline. Public parks and open spaces along the waterfront are potential features to link together along the RiverWalk promenade (Figure 4.2). They offer large open space for a variety of recreational and leisurely needs.

Important hindrances to the alignment of the RiverWalk is the harborline and single family properties. The harborline is set by the Coast Guard and is established in order to prevent further infill development on the Detroit River, therefore inhibits the area the RiverWalk can be built. Another barrier is single family residences along the river. There are only three properties in which this occurs. They are located within the Berry Subdivision. The properties are problematic because they each have private docks and constructing the RiverWalk on the river would cut off those docks and potentially invade on the residences privacy.

Proper alignment of the RiverWalk extension will provide access to the waterfront for people and rejuvenate the water's edge.


Butzel Playground
East Jefferson Ave.
Burns Drive
Hurlbut Memorial Gate
Gabriel Richard Park
Owen Park
Henderson Park
Stockton Park
Roostertail Marina
Belle Isle Park

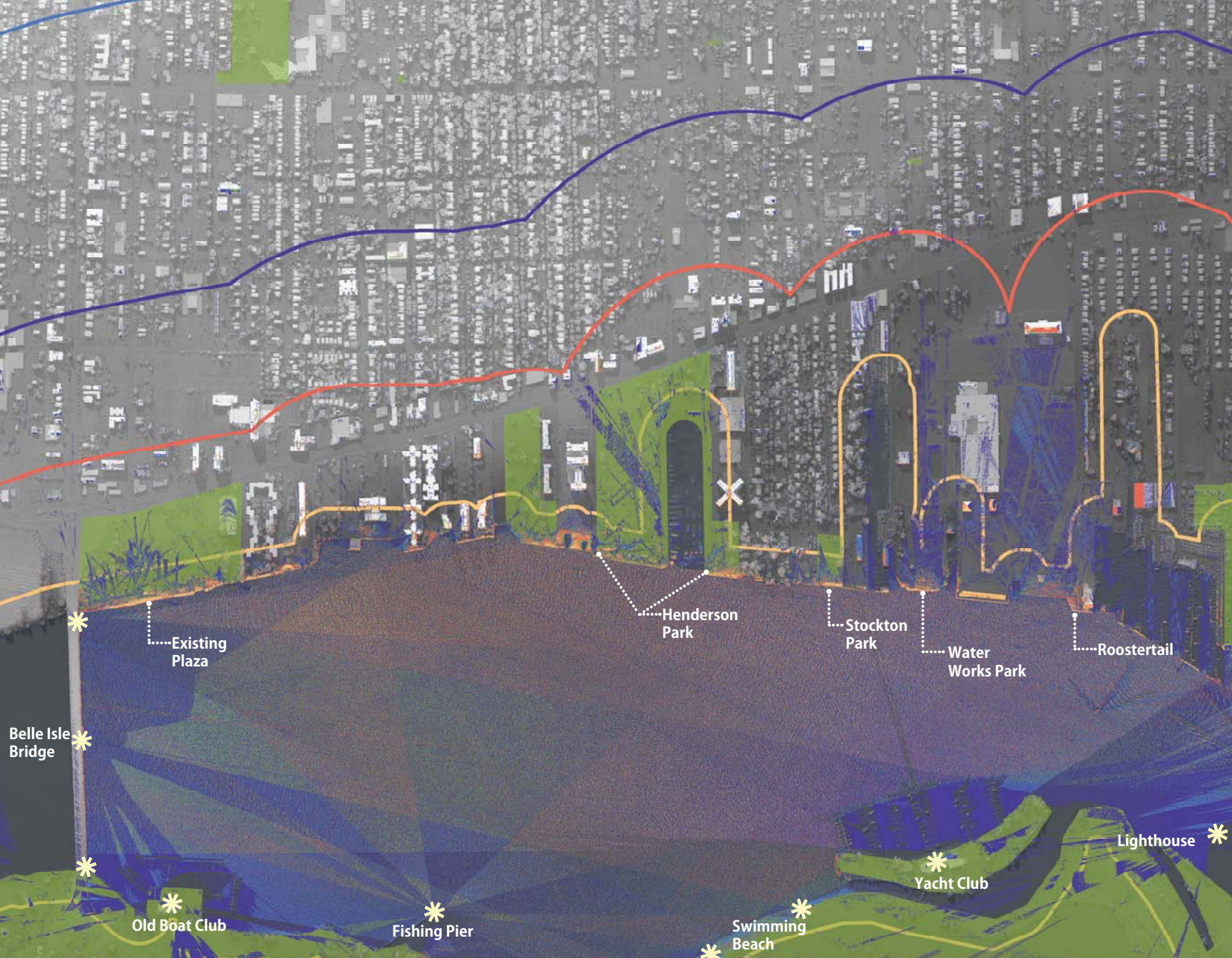
4.3: Pedestrian Access Analysis (by Author).



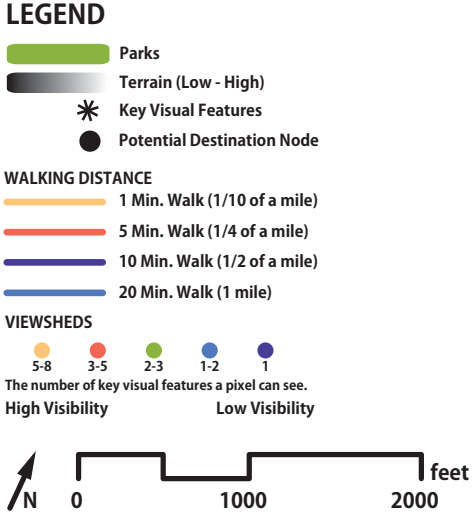
PEDESTRIAN ACCESS NODES

Four waterfront parks are strung out throughout the site (Figure 4.3). All but one has direct access to the main arterial street corridor, East Jefferson Avenue, which bisects the site study area. Currently, within these open spaces pedestrian paths and trails are nonexistent or degrading in nature. Program elements and amenities are also lacking. Gabriel Richard Park has the most and newest elements because of the recently constructed plaza and portion of the RiverWalk. Owen Park is fenced from public access with unmaintained open space. Henderson Park has a vast green space with dilapidated pathways. Vehicular access to the park and waterfront is attainable with Burns Drive. Stockton Park has a newly built playground, pathways, and open space.

Hurlbut Memorial Gate and the Roostertail Marina are two cultural and historic hotspots along the western end of the site. The gate was the main entrance to Water Works Park over half a century ago. Presently, the park is cut off to pedestrians by fencing extending around the former park due to heightened security measures for the City of Detroit's main fresh water facility. The Roostertail Marina is a destination for weddings, events, and dining. The marina is also the location for the annual Detroit APBA Gold Cup, a speed boat racing event held in July. Each of these places holds opportunities as pedestrian entry points to the waterfront and RiverWalk extension.


Existing Plaza
Henderson Park
Stockton Park
Water Works Park
Roostertail
Belle Isle Bridge
Lighthouse
Yacht Club
Old Boat Club
Fishing Pier
Swimming Beach

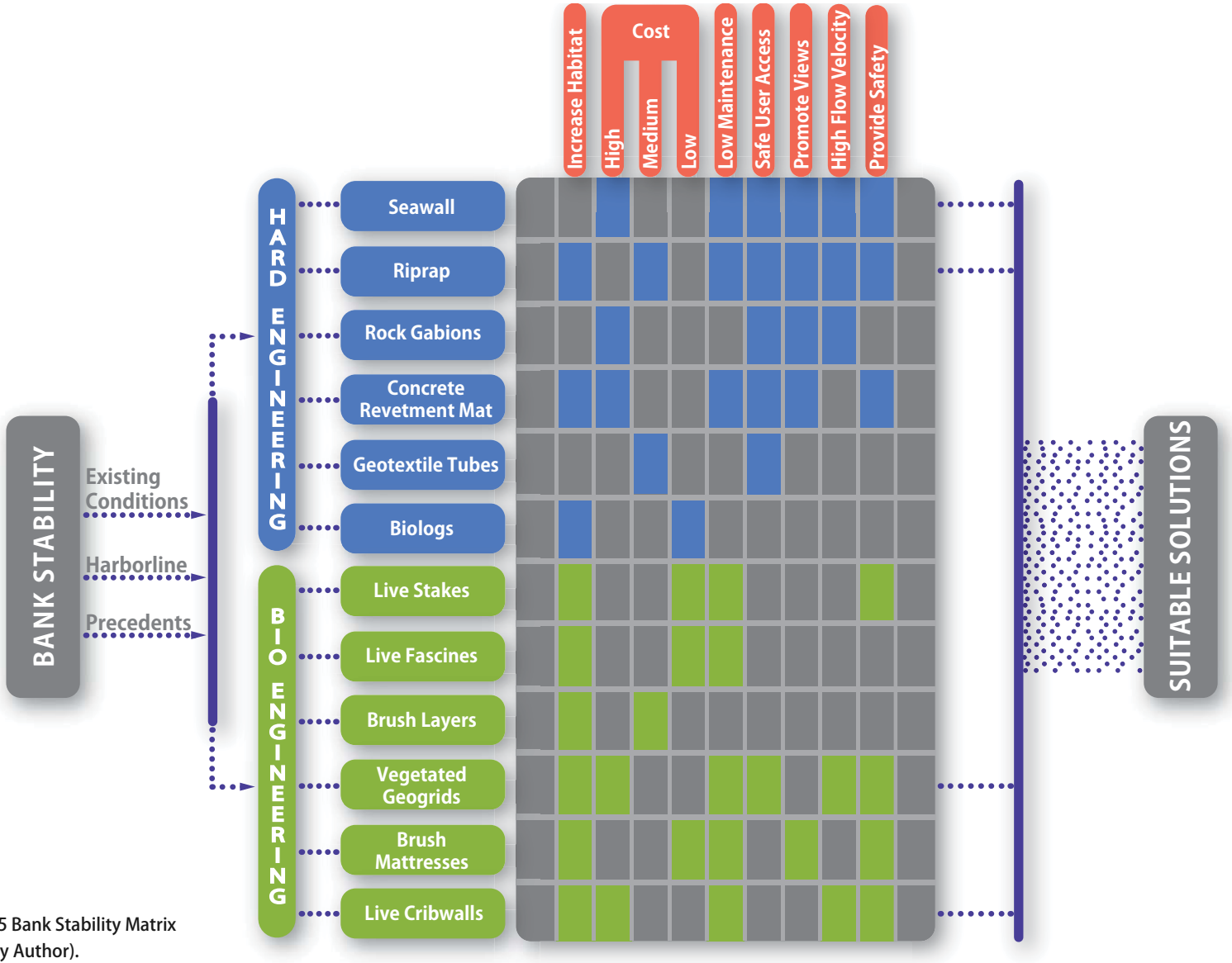
4.4: Destination Nodes Analysis (by Author).



DESTINATION NODES

Plazas are located along the existing RiverWalk, including Gabriel Richard Plaza, which is situated within the project site boundary. These plaza spaces offer pedestrians with a place to gather, rest, or enjoy the breathtaking views of the river and Windsor, Canada.

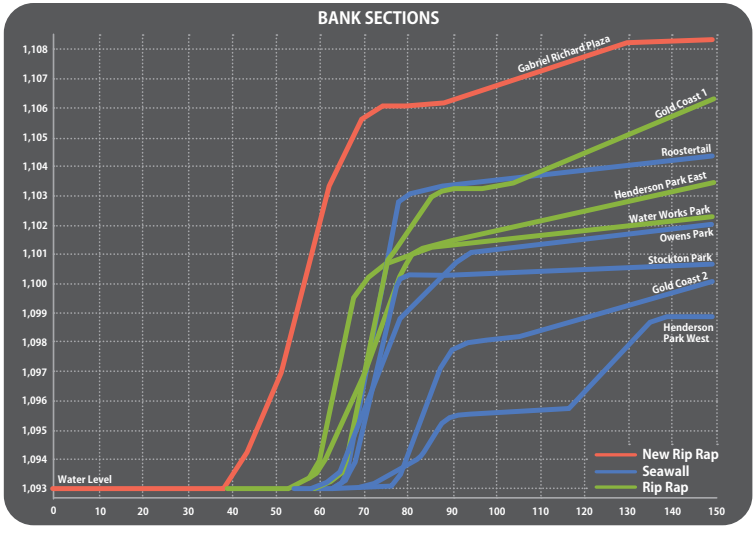
Proposed plaza and destination nodes are located with several important factors influencing placement (Figure 4.4). The most important are the viewsheds, which emanate from key visual features within the surrounding context. The most visible places are those that can see at least 5 of those key visual features. The plazas should be placed in public areas, such as parks, for easy access to everyone who visits. The distance away from the water's edge is crucial for allowing views. Lastly, walking distance from communities show the time residents have to take when visiting the RiverWalk. The distances are divided into 1/10th mile, quarter mile, half mile, and one mile away, which relate proportionally to a 1 minute, 5 minute, 10 minute, and 20 minute walk. The most suitable locations for a proposed primary plaza is in Henderson Park. Secondary plaza spaces are the east side of Henderson Park, adjacent to the marina, Stockton Park, and two locations in Water Works Park. Water Works Park is not currently a public park, but many activities and events occur along the river's edge. The destinations nodes will serve as activity generators for the RiverWalk to promote gatherings and events for special occasions.



4.5 Bank Stability Matrix (by Author).

4.6: (Top-Right) River bank Sections (by Author).

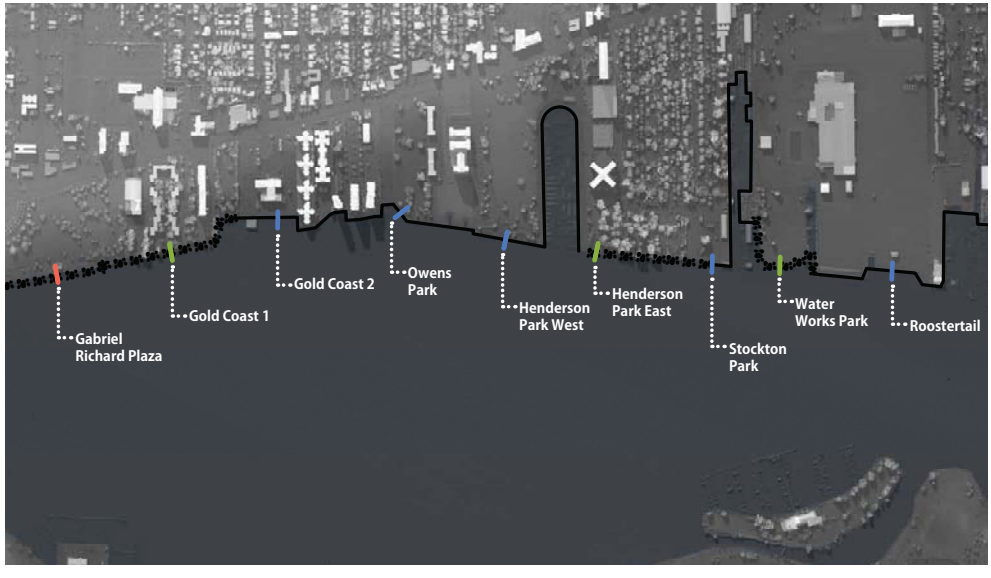
4.7: (Bottom-Right) River Bank Sections Location Map (by Author).



LEGEND

Existing Conditions

- Seawall
- Rip Rap
- New Rip Rap Sections
- Seawall Sections
- Rip Rap Sections



BANK STABILITY

The Detroit River is wide with a fast current, approximately two miles per hour. This velocity is equivalent to the Ohio River near Louisville, Kentucky. In order to prevent unwanted erosion and potential property damage, the water's edge must be protected using methods of stabilization (Figures 4.5, 4.6, and 4.7). There are two primary categories: hard engineering and bio engineering. Hard engineering is generally more expensive, while bio engineering utilizes plant material as well as other natural materials to secure the riverbank.

Each has different qualities in terms of cost, maintenance, suitable flow velocity, habitat, safe access, and providing views. A method can increase wildlife habitat by providing shelter and resources to fauna. Flow velocity of a river can determine which method to use. Hard engineering is generally needed at higher velocities. Safety and aesthetic views for pedestrians can be provided by creating a stabile shoreline which does not cut off views by overgrown vegetation.

Existing conditions use a combination of two hard engineering techniques; seawalls and rip-rap. The bank stability types can also be used in tandem with one another. The most suitable stabilization methods for the Detroit River are seawall, rip-rap, vegetated geogrids, and live cribwalls.

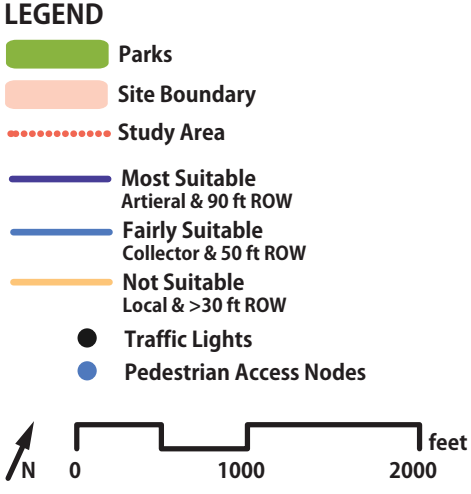
PRIMARY GREENWAY POTENTIAL

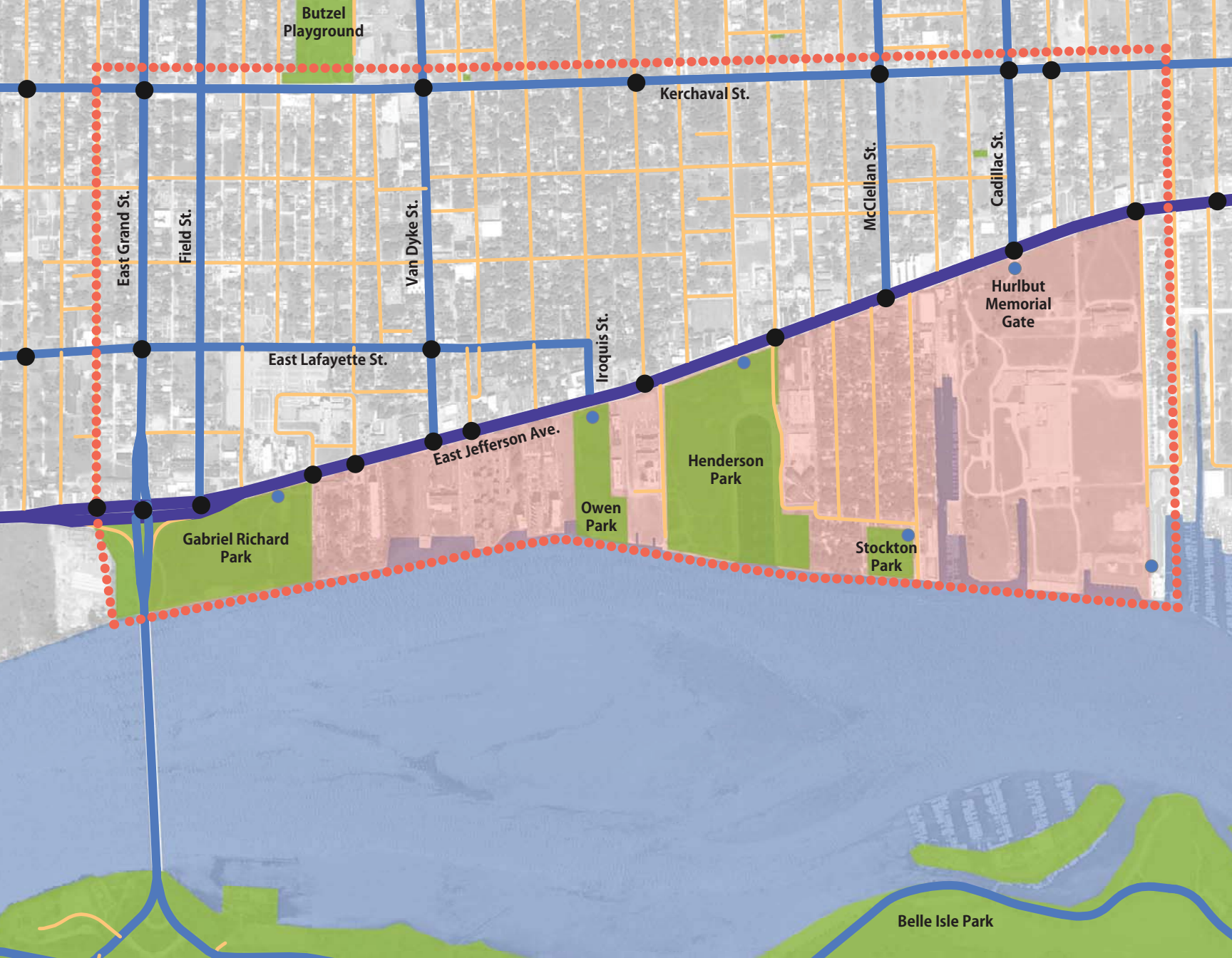
In order to connect neighborhoods and communities to the waterfront and parks, primary greenway implementation along arterial and collector street corridors is crucial. Primary greenway corridors are located along major streets and consist of bicycle lanes, sidewalks, and pedestrian crossing improvements (JJR). The potential primary greenways are focused for everyday use by people and residents. A goal is to place primary greenways that intersect or connect with the pedestrian access nodes discovered previously.

Several factors contribute to the determination of suitable street corridors. The most important factor is the street class each falls under, most suitable being arterial, fairly suitable equals collector, and not suitable are the local and minor street corridors. The other determinate is the right-of-way widths. The wider corridors provide more room for sidewalks, bike lanes, and other amenities. Traffic light locations offer places to improve crossings for pedestrians to safely traverse a major street right-of-way (Figure 4.8).

From these factors the most suitable street corridor is East Jefferson Avenue followed by the fairly suitable ones: East Grand Boulevard, Fields, East Lafayette, Van Dyke Street, Iroquois Street, McClellan Street, and Cadillac Boulevard. All others are not suitable because they are either a local or minor street class or a right-of-way that is less than 30 feet.

4.8: Primary Street Greenway Analysis (by Author).



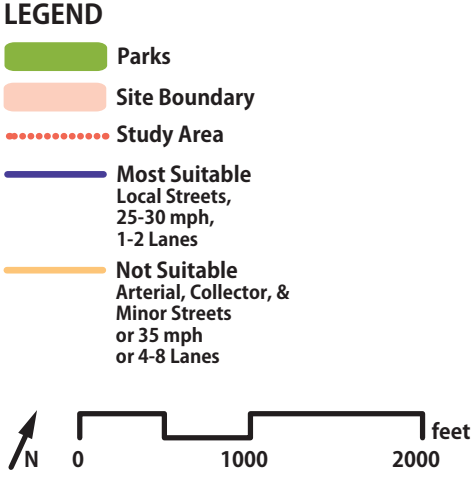

Butzel Playground
Kerchaval St.
East Grand St.
Field St.
Van Dyke St.
McClellan St.
Cadillac St.
Hurlbut Memorial Gate
East Lafayette St.
Iroquis St.
East Jefferson Ave.
Henderson Park
Owen Park
Gabriel Richard Park
Stockton Park
Belle Isle Park

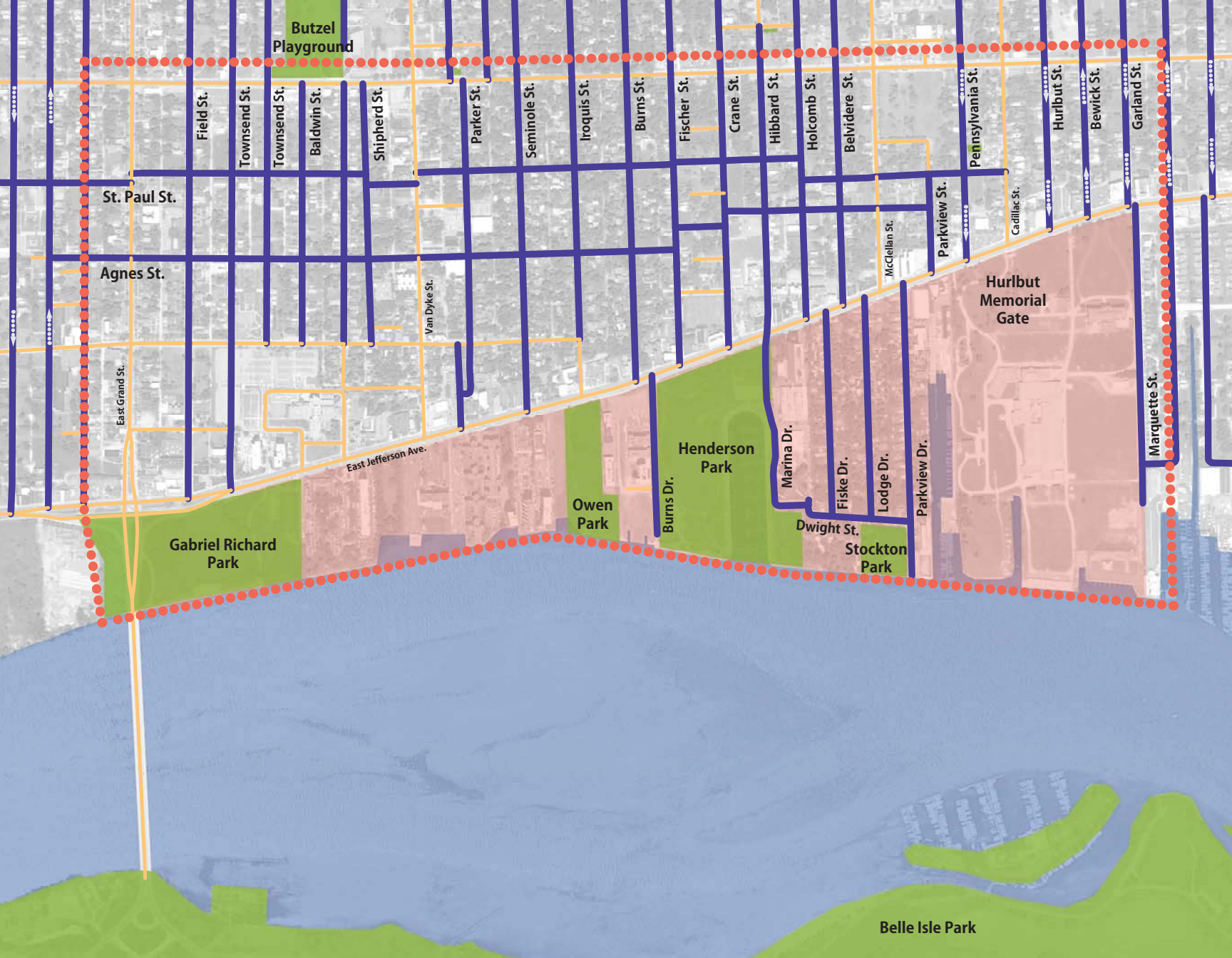
SECONDARY GREENWAY POTENTIAL

Greenways located along local street corridors are different from primary greenways, which are within arterial and collector street right-of-ways. They serve as segments which fill in missing pieces to the whole network when off-road greenways and primary greenways are impossible or nonexistent. Secondary greenways are smaller in scale than primary greenways but contain the same or similar program elements, such as sidewalks and bike lanes.

Local streets are most suitable for secondary greenways because they are not as congested, fast, or as wide as arterials corridors. Minor streets are insufficient because they consist of short segments, dead ends, or looped streets that do not give a continuous corridor for greenways (Figure 4.9). Secondary greenways support primary and off-road greenways to create an interconnected, functional pedestrian friendly network.

4.9: Secondary Street Greenway Analysis (by Author).

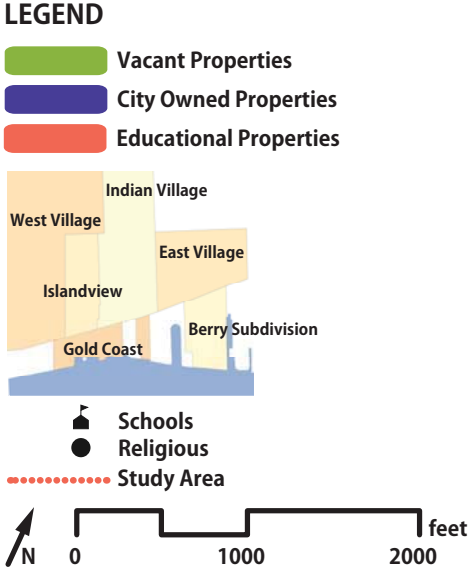



Butzel Playground
Field St.
Townsend St.
Townsend St.
Baldwin St.
Shipherd St.
Parker St.
Seminole St.
Iroquis St.
Burns St.
Fischer St.
Crane St.
Hibbard St.
Holcomb St.
Belvidere St.
Pennsylvania St.
Hurlbut St.
Bewick St.
Garland St.
St. Paul St.
Agnes St.
Van Dyke St.
McClellan St.
Parkview St.
Cadillac St.
Hurlbut Memorial Gate
East Grand St.
East Jefferson Ave.
Henderson Park
Marina Dr.
Fiske Dr.
Lodge Dr.
Parkview Dr.
Marquette St.
Owen Park
Burns Dr.
Dwight St.
Stockton Park
Gabriel Richard Park
Belle Isle Park

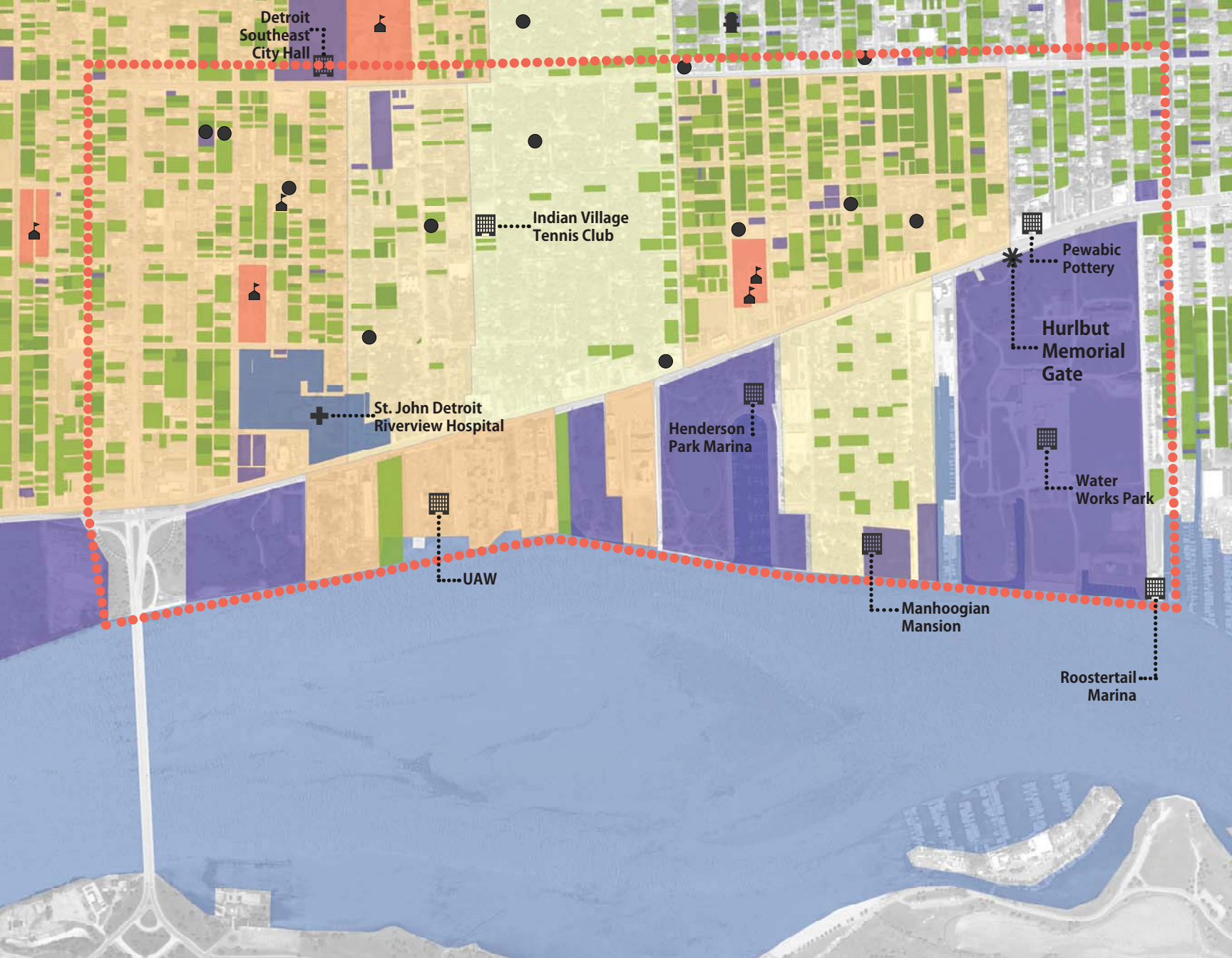
OFF-ROAD GREENWAY LINKS

Greenways can also serve as connectors between neighborhoods by finding routes off-road. There are five recognized neighborhood districts within the study area: West Village, Islandview, East Village, Indian Village, Gold Coast, and Berry Subdivision. The latter two are both located on the river while the rest lie just north of East Jefferson Avenue.

Determinates for the off-road greenways are primarily vacant lots (Figure 4.10). Detroit is unique because of the number of vacant properties located is the city. These properties, along with government owned parcels, hospitals, and school properties, can be utilized to create off-road trail networks for greenway use. With easement requisitions the trails can link pedestrians to key points throughout each community such as religious structures, schools, and culturally significant places. These off-road greenways can provide safe pathways for children to school or families to church without having to walk along busy street corridors. The greenways can also serve as a catalyst for filling other vacant properties with residents and give opportunities for various physical activities for the neighborhoods and communities.



4.10: Off-Road Greenway Analysis (by Author).


Detroit Southeast City Hall
Indian Village Tennis Club
Pewabic Pottery
Hurlbut Memorial Gate
St. John Detroit Riverview Hospital
Henderson Park Marina
Water Works Park
UAW
Manhoogian Mansion
Roostertail Marina

BARRIER MATRIX

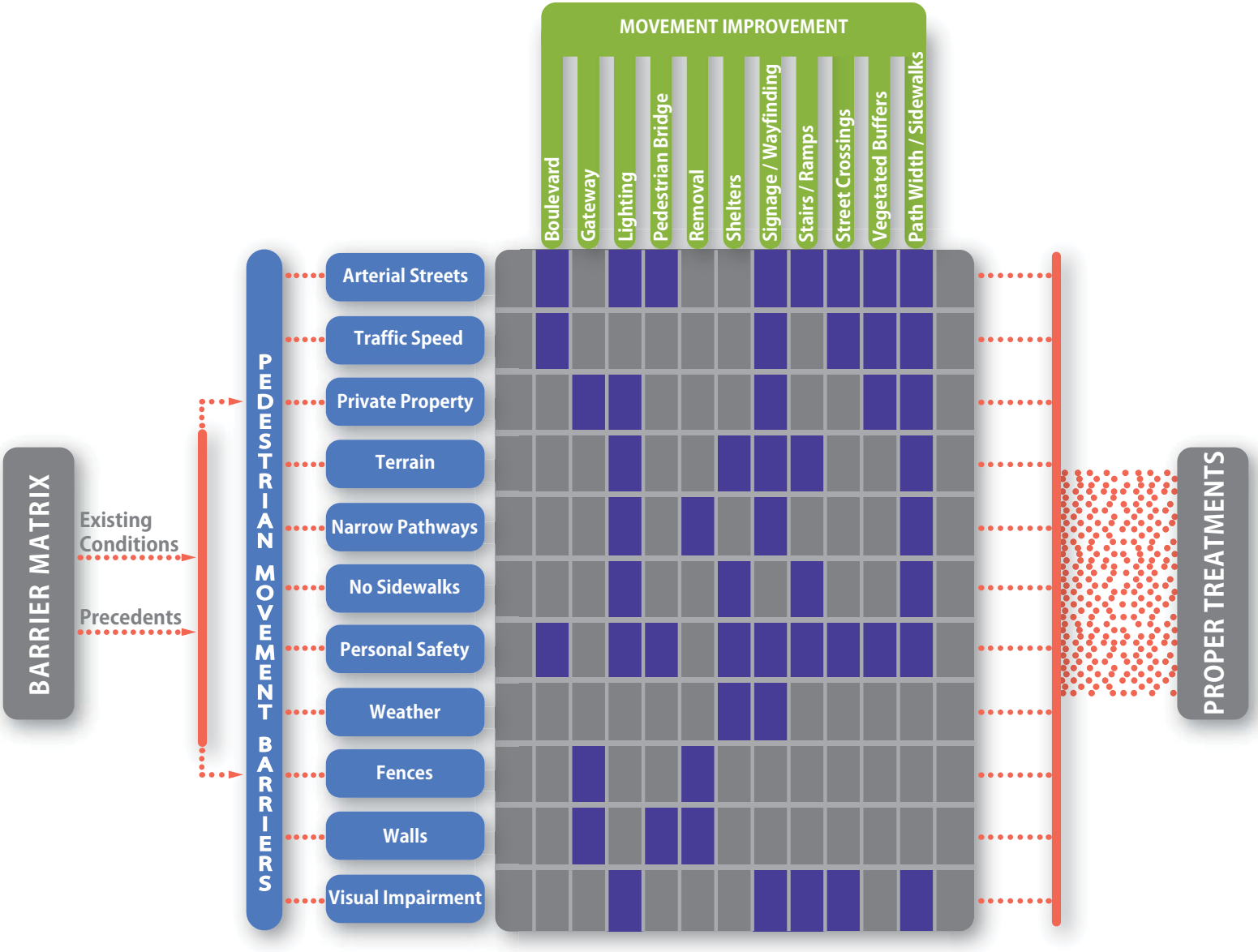
Greenways help to connect places and functions with pedestrian corridors, but many obstacles may stand in the way of pedestrian access. These barriers impede pedestrians from safely reaching the waterfront and RiverWalk. Pedestrian barriers can range from physical objects such as walls, fences, terrain, private property, or lack of sidewalks (Figure 4.11). Others can be psychological in nature, such as fear of crime. Examples of such are arterial streets that are wide and high speed, weather, or visual impairment. Each impediment can be addressed with a suitable solution, as shown in the Barrier Matrix. Knowing what and where potential barriers are, allows for proper treatment and solution to provide uninterrupted pedestrian circulation.

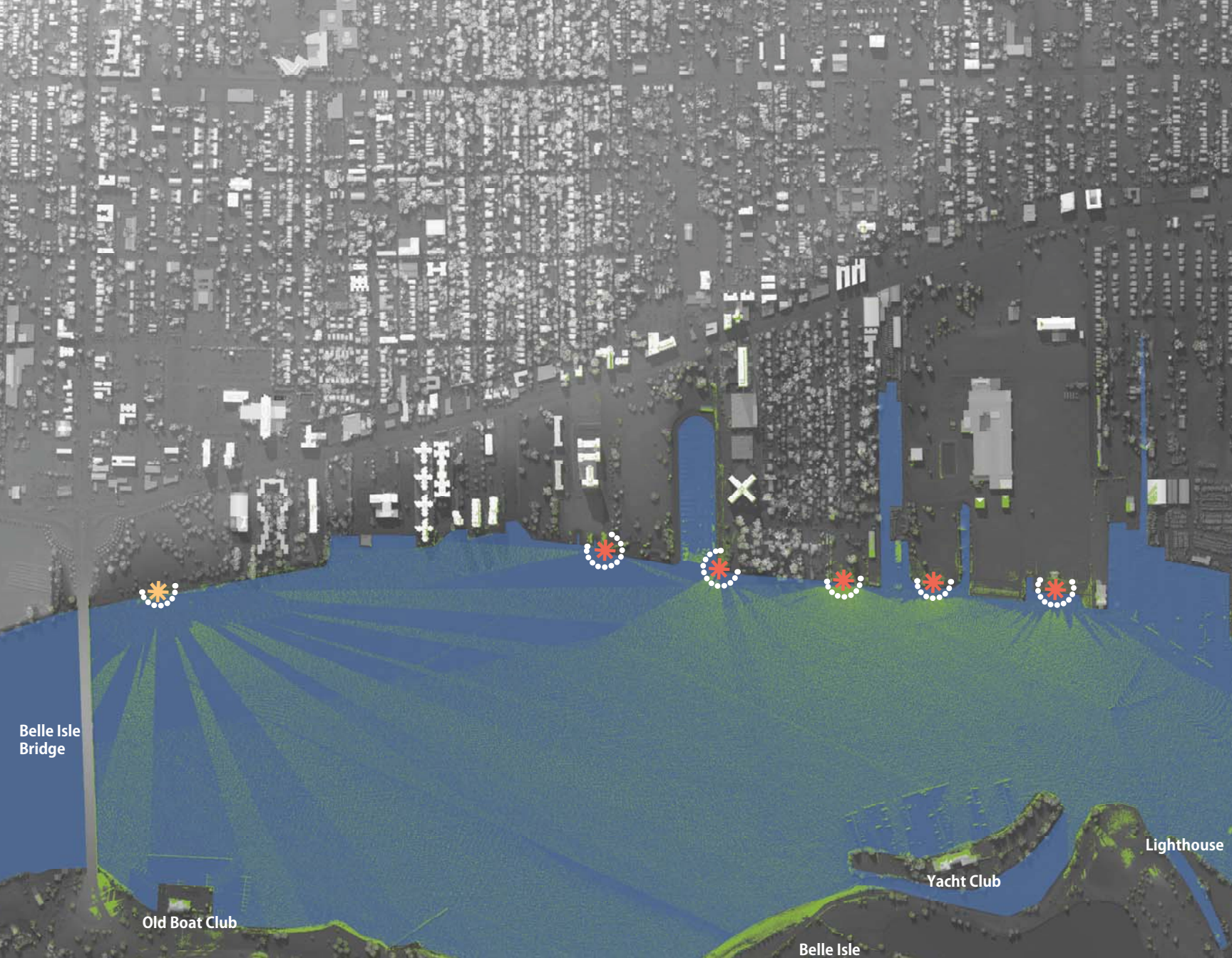
LEGEND

Appropriate

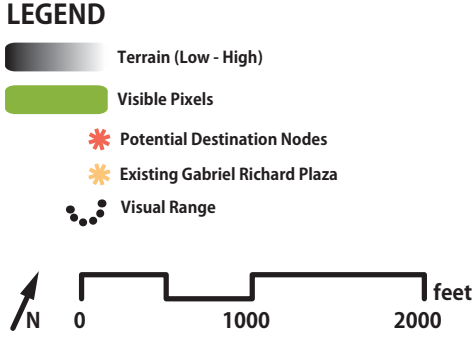
Not Appropriate

4.11: Pedestrian Barrier Matrix (by Author). The purple squares indicate an appropriate improvements for barriers while grey areas are not appropriate improvements.


MOVEMENT IMPROVEMENT
Boulevard
Gateway
Lighting
Pedestrian Bridge
Removal
Shelters
Signage / Wayfinding
Stairs / Ramps
Street Crossings
Vegetated Buffers
Path Width / Sidewalks
BARRIER MATRIX
Existing Conditions
Precedents
PEDESTRIAN MOVEMENT BARRIERS
Arterial Streets
Traffic Speed
Private Property
Terrain
Narrow Pathways
No Sidewalks
Personal Safety
Weather
Fences
Walls
Visual Impairment
PROPER TREATMENTS


Belle Isle
Bridge
Old Boat Club
Belle Isle
Yacht Club
Lighthouse

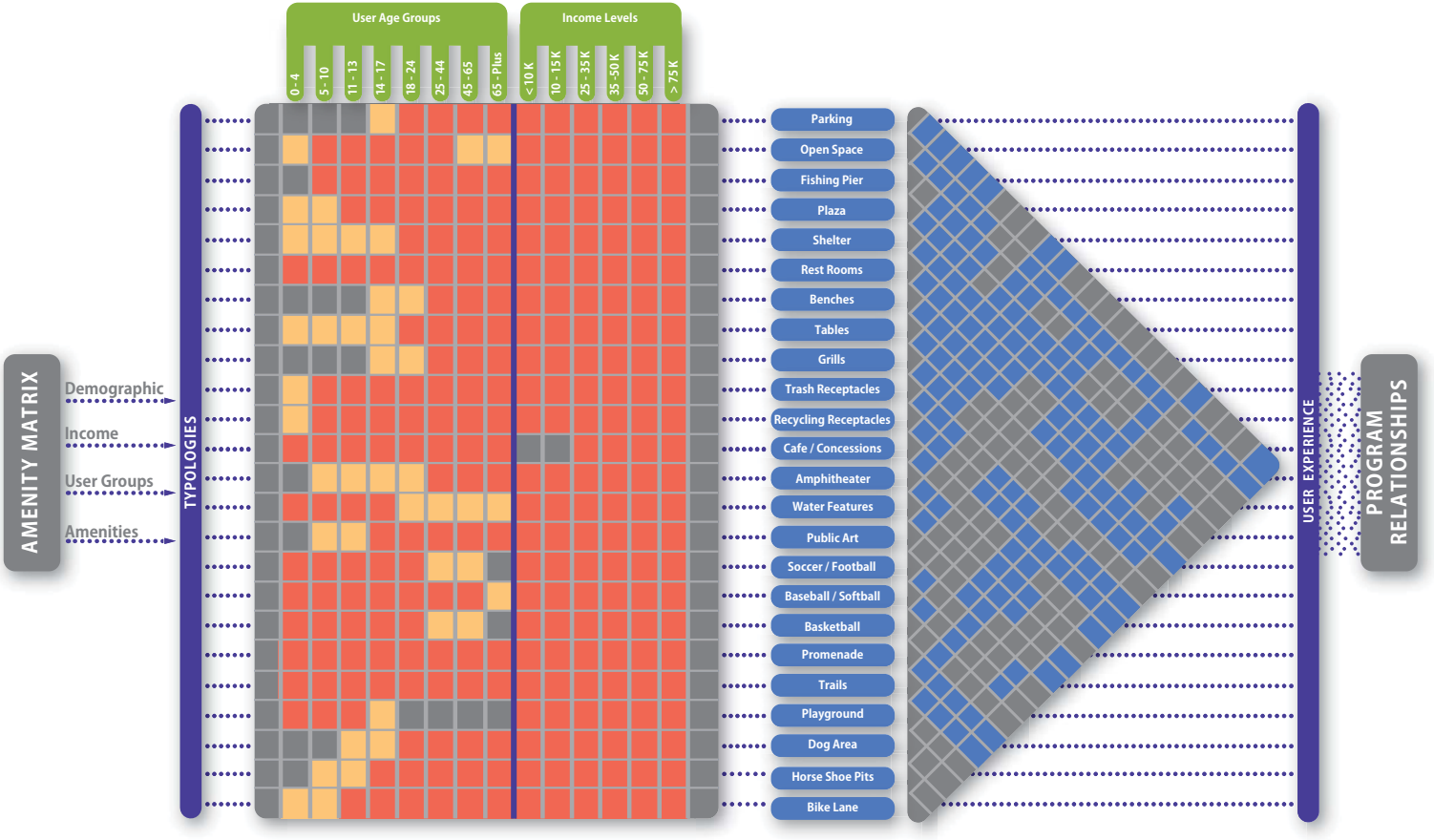
4.12: Viewshed Analysis Map (by Author).



VIEWSHED ANALYSIS

Outward views from the RiverWalk and potential destination nodes allow visitors to appreciate and enjoy the key visual features within the surrounding context (Figure 3.12). There are three major features, the Detroit River, the Belle Isle Bridge, and Belle Isle. Belle Isle, a large public island park has three iconic points, which lie on the north side, the Detroit Yacht Club, the old Boat Club and a lighthouse. The Boat club is no longer in use but plans are being proposed to refurbish and reuse the structure at a later time.

The terrain of the area is relatively flat along the river because most, if not all of the land is infill. The lack of elevation changes has little to no effect on the viewsheds. The range of each existing and potential destination node is noted. All have great views of the river, bridge, and island. Some also have views inward, toward parks, and residential structures. Views from these points provide a place where users can see a wide range of vistas and visual features.



4.13: Amenity User Matrix Analysis (by Author). The orange filled areas are most appropriate for User Age Groups and Income Levels. Yellow areas indicate fairly appropriate amenities and grey areas are not appropriate. Blue filled areas are suitable proximity relationships between each amenity.

LEGEND

- Most Appropriate
- Fairly Appropriate
- Not Appropriate
- Suitable Proximity Relationships

AMENITY MATRIX

4.14: Age Group Population Pyramid (by Author).

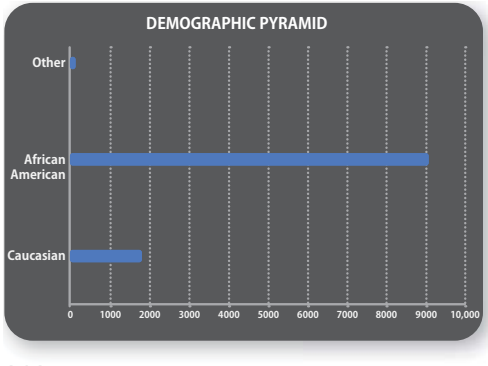
4.15: Demographic Population Pyramid (by Author).

4.16: Income Pyramid (by Author). Data from the 2000 U.S. Census and includes all blocks that intersect the study area boundary.

Public spaces and parks use amenities to attract and provide pedestrian interaction and recreation. Each amenity has a relationship to the space in which they are located, user age groups, income levels, and demographics of the surrounding context. The analyzed spaces are the RiverWalk, greenways, and parks, each of which poses opportunities for certain amenities to be located within them. Each amenity can also be compared to every other amenity to analyze adjacency relationships (Figure 4.13).

To better understand the population of the neighborhoods around the site and the amenities they will use, we must analyze the relationships between population and age groups, income levels, and demographics (Figures 4.14, 4.15, and 4.16).

The age groups population pyramid shows that the majority of the population is 25 years of age and older, and the largest population is of a professional age, 25 to 44. Age groups are analyzed, telling us which amenities and appropriate for certain groups. With the exception of concessions purchased, all amenities are highly usable by all income levels. Demographics of the area are significantly weighted towards African American, quadrupling the population of Caucasian and Other combined. However, anyone no matter the race can benefit and enjoy from these amenities. Income levels are steady throughout with the less than 10K category being the greatest. The income levels indicate that providing amenities that are free to the public. Amenities will lure visitors and users to the RiverWalk and parks to benefit from multiple activities.



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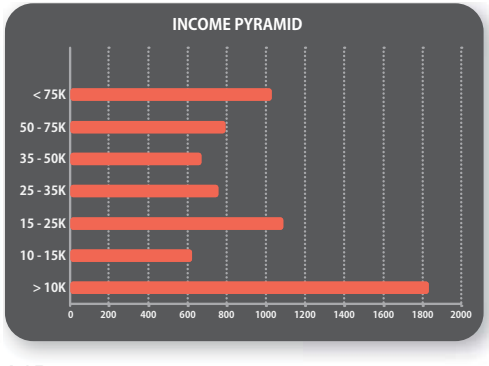

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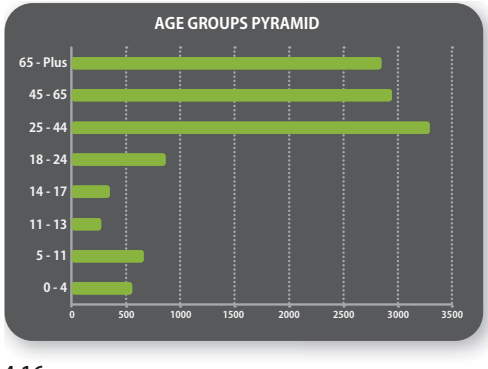
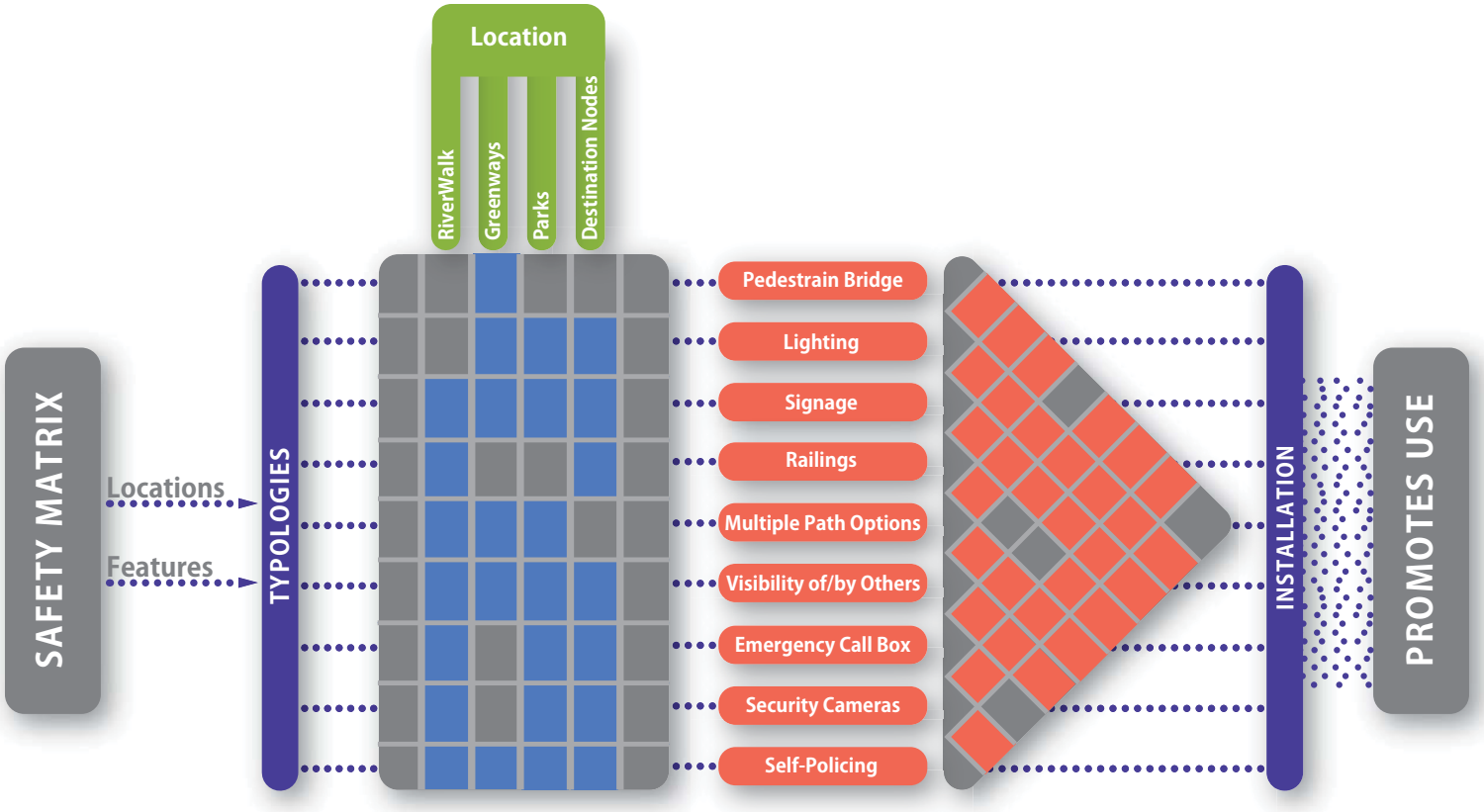


4.16



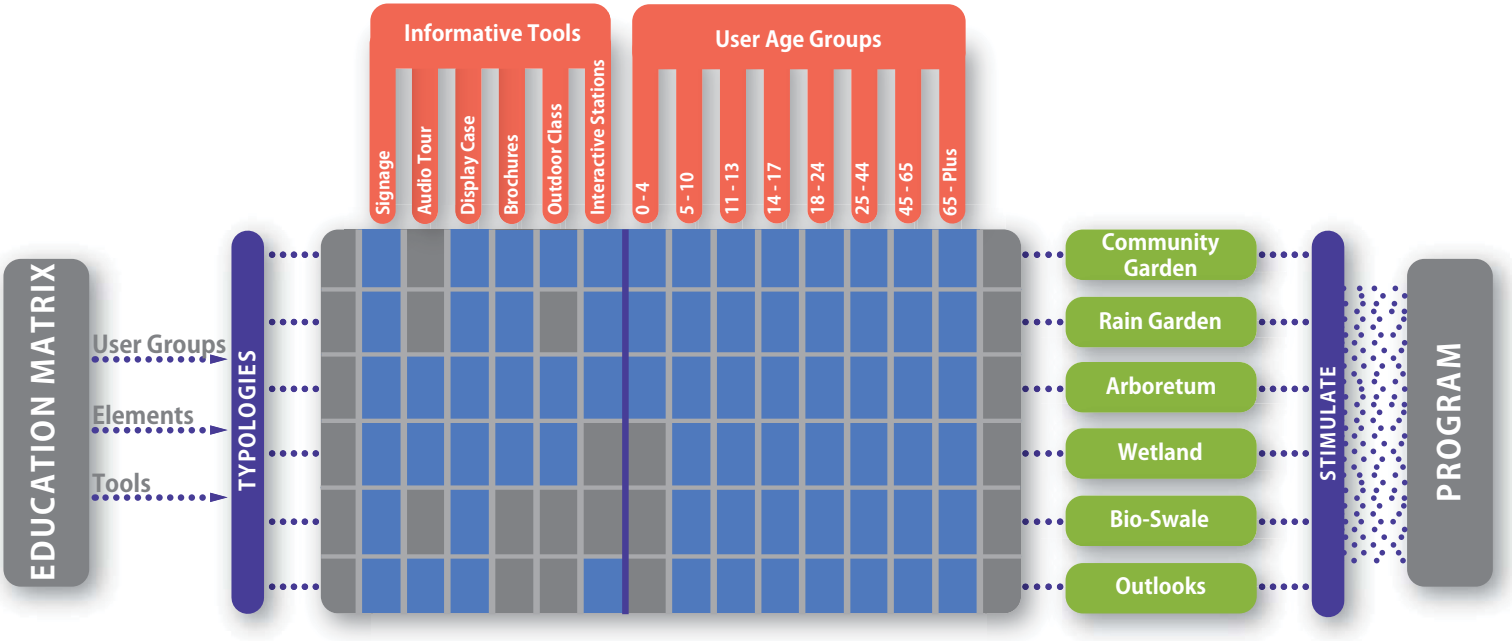
4.17: Safety Features Matrix Analysis (by Author). The blue shaded squares show where safety features are appropriate and grey squares are not appropriate. The orange filled areas show safety elements that are suitable to work in tandem with each other.

LEGEND

- Appropriate
- Not Appropriate
- Suitable Collaborative Use Relationships

SAFETY MATRIX

Pedestrian safety along waterfronts and greenways is important to a design in order to prevent an environment which no one will visit. Many safety improving amenities can be located within the major public spaces being proposed: RiverWalk, greenways, parks, and destination nodes (Figure 4.17). A pedestrian bridge can span water or Arterial Street to overcome dangerous roadways. Lighting and signage allow users to see and know where they are headed as well as increase visibility of others. In emergency situations call boxes can get help to someone quickly who is in a dangerous situation. Security cameras, self-policing, and multiple path options can prevent criminal activity by hindering people who commit those acts. Safety features can improve use of open spaces or allow one to decline into a failed public amenity.



4.18: Educational Elements Analysis (by Author). Blue filled areas under Informative Tools show which are suitable for each educational element. The filled areas for User Age Groups denote which groups will learn from each element.

LEGEND

Appropriate

Not Appropriate

EDUCATIONAL MATRIX

Many element and amenities within the landscape can inform and educate the public about different processes and natural resources waterways provide. Landscape educational elements include community gardens, rain gardens, arboretums, wetlands, bio-swales, and outlooks. These elements are analyzed with informative tools which can help teach visitors. The age groups show us that everyone can learn from these educational features with the exception of the youngest group (Figure 4.18).

Community gardens teach users how to grow food or other plants. They consist of many plots that can be rented out by community members. Community gardens also provide a place where people can interact. Rain gardens, bio-swales, and wetlands educate people on infiltration of water, the natural water cleaning process, and benefits to people of these elements. Outlooks can supply information about the Detroit River and its habitat, the history of the area, or Belle Isle. Ensuring appropriate educational features are incorporated; associations were made with user groups, which were identified within the age group population pyramid. The ways in which people can learn were also analyzed with each educational element.

Education can help show the value of the natural environment in which we live and how we can work to protect it.

05

CONCEPTUALIZE

INTRODUCTION

The analysis through Extend, Connect, and Provide of important inventory elements offers crucial information of the Detroit RiverWalk extension site and surrounding neighborhoods that influence design and program decision making. The extraction of information presents a three tier design framework, which will serve as a basis for design.

The design framework consists of three distinct categories that correlate with Extend, Connect, and Provide: Waterfront Edge, Greenway Networks, and Activity Components. The framework presents a structure for program elements and design considerations.

DESIGN FRAMEWORK

WATERFRONT EDGE

The area along the waterfront is an important amenity to residents and therefore a priority for development by extending the RiverWalk. The extension will link to the existing promenade and allow pedestrian access to waterfront destinations while protecting the river ecosystem (Figure 5.1). The elements to be designed are the RiverWalk alignment and promenade and several parks that are underutilized: Gabriel Richard Park, Ponchartrain Park which is currently a vacant lot and will be transformed into a park, Owen park, Henderson Park, and Water Works Park.

GREENWAY NETWORKS

The connection between communities and the waterfront using a greenway network allows pedestrians easy, non vehicular travel from their residences to the RiverWalk. The network connects to the waterfront parks which lead to the RiverWalk as well as cultural destinations within each neighborhood. The arrows indicate that the greenways extend beyond the study area to link with other greenways and specific points within the city (Figure 5.2). Greenways incorporate a variety of modes of transportation as well as techniques to overcome hindrances during pedestrian commutes.

ACTIVITY COMPONENTS

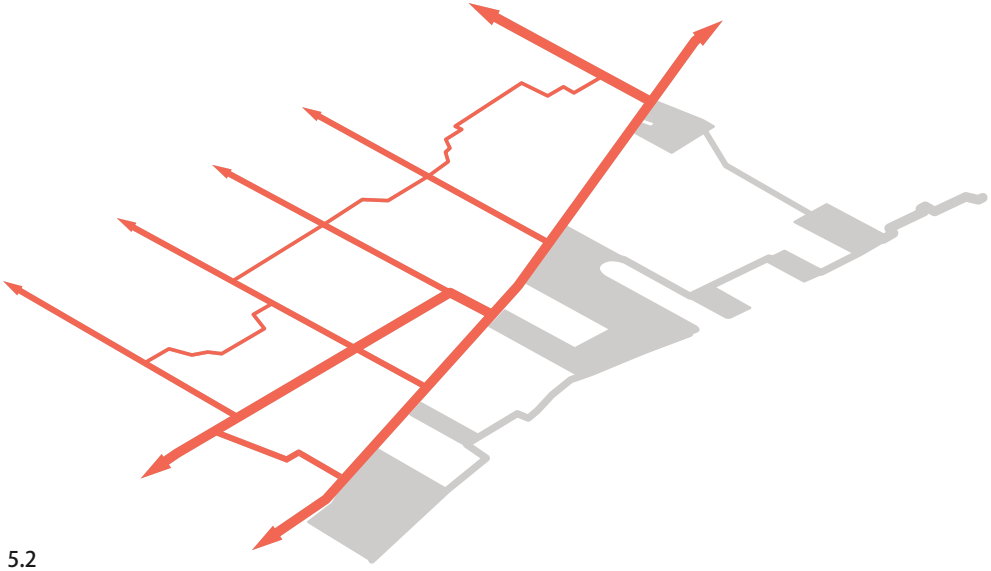
Providing activities for users helps fulfill enjoyment of the spaces and pathways. Figure 5.3 shows the components, comprised of amenities, safety elements, and educational features, appropriately applied over the RiverWalk, parks, and greenway network.

5.1

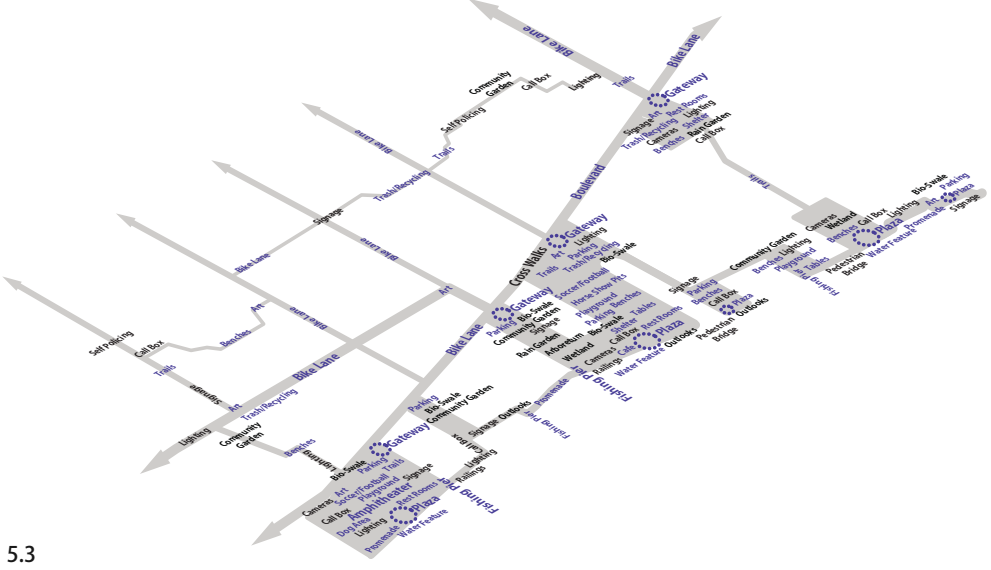
5.1: Waterfront Edge Design Framework Diagram (by Author).

5.2: Greenway Networks Design Framework Diagram (by Author).

5.3: Activity Components Design Framework Diagram (by Author).



5.2



5.3

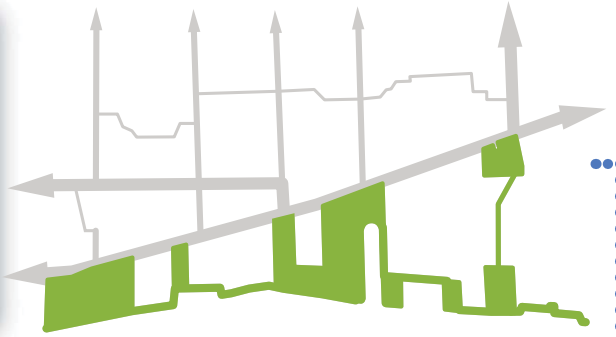
ANALYSIS

- RiverWalk Route Potential
- Pedestrian Access Nodes
- Destination Nodes
- Bank Stability
- Primary Greenway Potential
- Street Greenway Potential
- Neighborhood Links
- Barrier Matrix
- Viewshed Analysis
- Amenity Matrix
- Safety Matrix
- Education Matrix

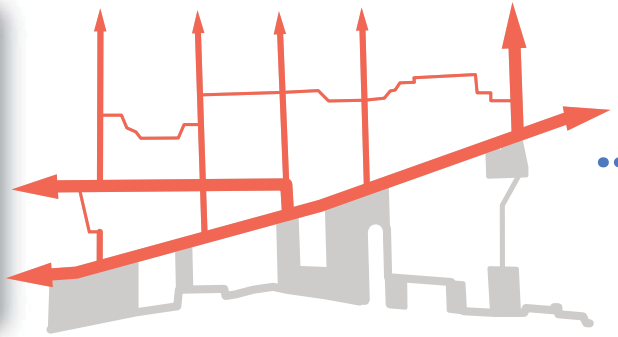
ANALYSIS INTERPRETATION

DESIGN FRAMEWORK

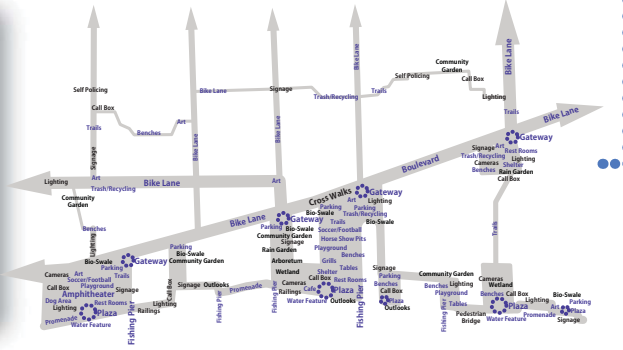
Waterfront Edge



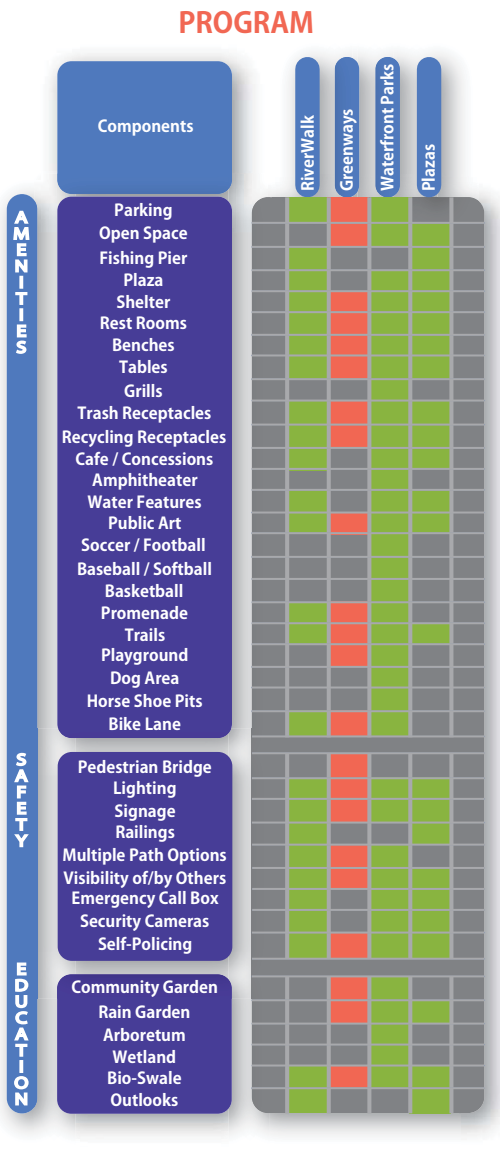
Greenway Networks



Activity Components



RELATIONSHIPS



5.4: Program Development Diagram (by Author).

PROGRAM

As seen in Figure 5.4, program elements are complied into amenities, safety, or education based off analysis and goals. Each program component is then applied to a matrix, comparing appropriate relationships to the RiverWalk, Parks, Greenways, and Plazas. From this matrix, these elements can be overlaid on the conceptual model categories for proper placement within the site.

EXTEND: WATERFRONT EDGE

The RiverWalk will consist of a generous promenade located close to the water's edge that connects waterfront parks. Along the promenade, destinations in the form of plazas will be located to promote views and places where people can gather. The redesigned parks and proposed Ponchartrain Park resolve pedestrian access by providing pathways to the RiverWalk and amenities within each park.

CONNECT: GREENWAY NETWORKS

The primary and secondary street greenway corridors will consist of similar elements but separated by scale. Each allows the integration of use between modes of pedestrian transportation, vehicular, bicycle. Off-road greenways focus only on non-vehicular pedestrian movement. Greenways improve connections by removing barriers and obstacles that hinder access to pedestrians.

PROVIDE: ACTIVITY COMPONENTS

The relationship matrix shows where certain components should be located within the site. Safety features should be located throughout the design, including the RiverWalk, parks, and greenways. Educational elements will primary be situated within parks and along the promenade.

06

GENERATE

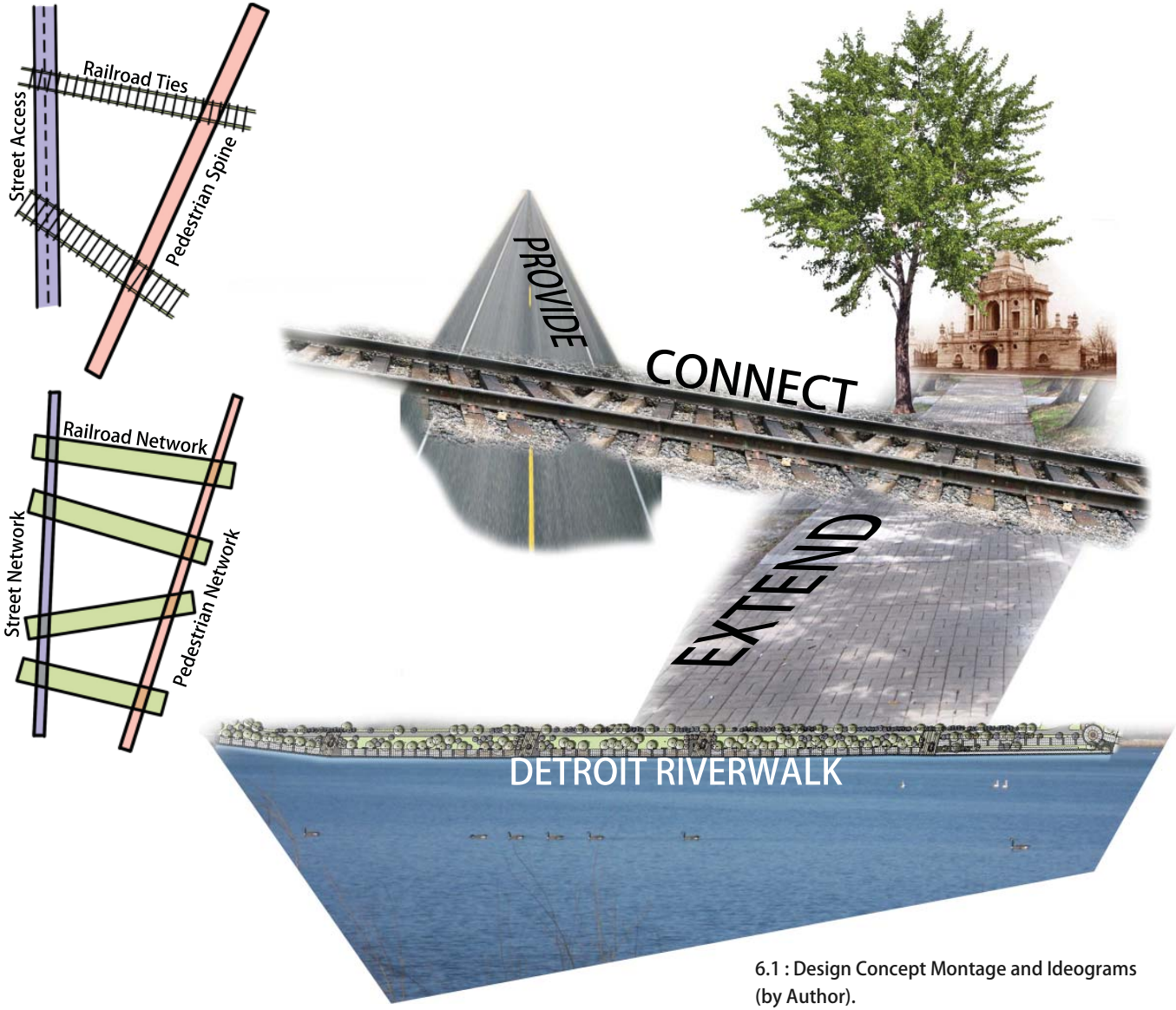
INTRODUCTION

This chapter discusses how the design framework is applied through design. The design framework outlined areas to be designed within in the site, which were the RiverWalk alignment, parks, greenways, and where amenities should be located. The Design Concept is applied to the design framework and is a way to organize program elements.

DESIGN CONCEPT

The design concept of juxtaposed transit corridors encapsulates the proposal for Detroit's East RiverWalk. Evolution of transportation networks along waterfronts has overlapped through time, forming an interlaced pattern of circulation and movement, as illustrated in Figure 6.1. The progression of transportation networks began with railroad lines, followed by roadways, and will be strengthened with pedestrian greenways. The design of the waterfront parks, including Gabriel Richard Park, Ponchartrain Park, Owen Park, Henderson Park, and Water Works Park, is crucial for pedestrians to access the riverfront and use of proposed amenities.

The pedestrian network is the primary form due to the expected use of the parks. This idea is represented as a pedestrian spine that anchors each park and links the entry spaces to the plazas and RiverWalk. The street network is crucial because the city is built upon a grid of streets and highways. The street network dictates car entrances to the parks. Each vehicular entrance terminates at a parking lot. The last network used along the waterfront is the railroad, a means to bring goods from one point to the next. Inspiration came from the notion of tracks being laid on ties that hold the tracks in place. The ties act as a structure of pathways, overlaid, linking the pedestrian network and the street network. The networks provide a framework to organize program elements and circulation.



6.1 : Design Concept Montage and Ideograms (by Author).

N NTS

EXTEND: WATERFRONT EDGE

INTRODUCTION

Extend: Waterfront Edge takes the goals of "Extend" and applies the analysis in order to influence design decisions of the waterfront parks and RiverWalk. The waterfront parks will apply the design concept and create a network of pathways along with plazas, and waterfront access to pedestrians.

Objectives

- Align the RiverWalk in order to allow continuous pedestrian access along the waterfront.
- Create entry spaces that attract visitors.
- Construct plazas along the waterfront.
- Devise a design concept within the waterfront parks to link the entry spaces to the RiverWalk and plazas.
- Stabilize the water's edge.

The waterfront edge will be discussed according to the goals first set in chapter 1: the RiverWalk, entry nodes, destination plazas, and river stability.

6.2: Master Plan. The master plan is a visual representation of the design decisions made based on the design framework and design concept (by Author).

6.3: Extend: Waterfront Edge Master Plan (by Author).

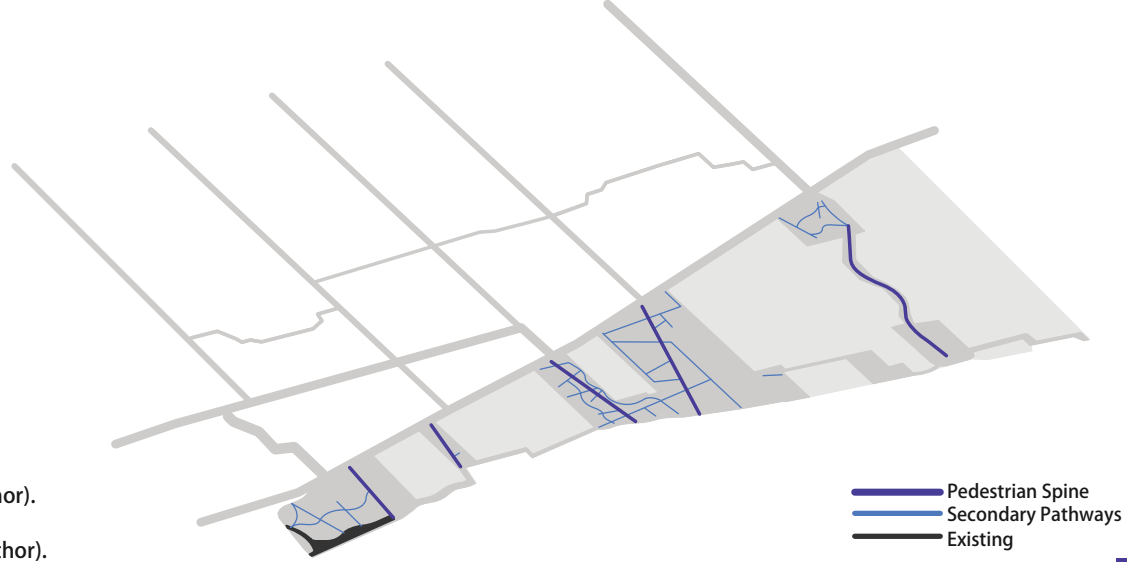
THE RIVERWALK

A leisurely walk or bike ride along the water's edge is a relaxing experience. The RiverWalk gives residents this opportunity by extending it eastward from its existing finishing point (Figures 6.4, 6.5, and 6.6).

THE PROMENADE

The alignment of the promenade is based upon the principle of being near the water's edge. The first step is to link the proposed RiverWalk with the existing promenade. The current terminus of the RiverWalk at Gabriel Richard Park is important to connect with in order to give continuity along the entire promenade. Alignment within waterfront parks gives opportunity for public access to the water. Within these parks the alignment was most desirable along the waterfront.

The RiverWalk between each park posed challenges because of privacy and security issues. Within the Gold Coast neighborhood, the proximity of the buildings to the waterfront is tight in some areas. The solution is to keep the RiverWalk as close to the water as possible without invading on the residential apartment buildings. The fencing and vegetation buffer between the public RiverWalk and private Gold Coast neighborhood is used to provide safety and security to residents. Gates would allow access to the RiverWalk for the residents of Gold Coast. The RiverWalk diverges from the water's edge within the Berry Subdivision. The route follows Dwight Street until Stockton Park where the promenade returns to the waterfront. Within the Berry Subdivision, private residences that have



6.4: Proposed Promenade Route (by Author).

6.5: Secondary Circulation Routes (by Author).

private docks and the RiverWalk should not invade their privacy.

Two pedestrian bridges are proposed along the RiverWalk in order to cross marinas and keep the promenade along the water. The first is located within Henderson Park. This bridge allows pedestrians to cross without having to walk up and around the marina. There was also inadequate space along the side of the marina opposite of the park for the promenade. Boats can pass under the bridge at the entrance to the marina as to not hinder the flow of both boats and pedestrians. The next pedestrian bridge connects Stockton Park to Water Works Park. The main driving idea, again, is not having the alignment of the RiverWalk to divert up and around the marina.

The Width of the promenade along the entire stretch of proposed RiverWalk is twenty feet. This width is derived from the existing RiverWalk and is ample space to accommodate pedestrians and bicycle traffic.

The Paving pattern is similar to existing to create a harmony and visual continuity along the entire extent of the RiverWalk. The pattern consists of colored concrete bands perpendicular to the alignment, that represent old pilings in the river, “relics of nineteenth-century piers” (JJR 2007, 1-2-30). Each corner or change in alignment direction, consist of a circular paving pattern to let users know the change in direction.

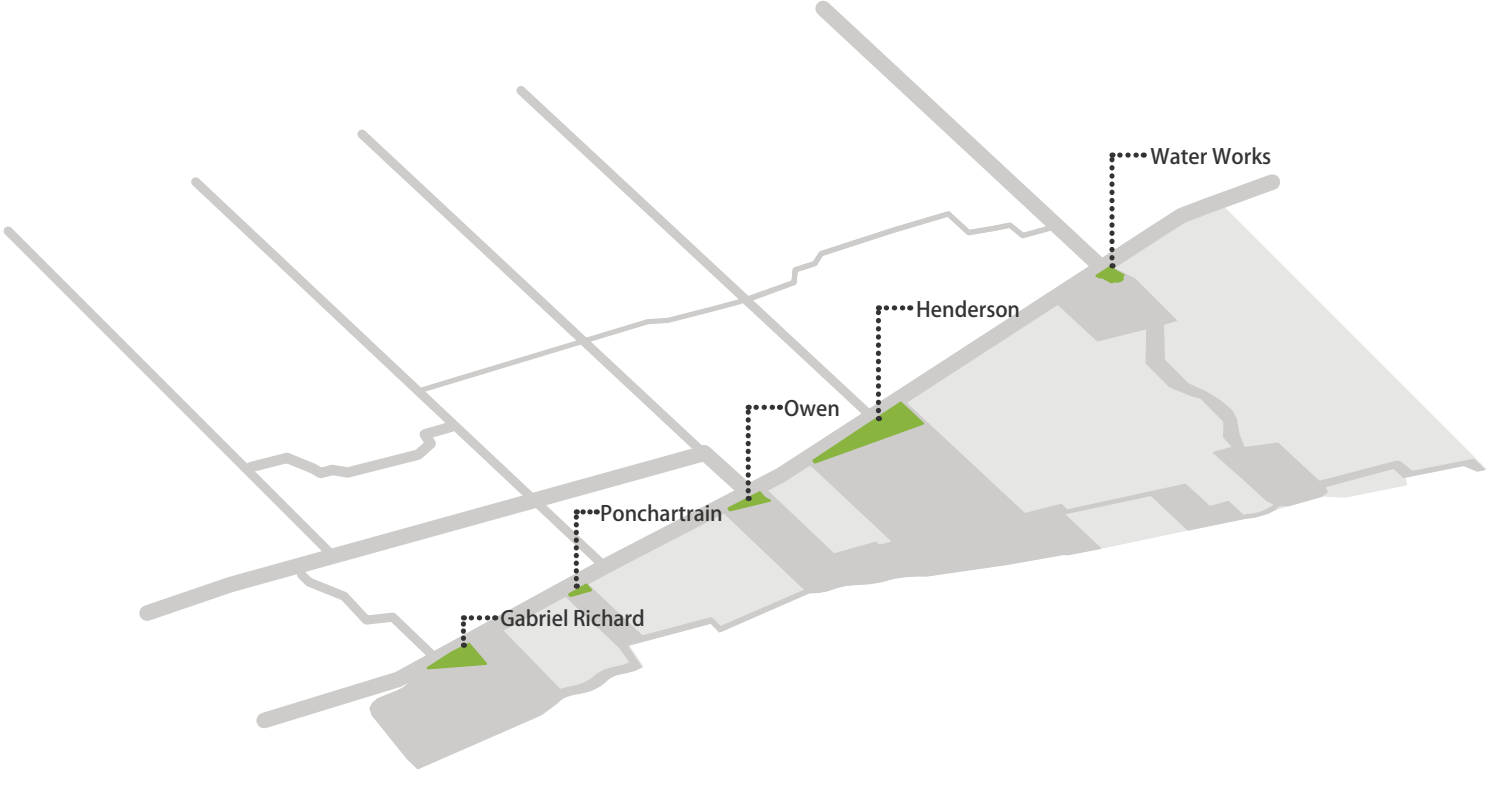
SECONDARY CIRCULATION

Secondary circulation consists of pathways within the waterfront parks linking to the RiverWalk. The secondary pathways promote pedestrian circulation within the parks and access to the promenade.

6.6: Promenade Perspective. Shows the relationship to the river and views from the RiverWalk (by Author).

ENTRY NODES

The entry nodes are spaces that pull pedestrians into the parks and onto the RiverWalk. Entry spaces are the first thing users see when accessing waterfront parks and the RiverWalk from the greenways, Figure 6.7. Each waterfront park uses an entry space to attract users.



6.7: Entry Node Location Diagram (by Author). Entry Nodes are located along East Jefferson Avenue within waterfront parks.

GABRIEL RICHARD PARK ENTRY

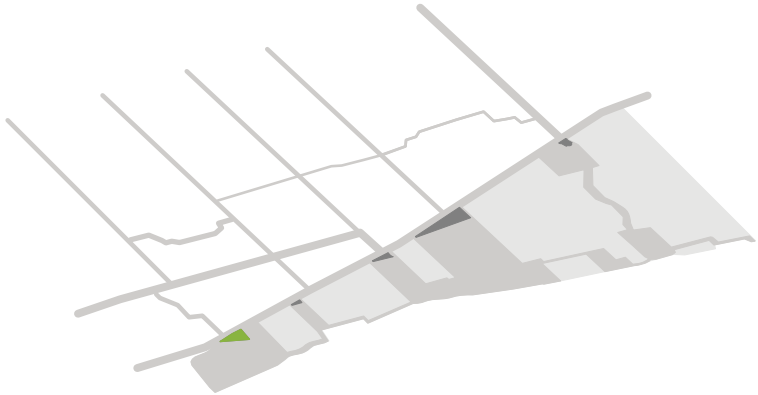
Location

Gabriel Richard Park's entry space is located along East Jefferson Avenue near to the old Armory building and adjacent to the parking lot (Figure 6.8). The entry is the starting point of the pedestrian spine.

Inspiration

The centerpiece of the entry space is a pool with fountain shoots in which children can play (Figure 6.9). This fountain brings the water's influence inland and ties the waterfront to the entry space. The design overlaps a grid paving pattern representing the city with concentric rings which correlates to the corners of the RiverWalk.

6.8

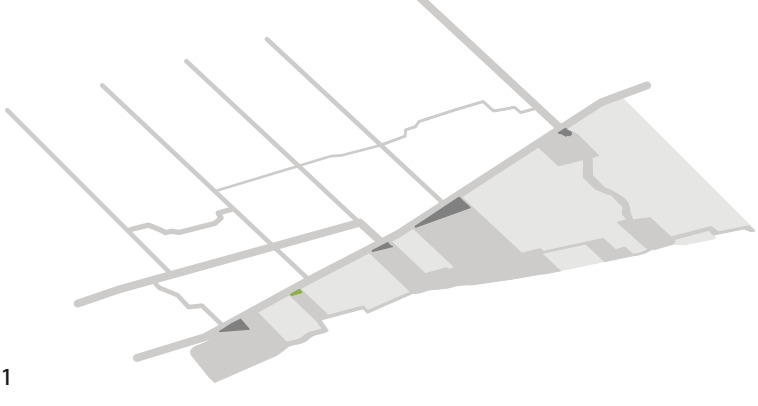


6.9

6.8: Gabriel Richard Park Entry Plaza Detail Plan (by Author).

6.9: Gabriel Richard Park Entry Plaza Location Diagram (By Author).

6.10



6.11

PONCHARTRAIN PARK ENTRY

Location

The entry to Ponchartrain Park is also located along East Jefferson Avenue and is anchored between the pedestrian spine and parking lot entry (Figure 6.10).

Inspiration

A small, simple design using concentric rings, illustrated in Figure 6.11, which emulate from the point where the pedestrian spine and entry space join, drawing visitors onto the spine and into the park.

6.10: Ponchartrain Park Entry Plaza Detail Plan (by Author).

6.11: Ponchartrain Park Entry Plaza Location Diagram (By Author).

HENDERSON PARK ENTRY

Location

The Henderson Park entry space is situated along East Jefferson Avenue, stretching across the entire width of Henderson Park (Figure 6.12).

Inspiration

The overall paving pattern consists of bands perpendicular to East Jefferson Avenue, as seen in Figures 6.13 and 6.14, which correlates to the banding along the RiverWalk. Two parts of the entry space are divided by the pedestrian spine. The first part consists of soft mounds overlapping the hardscape. These mounds emulate from "Ripple Field" which are landforms inspired by Maya Lin's "Wave Field". The concept behind "Ripple Field" is water droplets striking the water surface creating ripples. Seven "droplets" represent the seven parks within the area including Gabriel Richard, Ponchartrain, Owen, Henderson, Stockton, Water Works, and Belle Isle. The second part of the entry space has an interactive fountain on axis with the marina. The fountain brings the water's influence inland and relates to Gabriel Richard Park's entry space with its water feature. Trees and planting areas soften the hardscape and offer shade for users.

6.12

6.13

6.12: Henderson Park Entry Plaza Detail Plan (by Author).

6.13: Henderson Park Entry Plaza Location Diagram (By Author).

6.14: Henderson Park Entry Perspective (By Author). Shows the landforms of "Ripple Field" integrated with the hardscape. The pedestrian spine anchors the views to Henderson Plaza and Detroit River.

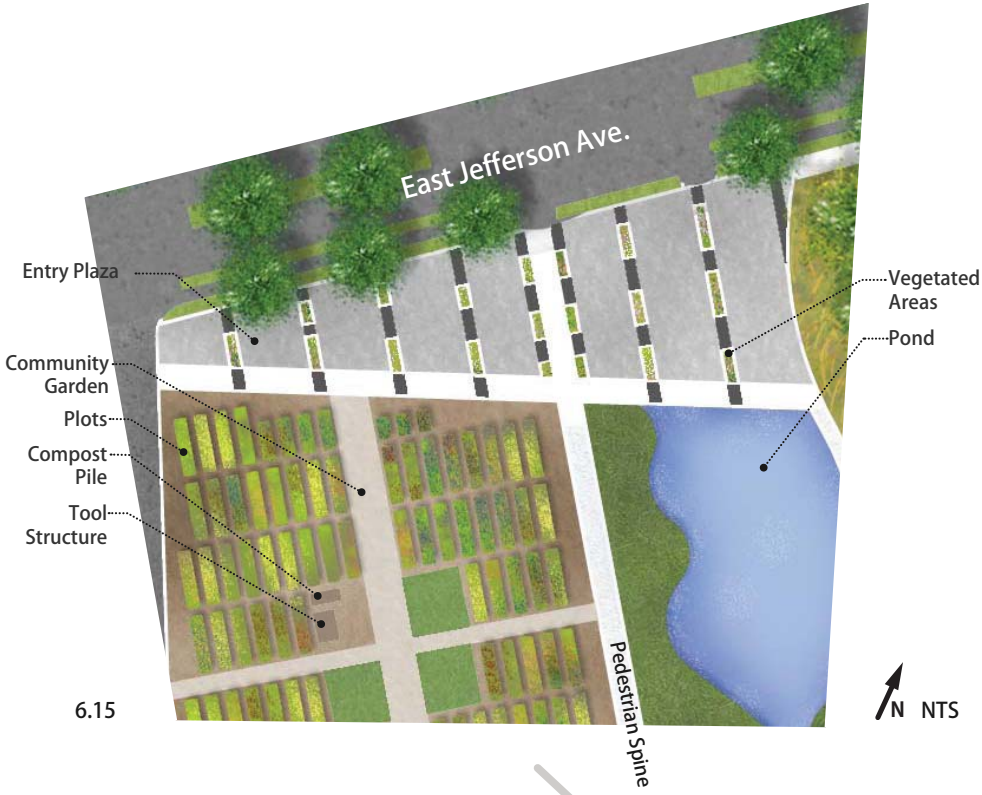
OWEN PARK ENTRY

Location

The entry space spans the width of the park along East Jefferson Avenue (Figure 6.15).

Inspiration

The entry space at Owen Park takes the parti of a community garden with rows of plots (Figure 6.16). The garden plots are represented as vegetated areas within the bands, which are parallel to the pedestrian spine.



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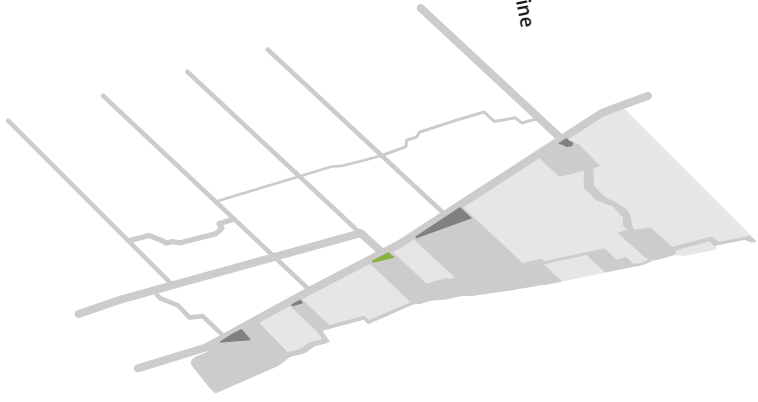
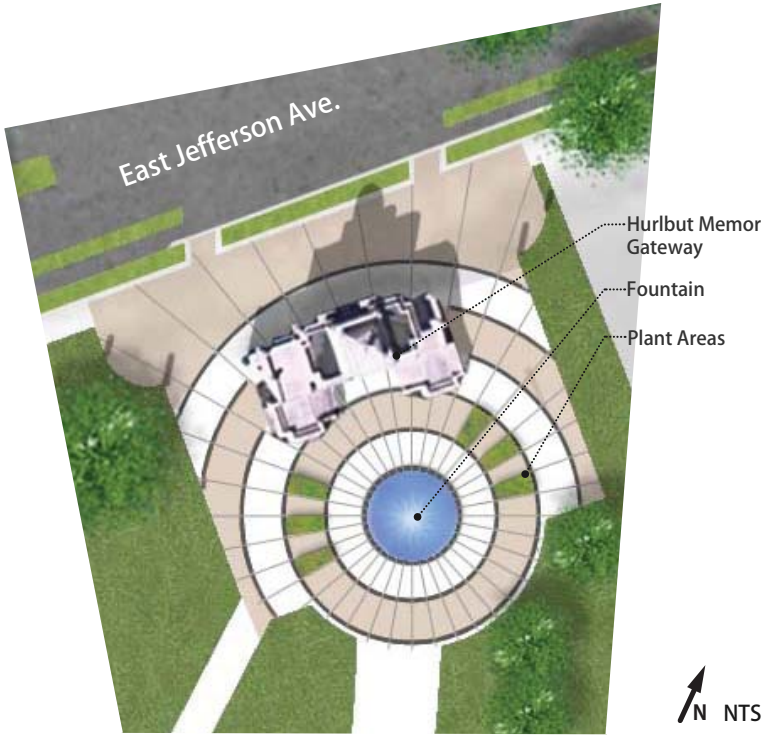


6.16

6.15: Owen Park Entry Plaza Detail Plan (by Author).

6.16: Owen Park Entry Plaza Location Diagram (By Author).



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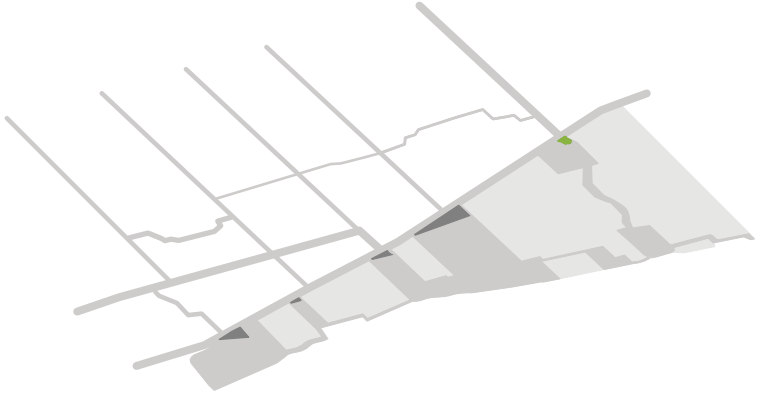


6.18

WATER WORKS PARK ENTRY

Location

The entry space for Water Works Park is along East Jefferson Avenue where the historic Hurlbut Memorial Gateway stands (Figure 6.17).

Inspiration

The entry space is unique because of its historical context. The gateway acts as the primary sculptural element, standing fifty feet tall; it can be seen from a great distance attracting visitors (Figure 6.18). A fountain sits on axis with the gateway relating to the formal and classical Victorian design style in which the gate was constructed (Figure 6.19). The paving pattern radiates from the fountain encompassing the entire entry space drawing pedestrians from the sidewalk, through the gateway into the park.

6.19

6.17: Water Works Park Entry Plaza Detail Plan (by Author).

6.18: Water Works Park Entry Plaza Location Diagram (by Author).

6.19: The Hurlbut Memorial Gateway (Courtesy of JJR)

DESTINATION PLAZAS

Destination plazas serve as stops along the RiverWalk where users can gather or enjoy the panoramic views. Gabriel Richard Plaza is currently constructed and located in Gabriel Richard Park. There are five proposed plaza spaces, three are primary spaces while the other two a smaller, secondary plazas (Figure 6.20). The difference between the two is the secondary plazas having fewer amenities than the primary plazas. The following pages will be detailing and describing only the primary plaza spaces.

Considerations for Design

- Tensile structure and building which relates to previously constructed plazas
- Water feature, relating to the river
- Open hardscape space for gatherings and events
- Sculptural art installations
- Planters for vegetation
- Paving pattern

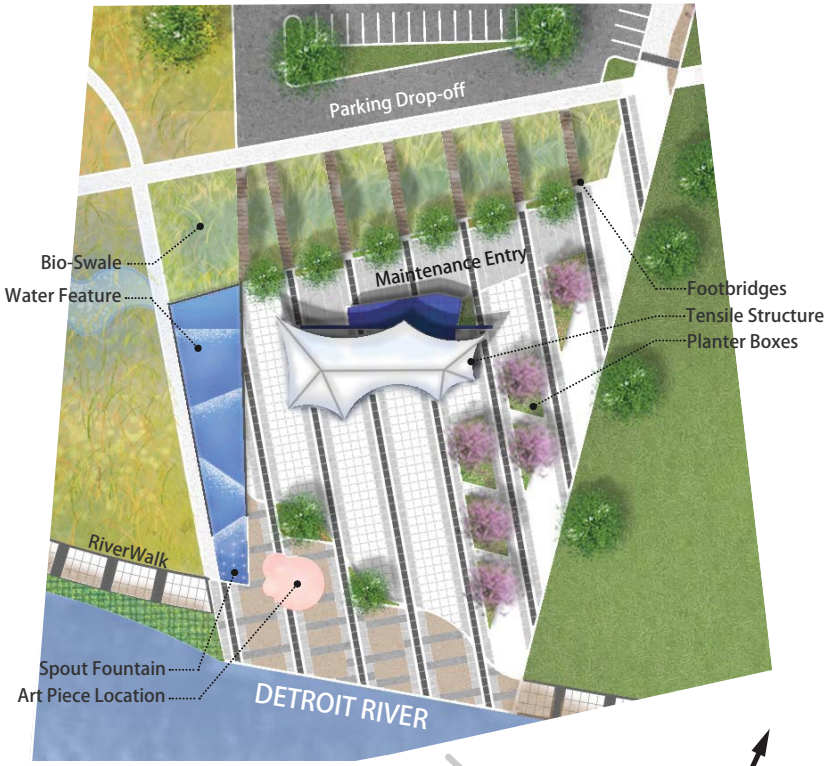
6.20: Destination Plaza Location Diagram (by Author). The Plazas are located along the water's edge and are categorized in primary and secondary plaza spaces.

HENDERSON PLAZA

Henderson plaza is located at the terminus of the pedestrian spine and street network, represented by the parking lot (Figure 6.21). A bio-swale separates the parking lot from the plaza with footbridges that allow visitors to filter into the plaza much like the bio-swale filters the storm water runoff it catches. The footbridges are aligned with the banding in the paving pattern which stretches from the water's edge. The tensile structure and building resemble existing plazas, and serves as an iconic element that people can associate with across the entire length of the RiverWalk (Figures 6.22 and 6.23).

The water feature is located along the west side of the plaza at the apex of the bio-swale and wetland area. This placement reflects the bio-swale and wetland area's process of cleaning water. The result is the clear running water of the fountain. The design of the water feature consists of pools that step downward ending with interactive spout fountains. A structural art piece is placed adjacent to the interactive spout fountain and RiverWalk, enticing visitors to stop and enjoy the space.

Each space within the plaza has a different use and is denoted by the paving pattern. The area adjacent to the river is a circulatory space and a place where visitors can enjoy the panoramic views. The primary space is bordered by the tensile structure, water feature, and planters. Maintenance access is behind the tensile structure. The pedestrian spine, located on the east side of the plaza, connects the entry space to Henderson plaza and the rest of the park.



6.21

N NTS

6.22

6.21: Henderson Plaza Detail Plan (by Author).

6.22: Henderson Plaza Location Diagram (by Author).

6.23: Henderson Plaza Perspective (by Author). Shows the water feature as well as art piece and tensile structure.

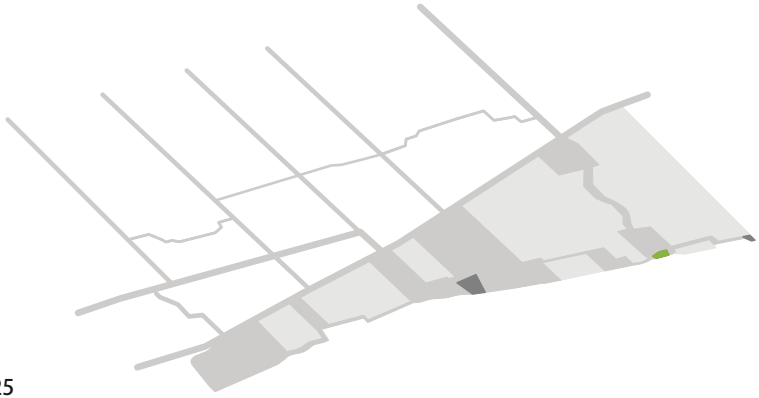
6.23

WATER WORKS PLAZA

Ending at the terminus of the pedestrian spine linking Hurlbut Memorial Gateway to the RiverWalk, sits Water Works Plaza (Figure 6.24). The water feature within the plaza is a water wall that cascades into a shallow pool (Figure 6.25). The sound of the water splashing down sooths and relaxes visitors and gives an unusual visual as there are no waterfalls along the Detroit River. The water feature helps to separate the main plaza with the viewing space adjacent to the waterfront. The cascading fountain also serves as an art piece that can be up lit at night for further visual interest.

A smaller art piece is located on axis with the tensile structure and a circulation corridor back dropped by a lushly vegetated planter.

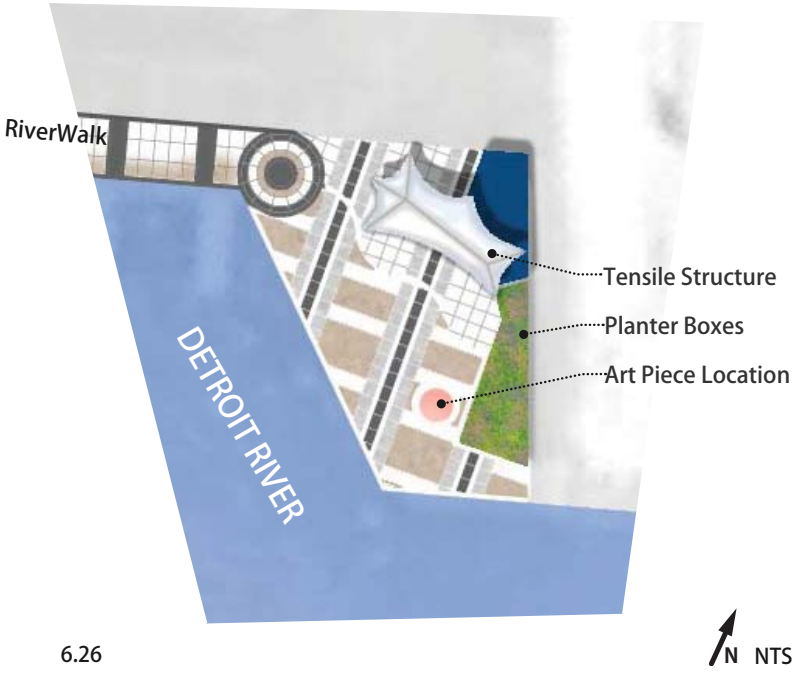
6.24



6.25

6.24: Water Works Plaza Detail Plan (by Author).

6.25: Water Works Plaza Location Diagram (by Author).



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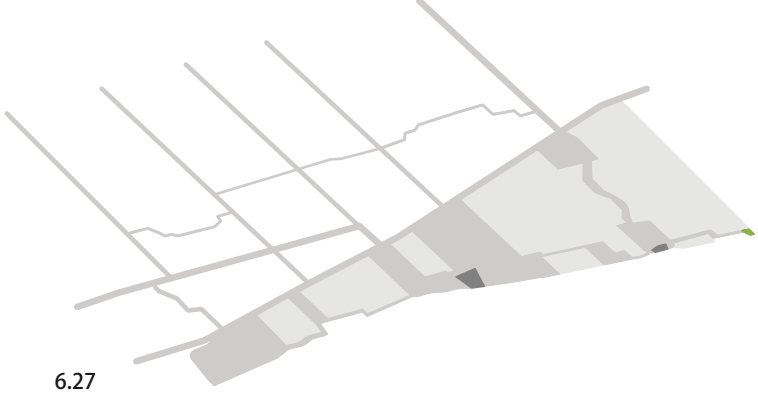


6.27

ROOSTERTAIL PLAZA

The Roostertail Plaza serves as the terminating plaza for this project and the RiverWalk promenade (Figure 6.26). It is the smallest of the primary plazas that can serve as a secondary outdoor party venue for The Roostertail. The plaza's water feature is the river because of the size of the plaza and that the space has water on two sides (Figure 6.27).

The plaza can be used to accommodate use once a year for the APBA Gold Cup speed boat race. The docks next to the plaza are used for the speed boats and their pit crews during the event. The plaza could become a VIP area for the races.

6.26: Roostertail Plaza Detail Plan (by Author).

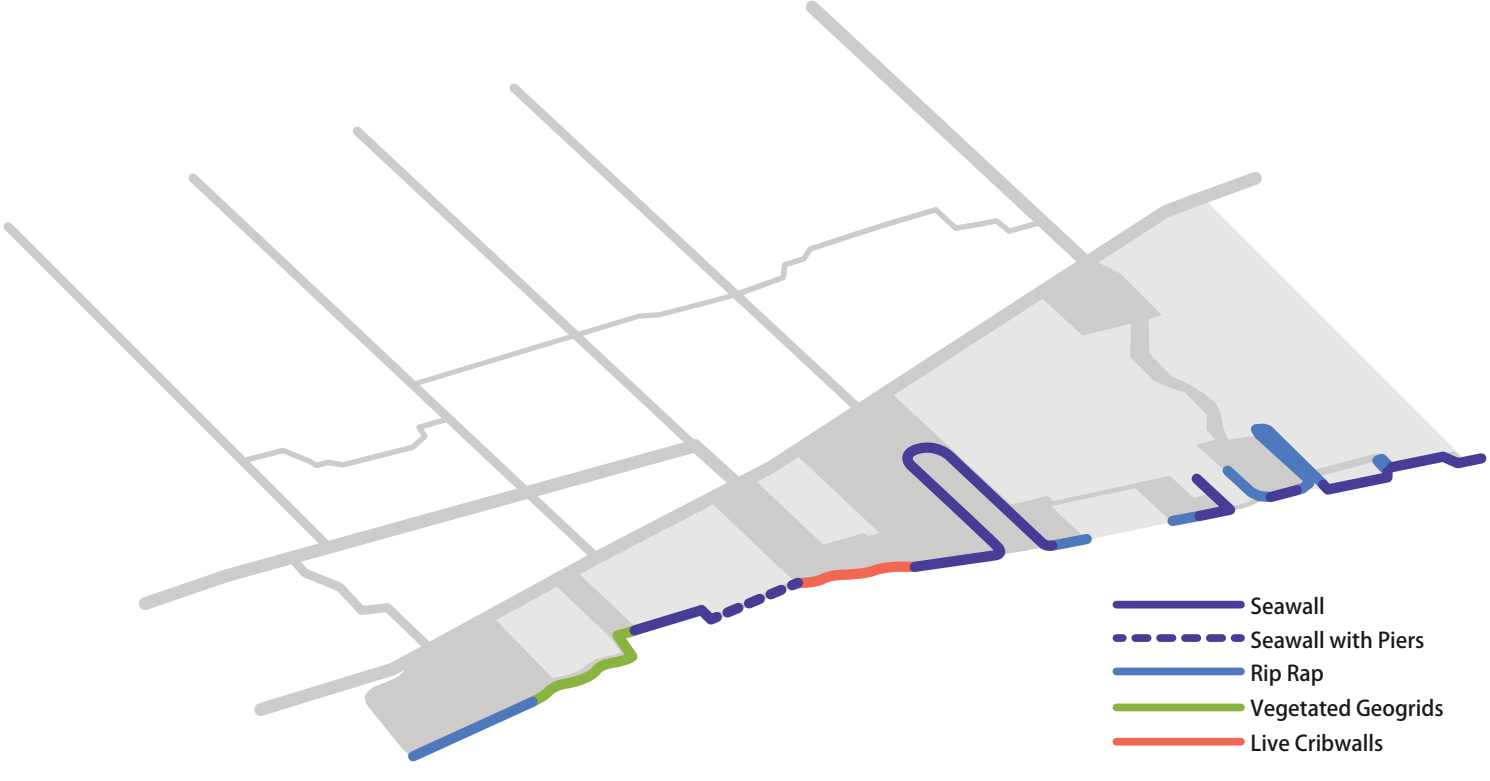
6.27: Roostertail Plaza Location Diagram (by Author).

RIVER STABILITY

River bank stabilization is needed in order to ensure the safety of the users and prevent unwanted erosion. Distilling information and recommendations from the analysis, four types of bank stability were applied to the project (Figure 6.28):

- Seawall
- Rip-rap
- Vegetated Geogrids
- Live Cribwalls

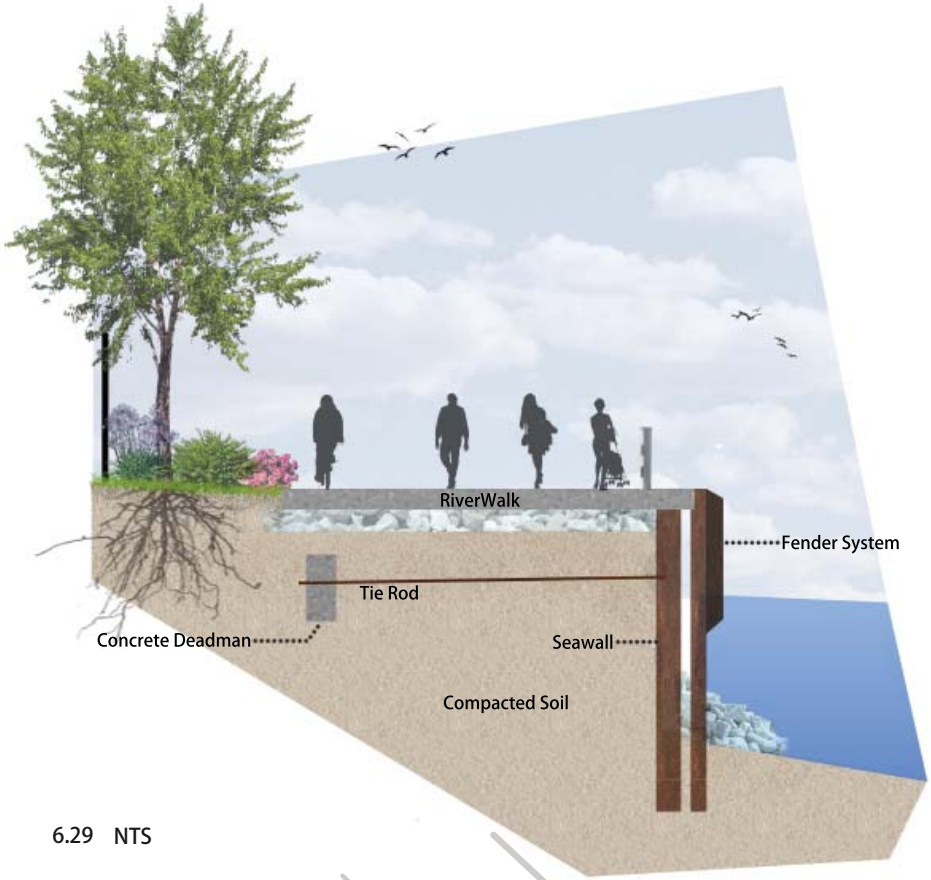
A major design consideration for the placement of each suitable stabilization method was the proposed program use adjacent to the water's edge.



6.28: Bank Stabilization Method Location Diagram (by Author). The Methods were chosen and placed from analysis and the program use along the water's edge.

SEAWALL

As noted in chapter 4, much of the site currently uses the seawall technique (Figure 6.29). The seawall method can be found in three general locations as seen in Figure 6.30. The first area is located along the Gold Coast neighborhood where the buildings sit close to the water's edge. Parts of this stretch use a technique of piers along the RiverWalk to extend over the water (Figure 6.31). This technique was used on a portion of the RiverWalk during design and construction of phase one because of similar site constraints. A building was too close to the water's edge for the promenade to be placed directly on land. The next location of seawall is along all primary plazas. Pedestrians are able to attain aesthetic views from the water's edge. The last portion of the RiverWalk that uses a seawall is adjacent to Roostertail Plaza. The river in this location is used for boats during the APBA Gold Cup race. The seawall prevents rocks or vegetation from damaging the speed boats.



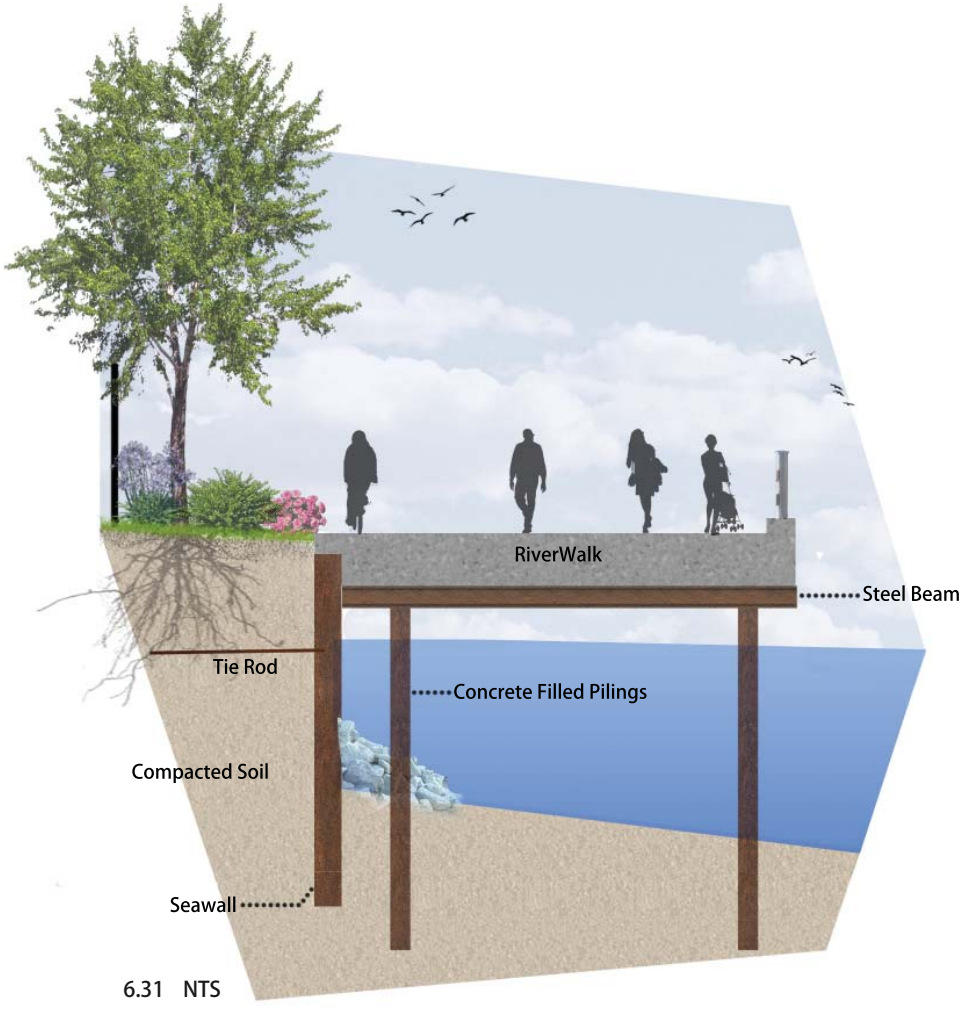
6.29 NTS

6.30

6.29: Seawall Typical Section Detail (by Author).

6.30: Seawall Location Diagram (by Author).

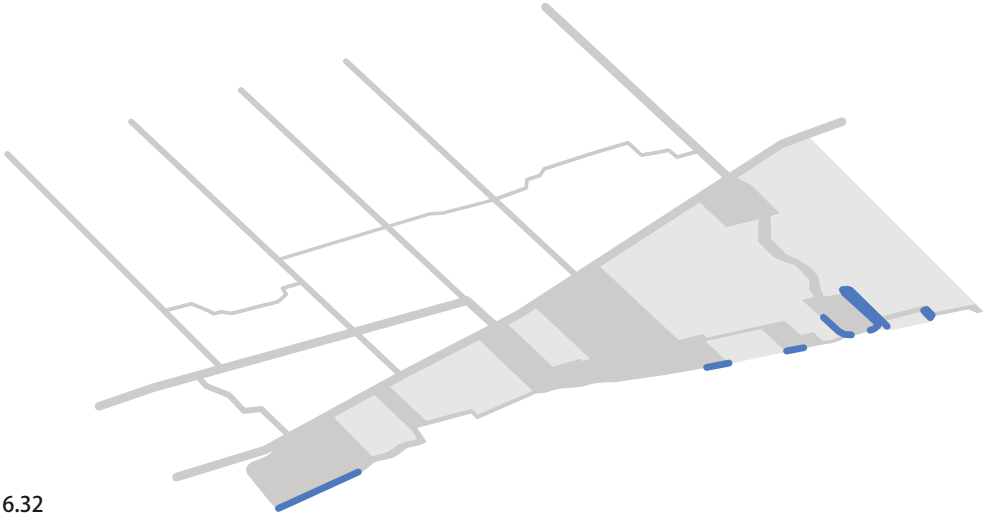
6.31: Seawall with Pier Typical Section Detail (by Author).


RiverWalk
Steel Beam
Tie Rod
Concrete Filled Pilings
Compacted Soil
Seawall

6.31 NTS

RIP RAP

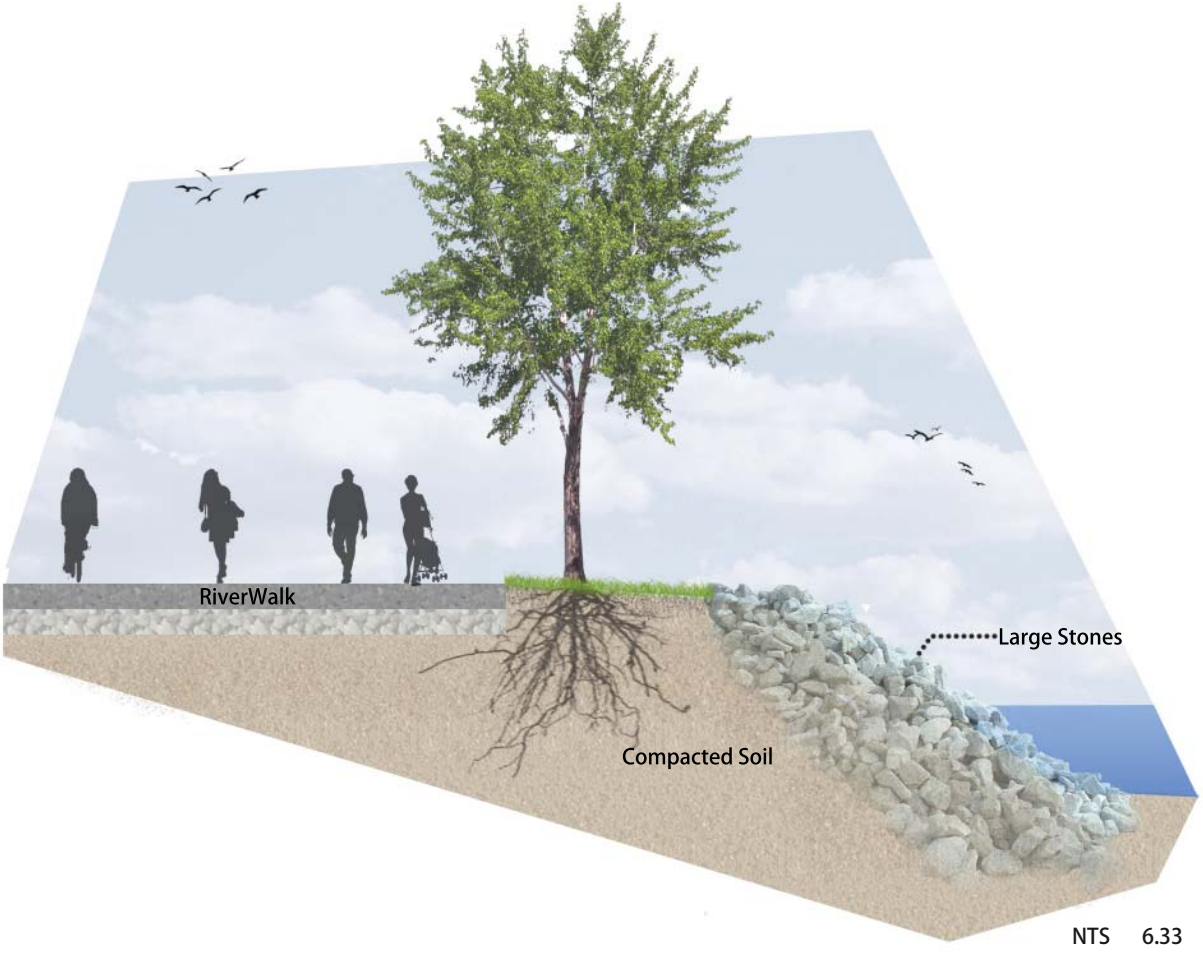
The use of rip-rap is utilized in only a few areas illustrated in Figure 6.32. The existing Gabriel Richard Plaza uses the rip-rap method. The other locations are Henderson Park east of the Marina, Stockton Park, and Water Works Park. Rip-rap is a strong engineering technique that also provides habitat for river fauna. It gives a buffered edge between the water's edge and the pedestrian which functions as a safety feature for users (Figure 6.33).



6.32

6.32: Rip Rap Location Diagram (by Author).

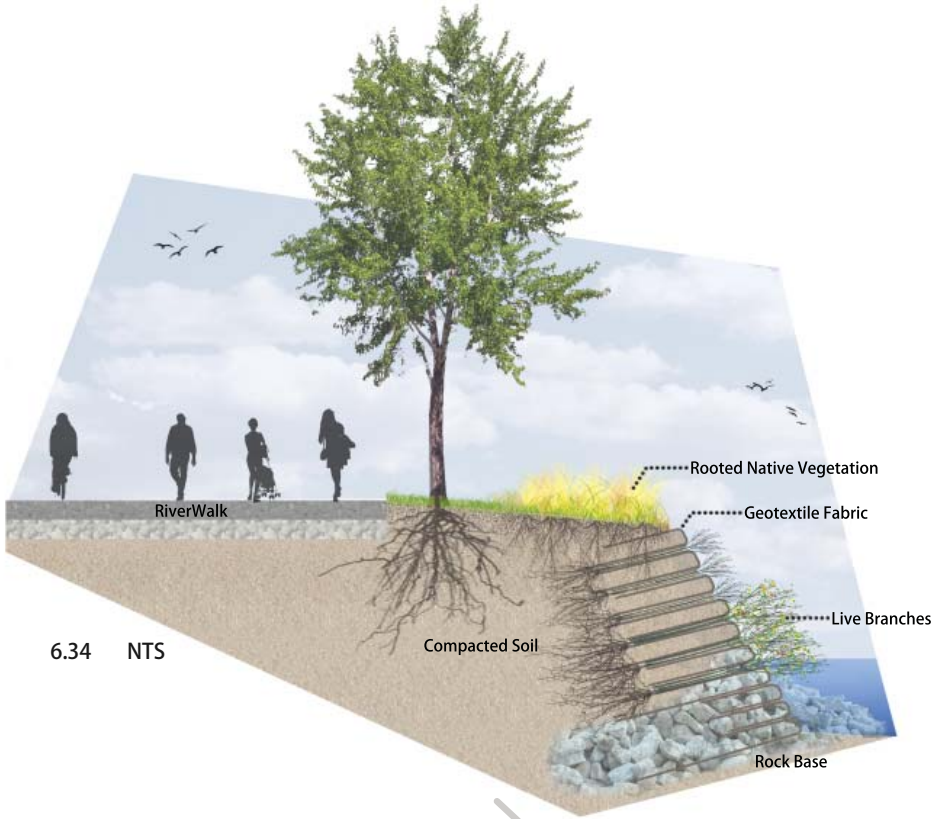
6.33: Rip Rap Typical Section Detail (by Author).



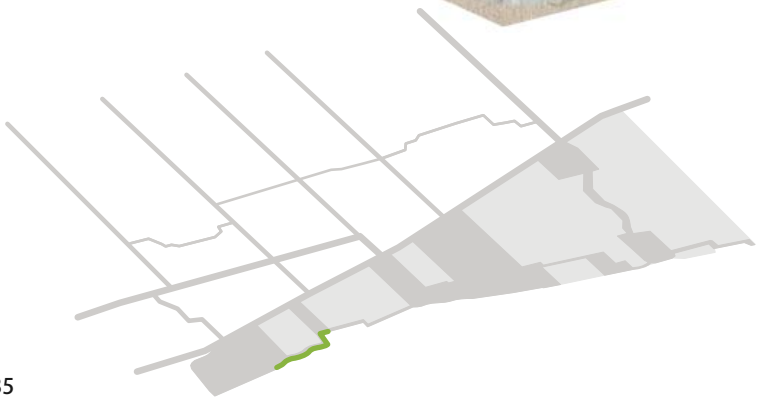
NTS 6.33

VEGETATED GEOGRIDS

This soft engineering technique gives a natural look and feel to the edge without sacrificing on stability. The only location for vegetated geogrids occurs along the RiverWalk adjoining Gabriel Richard Plaza (Figures 6.34 and 6.35). The curvilinear design of the RiverWalk offers the user a more natural setting. The vegetated geogrid bank stabilization method enhances that natural setting with plant material filling the water's edge. This method also gives shelter and habitat to fish and other wildlife.



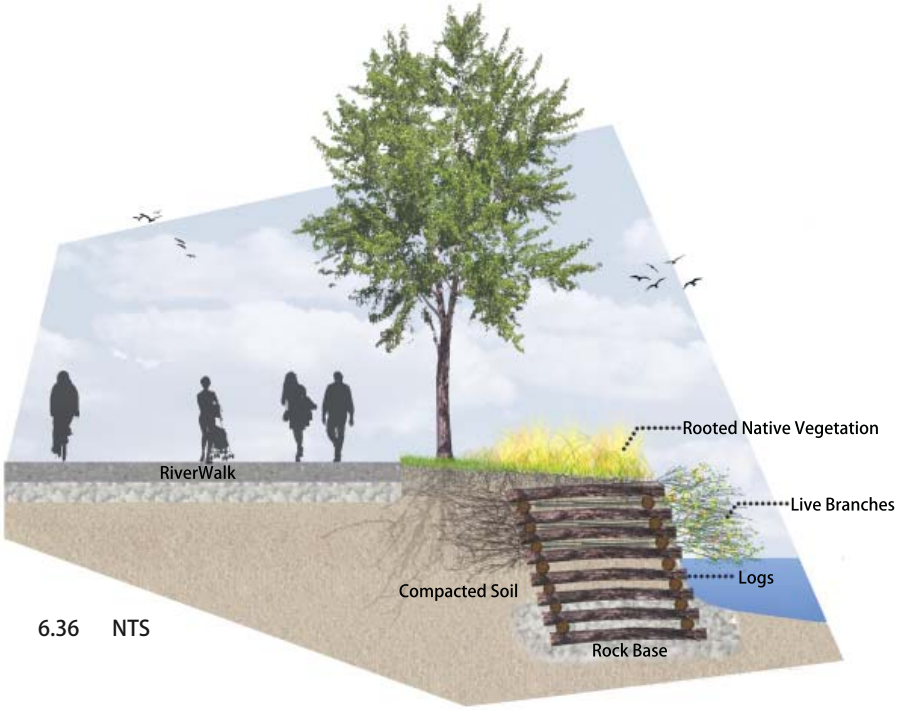
6.34 NTS



6.35

6.34: Vegetated Geogrid Typical Section Detail (by Author).

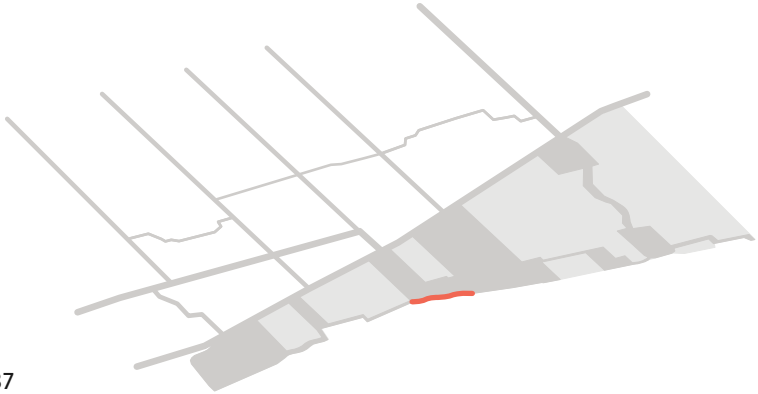
6.35: Vegetated Geogrid Diagram (by Author).



6.36 NTS

LIVE CRIBWALLS

Like vegetated geogrids, live cribwalls are only used in one location, along the shoreline in Owen Park (Figures 6.36 and 6.37). The large wetland area within Owen Park influenced the bank stabilization treatment. The wetland area is a natural setting and live cribwalls reflect that organic flow. The cribwalls' form also ties into the adjacent bank stability use of seawalls on either side. Fishing piers spur of the RiverWalk in this location because of the habitat live cribwalls provide.

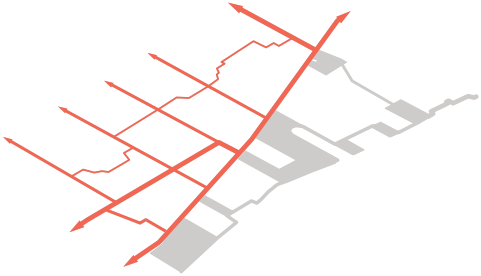


6.37

6.36: Live Cribwall Typical Section Detail (by Author).

6.37: Live Cribwall Location Diagram (by Author).

CONNECT: GREENWAYS



INTRODUCTION

Introduction

Connect: Greenways takes the goals of "Connect" and applies the analysis in order to make decisions about design of the greenways. Greenways "Connect" established goals for the creation of greenways for pedestrian to access the RiverWalk. The greenways serve as travel corridors for residents to gain access to waterfront parks, and RiverWalk.

Objectives

- Create a hierarchy of greenways that connect pedestrians to the waterfront.
- Connect primary and secondary greenways to destinations outside of the project area.
- Use existing right-of-way to formulate design typologies that are applied to each street.

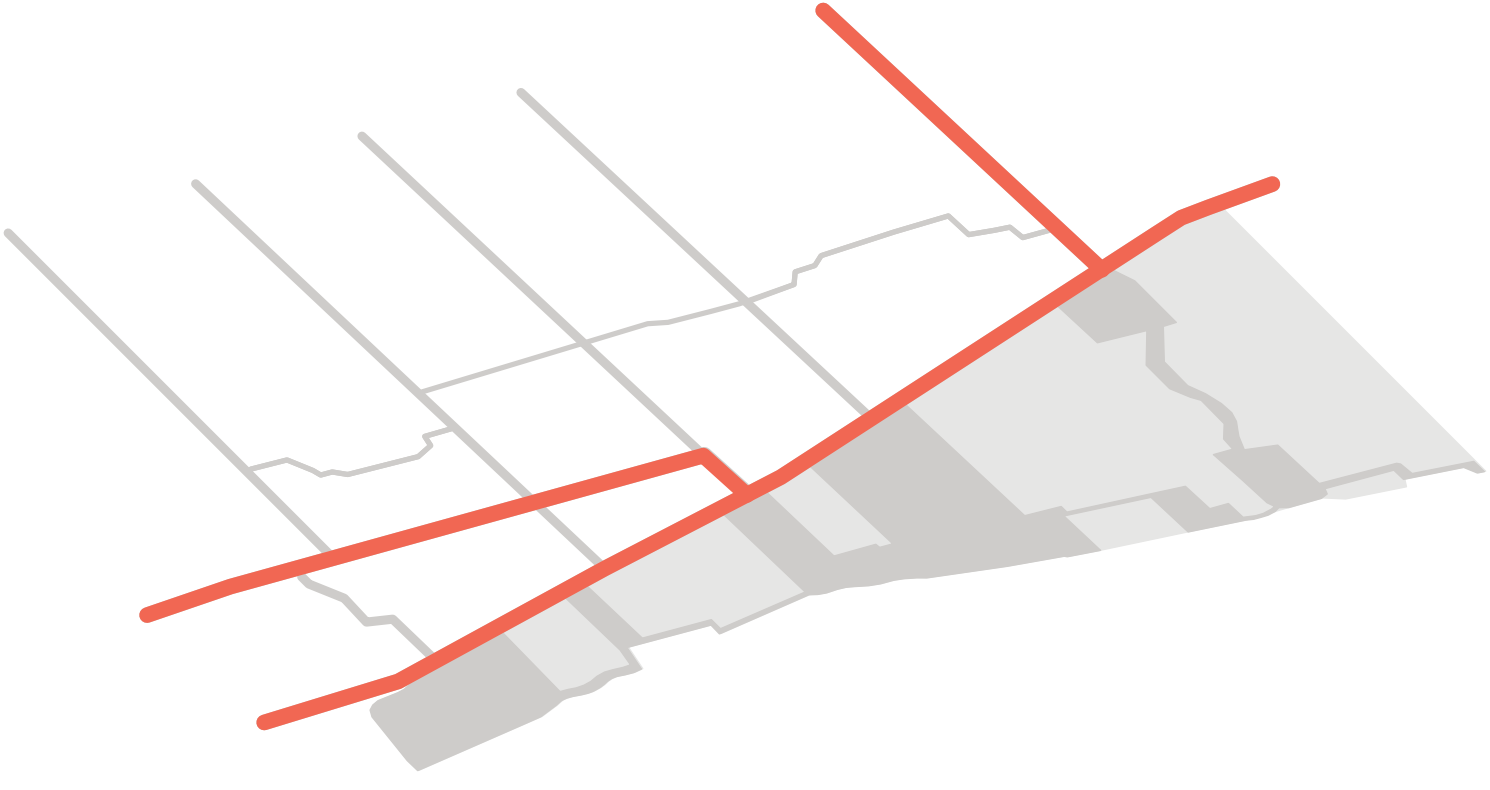
The hierarchy of greenways as exemplified in Figure 6.38 was derived from analysis and applied in the conceptual model. This section, greenway networks, will be organized in the follow form: primary greenways, secondary greenways, off-road greenways, and outside destinations.

6.38: Greenway Hierarchy Diagram (by Author).

6.39: Connect: Greenways Master Plan (by Author).

PRIMARY GREENWAYS

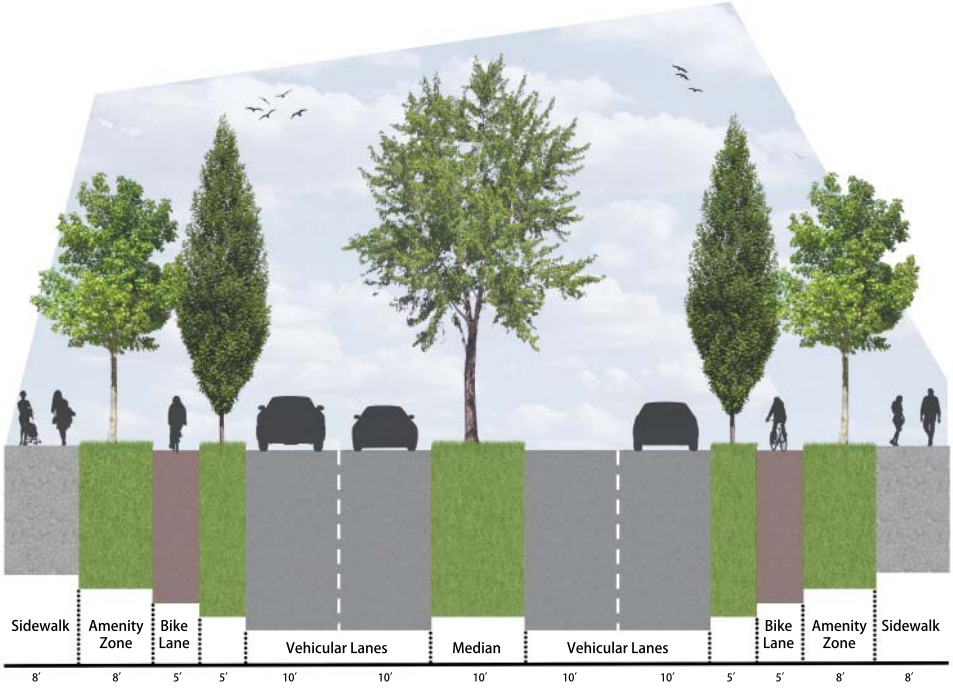
The location of primary greenways consists of three streets and a block of another street (Figure 6.40). These street corridors were chosen because, as stated in chapter 4, their street widths were conducive to heavier amounts of all types of traffic and the number of lanes each had. The primary greenway streets are East Jefferson Avenue, one block of Iroquois Street, East Lafayette Street, and Cadillac Boulevard.



6.40: Primary Greenway Location Diagram (by Author).

EAST JEFFERSON AVENUE

The eight lane arterial street is a major barrier from access to the waterfront from residents in neighborhoods. The avenue is in need of a “lane diet” (Brian Charlton, JJR). Therefore, the proposed structure of the street is designed around the idea of a boulevard (Figures 6.41 and 6.42). East Jefferson Avenue will consist of a vegetated median with two lanes in each direction on either side. The bike lanes are separated from the vehicular lanes by another, smaller vegetated median. The amenity zone lies in between the bike lane and sidewalk, framing the bike lanes with vegetation. This protects the bicyclists from the vehicular traffic and the pedestrians from the bicyclists. Barrier mediation for East Jefferson Avenue includes the shrinking of lanes, vegetated buffers in the form of medians, and multiple crosswalks.



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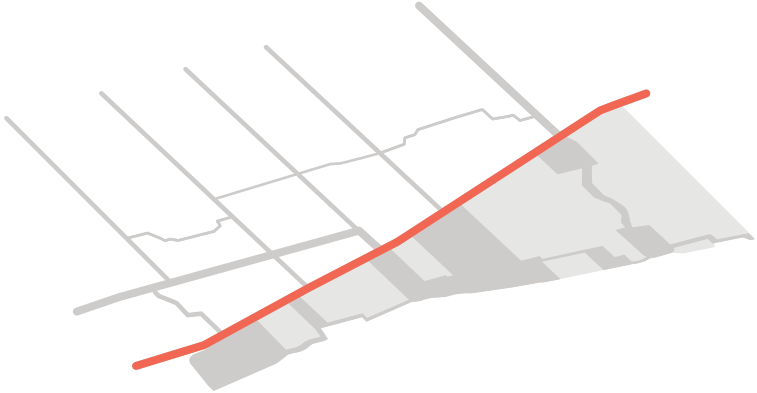


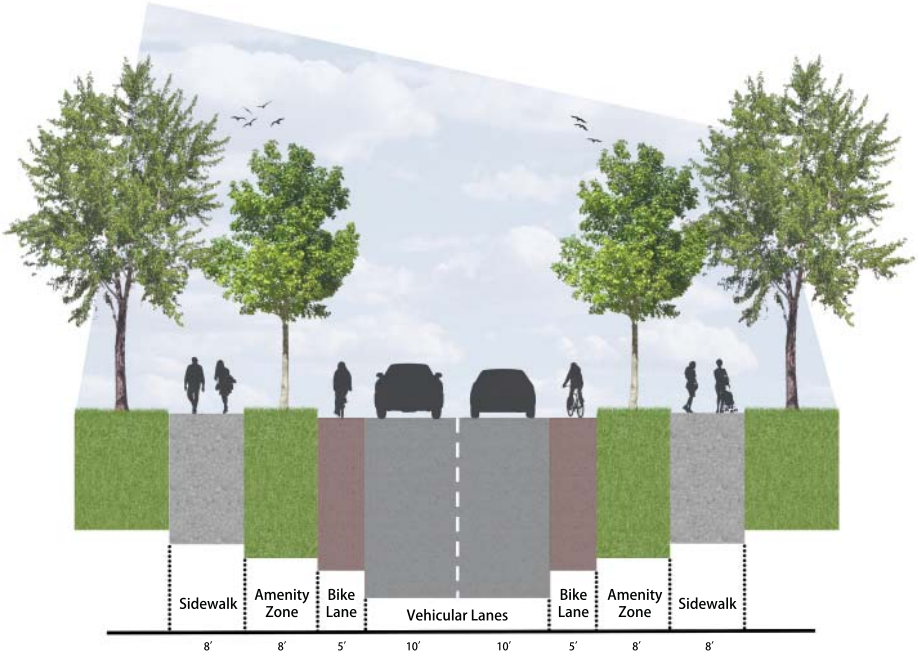
6.42

6.41: East Jefferson Avenue Greenway Typical Section (by Author).

6.42: East Jefferson Avenue Location Diagram (by Author).

IROQUOIS STREET

This primary greenway connects East Lafayette Street and East Jefferson Avenue. The street was chosen because of the direct access to Owen Park, connecting to the entry plaza. Iroquois Street is a simple greenway composed of two lanes with bikes lanes adjacent (Figures 6.43 and 6.44). The amenity zone separates the car and bicycle traffic from the pedestrians.



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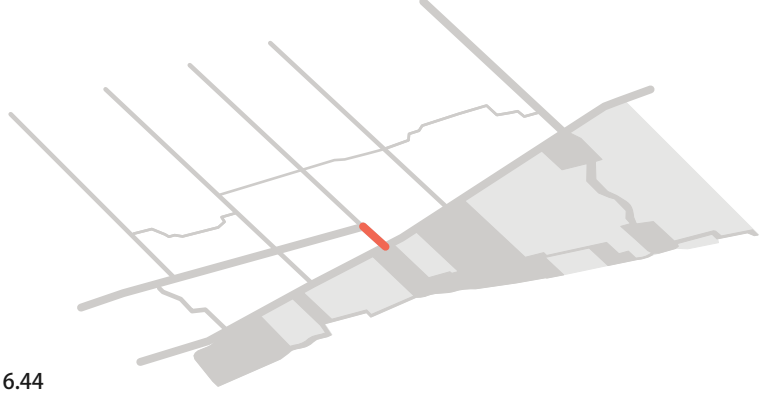


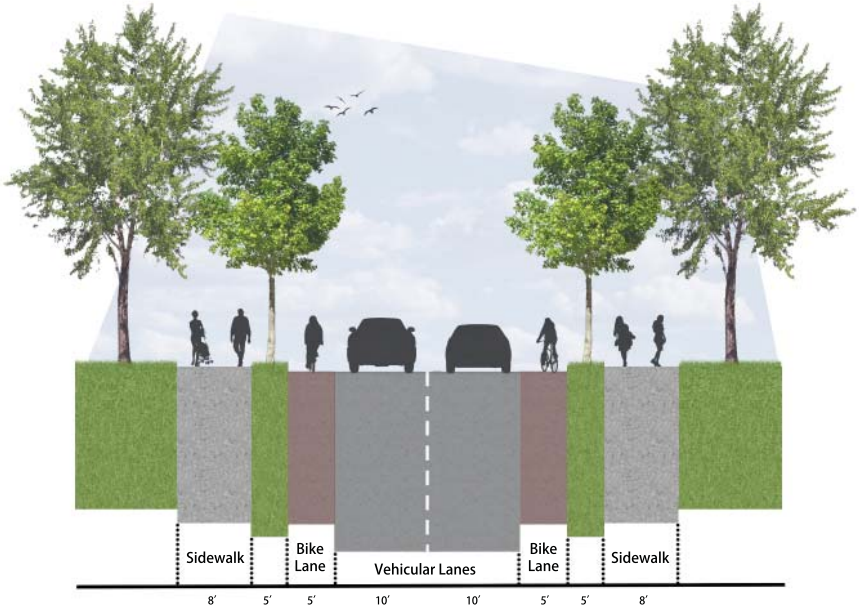
6.44

6.43: Iroquois Street Greenway Typical Section (by Author).

6.44: Iroquois Street Location Diagram (by Author).

EAST LAFAYETTE STREET

East Lafayette was chosen as a primary greenway because of its direct connection into downtown Detroit. East Jefferson Avenue greenway will end before downtown, further elaborated in the outside destination section. East Lafayette is similar in design to primary Iroquois Street (Figures 6.45 and 6.46). Two vehicular lanes are framed with bike lanes followed by an amenity zone, separating pedestrians from the roadway.



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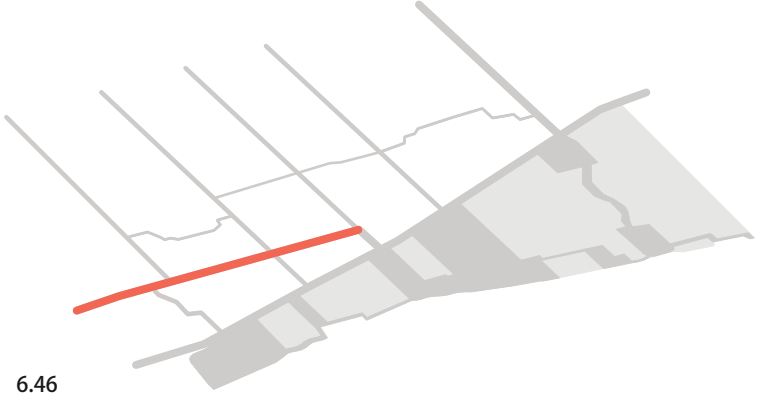


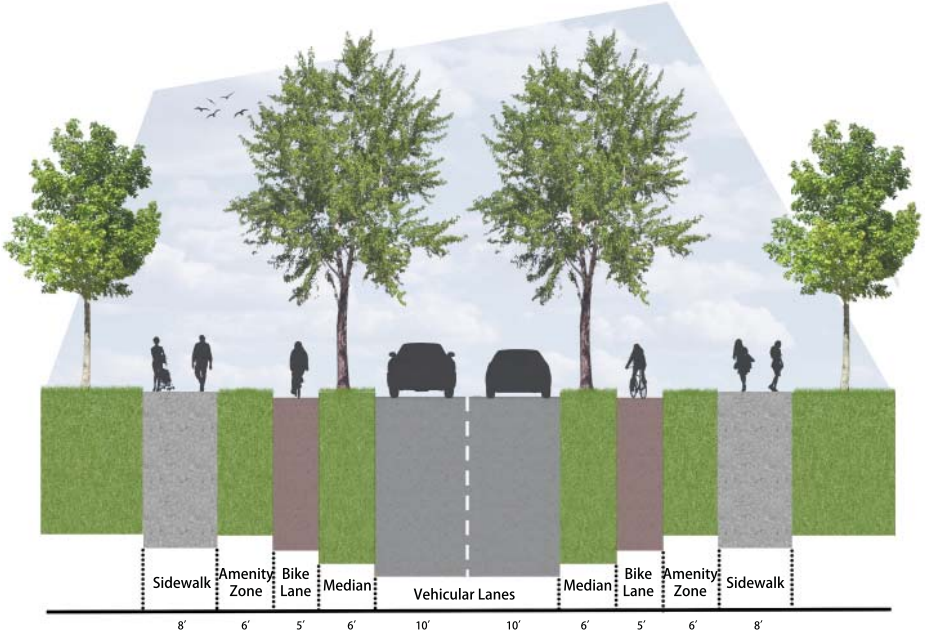
6.46

6.45: East Lafayette Street Greenway Typical Section (by Author).

6.46: East Lafayette Street Location Diagram (by Author).

CADILLAC BOULEVARD

Cadillac Boulevard is the only primary greenway running north-south. The street is an important collector street that is on axis with Water Works Park and the Hurlbut Memorial Gateway. The idea of Cadillac Boulevard is to match the name of the street with the design, a boulevard. The street redesigned comprises of two vehicular lanes, bike lanes, and pedestrian sidewalk all separated by vegetated median or amenity zone (Figures 6.47 and 6.48).



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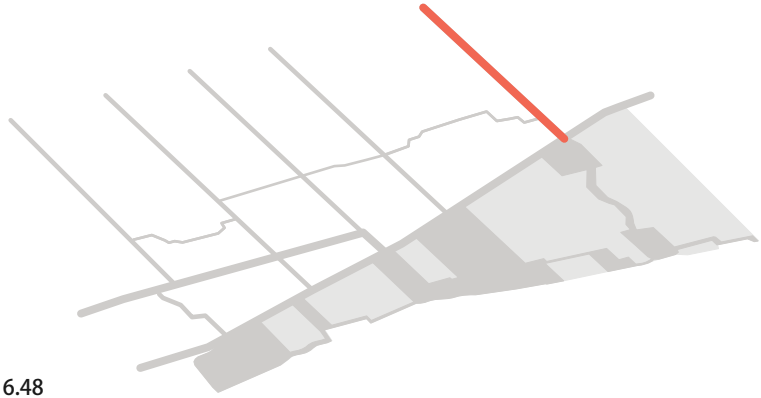


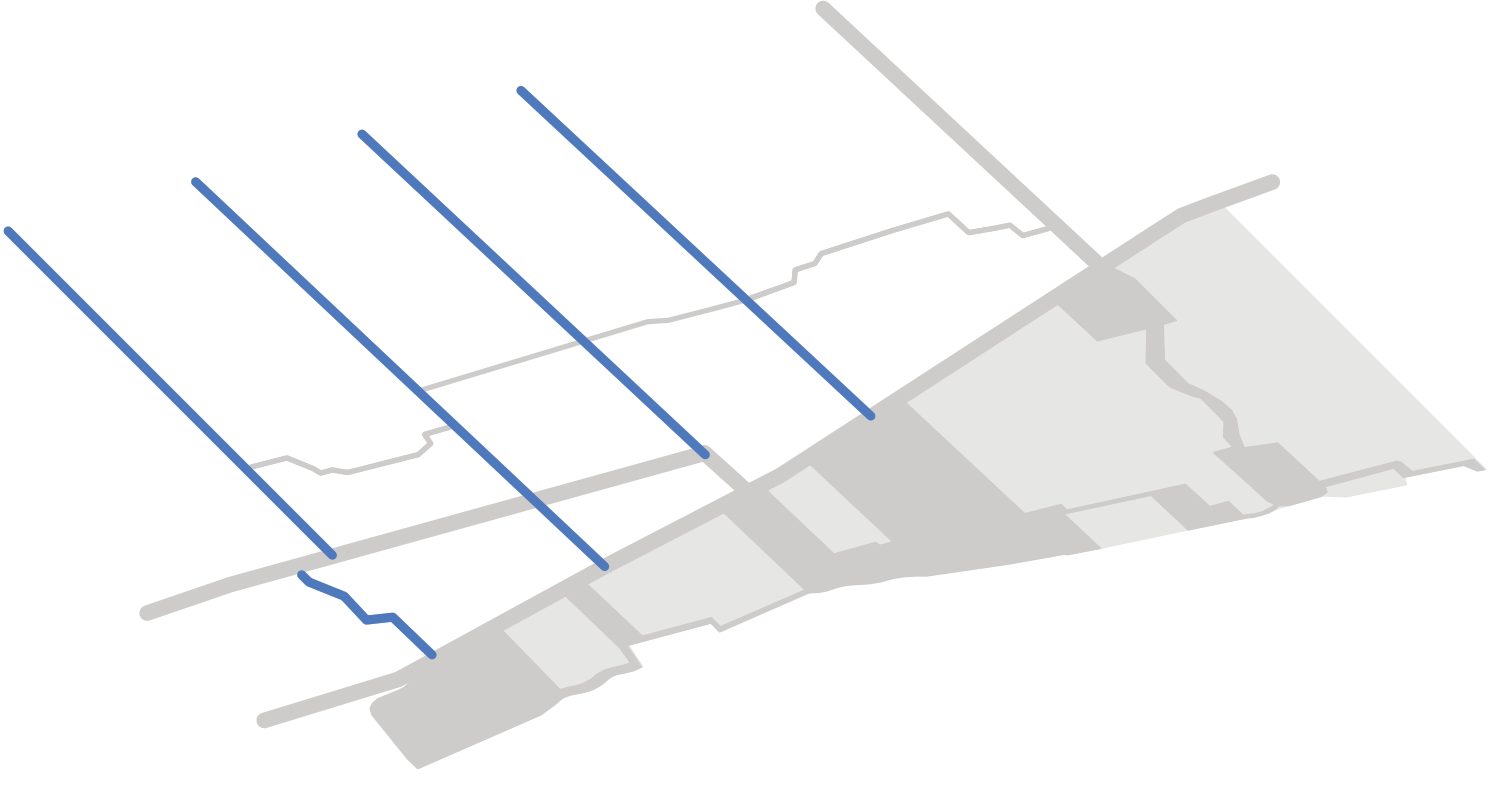
6.48

6.47: Cadillac Boulevard Greenway Typical Section (by Author).

6.48: Cadillac Boulevard Location Diagram (by Author).

SECONDARY GREENWAYS

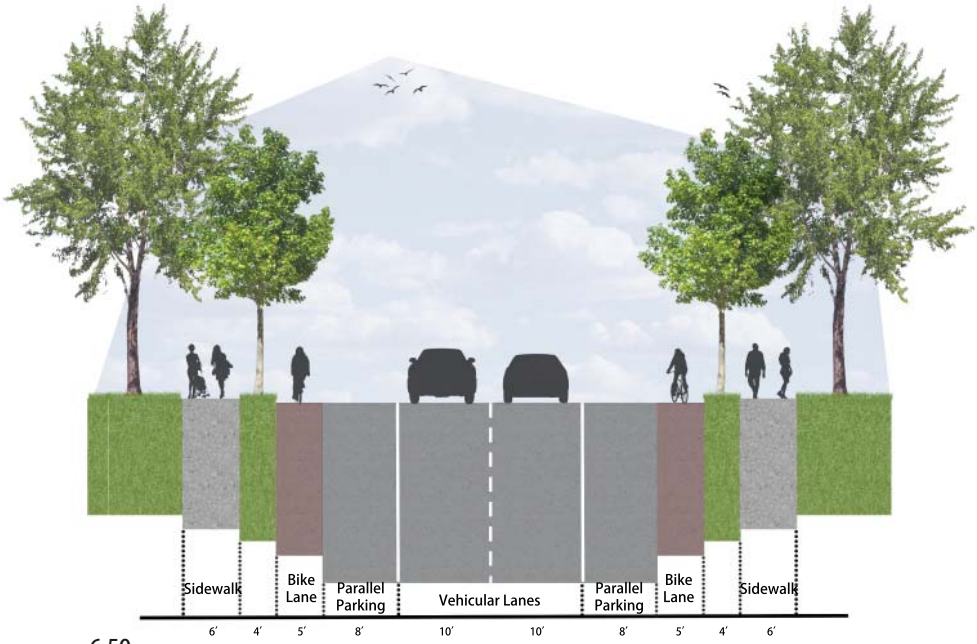
Analysis showed that many streets were capable of becoming greenways and of those four were chosen (Figure 6.49). The secondary greenways where chosen based on two criteria. The first was to have one secondary greenway within each of the Villages. Secondly, the greenways needed to connect to the proposed entry plazas located within the waterfront parks.



6.49: Secondary Greenway Location Diagram (by Author).

SHERIDAN STREET

Linking to the entry plaza at Gabriel Richard Park, the Sheridan Street greenway runs north through the village of Islandview. The greenway consists of two lanes bordered by parallel parking, bike lanes, amenity zone, and pedestrian sidewalk (Figures 6.50 and 6.51). A portion of the greenway veers off-road through vacant parcels. The reasoning behind this decision is a parking lot for the Riverview Hospital, which is fenced off from access, cuts off a portion of the street. This creates a barrier for this greenway that is overcome by the off-road link.



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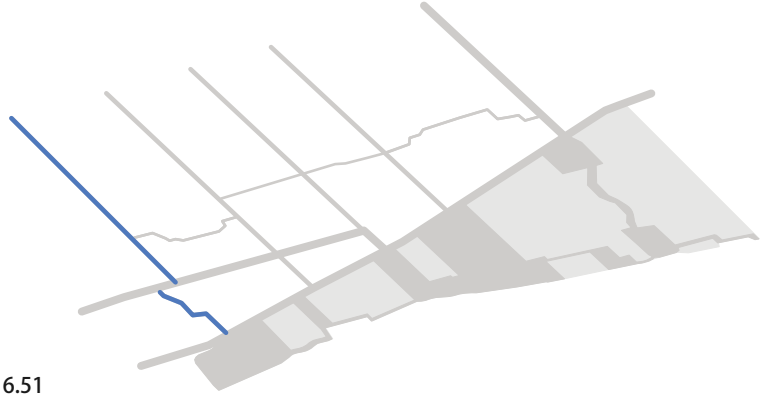


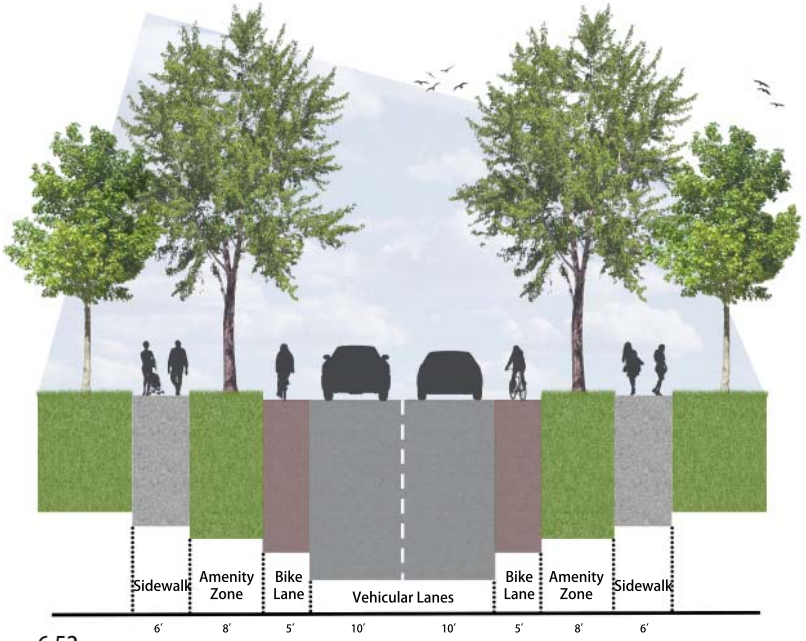
6.51

6.50: Sheridan Street Greenway Typical Section (by Author).

6.51: Sheridan Street Location Diagram (by Author).

VAN DYKE STREET

The north-south running Van Dyke Street was selected because it's the only through street in close proximity to Ponchartrain Park. Van Dyke Street bisects West Village and extends into a portion of Islandview. Two vehicular lanes are bordered by bicycle lanes followed by a vegetated amenity zone and pedestrian sidewalk (Figures 6.52 and 6.53).



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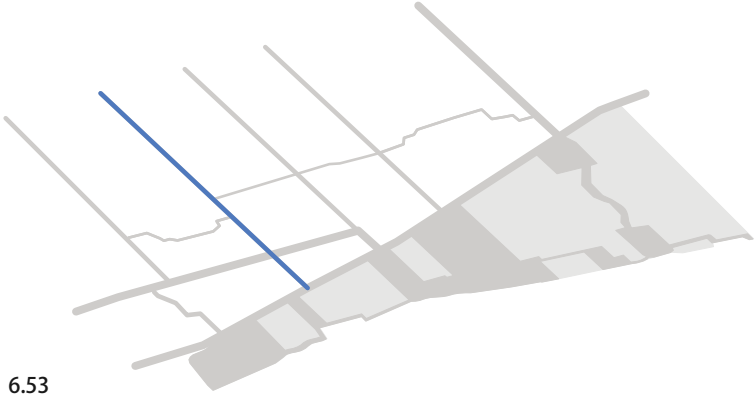


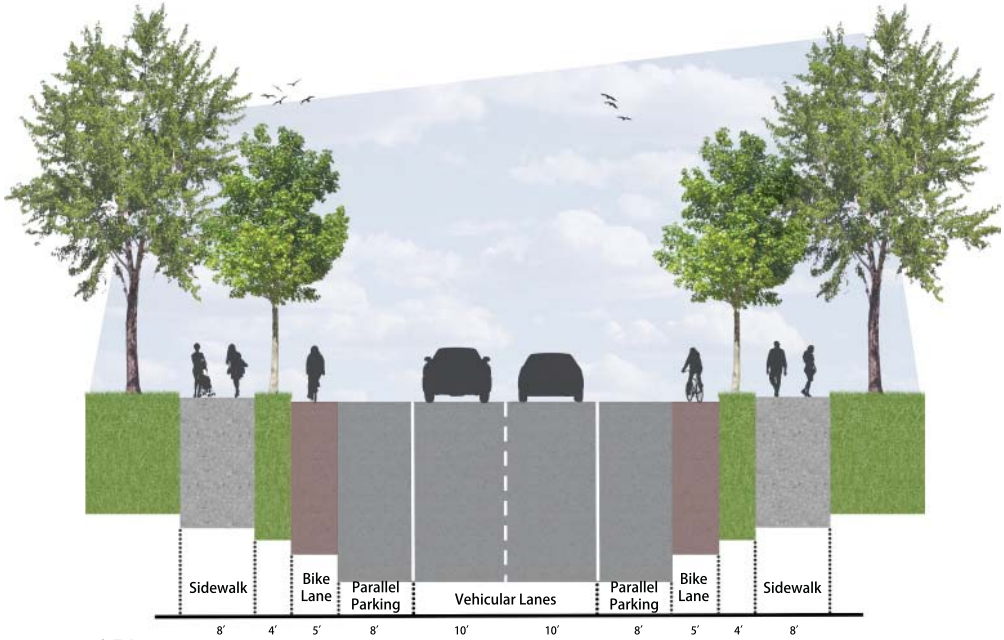
6.53

6.52: Van Dyke Street Greenway Typical Section (by Author).

6.53: Van Dyke Street Location Diagram (by Author).

IROQUOIS STREET

The secondary portion of Iroquois Street greenway continues from the primary greenway northward. The street consists of two vehicular lanes with parallel parking, bike lanes, amenity zone, and pedestrian sidewalk. Iroquois connects into Owen Park entry plaza and is the central street of Indian Village (Figures 6.54 and 6.55).



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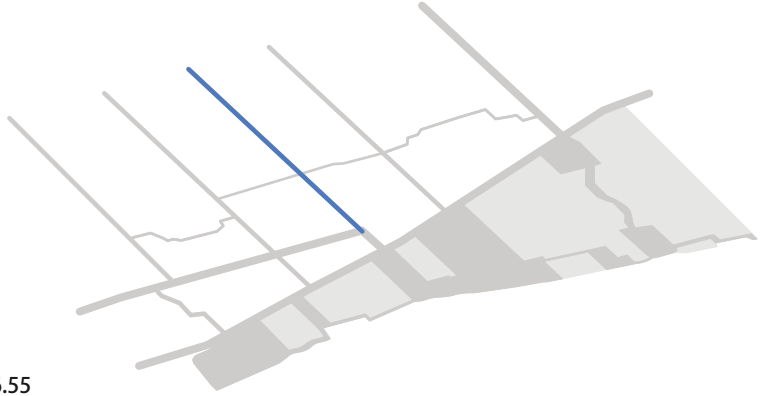


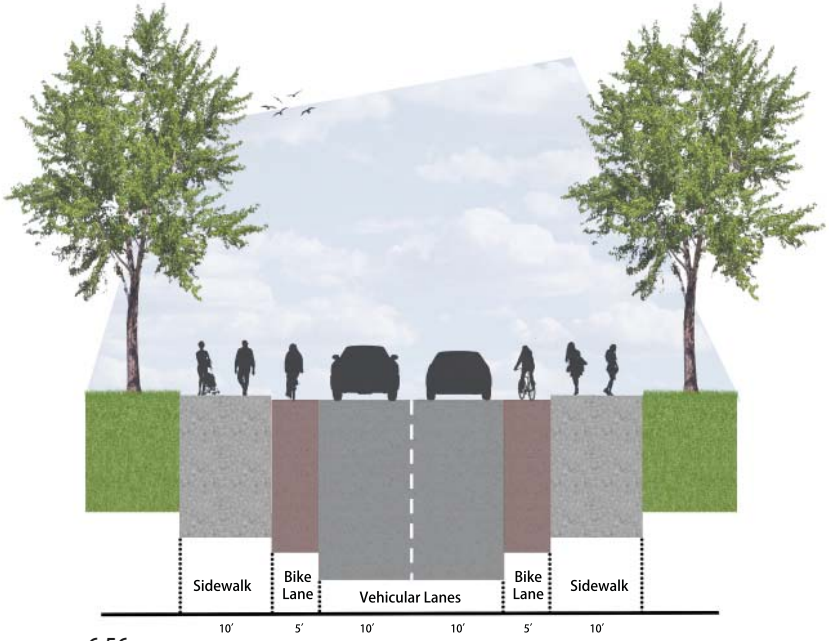
6.55

6.54: Iroquois Street Greenway Typical Section (by Author).

6.55: Iroquois Street Location Diagram (by Author).

CRANE STREET

The final secondary greenway is Crane Street which runs through East Village. The greenway connects to the entry space at Henderson Park. Because the street right-of-way width is narrower than the rest, an amenity zone was unattainable between the bike lanes and sidewalk (Figures 6.56 and 6.57). Instead a tree-line is located on the outside of the pedestrian sidewalk with bicycle lanes and vehicular traffic as usual.



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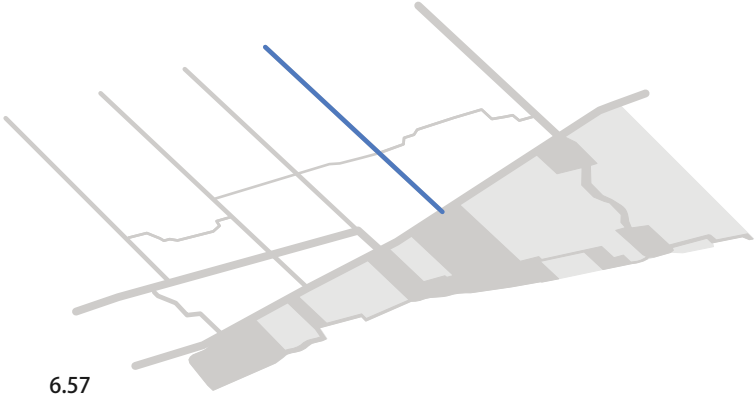


6.57

6.56: Crane Street Greenway Typical Section (by Author).

6.57: Crane Street Location Diagram (by Author).

OFF-ROAD GREENWAYS

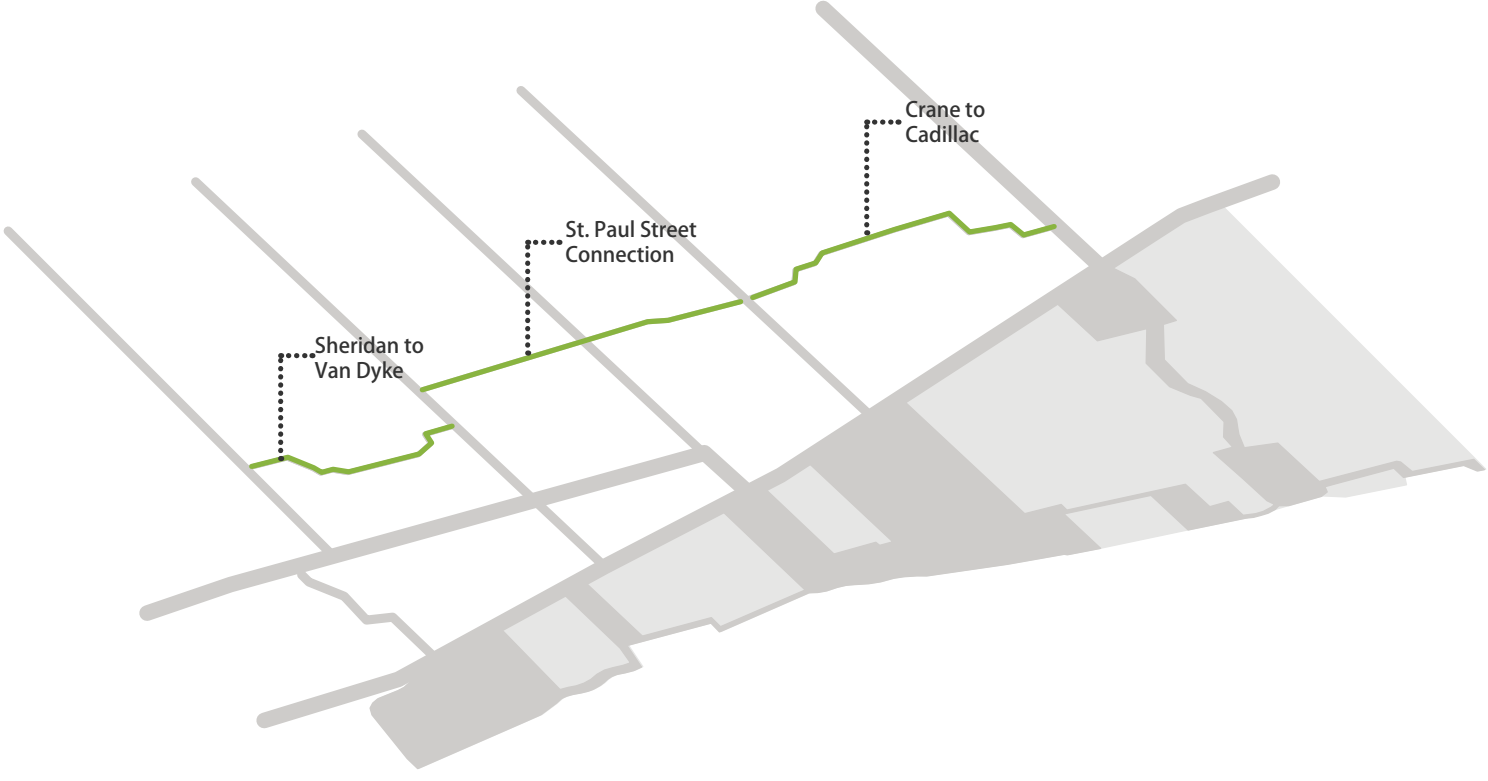
Off-road greenways are utilized for two major purposes. First, is to allow residents in each village access to key points in across all village neighborhoods. Lastly, off-road greenways funnel residents onto secondary greenways, providing them with direct access to parks and the waterfront. Determining the route was based on vacant lots, government owned properties, and the key points with the Villages. These off-road links can be divided into three areas: Sheridan to Van Dyke, St. Paul Street connection, and Crane to Cadillac (Figure 6.58).

SHERIDAN TO VAN DYKE

The off-road greenway segment winds between Sheridan Street Greenway and the Van Dyke Street Greenway. The key points along the alignment are the St. Charles Church and School.

CRANE TO CADILLAC

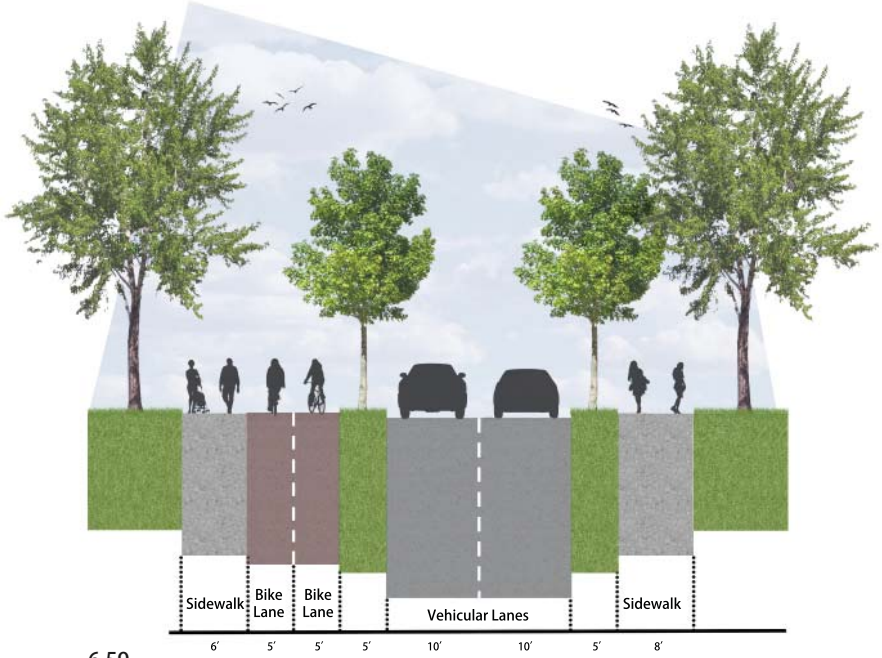
The area between Crane Street and Cadillac Boulevard had the highest concentration of vacant parcels. With a grouping of vacant parcels, a park was established to provide amenities and help spur growth. This park contains a community garden for local residents to grow food and plants.



6.58: Secondary Greenway Location Diagram
(by Author).

ST. PAUL STREET CONNECTION

The greenway between Van Dyke Street and Crane Street had to be located within the St. Paul Street right-of-way (Figures 6.59 and 6.60). The rational for this move is the lack of vacant lots within the area. The greenway is located on one side of the street with both bicycle lanes and sidewalk is separated from traffic by a vegetated amenity zone. The greenway continues using vacant parcels at the corner of Burns Street and St. Paul Street.



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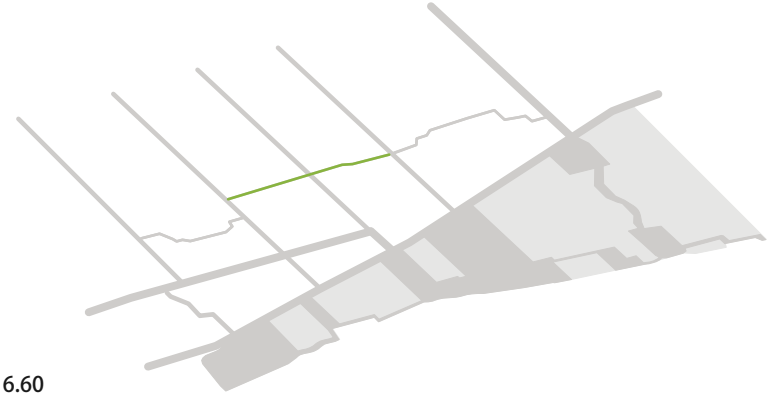
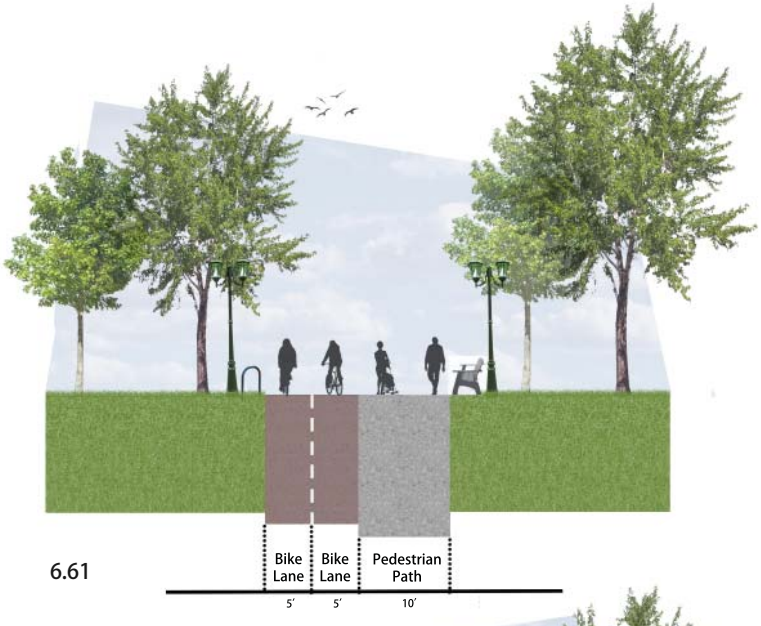


6.60

6.59: St. Paul Street Connection Greenway Typical Section (by Author).

6.60: St. Paul Street Location Diagram (by Author).



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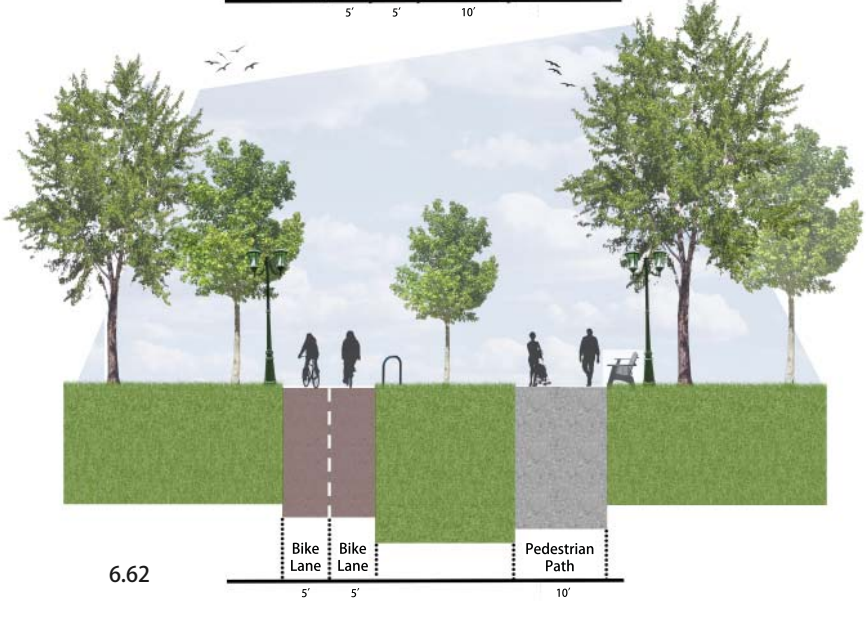


6.62

OFF-ROAD GREENWAY OPTIONS

The first option consists of a single path that is wide enough for two bike lanes and pedestrian walkway and is used in narrower parcels (Figure 6.61). Option two is splitting the bicycle lanes with the pedestrian walkway, by varying widths (Figure 6.62). The layout creates interest to user as well as safety by preventing bicycle and pedestrian conflicts. Amenities can be located within this area for anyone's use such as shelters and benches.

6.61: Off-Road Option 1 (by Author).

6.62: Off-Road Option 2, Split Bicycle and Pedestrian Paths (by Author).

OUTSIDE DESTINATIONS

Primary and secondary greenways extend past the field of view to important points along their designated street corridor (Figure 6.63). These key points include schools, other greenways, the downtown area, and public parks.

Primary Greenway Destinations

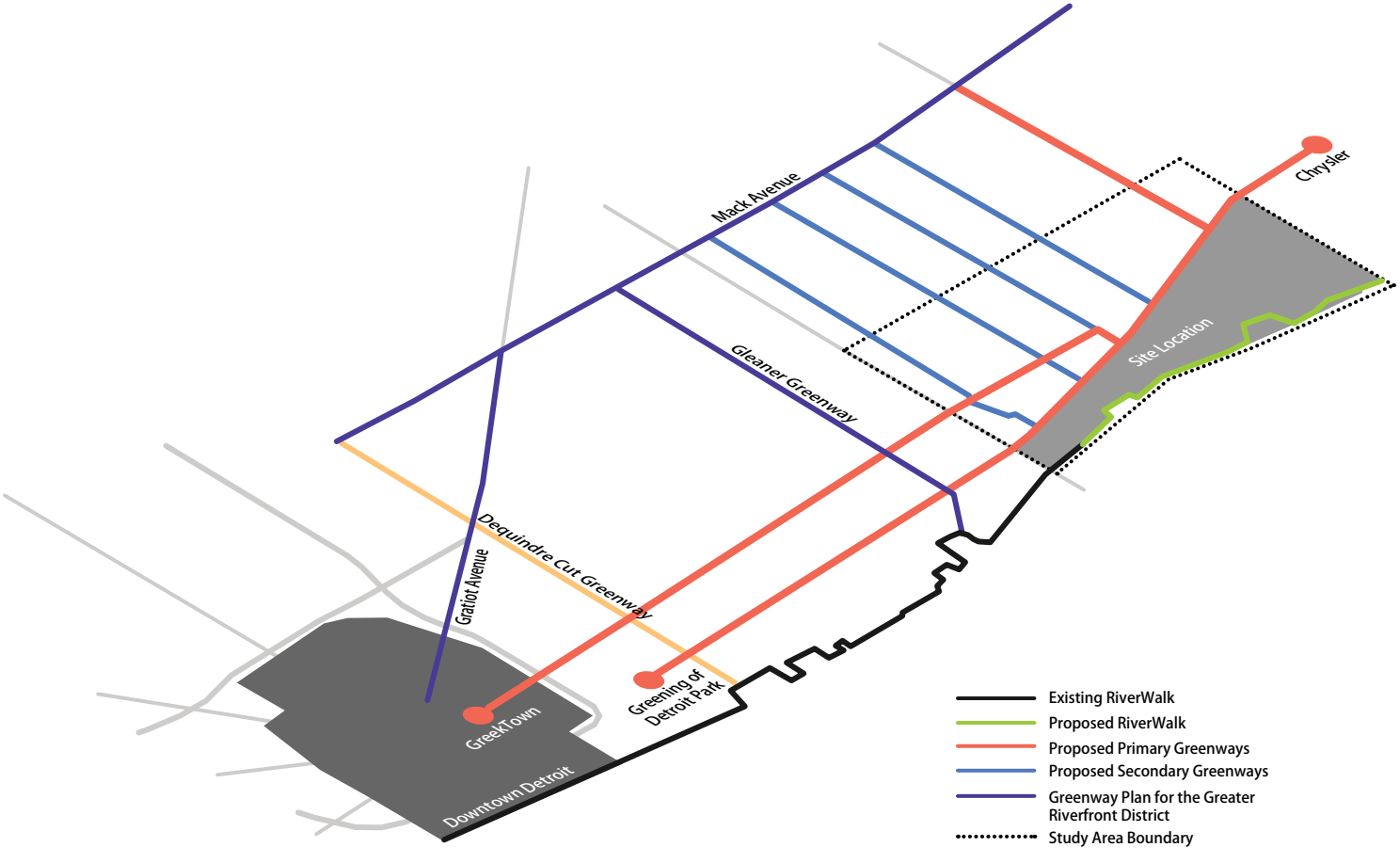
East Jefferson Avenue continues towards the west linking with Dequindre Cut Greenway and terminates at Greening of Detroit Park. The East Jefferson Greenway does not extend into downtown because the street turns into a freeway with high velocity traffic which is not conducive for greenway use. East Jefferson Avenue extends eastward to the Chrysler production plant.

Like East Jefferson Avenue, East Lafayette Greenway continues eastward. The greenway will be used for those commuters whose final destination is downtown Detroit, specifically Greektown. Key points along the corridor include King High School, Ralph Bunche Cooperative Park, Walter and Mae Reuther Park, Park East, and Central Park.

The ending place for the Cadillac Boulevard greenway is the proposed Mack Avenue greenway. This greenway is proposed by the Greenway Plan for the greater riverfront district produced by JJR and The Villages Community Development Corporation. A key point along the Cadillac Boulevard greenway is the Pewabic Pottery across the street from Water Works Park.

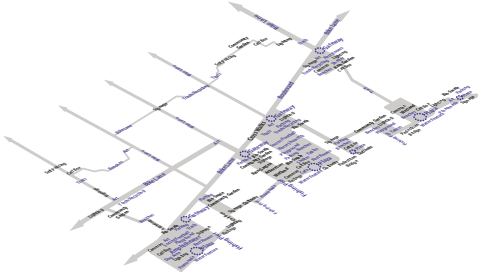
Secondary Greenway Destinations

All the secondary greenways have a terminus at the Mack Avenue greenway. The one important point along any of the secondary greenways is Butzel Middle School located along Van Dyke Street.



6.63: Greenway Outside Destinations Diagram (by Author).

PROVIDE: ACTIVITY COMPONENTS



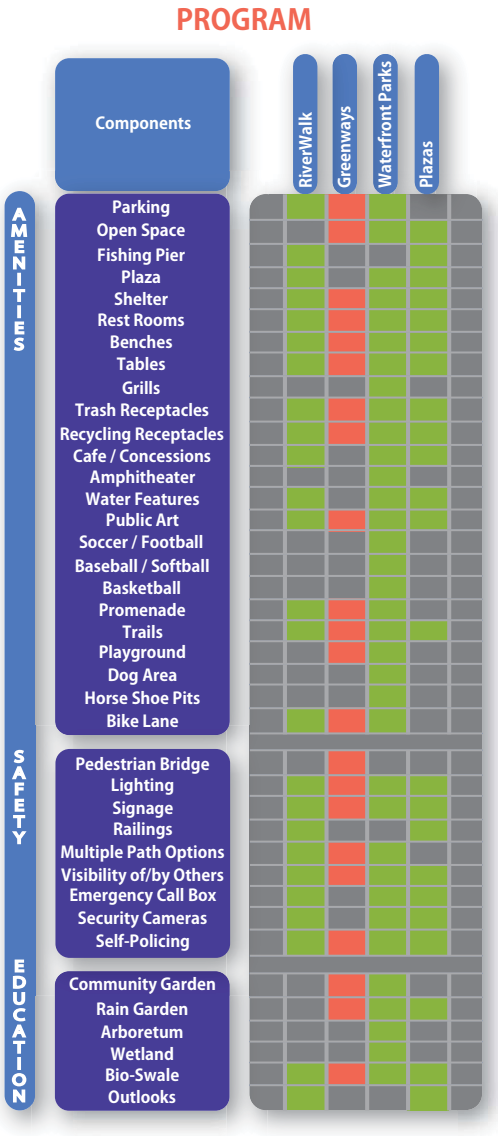
INTRODUCTION

Provide: Acitvity Components takes the goals of "Provide" and organizes the program elements within the design concept. Amenities within waterfront parks, greenways, and along the RiverWalk promenade give recreational opportunities to residents and users.

Objective

- Integrate activity components within the designed areas

The list of activity components is taken from the program discussed in chapter 5 and can be grouped into three categories: recreational amenities, safety features, and educational elements (Figure 6.64). These components are then incorporated into waterfront parks and greenway. Recreational amenities provide visitors with outdoor leisure activities. Safety features are important across all parts of the design because these features foster a safe environment for the public. Educational elements offer users a learning experience. Any chance to educate visitors about wetlands, native plant material, and the surrounding area is important to allow interaction between the user and the environment in which they live and play. The designed parks will be broken down to show where the amenities are located (Figure 6.65).



6.64: Program Matrix (by Author).

6.65: Park Location Diagram (by Author).

GABRIEL RICHARD PARK

The recreational amenities currently at Gabriel Richard Park are located along the waterfront. As stated in chapter 3, recreational amenities include plaza with tensile structure, RiverWalk Café, water feature, labyrinth, rest rooms, seating, and promenade. Safety features comprised of lighting in the plaza and along the pathways, signage, security cameras, and emergency call box. The only educational element within Gabriel Richard Park is a butterfly garden situated on either side of the plaza space

Several proposed additions to the park build upon what is already established (Figures 6.66, 6.67, and 6.68). An amphitheater, which local residents expressed interest in having, sits on axis with the tensile structure. The structure acts as backdrop for the viewing audience. Potential uses for the amphitheater are community meetings, school concerts, or public lectures. Athletic facilities include a soccer/football field, basketball and tennis courts, and horseshoe pits. The basketball and tennis courts double as an ice rink in the winter for hockey games or leisure use. Adjacent to the athletic fields sits a playground for children to play. It is centrally located for easy access from all parts of the park.

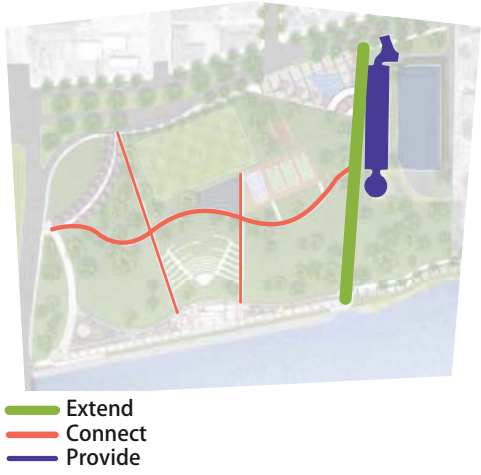
There are two open green spaces on either side of the amphitheater that act as a buffer between athletic uses and the promenade. The open space to the east of the pedestrian spine will be a off leash dog area.

Safety features within Gabriel Richard Park include lighting, multiple pathway options, security call boxes, and way finding signage. Two proposed educational elements are the reuse of the old armory building and a bio-swale capturing run-off from the parking lot. A proposed reuse of the armory would be either a museum or community center for the Villages.

6.66: Design Concept Application Diagram for Gabriel Richard Park (by Author).

6.67: Gabriel Richard Park Location Diagram (by Author).

6.68: Gabriel Richard Park Detail Plan with labeled amenities (by Author).



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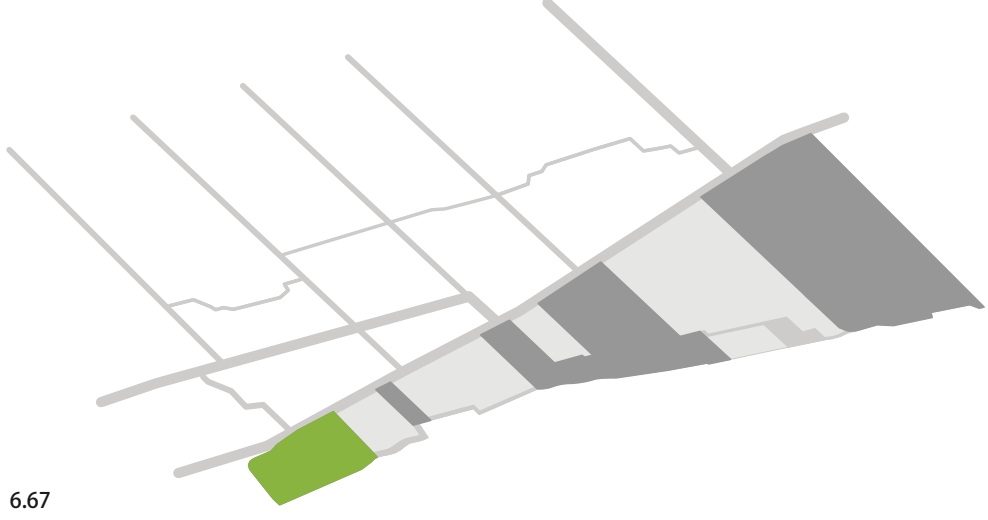


6.67

East Jefferson Ave.
Parking
Horseshoe Pits
Soccer/ Football Field
Museum/ Community Center
Bio-Swale
Playground
Basketball and Tennis Courts (Ice Rink in Winter)
Amphitheater
Pedestrian Spine
Open Space
Dog Area
RiverWalk
Open Space
Existing Labyrinth
Existing Butterfly Garden
Existing Plaza and RiverWalk
Existing Water Feature
DETROIT RIVER

6.68

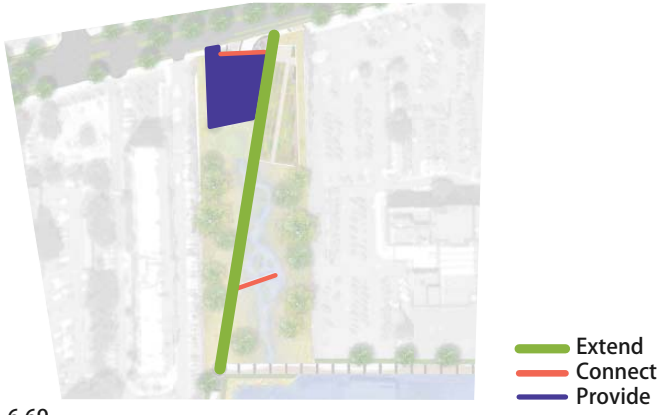
N NTS

PONCHARTRAIN PARK

The land is currently a vacant lot but the design proposes to convert it into a park for adjacent communities. The name of the park spawns from the first fort built by the French in 1701, Fort Ponchartrain du Detroit. The park contains mainly educational elements and safety features (Figures 6.69, 6.70, and 6.71).

The main educational amenity is a community garden, which have success in other parts of Detroit. Each plot is four feet by eight feet. The community garden also features a small entry court, storage shed, and compost bins. Residents are able to grow their own food as well as teaching youth about growing plants.

A bio-swale and a wetland area are geared toward managing water and educating visitors about the water process using signage. Each element is anchored by the pedestrian spine. Lighting throughout the park provides safety. Fencing around the community garden ensures the safety of the residents' plot.



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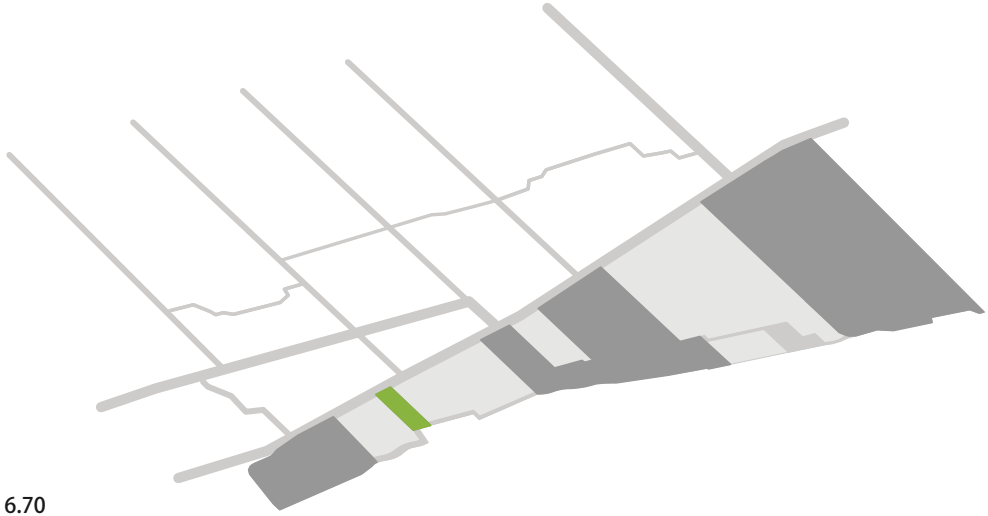


6.70

6.69: Design Concept Application Diagram for Ponchartrain Park (by Author).

6.70: Ponchartrain Park Location Diagram (by Author).

6.71: Ponchartrain Park Detail Plan with labeled amenities (by Author).

East Jefferson Ave.
Community Garden
Parking
Bio-Swale
Pedestrian Spine
GOLD COAST
UAW
Wetland
RiverWalk
DETROIT RIVER

6.71

N NTS

OWEN / HENDERSON PARK

With the largest proposed area to be implemented, Owen and Henderson Park offer several activity components throughout. Owen Park is comprised of more passive activities and feature many educational elements. On the other hand, Henderson Park is active with recreational amenities (Figures 6.70, 6.71, and 6.72). The two parks join at Henderson Plaza creating the feel of one, large, waterfront park. Safety features spread across both parks with lighting, emergency call boxes, railings along the riverfront, and way finding signage.

Owen Park

As one first enters the entry space at Owen Park the first amenity is a community garden filled with a variety of colored and textured plants. Continuing down the pedestrian spine stands a building, which is the arboretum visitor center. The arboretum covers all of Owen and Henderson Park. The plants are labeled with signage to educate visitors about the vegetation that grows in the region. Adjacent to the visitor center are the arboretum gardens, consisting of smaller perennials and annuals.

Opposite the community garden and arboretum visitor center is the beginning of the wetland area. The wetland area winds its way to the water feature in Henderson Plaza and encompasses the rest of Owen Park. The wetland shows the natural process of cleaning storm water. A bio-swale next to the parking lot also feeds into the wetland area. The wetland relates to the demonstration wetland adjacent to Rivard Plaza, creating a connection between the two points of the RiverWalk. Smaller, intimate trails stroll through the wetland and let the user peacefully explore the park.

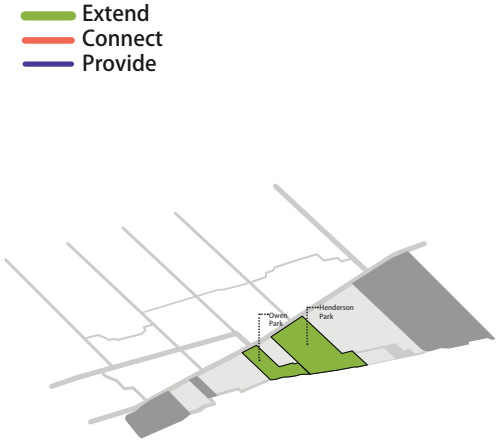
At the water's edge, visitors stop and read about the history of the area, Detroit River, and Belle Isle. As a terminus at the waterfront, fishing piers allow visitors to enjoy the views of Belle Isle and river or spend a Saturday fishing and taking in the fresh air.

Henderson Park

The activity of Henderson Park starts as soon as someone steps into the entry space. Children playing in the water feature or on the various landforms while parents' converse on a shaded bench. As the tensile structure in Henderson Plaza draws you into the park you enter the "Ripple Field", a rolling landform art piece. The pedestrian spine leads you to the athletic amenities where elderly men play horseshoes or youth soccer matches are taking place. Children play on the playground equipment while teenagers compete in a pick-up game of basketball or perfect their serve on the tennis courts.

On the opposite side of the athletic facilities lies an open green space that stretches to the riverfront. This space can be programmed to hold large events or simply a group throwing a Frisbee around. The open space offers a view to the river even from the middle of the park. One ends their jaunt at Henderson Plaza, RiverWalk, and the Detroit River.

6.72: Design Concept Application Diagram for Owen and Henderson Park (by Author).



6.73: Owen Park and Henderson Park Location Diagram (by Author).

6.74: Owen Park and Henderson Park Detail Plan with labeled amenities (by Author).

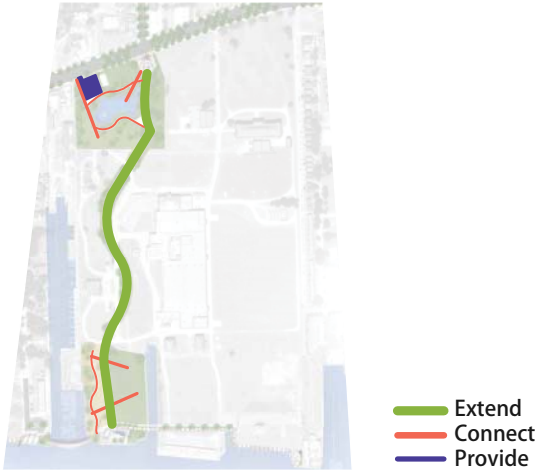
N NTS

WATER WORKS PARK

For anyone who enters Water Works Park, the historic, picturesque character is present. Once a large leisurely park, Water Works will partially be re-opened to the public. Historically, visitors could wander on all parts of the property. Currently, the park is closed to the public because of security issues with the water treatment facility.

Passing through the gateway, transports visitors back to place with a pond and soft winding pathways (Figures 6.75, 6.76, and 6.77). Pedestrians will learn about the historic past of the park through signage and photos. They will find that the pond is located in approximately the same position as it was before it was filled in or the point and path directly south of the Hurlbut Memorial Gateway is where the Stand Pipe Tower rose up for people to take in the views of the city, Canada, and waterfront.

Access to the waterfront will be provided by the pedestrian spine buffered from the water treatment facility by vegetation and fence line with gates where appropriate. The pathway ends at Water Works Plaza adjacent to a open green space.



6.75

6.76

6.75: Design Concept Application Diagram for Water Works Park (by Author).

6.76: Water Works Park Location Diagram (by Author).

6.77: Water Works Park Detail Plan with labeled amenities (by Author).

East Village
East Jefferson Ave.
Parking
Pond
Stand Pipe
Tower Location
Buffered Corridor
Pedestrian Spine
Water Treatment
Facility
Berry
Subdivision
Open Green Space
Native Vegetation
RiverWalk
Pedestrian Bridge
DETROIT RIVER

6.77

N NTS

07

REFLECT

INTRODUCTION

The Detroit RiverWalk master's report and project has allowed me to apply the knowledge I have learned during the past five years at Kansas State University. The Detroit RiverWalk topic was a learning experience on its own with endless possibilities. Diving into literature and finding out information on waterfront development throughout history and applying those principles to this project strengthened my design process by grounding design in current literature.

Having personal experiences visiting and working with the firm responsible for designing phase one of the RiverWalk gave me a special connection to the city and residents there. Seeing how passionate they felt about topics relating to the waterfront kept me focused on creating a meaningful project that could inspire work to be done within the area.

I was able to expand on critical thinking and design process skills in order to build upon knowledge within the profession of landscape architecture.

CONCLUSIONS

The project offers one way to approach waterfront development: the addition of an existing waterfront to a residential neighborhood. Past projects and research have all focused on downtown or core districts within a city. The land use surrounding the Detroit East RiverWalk site is mostly residential away from downtown Detroit.

Based on the framework goals of Extend, Connect, and Provide, which were grounded in waterfront development literature, the project was able to develop into a cohesive design through the application of analysis and design concept. The goals synthesized research on past waterfront project principles into an approach to address site specific problems.

The design can be constructed in phases over time. The alignment of the RiverWalk is most important and would be phase one. Also, included in phase one would be the Bank stability because it is tied with the RiverWalk alignment. Phase two would incorporate the plaza spaces along the promenade. The amenities and redesign of waterfront parks would be phase three since they would be the largest cost. Greenways would be implemented over time starting with the primary greenway streets, followed by secondary, and finally the off-road greenways.

The extension of the RiverWalk along the waterfront coupled with providing waterfront access to people, led to decisions of important design solutions. Existing waterfront parks were identified as the most suitable way to link pedestrians to the RiverWalk extension from their communities. Connecting the Villages, who have expressed interest in implementing this extension, to the waterfront with greenways, offers residents a way to reach the waterfront parks. The re-purposing of vacant land to create a localized greenway network between each neighborhood gives residents of the Villages opportunity to interact with each other. Lastly, providing amenities that attract users to use the spaces, protect visitors through safety features, and educate people on the environment in which they live encouraged use of parks and RiverWalk.

The project informs other cities to study their developed waterfronts and the communities that lie just outside. The cities could try to link those commuities to the developed waterfront by the creation of greenways and extending the developed waterfront.

LIMITATIONS

Several obstacles were placed in front of progress to this master's report and project. The first obstacle was relating research that focused on downtown and community cores to a site specific, residential waterfront development. No or little research has been done on waterfronts adjacent to medium to low density residential neighborhoods which would apply to the Detroit East RiverWalk.

The size of the site for the project also posed a struggle. One strength of mine is to dive into the site details of a design. I learned to start broad, with concepts that gave me the framework for organization of all the parts and pieces. Then I could slowly work inward into more detail, playing to my design forte. I broke off the detailed areas into manageable chunks to which I could focus my design, while keeping the overall design concept in mind.

A major limitation to the design process for this report was the distance between myself and the site in Detroit. I was not able to have a participatory design process with residents within the communities. Instead I used information from meetings held by JJR as well as JJR's knowledge of the city, communities, and site.

FUTURE RESEARCH

Opportunities for future research have come to light through this project.

The first involves choosing amenities based on demographics. The second relates to Detroit's current and future economic state and in the future.

What amenities should be provided based on the demographics and culture within a certain area, city, or region? This question was posed in this master's report early on in the design process but was left unanswered due to the lack of literature. Comparing different metropolitan areas or different parts of a city to see which amenities people perferto have within a park would make the topic very interesting. A participatory design process where the community is involved to express their ideas would be ideal.

The last opportunity for research is how Detroit's economy now and in the future affects waterfront development within the city. Detroit has suffered a tremendous loss in economic value in the last couple of years. Would a waterfront development start to bring back prosperity? Or is the waterfront a luxury? The economics of the place play an important role in waterfront development and implementation of amenities along the shoreline.

Waterfront development projects have proven successful in the past, and with proper research, will continue to benefit cities and communities well into the future.

APPENDIX

LITERATURE REVIEW

Remaking the Urban Waterfront

The Urban Land Institute

The Urban Land Institute writes an informative book that covers a variety of topics on waterfront development which includes a thorough introductory on the history of waterfronts, the factors that led to the upsurge in development, as well as approaches and guiding principles to successful waterfront development.

Early cities were founded along major water routes due to shipping provided the only means of transporting people and goods (2). As economic activity increased, these small settlements evolved into major seaports which spurred growth in the surrounding region with the focal point being the waterfront (3). The invention of the railroad served as a double-edged sword for water transportation, goods could be shipped from the seaports to inland cities easier, cheaper, and faster than other forms of overland transportation (6). But, "cities that could not accommodate the railroad suffered" (6). Commercial and industrial areas that were once located along waterfronts relocated inland because of the railroad and the cities that once thrived "began to lose their connection to their waterfront, and the area was allowed to decline" (6). "The resurgence of waterfronts began more than 40 years ago, when waterfront areas became centers of intense redevelopment activity" (2).

Waterfronts became intensely developed because of several factors that ULI outlines. First is the amount of available land with the migration of cargo-handling factories away from downtown waterfronts (4). The second factor was the increased environmental regulation that led to enhancement in water quality, beautifying the waterfront (4). The historic preservation movement also played a role by the realization of people in the aesthetic quality of older, dilapidated architecture (4). Communities and citizens were involved in the redevelopment of waterfronts, which "reflects commitment to the city and to improving the quality of life (4). The urban revitalization movement brought residential areas back to downtown spawning an active nightlife that was once deserted (4). Lastly, the return of certain water uses such as ferries and the increase interest of small, recreational crafts attracted users to the waterfront, giving character to a development (4).

"Urban waterfronts are unrivaled in their potential for providing an exceptional or celebratory enterprise" (22). To take advantage of this potential this book offers useful approaches and principals of waterfront development. They can be categorized into three areas: Extend, Connect, and Provide.

Extend

- The city should be extended to the waterfront.
- Under used or obsolete urban waterfronts come alive when they become desirable places to live, not just to visit.
- Public increasingly desires and expects access to the water's edge. This usually requires overcoming historic barriers – physical, proprietary, and psychological.
- Improvements in infrastructure along shoreline should be designed to serve multiple purposes simultaneously.
- Waterfront buildings should be permeable to open views and public access.

Connect

- Multiple linkages to the waterfront should be created.
- Single purpose transportation systems should be redesigned to create multi-modal corridors at the water's edge.
- The influences of the waterfront should extend inland to establish greater amenity and value.
- Barriers to the waterfront need to be removed, but should not be replaced by new hindrances such as large, unattractive open spaces, and inward facing complexes.

Provide

- The transitional space between land and water should be designed with care and consideration, as a provocative environment that engages the land-bound urban dweller and provides a place to sit, view, and linger as well as a space to move through.

- Urban waterfronts bring forth the opposing, through reconcilable, human desires to preserve and to reinvent.

- The success and appeal of waterfront development is intrinsically tied to the interrelationship between landside and adjacent waterside uses – and to the environmental quality of both the water and the shore.

The New Waterfront: A Worldwide Success Story

Ann Breen and Dick Rigby

The primary emphasis in Ann Breen and Dick Rigby's book is giving a background on the causes of development along waterfronts than categorizing several case studies into typologies of waterfront development.

The causes of waterfront development are classified into five areas: economic, social, environmental, and preservation.

Economic (15)

- Massive deindustrialization of city centers as a result of changing technologies that cause ports to relocate away from traditional central sites.

- More waterfront lands were freed up for development by the deceased need for railroad holdings.

Social (16)

- Our culture today desires more open space for recreation and physical activities.

- The rise in the number of public festivals.

- There is an increase emphasis on shopping as entertainment, a fact that is reflected in many mixed-use waterfront projects.

Environmental (16)

- There is an emphasis on cleaning up bodies of water and water supplies.

- The demand for water cleanup is in the interest of health and to encourage new waterfront investment.

Preservation (16)

- Receiving interest is historic preservation and the adaptive reuse of heritage buildings.

- The public's desire to be near a body of water.

Each waterfront is unique to its surroundings, context, and location; but each waterfront development can be inserted into one of six categories. Though not all these categories pertain to the Detroit waterfront or the area in which this report is studying, there are a few that relate and can themselves be placed into the groups, extend, connect, and provide.

Extend

The recreational waterfront is a place where visitors can spend "leisure time on the water, whether fishing, swimming or quiet contemplation" (137). Efforts have been done in cities around the world to "add new waterfront parks, walkways, and promenades "to allow people to "walk or bike for miles along waterfronts" (137). The recreational waterfront gives public access to everyone without cutting off parts by private properties or businesses.

Connect

Residential waterfronts have created tension between private residences and public access when the "public's desire to be near the water clashes with the individual property owner's desire for privacy and security" (153). A project can be "thoughtfully planned and executed when private needs are incorporated with ample public access"

(153). The successful developments are those in which the space "along the water's edge is welcoming to visitors as well as to the immediate residential population" (153). There can be a balance between public accessibility to both parties and security for residences.

Provide

The cultural, educational, and environmental waterfront can "provide beautiful settings for religious architecture, memorials, public art, and grand cultural institutions" (89). Water cleanup has attracted "massive efforts and large sums of money to correct years of pollutive practices" (89). "Many environmental installations can educate the public, especially the young, about the world water supply and its influence on our lives" (89).

Waterfronts: Cities Reclaim their Edge

Ann Breen and Dick Rigby

This book, like others, offer a variety of general information on waterfront development including the history of waterfronts, the factors or causes that lead to development along waterways, and many case studies that the authors deem successful. The unique knowledge that this source conveys are the challenges to waterfront planning and design. I have organized these challenges by placing each into their respective categories: extend, connect, and provide. These challenges can become opportunities and goals for a waterfront project.

Extend

- Location and Timing
  - "Redevelopment occurs in phases" (23)
  - "As the city became more a more attractive investment market, it grew more demanding. This is particularly true with respect to public access." (23)
- Public Accessibility
  - "People love water and want to reach it and touch it" (24).
  - "Fully accessible waterfront should be the goal in all waterfront undertakings" (24).
  - "Physical access to and along water body, visual access down view corridors, sensitive siting and design in terms of height and bulk, and barrier-free settings" (24).
- Public Spaces
  - "Many waterfronts are choice sites for spectacular public gathering spaces" (27).
  - "One of the major attributes for public waterfront projects is that they become ideal, neutral territory for festivals and other community gatherings" (27).

Connect

- Public Accessibility
  - "There is an unfortunate tendency to block off with walls and gates the public's access to and along water bodies." (24)

Provide

- Education/Interpretation
  - "Public areas along waterfronts offer an unusual opportunity to educate people of all ages about social, maritime, cultural, and environmental heritage of an area." (27)
  - "Another area of opportunity lies in environmental education. Besides water itself, there is shoreline ecology and surrounding flora and fauna to discover" (27).
  - "Waterfronts are also logical, and dramatic, sites for public educational facilities, including museums (maritime, art, science, and other) as well as hall of fame and aquariums. Amphitheaters, outdoor auditoriums, major concert facilities, and other cultural venues enjoy waterfront locales" (27).

Complexity on the Urban Waterfront

Rinio Bruttomesso

In his article, Rinio Bruttomesso describes key ideas for urban waterfronts by analyzing successful cities. These ideas are: criteria pertaining to the factors of waterfront operation and important elements of waterfront redevelopment. I will again categorize each of these factors and elements into extend, connect, and provide to show the relationship between this project and current literature.

The Criteria pertaining to the factors of waterfront operation

Extend

- "The spaces, especially the open ones, with the purpose of joining traditional public spaces and those controlled by the private sector" (44).

Connect

- "A significant number of activities linked to previous and original uses" (44).
- "The introduction of a quota for residence and associated activities, so that the waterfront and its immediate surrounds do not become a district dedicated exclusively to the flow of occasional visitors" (44).
- "An outline of the routes that facilitate and develop interaction between the different activities rather than separating them" (44).

Provide

- "The plurality of functions assigned to the area, in relation to both its regeneration as well as relationship with the rest of the city" (43).
- "The multiple activities in the redeveloped zones" (43).
- "A careful arrangement of productive activities, compatible with the renewed context and capable of ensuring diversification..." (44).

Important elements of waterfront redevelopment

Extend

- "Opening up the waterfront to the public, through a process that may entail successive phases of appropriation of the border zones between city and water" (45).
- "Obstacles and impediments to circulation around the acquired area should be removed" (45).
- "The use of bridges, raised passageways or tunnels, renders access for pedestrians to the waterfront easier, safer and more pleasant" (45).
- "Appropriate work on the embankments thus becomes of great relevance, as it does for the routes along the watersides, the piers, the wharves..." (46).

Connect

- "Development of accessibility to the waterfront. Pedestrian access is essential, especially in relation to link routes with the city center and outlying zones" (45).
- "Limitations on vehicle traffic. Waterfronts have often become one of the city's main pedestrian zones. One consequence is that the presence of private vehicle traffic has been carefully studied so as to limit (pedestrian) access" (46).

Provide

- "Special viewpoints must be chosen for enjoyment of the urban landscape and even modest elements salvaged to testify the past" (46).

The article concludes by stating that existing, successful waterfronts should be treated as models to be imitated or reference points to be studied carefully. Successful waterfront precedents should not, however, be copied rather apply successful strategies to site specific features.

Introduction and overview: the greenway movement, uses and potentials of greenways

Julius Gy. Fabos

The article by Julius Fabos provides a great base for greenway literature. Julius breaks down greenways by categorizing the types of greenways,

then describing the potentials and uses of each typology.

There are three types of greenways categorized by Julius Fabos: Ecologically Significant Corridors, Recreational Greenways, and Heritage and Cultural Greenways. "Greenways of ecologically significant corridors and natural systems are located mostly along rivers, coastal areas and ridge lines to maintain biodiversity and to provide for wildlife migration and appropriate nature studies" (5). "Recreational greenways are networks of trails and water link land and water-based recreational sites and areas: trails and routes often have scenic quality as they pass through diverse and visually significant landscapes. The recreation focus may be on the urban or rural areas and the scale may be local, regional, national, or international" (5). Lastly, "greenways with historical heritage and cultural values attract tourists and provide recreational, educational, scenic and economic benefits" (5). The typology that best fits my focus are recreational greenways.

The article provides potentials and uses of each greenway type. Recreational greenways will be the only one discussed since it pertains best to this project. First use is "natural protection combined with recreational constitutes framework for greenways planning " (7). "The areas along rivers and streams are the most suitable for recreation uses" (7). Recreational greenways" can provide healthy environments in which one can restore a sense of well-being and explore and satisfy a range of active and passive recreation needs and desires" (8).

Greenways as a planning strategy

Jack Ahern

"Greenways are networks of land containing linear elements that are planned, designed and managed for multiple purposes including ecological, recreational, cultural, aesthetic, or other purposes compatible with the concept of sustainable land use" (134).

Greenway planning: developing a landscape ecological network approach

John Linehan, Meir Gross, John Finn

This source gives a great framework for the types of networks for greenway planning and development. They can be organized into two different patterns: Branching and Circuit.

- Branching Networks (184)
  - "Paul Revere" – "all nodes are visited once and there are no extraneous segments"
    - Segments directly connect from one node to the next
  - Hierarchical – "flow is directed through a centralized point of redistribution."
    - All nodes are connected by direct, terminal segments that stem from a single node.
  - Steiner Point – "all nodes are terminal and are served by only single links that converge on floating points."
    - A segment spine with terminal branches to each node.
    - Least cost to builder
- Circuit Networks (184)
  - Networks that are more complex take a form of closed loops.
  - "Traveling Salesman" – "minimal loop network."
  - Least Cost to User - "all nodes are connected to every other node"
  - Beckman Typology – "attempts to balance the cost to user and builder by incorporating loops that vary from all points."
    - A central closed loop system with direct, terminal segments connecting to each node.

Integrating public safety and use into planning urban greenways

Don T. Luymes, Ken Tamminga

The authors of this piece of literature offers two important ideas based on safety along greenway corridors. The ideas are safe community principles and design and management considerations. Safe community principles are "for planning and design of safer public places" (395).

- Visibility of others
  - "The ability to see one's surroundings clearly" (395).
  - "The ability to appraise and recognize strangers, and the ability to survey visually approach directions and ares in close proximity to one's position" (395).
- Visibility by Others
  - "People feel safer in cities when they are not isolated from contact with the larger urban realm" (395).
- Choice and Control
  - "Allow individual freedom of access and action in public space" (395).
- Environmental Awareness and Legibility
  - "To be able to see and understand the immediate environment" (395).
  - "Legibility is the clarity of the surroundings – how easy it is to understand and find one's way through a landscape without becoming confused or lost" (395).
- Solitude without Isolation
  - "Clear distinction between the positive experience of solitude and the negative experience of isolation" (396).

Design and management considerations given by the article are to improve safety of all users. "Issues of safety are intimately linked to the configuration and maintenance of greenway trails" (397). Design considerations include:

- Lighting (397)
  - "Where pathways are programmed for night use."
  - "Should be either be comprehensive and effective or not used at all, and it's absence clearly communicated."
- Signs and Maps (397)
  - "The awareness of where one is in relation to one's surroundings is an important component in feeling secure."
  - "Signs and maps must clearly communicate routes and destinations, where to go for assistance, and where key landmarks are in relation to the user's current location."
  - "Simple and clear, and positioned at strategic places such as trailheads and major intersections."
- Movement Options (399)
  - "A variety of entrances and exits should be provided to avoid entrapment places and to reduce the incidence of movement predictors."
- Self-policing (399)
  - "Communities may consider the option of organizing a group of residents who function as a 'greenway watch' team."
  - "This group could establish a presence to discourage criminal activity, provide assistance and directions and enhance users' perceptions of safety."
- Locating activity generators (399)
  - "People are more likely to use the greenway if they feel safe there, which in turn leads to enhanced feelings of security."
  - "Activities the draw people are perhaps more important than physical design in enhancing real and perceived safety from the threat of crime."

GLOSSARY OF TERMS

A

Amenity a feature that provides comfort, convenience, or pleasure (Webster Dictionary)

Aesthetic Views range of vision which contains beautiful scenery (Author)

Arboretum a facility where trees and shrubs are cultivated for exhibition, or pleasure (Webster Dictionary)

Arterial Street primary road right-of-ways within a municipality that convey high volumes of traffic and consist of multiple lanes (Author)

B

Bank Stabilization protecting and stabilizing banks of streams and rivers against scour and erosion (Pierce 2006)

Pedestrian Barrier any physical or psychological element that prohibits people from moving from one point to another (Author)

Bio-swale a designed landscape element that collects, infiltrates, cleans, and conveys storm water runoff (Author)

C

Collector Street a secondary road right-of-way the feeds traffic from local streets to arterial streets (Author)

Community Garden a piece of land gardened by a cooperative group of people living in the area (Webster Dictionary)

E

Educational Waterfront a development that can educate the public, especially the young, about the world water supply and its influence on our lives (Breen and Rigby 1996)

G

Greenway networks of land containing linear elements that are planned, designed and managed for multiple purposes including ecological, recreational, cultural, aesthetic, or other purposes compatible with the concept of sustainable land use (Ahern 1996)

H

Harborline an arbitrary line set by the Coast Guard on water bodies which marks the extent to which structures may not be built (St. Joseph County, Michigan)

L

Local Street a road right-of-way that allows direct access to residential properties as well as feeds traffic onto collector streets (Author)

M

Minor Street a road right-of-way that connects local streets or branches off local streets and dead ends or forms a loop where traffic enters and exits on the same street (Author)

Multi-Modal Transportation the combination of two or more different modes of transport along a street or greenway (Author)

O

Off-Road Greenway a system of trails which are not located within a street right-of-way and foster non-vehicular pedestrian movement (Author, JJR)

P

Public Accessibility physical access to and along water body, visual access down view corridors, sensitive siting and design in terms of height and bulk, and barrier-free settings (Breen and Rigby 1994)

Primary Greenway arterial street corridors of higher speed and volume of traffic which has bike lanes, sidewalks, and crossings used for daily transportation (Author, JJR)

R

Rain Garden a planted depression that allows rainwater runoff from impervious urban areas like roofs, driveways, walkways, parking lots, and compacted lawn areas the opportunity to be absorbed (Author)

Recreational Waterfront a place in which visitors can spend leisure time on the water, whether fishing, swimming or quiet contemplation (Breen and Rigby 1996)

Residential Waterfront a development that is along the water's edge and welcoming to visitors as well as to the immediate residential population (Breen and Rigby 1996)

RiverWalk a continuous, public linear park with a pedestrian promenade, non-motorized recreation trail, major plazas and specialty features (JJR 2007)

S

Safety the prevention and protection from situations which could cause serious injury, harm, damage, or disasters to a person or persons (Author)

Secondary Greenway collector street corridors of light traffic which contain bike lanes and sidewalks for safe, residential transport (Author, JJR)

V

Vacant Properties a parcel that has no built structure or no person/entity owns and resides on the parcel (Author)

The Villages a collection of six individual neighborhood districts located within Detroit including the Berry Subdivision, East Village, Gold Coast, Indian Village, Islandview, and West Village (Author)

W

Walking Distance the distance in which it takes a pedestrian to walk certain distances and the average time it takes. 1/4 mile = 5 minutes, 1/2 mile = 10 minutes, 1 mile = 20 minutes (Author)

Waterfront land on the edge of a water body (Webster Dictionary)

Wetland a marsh created for anthropogenic discharge such as wastewater, or storm water runoff, and as habitat for wildlife, or for land reclamation (Author)

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CONCEPT

DESIGN CONCEPT

The design concept of juxtaposed transit corridors encapsulates the proposal for Detroit's East RiverWalk. Evolution of transportation networks along waterfronts have overlapped through time, forming an interlaced pattern of circulation and movement. The progression of transportation networks began with railroad lines, followed by roadways, and will be strengthened with pedestrian greenways. The design of the waterfront parks, including Gabriel Richard Park, Ponchartrain Park, Owen Park, Henderson Park, and Water Works Park, is crucial for pedestrians to access the riverfront and use of proposed amenities.

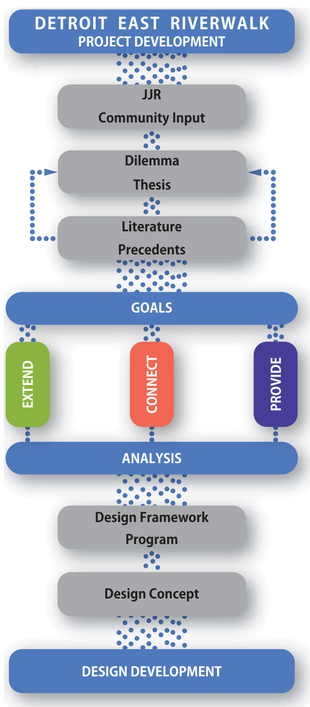
The pedestrian network is the primary form due to the expected use of the parks. This idea is represented as a pedestrian spine that anchors each park and links the entry spaces to the plazas and RiverWalk. The street network is crucial because the city is built upon a grid of streets and highways. The street network dictates car entrances to the parks. Each vehicular entrance terminates at a parking lot. The last network used along the waterfront is the railroad, a means to bring goods from one point to the next. Inspiration came from the notion of tracks being laid on ties that hold the tracks in place. The ties act as a structure, overlaid, linking the pedestrian network and the street network. The networks provide a framework to organize program elements and circulation.

GOALS & OBJECTIVES

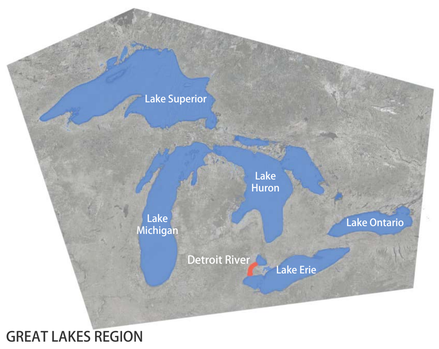
EXTEND
- Expand on current waterfront development along the Detroit River by applying contemporary design practices to extend to Detroit RIVERWALK.
- Create gateways for PEDESTRIAN ACCESS to the RiverWalk, parks, and recreational opportunities along the water's edge.
- Establish a system of recreational and cultural nodes which will function as DESTINATIONS for residents in the surrounding context to stimulate use of the waterfront.
- Develop a strategy to allocate safe, pedestrian enjoyment of the waterfront while still offering RIVER PROTECTION through trusted bank stabilization methods.

CONNECT
- Develop a network of primary GREENWAY routes to connect people and communities the waterfront and RiverWalk.
- Generate systems of secondary greenways that link primary networks and offer MULTI-MODAL transportation options to pedestrians.
- Create off-road linkages between NEIGHBORHOODS that allows residents to access cultural nodes within their communities.
- Identify and apply BARRIER REMOVAL techniques that will increase pedestrian movement along the waterfront, in turn, boosting use.

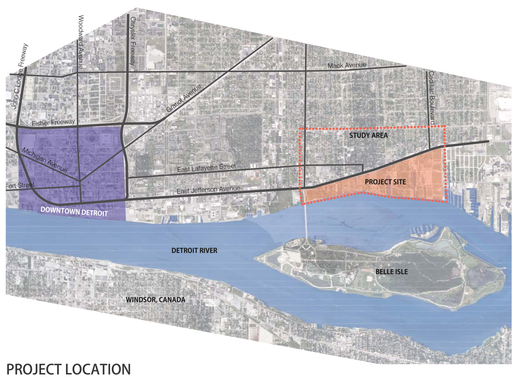
PROVIDE
- Locate key visual features within the surrounding environment to allocate important AESTHETIC VIEWS for users to value and treasure.
- Develop AMENITIES that will stimulate use and give visitors ample recreational opportunities to relax, exercise, and benefit from the waterfront.
- Protect users of the RiverWalk and greenways with appropriate SAFETY features.
- Create EDUCATIONAL elements and informative typologies that will teach users about different natural processes of water resources.



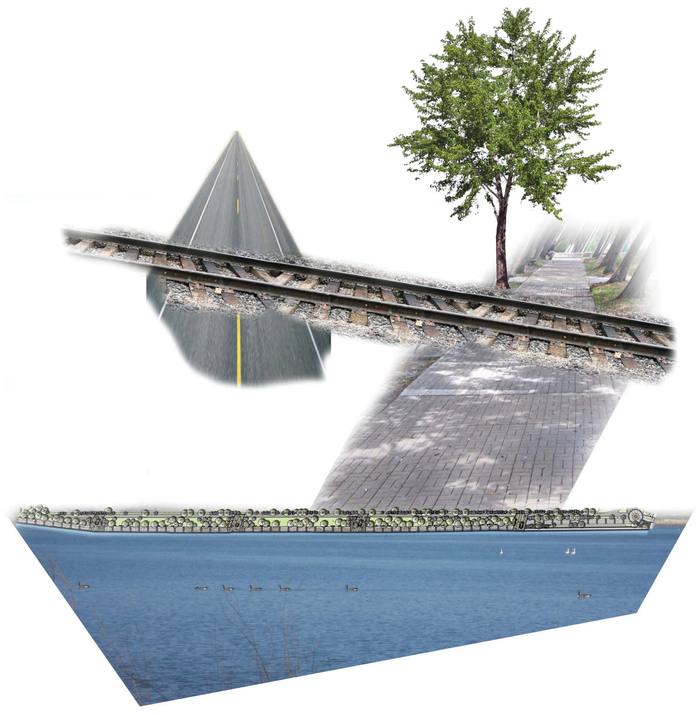
PROJECT DEVELOPMENT



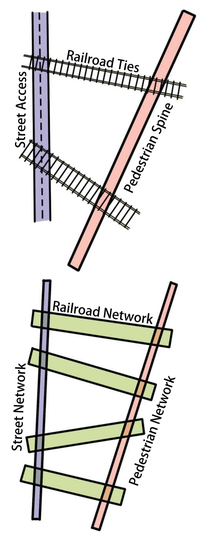
GREAT LAKES REGION



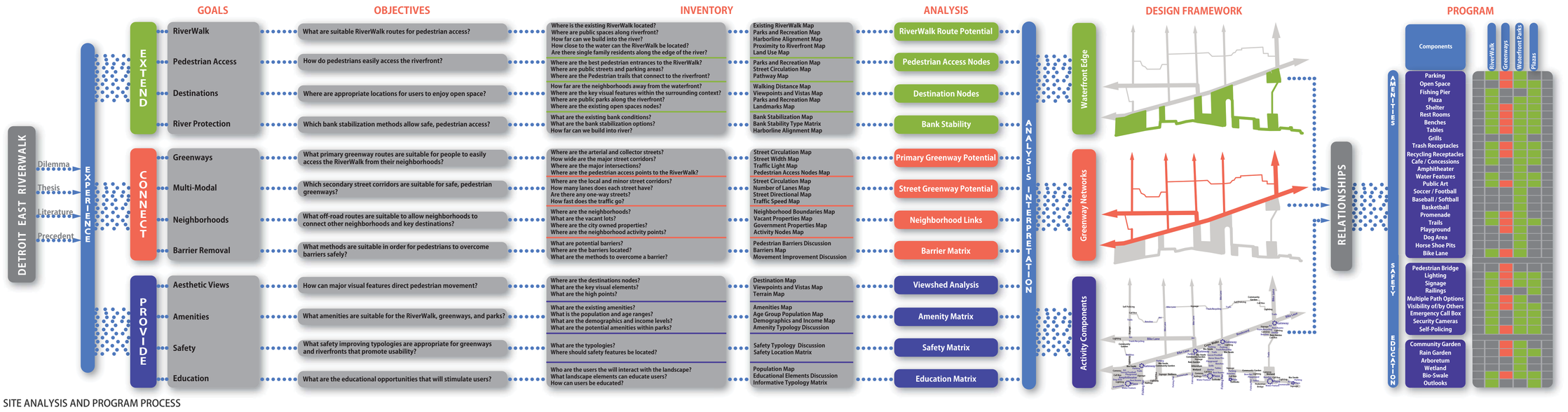
PROJECT LOCATION



DESIGN CONCEPT MONTAGE



CONCEPT IDEOGRAMS



SITE ANALYSIS AND PROGRAM PROCESS

THE DETROIT EAST RIVERWALK:

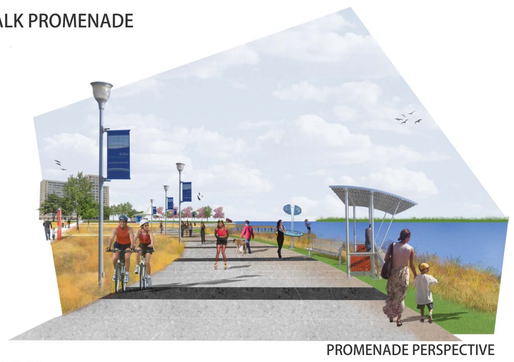
EXTEND • CONNECT • PROVIDE

MASTER PLAN

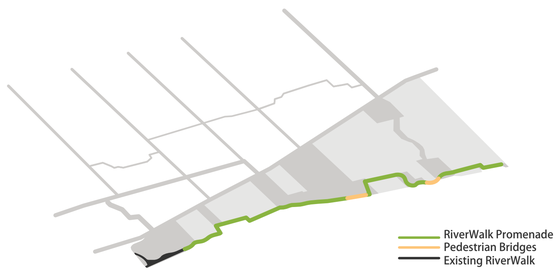
N 0 200 400 800 feet

EXTEND

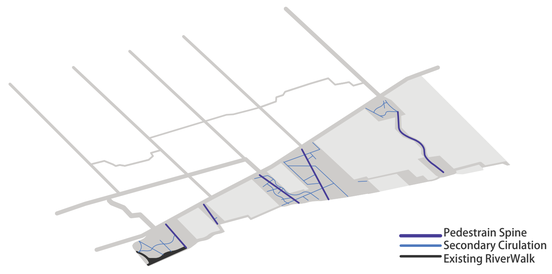
RIVERWALK PROMENADE



PROMENADE PERSPECTIVE



PROPOSED PROMENADE ROUTE



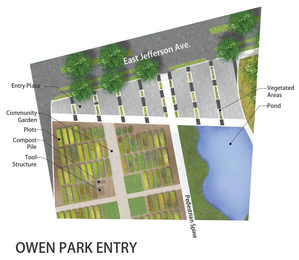
SECONDARY CIRCULATION ROUTES

ENTRY NODES

HENDERSON PARK ENTRY PERSPECTIVE

GABRIEL RICHARD PARK ENTRY

PONCHARTRAIN PARK ENTRY



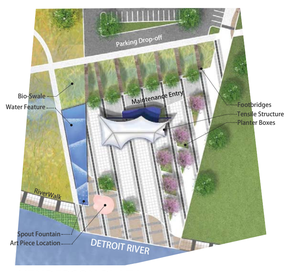
OWEN PARK ENTRY

HENDERSON PARK ENTRY

WATER WORKS PARK ENTRY

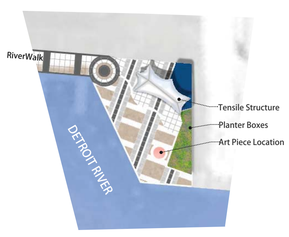
DESTINATION PLAZAS

HENDERSON PLAZA PERSPECTIVE



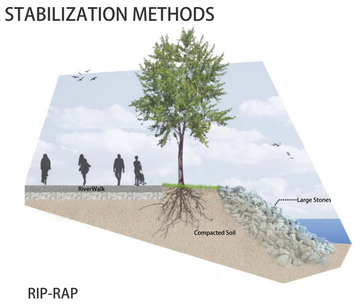
HENDERSON PLAZA

WATER WORKS PLAZA

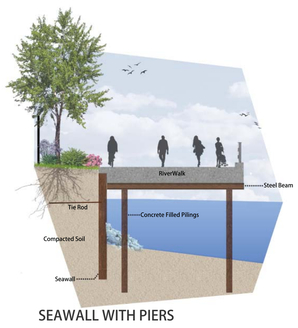


ROOSTERTAIL PLAZA

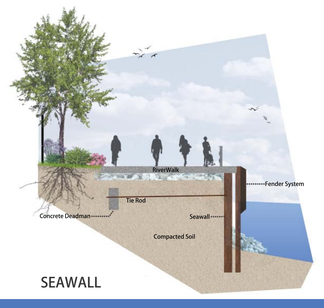
BANK STABILIZATION METHODS



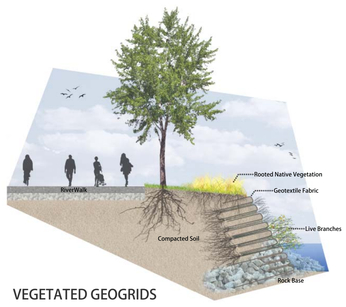
RIP-RAP



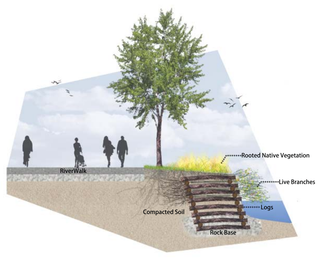
SEAWALL WITH PIERS



SEAWALL



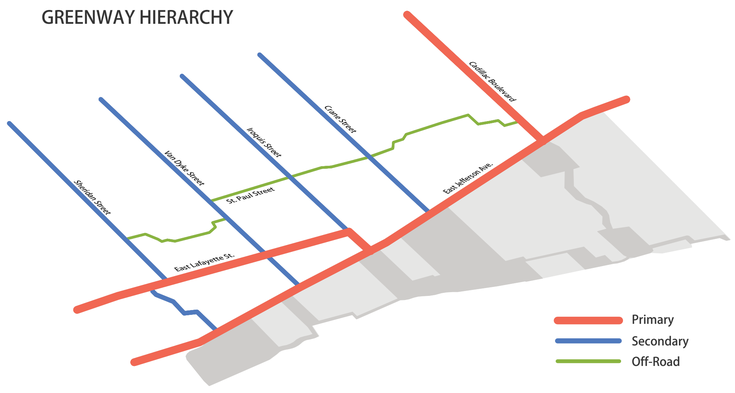
VEGETATED GEOGRIDS



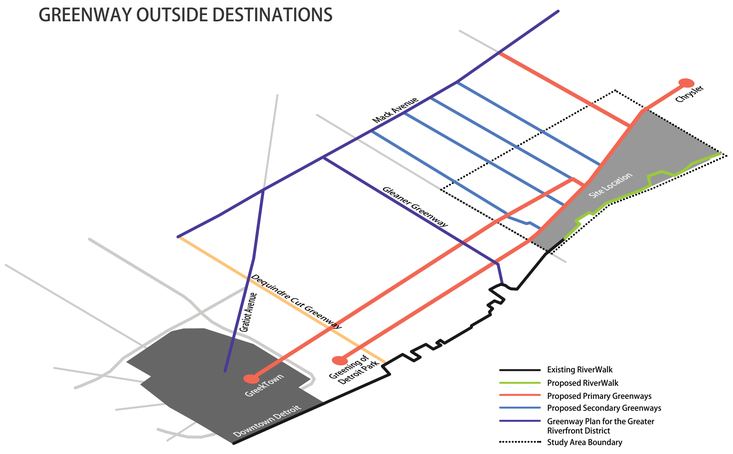
LIVE CRIBWALLS

CONNECT

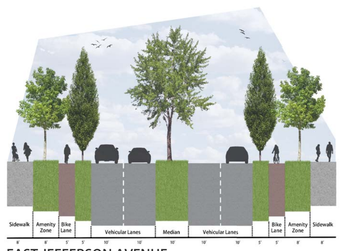
GREENWAY HIERARCHY



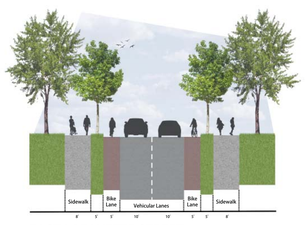
GREENWAY OUTSIDE DESTINATIONS



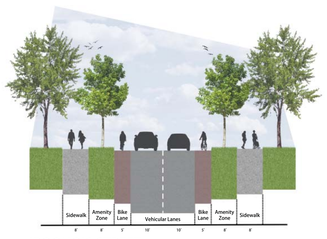
PRIMARY GREENWAYS



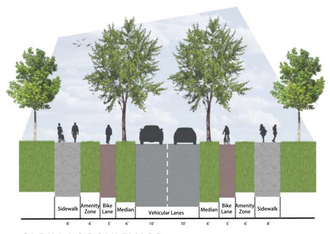
EAST JEFFERSON AVENUE



EAST LAFAYETTE STREET

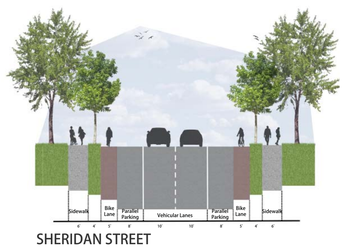


IROQUOIS STREET

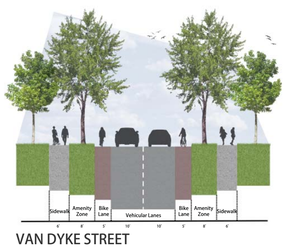


CADILLAC BOULEVARD

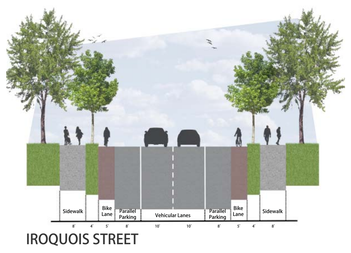
SECONDARY GREENWAYS



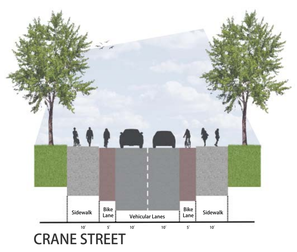
SHERIDAN STREET



VAN DYKE STREET

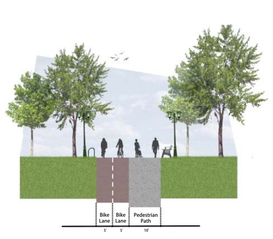


IROQUOIS STREET

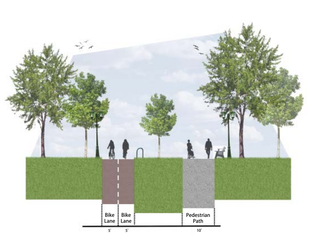


CRANE STREET

OFF-ROAD GREENWAYS



OFF-ROAD OPTION 1

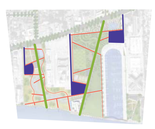


OFF-ROAD OPTION 2

ST. PAUL STREET CONNECTION

PROVIDE

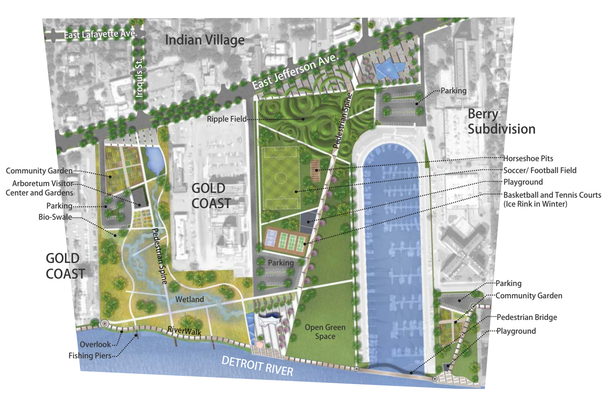
DESIGN CONCEPT APPLICATION DIAGRAMS



DETAIL WATERFRONT PARK PLANS

GABRIEL RICHARD PARK

PONCHARTRAIN PARK



OWEN AND HENDERSON PARK

WATER WORKS PARK