



MILWAUKEE

comprehensive Plan

DEPARTMENT OF CITY DEVELOPMENT • DECEMBER 2017

HARBOR DISTRICT

WATER AND LAND USE PLAN

*Cover photo by Will Archer of Will Archer Photography
Harbor Fest attendees wait along the water's edge at the east end of Greenfield Avenue for the Milwaukee Boat Parade to arrive.*

Harbor District Water and Land Use Plan

December 2017



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A MESSAGE FROM MAYOR TOM BARRETT

In 2012, a group of committed Milwaukeans came together at my invitation to serve as Milwaukee's Green Team and create a Sustainability Plan for our city. In drafting the ReFresh Milwaukee Sustainability Plan, the Green Team surveyed our city and identified a tremendous opportunity: the area then known as the Inner Harbor. They looked at portions of the waterfront in the heart of our city, and recognized that redevelopment could be catalytic for Milwaukee.

We have made good progress in five years. The owners of an abandoned, contaminated property – the largest in the area – are in the midst of preparing it for redevelopment. We are designing the restoration of a neglected wetland into a wildlife habitat and public space. New stores, restaurants, and apartments dot the area. A mural on a formerly dingy rail bridge proclaims the neighborhood's new identity: the Harbor District.

The Harbor District Water and Land Use Plan provides a structure to move forward. It recommends land uses, like all of the city's area plans, but also includes recommendations for the uses of the Harbor District's waters, because water is perhaps this area's greatest asset. The plan also affirms the importance of the City's commercial port. It goes on to recommend new parks and riverwalks, places for new jobs and new restaurants, and ways to keep our rivers clean and healthy.

The City of Milwaukee has a number of partners working with us to revitalize the area: a non-profit organization, Harbor District, Inc; the Harbor District Business Improvement District; the UWM School of Freshwater Sciences; and many corporate and community partners.

I hope this plan will inspire more people to get involved in restoration and redevelopment of the Harbor District, and work with us to create an amazing urban waterfront. All hands on deck!



Tom Barrett
Mayor



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HOW TO USE THIS PLAN

Chapters 1 through 3 of this plan describe the history and existing conditions of the Harbor District, the planning process, and the major findings identified during the planning process that informed the creation of plan recommendations (chapter 3). Chapters 4 through 6 list the plan recommendations beginning with District-wide recommendations organized by topic (chapter 4), then place-specific recommendations (chapter 5), and then projects that will have the greatest impact on the future of the District (chapter 6).

A few helpful hints are listed below to help you better use and understand this plan.

- If you only read recommendations in a District-wide section (chapter 4), keep in mind that there are place specific recommendations that may provide additional detail and description in the sub-district and corridor sections (chapter 5).
- Conversely, if you only read a sub-district and corridor section (chapter 5), there may be additional recommendations in the District-wide sections (chapter 4) that apply to that area.
- There are appendix materials that provide further detail and background on the information in chapters 1 through 3.

Sub-District or Catalytic Project Section Heading

The fonts and formatting here demonstrate how the plan is organized. When in doubt look for the chapter heading above or the section title on the bottom of the page. Bulleted lists with numbers are the plan recommendations.

Section Heading

Sub-section Heading

Sub-sub-section Heading

Plan Recommendations

1. Recommendations

Section Title

THE HARBOR DISTRICT TODAY

The modern history of the Harbor District is one of continual transformation. From its early days as a rice marsh to its shipping heyday in the 1850's to the industrial and post-industrial landscapes of today, the area has been shaped - literally and figuratively - by humans and economic activity. Typical of areas surrounding a port, the neighborhoods in and around the Harbor District have also seen waves of immigrants and changing populations, from the Kaszubes of Jones Island to the Hispanic and Hmong communities of today's near south side.

Land Use

Historic Land Use

Both the land and waterways comprising today's Harbor District were originally part of a vast marsh, stretching inland through the Menomonee Valley as far as Miller Park Baseball Stadium. The marsh, rich in fish, birds, and game of all sorts, was an attraction first to Native American communities and then to the fur trappers who traded with them.

Jones Island, today a peninsula, was once a marshy barrier island between the Milwaukee and Kinnickinnic Rivers and Lake Michigan. Prior to European immigration the Harbor District and surrounding areas were home to a number of Native

American villages that hunted, fished, and harvested wild rice from the wetlands that filled most of the estuary. The original mouth of the Harbor was located in the middle of present day Jones Island across from what today is the east end of Greenfield Avenue. In the 1850s a new harbor mouth was constructed in the current location and the original harbor mouth was allowed to fill in over time.

In the 1870s a fishing village was established on the west side of Jones Island by an ethnic group from northern Poland known as the Kaszubes. Around the same time a large steel mill was established on the southern end of Jones Island

next to the present day Bay View neighborhood.

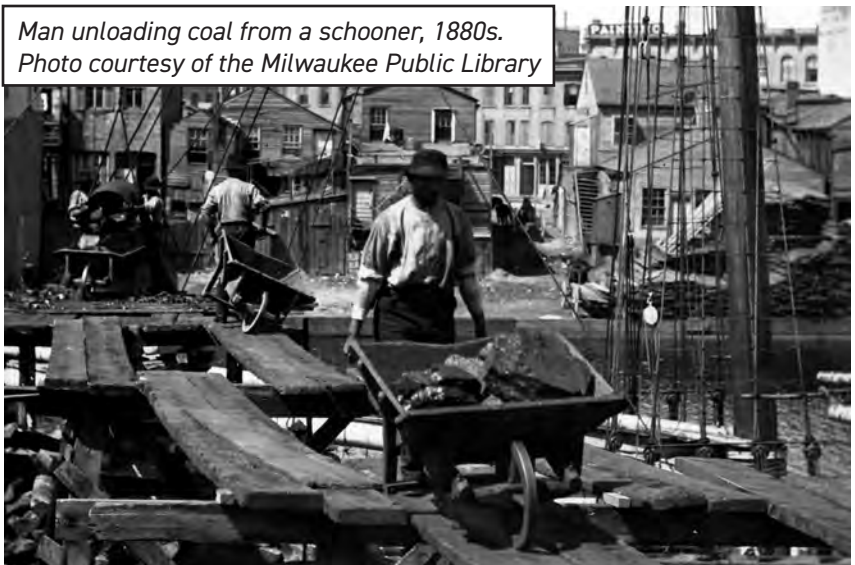
Starting in the mid-1800s the wetlands of the inner harbor were filled in to create land for a variety of factories and warehouses. In the mid and late-1800s and into the first decades of the 1900s, the Harbor District provided access to a number of rail lines, easy access to ships coming up the rivers and a large labor pool in the dense neighborhoods that sprouted up near the District. This mix of ingredients made the Harbor District a focal point of early industrial Milwaukee. The western Harbor District and the Walker's Point neighborhood were home to tanneries, breweries, steel mills

and many other industries that fueled Milwaukee's growth. Many of Milwaukee's most famous companies - including Harnischfeger, Allen-Bradley, Nordberg, and A.O. Smith - got their start in the area.

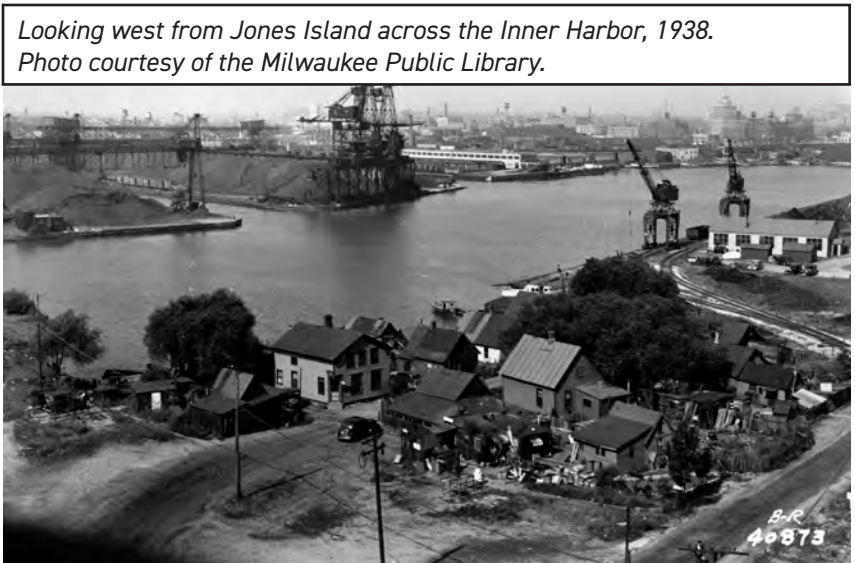
In the 1920s the City of Milwaukee began evicting the Kaszubes from Jones Island as the first sewage treatment facility was constructed on the north end of Jones Island. The marsh and lakebed around Jones Island were filled in over the subsequent decades and the mooring basin at the south end of the Harbor District was dredged out for additional winter ship docking. The added land on Jones Island gave the Port of Milwaukee more capacity for shipping in anticipation of the opening of the St. Lawrence Seaway in 1959, which made Milwaukee an international port.

Beginning in the 1960s, Milwaukee began to see a drop in industrial production. As the Harbor District was built to serve industrial Milwaukee, deindustrialization had an impact on the land uses in area. Properties transitioned to warehousing and storage as factories closed or moved. Fewer rail lines were needed as transportation shifted towards trucks. In the 1980s and 1990s more and more properties became vacant and abandoned.

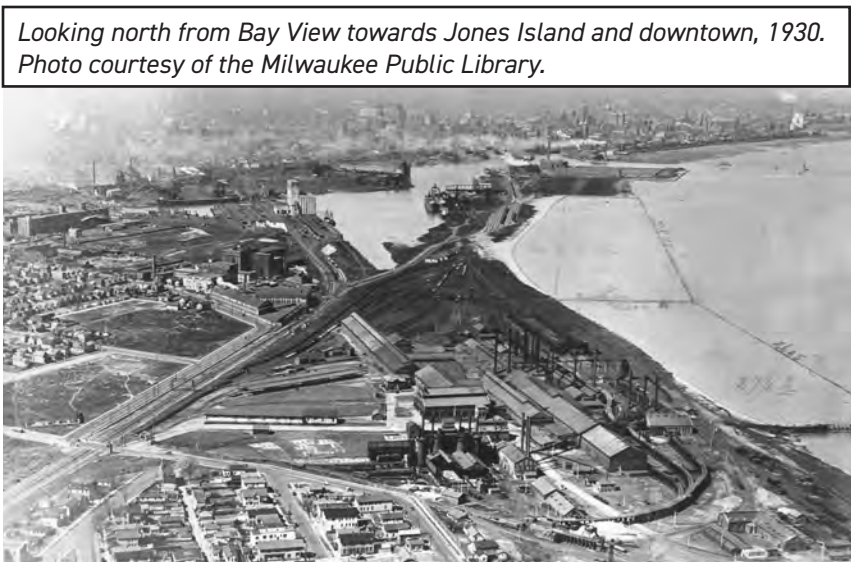
*Man unloading coal from a schooner, 1880s.
Photo courtesy of the Milwaukee Public Library*



*Looking west from Jones Island across the Inner Harbor, 1938.
Photo courtesy of the Milwaukee Public Library.*



*Looking north from Bay View towards Jones Island and downtown, 1930.
Photo courtesy of the Milwaukee Public Library.*

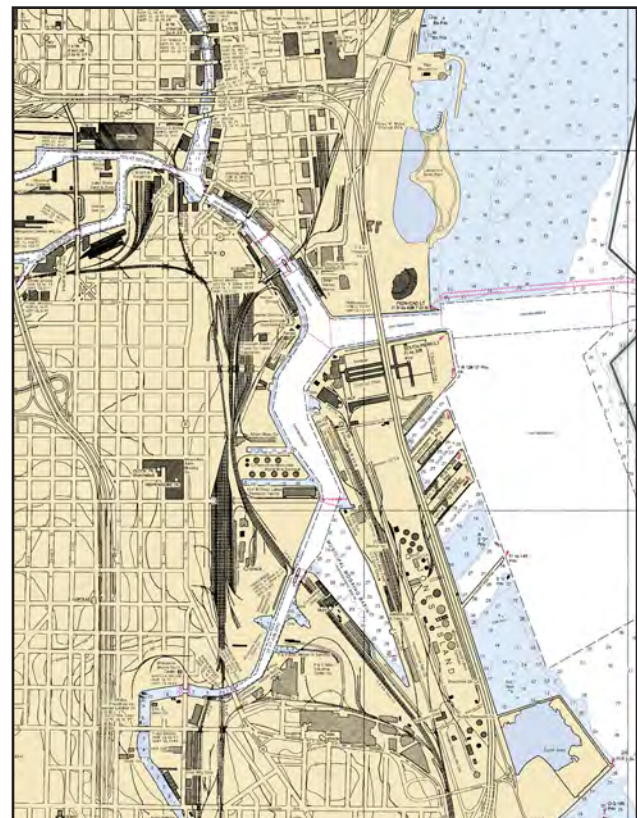




Top left: 1836 map of Milwaukee by Jas. S. Buck and Dr. E. Chase (courtesy of the American Geographical Society Library Collection)

Top right: 1883 map of Milwaukee by Alfred G. Wright (courtesy of the American Geographical Society Library Collection)

Bottom right: 1984 map of the Milwaukee Harbor by the National Oceanic and Atmospheric Administration



Current Land Use

Detailed descriptions of land uses in each sub-district can be found in chapter 5: Sub-Districts and Corridors.

The Harbor District is approximately 888 acres (excluding street right-of-ways) with nearly half of that land in public ownership. The largest single land use is classified as “transportation and utilities” and takes up approximately 46% of the total area. Industrial and vacant properties are the next most common land uses with the remainder described in the chart below. The taxable value of land and improvements of all non-tax exempt properties in the Harbor District averages \$9.16 per square foot, compared to \$5.14 for the City of Milwaukee as a whole.

At the center of the Harbor District is Jones Island, a peninsula extending north from Bay View that separates the inner harbor from the outer harbor. As Jones Island is mostly filled lakebed it falls under the State of Wisconsin’s Public Trust Doctrine, which states that the land must be used for public purposes. The peninsula is occupied by Milwaukee Metropolitan Sewerage District and Port Milwaukee.

Waterfront properties in the Harbor District are primarily used for manufacturing,

construction and warehousing; commercial; public utilities; or are vacant. No land along the waterfront in the Harbor District is currently in residential use and almost no land is used for public space (parks, recreational, etc.).

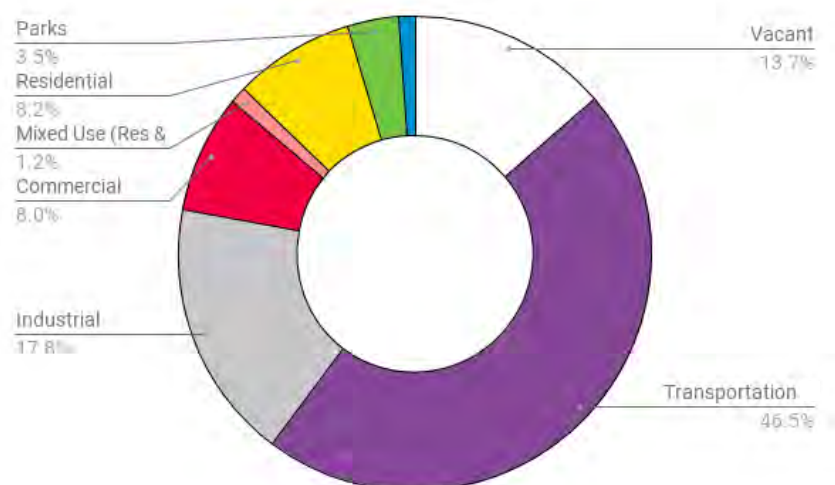
West of the elevated rail viaduct is the South First Street corridor, a true mix of uses with older industrial uses, and former industrial buildings now repurposed as offices and entertainment venues, clustered along the rail viaduct, transitioning to commercial, retail, and some apartments along South First.

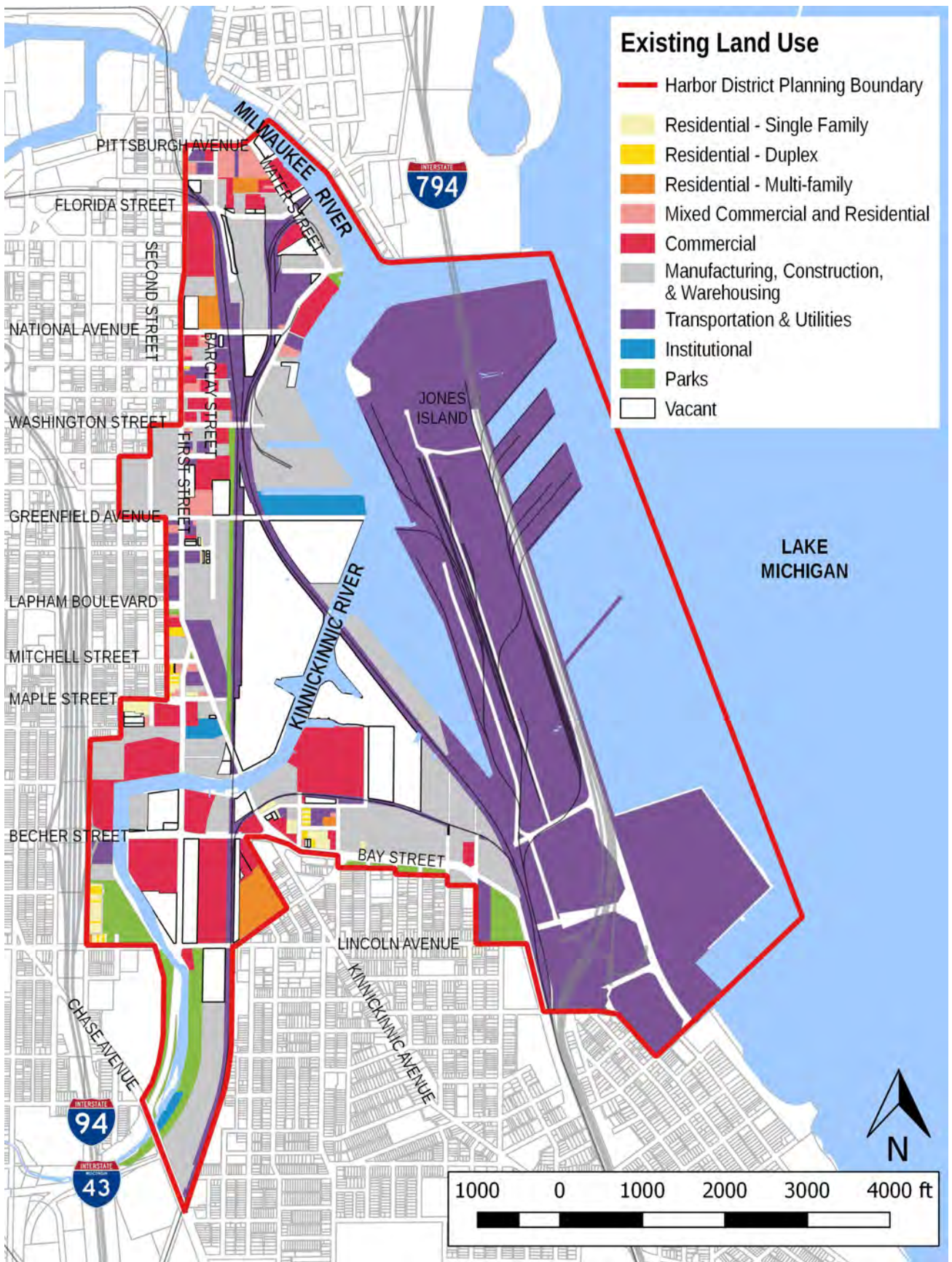
Moving south of the waterfront toward Bay Street, there are a number of manufacturing, construction and warehousing uses. South of Bay Street, the land use mix immediately changes to single-family and duplex residences with commercial and retail uses clustered along South

Kinnickinnic Avenue.

The area along the Kinnickinnic River is mostly manufacturing, construction and warehousing, with some commercial and a few marine-based business which rely on access to the Kinnickinnic River. South of Becher Street the land use on the west side of the Kinnickinnic River is mostly public green space.

Existing Land Use





Surrounding Neighborhoods and Uses

The Harbor District's central location in the City of Milwaukee and at the confluence of three rivers, the lake and a number of transportation corridors and networks gives it an outsize, if sometimes unseen, role in the commerce of the city. Conversely, as a place where many edges come together, activities and land uses in surrounding areas and neighborhoods have a substantial impact on the District. As the Harbor District is changing, the surrounding neighborhoods are also experiencing transition that may alter how they impact and interact with the Harbor District in the future.

Immediately north of the Harbor District is the Third Ward neighborhood. The Third Ward was traditionally a warehouse and manufacturing district that reinvented itself in the 1990s and 2000s as a mixed use district of apartments, condominiums, offices, and retail. Many historic buildings have been repurposed and new construction projects have filled in between. East of the Third Ward is the Henry Meier Festival Grounds that is home to Summerfest and a number of other festivals in the summer months. The area is a large traffic generator from

May through September, with weekend crowds filling streets in surrounding neighborhoods and reaching into the Harbor District.

North of the Third Ward and less than a mile from the Harbor District is Downtown Milwaukee. Downtown Milwaukee is the largest employment center in the region and home to most of Milwaukee's local government, civic and cultural institutions. Several interstate highways, many bus lines, and regional train service all meet downtown. Many employees commuting to downtown from the south side of Milwaukee pass through the Harbor District on their way to work.

West of the Harbor District are a collection of neighborhoods that fall under the broad title of the Near South Side. Overlapping with the Harbor District is the Walker's Point neighborhood, which consists of a mix of land uses ranging from manufacturing and warehouses to residential to office and retail. The western portion of Walker's Point includes the Walker Square neighborhood which is primarily single-family and duplex homes with commercial and retail uses clustered along major streets.

Other adjacent Near South Side neighborhoods are Historic Mitchell Street and Lincoln Village. Historic Mitchell

Street is a traditional retail and commercial district, home to many small businesses serving the various immigrant communities of the south side of Milwaukee. Lincoln Village is centered along Lincoln Avenue, also a traditional retail and commercial corridor. Between these commercial streets are dense neighborhoods of single-family homes and duplexes with Milwaukee's highest concentration of first-generation immigrants and native Spanish speakers.

South of the Harbor District lies the Bay View neighborhood. Bay View is made up of mostly single-family and duplex homes with commercial and retail uses clustered around a few main streets, most notably Kinnickinnic Avenue. Bay View's eastern edge along Lake Michigan is almost all public parkland. Bay View's western edge includes some industrial properties near the Kinnickinnic River and following the rail lines and Interstate 43/94 south.

Key Activity Generators and Anchors

The Harbor District has been at the center of Milwaukee's economy for more than 150 years and includes several important establishments, businesses and land uses and facilities with regional impact.

Port of Milwaukee - Port Milwaukee serves as a regional transportation and distribution center with a primary market that includes Wisconsin, northern and western Illinois (including the city of Chicago) and eastern Minnesota including Minneapolis/St. Paul. Port Milwaukee has sixteen berths for vessels, each capable of handling vessels with a seaway maximum draft and length of 1,000'. The Port is served by two class 1 railroads and has direct access to Interstate Highways 43, 94 and 794, positioning it well within the region's existing multimodal freight network. Its location also enables shippers to bypass the congestion and uncertainty of the Chicago area. The Port has approximately 178 acres of land on Jones Island. It operates the municipal Heavy Lift Dock, and leases out the remaining land for use in shipping, warehousing and industrial operations. The Port also has 39 acres on the western side of the Inner Harbor at the 401 East Greenfield Avenue property and the Grand Trunk sites that are available for lease.

A 2010 Economic Impact Study found 624 direct jobs at Port Milwaukee, and roughly 800 indirect or induced jobs. This reflects a decrease from a similar study conducted in 2000, which found 1,119 direct and 909 indirect jobs. Total tonnage shipped through the Port over the last decade has fluctuated around 2,000,000- 3,000,000 tons per year.

Rockwell Automation World Headquarters - Rockwell Automation's world headquarters are home to approximately 3,000 employees in a large campus that covers several blocks on the west side of the Harbor District. The Rockwell campus is a dominant feature of the Harbor District and Walker's Point. The majority of workers at this site are engineers, with the remainder being administrative professionals. Rockwell Automation has an interest in creating a neighborhood surrounding their facilities that helps them attract and retain employees.

Aerial view of Port Milwaukee



Rockwell Automation Clock Tower



University of Wisconsin-Milwaukee School of Freshwater Sciences

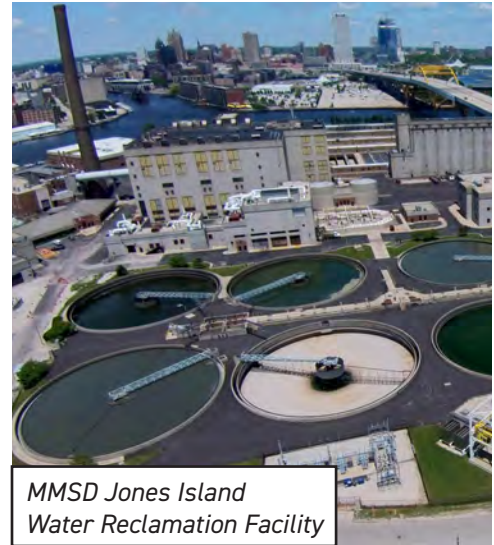


University of Wisconsin-Milwaukee School of

Freshwater Sciences - The UWM School of Freshwater Sciences (UWM SFS) is located at the east end of Greenfield Avenue in the center of the Harbor District. The building has been home to the Great Lakes Water Institute since the early 1970s and in 2009 UWM established the School of Freshwater Sciences, the only graduate program in the country dedicated to the study of freshwater. In 2014 the school completed a \$53 million addition to the building which has brought additional traffic to the building and area. Approximately 150 people work in the building on a daily basis with many guests visiting for programming and events. UWM SFS faculty and students are engaged in future planning for the Harbor District and hopes are that the University's large investment in the District will spur additional development nearby, potentially complementary development by water oriented companies and organizations.

MMSD Jones Island Water Reclamation Facility - The facility occupies approximately 71 acres on the northern end of Jones Island and is one of two water reclamation facilities operated by the Milwaukee Metropolitan Sewerage District. The facility was built in 1925 and is on the National Register of Historic Places and designated a National Historic Civil Engineering Landmark by the American Society of Civil Engineers. MMSD treats wastewater from 28 communities in the Milwaukee area and during the process produces a byproduct called Milorganite, a fertilizer that has been produced at this site since 1926. Strong odors from the treatment of sewage and production of milorganite are prevalent in the Harbor District and noticed by visitors. MMSD's facilities also have a number of utility lines (sewers, power, gas, etc.) that travel underground across the Harbor District and create challenges for development and construction in the area.

Lake Express Ferry Terminal - The Lake Express Ferry has been providing service for people, bicycles and automobiles between Milwaukee and Muskegon, Michigan since 2004. The vessel makes the trip one-way in 2 hours 30 minutes and can carry 248 passengers and 46 vehicles. The vessel makes three round trips per day in the summer and two round trips per day in spring and fall. The ferry leases space from the Port of Milwaukee on the far southeast corner of the Harbor District.



MMSD Jones Island
Water Reclamation Facility



Lake Express High Speed Ferry



US Coast Guard Sector Lake Michigan

US Coast Guard Station Milwaukee - The US Coast Guard Station Milwaukee serves as both the local station and as the head station for Sector Lake Michigan. The local station is responsible for marine law enforcement between Port Washington and Wind Point and halfway out into Lake Michigan. Sector Lake Michigan oversees 21 Coast Guard Stations across Lake Michigan.

Rail Viaduct - The western side of the Harbor District is traversed by a heavily trafficked rail viaduct that is raised above the surrounding landscape. The rail and property is owned and operated by Canadian Pacific Railway and provides Class 1 rail service. This rail corridor connects to the Port of Milwaukee via a spur just north of Bay Street on the south end of the Harbor District. Amtrak also uses this track, offering eight daily round trips between Milwaukee and Chicago.

The viaduct has seven bridges that cross over local streets in the Harbor District at varying heights. Most of the bridges are lower than the 13 feet 6 inches maximum allowable height for semi trucks in Wisconsin. These low bridges are an obstacle for many of the properties located east of the viaduct.

Kinnickinnic River Trail - The KK River Trail is a paved off-street bicycle and pedestrian path constructed in two sections in 2011 and 2012. The southern section begins outside the Harbor District at 6th and Rosedale and follows the Kinnickinnic River northeast to Lincoln Avenue just east of 1st Street. The northern section begins at Maple Street and Kinnickinnic Avenue and follows the Canadian Pacific Rail Viaduct due north to its terminus at Washington Street just east of Barclay Street.

Milwaukee County Boat Launch - The Milwaukee County Boat Launch is located at the intersection of South Water Street and East Bruce Street and is one of four public launches operated by Milwaukee County. The launch is the only location in 9 miles of waterfront within the Harbor District where the public can access the water directly.



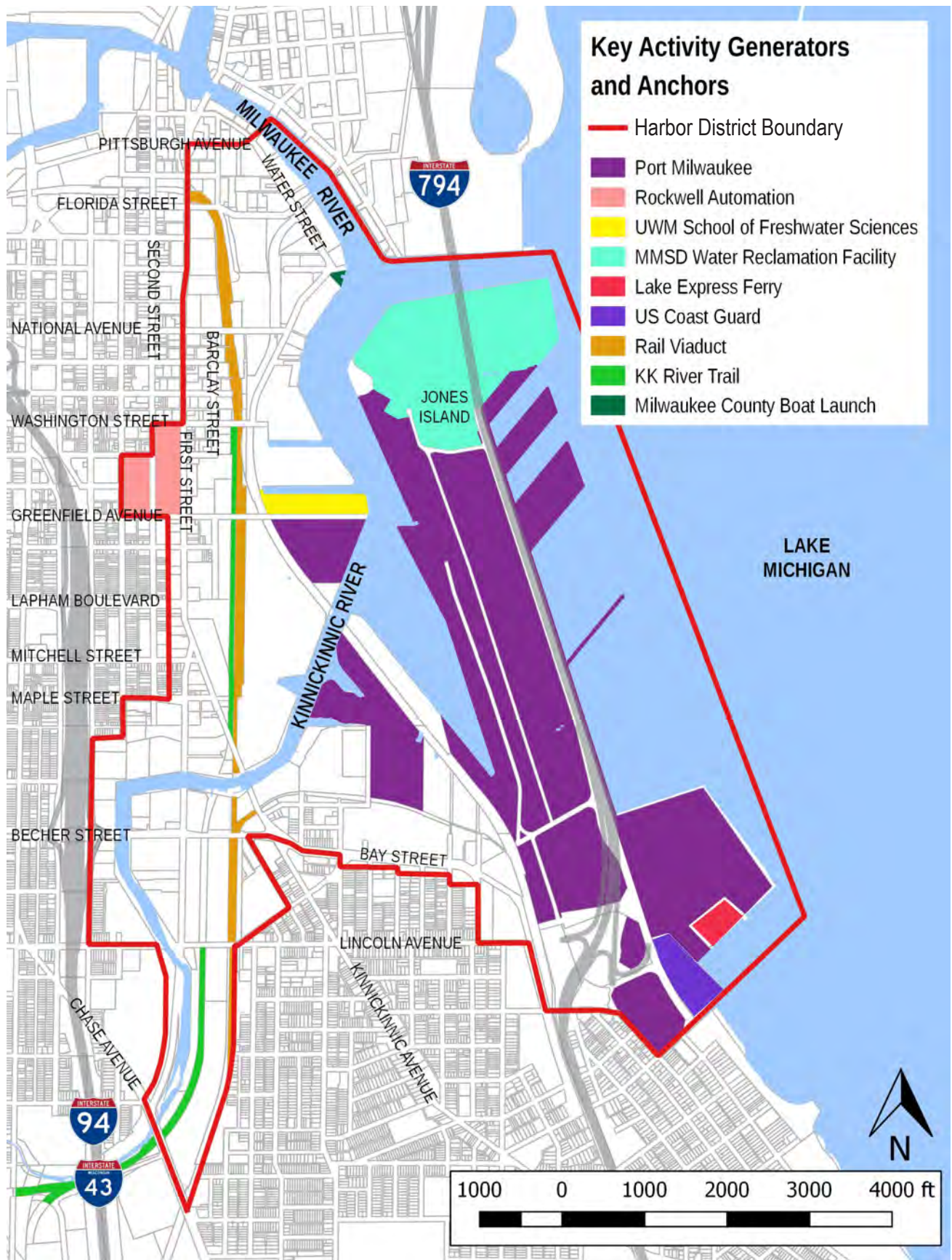
Canadian Pacific Rail Viaduct at Greenfield Avenue



Kinnickinnic River Trail near Maple Street

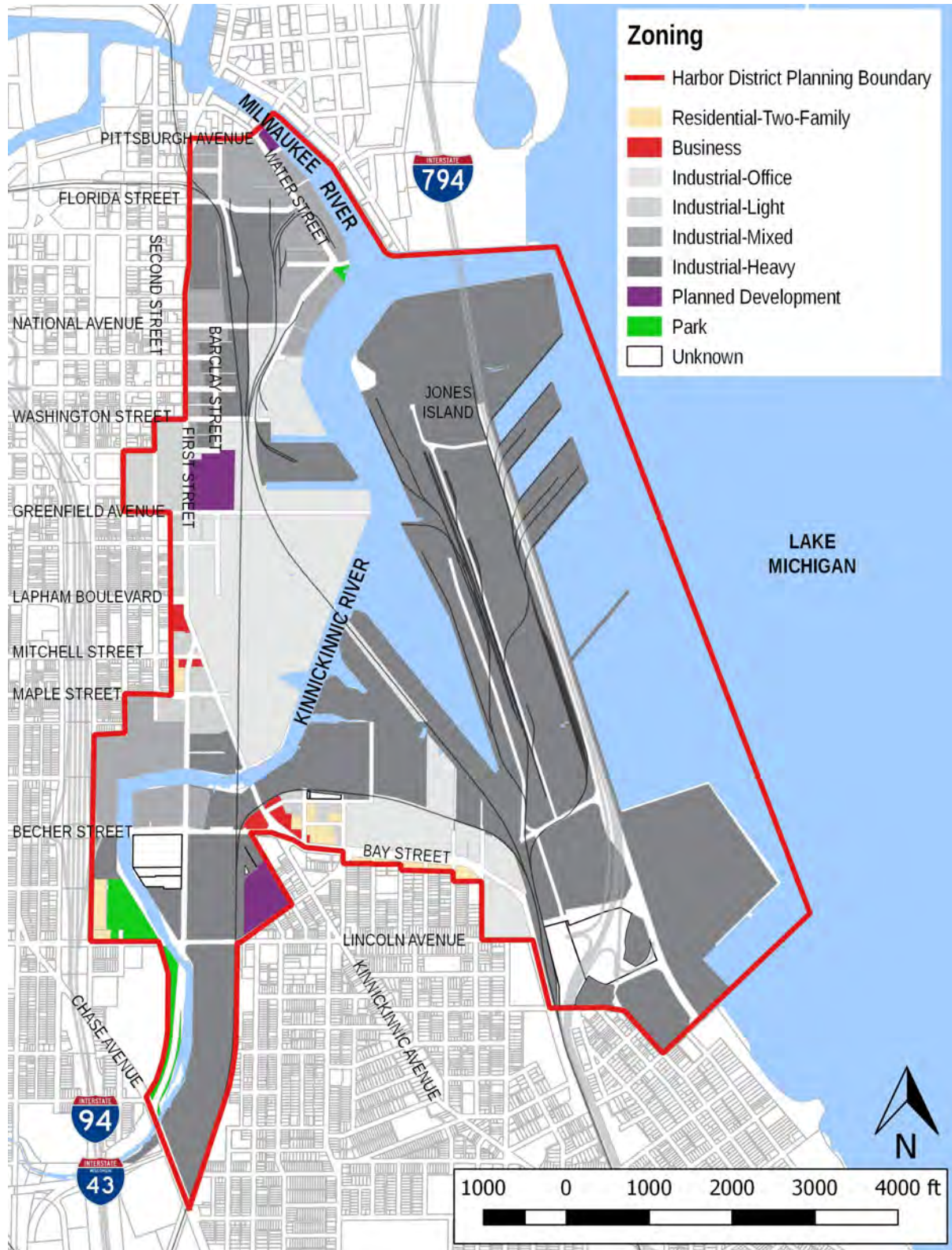


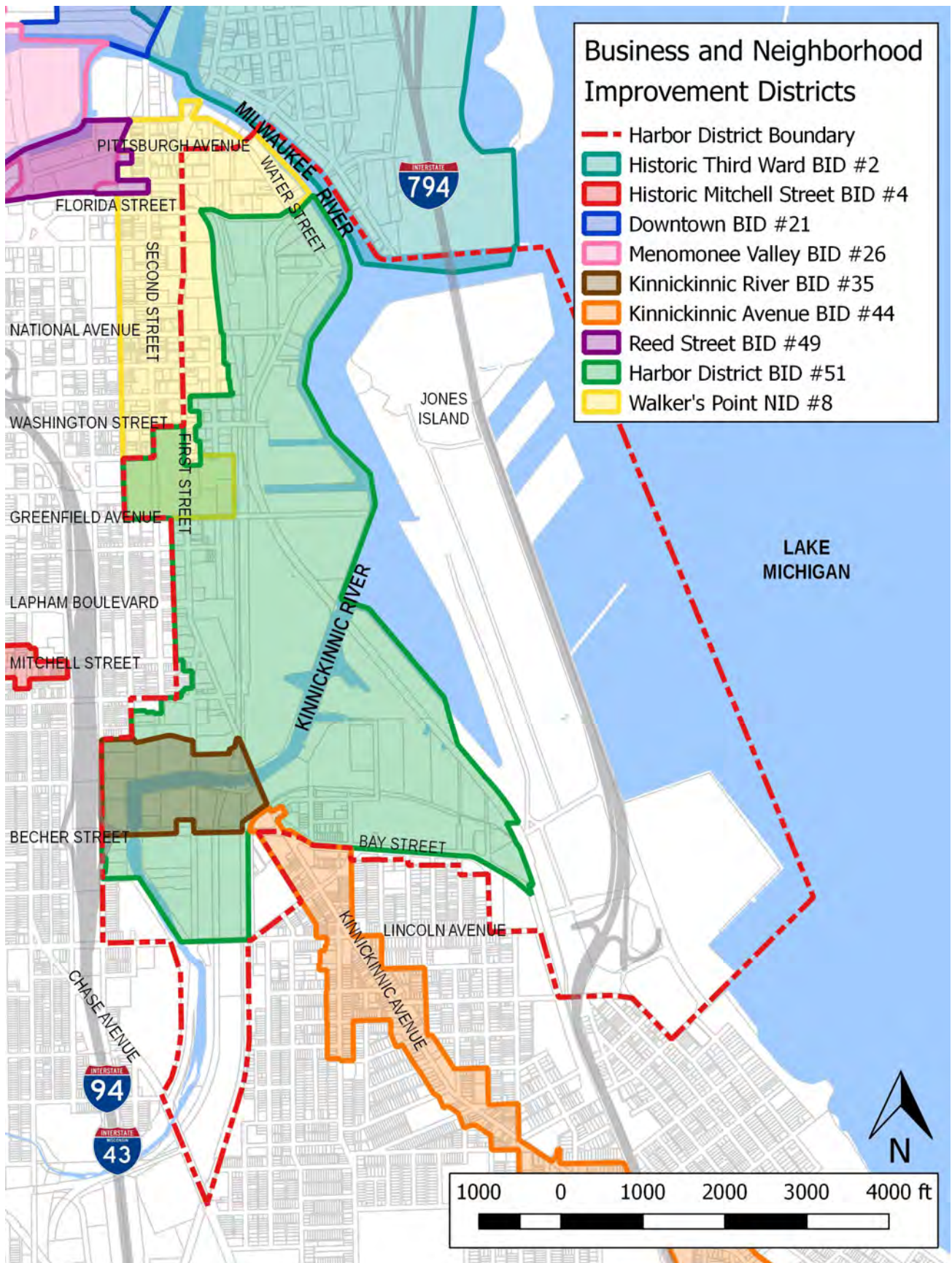
Milwaukee County Boat Launch



Zoning and Regulation

Current zoning largely reflects the area's industrial and shipping-related past. Certain areas have been rezoned in recent years to assist in gradual transition of older, multi-story warehouse and manufacturing buildings to residential and office uses.





Workforce

As of 2015, nearly 8,000 people were employed in the Harbor District, with nearly half of those jobs in industrial sectors, and an additional 7% in transportation and warehousing. Nineteen percent of the District’s jobs are in Healthcare and Social Assistance. Overall job density in the Harbor District is nine jobs per acre. Less than 11% of the workers in the District live in adjacent neighborhoods.

Workforce characteristics in the three zip codes directly surrounding the Harbor District (53202, 53204 and 53207) were analyzed to compare to the metropolitan area. The “Harbor District Zip Codes” map on page 25 shows the geographies. Each of these three zip codes represents unique neighborhoods within the city, and as such aggregating them together presents challenges. This area includes the Third Ward, East Town and the Lower East Side (53202), a largely white and wealthy area; Bay View and the south side (53207), which is slightly less affluent; and Walker’s Point and the near south side (53204), which is very diverse. However, by combining the data, a picture emerges of the overall demographics of the workforce directly available to businesses in the district.

The “Workforce Characteristics” table below and on page 25 highlight key characteristics of the adjacent labor force. Neighborhood characteristics that differ by 4% or greater from the metropolitan area are highlighted in red. Where available, certain values were compared to 2000 data to analyze trends in local labor force demographics. For these values, the change in value between 2000 and 2014 is noted in parentheses following the 2014 value.

Workforce Characteristics

	Neighborhood			City of Milwaukee	MSA
	53202	53204	53207		
Labor force	18,094	17,575	22,701	296,578	831,557
Unemployed	5% (0%)	16% (+3%)	7% (2%)	25,209 (8.5%)	69,448 (5%)
Occupation					
Management, business, science, arts	60% (+8%)	14% (+4%)	41% (-12%)	30%	38%
Service	19% (+6%)	32% (+7%)	18% (+3%)	24%	17%
Sales & Office	19% (-6%)	14% (-2%)	23% (-5%)	23%	25%
Natural resources, construction, maintenance	2% (-1%)	11% (+3%)	6% (-2%)	6%	6%
Production, transportation, material moving	5% (-1%)	30% (-11%)	12% (-7%)	17%	14%
Education (age 25 and over)					
Less than high school	5%	42%	9%	18%	10%
High school graduate	9%	30%	27%	30%	27%
Some college or associate's degree	20%	19%	29%	29%	30%
Bachelor's degree or higher	66%	9%	36%	29%	33%
Earnings in past 12 months (full-time workers)					
Under \$15,000	5%	18%	5%	7%	4%
\$15,000 to \$24,999	7%	33%	11%	18%	12%
\$25,000 to \$34,999	13%	22%	17%	21%	16%
\$35,000 to \$49,999	24%	14%	26%	23%	22%
\$50,000 to \$74,999	27%	10%	28%	21%	25%
\$75,000 or more	23%	4%	12%	10%	22%
Median earnings (2014 dollars)	\$39,772 (+\$5,428)	\$19,507 (-\$1,702)	\$36,936 (+\$425)	\$24,204	\$32,310

Differences of more than 4% from the metro area figures are in red; Changes in value from 2000 to 2014 are noted in parenthesis.

Workforce Characteristics (continued)

	Neighborhood			City of Milwaukee	MSA
	53202	53204	53207		
Age					
Under 18 years old	3%	35%	21%	27%	24%
18 to 64 years old	85%	60%	69%	64%	63%
65 years and older	12%	5%	10%	9%	13%
Median Age	30.4	27.6	36.1	30.8	37.2
Commute to work					
Car (alone or with others)	71%	81%	88%	82%	89%
Public transit, walked, biked, or work from home	28%	17%	11%	17%	11%
Households paying more than 30% of income in housing costs					
Those making under \$20,000	88%	93%	92%	92%	91%
Those making \$20,000 to \$49,999	47%	51%	52%	53%	53%
Those making \$50,000 to \$74,999	23%	10%	20%	18%	23%
Those making \$75,000 or more	7%	5%	2%	4%	6%

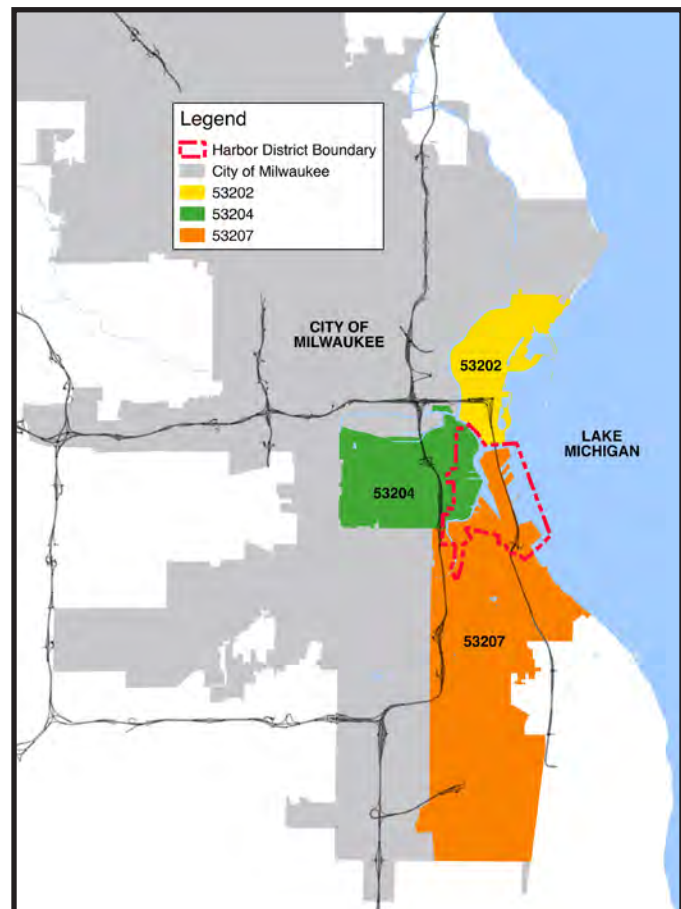
The workforce in the neighborhoods adjacent to the Harbor District is relatively younger, more likely to be unemployed, slightly lower earning, and with a higher proportion of workers lacking a high school diploma when compared to that of the four-county Milwaukee metropolitan statistical area,

Workers in the neighborhoods around the District are more likely to be employed in manufacturing or service jobs than are their peers across the region, but the local workforce's reliance on manufacturing jobs has decreased markedly since 2000. The lowest-earning segment of the workforce in the Harbor District is highly likely to spend more than 30% of its earnings on housing, similar to the comparable class of workers region-wide. This is a key measure of economic stress. Neighborhood workers commute to work by private vehicle at similar rates to workers throughout the region.

Over time, workforce characteristics in the adjacent zip codes have evolved. Salient changes include:

- Unemployment has risen in 53204 and 53207 between the years 2000 and 2014. Unemployment in 53204 remains considerably higher than in the city as a whole or in the other areas adjoining the Harbor District.

Harbor District Zip Codes



- The proportion of residents engaged in manufacturing work has dropped in all three zip codes. Workers in 53204 have seen the largest reduction, and the greatest increase in the proportion of resident workers employed in the service industries.
- Workers in 53204 have seen a reduction in inflation-adjusted earnings between 2000 and 2014. Workers in the other zip codes held level or increased. This reduction in earnings could be related to the shift from manufacturing to service work. Workers in 53204 earn substantially less than their peers in the city as a whole.
- 53202 and 53207 have become younger over the last 15 years, reflecting the relative attractiveness of those neighborhoods to the “millennial” generation. 53204 has aged somewhat in that period, but still remains the youngest zip code of the three, with a median age well below the city and regional medians.

Generally speaking, the workers in 53204 have lost economic ground since the 2000 census. High unemployment rates, low educational attainment and a shift to service employment from relatively higher paying manufacturing work have combined to drive earnings down in real dollars.

As is shown in the “City vs Metro Economic Characteristics” table below, the data for unemployment, household income and poverty all show a large divide between the metro area and the City of Milwaukee. Looking at the “City Economic Characteristics by Race/Ethnicity” table it is clear that a wider economic gap exists when comparing communities of color in the City of Milwaukee to white residents. These indicators of economic gaps between City and metro area and between various racial and ethnic groups are important to consider when thinking about future development in the Harbor District.

City vs. Metro Economic Characteristics

	City of Milwaukee	Milwaukee Metro
Unemployment Rate	13.1%	8.4%
Median Household Income	\$35,489	\$53,628
Families Below the Poverty Level	25.3%	11.5%

US Census Bureau; American Community Survey; 2010 - 2014 5-Year Estimates

City Economic Characteristics by Race/Ethnicity

	White	Hispanic / Latino	African - American
Unemployment Rate	8.1%	12.4%	20.9%
Median Household Income	\$45,591	\$31,910	\$26,067
Families Below the Poverty Level	13.1%	31.5%	37.1%

Figures are for the City of Milwaukee from the US Census Bureau; American Community Survey; 2010 - 2014 5-Year Estimates

Transportation, Access, and Circulation

Streets and Highways

The uniform urban street grid that typifies most of the City of Milwaukee is not prevalent in the Harbor District. On the western and southern edges of the District, where the Walker's Point and Bay View neighborhoods connect to the Harbor District, Milwaukee's street grid is largely intact with a hierarchy of smaller residential side streets and larger arterial streets. Upon entering the Harbor District, the large industrial properties, railroads, and waterways break up the street grid and provide limited access along small disconnected streets to the waterfront and Jones Island.

Traffic circulation east of the main railroad viaduct in the Harbor District is disjointed. The only north/south street east of the railroad viaduct is South Water Street, which does not connect south of Washington Street. Greenfield Avenue is a dead end at the waterfront, which means anyone wishing to travel from Greenfield Avenue to anywhere else in the district must travel back through First Street. Access to the Grand Trunk site via street is unclear with one street zig-zagging from Bay Street north towards the property and with several waterfront businesses relying on access via a privately owned



street.

First Street (State Highway 32) is a major north/south travel corridor connecting the Near South Side and Bay View with Downtown Milwaukee. Several major arterial streets and state highways terminate in the Harbor District including National Avenue (State Highway 59), Greenfield Avenue, Lapham Boulevard, Mitchell Street, and Becher/Bay Street.

The Harbor District has good access to several interstate highways. I-794 travels through the District over Jones Island and provides direct access to the Port of Milwaukee. Access to I-43/94 just a few blocks west of the District is available at Becher Street, Lapham Boulevard, and National Avenue. I-794 and the Hoan Bridge connect the south shore of Milwaukee to downtown Milwaukee and interstates 94 and 43. The interstate and bridge provide direct connection

to the Port of Milwaukee. The initial phase of construction for I-794, which included the Hoan Bridge and interstate to the south end of Jones Island, was completed in 1972 and opened to traffic in 1977. An extension known as the Lake Parkway was completed in 1999 and extended the interstate south to Bay View, St. Francis, Cudahy and General Mitchell International Airport.

Due to the prevalence of industrial properties, the Port of Milwaukee, and easy interstate access, there is a steady flow of truck traffic in the Harbor District. While semi-trucks from businesses in the District prefer to use the interstate on-ramps listed previously, semi-trucks from businesses east of the railroad viaduct and north of Washington Street travel north through the Third Ward to access the interstate due to bridge height restrictions in the Harbor District.



Freight

The many businesses located in the Harbor District rely on the movement of freight via truck, rail, and boat to get their products and materials in and out. The convergence of all these modes of shipping makes the Harbor District an attractive place for business.

In addition to the highway connections described previously, the Harbor District is also a hub of rail and commercial shipping traffic. Canadian Pacific, Union Pacific, and the City of Milwaukee all operate rail lines in the Harbor District. The Union Pacific and City of Milwaukee rail lines transport freight, while the Canadian Pacific rail lines transport freight as well as passengers via Amtrak service between Milwaukee and Chicago.

Commercial freight shipping is operated by a variety of companies that lease space from Port Milwaukee, as well as several privately owned waterfront parcels used for commercial shipping of grain, cement, asphalt, and other products. The Port is visited by ocean-going vessels, “lakers” that carry freight within the Great Lakes, and barges that travel the river systems, with Milwaukee as

their northernmost stop. Port Milwaukee is also able to provide over-size and over-weight shipping opportunities using existing highway connections and designated over-size over-weight trucking routes that connect

the Port to manufacturers around Milwaukee. Port Milwaukee previously offered transmodal shipping service and is exploring opportunities to return that service to Milwaukee.



Unloading salt from a laker on Jones Island



Freight train crossing a street on Jones Island

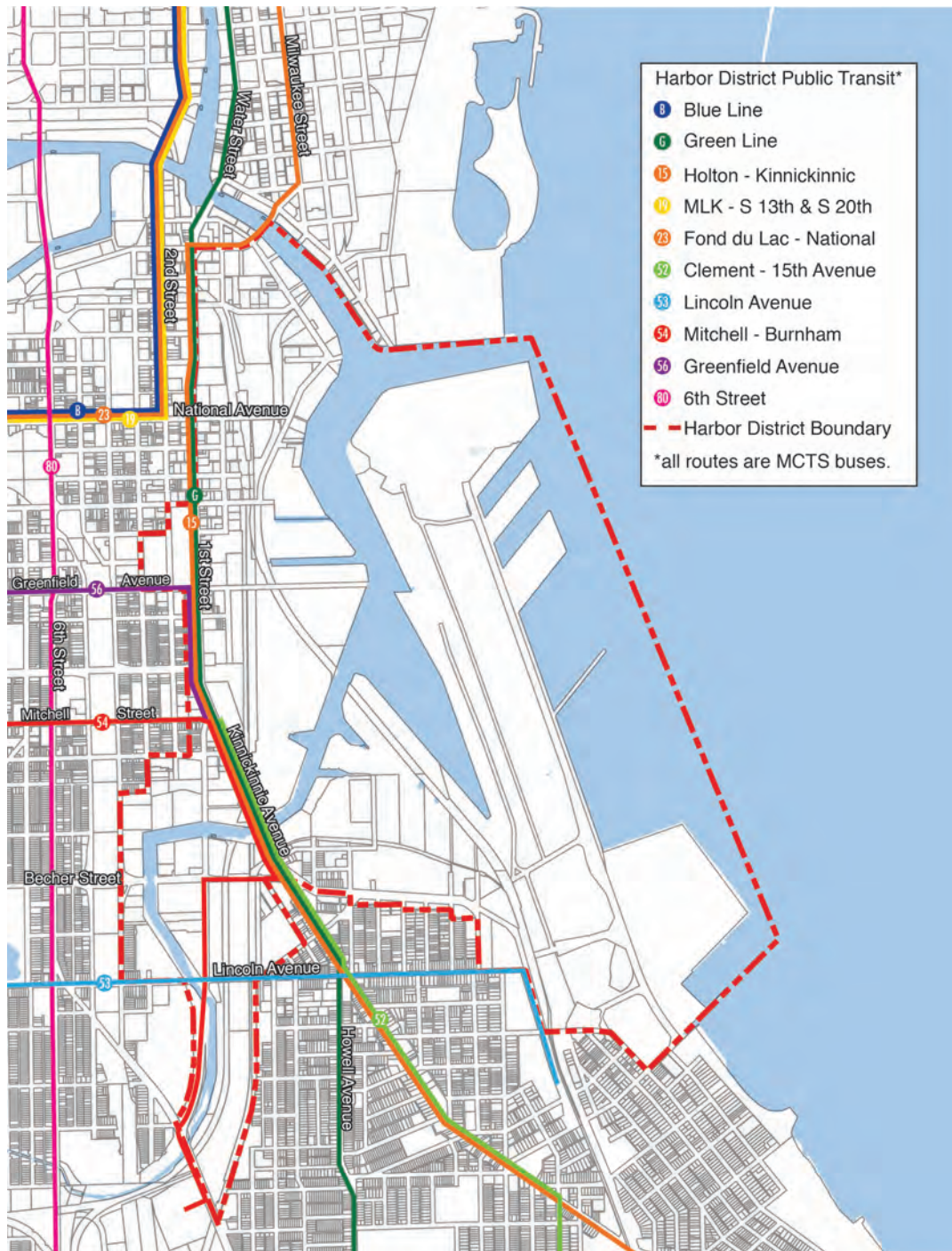


Truck stuck under railroad bridge on East Washington Street



Public Transit

There are a number of bus lines operated by Milwaukee County Transit Services (MCTS) that travel through and terminate in the Harbor District. The Green Line and route 15 travel along South First Street and connect Bay View to Downtown Milwaukee. Routes 19, 23, and the Blue Line all travel along Second Street from National Avenue headed north towards Downtown Milwaukee. Routes 58, 54, and 17 all travel east/west across the south side of Milwaukee and terminate at the MCTS Operating Station located at First and Mitchell Streets. Early planning for Bus Rapid Transit and the Milwaukee Streetcar identifies the First and Second Street corridors for potential expansion routes.



Bicycle and Pedestrian

Bicycle travel to and through the District has improved in recent years, but can be challenging depending on a cyclist's route and experience level. South Second Street, with bicycle lanes on each side of the street, is the preferred north/south bicycle route through the District, but many bicyclists travelling between Bay View and Downtown Milwaukee still travel on heavily-trafficked South First Street.

South Water Street between Washington and Pittsburgh Streets has bike lanes in each direction, but also at-grade railroads in the street that provide a challenge to bicycles. South of Washington Street bicyclists can travel on the Kinnickinnic River Trail, which was constructed in two sections in 2012. The Kinnickinnic River Trail is an off-street paved bicycle and pedestrian path that travels along the railroad viaduct from Washington Street south to Maple Street. The southern section begins at South First Street and the Kinnickinnic River and follows the river south to 6th and Rosedale Street outside the Harbor District. South First Street between Maple Street and Lincoln Avenue has bike lanes in each direction to connect the two portions of the Kinnickinnic River Trail.

Pedestrian traffic within the Harbor District is light with the exception of the Walker's Point neighborhood. First and Second Streets north of Greenfield Avenue see some heavier pedestrian traffic with people visiting the various shops and businesses and/or travelling between bus stops and connections. The large industrial or vacant parcels

combined with the disjointed street grid east of South First Street leads to very little pedestrian traffic in most of the Harbor District. There are also some streets in the District without sidewalks on one side including portions of South Water Street, South Barclay Street and Marina Drive.

Raised bicycle lane on South Bay Street



photo by Dave Schlabowske

The Kinnickinnic River Trail winding around and crossing over railroad tracks on South Water Street





Water Edge Conditions

The defining feature of the Harbor District is the water that flows through the Milwaukee and Kinnickinnic Rivers and empties into Lake Michigan. Within the District there are 9 miles of waterfront that serve different uses and are in different conditions. Most of the District's waterfront has been hardened with wood, steel or concrete over the past 150 years to serve industrial, port, and flood control purposes. While the hardened shorelines are necessary for these purposes, vertical dock walls are the least conducive shoreline type for aquatic habitat.

As most of the Harbor District was historically marsh and wetland, the majority of water edge areas were filled in to create a hard shoreline for port and industrial uses. The materials used for fill over the years has varied in type and quality. The combination of poorly filled in soils with marshy subsoils leads to poor soil quality across the Harbor District. New construction projects in the area frequently face challenges with constructing foundations and engineers are generally nervous about removing or altering existing dockwalls for the fear that filled soils will slide back into waterways.

In addition to poor soil quality in the District, decades of industrial activity has left behind a legacy of contamination in the soils and waterways. Construction near the water edge must take into account how activities may disturb

and/or distribute residual contaminants.



2 THE PLANNING PROCESS

Comprehensive Planning Context

In 2010, the City of Milwaukee completed a decade-long comprehensive planning process that resulted in the completion of the 13 Area Plans and the Citywide Policy Plan that collectively make up the City of Milwaukee Comprehensive Plan. The plans were developed under the State of Wisconsin's Comprehensive Planning Law (Wis. Stats 66.1001) that requires all municipalities to complete comprehensive plans to guide their future development. The State and the City have adopted frameworks for developing comprehensive plans and procedures for adopting the plan that ensure meaningful public participation throughout the process. State law requires that all actions taken by a City relating to zoning, subdivision regulations, and official mapping be consistent with the recommendations of the comprehensive plan, making the plan a critical document in guiding the growth of city neighborhoods. By adopting the Harbor District Water and Land Use Plan, the Common Council of the City of Milwaukee will direct all city departments to work towards the implementation of the recommendations of the plan, providing the city and its partners a framework for their ongoing efforts in the District that extends well beyond zoning and mapping.

The 2010 completion of the Area Planning process marked the first time in Milwaukee's history that it had a comprehensive plan covering all of its 96.1 square miles. Portions of the Harbor District were included in the Southeast Side Area Plan and Near South Side Area Plan boundaries. In the years since the adoption of the Comprehensive Plan, planning efforts have continued in the City to update and amend the various area plans in response to market trends, major investments, and opportunities. This has included the creation of neighborhood action plans, such as the 2015 Walker's Point Strategic Action Plan that covered a portion of the Harbor District, as well as plans dealing with specific policy areas, including ReFresh Milwaukee, the City's 2013 sustainability plan.



Purpose of the Harbor District Water and Land Use Plan

Both ReFresh Milwaukee and the Walker's Point Strategic Action Plan noted the critical importance of the Harbor District to Milwaukee's economic and environmental future. ReFresh Milwaukee identified the revitalization of the Harbor District as one of two catalytic projects that were vital to ensure the success of the plan and Milwaukee's long term environmental sustainability. The Walker's Point Strategic Action Plan also noted the unique position of the Harbor District within the Milwaukee region and the importance of additional planning for the area.

Spurred by these past planning recommendations and the formation of Harbor District Inc. (HDI), the City of Milwaukee and HDI embarked on a process to develop a new comprehensive area plan specifically for the Harbor District. Upon adoption of the Water and Land Use Plan, the Harbor District will become Milwaukee's 14th Area Plan area, and the first new plan area created since the adoption of the Comprehensive Plan in 2010.

The Water and Land Use Plan was created to provide a framework for the future development of the Harbor District. Overall goals in creating the City of Milwaukee's Comprehensive Area Plans, including the Water and Land Use Plan, are to:

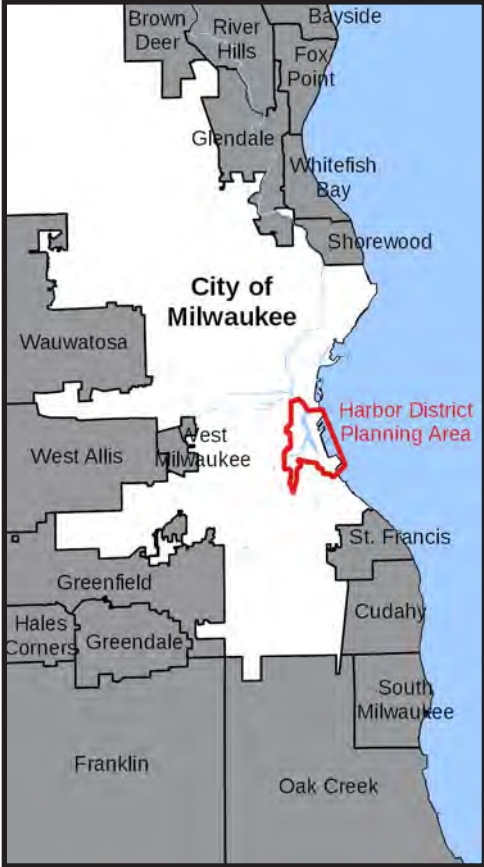
- Build upon the strengths of neighborhoods within the plan area;
- Provide a predictable regulatory process;
- Optimize the long-term value of public and private investments; and,
- Generate consensus among businesses, residents, property owners, and community based organizations about the future development of their area.

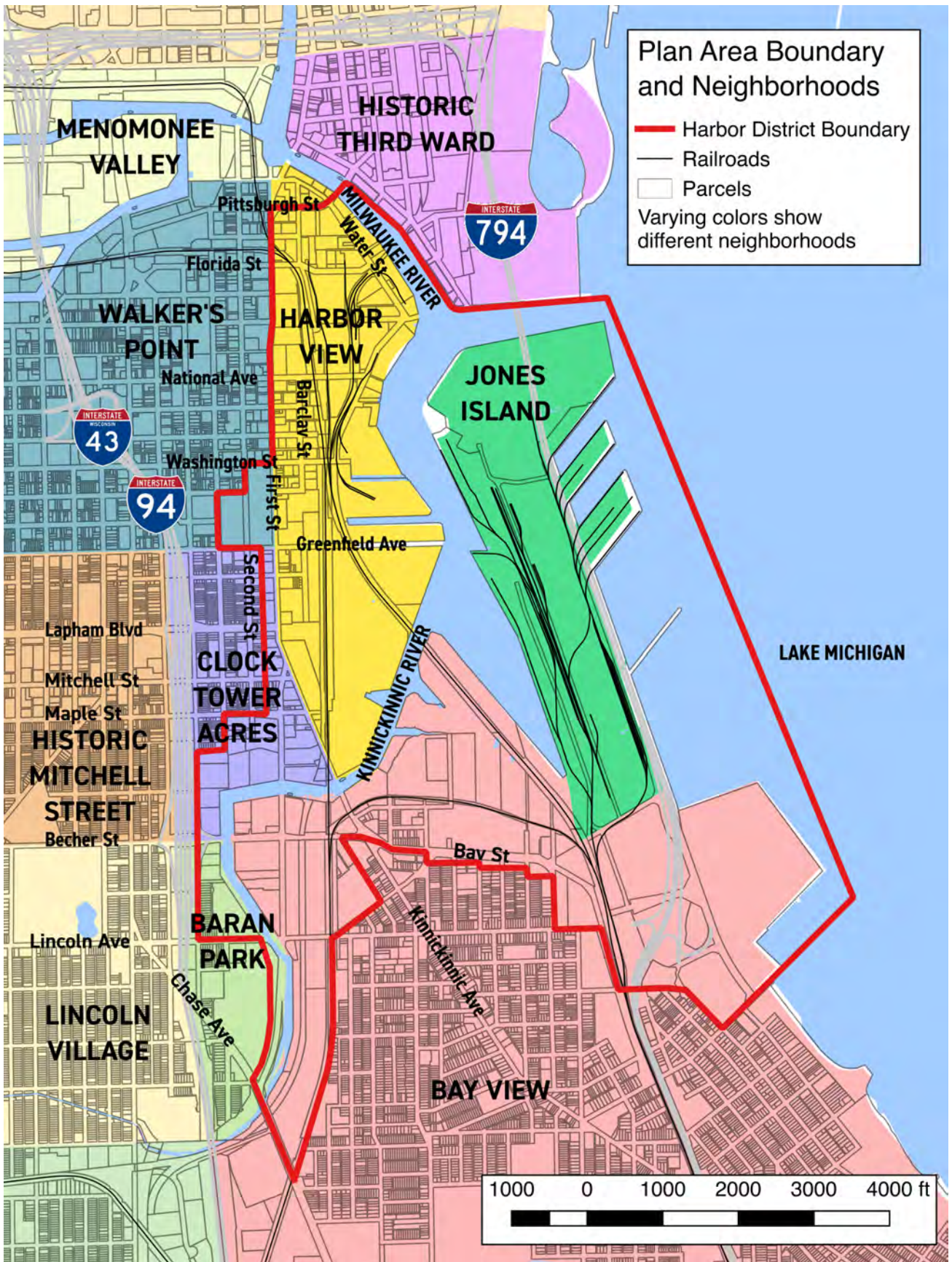
To achieve these goals, the plan incorporates significant public input and engagement to craft recommendations for enhancing the existing fabric of the area and responding to the specific issues faced by the Harbor District today. This includes offering detailed land use recommendations, strategies for the various subareas that make up the Harbor District, and identifying catalytic projects that will advance the vision for the District and attract new investment to achieve plan goals.



Planning Area Boundaries

The Harbor District Plan Area is generally bounded to the north by the Milwaukee River and Pittsburgh Avenue, to the west by S. 1st Street, Interstate 43/94 and the Kinnickinnic River, to the south by Chase Avenue, Ward, Bay, Conway and Russell Streets; and to the east by Lake Michigan. The district includes the entirety of Port Milwaukee. A detailed map of the Plan Area is on page 38. In areas where the plan boundary runs down the middle of a street, recommendations within the plan for that street or corridor are applicable to both sides of the street. The area that makes up the Harbor District was previously included within the Near South Side and Southeast Side Area Plans. While those plans and their recommendations remain in force, upon adoption of the Harbor District Plan, the formal boundaries of the Near South Side and Southeast Side Area Plans will be amended to remove the Harbor District Plan Area and the Harbor District Water and Land Use Plan will become the comprehensive plan for the area.





Planning Process and Structure

The Harbor District Water and Land Use Plan was built on the foundation laid by past planning efforts and refined by significant public engagement during the roughly three year process of developing the Plan. The timeline and various phases that were utilized to develop the plan are summarized in the “Planning Process Timeline” chart on pages 40 and 41. Prior to initiating the planning process, the City of Milwaukee entered into formal cooperation agreements with Harbor District Inc. to manage the development of this plan and Sixteenth Street Community Health Center to lead public engagement efforts. The leadership of Harbor District Inc. in developing this plan has ensured that the plan articulates a vision for the area that responds to the goals of its diverse stakeholders and HDI will remain instrumental in the ongoing implementation of the plan recommendations.

Public Engagement

Sixteenth Street Community Health Center’s efforts resulted in a robust public engagement process that employed a wide array of strategies designed to allow for meaningful participation from residents and businesses in and near the Harbor District. Extensive one-on-one interviews, district tours, public meetings, surveys, social media outreach, and other strategies were all utilized to inform the public about planning efforts in the Harbor District and to get neighbors engaged in shaping the vision for this area. More than 2,000 individuals participated in the process and provided input on the plan. A summary of the key themes that emerged from the public engagement process and how they shaped plan recommendations can be found in chapter 3: Opportunities for the Future.

Contract Management Team

Throughout each phase of the project, planning and public engagement activities were coordinated by a Contract Management Team (CMT) responsible for overseeing the technical aspects of the planning process. The CMT members include those organizations most directly responsible for both the development and implementation of plan recommendations. Representatives of the Department of City Development, the Redevelopment Authority of the City of Milwaukee, Port Milwaukee, University of Wisconsin-Milwaukee, Harbor District Inc., and Sixteenth Street Community Health Center made up the CMT and met regularly throughout the planning process to craft public engagement strategies, review information received during the planning process and guide plan development.

The CMT also guided the work of the consultant team that was selected to work on the project that included AECOM (market analysis and existing conditions), Gensler (land use and future development), SEH (infrastructure and stormwater), and Big Lake Data (economic analysis).

Plan Advisory Group

To best utilize the expertise of key community stakeholders in the Harbor District and those that have a deep commitment to its future, a Plan Advisory Group was also assembled to guide the planning process. This forty-one member group met six times throughout the planning process to review the progress of the plan at major milestones, establish goals for the plan, and refine plan recommendations. Members also assisted in disseminating information about the plan within their own organizations and acting as general ambassadors in telling the story of what can be accomplished in the Harbor District.

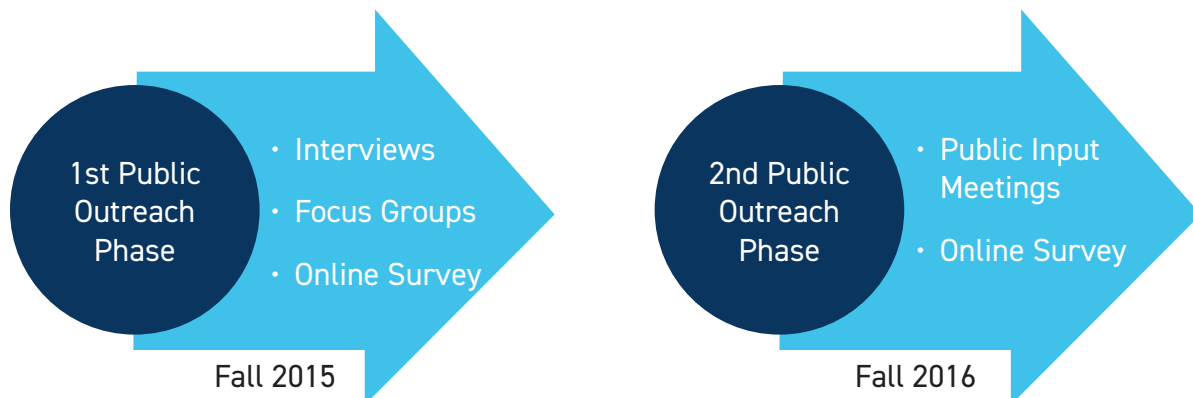
Prior Plan Review

The area comprising Milwaukee's Harbor District has been frequently studied and included in numerous local land use plans over the years. In order to inform the development of the Water and Land Use Plan's major objectives, those plans' recommendations that pertained to the district were reviewed and cross-referenced for commonalities and agreements among the many stakeholders. Other documents, including market studies for the Menomonee Valley and 30th Street Corridor, were reviewed for insights into local industrial development and workforce trends. Through this process, several major ideas emerged which are described in chapter 3: Opportunities for the Future.

Market Study

A market analysis was conducted in the initial phases of the planning process. The market analysis examined current industrial and port operations within the Harbor District, identified regional growth sectors, and cited applicable lessons from comparable waterfront redevelopment efforts to provide a framework for developing recommendations that best position the Harbor District to capitalize on opportunities to advance regional economic development goals. A summary of the key findings of the Market Analysis can be found in chapter 3: Opportunities for the Future, and the entire Analysis is included in the appendix.

Planning Process Timeline (continued on page 31)



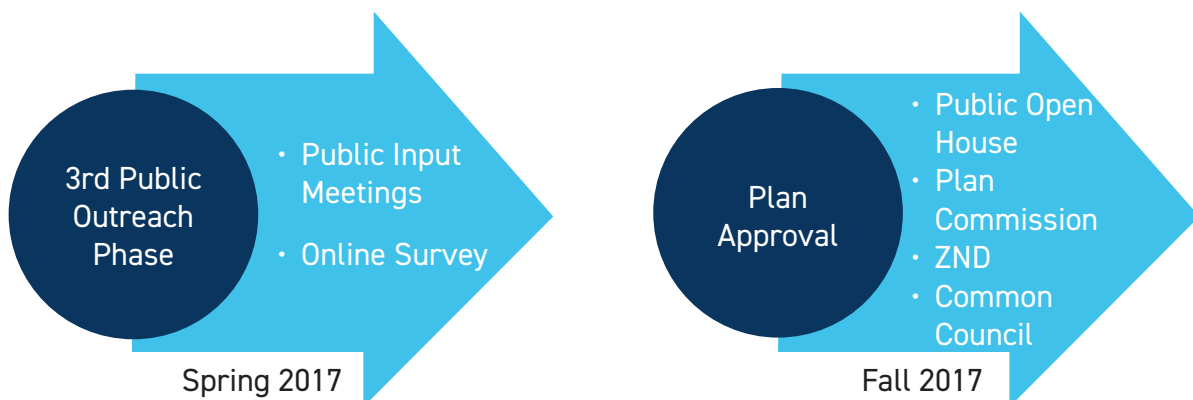


Waterfront Innovations Design Charrette

In October 2015, as the Water and Land Use Planning process was just getting underway, Harbor District, Inc. and the City of Milwaukee hosted a design charrette focused on generating ideas about maximizing the use of the water’s edge. Four teams were selected to participate and challenged to think about how a waterfront long dedicated to heavy industrial use could accommodate additional uses such as public access, restored natural habitat, or mixed-use urban development alongside port activities.

Over two days the teams developed ideas and drawings, many of which can be found in this plan, that focused on modifying the water’s edge, incorporating public space and access, restored the ecology of the harbor, and provided space for a mix of uses including the Port and surrounding industry. Details on the ideas developed during the charrette can be found in the appendix.

Planning Process Timeline (continued from page 30)



3 OPPORTUNITIES FOR THE FUTURE

In reviewing prior plans, conducting a market analysis, and gathering input from the community, the planning team identified a number of common themes and ideas, described below, to guide the future development of the Harbor District. These themes and ideas were used to develop the guiding principles that follow and inform the recommendations found in subsequent chapters.

A waterfront provides a unique opportunity

Key stakeholders, community members, and the public at large generally expressed an appreciation of the pivotal role so much available and changing waterfront can play for Milwaukee. “This is a great opportunity - don’t mess it up!” was feedback the planning team received on multiple occasions. The themes outlined below reflect the wide range of desires and recommendations that people have for the waterfront, and together highlight an overarching theme: the waterfront is too special to be reserved for a single use or function. To achieve the potential of this area, we will need to be flexible, creative, and innovative in finding new ways for many uses to co-exist and support one another.

Public space and access are key



PRIOR PLANS

The Walker’s Point Strategic Action Plan focused on providing access to the waterfront and connecting public waterfront to the neighborhoods using stub-end streets and unconventional public spaces. The ReFresh MKE Plan recommended improving access for families and individuals to fish, canoe, and experience Milwaukee’s rivers and to expand the acreage of natural area. The Southeast Side Plan recommends the restoration of the Grand Trunk Wetland.



MARKET ANALYSIS

A review of urban waterfront redevelopment case studies, included in the market analysis, found that many communities led their waterfront development efforts with substantial investments in the public realm that demonstrated that the area was meant to be enjoyed by all. These public spaces set high standards for development that raised expectations for the quality of private sector developments nearby.



Creating new public spaces and public access to the waterfront consistently ranked as the most important outcome for future redevelopment of the Harbor District during public input sessions. Restoring the natural environment ranked a close second. Participants prioritized riverwalk, trails, and a waterfront park as the most important public spaces and wanted to see a mix of more active and more natural public spaces.

Redevelopment should include the economy and the environment



A number of plans discuss environmental improvements and habitat recommendations with the ReFresh MKE plan being the most ambitious. The ReFresh MKE Plan recommends 100 acres of brownfields remediated, net-zero energy performance, and net-zero stormwater runoff in the Harbor District by 2023. Other plans focus on requiring high-performance sustainable site and building designs and stormwater and environmental conservation goals.



The market analysis noted the wide availability of former industrial brownfield sites throughout the cities of the midwest and Great Lakes. For the Harbor District to attract uses or redevelopment, investments will need to be made in environmental clean-up (as well as access and infrastructure) to create “shovel-ready” sites. Additionally, the District will have to craft a narrative - such as the story of sustainable urban redevelopment that attracts users to the Menomonee Valley - in order to set itself apart from similar areas across the region.



Restoring the natural environment to provide habitat for plants, fish, and wildlife consistently ranked as the second most important outcome, just behind new public places, for future redevelopment of the Harbor District during public input sessions. Public input demonstrated wide support for achieving higher environmental goals even if it meant higher cost and/or a longer timeline to complete.

Support Port Milwaukee



Port Milwaukee is, and will remain, an important economic driver for the City of Milwaukee and the wider region. Prior plans agreed that Jones Island should remain dedicated to the movement of goods into the foreseeable future, and that surrounding land use and infrastructure decisions should support this role.



The market analysis found that Port Milwaukee manages well in its current market, but could explore strategies to become more flexible to respond to future market changes. These strategies could prove to be more cost-effective than adding land to the outer harbor or using land on the west side of the inner harbor. The Port could also expand its mission to better align with and manage freight movement across all modes.



A large part of the identity of the Harbor District is the Port and working waterfront. The public expressed a desire to retain the shipping and industrial character of the District, while also allowing for new development and public spaces to coexist with industry and the Port.

A mix of land uses is important



PRIOR PLANS

Mixed use is a common theme brought up in visions for the future of the district, including re-use of historic buildings, opportunities for live/work/sell space, and new industrial development as part of a compact, mixed-use district to encourage walkability and neighborhood connections. Buffers, screening, and transitional uses are recommended to minimize conflicts between industry and neighborhood residents.



MARKET ANALYSIS

The market analysis found that there are strong cases to be made for all types of land uses in the Harbor District, but not necessarily all in the same place. As noted below, there is little need to locate industry near the waterfront, but access to ship, rail, highways, and labor make other areas of the District attractive to industry. Service and office uses are attracted to waterfront locations and near large anchors such as the UWM School of Freshwater Sciences and Rockwell Automation. Housing is already developing on the edges of the District in Walker's Point and Bay View, with more expected.



PUBLIC INPUT

Public input made clear that stakeholders want to see a mix of uses that would provide people a variety of reasons to visit the District and would achieve multiple redevelopment goals including job creation, public space and recreation, and spaces for people to live.

Attract new businesses that provide a variety of jobs for people in the community



PRIOR PLANS

Many prior plan recommendations revolve around attracting and retaining manufacturing jobs; however, there is a strong desire for future targeted industries to be cleaner and more technology-based than the district's former tenants. The Growing Prosperity Plan and others focus on attracting businesses within the Milwaukee region's Asset Industry Clusters which include food and beverage processing; power, energy, controls, and automation; and water research and technology. The ReFresh MKE Sustainability Plan sets an ambitious goal of 22 jobs per acre for new industrial development in the Harbor District.



MARKET ANALYSIS

The market analysis found that thousands of jobs currently exist in the Harbor District, but only 10% of the workers employed there live in nearby neighborhoods. The District offers key ingredients for industrial development including land, strong utility infrastructure, multi-modal freight access, and access to a large labor force. However, there are very few industries that have a need to be on the waterfront. Waterfront locations may be more attractive to service and office users who would provide a different mix of jobs.



PUBLIC INPUT

Public input regarding economic development was focused on providing a variety of jobs that are available to residents from the surrounding neighborhoods and the City of Milwaukee. Creating jobs was consistently ranked by community members as the third most important outcome for future development of the Harbor District, behind providing spaces for recreation and restoring the natural environment.

Mixed housing is preferred - but challenging



Several plans discuss creating a variety of housing options with the Walker’s Point Strategic Action Plan recommending to “consider incorporating alternative forms of affordable housing” and the Near South Side Plan recommending to “encourage programs that develop affordable housing” to “minimize the effects of rapid property value increases on residents.”



The market analysis found that waterfront sites in Milwaukee tend to gravitate to higher end units. If a mix of housing options is to be achieved, as highlighted in prior plans and by the public, it will require intervention in the market through tax credits or other means.



Providing places for people to live within the Harbor District was not a high priority of public input participants. However, should housing be included in the District, there is a strong desire among the public to provide a mix of housing sizes, cost, and types.

Guiding Principles

The planning team and stakeholders participating in the Plan Advisory Group identified the following guiding principles for the planning process. These principles informed the creation of the plan recommendations found in the following chapters.

The future of the Harbor District provides an incredible opportunity for Milwaukee to remake its port, estuary, and surrounding neighborhoods for the 21st century. The Water and Land Use Plan aims to achieve a world-class revitalization of Milwaukee's harbor that sets the standard for how waterfronts work—economically, environmentally, and socially—for the next century using the guiding principles outlined below.

ECONOMY: Encourage employment growth and economic development that contributes to our region's competitiveness and is equitably distributed.

- Strengthen and support the Port of Milwaukee as a freight hub.
- Accommodate a mix of land uses, while prioritizing those that create family supporting jobs and are water-dependent.
- Generate increased property tax revenue so long as it does not unduly hinder achieving other plan principles.
- Reinforce Milwaukee's position as America's Fresh Coast Capital and the City's place as a global leader in water innovation and technology.

ENVIRONMENT: Aim for redevelopment to minimize negative environmental impacts, support and restore natural ecosystems, and employ innovative environmental strategies.

- Reduce the discharge of pollutants to the District's waterways.
- Remove or resolve legacy contamination of land and waterways in the District.
- Improve aquatic and shoreland habitat.
- Develop high sustainability and construction standards for new development, existing operations, and infrastructure.

EQUITY: Create a place that is welcoming and accessible to all people.

- Increase the amount of dedicated public spaces and public water access.
- Create housing and employment opportunities that are accessible to a broad segment of the community.
- Increase connectivity to and through the District by developing multi-modal transportation options for people and freight.
- Recognize the historic character of the District and the many groups of people and activities that have contributed to the rich culture of the area.

DISTRICT-WIDE RECOMMENDATIONS

Land Use Policies & Strategies

This chapter describes the broad policies and strategies to direct future development in the Harbor District. The chapter begins with overall land use and built form policy recommendations and then discusses use and form strategies for residential, commercial, industrial, parks and open space, and transportation and utilities land uses. For site or sub-district specific recommendations, see chapter 5: Sub-District and Corridor Recommendations.

Vision

The Harbor District will provide space for a mix of land uses in a walkable, urban neighborhood that serves a variety of people through inclusive and diverse employment opportunities, businesses, housing options, and public spaces. Land uses will include new mixed-use neighborhoods, commercial office employment centers, industrial districts, public green spaces, and commercial shipping and transportation. The land use mix and design strategies will encourage new development while preserving the historic character of the area.

Context

While the Harbor District was historically dominated by industrial and transportation uses, new uses have begun to move into the District in recent years. Industrial loft buildings are being converted to new housing, office, start-up, and retail space, and former brownfields are being reused for new mixed-use developments. While this new investment and development has brought people and energy to the area, there are existing industrial and transportation uses in the Harbor District that need to be protected and preserved. These users provide vital employment opportunities to Milwaukee residents and transportation and freight services to businesses throughout the Milwaukee region. The recommendations seek to balance these different uses and interests.

General Land Use and Built Form Recommendations

These general recommendations are land use and form principles that apply to all land use types and serve to create an attractive, walkable, urban neighborhood across the Harbor District.

1. Maintain (or, where possible, create) the street and block system, and avoid mega-blocks, to simplify wayfinding and improve pedestrian experience.
2. Buildings should fit the traditional pattern of walkable neighborhoods by locating close to the street with facades that are human in scale and pedestrian friendly.
3. Design infill development and new construction to respect existing context while contributing to the architectural quality of the neighborhood.
4. Discourage blank walls along street, public walkway, or water frontages, including for industrial users. Facades can be modulated through the use of articulated bays, windows, openings, depth in facade, awnings, texture, coordinated landscaping, and other architectural detailing.
5. Locate garages, garage entrances, loading docks, and overhead doors so they are not the dominant feature on the front facade and are screened from public view.
6. Minimize curb cuts and driveways, especially on primary streets. Access for loading docks and parking should be combined. On primary streets, encourage alley or side street vehicle access.
7. Discourage demolition of buildings for the sole purpose of constructing surface parking lots.
8. Encourage surface parking lots to be to the rear of buildings. In cases where surface parking must be located on the side or front of buildings, deploy strategies to mitigate against the negative impacts on the pedestrian realm such as high quality plantings and landscaping and minimize parking along the primary street frontage.
9. Where parking lots are located between the public sidewalk and the front entrance of a building, each building should be served by a clearly identifiable pedestrian walkway paved with non-asphalt materials.
10. Preserve existing buildings whenever possible, and highlight historic elements such as architectural details or signage.
11. Include special architectural design features on the corners of any buildings located at the intersections of two primary streets or at the visual termination of any primary street.



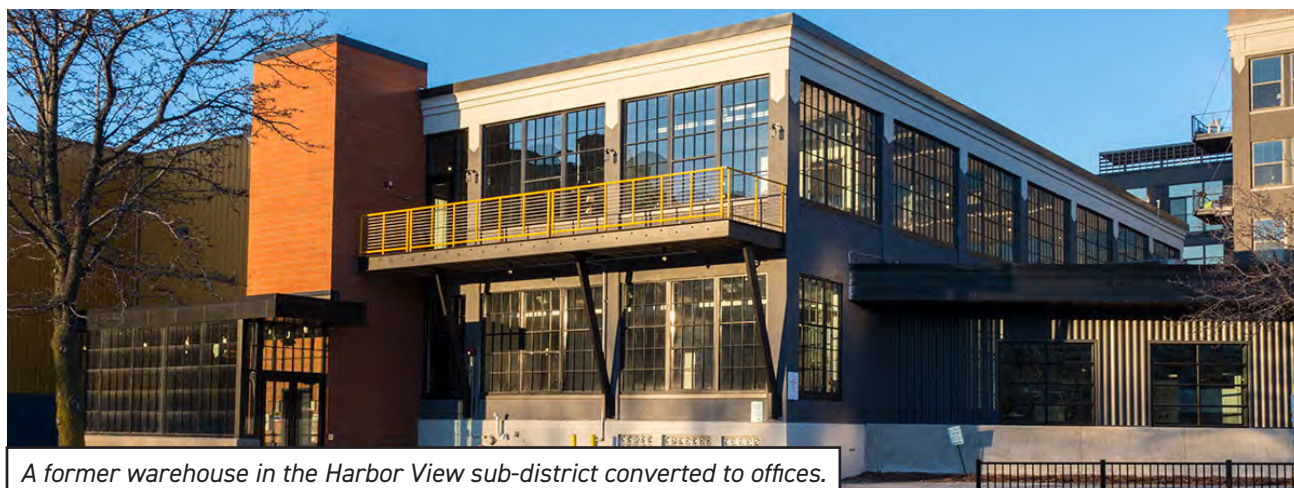
The Clock Shadow Building in Walker's Point demonstrates context sensitive development that contributes to a walkable environment.

Residential Recommendations

The residential recommendations are intended to preserve existing housing stock where appropriate, enhance existing residential areas, and create new opportunities for existing and new residents of diverse incomes, and in various life stages, to live close to employment, shops and services, and recreational amenities.

See the Equity and Affordability section in this chapter for recommendations specific to housing affordability.

12. New housing should be multi-family to contribute to the existing dense, mid-rise, urban character of the District. Exceptions are areas with existing single-family or duplex homes where new development should fit within the context of those areas and could include new single-family or duplex housing..
13. New multi-family residential or mixed use developments are encouraged to adhere to the City of Milwaukee's Commercial Building Sustainable Design Guidelines.
14. Allow the conversion of former warehouse and industrial buildings that are no longer viable to residential, commercial, and mixed uses, in locations consistent with the sub-district and corridor specific recommendations in chapter 5.
15. Encourage mixed uses within residential developments, such as residential along with retail, service, office, or institutional uses. Explore zoning options that may allow appropriate light industrial uses to be mixed with residential in a live/work arrangement.
16. Locate housing for seniors and persons with disabilities near neighborhood goods and services and near transit routes.
17. Prohibit residential uses in areas where non-compatible industrial uses are recommended to be preserved within the sub-district and corridor specific recommendations in chapter 5.



A former warehouse in the Harbor View sub-district converted to offices.

Commercial Recommendations

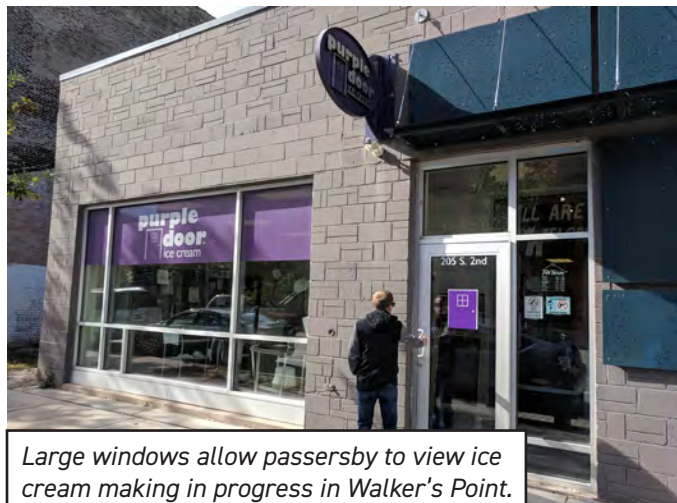
The commercial recommendations are intended to strengthen the area’s existing commercial corridors, attract new businesses that create jobs, provide goods and services for local residents, and attract customers from across the region.

18. Encourage mixed-use developments with pedestrian-oriented commercial (retail, service, other active use) on the first floor and office or residential on the upper floors.
19. Intensify commercial and mixed-uses near transit stops and major intersections.
20. Avoid a concentration of automobile oriented uses such as gas stations, drive-through establishments, and convenience stores along commercial corridors and main streets in the District.
21. New commercial or mixed use developments are encouraged to adhere to the City of Milwaukee’s Commercial Building Sustainable Design Guidelines.
22. Locate civic and institutional uses along main corridors or at prominent intersections to make them easily accessible on foot, by car, bicycle, bus, or other means of transportation.

Industrial Recommendations

The industrial recommendations are intended to improve industrial employment opportunities, support existing industrial users, and provide space for new industrial users to locate in the Harbor District.

23. Encourage multi-story buildings that include industrial uses in mixed-use areas. Newer single story manufacturing should be located within designated industrial areas according to the sub-district and corridor recommendations in chapter 5.
24. Provide views into the operations of industrial buildings. Ground floor windows create activity at the street level and a more pedestrian-friendly environment; provide better light inside the facility; demystify the operation; and engage passersby.
25. Discourage outdoor industrial activities for businesses located near non-industrial uses.
26. New industrial buildings should adhere to the Menomonee Valley Sustainable Design Guidelines.
27. Building materials should support the aesthetic goals of the District. Vinyl siding is inappropriate and the use of EIFS siding is discouraged and should be minimized. EIFS should not be used on the base of buildings or surrounding entryways.



Parks and Open Space Recommendations

The parks and open space recommendations are intended to develop a new public space network that provides a variety of types of public spaces that are compatible with all of the land and water uses in the Harbor District. The public space network will ensure that every resident in the Harbor District lives within a 10-minute walk of a park, shared-use path, riverwalk, or other public space and will serve as an amenity that improves quality of life, bolsters economic development efforts, and allows residents and visitors to explore the Harbor District.

28. Encourage a network of public spaces that includes the following: pocket parks, riverwalk, shared-use paths, boat launches, landscaped spaces between and in front of buildings, play areas and tot lots, recreational services, public spaces for social interaction, and streetscape enhancements such as benches, planters, street trees, and public art.
29. Ensure that all parks and public spaces are accessible by including connections to neighborhoods in and near the Harbor District via wayfinding signage and graphics, street networks, and pedestrian trails.
30. Create well marked, attractive, and visible access points and wayfinding signage or graphics to all parks, shared-use paths, riverwalk, and on the river itself (including exit points and ladders).
31. Create and maintain clear sight lines into and through parks and public spaces to ensure a safe and welcoming environment for park users.
32. Create an uninterrupted network of waterfront public access as described in the Improved Waterfront Experience catalytic project in chapter 6.
33. Plan for connectivity between parks and public spaces in a way that supports their use as habitat and contributes to a district-wide habitat network as described in the Habitat and Ecology section of this chapter.
34. Integrate the natural history of the area into public spaces, and identify opportunities to incorporate natural habitat and green infrastructure in public park spaces. Use public spaces as an opportunity to educate visitors and encourage stewardship.
35. Integrate neighborhood, Harbor District, and community history and culture into public spaces. Recognize the history of populations no longer present in the area including Native American and Kaszube peoples.
36. Ensure that some new public spaces include active recreation opportunities (soccer fields, running paths, playgrounds, etc.).
37. Target unused railroad spurs for conversion to public shared-use paths, green infrastructure, or other public amenities.
38. Ensure that resident engagement during the design phase, especially from households currently lacking access to park amenities, is integral in shaping the programming and amenities of any new park spaces.

Transportation and Utilities Recommendations

Transportation and utility recommendations are intended to create a safe, multi-modal system that connects residents, workers, and visitors to and through the Harbor District, supports economic development efforts, and provides the infrastructure necessary to deliver services in an effective and efficient manner.

Streets and Sidewalks

- 39. All streets should be designed, or redesigned when they are reconstructed, with complete streets principles that account for all potential users of a street and should include green infrastructure.
- 40. Require continuous sidewalks and adequate sidewalk or trail connections on all streets, excluding those on Jones Island.
- 41. Incorporate design features into arterial streets that calm traffic, improve safety, and contribute to the street's aesthetics. Examples include, but are not limited to, crosswalks, bump outs, trees, plantings, lighting, and street furniture.
- 42. Where feasible, provide wider sidewalks along commercial districts and other main streets to provide space for pedestrians, street furniture, and green infrastructure.
- 43. Maintain and promote two-way traffic on all streets.
- 44. Maintain truck and over size over weight (OSOW) routes to/from industrial users and between Port Milwaukee and highways.



Complete Streets

Complete streets are public right-of-ways that are safe, comfortable and convenient for users of all travel modes including walking, use of mobility aids, bicycling, riding public transportation, driving trucks, buses, automobiles and motorcycles. Complete streets also incorporate green infrastructure when feasible to responsibly manage stormwater where it falls.

Personal Vehicles and Parking

- 45. Encourage active first floor uses within parking structures.
- 46. Encourage parking structures that serve multiple users (shared parking) to minimize the number of surface lots or parking structures needed to serve an area.

Public Transportation

47. Transit routes should be well defined and aesthetically integrated into neighborhoods with special paving features, signage, stop shelters, benches, historic markers, and public art at key nodes.
48. Work with MCTS to ensure that any location in the Harbor District (excluding Jones Island) is within ¼ mile of a transit stop.
49. Encourage new transit investments such as increased bus service, bus rapid transit, streetcar, light rail, or commuter rail in and near the Harbor District and connect to existing transportation networks.
50. Work towards the development of the Kenosha-Racine-Milwaukee Commuter Link (KRM) as a possible future commuter rail corridor.



Bublr bike share station in Walker's Point.

Bicycles

51. Complete the Kinnickinnic River Trail with the goal of creating an uninterrupted, dedicated, and protected bicycle route connecting Bay View to the Hank Aaron State Trail and Oak Leaf Trail. See the Improved Access and Mobility catalytic project for more details.
52. Connect the Kinnickinnic River Trail with surrounding neighborhoods via improved bicycle connections along Pittsburgh, Washington, Maple, and Bay Streets. See the Improved Access and Mobility catalytic project for further details.
53. Work with Bublr Bikes to ensure that any location within the Harbor District (excluding Jones Island) is within ½ mile of a bike share station.

Parking structure with active first floor use.



Rail

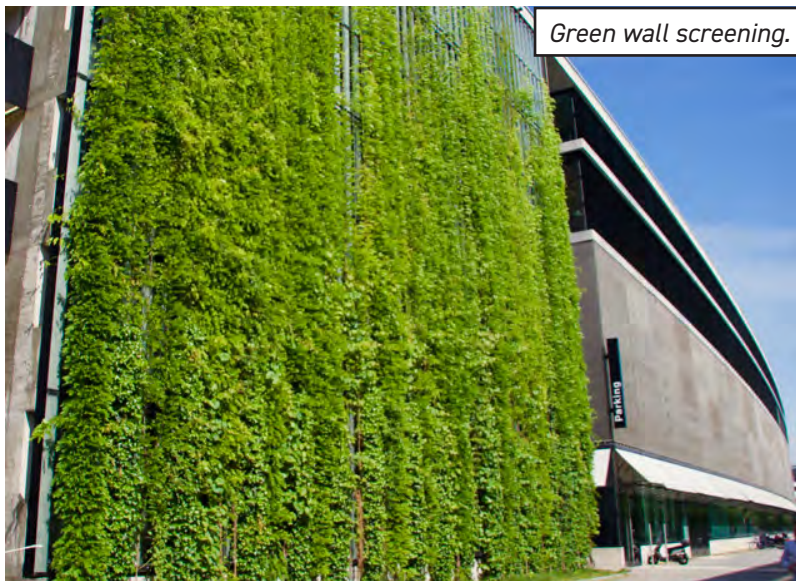
54. Preserve the rail right-of-way identified in the Kenosha-Racine-Milwaukee Commuter Link Study (KRM) as a possible future commuter rail corridor.

Marine/Water Transportation

55. All marinas and boatyards in the Harbor District should be certified Wisconsin Clean Marinas.
56. Port Milwaukee should achieve a level 5 rating on the Green Marine certification program.

Utilities

57. Where feasible, utility infrastructure should include attractive screening, public art, or other strategies that allow facilities to blend into or contribute aesthetically to the surrounding built environment.
58. Identify opportunities to illustrate or illuminate the functionality of utility infrastructure in an effort to educate the community on the importance of water, power, and other utility systems.



Equity and Affordability

Of the 71 largest metro areas in the country, Milwaukee ranks worst in unemployment equality between African-Americans (13.8% unemployed) and whites (2.7% unemployed). The Milwaukee metro area ranks third from the bottom for unemployment equality between Hispanic/Latinos (6.2%) and whites. Thirty-nine percent of African-Americans and 33% of Hispanic/Latinos in the city of Milwaukee live below the poverty line, versus 18% of white residents. These numbers are only a small sample of the many statistics and studies in recent years that have shed light on the scale of economic inequality that exists in Milwaukee.

Continued economic inequality is a serious threat to the future growth and development of our community. The development of the Harbor District provides an opportunity to address economic inequality and other equity issues due to the scale of opportunity it offers and its proximity to low-income and minority neighborhoods. This plan identifies several ways the future development of the Harbor District can address inequality in income, employment, and quality of life. However, new programs, organizations, and regulations will be needed that are targeted and intentional about connecting low-income, minority, and disadvantaged communities to economic opportunity in the Harbor District.

Additional work will also have to be done after this plan is completed to ensure the Harbor District of the future is a place where all residents of Milwaukee feel comfortable and welcome. Many comments were received during the planning process from community members that said they did not feel welcome in newly developed neighborhoods of Milwaukee. “New development only caters to people with high-incomes” or “none of the housing, businesses, or services are open to me” were comments frequently heard at public meetings or on surveys.

The following recommendations create a framework for equitable development within the Harbor District.

Job Availability and Access

The land use and economic development recommendations in this plan are aimed at creating a range of employment opportunities that are accessible to workers with varied educational and experiential backgrounds. Space has been identified for light industrial users that tend to offer more entry level jobs with greater opportunities for advancement. Other space has been identified for commercial office users that employ higher wage professionals with advanced educational backgrounds. Mixed in with these uses are service jobs that provide employment for many City of Milwaukee residents.

Employed residents are the single most important ingredient in the city’s economic health. Residents who hold jobs add value to the economy by using their skills to make employers more competitive, and the wages they earn are recycled locally and regionally through expenditures for everything from houses and cars to restaurant meals.

- City of Milwaukee’s Growing Prosperity Economic Development Action Agenda

Locating this mix of land uses in the middle of the city, with access to transit, and close to large labor pools will provide increased opportunities for city residents to work closer to where they live. As of 2014, only 10.7% of workers who live in the 53204 zip code (the near south side and a large portion of the Harbor District) also work within the zip code. Over half of the workers who live in 53204 leave the city of Milwaukee every day to work. If employment opportunities for existing near south side residents can be provided within the Harbor District, the resulting benefits related to commuting, household income, and linking the shared sense of community between near south side neighborhoods and the waterfront will have many positive effects for the Harbor District, the near south side, and the entire City of Milwaukee.

As the Harbor District is centrally located and well connected to existing transit networks, future employment opportunities here will be accessible to residents city-wide. The following recommendations are aimed at connecting city residents to future job opportunities.

1. Work with workforce development partners and employers to develop programming to connect city residents to employment opportunities in the Harbor District.
2. Encourage developers and contractors working on new development in the Harbor District to maximize the use of local subcontractors and neighborhood workers on construction projects, even when not required by project funding sources.
3. Attract businesses to the Harbor District that will provide job opportunities accessible to a wide range of existing area residents and then support those businesses in developing strategies and programs to hire from the area.
4. New commercial office developments should provide 75 full-time jobs per acre (as recommended in the Land Use Policies and Strategies section).
5. New industrial development should provide 22 full-time jobs per acre (as recommended in the Land Use Policies and Strategies section).

Housing

One theme that emerged repeatedly throughout the planning process and across all of the different public input venues was a desire that housing options in the Harbor District be accessible to households with a wide range of incomes. This is consistent with the goals of the Walker's Point Strategic Action Plan, which identified maintaining the social and economic diversity of the neighborhood and preserving housing affordability as primary goals. However, market trends and pressures in the neighborhoods surrounding the Harbor District are already working counter to that desire; new investment, waterfront improvements, and job creation spurred by this plan may well exacerbate those trends. Achieving these goals will therefore require deliberate public and private sector action and investment in the form of both policy tools and financial incentives.

The following goals and strategies should be pursued to ensure housing affordability and economic diversity remain ingrained in the efforts to create new housing options in the Harbor District.

6. Create new affordable and subsidized housing options and housing of varying sizes.

- a. Advocate for changes to the the Low Income Housing Tax Credit (LIHTC) Qualification Allocation Plan (QAP) that make it more attractive to develop affordable housing projects in areas that are close to employment opportunities, accessible to public transit, and/or are neighborhoods at risk of displacement.



- b. Include affordable housing units in any new multi-family residential development that involves the sale of publicly owned land.
 - c. Consider innovative housing approaches such as live/work and co-housing to provide a variety of housing options in the District.
 - d. Provide housing that is appropriate for larger family sizes and extended family living in the same household.
7. Preserve existing affordable housing units in and near the Harbor District.
- a. As Low Income Housing Tax Credit (LIHTC) subsidized affordable housing units age out of the program, identify strategies to maintain the units as affordable housing in perpetuity.
 - b. Consider mechanisms to protect elderly or fixed-income homeowners from the potential for displacement caused by rising property tax assessments, such as a property tax relief tools or community land trust.
 - c. Identify and implement additional strategies to preserve subsidized and naturally occurring affordable housing through the City of Milwaukee's ongoing Equitable Growth Through Transit Oriented Development planning study.

In the months following the adoption of the Water and Land Use Plan, the City of Milwaukee and Harbor District Inc. will continue evaluate the specific tools that are most appropriate to create and preserve affordable housing units in the area through the ongoing Equitable Growth through Transit Oriented Development Planning Study. That study will recommend specific financing strategies and policies that are tailored to Walker's Point and the Harbor District given current development trends and the potential for new housing demand caused by future transit investments. It will also set numeric goals for the number of affordable housing units that should be created or preserved in the area. All of recommendations that are likely to emerge from that study will require the same type of sustained, long term, public and private collaboration and commitment that went into the development of this plan if they are to be successfully implemented.

Parks and Public Space

While Milwaukee has an extensive park system with spaces managed by the City, County, and State, the distribution and access to parks and public spaces varies widely across the city and metro area. Areas of the city and metro area that are wealthier and whiter tend to have better access to parks and public spaces, with the near south side of Milwaukee providing an example of this inequity in park distribution.

The 53204 zip code (roughly, the near south side and a large portion of the Harbor District), has 1.8 acres of park per 1,000 residents. The City of Milwaukee averages 8.8 acres of park per 1,000 residents. Other waterfront areas in Milwaukee have numbers far exceeding the city average - as high as 30 acres per 1,000 residents. The discrepancy in park access is even starker when taking into account that a single park - Mitchell Park, on the western edge of the zip code - comprises 60 of the 73 acres of park in 53204.

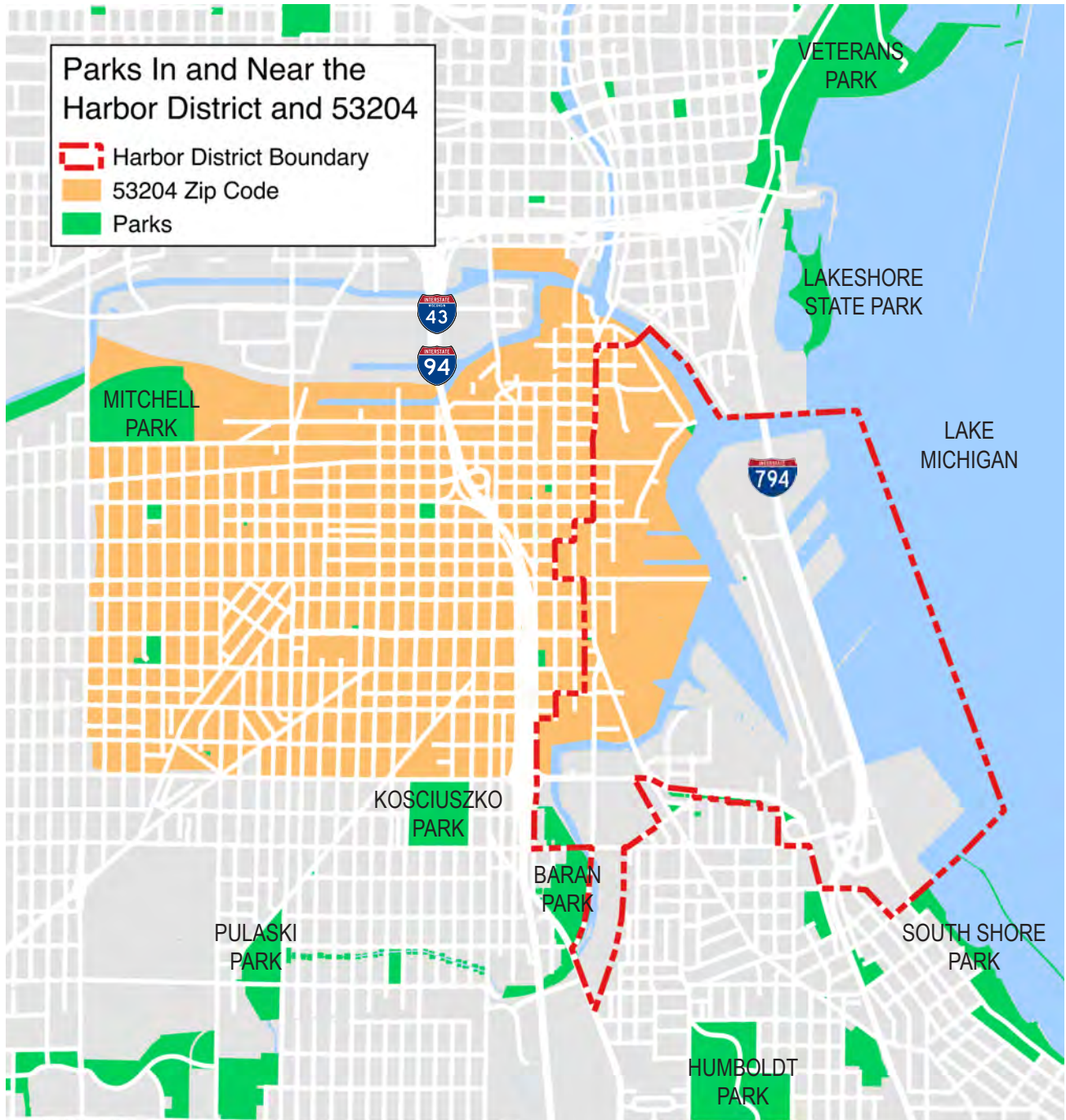
The recommendations in this plan aim to address the need for parks and public space on the near south side of Milwaukee by providing new parks in the portion of the Harbor District closest to the concentrations of households currently lacking in park access.

Recommendations below can also be found in other chapters and sections including Land Use Policies and Strategies, chapter 5 (sub-districts and corridors), and chapter 6 (catalytic projects).

8. Encourage a network of public spaces that includes the following: pocket parks, riverwalk, shared-use paths, boat launches, landscaped spaces between and in front of buildings, play areas and tot lots, recreational services, public spaces for social interaction, and streetscape enhancements such as benches, planters, street trees, and public art.
9. Ensure that all parks and public spaces are accessible by including connections to neighborhoods in and near the Harbor District via wayfinding signage and graphics, street networks, and pedestrian paths. Given that opportunities for new parks within the Harbor District are generally at the edges of the neighborhood, it will be vitally important to connect people to them via complete streets, shared-use paths, and public transit.
10. Create well marked, attractive, and visible access points and wayfinding signage or graphics to all parks, paths, riverwalk, and on the river itself (including exit points and ladders).
11. Create an uninterrupted network of waterfront public access as described in chapter 6: Improved Waterfront Experience catalytic project.
12. Design and build a new linear waterfront park that extends the length of the East Greenfield Avenue district. The park would include shared-use paths, a kayak launch, green infrastructure, more active spaces on the northern end (sports courts, playgrounds, etc.), and more natural spaces on the southern end (native vegetation, sloped water's edge, etc.). Further details in chapter 6: East Greenfield Avenue catalytic project.
13. Target unused railroad spurs for conversion to public shared-use paths, green infrastructure, or other public amenities.
14. Ensure that some new public spaces include active recreation opportunities (soccer fields, running paths, playgrounds, etc.) to respond to preferences expressed in the planning process.

15. Ensure that resident engagement during the design phase, especially from households currently lacking access to park amenities, is integral in shaping the programming and amenities of any new park spaces.

Should the recommendations for new park space in the Harbor District be fully implemented, park access in the 53204 zip code would be expected to rise above 2 acres of park per 1,000 residents. This is an improvement, but still well behind other areas in the city and additional opportunities for public and park space should be explored across the south side of Milwaukee. Where vacant land exists, such as in the East Greenfield District, it is important that some of that land is preserved as park and open space that can contribute towards reducing park access inequity.



Economic Development

Large tracts of land in the center of a city, with access to waterfront, workforce, and transportation routes, provide an opportunity for economic development. This section contains broad recommendations to guide the redevelopment of the Harbor District as a whole; for site-specific recommendations, see Chapter 5, Sub-District Recommendations.

Job Creation

As described in the Equity and Affordability section, attracting employers to the Harbor District creates job opportunities close to existing public transit and densely populated neighborhoods in the middle of the city. To fully capitalize on this locational advantage, new development should be held to minimum job density standards. The recommendations below were developed by creating economic models for various land uses based on similar developments in the Milwaukee area. These models were then analyzed to determine average job densities for the various types of development recommended in the Harbor District.

1. New commercial office developments should provide 75 full-time jobs per acre.
2. New industrial development should provide 22 full-time jobs per acre.
3. In recruiting new users, priority should be given to businesses that provide living-wage jobs accessible to those with a variety of educational attainment levels.

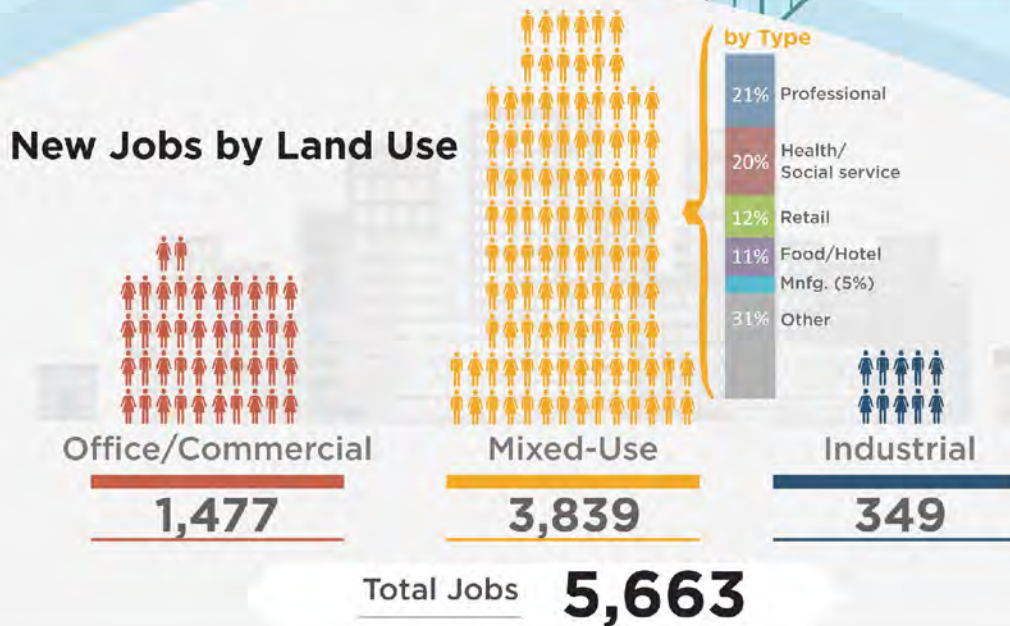
Using the models described above and identifying properties likely to change in the near future, an analysis was conducted to estimate the potential economic impact of the plan land use recommendations with regard to employment and property values.

Should the preferred land use recommendations be implemented on properties likely to change, there is the potential to create approximately 5,600 new jobs, with 2,300 of them being family-supporting jobs. There is also the potential to create up to \$864 million in increased property value. It should be noted that these are conservative estimates with properties likely to change only including currently vacant and underutilized properties, properties being actively marketed for sale, and properties that would change use under the proposed land use recommendations.

Milwaukee's Harbor District

Projected Economic Impact

Employment



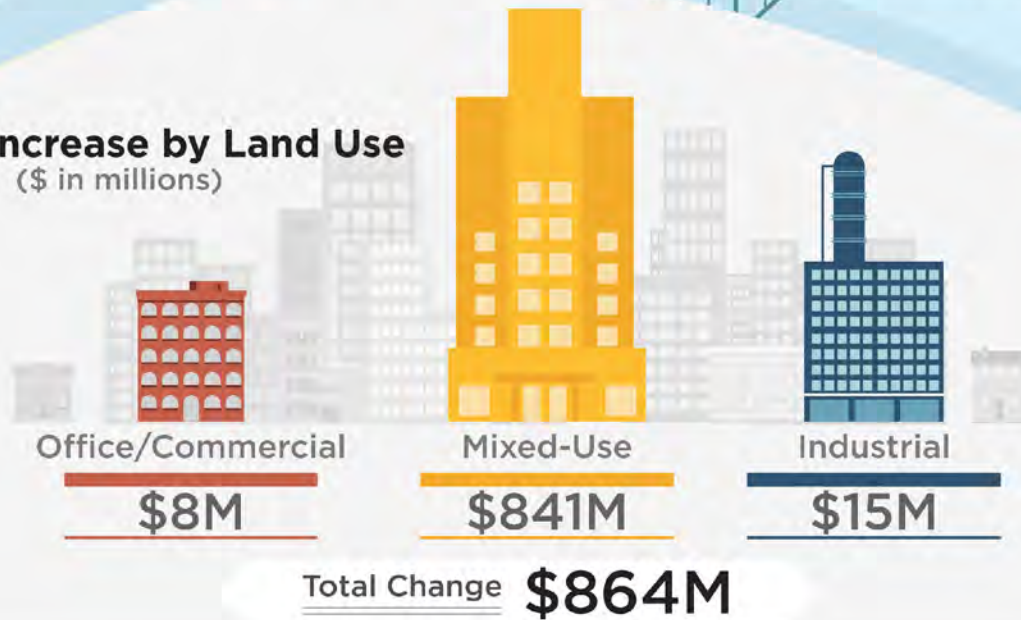
New Jobs by Annual Earnings



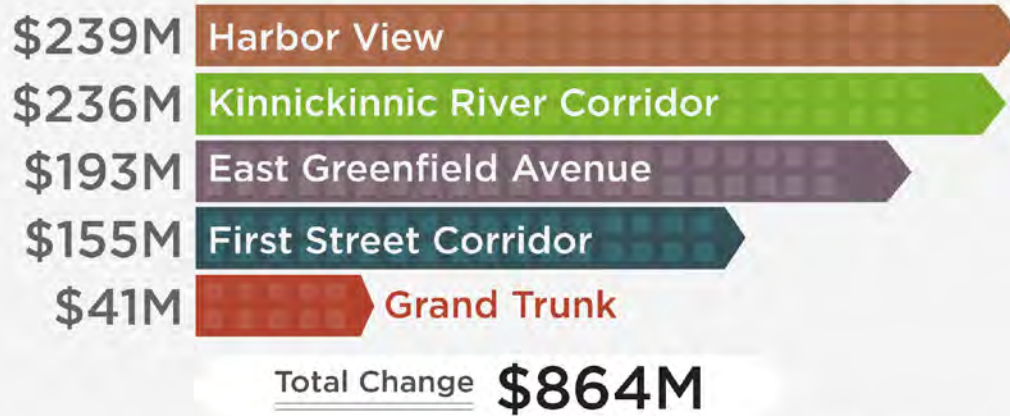
Analysis by Big Lake Data LLC. Sources: City of Milwaukee Master Property Database; U.S. Census LODES Dataset.

Milwaukee Harbor District's Projected Economic Impact Property Value Increases

Increase by Land Use (\$ in millions)



Increase by Plan Area (\$ in millions)



Analysis by Big Lake Data LLC. Sources: City of Milwaukee Master Property Database; U.S. Census LODES Dataset.

Small Business Support and Development

Entrepreneurship, business starts and business scale-ups are major employment drivers and indicators of the economic health and vitality of a city. The Harbor District has long been, and is still, home to the kind of low-cost, flexible space that is prized by new and small businesses. Older warehouse buildings like the Lincoln Warehouse at S. 1st and Becher serve as informal incubators that have helped many small businesses get their start. These buildings also play an important role in stabilizing an area where property values are low and generating economic activity. As property values rise, they may be redeveloped for higher value uses, and the small business tenants move on to a new area. The Tannery complex at S. 6th St. and Virginia, or the “Artery” - former artist studios in Walker’s Point now being redeveloped for housing - provide examples of this cycle.

4. Provide outreach to connect small businesses to existing resources and support. Ensure that outreach is responsive to the diversity of business types - from artisan manufacturers to professional offices - and the diversity of business owners.
5. Characterize space needs of second-stage businesses. Encourage development in the Harbor District, especially the First Street Corridor and Kinnickinnic River Sub-District, to meet the needs of these businesses.

Industry Attraction

The Market Analysis revealed 17 industry sectors that rely on large quantities of water in their production processes or for shipment or for both and, critically, are aligned to the industry clusters that drive Milwaukee’s economy. There is a potential for these sectors to be attracted to the Harbor District and to capitalize on the city’s workforce and supply chaining and local knowledge of end markets:

- Poultry processing
- Distilleries
- Breakfast cereal manufacturing
- Leather tanning
- Petrochemical manufacturing
- Cookie, cracker and pasta manufacturing
- Bread making and bakeries
- Organic chemical manufacturing
- Beet sugar manufacturing
- Paint and coating manufacturing
- Semiconductor manufacturing
- Carbon and graphite products
- Inorganic chemical manufacturing
- Milk and butter production
- Carbon black manufacturing
- Snack food manufacturing
- Soft drink manufacturing

Nine of these sectors are related to food and beverage manufacturing, an industry sector strongly represented in the District and identified as a primary target sector in several recent plans. Grain products are handled regularly at the Port of Milwaukee. Other sectors are related to chemical manufacturing, a driver cluster in the region and one whose raw materials were identified as ideal candidates for ship-borne transportation, with strong supply chains located around the Great Lakes. It may be possible to attract these industries to the Harbor District.

It should be noted that underutilized industrial sites are in strong supply across many Great Lakes waterfronts. The business sectors identified here do not necessarily need to be located on the water – they operate more efficiently with abundant supplies of fresh water (from water utilities) and with access to vessel shipping. That is to say, the Harbor District is competing with not only other waterfront cities to lure these industries, but with non-waterfront sites as well, in the city and in the region. Land demand is examined in the following section, but for the Harbor District to attract these uses or other redevelopment of brownfield sites, significant investment in site preparation will be required. This will include addressing cleanup and liability, trucking access and other issues to create “shovel-ready” development opportunities.

6. Focus attraction efforts on light industrial and commercial office users identified through the market analysis, or that contribute to Milwaukee’s Asset Industry Clusters, as identified in the City’s Growing Prosperity Economic Development Plan, and/or benefit from locating close to existing Harbor District anchors (Rockwell Automation, UWM School of Freshwater Sciences, the Water Council, etc.).

Industry Retention and Expansion

The Harbor District is already home to a wide range of employers, as described in Chapter 1. By far the most cost-effective means of ensuring jobs in the area is to retain the jobs that already exist here.

7. Provide outreach to existing businesses to connect them to support and resources, including workforce training, and to identify needs or concerns related to their continued operation in the Harbor District.



Storage tank on Jones Island. Photo by Eddee Daniel.

The Waterfront

Interview subjects, public meeting participants, and stakeholders of all types recognized the unique opportunity afforded by so much waterfront. Unlike Milwaukee's recreational lakefront, and populated corridors along the Milwaukee River, this waterfront has been focused on freight and industrial uses for many decades.

The Market Analysis did not find any growth industries appropriate to this area for which location on a waterfront was an essential factor. Many of the industries listed in the section above have the potential to move goods by water, but would simply need reasonable proximity to the Port for that; others required water as a process input and would be drawing on municipal water or We Energies steam. This does not preclude the possibility of finding a user for whom water frontage would be an important convenience or amenity – for instance, a manufacturer of wind turbines or other large equipment could realize significant savings by being able to ship directly from their site. For other users, a waterfront location might be an important element of their brand or image - a kayak manufacturer or a landscape firm specializing in aquatic restoration. However, such users represents a relatively small potential market and it would not be advisable to restrict the marketing of the District to just those users.

Port Milwaukee is an essential regional transportation asset, and can obviously only be located on the waterfront. See chapter 5, Jones Island sub-district, for specific recommendations related to Port Milwaukee.

8. Concentrate storage and freight transfer operations on Jones Island.
9. Free up the Port's more accessible sites outside Jones Island for job-intensive uses, which could still involve a shipping component.
10. Industrial uses that do not require a waterfront location should not be located on the waterfront.



Salt pile on Jones Island. Photo by Eddee Daniel.

Recreation and Tourism

The waterfront also offers an opportunity for economic development related to tourism and recreational use. As a whole, recreational marinas and boat services are not a strong growth industry; however, spending by recreational boaters while on trips is an economic driver for many communities, and anecdotal evidence suggests that Milwaukee misses out on significant potential as boaters make their way from Chicago to points north.

Cruise ships are not currently a significant portion of Milwaukee's shipping traffic, with annual visits of 2-3 vessels from Europe. However, spending by cruise ship passengers can also be a significant contributor to a local economy.

Paddling – in kayaks and canoes, and on stand-up paddle boards – is a still small but rapidly growing market. Nationally, participation in kayaking has grown from 1.8% in 2007 to 3.2% in 2016 – but in the upper midwest, participation has only reached 2%. Locally, kayak rentals and tours have seen exponential growth.

11. Conduct further research into the opportunities to attract more recreational boating into the Inner Harbor.
12. Explore partnerships with other districts and organizations to create mobile or print maps and guides.
13. Consider recreational destinations – eating and drinking establishments, rental locations, shops - among the mix of uses for waterfront locations.
14. Provide more access points for recreational boats of all sizes. Consider ease of use for a variety of types of boats and experience levels of users. On land, ensure adequate parking, signage and other necessary amenities for users.
15. To promote patronage of waterfront businesses by water users, ensure adequate public docking facilities and communicate availability through mobile and print maps. Consider land-based storage systems for kayakers or a kayak-share system.
16. Explore opportunities for water taxi stops and routes which could address the poor connectivity of many Harbor District areas and provide an interesting attraction and amenity for residents, employees and visitors.
17. Ensure that planning considers the safe use of waterways by a range of users as described in The Water sub-district in chapter 5: Sub-District and Corridor Recommendations.

Public riverwalk with marina and overnight docking facilities in Manistee, Michigan.



Environmental Cleanup

Much of the land of today's Harbor District was "created" by filling its marshes with a variety of materials, from relatively clean soil to household and construction waste to foundry sand. Once filled, the land was used by a wide variety of heavy industries: tanneries, coke manufacturing, an iron mill, metal fabrication, and chemical companies.

Today, both the land and waterways of the Harbor District carry the legacies of that history. Land, river sediment, and groundwater have a wide range of contaminants. Additionally, organic materials from the original marsh contribute to very soft soils that slowly release methane gasses. The negative impacts of the contamination have led to the Milwaukee Estuary's designation as an Area of Concern, with eleven identified Beneficial Use Impairments. The Harbor District has one Superfund Alternative site within the Milwaukee Estuary, and many other sites that will require environmental clean-up for future use.

Additionally, the waterways are affected by the more modern problems of urban and agricultural runoff. By the time they reach the Inner Harbor, the three rivers have acquired excesses of salt, suspended solids, phosphorus, trash, animal waste, and other contaminants.

Contaminated soils and methane complicate future re-development. Uncertainty related to the cost and duration of site clean-up can prevent interested users from investing in the area. Poor water quality and contaminated sediments in the waterways limit recreational use of the rivers and adversely affect fish populations.

Recommendations:

1. Complete projects that will support the delisting of the Milwaukee Estuary Area of Concern, particularly cleanup of contaminated sediments within the Inner Harbor.
 - a. Create a collaboration among responsible parties, the City and Port Milwaukee, non-profit stakeholders, and state and federal regulators and agencies to coordinate a comprehensive cleanup of sediments, leveraging Legacy Act funds if possible to remove "orphan" sediments.
2. Complete environmental characterization of publicly-owned sites to reduce uncertainty. As Milwaukee learned with the redevelopment of the Menomonee Valley Industrial Center, shovel-ready sites can readily compete with greenfield sites for high-quality users.
3. Identify financial resources to assist private property owners with clean-up of their sites.
4. Provide guidance for property owners to demystify environmental liabilities and clean-up requirements.
5. Encourage collaborative efforts and information sharing that can result in more cost-effective cleanups and better environmental outcomes.
6. Advocate for high standards in clean-up projects to improve the environmental quality of the area.
7. Advocate for the enforcement of existing environmental regulations and improved regulations to protect the area's future environmental quality.

Stormwater Management and Water Quality

This section describes the broad policies and strategies to direct future stormwater management practices in the Harbor District. The section begins with an overall vision for the purpose and function of stormwater management in the Harbor District before moving to district-wide recommendations. Additional recommendations and priority projects for stormwater management can also be found in chapter 5: Sub-District and Corridor Recommendations.

Vision

The Harbor District will strategically capture or clean the first 15,000,000 gallons of stormwater - the first ½ inch of rainfall across the entirety of the District - to protect the Combined Sewer System and to improve water quality in adjacent water bodies. Innovative and integrated stormwater management practices will improve water quality, provide green space, improve urban habitat, and reconnect the community to the historical and cultural significance of water in the area.

Background

Stormwater runoff is one of the biggest sources of pollution in urban areas. Streets, parking lots, rooftops, and lawns are covered in dirt, dust, bacteria, fertilizers, trash, and other pollutants. In the Harbor District, stormwater carries these pollutants either to the Combined Sewer System (CSS) or into the Kinnickinnic River and Inner Harbor. Practices on the land have direct impacts on water quality in our surrounding rivers, the Harbor, and on Lake Michigan. Capturing and treating stormwater runoff on the land - either through green infrastructure or other practices - helps reduce pressure on the CSS and helps improve water quality in adjacent waterways.

Different approaches will be necessary to achieve water quality and quantity goals across the District, depending on whether sites are riparian or are served by the CSS. Additionally, some areas in the Harbor District currently lack stormwater or sewer infrastructure. Significant infrastructure planning will be needed in these areas, providing an opportunity to install innovative, effective infrastructure from the onset.

Recommendations

1. Ensure that the treatment of stormwater runoff from riparian and separate storm sewer properties exceeds regulatory standards.
 - a. Prepare for impending changes in regulations, including the Total Maximum Daily Load (TMDL) implementation process.
 - b. Achieve a 50% reduction in total suspended solids District-wide.
 - c. For new construction sites, target an 80% reduction in total suspended solids.

2. Capture and/or clean the first half-inch of stormwater on site to reduce impact on waterways and to reduce pressure on the CSS.
3. Complete next level stormwater management planning for the Harbor District's planning districts and corridors. Planning should include a regional stormwater management network, specific to the unique needs and constraints of each of the districts and corridors, to assist property owners in achieving water quality goals.
 - a. Utilize the Kinnickinnic River Green Infrastructure Plan to identify water quality "hot spots" and target green infrastructure and stormwater management projects in those areas to provide the most water quality benefits for the investment.
4. Create a stormwater substitute City ordinance to Chapter 120 for properties within the Harbor District. Adapt language from the City's Chapter 120-14, "Control of Storm Water Discharge for the Milwaukee River Greenway Site Plan Review Overlay Zone" to trigger stormwater management regulations at 5,000 square feet or more of impervious area.
5. Implement green and grey infrastructure best management practices to provide buffers or treatment systems for areas of impervious cover larger than 5,000 contiguous square feet.
6. Prioritize the use of green infrastructure.
 - a. Encourage site-to-site connectivity of stormwater ribbons, bioswales, and other landscape features.
 - b. Design stormwater management practices to produce multiple benefits including: greening, habitat, improved aesthetics, and educational, historical, or cultural value in addition to stormwater and water quality improvements.
 - c. Avoid wet stormwater ponds whenever possible.
 - d. Develop incentive programs for new and existing developments to install and maintain green infrastructure projects.
 - e. Include components of the City's Green Streets program, as appropriate, with all new street build-outs or roadway reconstruction projects.
7. Inform the prioritization of projects in the Kinnickinnic River Nine Key Element Plan and work towards implementing priority projects in the Harbor District.
8. Whenever possible, incorporate stormwater best management practices as part of other construction projects to provide cost efficiencies and water quality improvements.
9. Achieve a better balance between impervious cover and green space at new construction and redevelopment sites.



Stormwater park in Los Angeles, CA. Shared stormwater green infrastructure could be integrated with new development in the East Greenfield Avenue sub-district.



Sidewalk bioswale in Washington, D.C. Example of green infrastructure that could be deployed in more urbanized areas of the Harbor District.



Rendering by James Wasley of a possible habitat feature and green infrastructure at the west end of the UWM School of Freshwater Sciences slip.

Rendering from the Bay View Wetland Master Plan showing potential habitat, public access, and green infrastructure at the Grand Trunk Wetland.





Sustainable Resource Consumption

The current planning and revitalization effort in the Harbor District was sparked by a recommendation in the City of Milwaukee’s Refresh Milwaukee plan: to make this area a catalyst for sustainability in Milwaukee. Many topics related to sustainability are covered in greater depth in other sections of this plan, including stormwater and water quality, pedestrian and bicycle access, economic development, and social equity. Beyond those topics, several attributes of the area present unique opportunities to make it a showcase for sustainability and are outlined here.

Sustainable Water Use

Milwaukee is fortunate to have a concentration of water research and technology companies, a water industry nonprofit, the Water Council, and the UW-Milwaukee School of Freshwater Sciences all working to advance Milwaukee’s standing in the global water industry. One of the success stories of their work has been the development of the Alliance for Water Stewardship (AWS), “a global network that promotes responsible use of freshwater that is socially and economically beneficial and environmentally sustainable.”

With the AWS located a few blocks away in the Global Water Center, the Harbor District is the perfect place to pilot the AWS’ water stewardship system on a district scale. As a relatively new program, the AWS has mostly worked with large global corporations to better manage their water usage and stewardship. However, the same AWS principles and certification system that apply to individual corporations can also be applied to geographic areas, individual users, or watersheds. AWS and Harbor District businesses and institutions can work together to apply the AWS approach to the Harbor District and serve as the model for district-scale responsible water use and stewardship.

1. Work with a select group of businesses, institutions, and property owners to implement the Alliance for Water Stewardship (AWS) International Water Stewardship Standard. The long-term goal is for all businesses and institutions in the Harbor District to adhere to the AWS standard.



The Greenfield Avenue Gateway at the corner of 1st and Greenfield captures 40,000 gallons of rainwater and circulates it through native wetland planters.

District Steam Energy

We Energies has been providing steam energy for Milwaukee's greater downtown area since 1897. In recent decades that steam has been produced at the Menomonee Valley Power Plant and distributed to more than 400 customers that include a number of large downtown properties, Marquette University, Aurora Sinai Hospital, Rockwell Automation, and the UWM School of Freshwater Sciences.

Steam district energy provides numerous benefits to users including the elimination of boiler systems and other mechanicals at end user facilities, improved energy efficiency, and the elimination of on-site combustion and associated emissions and emissions systems. Participation in a steam district energy system can also qualify for points towards green building certification programs such as LEED. We Energies steam is food-grade and can be used in a variety of industrial processes.

Much of the western and northern portions of the Harbor District are served by this district energy system, but with few actual users. There is an opportunity for many more properties and businesses to take advantage of the benefits of a district energy system, especially where existing steam service lines exist along South First Street and East Greenfield Avenue.



Pipes carrying steam from the Menomonee Valley Power Plant to customers in the downtown area.

2. As properties are developed or redeveloped, connections to We Energies' district steam energy system should be encouraged where feasible.

Lake Water Cooling

The Harbor District's location at the shores of Lake Michigan provides a unique opportunity for renewable energy in the form of cold lake water. Lake or sea water cooling systems draw cold water from the depths of large water bodies, such as Lake Michigan, and use it to cool buildings in a manner that is much more efficient than traditional building cooling systems. Research has shown that deep water cooling systems use 1/10 the average energy needed for traditional building cooling systems.

Local examples of lake water cooling systems exist with relatively recent systems installed on Milwaukee's lakefront at Discovery World and the Milwaukee Community Sailing Center. The University of Wisconsin-Milwaukee main campus on Milwaukee's upper east side has had a deep water cooling system serving the entire campus for decades. While initial construction costs for deep water cooling systems may be expensive, the return in the form of improved energy efficiency over time can be significant.

3. Explore opportunities to install lake water cooling systems, especially at the district scale.

Habitat and Ecology

Vision

Enhanced aquatic, riparian, and terrestrial ecosystems in the Harbor District achieve a balance between natural and human-altered systems.

While the Harbor District will never return to the rich fish- and wildlife- supporting estuary that it once was, there is certainly room for the industrial urban environment to exist in harmony with improved natural systems. Steel sheet piling shorelines can offer pockets of native vegetation to improve both habitat and aesthetics. Swales and vegetated buffers can improve water quality, clean and capture runoff, while providing habitat for pollinators, birds, and other species.

Background

Prior to its use as an industrial port, the Harbor District area was home to an impressive array of ecosystem types. Due to its location in the “tension zone” - a transitional area between the southern and northern plant communities - Milwaukee was home to a diverse compilation of prairies, forests, and wetlands. Fish communities including lake sturgeon, northern pike, lake trout, yellow perch, walleye, and catfish were among the abundant fish that once called this area home, thriving in the networks of rivers and wetlands. The area was home to countless bird species, and also to many fur-bearing animals that supported the early fur trading economy in the area.

Despite its urban character and altered habitat, a surprisingly resilient urban ecosystem is present in the Harbor District today, though, largely due to years of neglect. The remaining habitat in the area is dominated largely by invasive species, both plants and animals. The Grand Trunk wetland is dominated by invasive plants, and invasive quagga mussels thrive in the harbor. A handful of shore bird species can be seen from the water, migratory birds frequent the Combined Disposal Facility’s naturalized areas, and 58 different species of fish have been documented in the various Harbor District waterways. However, many of the bird and fish species present today are just passing through, and fewer of these species are true residents of the area. Much of the habitat that remains today is too degraded, too small, and too disconnected to support healthy ecosystems. In many cases the soils and sediment are also contaminated as well, providing an unhealthy environment for those species that are still present.



Ducks along the Kinnickinic River. photo by Ethan Taxman

Land Recommendations

1. Promote the rehabilitation and restoration of habitat resulting in over 6 acres of restored wetlands, over one mile of shoreline improvements, and an improved network of aquatic and terrestrial habitat.
2. Restore the Grand Trunk Wetland providing improved habitat for Northern Pike spawning. Restore adjacent ephemeral ponds, forest, and grassland habitats to support amphibians, reptiles, birds, and small mammals, and to provide a buffer between development and the wetland.
3. Promote the use of native landscapes, and other green infrastructure-focused landscapes rather than the use of grass lawns.
4. Promote native landscaping, bioswales and vegetated buffers, and an improved urban tree canopy across the District to create a more cohesive green network. Work with property owners and developers to include these components, even at small scales, on their properties.
5. Increase the urban tree canopy to the City of Milwaukee average of 23%.
6. Promote complete streets and street trees or stormwater trees with the creation of a new street grid and with other street improvements.
7. Create corridors of native vegetation where possible along trails and other public access points to improve terrestrial habitat and habitat connectivity.
8. Provide incentives for native landscaping, green buffers and other green infrastructure practices that support stormwater retention and habitat benefits. Include these considerations in a possible Harbor District Stormwater Credit System, or similar incentive program.



Habitat Hotels

Steel sheet piling is the dominant shoreline type throughout the Harbor District, and also in many other urban waterways. While steel sheet piling supports shipping and flood control, it is the least conducive shoreline type for aquatic habitat. The Habitat Hotels project seeks to provide improved habitat features along stretches of steel sheet piling to help connect otherwise disparate patches of habitat throughout the harbor area.

Habitat Hotels are submerged habitat structures installed into the recessed portion of steel sheet piling. Habitat features - including fish shelves, underwater planter boxes, and native aquatic plants - are layered vertically along a central pole to mimic the habitat typically found along a natural shoreline. They are low-cost and low-maintenance, but perhaps most importantly, the Habitat Hotel structures are built in partnership with the welding program at Bradley Technical High School, installed in partnership with the UWM School of Freshwater Sciences, and planted with local K-12 students helping to connect area youth to the waters - and the fish - of the Harbor District.

Water Recommendations

9. Work with partners to implement science-based pilot projects to improve aquatic habitat connectivity, assess and share results, and incorporate new best practices into future developments.
10. Develop and implement innovative solutions to improve shoreline and aquatic habitat. In some locations, this may include “naturalizing” the hardened shorelines; in other locations this may include the installation of Habitat Hotels or other engineered habitat features.
11. Implement all projects identified as necessary for delisting habitat-related beneficial use impairments in the Milwaukee Estuary Area of Concern.

Education Recommendations

12. Utilize the changing urban environment as an educational tool to engage area youth and families.
13. Develop signage and programming to educate visitors on the ecological aspects of the Harbor District and ongoing efforts to protect and preserve habitat and ecosystems. Special focus should be given to educating City of Milwaukee youth who often have few opportunities to interact with natural systems.



Milwaukee Estuary Area of Concern (AOC)

Areas of Concern (AOC) are some of the most polluted and altered areas along our Great Lakes. Past human activities – industry, logging, mining, etc. – have left behind contamination or otherwise altered the ecosystems so much so that special attention and resources are needed to restore the areas. There are 31 Areas of Concern in the United States, and five in Wisconsin.

The Harbor District is at the center of the Milwaukee Estuary AOC. Priorities here include remediating contaminated sediments in the waterways, controlling non-point source pollution, improving water quality for recreational purposes, and enhancing fish and wildlife populations.

More information on the Milwaukee Estuary AOC can be found online at <http://dnr.wi.gov/topic/greatlakes/milwaukee.html>.

Public Art

Throughout the planning process, community members and stakeholder recommended public art as a tool for advancing or achieving plan goals. People saw public art playing a variety of roles as the Harbor District changes in the coming years. Key opportunities for art include:

1. Educate the public on issues and opportunities in the Harbor District. Public art can help people understand the complex context and dynamics of this changing part of our city, its importance, and the future vision.
2. Activate spaces temporarily that may take time to develop or change. Many spaces in the Harbor District will take time to clean and develop. While those processes are playing out, there is an opportunity for public art to temporarily activate or beautify those spaces to signal to the wider community that change is happening and there is great potential in this place.
3. Build awareness of revitalization efforts. Public art can grab people’s attention in a way that few other media can. Location-specific work can highlight challenges and opportunities of a specific site.
4. Honor people, places, or events of cultural or historic importance. Public art can illustrate and educate the community on the variety of people, cultures, businesses, institutions, and traditions that have made the Harbor District what it is today.



Artistic wayfinding signage at a museum in Sheffield, England.



Temporary public art installation on vacant lot in Phoenix, AZ.



“Culture Work” mural on Mitchell Street honoring Wisconsin’s Latino immigrant workers and the 50-year history of UMOS.

5. Assist visitors with wayfinding using artistic signage. As highlighted in other sections of this plan, much of the Harbor District is currently difficult to access and separated from the rest of the city by railroads, dead-end streets, and waterways. Creative signage is more likely to draw the attention of people and may make wayfinding signage more effective. Artistic signage would also contribute to the identity and character of the Harbor District as people would associate the artistic signage with this area.

An art exhibition in Berlin, Germany educates visitors on the effects of climate change on German forests.



6. Illustrate or illuminate production or processes for industrial or utility properties in the Harbor District. Industrial and utility properties often screen their facilities to mask the activities within. However, views into a building can provide an engaging form of urban theater, and creative screening and fencing can also be used to intrigue and inform. As manufacturers struggle to recruit new workers, this could prove a cost-effective means of marketing.

Sculpture in Toronto, Canada.



7. Maintain physical and visual connections to the water. With the main amenity and defining attribute of the Harbor District being the water, public art can play a role in celebrating that identity and preserving access to the water's edge, illuminate features of the water that may not be always visible or below the surface, and accentuate important locations along the water's edge.

Artistic seawall in Vancouver, Canada.



8. Beautify the built environment. In its most basic sense, people generally think of public art as a method for beautifying spaces and places. This can mean placing public art in a location in the form of a mural, sculpture, or some other physical installation. However, it can also mean taking an artistic approach to the design of buildings, public spaces, and infrastructure. All aspects of the future development of the Harbor District should strive to incorporate art in an effort to create an attractive, unique, and engaging urban environment.

Artistic water fountain in Toronto, Canada that filters water and is part of a neighborhood-wide stormwater treatment facility.



5 SUB-DISTRICT AND CORRIDOR RECOMMENDATIONS

This chapter provides more detailed place-based recommendations for the seven sub-districts that make up the Harbor District plan. The map below shows the district boundaries. The recommendations for the districts are based on the plan's analysis phase, public involvement, and the Harbor District Market Analysis.



Harbor View



The Harbor View sub-district is located along Milwaukee’s inner harbor waterfront and bounded by Pittsburgh Street, the Milwaukee and Kinnickinnic Rivers, the Greenfield Slip, and the Canadian Pacific Railroad.

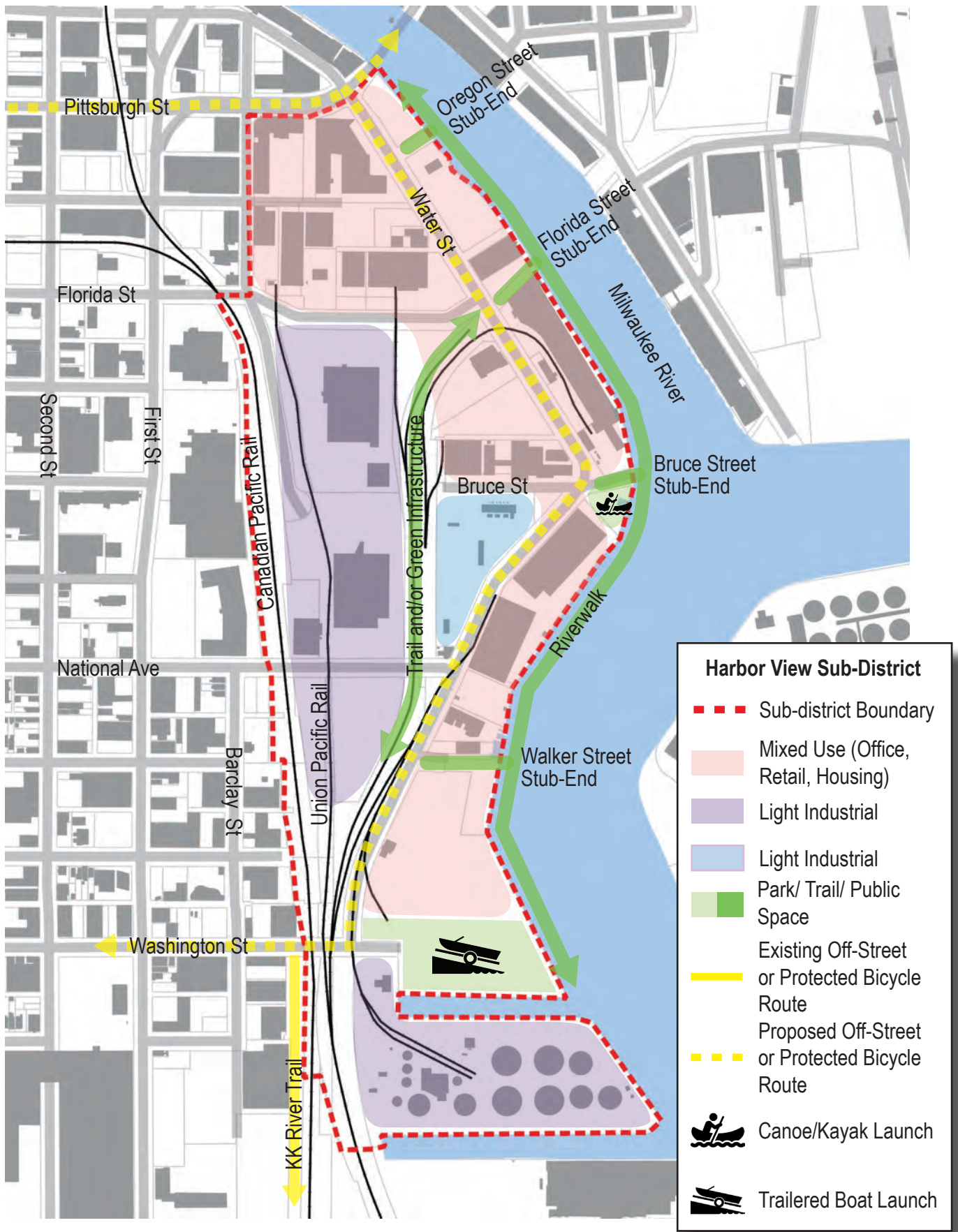
Existing Conditions

The Harbor View sub-district was historically an industrial and warehouse district that is experiencing a great deal of change. Many buildings that served as warehouse or manufacturing space have been converted to housing, offices, and retail with most of the development happening north of Florida Street.

The area South of Florida Street is a mix of industrial, warehouse, utilities and marine businesses. There are three rail spurs, two of them unused, that end in the sub-district near Florida Street. The only public water access point in the entire Harbor District is located along South Water Street at Bruce Street. The elevated Canadian Pacific railroad separates the sub-district from the Walker’s Point neighborhood immediately to the west. There is a 2.5 acre vacant site owned by the Redevelopment Authority of the City of Milwaukee in the middle of the sub-district. Construction Resources Management’s asphalt tank facility on South Water Street is the southern border of the sub-district.

District Vision

The Harbor View sub-district will continue its transformation from an industrial and warehousing area into a mixed-use live, work, and play neighborhood. The area will have a true mix of uses incorporating residential, office, retail, light industrial, and public spaces. The area will have a compact, urban form that is walkable and inviting. New access to the waterfront will provide residents and visitors an opportunity to visit and enjoy the place where the Milwaukee and Kinnickinnic Rivers meet and flow into Lake Michigan.



Land Use

The Harbor View sub-district should continue transitioning to a mixed-use neighborhood that offers people places to live, work, and play. While older industrial buildings and warehouses are being converted to housing, offices, and retail, existing businesses will continue to operate and provide employment to city residents. A new public space network will be created that will provide improved access to the waterfront, new bicycle and pedestrian options to travel to and through the sub-district, and new green space for nearby residents.

1. Create a Riverwalk Overlay Zoning District aimed at creating continuous public access to the waterfront, that includes all waterfront parcels in the East Greenfield Avenue sub-district. During the overlay zone adoption process, Harbor District Inc. and the City of Milwaukee will work with property owners to ensure that future Riverwalk plans and designs are responsive to property owner safety, security, and operational needs.
2. Encourage a mix of residential, office, retail, and light industrial to develop on parcels currently zoned as Industrial-Mixed.
3. Support proposed redevelopment of the former Wisconsin Cold Storage buildings and adjacent properties at 318 and 338 South Water Street and 343 and 344 East Florida Street as office or mixed-use developments consistent with the building form and design guidelines in this chapter.
4. Maintain existing industrial zoning for the parcels zoned as such between Florida Street and National Avenue, excluding 343 East Florida Street which serves as a buffer between the industrial uses to the west and future office/mixed use development to the east. Consider rezoning this parcel if needed to facilitate the development recommended in this section if it will not cause additional land use conflicts in this buffer area.
5. Explore opportunities to activate the Redevelopment Authority of the City of Milwaukee owned parcel at 317 East National Avenue in a manner that supports existing or future light industrial development or provides public green space or green infrastructure designed to complement neighboring uses.
6. When the property at 900 South Water Street transitions uses in the future, target the southern portion of the property to construct a public boat launch that serves both trailered boats and canoes/kayaks as described in chapter 6: Improved Waterfront Experience catalytic project. This space would provide more parking for vehicles and trailers, a safer launch point protected from lake waves and wind, and act as a buffer between industrial uses to the south and commercial and residential uses to the north.

Building Forms

Land use recommendations for the Harbor View sub-district are to continue the high density mixed-use development pattern that has predominated the area in recent years. Therefore, recommendations for future building forms are focused on higher density development, a broad mix of uses, and an engaging and pedestrian friendly streetscape.

7. Encourage high density multi-story buildings that take advantage of views to the water and the urban environment.
8. New developments should complement the existing physical form of the urban environment and have minimal building setbacks.
9. As the industrial users between Florida Street and National Avenue change or expand their facilities in the future, street facing portions of their buildings should include windows, architectural details, and entrances/exits that provide a more engaging and pedestrian friendly streetscape.
10. Newly constructed buildings on waterfront properties should endeavor to allow for points of access to the water at least every 300 feet.
11. The We Energies sub-station located along South Water Street south of Bruce Street should be screened in an aesthetically pleasing manner.



Transportation

Harbor View’s location and industrial past have left behind a legacy of various transportation modes including docks, rails, streets, and sidewalks. In some cases all of these modes of transportation are layered on top of each other in the same place. Creating a transportation network that helps people travel to and through the Harbor View sub-district in a safe and efficient manner is important to moving goods and people and important to achieving many of the other goals listed in this plan.

- 12. Remove the three Union Pacific rail spurs north of Washington Street and, where rail right-of-way does not already belong to a private owner, convert to shared-use public paths with stormwater best management practices and access to public streets where appropriate.
- 13. Create an on-street protected bicycle lane along South Water Street from Washington Street to Pittsburgh Street. This bicycle lane will serve as the northern portion of the Kinnickinnic River Trail as described in the Access and Mobility Catalytic Project.
- 14. Create an on-street protected bicycle lane along Pittsburgh Street that will serve as a portion of the Hank Aaron State Trail as described in the Access and Mobility Catalytic Project.
- 15. Remove any unused railroad tracks located in the right-of-way on South Water and Florida Streets to create a safer bicycling route.



Union Pacific Rail spurs ending in the Harbor View sub-district.



Unused rail spur near Florida Street.



Rendering showing Union Pacific rail spurs converted to public trails and green infrastructure with additional infill development. Rendering by UWM Community Design Solutions.

Public Space

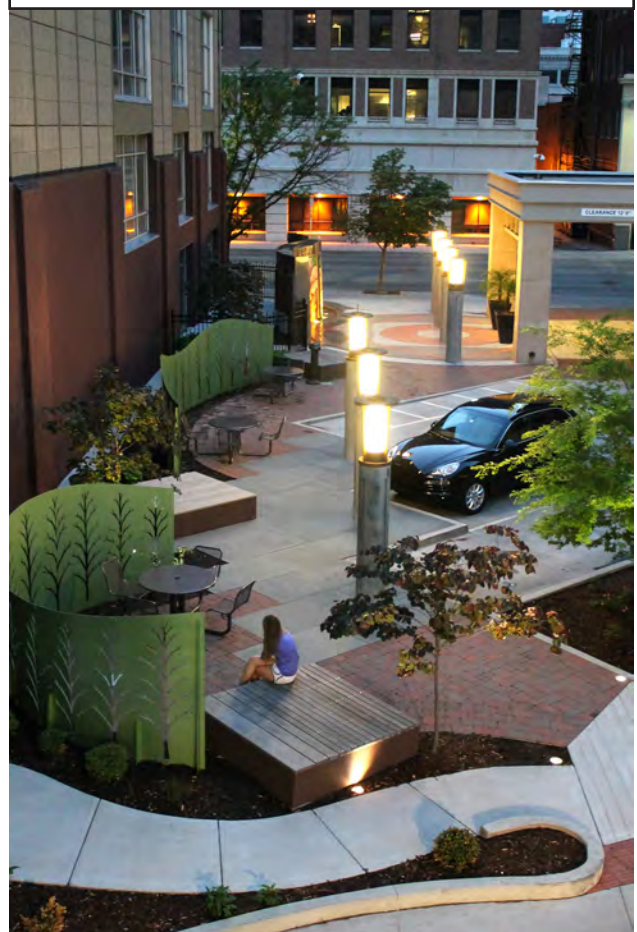
As the Harbor View sub-district is densely developed on the northern end, and likely to become more dense as development continues, opportunities to create green spaces and other public spaces are a high priority. This is especially true along the waterfront where the only current public space and access to the water is at the Milwaukee County Boat Launch on South Water Street. However, despite the dense development patterns and industrial character of much of the sub-district, there are numerous opportunities to create new green space as described below.

16. At the four waterfront stub-end streets (Oregon, Florida, Bruce, and Walker Streets), design plaza or park-like connections between South Water Street and the Riverwalk that include public space amenities such as landscaping, planters, benches, trees, public art, and wayfinding signage while allowing for vehicular access to adjacent properties if necessary. The Bruce Street stub-end street should be incorporated into larger designs for improving the Milwaukee County Boat Launch.
17. Improve the Milwaukee County Boat Launch and adjacent Bruce Street stub-end to better serve as a waterfront park space. The space should be redesigned to include more natural features (trees, landscaping, natural vegetation) and more public amenities (benches, lighting, public art, wayfinding signage). The boat ramp should be redesigned to better serve canoes and kayaks.
18. When the property at 900 South Water Street transitions to a new use, consider a new boat launch at this location. The new boat launch would offer an improved experience for boaters over the current Bruce Street launch, and serve as a buffer between the industrial uses to the south and new mixed-use development taking place to the north.
19. Explore opportunities to reuse the railroad swing bridge in the Milwaukee River near the end of Florida Street as a public amenity or park.

Unused railroad swing bridge in the Milwaukee River near Florida Street. photo by Eddee Daniel



Pocket park approximately the size and shape of the stub-end streets.



Stormwater

As much of the Harbor View sub-district is already densely developed, opportunities for green infrastructure to manage stormwater are limited. Future development, whether private projects or public spaces and infrastructure, should think creatively about how to best manage stormwater in a dense urban environment. Parcels that lie within the combined sewer area should identify ways to divert stormwater away from the combined sewer system. Parcels that lie outside the combined sewer area drain directly to the rivers, and are encouraged to capture, filter, and clean stormwater prior to discharging to neighboring waterways.

20. Capture 1.4 millions gallons of stormwater in the Harbor View Sub-District through green infrastructure and other stormwater management best practices to protect water quality.
21. As improvements are made to the Milwaukee County Boat Launch and the four waterfront stub-end streets (Oregon, Florida, Bruce, and Walker Streets), include stormwater features and green infrastructure.
 - a. Use these public improvements to provide education about stormwater and water quality.
22. A new public boat launch at the southern end of the Harbor View district should include green infrastructure to capture runoff from the parking lot while helping to create a more inviting public space along the waterfront.
23. When the north side of Florida Street between Barclay and Water Streets is redeveloped, work with adjacent property owners to maximize the capture of stormwater runoff.

Habitat

Due to its location at the confluence of the river system and Lake Michigan, special consideration needs to be given to creating aquatic habitat and improving habitat connectivity along the shoreline of the Harbor View sub-district.

24. Incorporate terrestrial and aquatic habitat into Riverwalk.
25. Enhance both active and abandoned rail corridors with native plantings to provide habitat.
26. Add at least one aquatic habitat location/feature to each waterfront property in the Harbor View area. Habitat features include Habitat Hotels, floating islands, fish shelves, and other innovative habitat installations that provide space for fish to find food or cover.
27. Should the RACM owned vacant parcel at 317 East National Avenue be developed as a public space, incorporate improved habitat for pollinators, birds, and a native plant community appropriate for the urban location which honors the historic grasslands of Southeastern Wisconsin.

Public Art

The Harbor View sub-district is where the Walker's Point neighborhood comes closest to the waterfront and the industrial port, providing an opportunity for public art to highlight how those two different identities interact.

28. The redesign of the Milwaukee County Boat Launch should incorporate public art to create an inviting and interesting space along the waterfront. Explore opportunities to create interactive and/or educational art elements that engage visitors in experiencing and learning about the Harbor District.
29. Properties with outdoor facilities, such as the We Energies substation, should use public art for creative screening or to highlight the operations or processes taking place within the property.
30. The former grain silos on South Water Street provide opportunities for both short and long term public art installations, depending on the future of the silos.



First Street Corridor



The First Street Corridor is the western boundary of the Harbor District and includes portions of the Walker's Point and Clock Tower Acres neighborhoods. The corridor is bounded by Pittsburgh Street, the Canadian Pacific railroad, West Maple Street, and First Street.

Existing Conditions

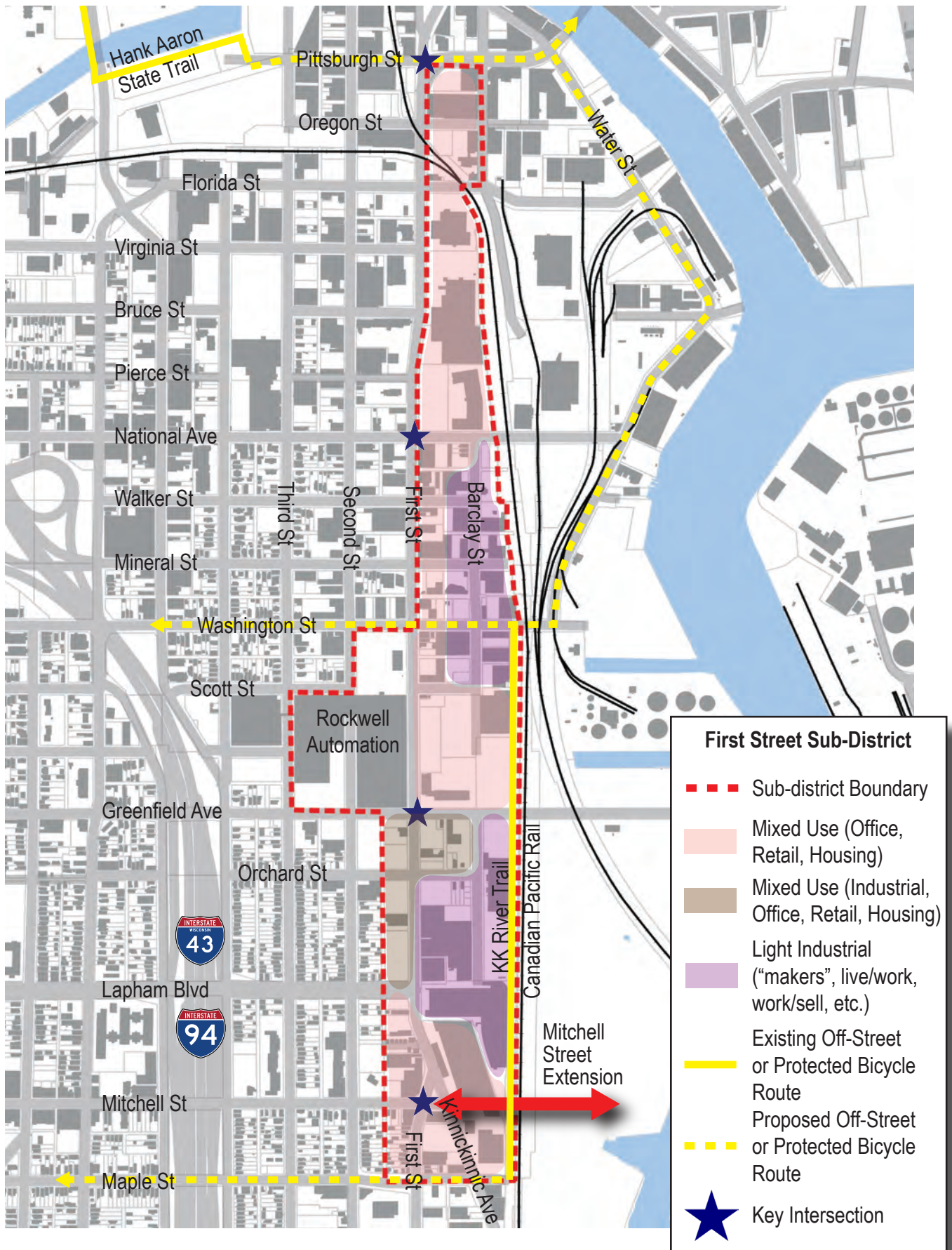
The First Street Corridor is the most urbanized and developed portion of the Harbor District and includes areas of the Walker's Point and Clock Tower Acres neighborhoods. Like much of the Harbor District, the corridor is an area in transition with new multi-family housing and office developments completed or planned in recent years. The corridor serves as a major transportation connection between the Bay View neighborhood, the Near South Side, and Downtown Milwaukee.

The area is truly mixed-use with a variety of building types and uses ranging from industrial to commercial to residential. Along South First Street there are many low-rise industrial and/or warehouse buildings with those north of National Avenue set back from the street with large parking lots. There are a number of employers along the street with office and small manufacturing companies located north of National Avenue, Rockwell Automation and its 2,800 employees between Greenfield Avenue and Washington Street, and some heavier industrial companies located south of Greenfield Avenue.

South Barclay Street is a relatively quiet street between South First Street and the Canadian Pacific raised railroad line. Barclay Street has a number of industrial businesses, metal recycling businesses, and several vacant buildings. Freshwater Plaza was constructed in 2016 straddling Barclay Street between Scott Street and Greenfield Avenue and includes the area's first grocery store, new multi-family housing, and retail.

District Vision

The South First Street Corridor will serve as a welcoming entryway to the Harbor District with clear entry points to access new development and the waterfront to the east. The area will continue to develop as a mixed-use urban neighborhood that provides spaces for people to live, work, and play. Residents, employees, and visitors will be able to travel easily to and through the corridor regardless of their mode of transportation.



Land Use

The First Street Corridor will continue as a mixed-use district with spaces for housing, retail, offices, and light industry. First and Second Streets north of Greenfield Avenue will continue to see new development and adaptive reuse of older buildings that fit the goals of the Walker's Point Strategic Plan. Barclay Street between National Avenue and Scott Street will serve as an employment and innovation corridor. First and Barclay Streets south of Greenfield Avenue will include areas for housing, retail, offices, and light industry.

1. Continue development of First Street north of Greenfield Avenue as a mixed-use corridor that includes housing, retail, and offices. Changes to the street and built environment should encourage the transition from an auto-oriented corridor to a more pedestrian friendly walkable urban environment.
2. Emphasize the major transportation intersection and gateway to the Harbor District at South First Street and National Avenue by bringing buildings up to the corner and including significant design elements on the corner of the buildings. Buildings should reinforce the pedestrian and transit focused character of this intersection and corridor.
3. Prioritize the currently vacant site at the northeast corner of South First Street and National Avenue for multi-story transit oriented development.
4. Encourage destination commercial developments and civic uses along South First Street that support smaller commercial uses by bringing customers to the area.
5. Complete the planned Freshwater Plaza development at First Street and Greenfield Avenue as called for in General Planned Development zoning to serve as a gateway into the East Greenfield Avenue sub-district to the east.
6. With the exception of the Freshwater Plaza development between Greenfield Avenue and Scott Street, maintain Barclay Street from National Avenue to Lapham Boulevard as a light industrial and “maker” corridor, providing employment and innovation opportunities with flexible building forms that can adapt to a variety of businesses. Housing should be discouraged, except in a live/work arrangement, to preserve the employment and innovation focus of the corridor. Retail should also be discouraged, unless as part of a make/sell arrangement or other use complementary to the light industrial “maker corridor.”
7. Maintain First Street between Greenfield Avenue and Lapham Boulevard for light industrial use, complementing the industrial users already located in this area.
8. South of Lapham Boulevard, develop First Street as a mix of uses that could include housing, retail, commercial, or light industrial focused around the Mitchell Street, First Street, and Kinnickinnic Avenue intersection. As a major gateway to the Harbor District, buildings at this intersection should be built to the corner and include significant design elements that reinforce the pedestrian and transit focused character of this intersection and corridor.
9. Explore the potential to repurpose the Milwaukee County Transit System KK Garage located at 1710 South Kinnickinnic Avenue to facilitate the extension of Mitchell Street east into the East Greenfield Avenue sub-district, as described in the transportation recommendations below and in chapter 6: Access and Connectivity catalytic project.

Building Forms

The First Street Corridor has a variety of building styles and types, some which lend themselves to adaptive reuse and others that are not as flexible. While Second Street has seen recent development projects fit into the existing walkable urban character of Walker's Point, First Street largely remains an auto-oriented corridor with large parking lots and deep building setbacks. The corridor south of Greenfield Avenue has a number of underused parking lots and buildings with blank walls along First Street. The entire corridor should be developed into a vibrant, mixed-use, pedestrian-friendly area that connects the Third Ward to the Bay View neighborhood.

10. Due to the density of existing transit service and the potential for expanded transit in the future, First Street north of Greenfield Avenue should be redeveloped into a pedestrian and transit friendly street. Pedestrian activity and comfort should be the highest priority when considering future development.
 - a. Future developments should have their main facades and entrances facing the street to create an active street front.
 - b. Vehicular parking should be minimized and, when necessary, accommodated in the rear or hidden from view.
 - c. Other transit-oriented development policies such as increased density, resident serving businesses, and affordable housing should be pursued.
11. Barclay Street between National Avenue and Scott Street should aim to create a pedestrian friendly streetscape.
 - a. Buildings should have minimum setbacks and building entrances located along the street.
 - b. Infill new construction buildings should fit the context of surrounding historic buildings.
 - c. Parking should be placed in the rear or hidden from view.
 - d. Any permitted outdoor storage and staging yards should be attractively screened and/or landscaped.
12. While the area along First and Barclay Streets between Greenfield Avenue and Lapham Boulevard will be preserved for light industrial activities, future development should aim to create a pedestrian friendly streetscape and building face.
 - a. Large blank walls should not be constructed along First Street.
 - b. Buildings should have minimum setbacks.
 - c. Parking and outdoor storage yards should be located away from the street and landscaped.
13. First Street south of Lapham Boulevard should be developed as a pedestrian and transit friendly corridor, with special focus on the intersection of First Street, Mitchell Street, and Kinnickinnic Avenue. Buildings should have minimum setbacks with active ground floor uses and no surface parking.

14. Buildings located at the gateway intersections of two primary streets (e.g. First St., National Ave., Greenfield Ave., Lapham Blvd., Mitchell St., Water St.) or the visual termination points of primary streets at the water should contain special architectural features at these corners or termination points.

Transportation

First and Second Streets are a major transportation corridor between Bay View, the Near South Side, and Downtown Milwaukee carrying personal vehicles, bicycles, buses, trucks, trains, and pedestrians. First Street is a state highway that carries over 16,000 vehicles per day and intersects with another state highway, National Avenue, and several other major arterial streets in the area. Eight bus lines converge within the corridor, funneling riders from the Near South Side and beyond towards Downtown Milwaukee. South Second Street and the Kinnickinnic River Trail are major bicycle routes through the corridor. The eastern boundary of the corridor is the elevated Canadian Pacific Railroad line. Many of the businesses in the area drive substantial truck traffic through the corridor to interstate on-ramps at Lapham Boulevard or Mineral Street.

While there is a density of existing transportation networks that converge within the corridor, the potential remains for expanded transportation options in the near future. The City of Milwaukee is currently conducting a study evaluating the potential for expanding the Milwaukee Streetcar into this corridor. Should future transit investments reach into the First Street corridor, it will be important to consider those impacts on existing transportation networks in the Harbor District.

15. Redesign First Street to better serve all users (personal vehicles, buses, trucks, bicycles, and pedestrians) and serve as a gateway to the Harbor District. The streetscape should be made more pedestrian, bicycle, and transit friendly by incorporating complete streets principles.
16. Build a designated on-street bicycle route along Washington Street, as recommended in the Walker Square Strategic Action Plan, that will connect with the Kinnickinnic River Trail near Barclay Street. For more details see chapter 6: Access and Connectivity catalytic project.
17. Create a designated on-street bicycle route along Maple Street that will connect with the Kinnickinnic River Trail at South Kinnickinnic Avenue as described in chapter 6: Access and Connectivity catalytic project.
18. Extend Mitchell Street east under the Canadian Pacific Railroad line into the East Greenfield Avenue sub-district. The new street connection must be tall enough for full-size semi trucks and must include space for bicycle and pedestrian connections.

Public Space

The First Street corridor has no parks or public spaces aside from the Kinnickinnic River Trail at its eastern boundary. As the area is largely developed, opportunities for parks and/or public space will be difficult to find. The focus for the First Street corridor should be on making the public realm along streets a more comfortable and pedestrian-friendly space and on connecting residents and visitors to new parks and public spaces to be developed along the waterfront to the east and south of the corridor.

19. As new developments take place, identify opportunities to create green and/or public spaces within private developments. The water feature and plaza within the Freshwater Plaza development at First Street and Greenfield Avenue serves as a good example of a public-private partnership that resulted in a high quality green (and blue) space.
20. When First Street is redesigned and reconstructed, street trees should be added to the streetscape along with bioswales and other porous streetscape strategies wherever feasible.

Stormwater

Due to its dense, urban character, the First Street corridor poses challenges for implementing stormwater management and green infrastructure. However, the First Street corridor lies almost entirely in the Combined Sewer System. Capturing water quantity is therefore very important in this area to help achieve MMSD's goals. Street trees and complementary best management practices are one of the best solutions in this highly-developed district. Green infrastructure retrofits and pilot projects on private property will also be encouraged, especially at parking lots.

21. Capture 2.1 million gallons of stormwater through green infrastructure and other stormwater best management practices to reduce impacts on the Combined Sewer System.
22. Promote the creation of a complete streets network along First Street and all east-west streets, with street trees and other green infrastructure features.
23. Conduct next-level stormwater planning to determine if additional stormwater projects are feasible within the corridor.
24. Encourage new developments and redevelopments to include on-site stormwater management practices, such as the installations at Freshwater Plaza.



Rain garden installation in urban sidewalk.

Habitat

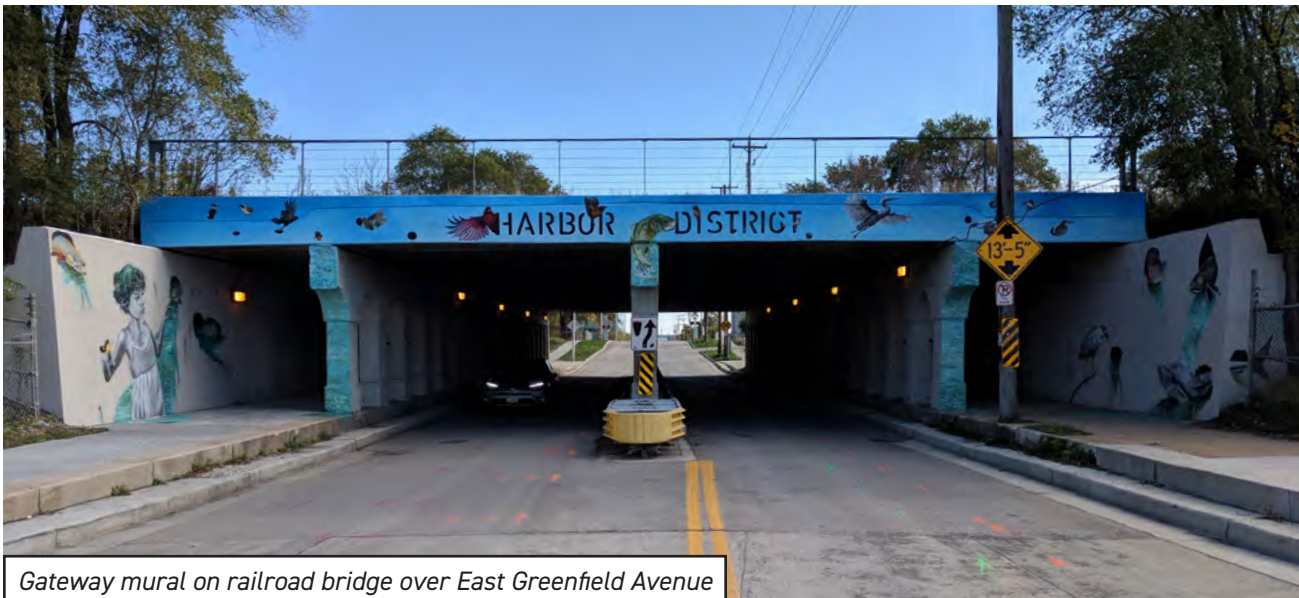
Due to the dense, urban character of this area, habitat creation is difficult and often inappropriate.

25. Add street trees to improve the urban canopy.
26. Give preference to native plants in landscaping and stormwater interventions.

Public Art

As most people will visit the Harbor District by passing through the First Street Corridor, public art will play a vital role in developing a sense of identity for the Harbor District and creating interesting, educational, and identifiable gateways into the District. Strategically deployed public art installations can help stitch the Walker's Point and Harbor District neighborhoods together and help people understand the history of the area and the change to come.

27. Wayfinding art projects should be incorporated at or near intersections between South First Street and Florida Street, Washington Street, National Avenue, Greenfield Avenue, and any future additional entry points into the Harbor District. These gateway art projects should contribute to the identity of the Harbor District and signal to visitors that they are entering a unique neighborhood with connections to the water.
28. As the many railroad bridges in the First Street Corridor are maintained, upgraded, or rebuilt, look for opportunities to enliven them with art.
29. Add art to the large retaining wall on South Kinnickinnic Avenue between Maple Street and the River.
30. Art can be used to soften the impact of Rockwell Automation's facilities along South First Street and improve the pedestrian experience. Art could highlight the company's long history or educate the public on the products and services the company provides.



East Greenfield Avenue



The East Greenfield Avenue sub-district is located along the inner harbor waterfront and bounded by the Greenfield Slip, the Kinnickinnic River, and the Canadian Pacific Railroad. Further details on the recommendations below can be found in chapter 6: 311 and 401 East Greenfield Avenue: Water-Centric Placemaking catalytic project.

Existing Conditions

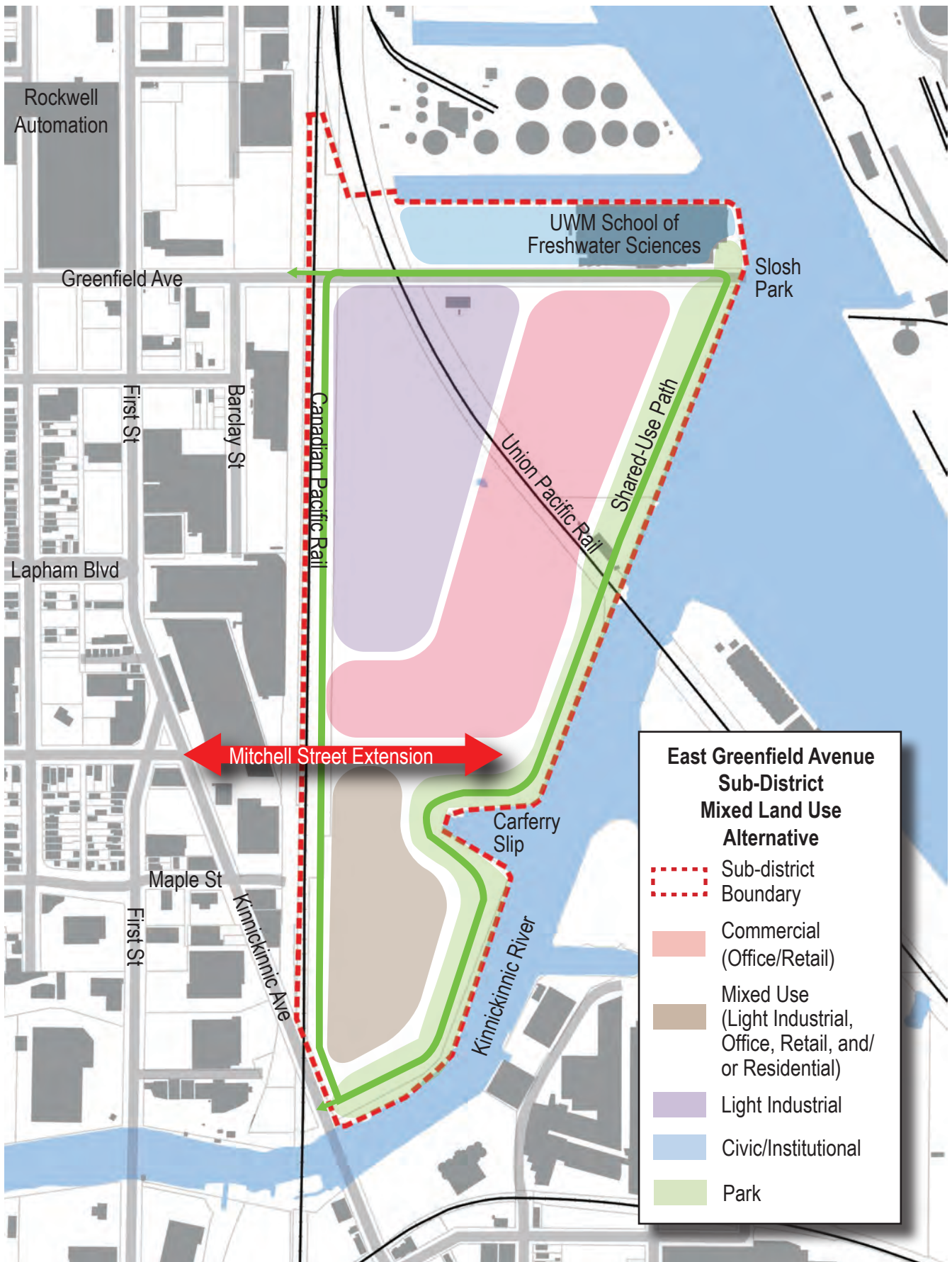
The East Greenfield Avenue sub-district contains only six parcels, all of which historically were used for heavy industry or transportation. The largest parcel, 311 East Greenfield Avenue was formerly the home of the Solvay Coke & Gas Co. among other industrial operations, but has been vacant since the 1980s. The property has extensive contamination and the property owner, We Energies, has recently begun an extensive cleanup process.

401 East Greenfield Avenue is owned by Port Milwaukee and for many years prior to 2015 was the storage site for coal headed towards the Menomonee Valley Power Plant. The property is currently unused with Port Milwaukee looking for a tenant.







600 East Greenfield Avenue was a tile factory built in the early 1960s, but has served as the home of the Great Lakes Water Institute since the early 1970s. In 2013 a \$53 million addition to the building was constructed to house the newly created University of Wisconsin-Milwaukee School of Freshwater Sciences.

District Vision

The East Greenfield Avenue sub-district will be a new employment and recreation center that provides a variety of job types. Office, lab, research, and light industrial employers will develop modern and sustainable buildings that embrace the urban waterfront location and capitalize on existing assets such as the UWM School of Freshwater Sciences and Rockwell Automation. New waterfront public spaces will draw residents from nearby neighborhoods and visitors from the Greater Milwaukee area.



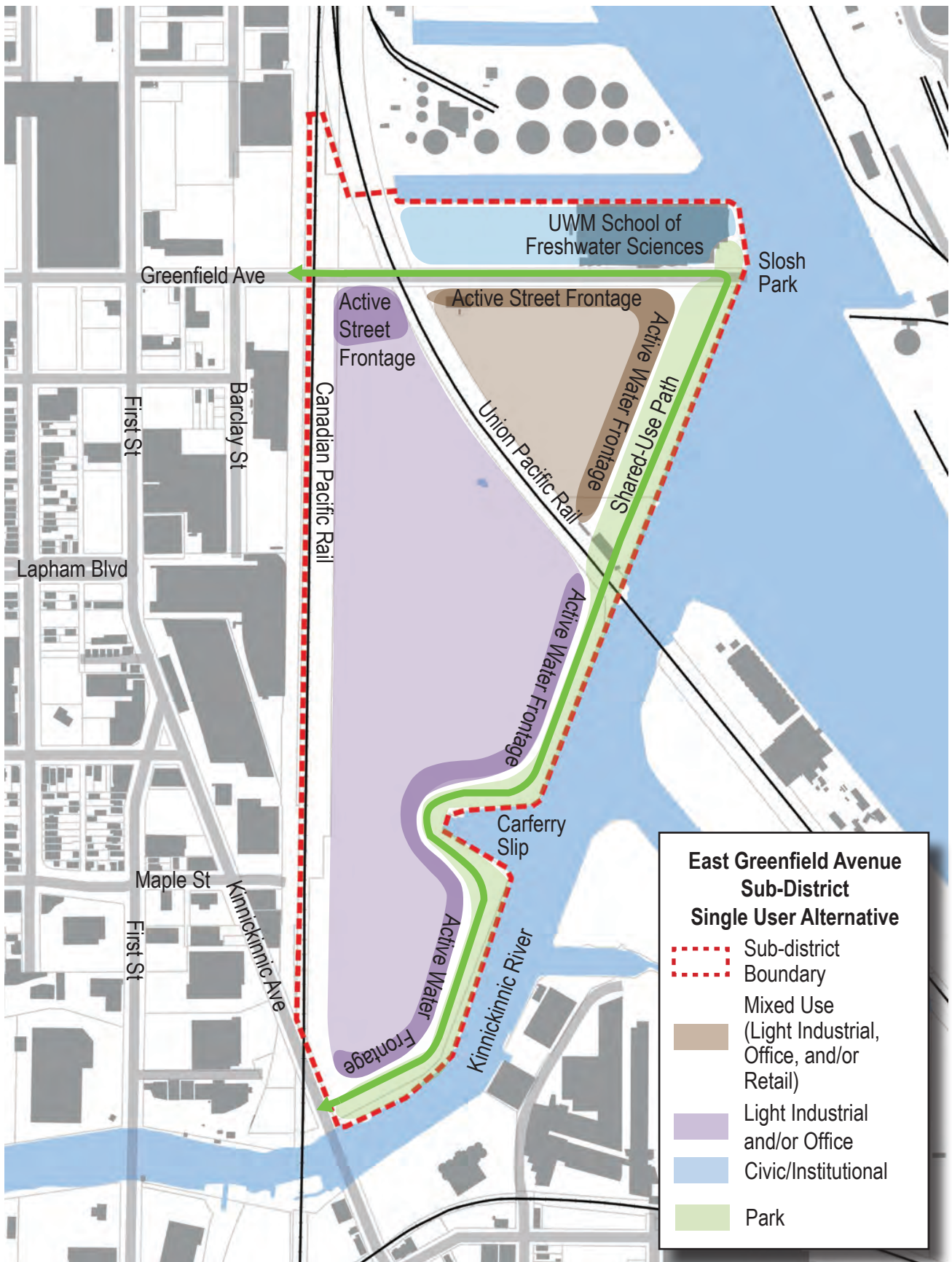
East Greenfield Avenue Sub-District Mixed Land Use Alternative

-  Sub-district Boundary
-  Commercial (Office/Retail)
-  Mixed Use (Light Industrial, Office, Retail, and/or Residential)
-  Light Industrial
-  Civic/Institutional
-  Park

Land Use

With most of the East Greenfield Avenue sub-district currently vacant and/or underutilized, the area offers significant opportunities to achieve community goals for job creation and recreation/open space. Multiple land use alternatives were developed for these sites during the planning process. Flexibility to respond to market demand, the results of ongoing soil testing and cleanup, available funding, and the needs of potential users of the site will be required for successful redevelopment of this area consistent with overall plan goals. Sixty contiguous acres of vacant or underutilized land could attract a single very large user, or become a new work-play neighborhood comprised of many users. Regardless of the number of eventual end users, the sub-district should be developed as a mix of uses and should meet urban design guidelines identified elsewhere in this plan, with an active and publicly accessible waterfront.

1. Develop the sub-district predominantly with a mix of light industrial and commercial uses to provide jobs accessible to workers across a variety of educational attainment and experience levels.
2. Locate office, research and development, service, or retail uses along the primary corridors of the sub-district, including East Greenfield Avenue, the Waterfront, and potential East Mitchell Street extension. Concentrate light industrial uses in the interior of large sites.
3. The portion of 311 East Greenfield Avenue south of the Carferry slip should be considered for a mixed use district to reflect the residential neighborhoods of Bay View and Walker's Point. Multi-family residential use could be part of a mixed-use development here. This area could also be home to a civic anchor, fronting on an extended East Mitchell Street, that would leverage and activate a riverfront location.
4. Seek users that complement and capitalize on the unique attributes of the area, such as the waterfront location; proximity to Rockwell Automation and UWM School of Freshwater Sciences; or the surrounding community of entrepreneurs and small-scale manufacturers.
5. Create a Riverwalk Overlay Zoning District aimed at creating continuous public access to the waterfront, that includes all waterfront parcels in the East Greenfield Avenue sub-district. The City of Milwaukee and Harbor District Inc. will work with riverfront property owners during the drafting of the proposed Overlay District requirements and design standards to ensure that future Riverwalk plans and designs are responsive to property owner safety, security, and operational needs.
6. At 401 East Greenfield Avenue, the length of the waterfront should be developed as a new public space extending back on average 120 feet from the water's edge, to include shared-use paths, green infrastructure, and active, landscaped play spaces (sport courts, etc.). If this waterfront is used for shipping, provide a means to secure the waterfront during loading and unloading activities, but maintain public access at other times.
7. Provide an at-grade crossing over the Union Pacific rail to allow users to access the entire waterfront.
8. At 311 East Greenfield Avenue, the length of the waterfront should be developed as new public space offering a more natural experience consistent with the smaller scale of the river (native vegetation, sloped water's edge, etc.). While the width of the public space at the water's edge may vary, it should not be less than 60 feet and average 100 feet.



Building Forms

The only current building, other than several storage sheds, in the East Greenfield Avenue sub-district is the UWM School of Freshwater Sciences. With almost no buildings to set precedent for the sub-district there is an opportunity to develop a unique building language and pattern for the area. Public input during the planning process heavily favored a compact urban environment for new development as the area fills in. Maintaining a dense and urban built environment with the mix of uses envisioned for this sub-district will require dedication and vision by future stakeholders.

9. Buildings facing the waterfront or waterfront public space should have an active ground floor use facing the waterfront and/or public space. Priority uses include food and beverage establishments, water-dependent services (i.e. kayak rental), and any use that enlivens the waterfront by creating pedestrian activity.
10. Buildings at the end of Greenfield Avenue and along the extension of Mitchell Street should offer public-engaging uses (restaurant, retail, service), while buildings in other sections of the waterfront may rely on office or other uses to activate the street level.
11. The northeast corner of 401 East Greenfield Avenue is identified as a landmark site due to its prominent position along the waterfront, at the end of a major street (Greenfield Avenue), and immediately south of the UWM School of Freshwater Sciences. Any development that takes place here should have an active ground floor use and provide a building that is of unique architectural character.
12. Buildings located at the gateway intersections of two primary streets (e.g. First St., National Ave., Greenfield Ave., Lapham Blvd., Mitchell St., Water St.) or the visual termination points of primary streets at the water should contain special architectural features at these corners or termination points.

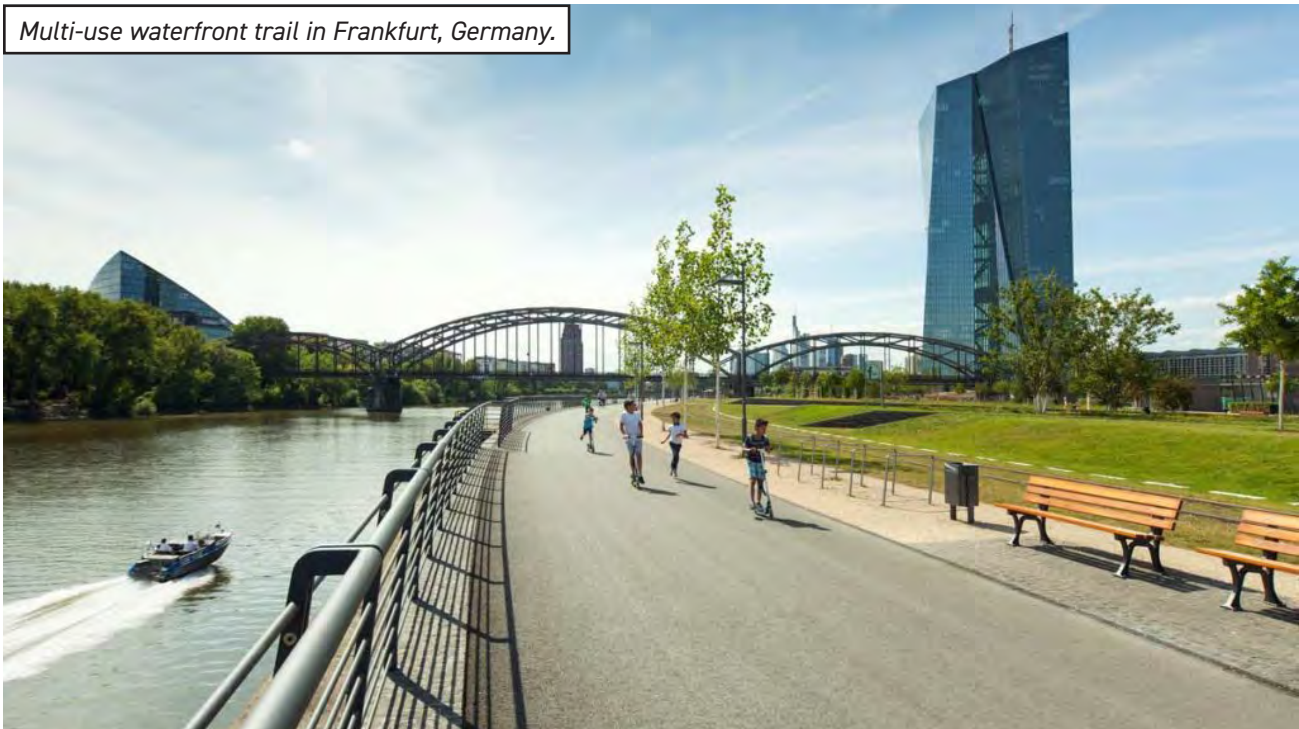


Transportation and Utilities

The only public street into and through the East Greenfield Avenue is East Greenfield Avenue. To achieve the Harbor District's vision substantial investments will be needed to create new access to the sub-district and to allow visitors to circulate throughout the district.

13. Extend Mitchell Street east from its current terminus at Kinnickinnic Avenue to the waterfront.
14. Explore options for providing truck access to the sub-district via changes to the railroad underpass at East Greenfield Avenue.
15. Design and build a new public street network for the 311 and 401 East Greenfield Avenue properties that provides access to future development, connects the two parcels across the Union Pacific rail spur, and incorporates the needs of all street users (pedestrian, bicycle, public transit, cars, and trucks).
16. Develop a new shared-use public path system that circles the East Greenfield Avenue sub-district including along the waterfront. The path network will connect to the Kinnickinnic River Trail and existing bicycle lanes on Greenfield Avenue and Kinnickinnic Avenue.
17. Create two new locations for canoe/kayak launches and docks in the East Greenfield Avenue sub-district, one at the east end of Greenfield Avenue and another in/near the Solvay Car Ferry Slip.
18. Maintain a long-term option to re-introduce shipping at 401 East Greenfield Avenue. This site offers valuable deep-draft water frontage. A building setback of 120 feet allows for the potential that this site could be used again for shipping in the future.
19. Consider use of steam for heat or industrial processes.

Multi-use waterfront trail in Frankfurt, Germany.



Public Space

The Harbor District as a whole is lacking in public spaces and the East Greenfield Avenue sub-district is no different, with no public space currently. However, as most of the sub-district is vacant we have an opportunity to provide significant public amenities that will connect surrounding residents to the water and provide much needed open green space for residents of the near south side and beyond.

20. Build a public plaza where East Greenfield Avenue meets the water's edge. "Slosh Park" was the winning design for a new public space at this site chosen during the Take Me to the River Design Competition in 2017. The space will include a new canoe/kayak launch, a public water feature, and a playground.
21. Design and build a new linear waterfront park that extends the length of the East Greenfield Avenue sub-district. The park would have a goal of extending back an average of 120 feet from the water's edge and include shared-use paths, a kayak launch, green infrastructure, more active spaces on the northern end (sports courts, playgrounds, etc.), and more natural spaces on the southern end (native vegetation, sloped water's edge, etc.).
22. Create a canoe/kayak launch and dock at two places in the East Greenfield Avenue district, one at the east end of Greenfield Avenue and another location further south along the waterfront near the Solvay Car Ferry slip.



Rendering of proposed "Slosh Park" design by Quorum Architects and Ayres Associates. Design includes a canoe/kayak launch, water feature, and shipping container play structure and tower.

Stormwater

The entire East Greenfield Avenue sub-district lies outside MMSD's combined sewer service area and drains to the Kinnickinnic River. As such, the main stormwater priority for this area is ensuring that stormwater discharging to the Kinnickinnic River is not degrading water quality in the river. Strategies will focus on capturing the "first flush" - the most polluted first inch of rain - of stormwater on site to protect water quality. Complementary green and grey infrastructure practices will clean and filter subsequent amounts of stormwater prior to discharging to the Kinnickinnic River.

23. Develop a regional stormwater management strategy that captures 2.2 million gallons of stormwater in the East Greenfield Avenue sub-district to protect water quality. To capture the "first flush" of stormwater, a combination of traditional infrastructure, green infrastructure, water reuse, infiltration (where feasible), evaporation, and other processes will need to be employed.
24. Find opportunities to incorporate green infrastructure into the design and functionality of new or improved public spaces. For example, green infrastructure practices such as street trees, porous pavement, or bioswales should be included with new streets.
25. Incorporate a series of regional "stormwater parks" in the East Greenfield Avenue sub-district to provide stormwater management for adjacent private properties and developments. New public infrastructure (streets, sewer lines, etc.) should be installed to connect adjacent properties to the regional stormwater parks.
26. Avoid small, isolated landscaping and stormwater features. Rather, aggregate these features into a larger network to provide habitat, wayfinding to the water's edge, and quasi-public spaces, and connection to larger stormwater parks.
27. Build a demonstration wetland at the west end of the UWM School of Freshwater Sciences boat slip to help improve water quality.
28. Explore use of a demonstration wetland at the Solvay Car Ferry Slip for improved stormwater filtration and water quality improvements. See chapter 6: Catalytic Projects for more details.
29. Reconstruct the unimproved parking lot at the UWM School of Freshwater Sciences to improve the water quality of overland runoff discharging into the boat slip.



Menomonee Valley Stormwater Park after a large rain event.

photo by Eddee Daniel

Habitat

Because of its proximity to the Grand Trunk Wetland, habitat improvements in the East Greenfield sub-district will focus on improving habitat connectivity along the water's edge. In addition to urban tree canopy improvements along new streets, green corridors will also be included in a new waterfront park to support bird and pollinator habitat.

30. Build a demonstration wetland at the west end of the UWM School of Freshwater Sciences slip to provide improved aquatic habitat, including interpretive boardwalk trails for improved access to the water.
31. Explore use of a demonstration wetland at the Solvay Carferry Slip for improved aquatic and riparian habitat. See chapter 6: Catalytic Projects for more details.
32. A new waterfront park along the entire edge of the East Greenfield sub-district will include a naturalized shoreline starting at the Solvay Car Ferry Slip moving south to the Kinnickinnic Bridge.
33. Explore options for creating an urban habitat corridor along the waterfront park and other trails.

Public Art

With the majority of the East Greenfield Avenue sub-district currently vacant, there is a significant opportunity to use art towards a variety of the goals described above. In the short term there is the opportunity for temporary art projects to activate vacant spaces. In the long term there is potential for art to educate the public on the history of this unique place while also defining a new and unique identity for an area that will change greatly.

34. Building off of the example set by the UWM School of Freshwater Sciences building, incorporate art into the design of buildings throughout the sub-district. As there will be many new buildings constructed, there is an opportunity to create a unique built environment on a large scale that is not found in other parts of the city.
35. With the best view of the Port provided from the waterfront of the East Greenfield Avenue sub-district, public art along the waterfront should educate, highlight, and engage visitors in the activities of the Port, ships, and waterways.
36. Use public art to reinforce East Greenfield Avenue as a major spine and gateway into the Harbor District that connects the waterfront back to the city and neighborhoods to the west.

Lower Kinnickinnic River



The Lower Kinnickinnic River sub-district follows the Kinnickinnic River and is bounded by South Kinnickinnic Avenue, South Robinson Avenue, East Ward Street, the Canadian Pacific Railroad, South Chase Avenue, South First Street, Lincoln Avenue, South Fourth Street, West Burnham St, South Third Street, and West Mitchell Street.

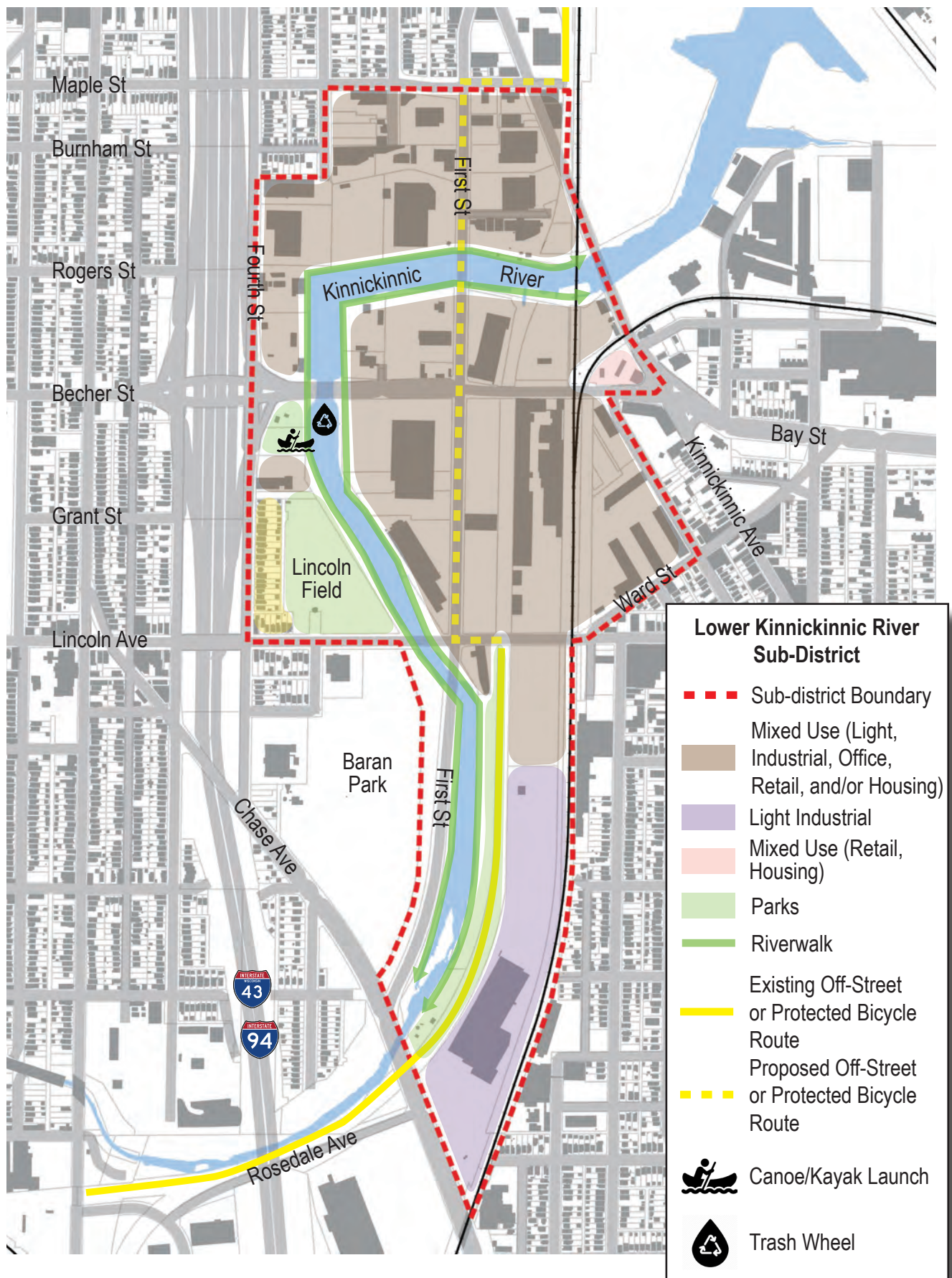
Existing Conditions

The Lower Kinnickinnic River sub-district is a historically industrial and marine oriented area situated between the Bay View neighborhood and the Near South Side. While dense neighborhoods of single-family homes, duplexes, and multi-family apartments crowd the edges of the sub-district on each side, there are few residences within the sub-district itself.

Today, a number of industrial and marine businesses still remain with three boat yards/marinas and a number of industrial users mostly located along South First Street. However, the area has experienced land use and building changes in recent years. A prominent location along the river at First Street was converted to a popular bar/restaurant in the early 2000s and a number of nearby industrial buildings were torn down in the 2010s. A large big-box retail development was recently constructed at the intersection of South First and Becher Streets where industrial buildings once stood. Several multi-family residential developments have been or are currently being constructed on the Bay View edge of the sub-district.

District Vision

As called for in the City's 2008 Southeast Side Area Plan, the Lower Kinnickinnic River sub-district will "create a new neighborhood that would provide jobs and housing in a vastly improved natural setting." The existing parks on the south end of the sub-district will be improved by creating better access to the river, while a continuous network of riverfront public space will be created for the remainder of the sub-district. Redevelopment on the land and habitat restoration in the water will help to reconnect this area to the Kinnickinnic River.



Land Use

Much of the sub-district is currently zoned Industrial-Heavy with the area northwest of First and Becher Streets zoned Industrial-Mixed. Rezoning some areas from Industrial-Heavy to a zoning classification that would allow for a greater mix of uses should be explored to support the transition of the area from exclusively industrial to more of a mix of uses. These land use changes will be focused around new and improved public space extended along the entire Kinnickinnic Riverfront.

1. Create a Riverwalk Overlay Zoning District aimed at creating continuous public access to the waterfront, that includes all waterfront parcels in the East Greenfield Avenue sub-district. During the overlay zone adoption process, Harbor District Inc. and the City of Milwaukee will work with property owners to ensure that future Riverwalk plans and designs are responsive to property owner safety, security, and operational needs.
2. Rezone the areas currently zoned Industrial-Heavy to allow for light industrial, commercial, and/or residential.
3. Develop the RACM-owned parcel at 143 East Lincoln Avenue as the Lincoln Avenue Horse Stable, a facility for Milwaukee Police District horses and a horse therapy center, in accordance with building form and design guidelines outlined in this plan.
4. Encourage new development along the river to include space for marine businesses.

Building Forms

The majority of buildings in the sub-district are low-rise industrial or warehouse buildings, many of which would not be suitable for redevelopment for uses other than warehouse or light industrial. New development should create a dense urban neighborhood that connects with the neighboring Bay View, Clock Tower Acres, and Near South Side neighborhoods.

5. Any buildings constructed facing the riverfront should have a walkable and inviting waterfront facade. Priority uses include food and beverage establishments, water-dependent services (i.e. kayak rental, marinas, etc.), and any use that enlivens the waterfront by creating activity and pedestrian traffic.
6. Buildings along Becher Street, Lincoln Avenue, and South First Street should create a walkable and inviting streetscape by incorporating minimal setbacks, ground floor windows facing the street, and locating parking inside buildings or away from street frontages. Large blank walls facing the street should be attractively landscaped to create a pedestrian friendly streetscape.



Transportation

The Lower Kinnickinnic River sub-district is an important node in Milwaukee's greater transportation network. Interstates 94 and 43 form the western boundary of the sub-district, with the Becher Street interchange providing vital highway access to businesses in the area, the Port Milwaukee, and commuters. The Canadian Pacific Railroad runs north/south through the sub-district and carries freight and Amtrak passenger service between Milwaukee and Chicago. Bus lines run through the sub-district along Lincoln and Kinnickinnic Avenues. The Kinnickinnic River Trail runs along the river in the southern area of the sub-district to Lincoln Avenue. On-street bicycle lanes can be found on South First Street, Lincoln Avenue, and Kinnickinnic Avenue.

With so many transportation networks and modes converging in the Lower Kinnickinnic River sub-district it is important that future decisions take into account all of these users. The sub-district is important in connecting the Bay View neighborhood to the the Near South Side and other points to the north as well as connecting the Near South Side to employment and recreational opportunities to the east near Port Milwaukee, in Bay View, and along the lakefront

7. Redesign the Becher Street interchange at I-94/43 to improve safety and functionality for all users including pedestrians, bicyclists, and vehicles.
8. Complete the Kinnickinnic River Trail by connecting the southern off-street portion that ends at South First Street and Lincoln Avenue to the northern off-street portion that begins at South Kinnickinnic Avenue and Maple Street. The route should be a dedicated bicycle route and provide protection from vehicles (via off-street or protected on-street lane). See chapter 6: Access and Connectivity catalytic project for further details.

Public Space

The Lower Kinnickinnic River sub-district is home to the largest area of parks in the Harbor District. Lincoln Field is a city-owned park located along the west bank of the Kinnickinnic River immediately north of Lincoln Avenue. Baran Park is a county-owned park located along the west bank of the Kinnickinnic River immediately south of Lincoln Avenue. Improving these parks and connecting them to a continuous network of new park space extending the length of the Kinnickinnic River will create a valuable public amenity that is within close proximity to the dense neighborhoods of the Near South Side and Bay View.

9. Create a more cohesive and accessible riverfront at Baran Park and Lincoln Field, including new shared-use paths along the riverfront. These paths should connect to the future riverwalk overlay zone, connect the parks to each other, and connect to Lincoln Avenue to provide easy access for residents and visitors.
10. Create a new public park on the MMSD-owned properties located at 2112 and 2122 South Fourth Street. The park will include a new canoe/kayak launch and will connect to the future Riverwalk. The park could also serve as the service access point for the Trash Wheel (see the Improved Waterfront Experience for details on the proposed Trash Wheel).

Stormwater

The Lower Kinnickinnic River sub-district lays completely within the Combined Sewer System, but some riparian properties have overland flows and direct drainage to the Kinnickinnic River. Stormwater management in the Combined Sewer areas will focus on detaining and/or capturing rainwater where it falls to reduce the burden on the sewer system. On riparian properties, green infrastructure practices will be encouraged to filter and clean stormwater before it enters the river.

11. Capture or clean 2.1 million gallons of stormwater through green and gray infrastructure, and create green buffers at locations where urban runoff flows directly to the Kinnickinnic River.
12. Improvements to First Street from Lincoln Avenue to Chase Avenue should incorporate a green buffer to capture and clean stormwater before it flows to the Kinnickinnic River.
13. The riverwalk in this area should include green buffers where appropriate to capture and clean runoff before it enters the Kinnickinnic River.



Habitat

The Lower Kinnickinnic River sub-district features some of the largest parks and green spaces in the Harbor District, including mature ash, oak, and maples along Baran Park and Lincoln Field. At the same time, a restored river in the area provides habitat for fish and a place for residents to reconnect with nature.

14. Coordinate efforts with MMSD, DNR, and other partners to restore aquatic habitat from the Becher Street bridge south to I-94 as part of Milwaukee Estuary Area of Concern remedial efforts.
15. Where possible, create naturalized shorelines as part of MMSD's flood management efforts.
16. Install a Trash Wheel near the Becher Street bridge to remove trash and debris before it enters the Inner Harbor. Explore options to include underwater habitat improvements as part of the trash wheel design. See the Improved Waterfront Experience catalytic project for more details.
17. Along the hardened shorelines north of the Becher Street bridge, install Habitat Hotels and other retrofits to improve aquatic habitat connectivity.
18. Remove invasive species and conserve forested portions of Baran Park and Lincoln Field.

Public Art

As an industrial waterfront for most of the last century, the Kinnickinnic River has long served as a divide between the Bay View and Lincoln Village neighborhoods. As this area transitions to a mix of uses, art can play a role in connecting surrounding residents to the river, celebrating the industrial heritage of the area, and conveying a vision of the future for this urban waterway.

19. Use art as wayfinding to attract nearby residents to future Riverwalk segments along the Kinnickinnic River.
20. Employ public art in improving the experience of Lincoln Field and Baran Park.
21. Develop a public art strategy as part of the Trash Wheel project that educates the public on the impact of the Trash Wheel and helps brand the project in a manner unique to Milwaukee.

Grand Trunk



The Grand Trunk sub-district borders the Bay View neighborhood on the south end of the Harbor District and is bounded by South Kinnickinnic Avenue, the Kinnickinnic River, the Union Pacific railroad, and Bay Street.

Existing Conditions

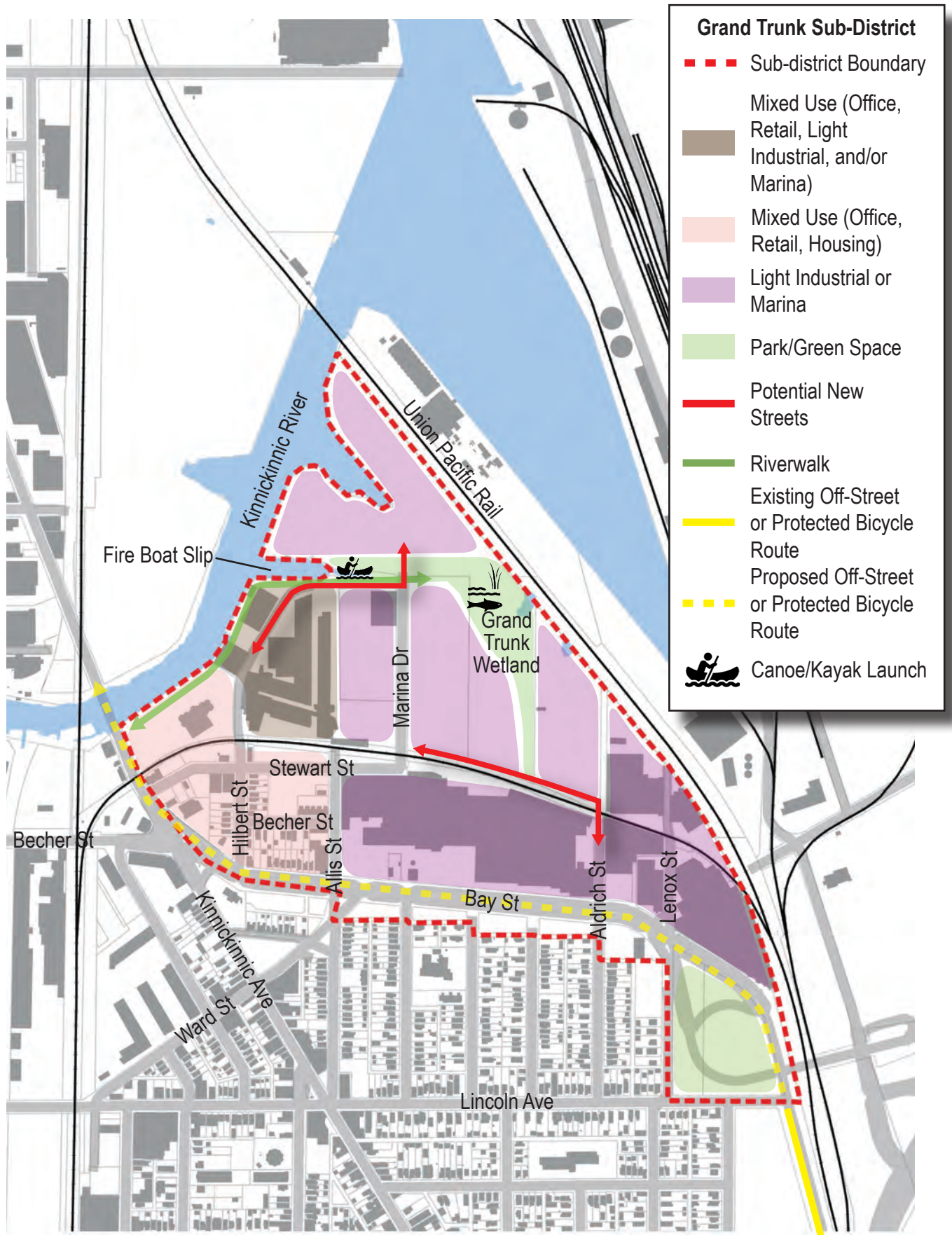
The Grand Trunk sub-district is a historically industrial and shipping area that lies between the Bay View neighborhood and the inner harbor. The area is still primarily industrial, with a small pocket of homes located in the southwest corner of the district near the intersection of Bay Street and Kinnickinnic Avenue.

Marine businesses are located along the Kinnickinnic Riverfront, including a cement company, a marina, and a parcel owned by Port Milwaukee. The Port Milwaukee property, known as the Grand Trunk site due to its previous use by the Grand Trunk Railroad Ferry, is the location of a wetland area that the City of Milwaukee is currently working to restore.

Remnants of the area's large industrial tenants dominate the sub-district, including a complex of cream city brick buildings that was once a Pfister & Vogel tannery and a large low-rise industrial building along Bay Street that was home to the Louis Allis Motor Company. A cluster of industrial businesses are located in the southeast corner of the sub-district along Bay Street.

District Vision

With its location between the Bay View neighborhood, the Kinnickinnic River, and Port Milwaukee, the Grand Trunk sub-district will serve as a transition area between the heavily residential neighborhoods to the south and the more mixed use and industrial areas of Port Milwaukee and the Harbor District. New industrial development will provide employment opportunities for city residents in an easily accessible location. A restored Grand Trunk wetland will provide fish spawning and birding habitat and will connect to a network of new waterfront public spaces along the Kinnickinnic River



Land Use

With residential, commercial, natural, industrial, and port activities all converging in the Grand Trunk sub-district, it is important to plan for how these many users will fit together. To protect Port Milwaukee from incompatible uses, the land use vision for this area is to create a buffer area of industrial users in the Grand Trunk sub-district and to encourage commercial shipping operations to locate on or near Jones Island.

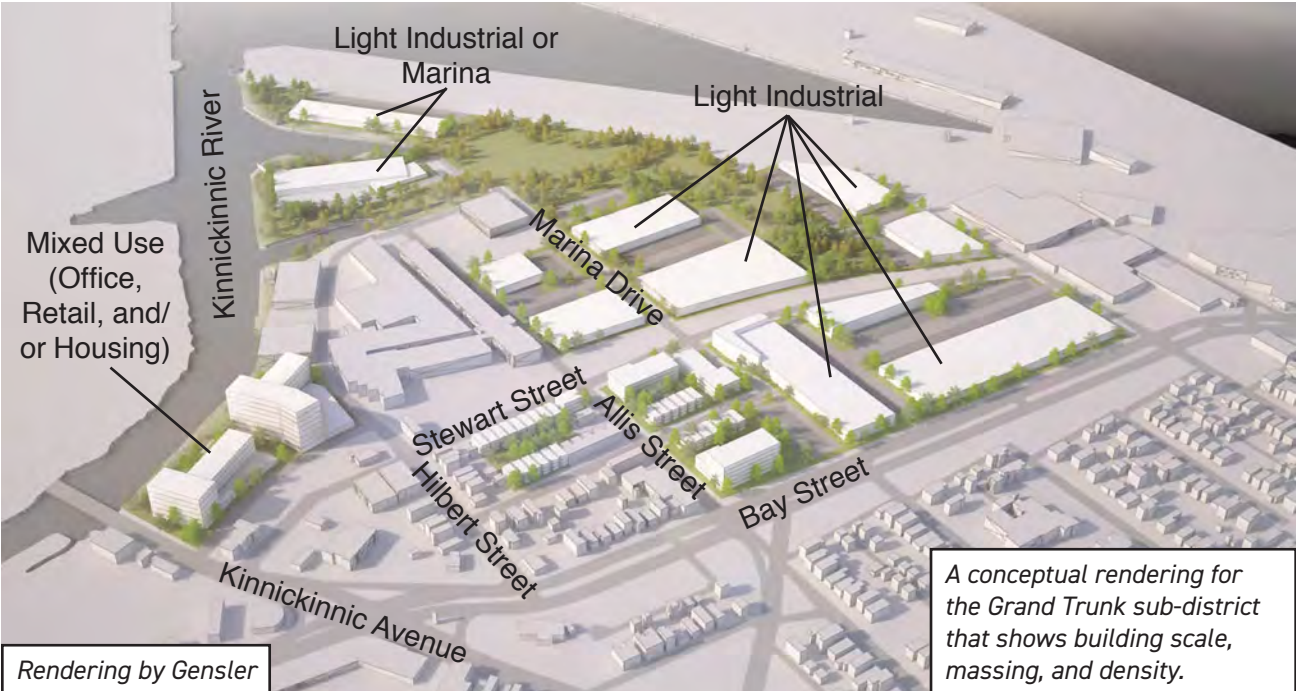
1. Create a Riverwalk Overlay Zoning District aimed at creating continuous public access to the waterfront, that includes all waterfront parcels in the East Greenfield Avenue sub-district. During the overlay zone adoption process, Harbor District Inc. and the City of Milwaukee will work with property owners to ensure that future Riverwalk plans and designs are responsive to property owner safety, security, and operational needs.
2. The Port Milwaukee owned Grand Trunk site should be developed as a restored wetland, light industrial area, and/or marine or marina uses in accordance with the recommendations in the chapter 6: Grand Trunk Wetland and Development catalytic project.
3. Rezone waterfront parcels and the former Pfister & Vogel tannery (2008 South Kinnickinnic Avenue and 1919, 1955, and 1982 South Hilbert Street) from Industrial-Heavy to a zoning classification that allows for a greater mix of uses. Housing is not envisioned at these sites.
4. When the St. Mary's Cement property at 2008 South Kinnickinnic Avenue transitions to a new use, redevelop the property as a mixed use development that would include housing and first floor commercial uses that can capitalize on the waterfront location between the Bay View and Clock Tower Acres neighborhoods. This site also provides an opportunity for a larger waterfront public space that is easily accessible from South Kinnickinnic Avenue and should be developed as part of the Riverwalk network.
5. When the former Louis Allis Motor Company property at 427 East Stewart Street transitions to a new use, explore opportunities to create new public rights-of-way through the site from Bay Street to the Grand Trunk site. This would involve dividing the site to create smaller light industrial parcels.



Building Forms

While most new industrial development tends to be suburban in character (large setbacks, large parking and loading bays, blank walls), new industry in the Grand Trunk sub-district should be encouraged to develop in a more compact and urban form that better fits with the city location and takes advantage of limited space. Existing historic and notable structures, such as the former Pfister & Vogel tannery and the unique rowhomes on East Becher Street, should be preserved and redeveloped in a historically sensitive manner.

- 6. Any buildings constructed facing the waterfront or waterfront public space should have an active ground floor use facing the waterfront and/or public space. Priority uses include food and beverage establishments, water-dependent services (i.e. kayak rental), businesses that rely on water access, and any use that enlivens the waterfront by creating activity and pedestrian and/or boat traffic.
- 7. Buildings along South Kinnickinnic Avenue should create a walkable and inviting streetscape by incorporating minimal setbacks, ground floor windows facing the street, and locating parking inside buildings or away from street frontages.
- 8. Buildings along South Allis or East Stewart Streets facing the residential, commercial, and mixed-use area to the southwest should be built close to the street with a pedestrian-friendly facade that includes windows and entrances to provide a more welcoming and human-scale presence. Outdoor storage yards and parking should not be located on these streets or, if absolutely necessary, should be well screened and/or landscaped. These design considerations will provide a more attractive and livable transition between the residential and mixed-use area to the southwest and the industrial area to the north and east.
- 9. Any new multi-family or townhouse style development within the residential portions of this sub-district should fit within the existing context and respect surrounding residential properties.



Transportation

Existing businesses in the Grand Trunk sub-district cite the area's easy access to interstates 94/43 and 794 along with close proximity to a large labor pool on the City's south side as major reasons for locating here. Industrial properties also have access to rail via the Union Pacific rail spur that runs along the eastern edge of the sub-district and the Canadian Pacific railroad that runs through the southern portion of the sub-district. St. Mary's Cement and Port Milwaukee tenants at the Grand Trunk site use the Kinnickinnic River for commercial shipping activities. The Oak Leaf Trail runs along Bay Street on the southern edge of the sub-district and a heavily travelled bicycle route on South Kinnickinnic Avenue connect bicyclists to and through the sub-district.

10. Explore options to extend South Hilbert Street to the Fire Boat Slip and create a new right-of-way to connect with South Marina Drive.
11. When the former Louis Allis Motor Company property at 427 East Stewart Street transitions to a new use, determine if it is possible to extend East Stewart Street east along the north side of the Canadian Pacific railroad and connect to South Aldrich Street to provide new public access to the north side of the property.
12. Create a dedicated and protected bicycle route along East Bay Street. This could be an extension of the raised bicycle lane that is found further south along Bay Street or a protected bicycle lane. See the Access and Mobility catalytic project for more details.
13. Create a dedicated and protected bicycle route along South Kinnickinnic Avenue. See the Access and Mobility catalytic project for more details.
14. Create a canoe/kayak launch on or near the former Fire Boat Slip. This slip will provide access to a variety of amenities in the area including the Grand Trunk Wetland, boating services, and nearby food and beverage establishments.

Public Space

The Grand Trunk sub-district currently has no public spaces, although several grassy parcels are located along the south side of East Bay Street with MMSD infrastructure underneath. Future development of the area will include new public space along the waterfront connecting to a restored wetland habitat area in the center of the Grand Trunk site. New public spaces will provide areas for relaxation, recreation, natural habitat, and stormwater management infrastructure.

15. When the St. Mary's Cement property at 2008 South Kinnickinnic Avenue transitions to a new use, create a larger public space along the waterfront that would serve as an expanded riverwalk segment.
16. Create public access to the Grand Trunk Wetland. Include opportunities for environmental education and controlled public access, such as boardwalk trails.
17. Connect the Riverwalk to the Grand Trunk Wetland with a public shared-use path that runs along the south side of the Fire Slip.

Stormwater

Stormwater management in the Grand Trunk sub-district includes considerations for properties within and outside of the combined sewer service area. For areas in the combined sewer, green infrastructure and green streets will help capture stormwater before it enters the sewer. Areas adjacent to the Grand Trunk Wetland deserve additional considerations to ensure that stormwater entering the wetland does not negatively affect the function and habitat of the restored wetland. Additionally, properties adjacent to the Kinnickinnic River play an important role in protecting water quality. Stormwater management practices and green infrastructure can serve as a buffer in these areas.

18. Capture or clean 1.5 million gallons of stormwater in the Grand Trunk sub-district to help improve water quality in the Grand Trunk Wetland and adjacent water bodies, while also reducing impacts on the combined sewer system.
19. Conduct next-level stormwater planning to protect the Grand Trunk Wetland. Include opportunities to daylight sewers, and incorporate a plan for a regional stormwater management park to capture and/or filter stormwater from adjacent industrial sites before it enters the wetland and the Kinnickinnic River.
20. Provide a green buffer and biofiltration facilities along the shoreline of of the Grand Trunk site to capture and clean runoff before it enters the Kinnickinnic River
21. Create a biofiltration facility along South Marina Drive to capture and manage stormwater from the street and adjacent properties, and consider “daylighting” the sewer in this area to provide added stormwater management and habitat benefits.
22. Highlight unique water features of the area, such as the MMSD deep tunnel and the Grand Trunk Wetland, and educate the community about their importance to water quality.

Habitat

With the last remaining wetland in the entire Milwaukee Estuary, the Grand Trunk sub-district provides a unique opportunity to restore the Grand Trunk Wetland into an improved and functioning coastal ecosystem in an otherwise very urban area.

23. Restore the Grand Trunk Wetland to include northern pike spawning habitat, ephemeral ponds for amphibians and reptiles, and surrounding forested and upland habitat.
24. Use the restored wetland as an educational tool to engage residents.
25. Implement green infrastructure practices adjacent to the Grand Trunk Wetland to provide habitat connectivity.



Public Art

Similar to other areas in the Harbor District, the Grand Trunk sub-district is physically separated from the rest of the city and surrounding neighborhoods. Public art should be used to demystify the area and educate people on the many amenities and opportunities that exist within this sub-district.

26. Use public art to beautify and enliven the rooftop of the former Louis Allis facility, which is highly visible from Bay Street and the Bay View neighborhood.
27. Explore opportunities for art on the railroad bridge on Kinnickinnic Avenue that will serve as a gateway to the Harbor District from the south.



Rooftop public art installation in Walker's Point.

Rowhomes on East Becher Street.



Jones Island



The Jones Island sub-district is a peninsula that is bordered by the Kinnickinnic and Milwaukee Rivers, Lake Michigan, South Carferry Drive, and the Union Pacific rail line.

Existing Conditions

The Jones Island District is a unique area of the city that includes only industrial, transportation, and utility uses. The northern third of the Jones Island peninsula is occupied by the Milwaukee Metropolitan Sewerage District's (MMSD) Jones Island Water Reclamation Facility, where Milorganite has been made since 1926.

The remainder of the Jones Island peninsula is owned and operated by Port Milwaukee as an international commercial shipping port. The Port leases out its property to a variety of tenants engaged in commercial shipping and distribution operations. There are several ship terminals located on the east side of Jones Island, the west side of Jones Island is available deep draft docking space, and the majority of the interior of the island is devoted to storage and/or transloading of bulk materials (salt, cement, steel, etc.). Water transport provides significant cost savings for these materials over other modes of transport, and storage at the port prior to final distribution is convenient and inexpensive. These activities are not highly job-intensive, as reflected in the Port's overall job density of 2.8 jobs per acre.

Across the Municipal Mooring Basin to the west of Jones Island is a waterfront property owned and operated by an international grain company. The property has deep draft docking, rail access, and a series of large silos used for storing grain.

Most of the Jones Island peninsula is filled lakebed. Use and development of the area is governed by Wisconsin's public trust doctrine, which preserves the waters of the state, and the land beneath them, for public use. Beyond that, courts have also interpreted the doctrine to limit the kinds of uses that may take place on such lands.

District Vision

Port Milwaukee and MMSD's facilities will support Milwaukee's goals as a Water Centric city by achieving high standards in environmental sustainability. As the premier commercial shipping port in the State of Wisconsin, Port Milwaukee will continue to support industry and strengthen the regional economy through efficient movement of freight.



Land Use

The Jones Island sub-district will continue to serve as a commercial shipping port and utility facility. Even as the remainder of the Harbor District transitions to less heavy industrial uses, outdoor storage of bulk materials, for instance, will continue at Port Milwaukee for the foreseeable future. New public access will allow visitors to experience the port up close in a safe manner that does not interfere with port operations.

1. Uses and tenants on Jones Island should be consistent with the Public Trust Doctrine, relevant WaLUP recommendations, and economic goals and strategies for the region as a whole. Tenants should be held to environmental standards consistent with Milwaukee's goals to improve the quality of waterways.
2. Maintain the Municipal Heavy Lift Dock, continuing to make new investments and improvements as needed to serve key customers. Aggressively market this asset as part of Harbor District attraction efforts.
3. Port Milwaukee should identify unused and non-leasable space that can be used for public space, green infrastructure, or other public benefits.
4. Port Milwaukee should seek ways to maintain flexibility, perhaps through shorter leases, that will enable it to respond to changing markets and opportunities.
5. Prioritize uses that involve value added in Milwaukee rather than strictly transloading, to increase the economic impact of the Port.

Building Forms

Buildings within Jones Island will likely be designed and constructed according to the functional needs of each facility and operation. However, Jones Island's high visibility from surrounding neighborhoods, waterways, and the elevated I-794 highway provide an opportunity to design facilities in an interesting, artistic, and aesthetically pleasing manner.

6. As new facilities are built or existing facilities are refurbished on Jones Island, the Port and its tenants should consider the visual impact facilities will have on the Milwaukee skyline and waterfront.
7. Explore options to reduce odors from facilities across the Harbor District including MMSD's Jones Island Water Reclamation Facility, manufacturers, and other facilities.

Transportation

Port Milwaukee and its tenants depend on reliable and efficient transportation networks to operate. Highways, streets, railroads, and shipping routes all converge at Jones Island to carry the materials, cargo, and people that make the Port, its tenants, and neighbors work. Strategic investments and actions should be made to ensure that the transportation networks that serve Jones Island are doing so in an effective manner.

8. Maintain or enhance rail connections to Port Milwaukee. Pursue opportunities to restore intermodal service at Jones Island or elsewhere to enhance shipping options for the region.
9. Maintain Over Size Over Weight (OSOW) access to Jones Island via Bay Street north of Lincoln Avenue. Support efforts to maintain OSOW routes connecting to Port Milwaukee.
10. Develop a bicycle and pedestrian loop through Jones Island that will allow visitors to experience Port Milwaukee without interfering with Port and tenant operations. The loop will connect with the Oak Leaf Trail via South Lincoln Memorial Drive and connect to Kaszubes Park.

Public Space

While largely unknown to most Milwaukee area residents, Jones Island is home to one of the smallest parks in the City of Milwaukee. Kaszubes Park is a small grass plot that memorializes the fishing village that was once populated with immigrants from northern Poland. The waterfront south of the liquid cargo terminal on the east side of Jones Island is open to the public and is used for fishing. There is potential to expand on these public amenities and provide public access to Jones Island, although in a manner that does not interfere with the Port and the ability of its tenants to operate.

11. Improve and expand Kaszubes Park to include access to the waterfront. Ensure that bicycle and pedestrian access to the park is available via the Jones Island bicycle and pedestrian loop and the Oak Leaf Trail.
12. Improve the lakefront area between the liquid cargo terminal and the Confined Disposal Facility to create a public fishing and recreation area that is clearly marked, publicly accessible, and inviting.
13. When the Confined Disposal Facility (CDF) transitions from its current use, explore the creation of a public park as part of any future use, focusing on natural bird and wildlife habitat. The site's location along the Lake Michigan flyway has already made it a popular birdwatching location. Public access should be limited to designated pathways that preserve bird and wildlife habitat.



Kaszube's Park on Jones Island.

Stormwater

Jones Island falls completely outside of the Combined Sewer area. Stormwater is conducted to the Lake and Inner Harbor via storm sewers, with little to no treatment. The area includes much of Port Milwaukee's shipping operations, and can be visited by hundreds of semi-trucks each day. While stormwater management practices are in place for Jones Island, the area's intense industrial nature necessitates additional stormwater management practices in order to capture and clean polluted runoff.

Conceptual rendering showing stormwater collection from the elevated Interstate 794.



Rendering by SEH

14. Conduct next-level stormwater planning on Jones Island to protect water quality in the Inner and Outer Harbors. Creative stormwater solutions will provide the most water quality benefits for the investment.
15. Incorporate green infrastructure practices where feasible.
16. Develop innovative solutions to address water quality issues caused by road salt storage. Prioritize structural solutions over management actions that require ongoing tenant training and commitment to implementation.
17. Assess runoff from the I-794 overpass and develop solutions that do not interfere with Port Operations.



Waterfront park under a bridge in Philadelphia.

Habitat

Jones Island Planning District is home to Port Milwaukee and Milwaukee's Wastewater Reclamation Facilities providing little opportunity for large-scale habitat improvements. In addition to implementing district-wide recommendations where possible, there are opportunities to improve the habitat functionality in some locations.

18. Identify shoreline locations conducive to Habitat Hotels and other habitat retrofits, and implement shoreline improvements which do not impede shipping traffic.
19. Where feasible, improve green spaces on Jones Island, especially in coordination with green infrastructure projects.

Public Art

With Jones Island being a highly visible, yet seldomly visited, section of the city there is an opportunity for public art to shed light on the functions and activities of Port Milwaukee, its tenants, and the MMSD water reclamation facility.

20. Use art to brighten and enliven the infrastructure of Port Milwaukee and MMSD's Jones Island water reclamation facility, as well as to highlight the essential functions of this infrastructure. Focus on large infrastructure such as silos, smokestacks, and warehouses.
21. Identify opportunities to improve the appearance of Kaszubes Park and include art that more completely and accurately honors the people who once lived on Jones Island.

The "Watermarks" project by artist Mary Miss and City as a Living Laboratory includes a concept to light the MMSD smoke stack on Jones Island.



The Water



The Water sub-district includes the lower reaches of the Milwaukee River downstream from the Broadway Street Bridge, the Kinnickinnic River downstream from South Chase Avenue, the inner harbor and Municipal Mooring Basin, and the outer harbor east of Jones Island stretching from the river mouth to Coast Guard Station.

Existing Conditions

Milwaukee's past successes and future potential are linked to the waters of the Harbor District. Native American tribes lived in villages in and near the Harbor District to take advantage of the wildlife, fish, and rice that capitalized on plentiful, clean water. Milwaukee was founded and flourished due to its deep harbor and easy access to water. Over the nineteenth and twentieth centuries, Milwaukee transformed the lush and verdant landscape of the estuary into a hardened industrial powerhouse and port. While the waters of the Harbor District helped fuel industrial Milwaukee, this transition left our waters polluted and disconnected from most of the city.

The waters of the Harbor District are going through another transformation as much of the industry that once relied on water access is gone. While there is work to be done, water quality has improved drastically since the introduction of the Clean Water Act in the 1970s. Milwaukeeans are rediscovering the joys of its waterways and visiting the Harbor District for fun and recreation. In just the past few years property owners and businesses along the Milwaukee and Kinnickinnic Rivers are reporting sharp increases in the number of recreational boaters, kayakers, paddleboarders, and fishermen taking advantage of this unique asset.

Most of the water in the Harbor District is lined by sheet metal or timber dock walls built in the past 100 years. While there are a few small areas of natural sloping water's edge hidden along the Kinnickinnic River or where dockwall has failed and collapsed, the vast majority of the Harbor District's waterfront was filled and lined to support shipping, dredging, and upland construction.

The water is used for commercial shipping purposes along the Kinnickinnic River from the Kinnickinnic River Bridge downstream, in the Municipal Mooring Basin, and in the outer harbor. Recreational boating takes place everywhere, although the majority of traffic is on the Milwaukee River or boats travelling to and from marinas on the Kinnickinnic River.



District Vision

The Waters of the Harbor District will support a variety of activities and habitats including commercial shipping, recreational boating, fishing, and natural aquatic habitat. Water activities will be safe and welcoming to everyone, with areas designated for specific water activities clearly marked. Milwaukee residents and visitors will feel a connection to their waterways and will develop a renewed appreciation for the value and role our estuary plays in our community.

Water Use

Historically, the waters of the Harbor District have been dominated by commercial shipping vessels and barges. The exception would be each spring and fall when recreational boats travel to and from the marinas of the Lower Kinnickinnic River District. However, in recent years there has been a rapid increase in the use of the Harbor District's waterways for recreation, especially by kayaks and canoes. With increased recreational boat traffic, new recreational boating destinations on the Kinnickinnic River, and continued commercial shipping traffic to and from Jones Island it will be important that the needs of all these users are considered and balanced to ensure safe and proper use of our waterways.

As commercial shipping vessels and barges come into increased contact with recreational boats, keeping all parties safe is the most important goal. Developing clear rules and areas of operation for various water users will ensure that commercial waterborne transportation and recreational water users will be able to share the Harbor District's waterways.

1. Commercial shipping vessels and operations should be focused on the waters of the Mooring Basin, the inner harbor, and the outer harbor. All commercial shipping operations should take place downstream of the Union Pacific swing bridge on the Kinnickinnic River.
2. Recreational boating (powerboats, sailboats, kayaks, canoes, paddleboards, etc.) should be focused on the western shore of the inner harbor and the Mooring Basin and Milwaukee Rivers. Recreational boats should be discouraged from travelling in the Municipal Mooring Basin or near the commercial shipping terminals in the outer harbor.
3. Identify opportunities to reduce conflicts between all waterway users.



Mural on the Milwaukee River that educates on water issues and contributes to a fun and interesting space.



Water Experience and Design

When considering how to develop areas along our waterfront, most consideration is given to how people experience the water's edge from the land. However, as more recreational boat traffic takes place in the Harbor District it will be important to consider that many people will be experiencing Milwaukee's waterfront from the water. How the water's edge looks and is experienced from the water will be an important component in Milwaukee's efforts to identify itself as a world-class water city. Safety for all users is another important component of the experience.

4. Exits from the water to the land (ladders, ramps, etc.) will be located at least every 100 feet along the entire shoreline of the Harbor District. Property owners installing new egress should take into account the location of egress on adjoining properties. Ladders should be clearly marked for visibility and well maintained. Construction should account for varying water levels and provide anti-slip measures.
5. Develop a wayfinding and informational signage network to inform water users of safe and responsible boating practices. Signs will be designed to be read by boaters on the water and will direct boaters to various destinations, inform of preferred boating areas, and post boating regulations.
6. As waterfront properties are redeveloped, give consideration to how the development will look from the water. Regardless of the type of water's edge (sheet metal, timber, rip rap, etc.) efforts should be made to create an attractive waterfront that incorporates architecturally significant, artistic and/or natural features.

Transportation

The many waterways of the Harbor District provide a unique opportunity to move people and freight in a manner that has not been widely used in recent decades in Milwaukee. Milwaukee should follow the example of other waterfront cities and explore the potential to transport people and goods through and to the Harbor District on the water.

7. Collaborate with the Harbor Safety Committee to develop and implement solutions for educating the public about waterway safety.
8. Explore opportunities to develop waterborne transportation such as water taxis or short route ferries.



Public Space

Just as the land of the Harbor District has very little public space, the waters of the Harbor District have been largely inaccessible to the public for many years. Improvements along the water's edge and in the waterways will allow the public to experience the waters of the District and connect with this valuable asset.

9. Create at least four new water access points within the Harbor District where someone could launch and dock a canoe or kayak. One site should be located in each of the following areas: the Lower Kinnickinnic River sub-district, the Grand Trunk sub-district, the East Greenfield Avenue sub-district, and the Harbor View sub-district.
10. Integrate the Harbor District into Milwaukee Urban Water Trail and the Lake Michigan Water Trail. The trail will follow the western shore of the inner harbor, extend from the Broadway Bridge on the Milwaukee River to Lincoln Avenue on the Kinnickinnic River, and be demarcated with signage and structures to separate canoes/kayaks from larger commercial vessels.

Habitat

Because of its location as a connecting water body between Lake Michigan and Milwaukee's three rivers, the Water sub-district serves as an important aquatic habitat juncture. However, habitat areas are currently disconnected, limited, and in poor condition. Improvements for aquatic habitat include improved connectivity, small scale habitat retrofits, and large scale habitat restoration projects.

11. Create in-stream and shoreline habitat improvements along 15% of the Water sub-district's shoreline, or approximately one mile of shoreline, including naturalized shorelines where feasible, and installing aquatic habitat retrofits in other locations.
12. Improve habitat connectivity along the shores of the Water sub-district in alignment with recommendations from the UWM School of Freshwater Sciences Harbor Habitat Mapping initiative.
13. Restore aquatic habitat at the Grand Trunk Wetland, and along the Kinnickinnic River Corridor from Chase Avenue to Becher Street.
14. Create demonstration wetlands at the UWM School of Freshwater Sciences boat slip and at the Solvay Car Ferry site.
15. Install Habitat Hotels and develop pilot projects to improve the habitat function of steel sheet piling bulkheads.
16. Continue improvements to the breakwater to add habitat. If dredging materials becomes available, consider an expanded breakwater habitat system similar to the Cat Island chain in Green Bay.

Rendering showing conceptual waterfront habitat, stormwater treatment cells, and public access along former Solvay Coke site waterfront.



rendering by SEH

Water Quality

The Harbor District can play a central role in building Milwaukee's brand as a Water Centric City and the health of our waterways is a key component. New developments, impervious cover, and the daily activities of an evolving urban neighborhood all have the potential to affect the water quality of adjacent waterways. With new development increasing impervious area, proactive stormwater management will be essential to ensure that water quality improves in concert with the revitalization of the land.

Not all threats to water quality are new or ongoing. Throughout Milwaukee, sediments beneath the waterways contain contaminants that are the legacies of past industrial use. These sediments result in impairments to wildlife health and limits on human consumption of fish.

17. Remediate contaminated sediments, and delist all sediment-related Beneficial Use Impairments of the Milwaukee Estuary Area of Concern.
18. Improve water quality of all Harbor District waterways and carry out recommendations of the Total Maximum Daily Load (TMDL) implementation plan.
19. Use Harbor District waterways as a tool for outreach and education, highlight the importance of water quality issues, and continually provide opportunities for residents to connect with the water.

Public Art

The view and experience of the the water's edge from a boat is pretty similar across most of the Harbor District. Generally a boater is looking at a sheet metal dockwall, although in places it may be wood, large stones, or collapsed dockwall overtaken by vegetation. Art can be employed to create a diversity of experiences for someone travelling on the water through the Harbor District. Art installations on the dockwall or shoreline and installations on the land at the water's edge would serve to create a more interesting experience and provide more reason for people to explore the waterways of the Harbor District.

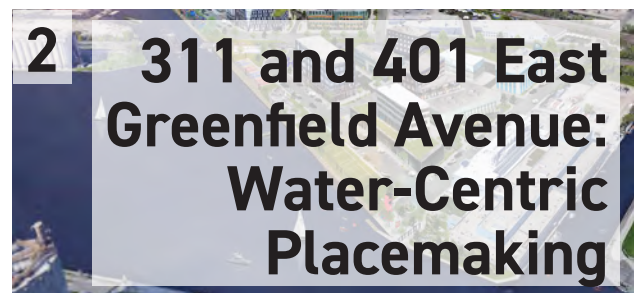
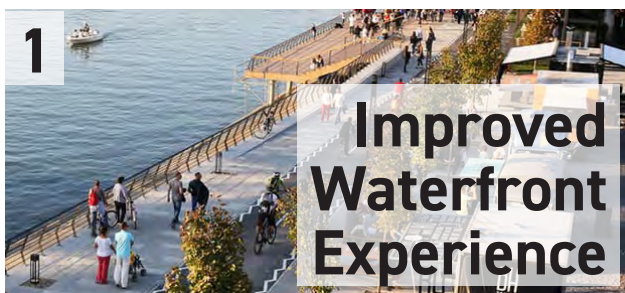
20. Install shoreline artwork in coordination with the Habitat Hotels program to help tell the story of Harbor District's underwater world, and to provide opportunities for boaters to interact with the shoreline in new ways.
21. Wayfinding signs, such as those for boat launches or access points, should be eye-catching and appealing.
22. Art visible from the water should provide glimpses of the varied history of these waterways.

6 CATALYTIC PROJECTS

Following the adoption of this Water and Land Use Plan, the recommendations in the preceding chapters will guide the efforts of the City of Milwaukee, Harbor District Inc, and our partners in advancing plan goals. While these recommendations all play a role in achieving a world-class revitalization of Milwaukee’s harbor, the planning process also identified a smaller number of priority projects that can unlock the potential for new investment in the area and spur the other development envisioned by stakeholders for the Harbor District.

The successful implementation of the catalytic projects highlighted in this section of the plan will greatly advance many of the goals and recommendations identified throughout this plan. These catalytic projects were chosen to capitalize on the major opportunities in the Harbor District, directly address some of its biggest challenges, and demonstrate commitment and momentum towards the overall development and growth of the District.

The catalytic projects are organized into two site specific projects (East Greenfield Avenue and Grand Trunk) and two concept categories (Improved Waterfront Experience and Access and Mobility Improvements) that address major obstacles to the District reaching its full potential. Each of the four catalytic projects contains a series of actions that collectively contribute to the full vision for each catalytic project.



Improved Waterfront Experience



The most important element to the Harbor District's unique identity and character is the water. The confluence of the three rivers as they meet and flow into Lake Michigan defines this part of the city. Yet, almost all of the Harbor District's nine miles of waterfront is off-limits to the public. Only at the Milwaukee County Boat Launch can one actually get to the water's edge in this neighborhood shaped by water.

This separation of the water from the land was intentional as the city's rivers and lake were reshaped to serve industrial Milwaukee. At the time, it made sense to limit waterways and waterfronts for use by the ships and factories that needed them. However, the city has changed, its economy has changed, and its relationship with water has changed. The Harbor District represents an opportunity moving forward to develop a new type of waterfront that invites the public to explore and enjoy its shore and waves, maintains its role as a working port and commercial harbor, and provides space for natural ecosystems to flourish.

This catalytic project lays out a series of recommendations that will move the Harbor District towards this new vision of a multi-purpose multi-use waterfront. Recommendations include new public spaces and amenities to allow people to access the water and projects to improve water quality ensuring the experience of visiting the water is enjoyable.



Waterfront Improvements

- Harbor District
- Proposed Riverwalk
- Proposed Waterfront Park
- Canoe/Kayak Launch
- Trailered Boat Launch
- Public Waterfront
- Trash Wheel

Riverwalk

To reconnect the city to the waterways of the Harbor District, a new Riverwalk system should be created that extends along the entire western shore of the Harbor District from the Broadway Bridge on the Milwaukee River on the north to the Chase Avenue Bridge on the Kinnickinnic River on the south. This would be mirrored by a riverwalk system beginning on the eastern shore of the Kinnickinnic River at the Chase Avenue Bridge and extending north to the Union Pacific Rail Swing Bridge just north of the Grand Trunk site.

This new Riverwalk system would create a new continuous urban pedestrian route and include amenities and destinations that would allow users to experience the Riverwalk and waterfront in different ways. When fully built out this proposed Riverwalk extension would add roughly 4 miles to Milwaukee's Riverwalk system.

While the Downtown Riverwalk exists in a fairly developed and built up area, the proposed Harbor District Riverwalk has some unique opportunities and challenges given the industrial context of the area. There are large vacant parcels along the proposed Riverwalk route that would allow for larger public spaces and a variety of waterfront amenities to be included that were not possible downtown due to space constraints. These opportunities are described in the following sections.



Milwaukee's Downtown Riverwalk was started in 1993 as a public-private partnership project and has developed into a 3.1 mile system stretching from the former site of the North Avenue Dam all the way to Lake Michigan. The Downtown Riverwalk provides almost uninterrupted public access to the Milwaukee River throughout downtown and has helped reconnect our city to our namesake river.

It took great vision in 1993 to put in place the zoning and partnerships that would lead to the eventual development of the Downtown Riverwalk, as initial construction happened slowly as properties were redeveloped or funding became available. Fast forward to today and \$52 million dollars has been invested in constructing the Riverwalk, adjacent properties have seen a \$1 billion increase in property values since construction began, and the project is a finalist for the Urban Land Institute's Global Awards for Excellence.

A concept drawing of a Riverwalk in the Harbor View sub-district



A concept drawing showing a Riverwalk section with a working marina and boat being launched.



Same Riverwalk section as to the left, outside of operational hours.

All images on this page by UWM Community Design Solutions

Water Access Points

Once at the water's edge it is important to provide a variety of experiences and amenities that encourage people to explore. Boardwalks, shared-use paths, natural sloped shorelines, fishing piers, canoe and kayak launches, and many other waterfront treatments can appeal to a wide variety of users and keep visitors coming back time and time again.

Five high priority locations have been identified for canoe/kayak launches along the Harbor District waterfront (see map), although additional locations may be identified in the future. The current Milwaukee County Boat Launch is a challenging site for several reasons: the strong wave action coming in the mouth of the harbor, steep ramp, and limited parking. Should the opportunity arise, it is recommended that a new public boat launch be developed further south on a portion of 900 South Water Street that would provide more parking and a safer launching environment.



Canoe/kayak launch.



Public fishing waterfront.



Example of new trailered boat launch.

The southern portion of the former Solvay Coke & Gas site and the former Fire Boat Slip on the Grand Trunk Site are recommended locations for natural sloped shorelines that would provide space for aquatic habitat. Additional natural sloped shorelines could be developed behind dockwall structures in areas such as the former rail car ferry slip on the Solvay Coke & Gas site. This concept, explored during the Waterfront Innovations Design Charrette, would provide a protected space for aquatic habitat and also be more accessible to visitors wanting to explore.

The waterfront area underneath the I-794 elevated highway between Port Milwaukee's liquid cargo terminal and confined disposal facility (see map) is recommended for a public space that provides opportunities to fish and walk along the lake side of the Harbor District. This area could be connected to the Oak Leaf Trail and communities to the south via a new shared-use path along the lakefront and South Lincoln Memorial Drive.

Conceptual rendering for an improved Milwaukee County Boat Launch at Bruce Street.



Rendering by SEH

Waterfront Parks

The Riverwalk system and improved water access points bring people to the water's edge and provide unique spaces to interact or experience the water, but the Harbor District also has opportunities to provide more expansive public spaces along the waterfront. Opportunities abound to develop small pocket parks along the riverwalk system that connect the waterfront to residential neighborhoods to the west and much larger parks that provide spaces for recreation and exploration.



Smale Riverfront Park in Cincinnati.

In the Harbor View District, public right-of-way stub end streets at Oregon, Florida, Bruce, and Walker Streets should be preserved as public space and provide connections from South Water Street to the Riverwalk. These spaces should be designed in a manner that makes it obvious they are publicly owned and invites people to travel to and through them to the Riverwalk. These pocket parks will also preserve view corridors to the water that help connect neighborhoods to the water and Riverwalk.

In the East Greenfield Avenue District, there is a significant opportunity to create a much larger waterfront park extending on the west bank from Greenfield Avenue to Kinnickinnic Avenue. This large park should include both active recreational spaces (sport courts, exercise equipment) and passive natural spaces. For further detail on this park space, see the East Greenfield Avenue Catalytic Project.

Across the Kinnickinnic River, the Grand Trunk wetland provides the area's sole opportunity to showcase its ecological history. The 6-acre wetland here should be restored to provide habitat and a space for people to interact with water in a quieter and more natural setting. The former Fire Boat Slip should be developed as a waterfront park that includes a canoe/kayak launch and sloping natural edges. For more details on this park space, see the Grand Trunk Catalytic Project.

Continuing south on the Kinnickinnic River, two parks, Lincoln Field and Baran Park, front the river for more than a half mile. However, each park turns its back on the riverfront by providing no trails or amenities leading to or at the water's edge. These existing parks provide an opportunity to create new water access points much closer to where residents live. New trails should be developed that connect the riverfront portions of the park to other park amenities, streets, and the future Riverwalk. Areas along the riverfront should be identified for improvements to allow for easier and safer fishing and exploring of the Kinnickinnic River.



Active park space.



Natural park space.

Trash Wheel

All of the above improvements are designed to bring people to the water's edge to enjoy the waterways of the Harbor District. That experience assumes that interaction with water is an inherently enjoyable experience, which is not always the case. While there have been great strides made in improving water quality in recent years, anyone who has visited the Harbor District after a large rainstorm can attest to the accumulation of trash on the surface of the water. New technologies are being developed that can aid in cleaning urban waterways and improve the waterfront experience.

As developed and implemented in Baltimore, a Trash Wheel should be installed that will collect surface trash floating down the Kinnickinnic River and deposit it directly into a dumpster. The recommended location for the Trash Wheel is immediately upstream of the Becher Street bridge where it could be serviced via the adjacent MMSD owned property. The installation of a Trash Wheel would keep the majority of the Harbor District's waterways free of floating trash and allow the Lynrd Skymmr Trash Skimmer to focus efforts on the Milwaukee and Menomonee Rivers.



Mr. Trash Wheel in Baltimore, MD.

311 and 401 East Greenfield Avenue: Water-Centric Placemaking



Two parcels at the center of the East Greenfield Avenue sub-district - totalling roughly 60 acres with 3,000 feet of waterfront - offer the largest development opportunity in the Harbor District. Together they represent Milwaukee's most significant opportunity to define what a twenty-first century working waterfront looks like, and to set the tone for future development in the remainder of the Harbor District.

The sites can be a catalyst for Milwaukee's water-centric city goals in two primary ways: supporting job creation and economic development; and creating a waterfront that becomes a model for other cities throughout the Great Lakes and beyond. Additionally, as a high-profile, publicly owned site, 401 E. Greenfield gives the public sector a chance to set the tone for future development in the area.

photo by Kristian Vaughn



401 East Greenfield Avenue Former Coal Storage

This 13-acre triangular parcel is owned by Port Milwaukee and fronts on Greenfield Avenue (across the street from the School of Freshwater Sciences), the Inner Harbor, and Union Pacific tracks. Its deep-draft waterfront offers the opportunity to dock ocean-going vessels. Challenges include soft soils, the presence of a filled slip in the middle of the site, potential environmental remediation still being quantified. 401 E. Greenfield also includes a small waterfront parcel owned by Kadinger Marine that could be included in the larger development whenever its use transitions.

photo by Kristian Vaughn



311 East Greenfield Avenue Former Solvay Coke and Gas Co.

Currently owned by We Energies, the 46-acre property is in the midst of a major environmental clean-up. Assets of the site include an extensive waterfront stretching from the deep water of the inner harbor to the smaller Kinnickinnic river channel; freight rail service; and a large slip (formerly home of the municipal carferry). Challenges in addition to the environmental remediation include soft soils, limited street frontage, and constrained access.

Economic Development

An urban style, mixed commercial and light industrial park here has the potential to create 2,200 jobs and \$193 million in new property value. Two neighboring anchor institutions - the UWM School of Freshwater Sciences and the Rockwell Automation headquarters - could assist in attracting future tenants that build on Milwaukee's existing strengths in water research and technology and/or advanced manufacturing. In partnership with the Global Water Center, the sites and in particular the waterfront could become a testing ground and showcase for new water technologies. Stormwater management and a demonstration wetland could showcase Milwaukee's leadership in green infrastructure, and provide a job training resource.

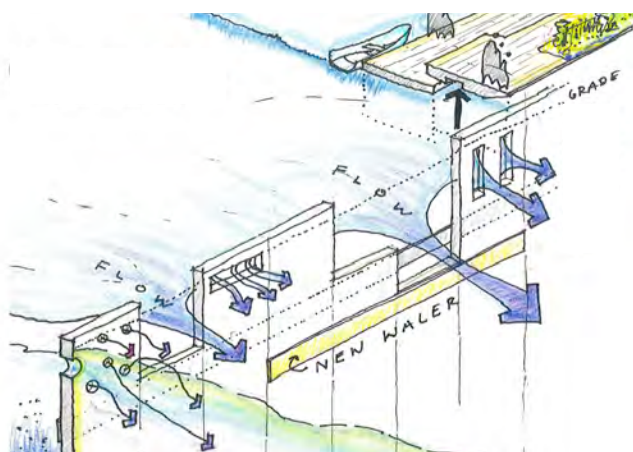
A Model Water's Edge

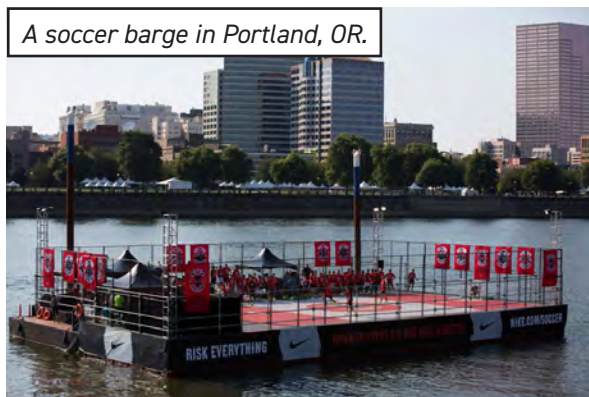
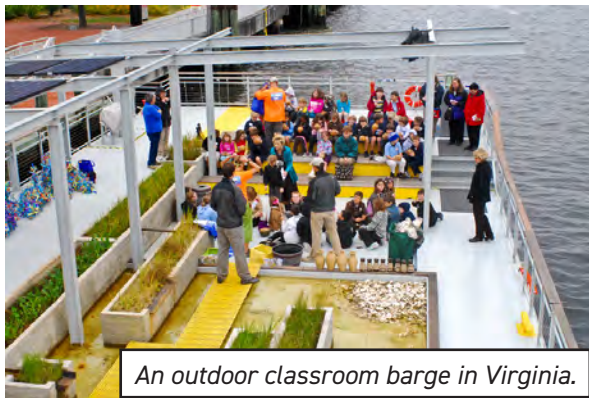
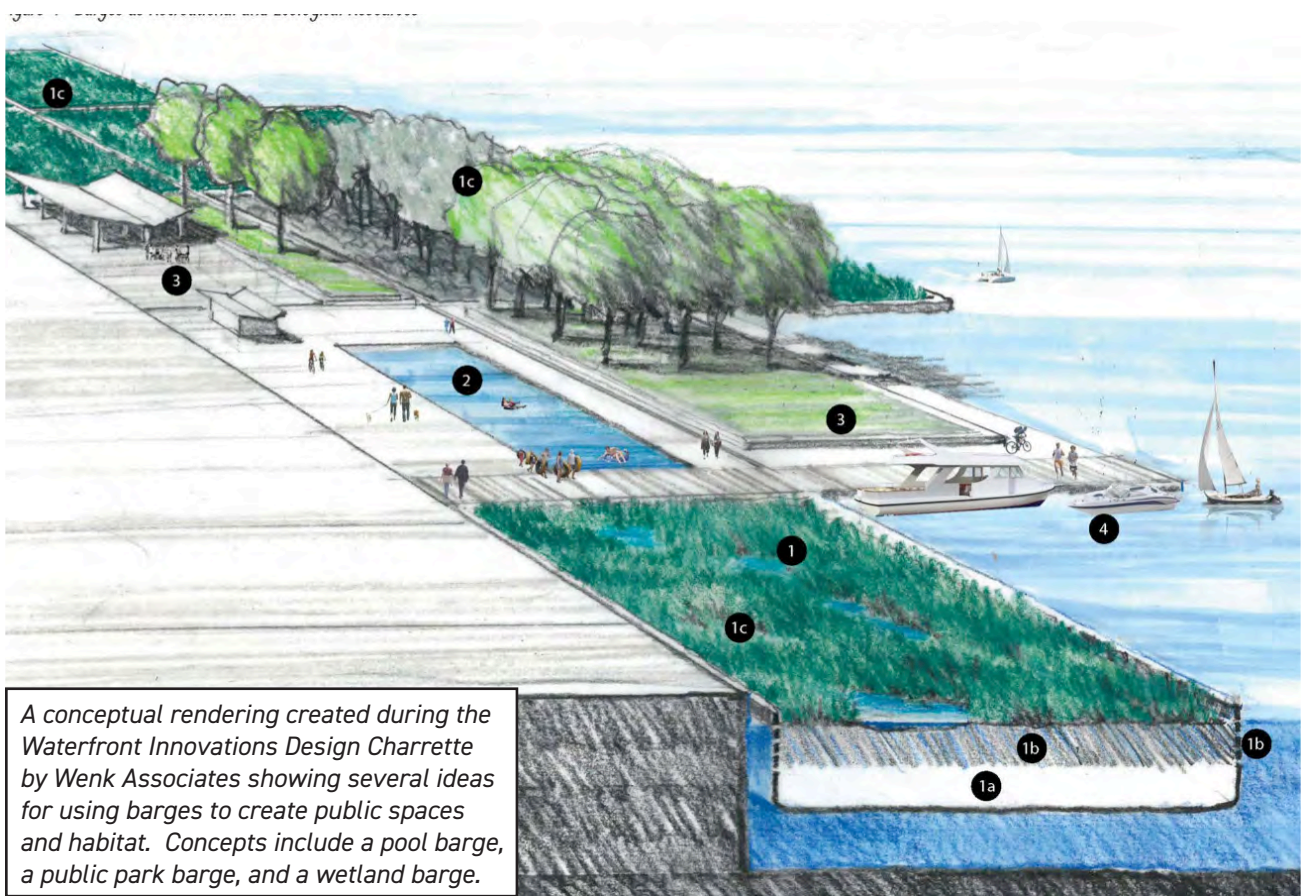
The Waterfront Innovations Design Charrette provided a variety of concepts for a built environment that is responsive to its waterfront location, and a modern waterfront that could serve the needs of industry while accommodating other uses. (See appendix for Charrette Report.) Concepts include:

- Public access to the waterfront when it is not in use for shipping;
- A porous dockwall that would provide the ability to dock ships, but could allow for the creation of wetland areas behind the wall;
- “Green fingers” stretching into the site to provide stormwater management, habitat, and landscaped public corridors;
- Barges docked along the waterfront providing ecological and recreational space.

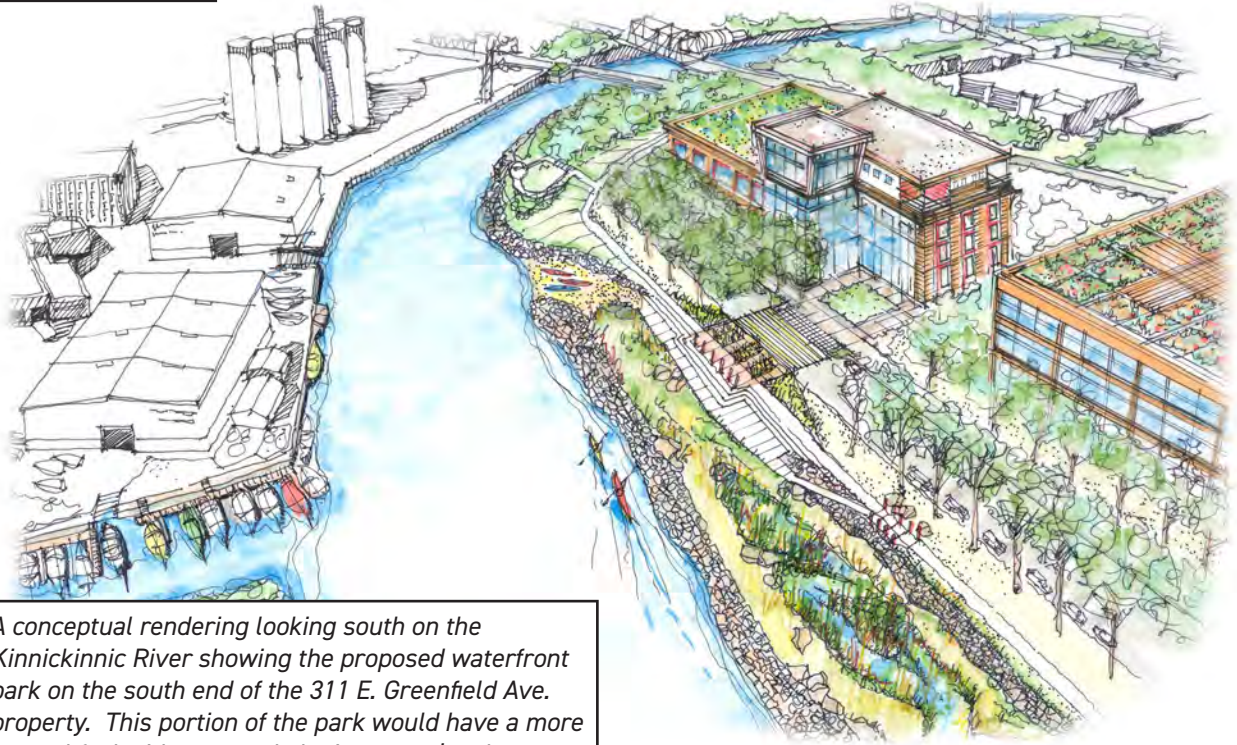
An active, publicly accessible waterfront was a key component of charrette designs and of all public input received in the planning process. In response, the plans for this site as described in the East Greenfield Avenue Sub-District include a new linear waterfront park, roughly 7 acres in size, extending the length of these two sites. The park would be anchored at its north end by a new public plaza at the end of E. Greenfield Avenue, with a lookout tower, kayak launch, and water play space. The northern portion of the park, along 401 E. Greenfield, would be hardscaped to provide active recreational space and facilitate a potential future shift to shipping uses. The southern portion, along 311 E. Greenfield, would provide a more naturalized experience, and could vary in width or extend into the built environment.

A conceptual rendering created during the Waterfront Innovations Design Charrette by Studio Gang Architects that shows how a dockwall could be perforated to allow water to flow to wetland habitat behind the dockwall while maintaining structural integrity of the dockwall for riverwalk amenities and docking.





Rendering by SEH

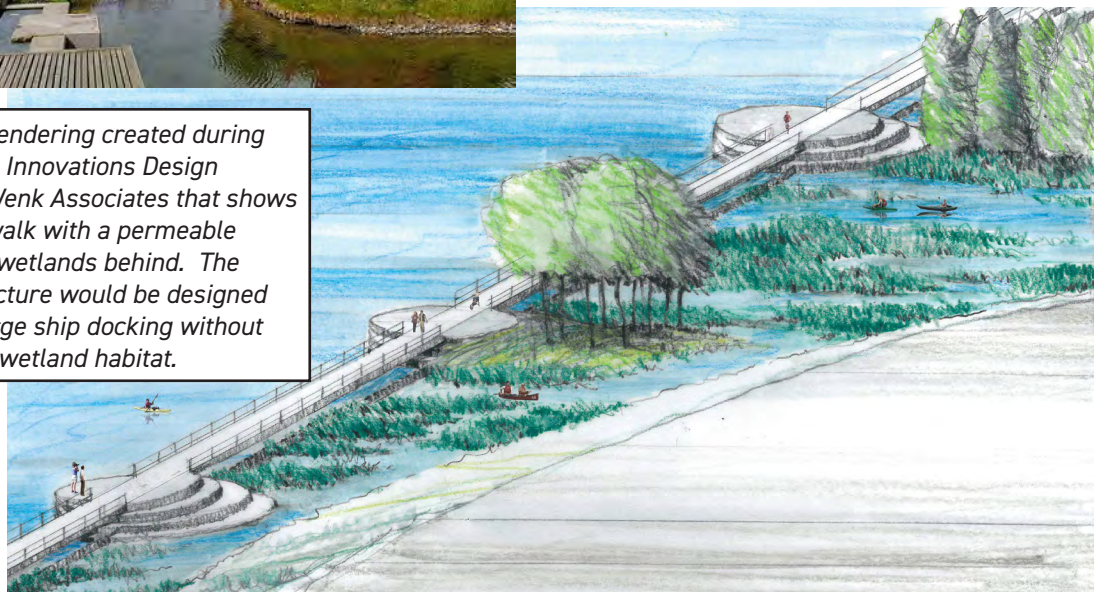


A conceptual rendering looking south on the Kinnickinnic River showing the proposed waterfront park on the south end of the 311 E. Greenfield Ave. property. This portion of the park would have a more natural feel with a natural sloping water's edge.



A former industrial dockland in Malmo, Sweden redeveloped as a mixed-use sustainable waterfront.

A conceptual rendering created during the Waterfront Innovations Design Charrette by Wenk Associates that shows a public riverwalk with a permeable dockwall with wetlands behind. The riverwalk structure would be designed to allow for large ship docking without disturbing the wetland habitat.



A Dense, Walkable Mixed-Use Waterfront

Much as the waterfront should demonstrate the successful coexistence of multiple uses, the built environment should offer a vision for how modern manufacturing can be incorporated into a green, walkable, urban environment. The following mix of uses are a preferred alternative.

Multi-story urban office space

Priority users include those that benefit from proximity to the UWM School of Freshwater Sciences, Rockwell, other anchor institutions, or water technology and research companies. Buildings could contain a mix of offices, laboratories, and/or research facilities. First floor water facing space should be reserved for uses that take advantage of the waterfront such as food service or water-related services (boat rental, etc.).

Modern, urban industrial park

Buildings would have smaller footprints (less than 75,000 square feet) than a typical new construction industrial building and would be arranged in a more compact manner. Potential users include small to mid-size food and beverage companies, other small to mid-size manufacturers or “makers”, or research and development facilities for larger manufacturers located elsewhere in Milwaukee. An ideal user is a company that needs a mix of office, retail, and production or warehouse space, with the office or retail space activating the street facing portion of the building.

Menomonee Valley business with windows displaying their company's systems at work.



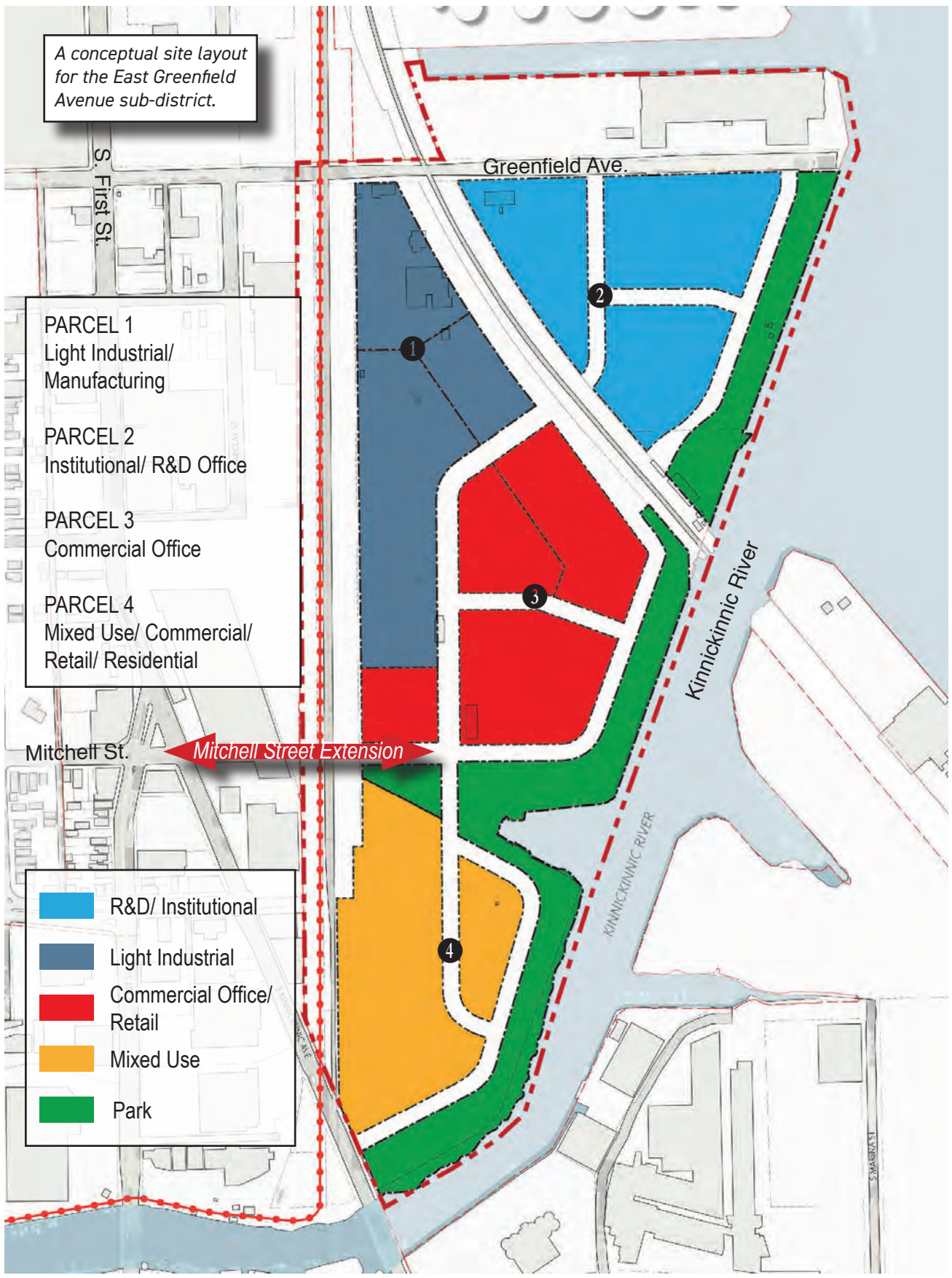
Smaller scale mixed-use commercial and residential

Buildings should connect to the residential neighborhoods of Bay View and Walker’s Point and complement the smaller scale and natural edge of the river channel. Ideal first floor tenants would be food and beverage businesses taking advantage of southern exposure along the waterfront. This district could provide opportunities for live-work-sell type developments.

A conceptual site layout for the East Greenfield Avenue sub-district.

- PARCEL 1
Light Industrial/
Manufacturing
- PARCEL 2
Institutional/ R&D Office
- PARCEL 3
Commercial Office
- PARCEL 4
Mixed Use/ Commercial/
Retail/ Residential

- R&D/ Institutional
- Light Industrial
- Commercial Office/
Retail
- Mixed Use
- Park



Environmental Quality

Milwaukee has already had success in attracting new development to the Menomonee Valley, with its high-quality green space and restored river corridor. The Harbor District will also need to provide a compelling location in order to land high-quality new users.

Stormwater

These sites should model stormwater management that achieves targets well above regulatory requirements. Focus should be on preventing any pollutants from reaching the river. Additionally, stormwater treatment areas should be configured to serve as connections to the river for people and as habitat corridors.

Habitat

Regardless of the type of water edge (hardened or naturalized), this area can help provide aquatic and terrestrial habitat connectivity.

Steam/District Energy

The presence of the We Energies steam line, and the absence of much, if any, existing infrastructure, offers an opportunity to consider district energy systems. For instance, depending on eventual end users, waste process heat could be used to melt snow on roads and sidewalks; the avoided salt would be a significant benefit to adjoining waterways.

Access and Connectivity

Just minutes from downtown Milwaukee and from interstates heading north, south, and west, served by freight rail and Port Milwaukee, and with multiple bus routes just blocks away, the location is extraordinarily well connected. However, the immediate access is very poor and restricted to a single public street, East Greenfield Avenue, passing under a low rail bridge. New access and better connection to the city's street grid would have a transformative effect both on these sites and on the adjacent neighborhoods, providing improved access to jobs and to the river. Access improvements should be made as further described in Catalytic Project #4, Access and Mobility.



A conceptual rendering for the East Greenfield Avenue sub-district that shows the waterfront park, commercial office, and light industrial uses.

A conceptual rendering for the East Greenfield Avenue sub-district created during the Waterfront Innovations Design Charrette by DTAH. The concept includes flexible building types that can include a variety of uses, indoor parking, and shared greenspace and stormwater infrastructure.



Grand Trunk Wetland and Development



The southern portion of the Harbor District provides the greatest opportunity to restore the natural wetland environment that historically occupied most of the area, while also providing space for new job-intensive light industrial users. While the area does not have as much vacant space as the East Greenfield Avenue District, there are substantial opportunities to create new habitat, public space, and development that will achieve many of the goals set forth in the Harbor District Water and Land Use Plan guiding principles.

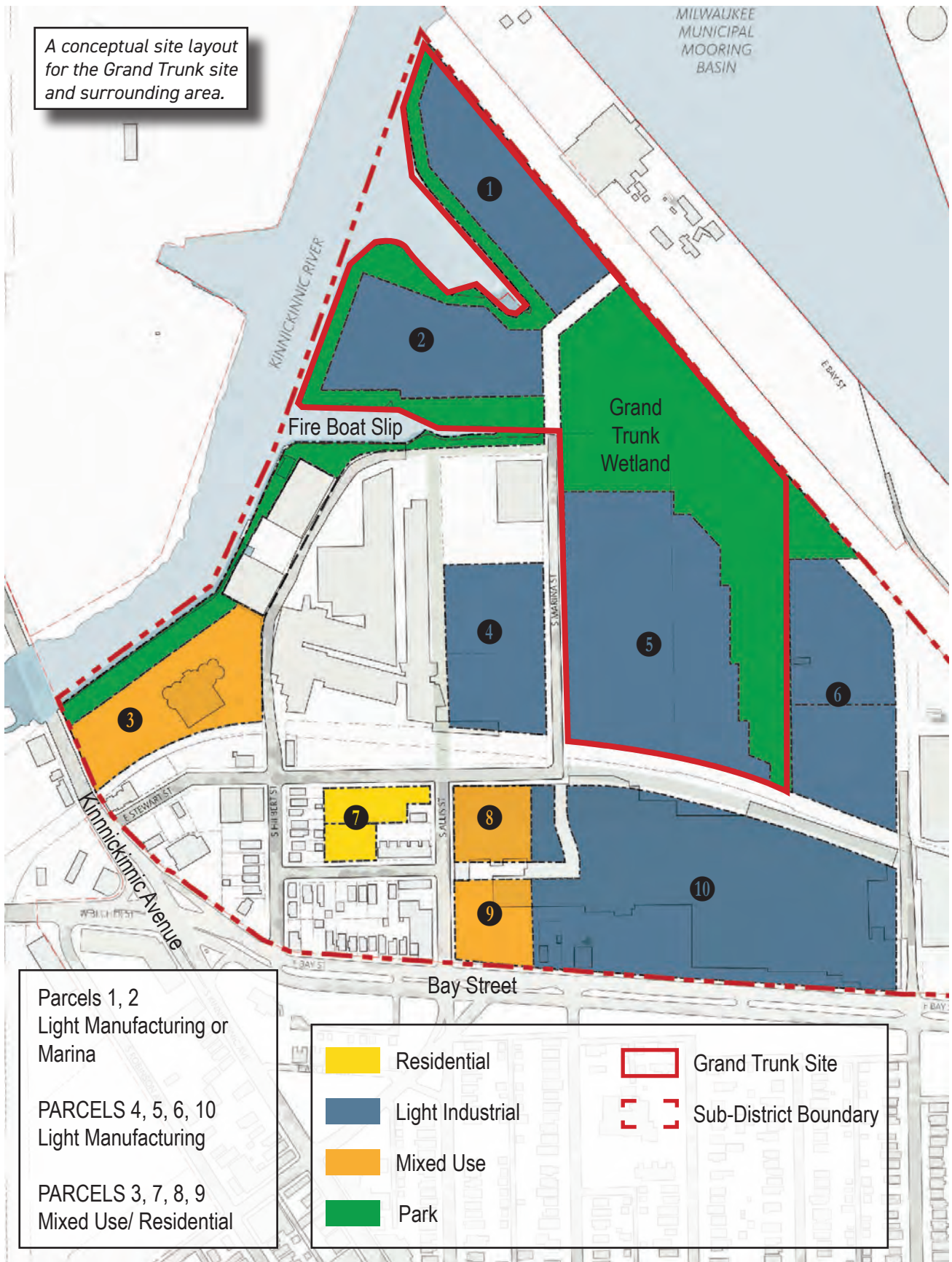
The largest opportunity in this District is the Port Milwaukee-owned Grand Trunk site. The site is named after the former Grand Trunk Car Ferry, which operated on the site from 1905 until 1978 ferrying railroad cars across Lake Michigan to avoid Chicago congestion. A variety of other industrial and shipping activities and operations were located on the site in the twentieth century, although all buildings were razed and industrial operations ceased by the 1980s.

The entire Port Milwaukee owned Grand Trunk site is approximately 27 acres and includes more than 2,000 feet of waterfront. The waterfront portion of the site has been used in recent years for short term leasing primarily for businesses needing barge access for their operations. The southern portion of the site has been vacant and unused since the 1980s. The central portion of the site is home to an area of wetland that connects to the former Fire Boat Slip and the Kinnickinnic River.

Gravel stored on the north end of the Grand Trunk site. photo by Eddee Daniel









A conceptual site layout for the Grand Trunk site and surrounding area.



Parcels 1, 2
Light Manufacturing or Marina

PARCELS 4, 5, 6, 10
Light Manufacturing

PARCELS 3, 7, 8, 9
Mixed Use/ Residential

	Residential		Grand Trunk Site
	Light Industrial		Sub-District Boundary
	Mixed Use		
	Park		

Land Use

The future vision for the Grand Trunk District is primarily to serve as a transition area between the heavily residential neighborhoods to the south and the more mixed use and industrial areas of Port Milwaukee and the Harbor District. The District will provide the largest area for new industrial development in the Harbor District, with new industry and public spaces serving as buffers for Port Milwaukee from incompatible land uses to the south and west.

Future land use recommendations for the Port Milwaukee owned Grand Trunk site are described below according to three development zones. Land use recommendations for the remainder of the Grand Trunk District are described in the Grand Trunk sub-district recommendations in chapter 5.

The Grand Trunk Site Northern Zone

The northern section of the Grand Trunk site is the area north of the former Fire Boat Slip and is approximately 11 acres and includes over 2,000 feet of waterfront. This area should be used for future light industrial development or recreational boating facilities. Should it be developed as new light industrial there should be an emphasis on users that benefit from locating close to the port or having access to the waterfront. The site's potential for recreational boating facilities was identified due to its waterfront access, location close to the harbor mouth, and density of recreational boating facilities nearby.

Regardless of the eventual use for this zone, the waterfront should include public access along the entirety of the waterfront and connected to public Riverwalk sections further south. Exceptions to the public space recommendation could be made should the site be developed as light industrial that includes users who engage in shipping or barge activity along the waterfront.

The Grand Trunk Site Central Zone

The central section of the Grand Trunk site includes the former Fire Boat Slip, primarily used as a launch point for Skipper Buds, and a historical wetland. The 6-acre wetland is the last remaining wetland in Milwaukee's Inner Harbor area, and has been the subject of planning efforts by the City of Milwaukee and the Wisconsin Department of Natural Resources.



As of 2017, a habitat restoration design process building on significant public input and previous planning studies is taking place as part of the Milwaukee Estuary Area of Concern efforts to restore fish and wildlife habitat in the area. The restored wetland will provide spawning habitat for northern pike, a waterway connection between the wetland and the Kinnickinnic River, ephemeral ponds for reptiles and amphibians, and adjacent upland habitat improvements providing a buffer between the wetland and nearby developments.

The design and subsequent restoration are the first steps to sustaining a healthy wetland in this very

urban environment. However, additional planning is required to determine the best strategy for long-term stewardship of this unique urban wetland so that the cultural and ecological significance of the area are understood and honored. This step includes engaging many diverse partners to assist with the long-term maintenance, stewardship, and educational efforts. Priorities for the wetland once restored include maintaining the site's habitat and using the area as an educational resource for local schools, universities, and community organizations. Additionally, the wetland should connect to public Riverwalk segments along the Kinnickinnic River via a waterfront public shared-use path along the former Fire Boat Slip. Public access into the wetland itself, though, should be limited to designated and separated public paths, preferably boardwalks or elevated walkways, that allow visitors to explore the interior of the site without interfering with or damaging the sensitive ecosystems.

The Grand Trunk Site Southern Zone

The southern section of the Grand Trunk is approximately 9 acres of vacant land with frontage along South Marina Drive and a Canadian Pacific rail spur. This area should be developed as new light industrial with an emphasis on users that can benefit from locating close to Port Milwaukee and/or use the available railroad access. An updated wetland delineation is currently in progress that will inform the final wetland design and boundaries and may change the size of the developable land in this zone. If industrial development proves unfeasible based on site conditions, consider educational, civic, and ecological uses that complement the restored wetland

As the site is developed and surrounding properties change uses or are redeveloped, explore opportunities to improve public access and circulation by creating new public street right-of-way connecting East Stewart Street to South Aldrich Street through or adjacent to the Grand Trunk site. Public street right-of-way could follow the existing railroad on the north or south side of the tracks.



Access and Connectivity Improvements



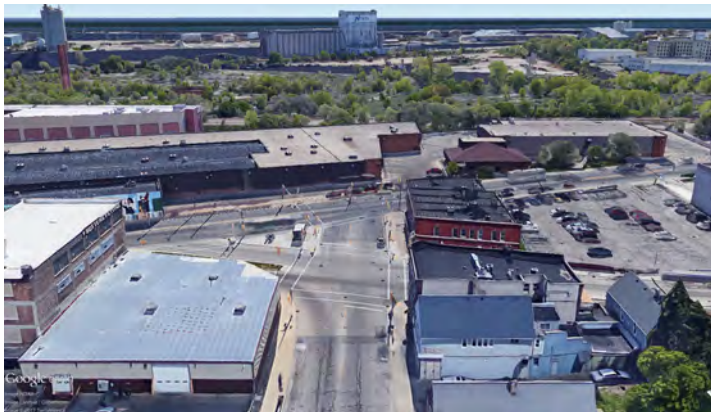
The Harbor District is where almost every transportation mode in the Milwaukee area converges. Commercial shipping and pleasure craft ply the rivers and lake; freight and passenger trains roll along numerous rail lines; trucks, buses, and personal vehicles drive the streets and nearby highways, and growing numbers of bicyclists and pedestrians make use of bike lanes, sidewalks, and trails. Finding space for all of these users in such a small area is no small feat.

As one of the oldest parts of Milwaukee, much of the transportation infrastructure in the Harbor District is either in need of modernizing or no longer serving its original purpose. As an area that was built to serve primarily industrial and freight operations, many areas in the District are disconnected from surrounding neighborhoods by the very infrastructure that made the area desirable during Milwaukee's industrial heyday.

Further, the Harbor District is also home to the confluence of Milwaukee's three rivers, and their connection to Lake Michigan. This area serves as an important junction point for many species of fish whose various life cycles require time spent in both the Lake and the river systems. Strategic investments in updating and reorganizing infrastructure will be instrumental in unlocking the full potential of the Harbor District's future to provide improved connectivity for people, for freight, and for fish.

Conceptual rendering showing one option for reuse of the unused railroad swing bridge in the Milwaukee River as a bicycle/pedestrian bridge and public park. rendering by LA DALLMAN Architects Inc.





View looking east on Mitchell Street with South First Street and Kinnickinnic Avenue in the foreground.

Conceptual rendering showing Mitchell Street extended east from intersection at First and Kinnickinnic under the Canadian Pacific railroad and into the East Greenfield Avenue sub-district.



Street level view of redeveloped Kinnickinnic, First, and Mitchell intersection with Mitchell Street extension in the background.



Images above and to the right by UWM Community Design Solutions

Improved Access to Waterfront Areas

One of the greatest challenges to realizing the full potential of the East Greenfield Avenue and Grand Trunk catalytic projects is the limited access that exists at both sites from surrounding streets and neighborhoods. Providing additional public right-of-way access to these large and vacant waterfront areas will allow nearby residents and visitors to take full advantage of future employment and public space opportunities that will develop in these areas.

Access to East Greenfield Avenue Sub-District

As described in the East Greenfield Avenue catalytic project, the only public access to the East Greenfield Avenue sub-district is via East Greenfield Avenue on the far north end of the sub-district. This entrance has limitations as its 13 feet and 5 inches of clearance is not sufficient for semi trucks to fit under. With the East Greenfield Avenue sub-district stretching more than a half mile from north to south with only one access point, it is very important that additional points of public access be identified and developed along the District's western boundary.

A small private entry point on the far south end of the Former Solvay Coke & Gas site should be developed as a new public right-of-way entrance into the sub-district. However, this additional access point suffers from the same issue as the Greenfield Avenue entrance, as it is located between two very low bridges (each under 13 feet) and would not provide full benefit to future developments in the sub-district if clearances remain unchanged at those two bridges.

An additional public access point should be developed on the west side of the East Greenfield Avenue sub-district both to address the restrictions on truck access and to better integrate this area into the city. Extending Mitchell Street to the east underneath the existing Canadian Pacific elevated railroad into the East Greenfield Avenue sub-district is the recommended access point, although further study may determine another point to be more appropriate. This new extension should be constructed to provide sufficient height for semi-trucks to pass underneath the Canadian Pacific railroad and enter the East Greenfield Avenue sub-district. Options to provide semi truck access via Greenfield Avenue should continue to be explored as well.

These new access points will allow people to enter into the area, but additional improvements will be needed to fully develop the area. There are currently no public right-of-ways in the East Greenfield Avenue sub-district aside from East Greenfield Avenue. A new street network should be designed and built to connect visitors to new waterfront public spaces and provide access and circulation to new developments throughout the site. New streets should be designed with complete streets principles in mind with special attention paid to the potential to connect bicyclists and pedestrians to waterfront shared-use paths, trucks to new businesses, and buses to new destinations closer to the waterfront.

Access to the Grand Trunk Site

As anyone who has visited Barnacle Bud's can attest, getting to and through the Grand Trunk sub-district is not without its challenges. The area is separated from Bay View by Bay Street and from neighborhoods to the north by the Kinnickinnic River. Circulation through the sub-district is

challenging as several streets dead end or turn into private drives. Improvements in the street network need to be made to support future development and public spaces.

Few visitors to the Grand Trunk sub-district may realize it, but the street used to access the businesses near the Fire Boat Slip is not a public right-of-way. South Hilbert Street terminates just north of its intersection with East Stewart Street and South Marina Drive terminates at the Grand Trunk Wetland.

To ensure that nearby residents and visitors have access to future employment opportunities and new waterfront public spaces, it is recommended that as redevelopment occurs, efforts are made to create new public right of ways that better connect the street grid and create new connections through this area. Hilbert, Allis and Stewart streets should all be evaluated for extension as new development and redevelopment occur. Recommended Riverwalk sections and a canoe/kayak launch along the Kinnickinnic River and the Fire Boat Slip will require this public right-of-way to ensure that visitors can access these new public amenities.

A new public street should be constructed from the current terminus of South Marina Drive into the Grand Trunk site to the north. This new street would provide access to future developments in the northern portion of the Grand Trunk site and provide improved access to the Grand Trunk Wetland.

To further improve access into and through the Grand Trunk sub-district, future planning should consider the potential for connecting East Stewart Street to South Aldrich Street along the Canadian Pacific Railroad Line. This connection would allow for additional access into the Grand Trunk Site from the east and would serve future industrial development on the south end of the Grand Trunk property.

Should the former Louis Allis Motor Company complex transition to a different use in the future, there is the potential to add additional north/south streets connecting East Bay Street with East Stewart Street through the property. These new street connections would be evaluated if and when the property transitions.

Bicycle and Pedestrian Connectivity

Located between several dense neighborhoods and downtown, the Harbor District has seen an increase in bicycle and pedestrian traffic in recent years with more and more people choosing to bike or walk to jobs and amenities in the area. However, as discussed previously, the legacy of existing transportation infrastructure in the District means that trips to or through the District can be disjointed or require zig-zagging towards a final destination to avoid railroads, canals, or dead-end streets.

To improve the biking and walking experience to and through the Harbor District a dedicated bicycle and walking route should be created from Bay View to Downtown with frequent connections to Near South Side neighborhoods to the west. Implementation of this recommendation began with the development of the first sections of the Kinnickinnic River Trail in 2011. However, gaps in the trail remain that need to be addressed to deliver a continuous safe biking experience through the entire Harbor District.



Kinnickinnic River Trail - South Gap

The southern off-street portion of the Kinnickinnic River Trail begins outside the Harbor District at 6th and Rosedale Street and follows the Kinnickinnic River northeast before ending at South First Street and Lincoln Avenue. From this point bicyclists must ride north on First Street to Maple Street and then take Maple Street east across Kinnickinnic Avenue to the northern off-street portion of the Kinnickinnic River Trail. This route is problematic for several reasons, but most notably because the intersection at Maple and Kinnickinnic is not regulated and has proven dangerous to bikers crossing. This gap in the Kinnickinnic River Trail needs to be addressed to provide a safe route between the two off-street sections of the Trail.

Several options exist for completing this section of the trail, with further analysis and investigation needed to identify a final route. The three most likely options for completing this segment of the trail are outlined below. It is also possible that a combination of different elements from these options would be the most appropriate solution.

Option 1

Continue with the current on-street route along First and Maple Streets, but with added infrastructure such as an on-street protected bicycle lane. At the Maple Street and Kinnickinnic Avenue intersection, a controlled intersection should be implemented to provide bicyclists with a method of safely crossing the street.

Option 2

Acquire the former rail right-of-way that runs north/south between South First Street and the Canadian Pacific Railroad to continue the Kinnickinnic River Trail off-street from its current terminus at Lincoln Avenue to the northern section at Maple Street. This would include building a new bridge structure over the Kinnickinnic River and another bridge over Kinnickinnic Avenue.

Option 3

From the current Trail terminus at Lincoln Avenue, travel west along Lincoln Avenue across the Kinnickinnic River and follow the west side of the River to meet up with the KK River Trail at Kinnickinnic and Maple.

Kinnickinnic River Trail - North Gap

The northern off-street portion of the Kinnickinnic River Trail begins at Maple Street east of Kinnickinnic Avenue and travels north to its terminus at Washington Street. From this point bicyclists must travel along Washington Street to cross under the Canadian Pacific elevated railroad and then travel north along South Water Street to Pittsburgh Street and points north. This on-street portion is not as challenging as the southern gap as there are low traffic volumes and few dangerous intersections, but railroad tracks remaining in the roadway are a serious hazard that have injured numerous bicyclists.

There are two options for completing the northern section of the Kinnickinnic River Trail. Future analysis should determine which route is preferred or if both options should be pursued.

Option 1

Maintain the current on-street route but make improvements to ensure the route is dedicated and protected. Key changes would be the use of bollards to protect bicyclists, pavement markers, and the removal of unused rail spurs in the right-of-way.

Option 2

Immediately east of the Washington Street railroad underpass develop an off-street trail that would follow the west side of South Water Street and the railroad right-of-way north. This route would go over National Avenue on the easternmost railroad bridge and travel north between the We Energies property and V Marchese before terminating near the intersection of South Water and Florida Streets. From this point north it would continue as an on-street protected bicycle lane in the same manner as option 1.

Kinnickinnic River Trail - East/West Connections

While the Kinnickinnic River Trail improvements described above would address many of the north/south route needs, the densest population of potential trail users are located to the west in the neighborhoods of the Near South Side. Improving bicycle and walking connections from the Near South Side into the Harbor District will allow nearby residents to access potential new jobs in the Harbor District and downtown along with new public spaces located along the waterfront.

Pittsburgh Avenue is the route of the Hank Aaron State Trail and Oak Leaf Trail into the Third Ward and has already been identified by the City of Milwaukee as a potential route for an on-street protected bicycle lane. Creating a protected bicycle lane along this stretch would provide a safe and more identifiable route for the thousands of bicyclists who use the Hank Aaron State Trail each year to travel to the Harbor District, Third Ward, or downtown.

Washington and Maple Streets have been previously identified by the City of Milwaukee as potential improved bicycle routes across the Near South Side and should be explored as potential “bicycle boulevards” (also known as a local street bikeway). As streets that are not major arterials that cross Interstate 94/43 they are ideal routes for east/west travel from the Near South Side into the Harbor District and connecting with the Kinnickinnic River Trail.

Kinnickinnic River Trail - Bay View Connection

Completing the Kinnickinnic River Trail will provide a much improved connection for residents who live close to the Kinnickinnic River. However, the majority of bicyclists travelling to the Harbor District from the Bay View neighborhood and points southeast enter via South Kinnickinnic Avenue. An improved route needs to be developed that takes bicyclists from the terminus of the Bay Street raised bicycle lane to the Kinnickinnic River Trail at Maple Street. Improvements could be a raised bicycle lane, a protected bicycle lane, or a two-way cycle track.

Padding and Boating Connectivity

Milwaukee's urban waterways have seen a steady uptick in paddling and recreational boating in recent years, a trend which is expected to continue. As the City continues to rediscover and reestablish a recreational connection to its urban waterways, new issues, opportunities, and challenges will arise.

With only one public boat launch, a handful locations to pull a boat over in case of an emergency, and most of the waterfront constructed of vertical sheet piling, safety for those on the water is a major concern. A robust recreational boating network will require improved water access points, new signage directing water users to safe routes and exits, and other boater education aimed at reducing conflicts between recreational and commercial vessels.

Education on safe waterway use should be directed to all users including the paddling community, pleasure craft, research and agency vessels, and freighters. Outreach and education, especially around safety and access, should build on current efforts of the Milwaukee Urban Water Trail and the Harbor Safety Committee.

At least four new canoe/kayak launch points, improvements to the Bruce Street boat ramp, and a new public boat launch will provide an expanded network of access and exit points for recreational paddlers and boaters throughout the Harbor District.

Aquatic and Terrestrial Habitat Connectivity

The Harbor District is home to the confluence of Milwaukee's three rivers, a feature of importance to shipping, boating, recreation, and fishing. The connection between Lake Michigan, Milwaukee's rivers, and other nearshore areas is becoming increasingly important from an ecological perspective.

Many partners in Milwaukee have restored - and continue to do so - stretches of the City's urban river systems. At the same time, Lake Michigan's ecosystem is evolving to include more nearshore fish species, some of which rely on the river systems for spawning, nursery habitat, and/or foraging opportunities. However, the Inner Harbor is an inhospitable place for most fish to live, or even in some cases, to just travel through. While some fish can easily make the trip from Lake Michigan, through the Inner Harbor, and up the various rivers, smaller and younger fish have greater difficulty navigating through the altered waterway of the Inner Harbor.

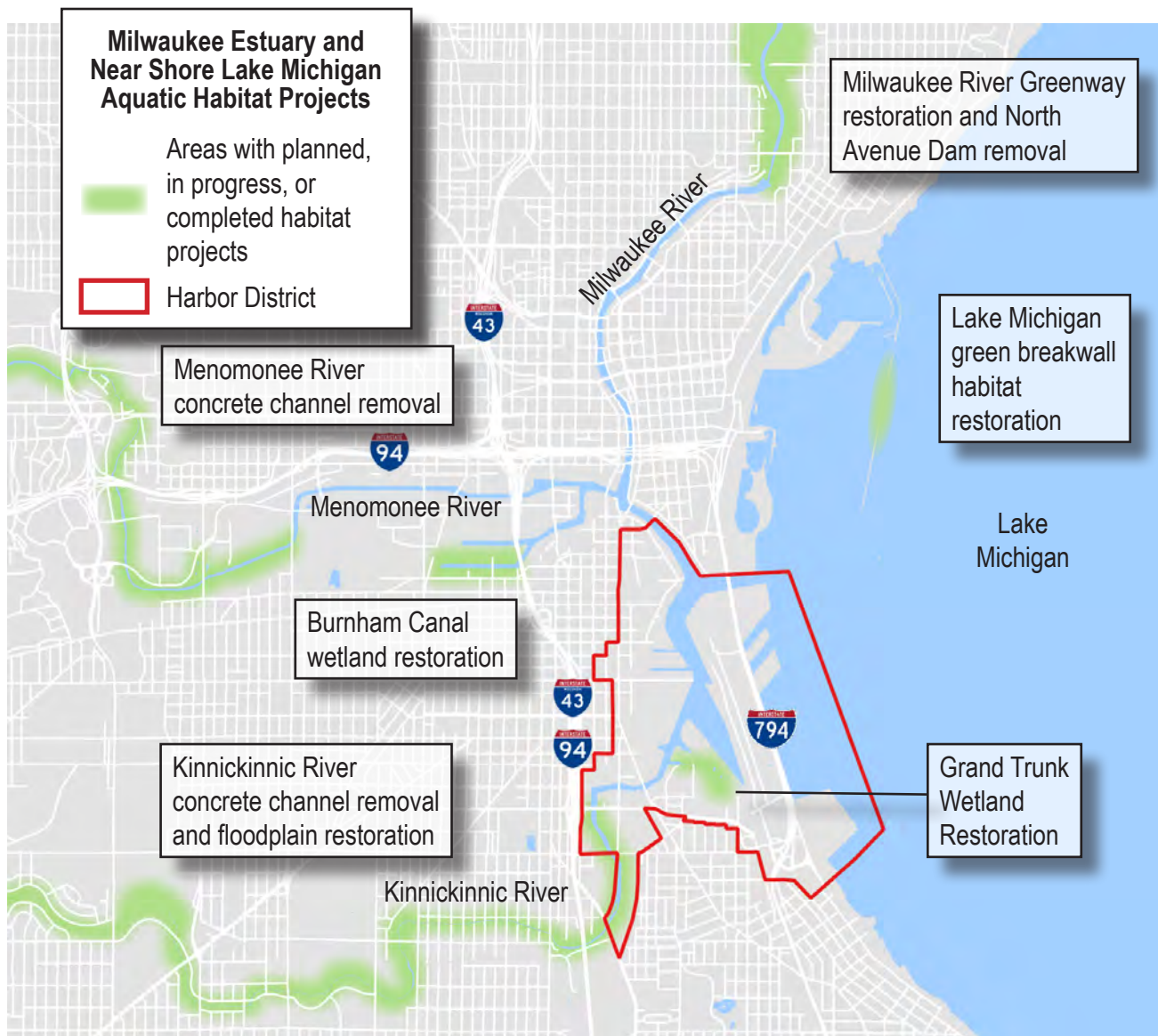
The shape of the Inner Harbor, with its deep, dredged bottom and its vertical walls, is devoid of natural shoreline and associated habitat features. Steel sheet piling and concrete lined walls provide very little space for fish to find cover, shelter from predators, or food. To address this problem, creative habitat solutions are needed to balance the needs of an active Port, while also improving connectivity for fish traveling between the three rivers and Lake Michigan.

Several habitat restoration and rehabilitation efforts are described in this Plan, including habitat rehabilitation in the Kinnickinnic River from Becher Street to I-94, restoration of the Grand Trunk Wetland for northern pike spawning, and additional constructed wetlands at both the former Solvay Coke property and at the School of Freshwater Sciences. These restoration efforts will provide more habitat for fish, birds, and other wildlife, but these larger scale projects need to be carefully connected with smaller habitat features for improved connectivity between high-quality habitat locations. Some

examples of small scale habitat features include “Habitat Hotels” (see page 72) or other modifications to the steel sheet piling to provide cover, shelter, foraging opportunities, and aquatic vegetation.

In addition to shoreline and aquatic habitat improvements, terrestrial habitat connectivity is also of great importance to the area. In general, this can be achieved through a series of large-scale restoration efforts connected with corridors of trees and native vegetation.

Large-scale habitat restorations for the Harbor District include restoring the Grand Trunk Wetland and associated upland habitat, improving riparian habitat along the Kinnickinnic River, and naturalizing the southern edge of the East Greenfield Avenue waterfront park. To help with connectivity of these habitat spaces, new bicycle, trail, and road networks should include vegetated edges: trees, native landscaping, or bioswales. Green infrastructure should be encouraged as way to improve connectivity of habitat while also providing improved aesthetic and water quality benefits as well. Further, private properties have a role to play in improving terrestrial habitat as well. Native landscaping and vegetation which provides habitat for birds, butterflies and other pollinators should be favored over grass lawns whenever possible.



7 IMPLEMENTATION

The recommendations and strategies described in the Water and Land Use Plan will, if implemented, dramatically change the Harbor District and redefine Milwaukee's working waterfront for the 21st century. The degree and direction to which the Harbor District changes in the coming years is ultimately dependent on the dedication and vision of the many partners that are or will be engaged in carrying out the recommendations in this plan.

For example, a riverwalk can be as simple as a public pathway along the water's edge or it can be as grand as an attractively designed public promenade that provides visitors with an experience that cannot be matched by any other urban waterfront. The creation of new affordable housing units can continue to rely primarily on low-income housing tax credit developments or new strategies can be implemented that challenge local thinking on how to create a community that is open to everyone.

The impact of this plan is only limited by the collective willingness to work towards the guiding principles identified as part of the planning process and not settle for bare minimum outcomes for each recommendation. Every party involved with creating and implementing this plan must strive to implement recommendations in a manner that maximizes community impact.

Most of the recommendations in this plan will require the collaborative work of multiple parties. Government at all levels, community organizations, nonprofits, private businesses, and residents will all have to be at the table together. Resources will be required from a variety of sources - public, private, and philanthropic - and will need to be aligned to most effectively support the implementation of this plan.

The table that follows summarizes the action items that will be required for successful implementation

of the recommendations contained within the Water and Land Use Plan. For each action item, it also attempts to define the parties responsible, the resources required, and the general timeframe associated with the recommendations. It is hoped that the release of this draft plan will spur additional collaboration as organizations and entities determine how they can best support plan implementation.

The Harbor District is well positioned to see through the successful implementation of the actions called for in this plan thanks to the combination of committed public and private sector partners, the formation of Harbor District Inc. and its leadership in the development of this plan, and the growing support for the economic and ecological impacts that will result from a restored waterfront. To quote the charge issued by Mayor Barrett in the introduction to this plan: "All hands on deck."

A note on “Implementation Time Frames”

Recommendations labeled as “Short Term” can begin immediately. Those labeled as “Medium Term” are more likely to require additional planning, funding, or market shifts and may more likely occur in the next two to five years. Finally, those recommendations labeled as “Long Term” are more ambitious in nature and can more reasonably be expected to be completed in a five to ten-plus year time horizon. “On-going” projects are those that may take many years to complete but consist of multiple phases or components, some of which should be acted upon immediately with the understanding that full completion is also dictated by outside factors, typically funding availability, public facility replacement schedules, and supply and demand.

The following organizations or entities are referred to by abbreviations in this section.

City: City of Milwaukee

Port: Port Milwaukee

County: Milwaukee County

RACM: Redevelopment Authority of the City of Milwaukee

DCD: City of Milwaukee - Department of City Development

UWM: University of Wisconsin-Milwaukee

DPW: City of Milwaukee - Department of Public Works

WDNR: State of Wisconsin - Department of Natural Resources

ECO: City of Milwaukee - Environmental Collaboration Office

WHEDA: Wisconsin Housing and Economic Development Authority

HDI: Harbor District Inc.

WisDOT: State of Wisconsin - Department of Transportation

M7: Milwaukee 7

WPA: Walker’s Point Association

MMSD: Milwaukee Metropolitan Sewerage District

MPD: Milwaukee Police Department

Action Item	Lead Implementer	Supporting Entities	Funding Sources	Implementation Time Frame
Overarching				
Engage residents and property owners in all decisions impacting the future of the Harbor District	HDI	DCD, DPW, WPA	NA	On-going
Review and update the WaLUP implementation plan so that it remains a useful document.	HDI	DCD	NA	On-going
Advocate for the recommendations of the WaLUP and facilitate the private-public partnerships necessary to implement plan recommendations.	HDI			
Land Use and Development				
Partner with development community to ensure that new development is consistent with WaLUP design recommendations	DCD	HDI, WPA, developers	NA	On-going
Recruit businesses identified in Market Analysis or M7 Asset Industry Clusters to the Harbor District	M7, DCD	HDI	NA	On-going
Remediate and redevelop 311 E Greenfield consistent with plan recommendations	Property owner	DCD/ RACM, HDI, developers		On-going
Create a Riverwalk Overlay Zoning District in collaboration with private property owners with a goal of providing continuous public access to the waterfront. Ensure design standards are responsive to property owner safety, security, and operational needs.	DCD	HDI, property owners	NA	Short term
Activate or redevelop the RACM owned parcel at 317 E National Ave.	RACM		NA	Short term
Advance zoning changes recommended by the WaLUP	DCD	HDI, WPA, property owners	NA	Short term

Action Item	Lead Implementer	Supporting Entities	Funding Sources	Implementation Time Frame
Remediate and redevelop 401 E Greenfield consistent with plan recommendations	Port	DCD/ RACM, developers		Medium term
Explore potential to repurpose MCTS KK Garage to facilitate Mitchell St. extension and mixed use development	County	DCD, DPW	City, County, FTA	Medium term
Develop 143 E Lincoln Avenue as the Lincoln Horse Stable therapy center	MPD/Non-profit	RACM	Fundraising, EPA	Medium term
Redevelop the Grand Trunk Site in a manner that complements the wetland slated for restoration	Port, DCD	Developers	NA	Long term
Identify unused and non-leasable space on Jones Island that can be converted for public space or green infrastructure	Port		NA	Long term
Parks, Open Space, and Recreation				
Design waterfront stub end streets as plaza or park-like connections to Riverwalk	DPW	DCD, Adjacent property owners	City, developers	On-going (as development occurs)
Remove unused rail spurs identified in WaLUP for removal for conversion to shared use public paths and stormwater management facilities	DCD/ RACM	Railways, HDI, DPW, property owners	City, grants, property owners	Short term
Create two new canoe/kayak launches in East Greenfield Avenue sub-district	HDI, Property owners		HDI, property owners	Short term
Create and deploy coordinated bicycle trail signage throughout the Harbor District	County, City, WDNR	Bike Fed, Friends of Hank Aaron State Trail	County, City, grants	Short term
Build the "Slosh Park" public plaza where East Greenfield meets the water's edge	HDI	DPW, UWM	Fundraising, grants	Short term
Develop and extend a trail and wayfinding system for recreational boaters throughout the waters of the Harbor District	Milwaukee Riverkeeper	HDI	Grants, BID	Medium term

Action Item	Lead Implementer	Supporting Entities	Funding Sources	Implementation Time Frame
Design and build linear waterfront park within East Greenfield sub-district in partnership with property owners				Medium term
Create a new public park at 2112 and 2122 South Fourth Street	MMSD			Medium term
Research strategies to attract additional recreational boating into the Inner Harbor	HDI	Milwaukee Riverkeeper	BID, grants	Medium term
Improve the Milwaukee County Boat Launch to better serve as a waterfront public space and better accommodate canoes and kayaks	County		County, grants	Medium term
Create an at-grade crossing over the Union Pacific railway in the East Greenfield sub-district to allow users to access waterfront	DCD/ RACM	Railways, DPW, property owners		Medium term
Partner with other organizations and districts to create mobile or print maps and guides	HDI	Visit Milwaukee		Medium term
Create a public fishing and recreation area between the liquid cargo terminal and Combined Disposal Facility	Port	DPW	City	Long term
Improve and expand Kaszubes Park to include access to the waterfront	DPW	Port	City	Long term
Create a public park at the site of the Combined Disposal Facility when it transitions from its current use	County	Port		Long term
Create a public boat launch at 900 S Water St. when use transitions	Property Owner, County			Long term
Transportation and Utilities				
Install Bublr Bike stations to meet 1/2 mile coverage goal	Bublr	HDI, DPW	Contributions, sponsorships, grants	On-going
Formally adopt Complete Streets policy and utilize in all projects within the Harbor District	DPW	DCD	NA	Short term, On-going

Action Item	Lead Implementer	Supporting Entities	Funding Sources	Implementation Time Frame
Pursue Wisconsin Clean Marina certification	Area marinas and boat yards		NA	Short term
Create a on-street bicycle "neighborway" along Washington Street	DPW	DCD	City, WisDOT	Short term
Complete the build out of the Kinnickinnic River Trail through the Harbor District	DPW	DCD, HDI	City, grants	Medium term
Explore options for providing truck access to East Greenfield sub-district via changes to railway underpasses	DPW	DCD, property owners	City	Medium term
Screen the WE Energies substation on South Water Street in an aesthetically pleasing manner	Property Owner		Property Owner	Medium term
Explore options to reduce odors from facilities on Jones Island	MMSD	Port		Medium term
Achieve Green Marine level 5 rating	Port		NA	Medium term
Remove unused rail tracks located in right of way along South Water Street and Florida Street to increase safety and access	DPW	DCD/ RACM, Railways, adjacent property owners		Medium term
Create on-street protected bike lanes along South Water Street, Pittsburgh Street, Kinnickinnic Avenue, and Bay Street	DPW		City, WisDOT	Medium term
Advocate for development of Kenosha-Racine-Milwaukee (KRM) rail Commuter Link	City	HDI	TBD	Long term
Redesign First Street to better serve all users and serve as a gateway to the Harbor District	DPW	WisDOT, DCD	City, WisDOT	Long term
As uses transition and opportuntites arise, create new public rights of way within Grand Trunk sub-district	DPW	DCD	City	Long Term

Action Item	Lead Implementer	Supporting Entities	Funding Sources	Implementation Time Frame
Redesign the Becher Street interchange at I94/43 to improve safety and functionality	WisDOT	DCD	WisDOT	Long term
Develop a bicycle and pedestrian loop on Jones Island	Port	DPW	City	Long term
Equity and Affordability				
Focus businesses recruitment to the Harbor District to firms that provide job opportunities accessible to area residents	M7, HDI, DCD		NA	On-going
Include affordable housing units in any new multi-family residential development involving sale of public land	DCD, County	Developers	NA	On-going
Make changes to the Low Income Housing Tax Credit Allocation Plan that further prioritizes areas with job and transit access and those at risk of displacement	WHEDA	DCD, HDI	NA	Short term
Complete Equitable Growth through Transit Oriented Development Study and implement resulting housing affordability recommendations	DCD	HDI	TBD	Short term
Develop tailored programing to connect area residents with employment opportunities in Harbor District	Employ Milwaukee	HDI, area employers	BID, Employ Milwaukee, grants	Medium term
Environmental Cleanup				
Complete projects to support delisting of the Milwaukee Estuary Area of Concern, particularly cleanup of contaminated sediments	WDNR	AOC Community Advisory Committee, MMSD, Responsible Parties	WDNR, grants	On-going
Seek funding to carry out site assessments for publicly owned sites within the Harbor District	DCD/RACM	WDNR	RACM, grants	On-going

Action Item	Lead Implementer	Supporting Entities	Funding Sources	Implementation Time Frame
Pursue resources and access agreements to assist with site assessment and cleanup at privately owned sites	DCD/ RACM	WDNR	RACM, grants	On-going
Stormwater Management and Water Quality				
Implement the Alliance for Water Stewardship International Water Stewardship Standard	AWS	HDI, Property owners	NA	On-going
Create a biofiltration facility along South Marina Drive, including potential daylighting of sewer	DPW	DCD, MMSD, WDNR	City, MMSD	Short term
Complete next level stormwater management planning for Harbor District sub-districts and corridors	DCD/ RACM, HDI	MMSD, ECO, WDNR	WVDR, MMSD	Short term
Implement stormwater best management practices adjacent to Grand Trunk Wetland to protect water quality of the wetland	DCD/ RACM, HDI	WDNR, Port	RACM, grants	Medium term
Create a stormwater substitute ordinance to Chapter 120 for properties within the Harbor District	DPW	HDI, MMSD	NA	Medium term
Develop incentive programs to install green infrastructure projects	ECO	MMSD, DPW	MMSD, City	Medium term
Build a demonstration wetland at west end of UWM School of Freshwater Sciences boat slip to improve water quality	UWM	HDI	UWM	Medium term
Explore creation of demonstration wetland at Solvay Car Ferry Slip				
Reconstruct unimproved parking lot at UWM School of Freshwater Sciences to improve water quality of runoff	UWM	UWM		Medium term
Implement priority projects from Nine Key Element Plan	MMSD		MMSD	Medium term
Develop solutions to address runoff from I-794	Port, DOR	DPW		

Action Item	Lead Implementer	Supporting Entities	Funding Sources	Implementation Time Frame
Habitat and Ecology				
Add a aquatic habitat location or feature at every waterfront property in the Harbor View Area	HDI	Property owners		On-going
Plant trees to reach goal of 23% tree canopy coverage	DPW	Property owners	DPW, property owners	On-going
Restore the Grand Trunk Wetland to achieve habitat and ecological goals laid out in the plan and provide public access	DCD/ RACM	WDNR, Port	EPA, grants	Short term
Install a Trash Wheel near the Becher Street Bridge	HDI	MMSD		Medium term
Install Habitat Hotels along the shoreline north of Becher Street Bridge and on Jones Island	HDI	Property owners		Medium term
Develop signage and programming to educate visitors on the ecological aspects of the Harbor District				
Public Art				
Deploy public art to highlight or temporarily activate areas where future development will occur and along rail bridges	HDI, Railroads	Arts Nonprofits	Grants, Railroads, BID51	Short Term
Create a wayfinding system for the Harbor District that utilizes artistic elements	HDI	BID51, DCD, DPW	BID51	Medium Term
Incorporate public art into existing and new developments within the Harbor District	HDI, Property Owners			On-going
Incorporate public art within redesigned Milwaukee County Boat Launch	County	HDI, Arts Nonprofits		Medium Term
Incorporate public art at former grain silos on South Water Street	Property Owner, Developers	HDI		Medium Term

Action Item	Lead Implementer	Supporting Entities	Funding Sources	Implementation Time Frame
Add public art on the large retaining wall on South Kinnickinnic Avenue between Maple Street and the River	HDI, DPW, DCD/ RACM	Arts Nonprofits	BID51	Short Term
Add public art to beautify rooftop of former Louis Allis facility	Property Owner	Arts Nonprofits, BVNA		Medium Term
Use art to enliven Jones Island Water Reclamation facility	MMSD	Watermarks Project Partners		Medium Term