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TLCI Study Prepared by:
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IRISHTOWN BEND

CHAPTER 1. INTRODUCTION

Irishtown Bend is a vast, underdeveloped hillside along the west bank of the Cuyahoga River. Its rich cultural history dates from First Nation settlements, to European colonists, early American pioneers, and most recently, the 19th century heart of the Irish immigrant community.

The Port of Cleveland and Ohio City, Inc. secured grant funding in 2016 through the Northeast Ohio Areawide Coordinating Agency’s TLCI (Transportation for Livable Communities Initiative) program to begin planning for Irishtown Bend’s future as a vital and connected public space. LAND studio, a Cleveland nonprofit dedicated to supporting design excellence in civic projects, secured additional private funding to expand the capabilities of the plan. The plan contained herein represents the results of this process, proposing a reimagined public space within the site boundaries described below.

The site known as Irishtown Bend has a recent history of geotechnical instability. Dredging and widening of the Cuyahoga River necessitated the clearing of the Irishtown Bend settlement in the mid-20th century, and the site has largely remained vacant due to the structural instability of the hillside. This hillside is at risk for catastrophic structural failure, which would cause it to collapse into the adjacent Cuyahoga River shipping channel and block freighters from reaching the upstream recipients of bulk commodities.

Given the immense economic consequences that such a geological failure would have, the Port of Cleveland commissioned an extensive geotechnical evaluation of the site. The study identified a collection of correctable problems which must be addressed in sequential order to restore the hillside to a viable and safe community asset.
The Port has been working with various public and private stakeholders to strategize on how best to address and implement the various fixes that are required to stabilize the Irishtown Bend hillside. Though complicated and expensive, this effort is key to the region’s economic future. The future implementation of the various infrastructure improvements necessary for stabilization will result in the secondary benefit that will create a tremendous opportunity for this region: uniquely situated among a confluence of trail networks, panoramic vistas, a riverfront and a pivotal nexus between Ohio City, downtown Cleveland and the Flats, the (cleared) hillside becomes a blank slate for a generational opportunity to create a dynamic public space for this city.

The Irishtown Bend Vision Plan transforms the critical hillside from an economic and ecological liability to a showcase of Cleveland’s environmental and industrial heritage. The plan has been developed in keeping with the three guiding principles set forth by the Port of Cleveland: stability, connectivity, and creativity.

The site is flanked by Detroit Avenue on the north, Columbus Road on the south, West 25th Street to the west and the Cuyahoga River to the east. The plan creates an overall park concept that will unmask and maximize the project site’s various and diverse strengths. Irishtown Bend will be a dynamic public space for all Clevelanders, connecting Ohio City, public housing residents, and the entire near west side to the Cuyahoga River. The site includes a world-class public park, enhanced urban farm, neighborhood connections, new internal trails and links to adjacent trail networks. See the graphic at the left for the trail network connected to Irishtown Bend.

At the street level, the project study area covers the West 25th Street corridor from Detroit Avenue to Bridge Avenue. Realization of the vision plan will support the current trend of vacant buildings giving way to development opportunities with dramatic views of the downtown skyline, the Cuyahoga River, and the numerous and varied bridges that span the evolving landscape of the Flats. The vision plan creates a more accessible and inviting West 25th Street, and it balances the needs of bicycles, pedestrians, public transit, and vehicular travel.

Industry, Culture, and Ecology are intertwined at Irishtown Bend

Guiding principles for the Irishtown Bend Vision Plan

CREATIVITY: Develop a new and unique, world class, yet cost effective civic asset for the community

STABILITY: Restore, repair damaged infrastructure

CONNECTIVITY: Provide enhanced, safe access for users
CHAPTER 2. PREPARATION AND PROCESS

BACKGROUND

The Irishtown Bend hillside has exhibited signs of instability since the 1960’s, which is why this centrally located riverfront site remains largely vacant. An extensive geological survey was completed by Barr & Prevost in May of 2015, indicating that the slope is at risk of failure due to erosion and forces from passing freighters as well as excessive water from compromised utility channels. The impending slope failure would cut off access to and through the active shipping channel adjacent to the site, resulting in significant consequences to a $3.5 billion industry that supports thousands of jobs.

Necessary remediation efforts are extensive and include the installation of a steel bulkhead system along the west bank of the river, utility system repairs, the realignment of Franklin Avenue, and drainage system implementation. Through LAND Studio and West Creek Conservancy’s efforts to acquire multiple parcels on the hillside through Clean Ohio funding, the groundwork is being laid to enhance the scope of the future Irishtown Bend hillside improvements. The above described issues necessitate the project, but LAND Studio’s involvement in land acquisition and development of public spaces presents an opportunity for enhanced design in executing the necessary engineering improvements to the hillside.

PROCESS

Understanding the desired outcome of creating a plan for Irishtown Bend that presents a unifying vision for furthering development of this civic asset, many stakeholders were engaged at various levels.

Client Team - Port of Cleveland, Ohio City Inc., LAND Studio

The Client Team represents the three agencies who secured funding for the study and ultimately own the study and process.

Core Team – Client Team + Northeast Ohio Areawide Coordinating Agency (NOACA), Cleveland Metroparks, City of Cleveland, Greater Cleveland Regional Transit Authority (GCRTA)

The Core Team is the decision-making body for most aspects of the details of the Vision Plan, meeting during every round of public engagement to frame the stakeholder and public discussions and guide the design team of CMG Landscape Architecture and Michael Baker International.

Steering (Stakeholder) Committee – Core Team + Cuyahoga Metropolitan Housing Authority (CMHA), Ohio Department of Transportation (ODOT), Flats Forward, Irishtown Bend Block Club, Cleveland Neighborhood Progress, private developers, and other interested local stakeholders.

The Steering Committee met during each round of public engagement to share detailed feedback on the site and concepts presented.

Additional Technical Stakeholders - Northeast Ohio Regional Sewer District (NEORSD), City agencies, and utility companies

Additional Technical Stakeholders were engaged as needed throughout the process.

The planning process was segregated into three main steps:

1. Listen + Learn
2. Envision + Design + Iterate
3. Refine + Report Back

The Listen + Learn phase began in April of 2017 with a gathering of background data, including existing traffic counts, site history, and previously completed studies. The planning team attended a tour of the Irishtown Bend site as it exists today to understand the complex geological and ecological factors influencing the vision plan. Team members also met with stakeholder focus groups to define the realistic opportunities and constraints related to the site and the West 25th Street corridor. A public outreach event introduced the TLCI process and provided a forum for community members to share their personal experiences and visions for the site. Attendees were provided with examples of nationwide precedents for park and streetscape concepts, and they were asked to provide...
feedback on which concepts were preferred as well as which concepts were not appropriate for Irishtown Bend. Traffic analysis and coordination with the City of Cleveland Division of Traffic Engineering also began at this phase in the project. Using the collected traffic count data, scenarios were tested to determine the feasibility of reducing the number of vehicular travel lanes along the West 25th Street corridor. Lastly, the team coordinated with the Greater Cleveland Regional Transit authority regarding plans for improved transit accommodations on the West 25th Street corridor, most specifically relating to a concurrent study for BRT (Bus Rapid Transit) considerations for a larger segment of West 25th Street.

The Envision + Design + Iterate phase commenced after initial data gathering and processing was complete. The team used this information to develop initial streetscape and site concepts. These concepts were presented to stakeholders and the public, who were asked to identify which features they liked and disliked about each. Among others, feedback was received in relation to multi-modal accommodations and connectivity, parking requirements, and site uses. In the final phase, the team combined the preferred elements of each of the initial concepts into a final streetscape and site concept.

**GOALS OF THE VISION PLAN**

At several stakeholder and core team meetings, goals for the vision plan were discussed and shaped. The planning process for Irishtown Bend was conducted in consideration of the core team’s goals to:

1. Generate enthusiasm and momentum for a new waterfront park and bulkhead improvements
2. Recast West 25th Street to support multi-modal transportation and to maximize its potential for inclusive economic development
3. Define a cohesive vision that inspires funders to invest in the site
4. Provide a roadmap for strategically implementing the vision
5. Develop creative solutions for slope stability and neighborhood connectivity.
CHAPTER 3. EXISTING CONDITIONS

HISTORY AND CULTURE
The site was the home of early Irish immigrants to Cleveland who fled the potato famine in Ireland, seeking a new and better life on the shores of the Cuyahoga River. These workers built the Ohio and Erie Canal and the ships that would transform the Western Reserve into one of the country’s great capitals of industry.

By the 1880s, Irishtown Bend is a bustling neighborhood of workers, policemen, shops, docks, bars, and a distillery. Despite popular belief, Irishtown Bend was not a “shanty town” it was a proper neighborhood with “brick and mortar” homes and businesses. Most of these structures were demolished in the 1960s to prepare the site for the Cuyahoga Metropolitan Housing Authority’s (CMHA) Riverview Tower apartments. The development included ten, low-rise apartment buildings east of the tower and the realignment of Franklin Avenue.

The 1960s construction work laid site spoils atop the natural embankment, which precipitated subsidence and the removal of the low-rise structures in 2000. In 2009, community leaders in urban agriculture, the City of Cleveland, and CMHA leadership transformed the 6-acre site that had previously been the low-rise apartments into an urban farm. Ohio City Farm, one of the largest contiguous urban farms in the United States, is jointly managed by Ohio City Incorporated, CMHA and the tenants who work the land.

In 1989, a study conducted by the Department of Archaeology at the Cleveland Museum found building foundations in the southern portions of the site and nominates the site for recognition by the U.S. Department of Interior. On May 25, 1990, the National Park Service, Department of the Interior enters Irishtown Bend Archaeological District into the National Register of Historic Places.

GEOTECHNICAL ISSUES
Barr & Prevost was contracted by the Cleveland-Cuyahoga County Port Authority to conduct an extensive study of the stabilization and restoration of the Franklin Hill/Irishtown Bend Hillside. The general conclusion from this study follows:
A danger does exist for potential failure of the slope if there is a local slip at the toe of the slope along Riverbed Street, coupled with elevated ground water conditions. However, if the toe of the slope is stabilized and protected and the drainage and water issues are properly addressed, the site can be rehabilitated for use along the lower elevation of the Riverbed Street corridor. Development on top or on the hillside should be avoided, and Franklin Avenue should be partially reconstructed to correct the alignment over the historic scarp line.

The recommendations of this TLCI study have taken into account the considerations raised by the Barr and Prevost report. The stability of the slope, through bulkhead replacement, grading, and water remediation, is paramount to the future of Irishtown Bend.

**TRAIL NETWORK**

In recent years, a series of separate but related planning studies have defined an emerging trail network along Lake Erie and the Cuyahoga River. These trails will regionally draw and connect visitors to new greenspace and waterfront views, as well as provide multi-modal connections between downtown Cleveland, the Flats, and Ohio City. In particular, the Cleveland Foundation Centennial Trail (Lake Link Trail) provides an essential connection between the riverfront and Lake Erie, spanning from the Towpath Trail at the south end to Wendy Park on the north end. The trail is being constructed in phases, with the final phase occurring along the river’s edge through the Irishtown Bend site. This plan presents the opportunity to complete the final link in the network, connecting the Towpath Trail, Lake Link Trail, and future Redline Greenway projects in a beautifully designed and functional urban park setting.

Additional shared-use path connectivity is possible at Irishtown Bend given the Lakefront Bikeway (construction completion estimated in June 2018) which terminates at the northwest corner of Detroit and West 25th Street and continues two miles west to upper Edgewater Park, and the existing shared-use path on the north side of the Lorain-Carnegie Hope Memorial Bridge, providing a direct link from Ohio City to Downtown Cleveland.
WEST 25th STREET CORRIDOR

West 25th Street varies between 65 feet and 80 feet wide north of Bridge Avenue. There are two general purpose travel lanes in each direction with center left turn lanes. The width of pavement reduces south of Franklin Boulevard as the southbound dedicated bike lane and buffer are eliminated. On-street parking is incorporated near the intersection of Bridge Avenue, and the center left turn lane is eliminated south of Bridge Avenue.

Public Transit

West 25th Street is the most heavily used transit route on the west side of Cleveland and serves the following Greater Cleveland Regional Transit Authority (GCRTA) bus routes:

- Route 22
- Route 45
- Routes 51, 51A, 51B, and 51C
- Routes 79 and 79A
- Route 83

GCRTA is currently studying an upgrade of the 51-All bus route (the MetroHealth line) to a "light" bus rapid transit (BRT) line. For BRT, it is critical to maintain at least two lanes in each direction of travel so that a separate bus lane may be provided during the AM and PM peak commute times, if not all day. In coordination with the Irishtown Bend core team leadership, the proposed lane configuration for West 25th Street should accommodate the potential future BRT and therefore includes two through lanes in each direction.

Bicyclists

The West 25th Street corridor is a north-south commuter bicycle connection between Franklin Boulevard and Detroit Avenue. There are 6-foot dedicated bike lanes on either side of West 25th Street from north of Church Avenue through Franklin Boulevard. Painted buffers exist between bicycle lanes and the edge of curb, but there is no separation between bicycle and vehicular traffic. Northbound dedicated bike lanes end prior to the intersection of West 25th Street and Detroit Avenue; cyclists must intermix with vehicular traffic to proceed through the signal, and there are no special bicycle accommodations. This configuration creates an uncomfortable riding environment for less-experienced cyclists who prefer some form of protection from cars and trucks.

Pedestrians

Sidewalks along West 25th Street range from the north of Franklin Boulevard to 20 feet near the intersections with Detroit Avenue. Street furnishings are minimal or non-existent, and many areas of the sidewalk are overgrown to the north of Franklin Boulevard. A signalized pedestrian crossing is located in front of Riverview Tower to provide safe access to southbound bus routes for CMHA residents.

Traffic Analysis

Traffic analysis was performed to assess the traffic operations of West 25th Street from Bridge Avenue to Detroit Avenue as it is currently configured. These analyses focused on the following intersections:

1. Detroit Avenue and West 25th Street
2. West 25th Street and Church Avenue
3. West 25th Street and Franklin Avenue
4. West 25th Street and Franklin Boulevard
5. West 25th Street and Bridge Avenue

Signal timing information was provided by the City and shows that the intersections at Franklin Boulevard, Vestry Street and Detroit Avenue are coordinated for northbound and southbound movements. All signals have a cycle length of 120 seconds during the AM and PM except for Detroit Avenue at West 25th Street, which operates at a cycle length of 130 seconds. This signal also has a leading pedestrian interval, delaying the northbound green time by 6 seconds to facilitate pedestrian crossings on the east leg.

Turning movement counts were performed from 7:00 - 9:00 AM and 4:00 - 6:00 PM on Thursday, April 6, 2017 at most study intersections. Count data had previously been collected at the intersection of Detroit Avenue and West 25th Street between the hours of 6:00 AM and 6:30 PM on Thursday, February 23, 2017. From this data, the AM peak hour was identified as 7:30 - 8:30 AM and the PM peak hour was found to be 5:00 - 6:00 PM.

Intersection capacities were evaluated using the measure of Level of Service. The level of service is defined in the Transportation Research Board Highway Capacity Manual as a letter grade, ranging from A to F, which represents the quality of service from a traveler’s perspective. The objective of a level of service analysis is to translate complex performance results into a simple stratified system that can be easily understood.

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Average Delay Per Vehicle (sec)</th>
<th>Traffic Signal</th>
<th>Stop Sign</th>
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<tbody>
<tr>
<td>A</td>
<td>≤10</td>
<td>≤10</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>&gt;10-20</td>
<td>&gt;10-15</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>&gt;20-35</td>
<td>&gt;15-25</td>
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<tr>
<td>D</td>
<td>&gt;35-55</td>
<td>&gt;25-35</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>&gt;55-80</td>
<td>&gt;35-50</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>&gt;80</td>
<td>&gt;50</td>
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South of Detroit Avenue, the West 25th Street corridor has additional capacity with two travel lanes in each direction. The intersection at Detroit Avenue, however, is over capacity during the AM peak hour due to the high northbound right turn volume of 689 vph and the lower utilization of the outside right turn lane. This northbound right turn movement is an issue during the AM peak hour. While there are two turn lanes serving this movement, the bus stop located in the northeast quadrant has an impact on the number of drivers that utilize the outside right turn lane. Driver observations indicate that the northbound queue oftentimes extends to Church Avenue in the AM, and the maximum queue length is approximately to the intersection at Franklin Avenue. The intersection operates better during the PM with an overall level of service of D. The dual westbound left turn lanes service a volume of 650 vph and are near their operating capacity.
CHAPTER 4. CONCEPT DEVELOPMENT

CONCEPT DESIGN OPTIONS

The design team began by engaging members of the community, the client team, and city stakeholders to better understand their values, goals, and visions for the new park and streetscape improvements. Through a series of meetings and public workshops, we established the following goals for the project:

1. To create and reinforce connections for people, industry, and habitat. The improved connections need to happen north and south along West 25th Street and the Lake Link Trail and east to west up and down the bluff from the river to the neighborhood. They need to be physical connections among destinations and experiential and relational connections between people with each other and with their environment.

2. The park programs need to be inclusive and inviting for the diverse neighbors, city residents, and regional visitors.

3. The park needs to celebrate and share the unique histories of the site and the people who have made it their home and sought refuge along the banks of the Cuyahoga River.

4. The park needs to create a uniquely Cleveland destination that serves the neighborhood and the region, one that includes memorable places that feature the views and maximize the site’s dramatic topography.

In June 2017, the design team presented two alternative concept options to solicit client, stakeholder, and community feedback.

In Option A, entitled “Neighborhood Portals,” CMG proposed an active park with gateways along West 25th Street that connected the park to the neighborhood street grid. Key park programs include a Welcome Center with cultural programming at the corner of West 25th Street and Detroit Avenue, a destination playground along West 25th Street, which includes a zipline down to the riverbank, and an area for interpreting the archaeological site. Option A highlights the northeast corner of the site as the primary park entrance and connects to a “culture walk” that reveals the site history, culminating the conversion of the former Lederer train depot into a gathering area for picnics, events, theater, and public art.

In Option B, entitled “City Theater,” CMG proposed more passive park programs, focusing on ecological restoration of the site and places for enjoying the city and river views. This option emphasizes the intersection of Franklin and West 25th Street as the primary gateway into the park. An entry plaza at this location includes a new farm stand and community center. A canopy walk links the gateway to the Lakeview Terrace neighborhood to the north, passing beneath the Detroit Superior Veterans Memorial Bridge. A large sloped lawn takes advantage of the topography and the views, creating a large amphitheater for events and performances. Riparian gardens designed to enhance fish and bird habitats flank the amphitheater to the north and south along the river.

The design team formally presented at three public meetings and discussed the project following each presentation.
COMMUNITY FEEDBACK

Following the June 2017 public presentation, we invited the public to share their preferences, ideas, and concerns about the two options that we shared. The comment card to the right asked the community to rank their preferences for four key treatments of the site design: connectivity, the West 25th streetscape design, the key site uses, and the location and treatment of site gateways.

The bar graph on the far right of this page illustrates the response summary. There was a strong preference to treat West 25th Street as a linear, neighborhood park and to locate the primary gateway to the site at the intersection with Franklin Avenue. Both of these were elements of the Option B, “City Theater” scheme. However, a more focused look at the community’s favorite elements, as illustrated in the pie charts to the lower right, revealed a preference for some of the key elements shown in Option A, “Neighborhood Portals” scheme, including the playground, boulder scramble, and the site history and archaeology interpretive treatments.

CMG incorporated the preferred features and qualities of the two options into a third, hybrid design scheme illustrated in Chapter 5 of this report.

- Playground / Activity for Kids
- Programming and Neighborhood Emphasis
- Entrance at W. 25th and Detroit
- Archaeological site treatment (traces)
- Topographic play / Boulder Scramble
- Ecological program: canopy forest, bird blinds
- Culture Walk/History
- Variety

- Welcome Center at Franklin (centrally located)
- Pastoral Character (more ecologically focused)
- Amphitheater
- Bridge Connections to Trails
- Heritage Gardens
- Canopy Walk and Bridge Connections
- Farmstand / Public-facing Farm Program
- Maritime Promenade and Riparian Gardens
STREETSCAPE

Baseline Condition

Development of the West 25th Streetscape plan began with assumptions for a “baseline” condition—or conditions that would remain constant throughout all iterations of the streetscape development. Baseline conditions included three modifications to existing conditions on West 25th Street. First, it was assumed that passenger car through traffic would be prohibited in the existing outside travel lane to accommodate the potential BRT line on West 25th. The outside lane would not be physically removed, but rather, repurposed as a bus only lane with the potential for on-street parking during off-peak hours. This lane would also serve as a right turn only lane for passenger cars. The assumed configuration would be similar to the transportation enhancement project implemented on Clifton Boulevard west of Lake Avenue.

Additionally, the eastbound bike lane recommended by NOACA over the Detroit-Superior Bridge was also considered in the baseline analysis. Protected bike lanes are slated for implementation over the winter of 2017-2018 and will merge the eastbound vehicular traffic on Detroit Avenue into one lane just east of the West 25th Street intersection on the Detroit-Superior Bridge. It is anticipated that this modification would further deter drivers from using the outside right turn lane from northbound West 25th Street to eastbound Detroit Avenue.

Finally, the baseline condition was modified to consider the realignment of Franklin Avenue to the intersection at Franklin Boulevard. Franklin Avenue is a commonly used bypass for Ohio City residents. Feedback from stakeholder and public engagement highlighted the strong preference to not only maintain this connection to Columbus Road, but to incorporate the roadway into the park concept as well. The roadway realignment was first proposed in the Port’s 2015 study contained in the Appendix of this report, as returning Franklin Avenue to its historic location directly across from Franklin Boulevard yields geotechnical benefits. With this realignment, all vehicle and pedestrian/bicycle conflict points on the east side of West 25th St. would be signal controlled.

Initial Streetscape Concepts: On-Street Parking Alternatives

Irishtown Bend is expected to regionally draw visitors from Northeast Ohio given its prime location and connectivity to Ohio City, the Flats, and downtown Cleveland. Given that vehicular parking is already limited in the nearby Market District, stakeholders expressed a high interest in providing on-street parking as part of the streetscape options to accommodate as many visitors as possible and mitigate concerns of Irishtown Bend parking spilling into residential streets. The initial streetscape concepts proposed that commuter cyclist traffic would share use of the bus lane during peak hours and would ride in the general purpose travel lane during off-peak hours. While trail connections through the park will provide important connectivity across shared-use paths, dedicated on-street facilities for much as possible. This provides additional space for pedestrians and street furnishings.

Further Development of Streetscape Concepts

With an on-street parking scheme selected, the final round of streetscape concepts provided options in relation to bicycle accommodations throughout the corridor. The initial streetscape concepts proposed that commuter cyclist traffic would share use of the bus lane during peak hours and would ride in the general purpose travel lane during off-peak hours. While trail connections through the park will provide important connectivity across shared-use paths, dedicated on-street facilities for
commuter and other in-road cyclists were a commonly cited request in stakeholder and core team meetings. Improved bicycle facilities have been striped on Detroit Avenue, and a heavy cycling population arrives at the Irishtown Bend portion of West 25th Street via Franklin Boulevard; the Irishtown Bend project provides an opportunity to provide a dedicated facility for cyclists that makes many of these connections and creates a comfortable experience for commuter cyclists on West 25th Street. The final streetscape plan incorporates options for on-street bicycle facilities in unique and site-specific ways. See the final vision plan in Chapter 5 for the recommended concept.

**Special Considerations: West 25th Street at Detroit Avenue**

The intersection of West 25th Street and Detroit Avenue presents many challenges for safely serving bicycle and pedestrian traffic. Multiple bus lines traverse this intersection, and long pedestrian crossings exist, many across multi-lane turn movements. Also, several different types of bicycle facilities enter/exit this intersection, including bike lanes and shared use paths. This intersection therefore required special consideration as the rest of the streetscape plan developed.

The northbound left turn movement at West 25th Street and Detroit Avenue is currently prohibited; drivers must instead turn left onto Church Avenue through a predominantly residential neighborhood. Based on resident feedback, the final vision plan has reincorporated the northbound left turn movement at the intersection of West 25th Street and Detroit Avenue to reduce cut-through traffic on Church Avenue.

The intersection was initially evaluated with the addition of a separate 150-foot left turn lane to provide storage for waiting vehicles. The additional lane can be incorporated within the existing cross section by narrowing the southbound travel lanes to 12 feet and the northbound travel lanes to 11 feet. However, stakeholders requested that the northbound approach be no more than three lanes wide to reduce the pedestrian crossing distance.

Several lane usage scenarios were considered to meet the combined goals of permitting a northbound left turn movement and minimizing the number of vehicle lanes. Nonetheless, traffic analysis showed that crossing distances could not be reduced through the elimination of vehicular travel lanes due to peak hour demands. Instead, lane widths were narrowed where possible to shorten crossing distances.

An example intersection from the City of Davis, California, was viewed favorably by the client leadership in considering pedestrian/bicycle movements at the intersection. This precedent design and intersection elements published in the National Association of City Transportation Officials’ (NAACTO) Urban Bikeway Design Guide were reviewed during concept development. The design team then applied appropriate design features to West 25th Street / Detroit Avenue to improve bicycle and pedestrian visibility and comfort through this heavily traveled intersection. See the final vision plan in Chapter 5 for the recommended concept.
CHAPTER 5. FINAL VISION PLAN

The culmination of months of planning, feedback, and design, the final Irishtown Bend Vision Plan was presented to stakeholder groups, the Core Team, and the public from August 22 to August 31, 2017. The Vision Plan received conceptual approval from City of Cleveland Planning Commission on September 1, 2017. For additional images on the details on the plan, please see the public meeting presentation in the appendix.

SITE ORGANIZATION

The site organization diagram to the right illustrates the key program areas of the Vision Plan for Irishtown Bend. Based on community feedback, the design team incorporated four key gateways into the site: a Welcome and Cultural Center at the corner of Detroit and West 25th Street; a farm stand and community center at the intersection of Franklin Avenue and West 25th Street; a social gateway at Columbus Road that would welcome neighbors and Lake Link trail users from the south into the park; and an active recreation gateway to the north under the Detroit Superior Veterans Memorial Bridge.

Key program zones include a new neighborhood park along West 25th Street, a reconfiguration of Ohio City Farm, the center embankment dedicated to a restored native ecology, and a Maritime Theater along the banks of the river. The Site Section below illustrates how these key spaces of the park step down towards the river, laying back the existing topography to improve slope stability.
VISION PLAN PARK DESIGN

The site circulation diagram to the right illustrates how the key program areas of the Vision Plan for Irishtown Bend connect to surrounding street and trail networks, and the many routes designed to be universally accessible to all park users.

The annotated Vision Plan describes the proposed park programs, spaces, and features. It incorporates the community’s preferred features and integrates them into a comprehensive vision for Irishtown Bend. A new park that aims to connect the surrounding neighborhoods to the river, to the regional park system, and most importantly to each other. The park is a place where visitors can discover the unique history of the site; a restored native ecology that supports a healthy river; and a place to view the city skyline and the dramatic choreography of the shipping channel.
ANNOTATED VISION PLAN

1. West 25th Street
2. Franklin Gateway
   - Farmstand
   - Community Center
3. Ohio City Farm
4. Playground
5. Welcome + Cultural Center
   - Bourke-White Overlook
6. Sledding Meadow
7. Canopy Walk/Bridge Connection
8. Active Recreation Gateway
9. Riparian Gardens
10. Archaeological Site
11. Social Gateway
12. Red Line Greenway Connection
13. Bridge Street Stair
14. Maritime Theater
   - Lederer Pavilion
   - Industrial Artifacts/Art
   - Sloped Lawn With Views
VISION PLAN:
ARCHAEOLOGICAL SITE & RIPARIAN GARDENS

The riverfront section below illustrates the treatment of the historic foundations of the archaeological site and its relationship to the proposed “green bulkhead.” Building off the success of the ODOT I-90 green bulkhead installation up river, the Vision Plan includes perforated sheet piles that allow river water to pass into a series of riparian gardens, creating a parallel channel to the river that is protected from the wave action and supports fish larvae migrations down river. These gardens also support bird habitat for the Mississippi and Atlantic flyways the overlap along the Cuyahoga River.
VISION PLAN:
FRANKLIN AVENUE GATEWAY
The view to the right illustrates the proposed destination playground at the top of the bluff, which incorporates slides down the embankment and bouldering walls for climbing and discovery.
VISION PLAN:
MARITIME PROMENADE

The view to the right illustrates the proposed Maritime Promenade along the river’s edge looking north towards the Detroit Superior Veteran’s Memorial Bridge. The historic coal docks are made accessible by the promenade. The Lederer Pavilion is to the left with the canopy walk beyond.
STREETScape

Complete Street Components

The findings of traffic analyses in conjunction with continued public and stakeholder involvement molded the West 25th streetscape to complement the Irishtown Bend Vision Plan. The final vision plan seeks to transform West 25th Street from a vehicle-centric corridor into a complete street serving the needs of all modes of travel. In light of the potential light-BRT line on the corridor, and the high transit activity in general, the plan is centered around the conversion of one general purpose vehicular travel lane to a bus only lane during peak periods.

Initial variations of the streetscape proposed to completely remove dedicated bicycle facilities on West 25th Street in favor of a parallel shared use path running along the east side. As the plan developed, stakeholders voiced that improved commuter bicycle facilities are essential not only along the corridor but also at the intersection with Detroit Avenue.

In line with the plan’s goal to change the character of West 25th Street by decreasing roadway width and providing vegetation where feasible, it is recommended to serve commuter bicycles with one-way cycle tracks on either side of West 25th Street. A landscaped buffer would separate vehicular traffic from the cycle track, which would be raised to sidewalk level. It is proposed that the cycle track weave behind bus stop locations to eliminate bus/bike conflicts.

With an increased offset distance as well as furnishings and/or landscaping to separate vehicular traffic from bicycle traffic, one-way cycle tracks may limit motorist visibility of cyclists and potentially increase the possibility of right-turn hooks. The one-way cycle track option may therefore be most appropriate if intermediate driveways are eliminated as the West 25th streetscape transforms over time. At intersections, mixing zones, right turn restrictions or special bicycle signal phasing will be implemented to eliminate potential conflicts.

Ohio City Incorporated is already working with the City of Cleveland in an effort to implement interim bicycle facility improvements as the land use changes along West 25th Street and existing driveways are removed. The functionality of the proposed one-way cycle tracks may be implemented within the existing curbed roadway as shown in the graphic at the bottom right. Buffered bike lanes represent a short term improvement until funding is secured for the full West 25th streetscape.

Bicycle accommodations have also been considered at the intersection of Detroit Avenue and West 25th Street based on the anticipated desire lines. Potential treatments include two stage left-turn queue boxes serving westbound and southbound bicycle left turn movements. Additionally, a variation of a “protected intersection” for bicyclists is envisioned in the southeast quadrant of the intersection, where the cycle track merges with the eastbound Detroit-Superior bike lane for the north to eastbound bicycle movement. Bicycle intersection crossing markings (green) have also been proposed where feasible, and the radius of the southeast corner of the intersection has been reduced to design for bus movements rather than tractor trailers, given that only buses are permitted in the curb lane.

The curb-to-curb width of West 25th Street has also been reduced to shorten pedestrian crossing times. Planted medians are provided where left turn lanes are not proposed, further softening the pedestrian experience crossing West 25th. The plan also proposes three additional crossings of West 25th. In the existing condition, no crosswalks exist on West 25th Street between Detroit Avenue and Franklin Blvd. The final vision plan proposes three additional crossings of West 25th: Church Avenue, Franklin Avenue (north leg), and a mid-block crossing directly to the northbound RTA transit stop between Church and Franklin.
Traffic Analysis

Traffic analysis was conducted to determine the impact of reducing the number of general purpose travel lanes on the West 25th Street corridor and other lane usage modifications. Movement levels of service are impacted minimally when the number of general purpose travel lanes is reduced. The most notable impact of this scenario would be on the westbound left turn movement from Detroit Avenue. There are currently dual left turn lanes servicing a volume of about 650 vph during the PM peak. Congestion would therefore be expected on the section of West 25th Street between Detroit Avenue and Church Avenue as drivers attempt to merge into the inside lane. However, drivers should be able to safely merge considering that the cross section will not be physically tapered to one travel lane and drivers will have approximately 425' to shift lanes.

Queuing results indicate an impact to the northbound queues on West 25th Street during the AM peak hour. The lane reassignment may cause queues to extend throughout the corridor for some period of time with upstream intersection block rates of 15-30%. The average northbound travel time, which is just over 2 minutes under existing conditions, could increase to almost 6 minutes under the base condition.

Special Considerations: West 25th Street at Detroit Avenue

Several lane usage scenarios were analyzed to meet the stakeholders’ request for a three lane (maximum) northbound approach on West 25th Street at Detroit Avenue. A three-lane approach presents challenges with the large northbound right turn volume in the AM coupled with an additional left turn movement. The following lane usage combinations were analyzed on the northbound approach to meet both goals concurrently:

1. Left, Through/Right, Right
2. Left, Through, Right
3. Left/Through, Right, Right

Traffic analysis showed that the elimination of a dedicated right turn lane is not feasible due to the resulting impact on traffic operations. While this second right turn lane is underutilized even during the AM peak hour, it likely provides some relief to the northbound queues and congestion. It may be feasible to designate this outside right turn lane as a bus only lane in light of the proposed modifications on the Detroit-Superior Bridge and potential BRT project.

It is therefore preferable to combine the left turn and through movement into a single shared lane so that dual rights may be maintained with a three-lane approach. Intersection and corridor operations are not significantly impacted by a combined left turn/through lane if served by a permissive only phase. However, potential sight distance and other safety concerns may necessitate the implementation of split phasing to serve this shared lane. If it is ultimately determined that split phasing is needed, more notable changes to traffic operations are anticipated.

The client leadership and the design team presented the final streetscape plan to the City of Cleveland Division of Traffic on August 24, 2017. The notes from this meeting and the traffic analysis memo are contained in the appendix.
CHAPTER 6. IMPLEMENTATION STRATEGY + COST ESTIMATE

Equally important to developing a vision for Irishtown Bend is formalizing a strategy for implementing the vision. In September and October of 2017, the design team met with the Core Team representatives individually to discuss potential roles and responsibilities for implementation of the Irishtown Bend Vision Plan. Concurrently, the team developed conceptual cost estimates for the elements of the Vision Plan, and the Port updated its engineering cost estimate for the bulkhead replacement. Results of Core Team discussions and cost data have been synthesized to develop the implementation strategy that follows.

Given the varied funding streams that may be required to realize the full vision, this implementation strategy is a snapshot of one potential path forward in 2017. As funds are secured for the site, the grouping of elements into projects are flexible. The implementation strategy contained herein is a logical starting point based on geographic grouping of interrelated work elements in an effort to reduce re-work and project interdependence.

As funding for Irishtown Bend is secured, it is anticipated that project partners will draft project development agreements to formalize roles in developing and maintaining the site. Some of these roles have been identified as part of this study, and some roles are yet to be determined (“TBD” in the implementation matrices).

The implementation strategy, including conceptual cost estimate, is broken down into four potential projects: Roadway Improvements, Irishtown Bend Stabilization, Ohio City Farm, Parks + Trails.

### Irishtown Bend Vision Plan Cost Summary

<table>
<thead>
<tr>
<th>Irishtown Bend Conceptual Cost Summary</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTALS - ROADWAY IMPROVEMENTS</td>
<td>$5,900,000</td>
</tr>
<tr>
<td>TOTALS - OHIO CITY FARM</td>
<td>$4,100,000</td>
</tr>
<tr>
<td>TOTALS - IRISHTOWN BEND STABILIZATION</td>
<td>$44,900,000</td>
</tr>
<tr>
<td>TOTALS - PARK + TRAILS</td>
<td>$43,600,000</td>
</tr>
<tr>
<td>TOTAL ESTIMATED COST</td>
<td>$98,500,000</td>
</tr>
</tbody>
</table>

The total cost to achieve the plan is estimated at $98.5M. This total cost includes design, construction administration, contingencies, and inflation. It includes $4M in unknown environmental mitigation costs, estimated at $2 million per seven sites in an earlier study. Phase II environmental site assessments are planned for several parcels in 2018, which will allow more refined environmental cost estimating once these are completed. Several elements of the Vision Plan have a highly undefined scope (Welcome Center, Farm stand, Lederer Pavilion Structure, Archaeological Site, and Canopy Walk) and have been excluded from the cost estimate. In addition, there are utility and other items that were estimated as part of previous Irishtown Bend studies that are not fully captured in the total estimated costs.

The boundaries on each of the four projects are not firm, and each project has potential to be broken into smaller projects or combined as part of a larger project. For example, the Port and NOACA are currently seeking USDOT Infrastructure for Rebuilding America (INFRA) funding for the northern 1700’ of bulkhead along the river. The southern 1000’ of bulkhead and associated improvements may be a separate project, but all bulkhead is proposed under one project heading for purposes of this estimate. The permutations are many, and this study targeted simplicity in assembling the work into four projects for cost estimating purposes. Constructability was considered in the project groupings. Each of Roadway Improvements, Irishtown Bend Stabilization, and Ohio City Farm may generally be constructed independently of any other projects, in any order. Only the Parks & Trails project relies on prior completion of portions of other projects.

Breaking the project into sub-projects (beyond these four) may increase the cost estimate due to unrealized economies of scale. However, the 20-30% contingency proposed for each project may be able to absorb the additional general conditions required to break each project into two or more sub-projects.

Matching the proposed timeline for INFRA funding, an inflation projection to the year 2019 was applied to the bulkhead project costs. The other three projects’ costs are inflated to 2021 as a proposed early target for implementation given schedules for grant acquisition and agency coordination.

REAL ESTATE

A path forward exists to acquire much of the Irishtown Bend real estate. Most notably, the 2016 Clean Ohio grant secured by LAND Studio is funding acquisition of over seven acres of land from CMHA. West Creek Conservancy has partnered with LAND to be the temporary owner of this land. Other parcels on site are owned by public entities including CMHA and Cuyahoga County. Additional parcels have private owners. See the table above for a general description of private next steps for Irishtown Bend real estate.
ROADWAY IMPROVEMENTS

Roadway improvements include a reconfiguration of 2000 feet of West 25th Street, including curb line relocation and streetscape enhancements. Interim improvements identified for West 25th Street may be implemented in coordination with the City as land use along the corridor begins to change, especially as properties are demolished on the east side of West 25th Street.

Roadway improvements also include a reconstruction and realignment of Franklin Avenue, including reducing pavement width and addition of a shared-use path. This project also includes a small retaining wall adjacent to Franklin Avenue but does not include the larger retaining walls proposed for the Ecology + History district adjacent to Franklin.

Approximate limits of Roadway Improvements

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement/Curb Removal</td>
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<td>SF</td>
<td>$10.00</td>
<td>$93,333</td>
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<td>Curb Edge</td>
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<td>LF</td>
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<td>Curb Median</td>
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<tr>
<td>Asphalt Resurfacing</td>
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<tr>
<td>Landscaping/planting</td>
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<td>LS</td>
<td>$500,000.00</td>
<td>$500,000</td>
</tr>
<tr>
<td>Pavement/Curb Removal</td>
<td>3,000</td>
<td>SF</td>
<td>$10.00</td>
<td>$30,000</td>
</tr>
<tr>
<td>Curb Edge</td>
<td>2,000</td>
<td>LF</td>
<td>$15.00</td>
<td>$30,000</td>
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<tr>
<td>Full-depth Composite Pavement including Shared-Use Path</td>
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<td>LF</td>
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<td>$100,000</td>
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<tr>
<td>Administration</td>
<td>$1,000,000.00</td>
<td>$1,000,000.00</td>
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</tr>
</tbody>
</table>

TOTALS: ROADWAY IMPROVEMENTS $5,900,000
OHIO CITY FARM

Ohio City Farm improvements may be constructed with the project or may follow as part of a later project. Ohio City Farm improvements include a plaza at the corner of West 25th and Franklin, a shared-use path through the farm, reconfiguration of the CMHA parking lot, and reinforced steep slopes and stairs to support terraced farming.

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
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<tr>
<td>OHIO CITY FARM Elements</td>
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<tr>
<td>Plaza Hardscape + Landscape</td>
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<td>$200,000</td>
<td></td>
</tr>
<tr>
<td>Shared Use Path + Stair Connection</td>
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<td>$900,000</td>
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<tr>
<td>Farm Reconfiguration, Parking, and Terracing</td>
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<td></td>
<td>$3,000,000</td>
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<tr>
<td>Farmstand (scope undefined)</td>
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<td>--</td>
<td></td>
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<tr>
<td>TOTALS - OHIO CITY FARM</td>
<td></td>
<td></td>
<td></td>
<td>$4,100,000</td>
</tr>
</tbody>
</table>
This project is built around the reconstruction of the river bulkhead sheet piling. The Port and NOACA are currently pursuing $11.5M in INFRA (USDOT’s Infrastructure for Rebuilding America) grant funding to add to NEORSD and other local dollars to fund the most critical $22M in bulkhead and related slope-stability costs. Some mass earthwork and environmental costs have been included in this project to improve slope stability and rough grade a portion of the site.

### IRISHTOWN BEND STABILIZATION

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
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<tr>
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<td>SKZ 31 Sheetpiling</td>
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<td>Tieback</td>
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<td>Green Bulkhead Excavation/Sheeting Modifications</td>
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<td>$1,200,000</td>
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<tr>
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<td>90</td>
<td>FT</td>
<td>$90.00</td>
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<tr>
<td>6&quot; Conduit including bedding</td>
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<td>FT</td>
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<td>EA</td>
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</tbody>
</table>

**Approximate limits of both the Irishtown Bend Stabilization and Parks + Trails projects**
This work is centered around the development of the Cleveland Foundation Centennial (Lake Link) Trail and includes the majority of the Vision Plan features. To grade the interior of the site as proposed in the Vision Plan and to improve slope stability, this project must follow or be built concurrently to the stability project. Considering that the Cleveland Foundation Centennial Trail has dedicated CMAQ funding available, the trail may be advanced by the Metroparks as a standalone project as soon as Phase 1 of the bulkhead project is complete. Phase 1 of the bulkhead work is proposed to stabilize the overall site to the degree where trail construction is feasible.

Neighborhood Park improvements include unit pavers and seat walls, and active play areas. The connector trails, Ecology + History, and Maritime Theater elements may be constructed as part of the Centennial Trail or may follow later. The work proposed at the southern end of this project includes a nationally registered historic site. While the proposed plan embraces an opportunity to reveal and interpret the past, it will require additional environmental (cultural and archeological) permitting and/or mitigation with unknown costs. Design development for portions of the project on and adjacent to the registered site will need to address this coordination, which may require design flexibility for alignments, grading and proposed uses of the site.

### PARK + TRAILS

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cleveland Foundation Centennial Trail</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Excavation (to be reused on-site)</td>
<td>90,000</td>
<td>CY</td>
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<td>$3,600,000</td>
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<td>Excavation (off-site waste)</td>
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<td>CY</td>
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<td>Low-maintenance Plantings</td>
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<tr>
<td><strong>Administration</strong></td>
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### TOTALS - PARK + TRAILS

$43,600,000